4.15 Transportation and Circulation

This section describes the transportation and circulation conditions in the vicinity of the Project area including transit services, pedestrian and bicycle facilities, and motor vehicle traffic; discusses the State and local regulations and policies pertinent to transportation and circulation; assesses the potentially significant transportation and circulation impacts of developing the Project; and provides, where appropriate, mitigation measures to address those impacts.

The analysis was conducted in compliance with the City of Oakland *Transportation Impact Review Guidelines* (City of Oakland, 2017a) in effect at the time of the Notice of Preparation (NOP).

See Section 4.10, *Land Use, Plans, and Policies*, for discussion regarding maritime land use and navigation.

4.15.1 Environmental Setting

The existing transportation-related context in which the Project would be implemented is described below, beginning with a description of the study area and street network serving the area. Existing transit, bicycle, and pedestrian facilities are also described. Current conditions for roadways in downtown Oakland are summarized. This subsection also discusses planned changes to transportation facilities/operating conditions in Oakland near the Project site as well as applicable planning policies.

Transportation Impact Area

The City's guidelines indicate that transportation analyses should generally include a study area 500 feet to one-half mile or more surrounding the project site, depending on the size and nature of the project, the travel mode, and the topic. For this Project, the study area varies by mode, and each is described below, along with a brief description of the basis for the study area selected. As explained below, in this instance the City determined that it was appropriate to establish a study area based on the unique nature of the proposed Project, its potential to generate traffic before and after events at the ballpark, and the location and extent to which public transit is expected to be relied upon to serve the ballpark.

Motor Vehicles

Figure 4.15-1 illustrates the local street and freeway access study area for motor vehicles. The study area was established using the City's guidelines. First, the Project's motor vehicle trip generation was established and then the trips were distributed and assigned to the local streets and freeway interchanges. Consistent with the City's guidelines, the motor vehicle study intersections shown in Figure 4.15-1 included all intersections immediately adjacent to the Project site; all signalized (and all-way stop-controlled) intersections where the Project would add 100 or more weekday a.m. or p.m. commute peak-hour motor vehicle trips; all signalized intersections operating at Level of Service (LOS) D, E, or F with 50 or more peak-hour trips; and side-street stop-controlled intersections where the Project would add 50 or more peak-hour trips to any

individual movement other than the major-street through movement.[1] While not established through the City's guidelines, the nearest freeway interchange on-ramp merge areas, also noted in the figure, were identified for study to determine whether freeway on-ramp operations would cause motor vehicle congestion affecting local streets. Freeway mainline segments were identified for analysis through the Alameda County Transportation Commission (Alameda CTC) Congestion Management Program (CMP) in effect at the time of the NOP and include the area freeways serving the site: Interstate 580 (I-580), Interstate 880 (I-880), Interstate 980 (I-980), and State Route (SR) 24.

Transit

Figure 4.15-2 illustrates the study area for transit, which was established using the City's guidelines. First, the Project's transit trip generation was established, then the trips were distributed and assigned to the various transit options. While the City's guidelines do not quantify a transit ridership threshold for evaluating transit impacts, the guidelines do note significant transit trips that create local issues for transit service. The guidelines also reference the need to consider transportation review up to or more than one-half mile from the project site. Based on this guidance and the Project's substantial transit trip generation, the study area was established including bus transit within one-half mile of the Project site; Bay Area Rapid Transit (BART), including stations at West Oakland, Lake Merritt, and 12th Street because of their similar proximity to Project site; regional rail service, including the Oakland Jack London Square Amtrak Station; and the Oakland Jack London Square Ferry Terminal. In addition, several transit corridors were identified for study, as shown in the figure, because they provide local bus service near the site and to the BART, Amtrak, and ferry services.

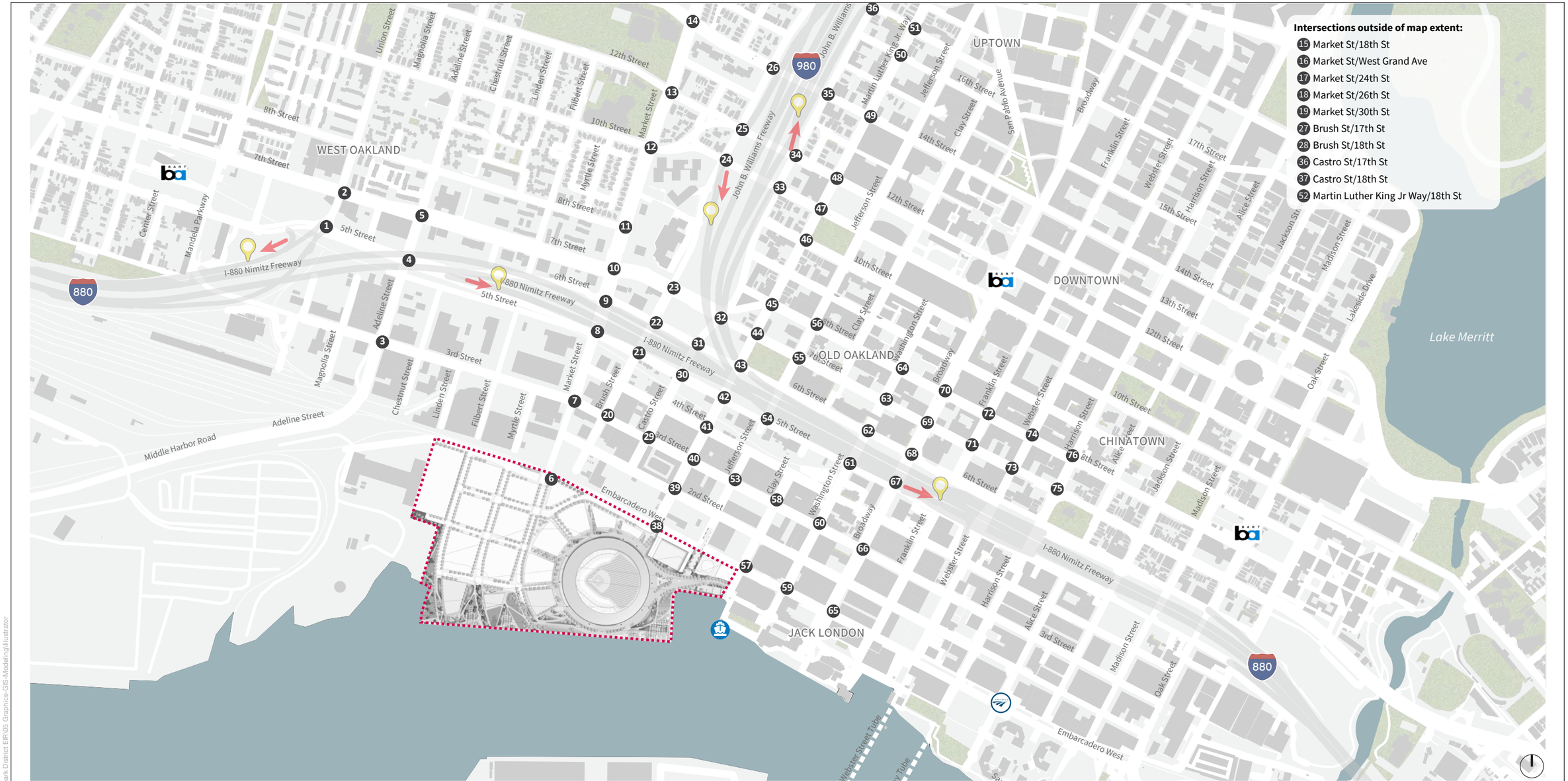
Bicycles

Figure 4.15-3 illustrates the study area for bicycles, which was established using the City's guidelines. First, the Project's bike trip generation was established, then the trips were distributed and assigned to the various bike corridors. The City's guidelines do not quantify a bike ridership threshold for evaluating bike impacts on a corridor, but the guidelines reference the need to consider transportation review up to and potentially beyond one-half mile from the project site. The one-half-mile boundary is noted in the figure, along with corridors within that boundary where Project bike trips would travel beyond the boundary connecting to other major corridors established by the *2019 Let's Bike Oakland* Plan.

Pedestrians

Figure 4.15-4 illustrates the study area for pedestrians, which was established using the City's guidelines. Like the other travel modes, the Project's pedestrian trip generation was established, then the trips were distributed and assigned to the various corridors. Pedestrian trips include trips where walking is the primary mode, and secondary walking trips associated with those that use transit and then walk between the Project site and the transit access point. The City's guidelines

[1] While the City no longer uses intersection Level of Service (LOS) to measure CEQA impacts, the metric is used to identify intersections where multimodal data should be collected and evaluated per the City's *Transportation Impact Review Guidelines* (City of Oakland, 2017a).



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SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-1
Motor Vehicle Influence Area

ESA

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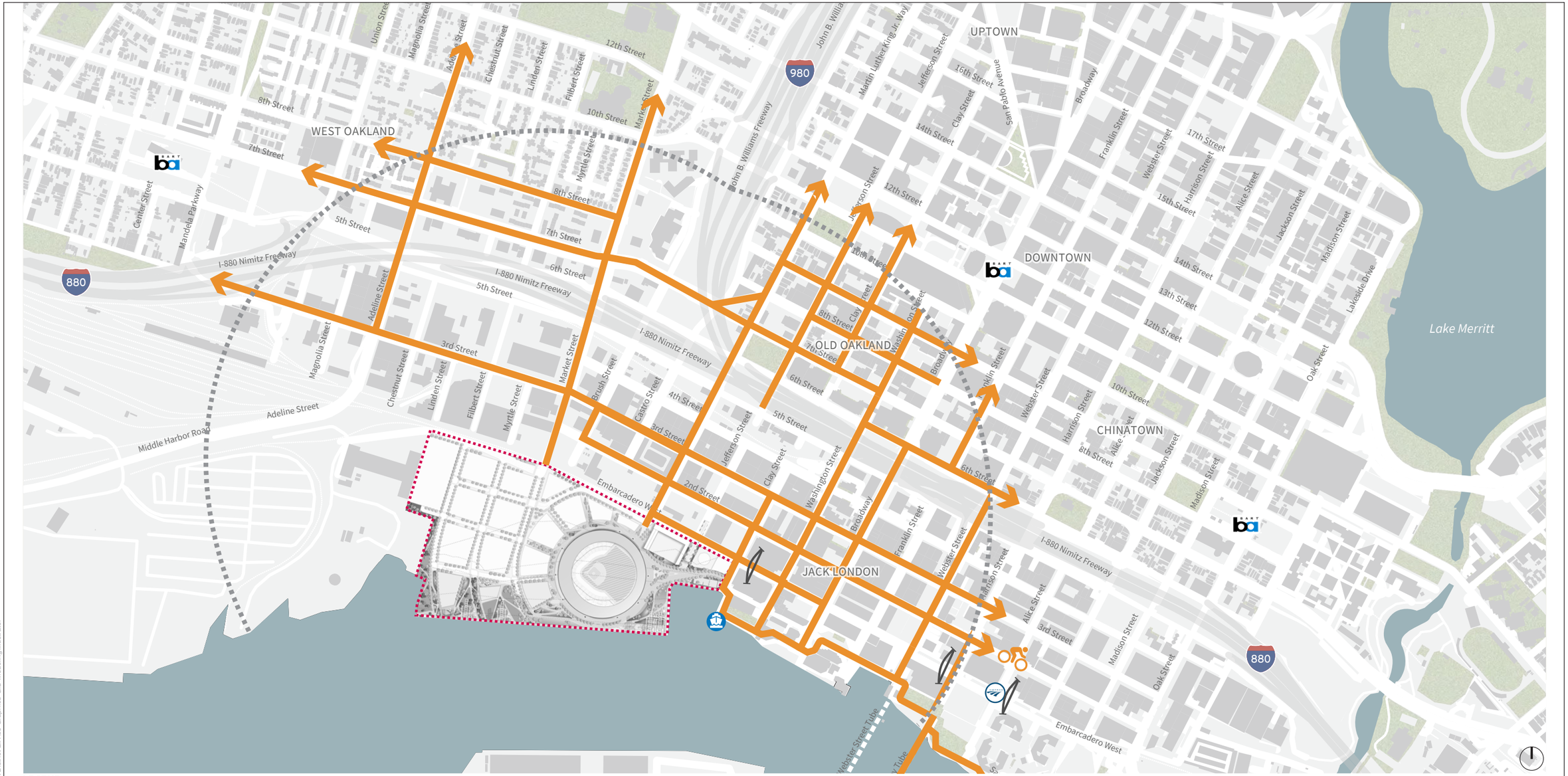
SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-2
Transit Influence Area

ESA



LEGEND

- Project Boundary
- Bicycle Influence Area
- 1/2 Mile From Project Boundary
- BART Station
- Amtrak
- Ferry
- Bike Riders Would Use 2nd and Oak Streets to Access Lake Merritt BART Station

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SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-3
Bicycle Influence Area

ESA

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SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-4
Pedestrian Influence Area

ESA

do not quantify a pedestrian trip threshold for evaluating pedestrian corridors, but the guidelines reference the need to consider transportation review up to and potentially beyond one-half mile from the project site. The one-half-mile boundary is noted in the figure, along with the corridors where the Project's pedestrians would travel beyond the boundary connecting to either transit or downtown Oakland, a major attraction for the Project's pedestrian trips. The study area was expanded beyond the one-half-mile radius along these corridors because pedestrians are expected to use them to walk between the Project site and transit/downtown.

Existing Roadway Network

Existing regional freeway access to the Project site is provided via I-880 and I-980. Direct vehicular access to the site is provided via local roadways: Embarcadero West extending along the northern boundary of the site, and streets from the north via at-grade crossings of the railroad tracks: Clay Street, Martin Luther King Jr. Way, and Market Street. Regional and local roadways serving the Project's study area are described below and an overview of the road network is shown in Figure 4.15-1.

Regional Roadway Access

A brief description of the regional roadway network serving downtown Oakland and the Project site is provided below. Average daily traffic volumes were obtained from the California Department of Transportation's (Caltrans') *Traffic Volumes on the State Highway System* (Caltrans, 2017).

- *I-980* is an eight-lane north-south freeway along the west side of downtown that connects SR 24 and I-580 to I-880. Ramps connect to the study area via 17th/18th Streets and 11th/12th Streets. I-980 has an average annual daily traffic volume (AADT) of 92,400 vehicles at the junction with I-880.
- *SR 24* is an eight-lane east-west freeway connecting I-580 in Oakland to I-680 in Walnut Creek in the east. West of I-580, SR 24 continues as I-980. SR 24 has an AADT of approximately 152,300 vehicles at the junction of I-580 and I-880.
- *I-580* is an eight-lane east-west freeway connecting U.S. Highway 101 in Marin County to Interstate 5 south of Tracy. I-980 provides access between the study area and I-580. I-580 has an AADT of approximately 198,000 vehicles per day near the SR 24 interchange with I-980.
- *I-880* is an eight-lane north-south freeway connecting Interstate 80 (I-80) in Oakland to I-280 in San Jose. I-880 connects with I-980, which provides access to downtown. The northbound I-880 off-ramp at Market Street connects with the study area while 5th Street connects to the northbound I-880 on-ramp at Union Street. Southbound I-880 drivers exiting the freeway to access the study area must do so at Union Street whereas there are two on-ramps: one east of Adeline Street and one east of Broadway. I-880 has an AADT of approximately 125,000 vehicles per day near the I-980 interchange.
- *I-80* is an eight- to 10-lane freeway extending west to San Francisco, and east through Berkeley and Sacramento, into Nevada and farther east. I-880 and I-980 via I-580 provide access between the study area and I-80. I-80 has an AADT of approximately 278,000 vehicles per day at the border between San Francisco and Alameda Counties.
- *SR 260* is a generally four-lane road connecting I-880 via the Jackson Street on-ramp in Oakland with Atlantic Avenue in Alameda via the Webster-Posey Tubes. Webster and

Harrison Streets in downtown Oakland connect to SR 260, which has an AADT of approximately 31,500 vehicles per day through the Webster-Posey Tubes.

Local Roadway Access

Many local and arterial streets serve the Project site. A brief description of those streets providing the most direct access to the study area is provided below:

- *Adeline Street* is a north-south principal arterial extending from Middle Harbor Road in the Port of Oakland through West Oakland to Berkeley. South of 3rd Street, Adeline Street is a two-way roadway with a center median and two lanes in each direction. Between 3rd and 5th Streets, the roadway narrows to one lane in each direction. Between 3rd and 10th Streets, the roadway generally does not include a median and provides two lanes in each direction. North of 10th Street, Adeline Street provides one lane in each direction.
- *Market Street* is a north-south minor arterial extending from the project site at Embarcadero West to 63rd Street, where it transitions to Sacramento Street as it extends north into Berkeley. South of 3rd Street, Market Street has three southbound lanes and one northbound lane. Between 3rd and 18th Streets Market Street generally has two southbound and two northbound lanes with a median/left-turn lane. North of 18th Street it becomes one lane in each direction. Market Street has an at-grade railroad crossing serving the Project site and Schnitzer Steel via Embarcadero West.
- *San Pablo Avenue* is a north-south principal arterial stretching from downtown Oakland north to Crocket. It is designated as SR 123 north of I-580. In downtown, San Pablo Avenue operates with two lanes in each direction, with left-turn pockets provided at key intersections. It is one of the primary local roadways connecting downtown Oakland with the City of Berkeley. The Project site is connected to San Pablo Avenue via Market Street.
- *Brush Street* is a north-south minor arterial extending from south of I-880 at 2nd Street north along the west side of I-980, where it merges with San Pablo Avenue north of West Grand Avenue. Brush Street is one-way southbound and provides three lanes. Brush and Castro Streets form a one-way couplet and on- and off-ramps along Brush Street provide I-980 westbound freeway access.
- *Castro Street* is a north-south minor arterial extending from south of I-880 at 2nd Street north along the east side of I-980, where it merges with Martin Luther King Jr. Way at West Grand Avenue. Castro Street is one way northbound and provides three lanes. Castro and Brush Street, which is along the west side of I-980, form a one-way couplet and on- and off-ramps along Castro Street provide I-980 eastbound freeway access.
- *Martin Luther King Jr. Way* is a north-south minor arterial extending from the project site at Embarcadero West through downtown Oakland to the City of Berkeley. In downtown Oakland, Martin Luther King Jr. Way has two travel lanes in each direction from the project site to West Grand Avenue, where it transitions to one lane each direction to 40th Street and then transitions back to two lanes each direction. Martin Luther King Jr. Way has an at-grade railroad crossing serving the Project site and Embarcadero West.
- *Broadway* is a north-south principal arterial extending between Jack London Square and SR 24 in Oakland. Broadway generally provides two travel lanes in each direction and provides a landscaped median in the vicinity of the Project site. The 12th Street BART Station is located on Broadway at 12th Street, about 0.8 miles from the eastern edge of the Project site.

- *Chestnut Street, Linden Street, Filbert Street*, and *Myrtle Street* are local north-south streets, each with one northbound and one southbound lane. Chestnut and Filbert Streets extend between the railroad tracks and 5th Street, while Linden and Myrtle Streets extend between the railroad tracks and 3rd Street.
- *12th Street* is a two-way east-west minor arterial between Union and Market Streets in West Oakland and provides two lanes in each direction. East of Market Street, 12th Street transitions to a one-way westbound street, forming a one-way couplet with 11th Street, between Brush Street and Lake Merritt Boulevard. It is generally a three-lane westbound street to Franklin Street, where it widens to four westbound lanes, extending to within a few hundred feet of Lake Merritt Boulevard; at this point, it narrows to a three-lane street before terminating at Lake Merritt Boulevard.
- *11th Street* is an east-west minor arterial that extends between Market Street at 10th Street through downtown Oakland to Lake Merritt Boulevard. It is a one-way eastbound street, forming a one-way couplet with 12th Street, with generally four lanes between Brush and Madison Streets. East of Madison Street, one lane continues to Oak Street while three lanes extend under Oak Street and intersect with Lake Merritt Boulevard.
- *8th Street* is an east-west minor arterial between Pine and Market Streets through West Oakland, with one lane in each direction. In downtown Oakland, 8th Street is a one-way street with four westbound lanes. It forms a one-way couplet with 7th Street through downtown Oakland. The Lake Merritt BART Station is located on the north side of 8th Street, west of Oak Street, about 1.1 miles from the eastern edge of the Project site.
- *7th Street* is an east-west minor arterial street that traverses downtown Oakland, connecting West and East Oakland. West of Castro Street, 7th Street is a two-way, six-lane divided street. Between Castro and Fallon Streets, 7th Street is one-way with four eastbound lanes. It forms a one-way couplet with 8th Street through downtown Oakland. East of Fallon Street, 7th Street is a two-way, four-lane divided street. The West Oakland BART Station is located on the south side of 7th Street at Mandela Parkway, about 0.9 miles from the north edge of the Project site.
- *6th Street* is an east-west major collector between Adeline Street and Broadway. East of Broadway, 6th Street consists of multiple non-continuous segments that provide access to and from I-880. 6th Street is a one-way street with two westbound lanes between Adeline and Brush Streets, three westbound lanes between Brush and Jefferson Streets, and two westbound lanes between Jefferson Street and Broadway. 6th Street has a forced right-turn lane at Market Street where the northbound I-880 off-ramp intersects Market Street.
- *5th Street* is an east-west minor arterial between Peralta and Franklin Streets. East of Franklin Street, 5th Street consists of multiple non-continuous segments that provide access to and from I-880. West of Kirkham Street, 5th Street is a two-way street with one lane in each direction. Between Kirkham and Adeline Streets, 5th Street is a divided two-way street with two lanes in each direction between Kirkham and Union Streets and three lanes in each direction between Union and Adeline Streets. West of Adeline Street, 5th Street is a one-way street with two eastbound lanes between Adeline and Market Streets and three westbound lanes between Market Street and Broadway. The West Oakland BART Station is located on the northern side of 5th Street, west of its intersection with Mandela Parkway, about 0.9 miles from the north edge of the Project site.
- *3rd Street* is an east-west minor arterial between Peralta and Oak Streets. 3rd Street is a two-way street with one lane in each direction and is discontinuous between Center Street and

Mandela Parkway. 3rd Street transitions from an east-west to a north-south orientation becoming Mandela Parkway.

- *Embarcadero West* is an east-west major collector that extends between a dead-end west of Market Street at Schnitzer Steel and Oak Street (east of Oak Street, the roadway is renamed to Embarcadero). West of Martin Luther King Jr. Way, Embarcadero West is an undivided two-way roadway with one travel lane in each direction. Between Jefferson and Webster Streets, Embarcadero West maintains one lane in each direction, but is divided by the railroad tracks. East of Webster Street, Embarcadero West returns to an undivided configuration with one travel lane in each direction.
- *Water Street* is an east-west local road that extends between Clay Street and Harrison Street. East of Washington Street, Water Street is a pedestrian and bicycle shared use path restricted to emergency and service vehicles. It provides emergency vehicle access to existing buildings in Jack London Square and is rated for fire apparatus. There is an active fire station at the Water Street/Clay Street intersection.

Existing Transit Services

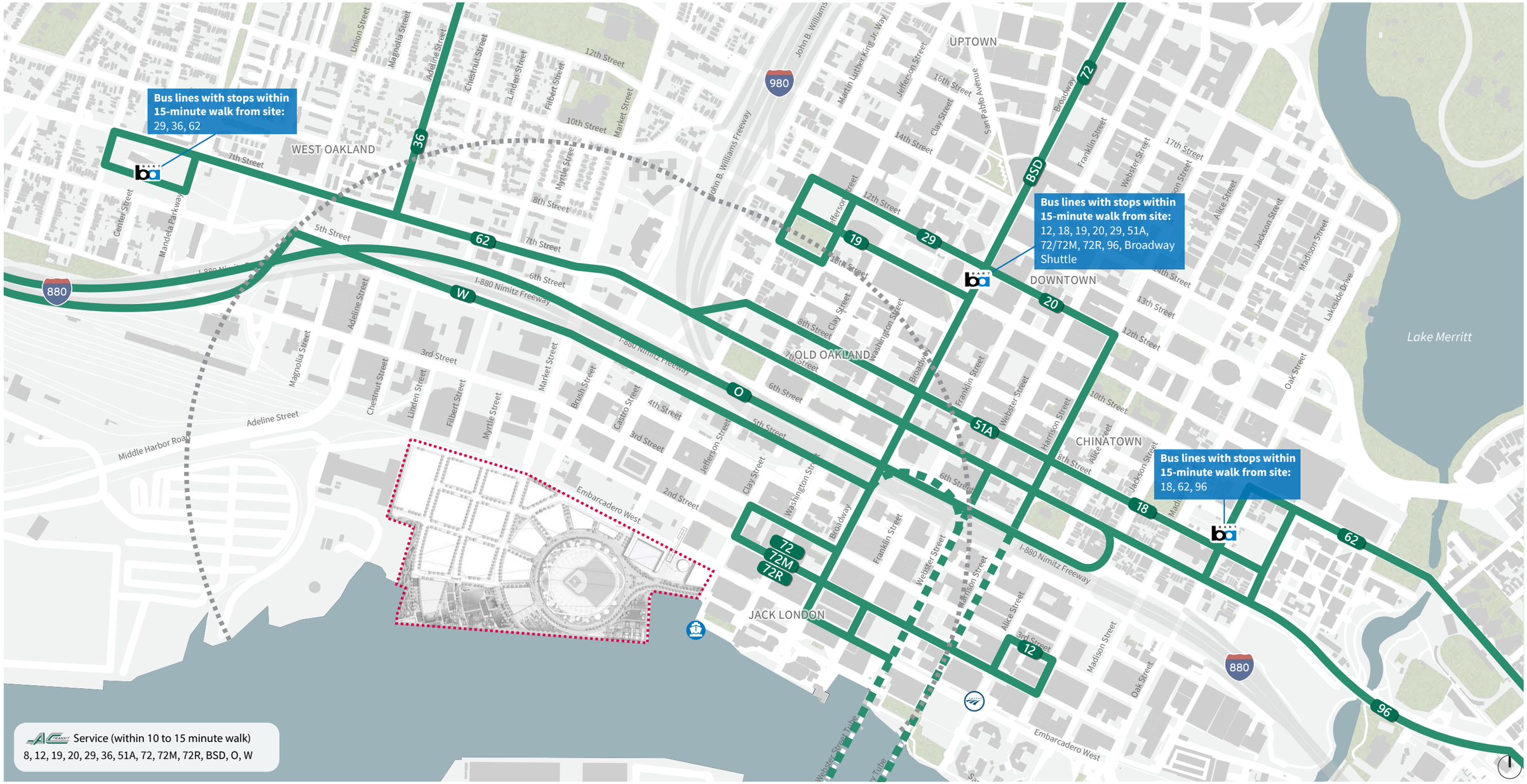
Alameda–Contra Costa Transit (AC Transit) provides local bus service in the East Bay and transbay bus service to the Transbay Terminal in San Francisco. BART provides regional rail service connecting San Francisco, northern San Mateo County, and the East Bay. Amtrak also provides regional rail service within the San Francisco Bay Area and beyond. The San Francisco Bay Ferry, operated by the Water Emergency Transportation Authority (WETA), provides ferry service. An overview of transit service in the project study area is shown in **Figure 4.15-5** and described below (San Francisco Bay Area WETA, 2019).

Bus Services

AC Transit is the primary bus service provider in 13 cities and adjacent unincorporated areas in Alameda and Contra Costa Counties, with transbay service to destinations in San Francisco, San Mateo, and Santa Clara Counties. On a typical day in 2018, AC Transit reports serving about 169,000 riders in Alameda County (AC Transit, 2019b).[2]

A total of 12 AC Transit local lines, two transbay lines, and a Broadway shuttle operate within a 10-minute walk from the Project site. The Broadway "B" Shuttle is administered by the City of Oakland and operated by AC Transit, connecting Jack London District and Uptown. The free shuttle provides service along the Broadway corridor, between Jack London Square and Grand Avenue. The shuttle connects major destinations such as Jack London Square, City Center, and Uptown with major transportation services including BART, AC Transit, Amtrak, and the Oakland Ferry Terminal. The shuttle operates day service Monday through Friday from 7:00 a.m. to 7:00 p.m. every 11 minutes during commute hours and lunchtime and every 12 to 15 minutes at other times. Night service is provided Monday through Friday with shuttles running every 12 minutes.

[2] AC Transit ridership for fiscal year 2017–2018 provided.



LEGEND

- Project Boundary
- AC Transit
- 1/2 Mile From Project Study Area
- BART Station
- Amtrak
- Ferry

Figure 4.15-5

Existing Transit Service

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Bus stop facilities within a 10-minute walk of the Project site vary from a signpost only to full amenities including seating, shelters, line information, trash receptacles, and other street furniture elements. Some bus stops are located on the near side of signalized intersections, while others are located on the far side.

Table 4.15-1 summarizes the AC Transit lines operating within a 15-minute walk of the Project site and **Table 4.15-2** shows the capacity and load (passengers) by line. The load factors in Table 4.15-2 are defined as the ratio of occupied seats at peak loading during the weekday afternoon commute period to the number of seats on the bus. A load factor of 100 percent (shown as 1.0 in Table 4.15-2) or more indicates the bus operates at or above its seating capacity. During the weekday commute p.m. peak period (4:00 p.m. to 6:00 p.m.) the buses in the vicinity of the Project site generally operate below bus capacities. Lines 51A at the Broadway intersection with 9th Street and Lines O (eastbound) and W (eastbound) at the Market Street/5th Street intersection are most heavily used, with load factors approaching or exceeding 1.0.

Bay Area Rapid Transit

BART provides regional rail service between San Francisco, northern San Mateo County, the East Bay, and as of June 2020 the South Bay via the new extension to the Berryessa station in Santa Clara County. Based on BART monthly ridership reports, the average weekday ridership in 2018 at the time of the NOP was about 412,000 systemwide (BART, 2018). The BART stations most likely to serve the Project are the 12th Street Oakland City Center, Lake Merritt, and West Oakland stations:

- *12th Street Oakland City Center station* is located under Broadway in downtown Oakland, with station entrances between 11th Street and 14th Street, about 0.8 miles from the Project's eastern boundary. The station is served by the Richmond-Millbrae, Richmond–Warm Springs/South Fremont, and Antioch–SFO/Millbrae lines.
- *Lake Merritt station* is in Oakland's Chinatown District, with an entrance at the Oak Street/ 8th Street intersection about 1.1 miles from the Project's eastern boundary. The station is served by the Dublin/Pleasanton–Daly City, Richmond–Warm Springs/South Fremont, and Warm Springs/South Fremont–Daly City lines.
- *West Oakland station* is in West Oakland, about 0.9 miles from the Project's northern boundary, and is bounded by 7th Street, Chester Street, 5th Street, and Mandela Parkway. The station is served by all four transbay lines: Richmond–Daly City, Antioch–SFO/Millbrae, Dublin/Pleasanton–Daly City, and Warm Springs/South Fremont–Daly City.

These stations are each served by about 20 trains per hour, per direction, during the peak periods. Based on BART monthly ridership reports provided by BART, in fall 2018 about 28,300, 14,200, and 15,200 weekday daily passengers (entries plus exits) were served at the 12th Street, Lake Merritt, and West Oakland stations, respectively.

TABLE 4.15-1
AC TRANSIT LINES NEAR THE PROJECT SITE

Line	Description	Nearest Stop	Hours of Operation	Peak Period Frequency
6 – Telegraph Avenue	Downtown Berkeley to Downtown Oakland	10th Street at Washington	Weekday: 5:00 a.m. to 12:30 a.m. Weekend: 5:00 a.m. to 12:30 a.m.	Weekday 12-minutes Weekend 15-minutes
12 – Grand Avenue	West Berkeley to Amtrak at Jack London Square	Embarcadero West at Broadway	Weekday: 6:00 a.m. to 12:00 a.m. Weekend: 6:00 a.m. to 12:00 a.m.	Weekday 20-minutes Weekend 30-minutes
18 – Martin Luther King Jr. Way and Shattuck Avenue (Major Corridor)	University Village, Albany, to Lake Merritt BART	8th Street at Broadway	Weekday: 5:15 a.m. to 1:00 a.m. Weekend: 6:00 a.m. to 1:00 a.m.	Weekday 15-minutes Weekend 20-minutes
19 – Buena Vista	Downtown Oakland to Fruitvale BART	11th Street at Jefferson Street	Weekday: 6:00 a.m. to 10:30 p.m. Weekend: 6:00 a.m. to 10:30 p.m.	Weekday 30-minutes Weekend 30-minutes
20 – Webster Street and Park Boulevard (Major Corridor)	Dimond District to Downtown Oakland	Martin Luther King Jr. Way at 11th Street	Weekday: 5:00 a.m. to 12:30 a.m. Weekend: 5:00 a.m. to 12:30 a.m.	Weekday 30-minutes Weekend 30-minutes
29 – Lakeshore Boulevard, Peralta Street, Hollis Street	Public Market Emeryville to West Oakland BART to Lakeshore Avenue	Martin Luther King Jr. Way at 12th Street (WB) 11th Street at Jefferson Street (EB)	Weekday: 6:00 a.m. to 10:45 p.m. Weekend: 6:00 a.m. to 10:45 p.m.	Weekday 20-minutes Weekend 30-minutes
36 – Oakland Avenue Park Boulevard	Bancroft Way and Piedmont Avenue, Berkeley to West Oakland BART	7th Street at Adeline Street	Weekday: 6:00 a.m. to 12:45 a.m. Weekend: 6:00 a.m. to 12:45 a.m.	Weekday 30-minutes Weekend 30-minutes
51A – Broadway and College Avenue (Major Corridor)	Rockridge BART to Fruitvale BART via the City of Alameda	8th Street at Broadway (EB) 7th Street at Franklin Street (WB)	Weekday: 5:00 a.m. to 12:30 a.m. Weekend: 5:30 a.m. to 12:45 a.m.	Weekday 10-minutes Weekend 15-minutes
62 – 7th Street and 23rd Street	West Oakland BART to Fruitvale BART	7th Street at Market Street	Weekday: 5:30 a.m. to 12:45 a.m. Weekend: 6:00 a.m. to 12:45 a.m.	Weekday 15-minutes Weekend 30-minutes
72 (Major Corridor)	Hilltop Mall to the Jack London District	2nd Street at Washington Street	Weekday: 5:00 a.m. to 1:00 a.m. Weekend: 5:00 a.m. to 1:00 a.m.	Weekday 15-minutes Weekend 15-minutes
72M (Major Corridor)	Point Richmond to the Jack London District	2nd Street at Washington Street	Weekday: 5:00 a.m. to 1:00 a.m. Weekend: 5:00 a.m. to 1:00 a.m.	Weekday 15-minutes Weekend 15-minutes
72R – (Major Corridor)	Contra Costa College to the Jack London District	2nd Street at Washington Street	Weekday: 6:00 a.m. to 8:00 p.m. Weekend: 7:00 a.m. to 8:00 p.m.	Weekday 12-minutes Weekend 15-minutes
96 – Alameda Point	Alameda Point to Dimond District	Broadway at 9th Street (WB) Broadway at 8th Street (EB)	Weekday: 6:00 a.m. to 11:00 p.m. Weekend: 6:00 a.m. to 11:00 p.m.	Weekday 20-minutes Weekend 30-minutes
O – Transbay	Fruitvale BART to the Salesforce Transit Center	5th Street at Market Street (EB) 7th Street at Alice Street (WB)	Weekday: 6:00 a.m. to 10:00 p.m. Weekend: 5:00 a.m. to 10:00 p.m.	Weekday 10-minutes Weekend 60-minutes
W – Transbay	Broadway at Blanding in Alameda to Salesforce Transit Center	5th Street at Market Street (EB) 7th Street at Alice Street (WB)	4:30 p.m. to 8:30 p.m. (EB) 5:30 a.m. to 8:30 a.m. (WB)	Weekday 20-minutes
Broadway Shuttle	Broadway connecting the Jack London District and Uptown Oakland	Embarcadero West at Broadway	Weekday: 7:00 a.m. to 10:00 p.m.	Weekday 11-minutes

NOTES: EB = eastbound; WB = westbound

SOURCE: AC Transit, 2019a; summarized by Fehr & Peers.

TABLE 4.15-2
AC TRANSIT PASSENGER LOAD CHARACTERISTICS (WEEKDAY 4 P.M. TO 6 P.M.)

Line	Route and Stop Location	Direction	Average Capacity (Seats)	Average Load (Passengers)	85th Percentile Load (Passengers)	85th Percentile Load Factor
6	Route 6 on 10th Street at Washington Street	NB	36	3	5	0.14
		SB	36	0	0	0.00
12	Route 12 on Broadway at Embarcadero West	NB	36	2	4	0.11
		SB	N/A	N/A	N/A	N/A
18	Route 18 on Broadway at 8th St	NB	36	5	8	0.22
	Route 18 on Broadway at 9th St	SB	36	4	7	0.19
19	Route 19 on Broadway at 9th St	EB	25	7	11	0.43
		WB	N/A	N/A	N/A	N/A
20	Route 20 on Broadway at 9th St	EB	36	19	27	0.74
		WB	N/A	N/A	N/A	N/A
29	Route 29 on Union at 7th St	EB	25	4	8	0.32
	Route 29 on Union at 7th St	WB	25	5	8	0.32
36	Route 36 on Adeline at 7th St	NB	29	9	14	0.48
	Route 36 on Adeline at 7th St	SB	32	6	9	0.28
51A	Route 51A on Broadway at 8th St	NB	36	16	24	0.67
	Route 51A on Broadway at 9th St	SB	36	34	50	1.39
62	Route 62 on 7th at Market St	EB	36	6	10	0.28
	Route 62 on 7th at Market St	WB	36	6	9	0.25
72	Route 72 on Washington at 2nd St	NB	36	3	4	0.11
	Route 72 on Washington at 2nd St	SB	36	0	0	0.00
72M	Route 72M on Washington at 2nd St	NB	36	2	4	0.11
	Route 72M on Washington at 2nd St	SB	36	0	0	0.00
72R	Route 72R on Washington at 2nd St	NB	33	2	4	0.11
	Route 72R on Washington at 2nd St	SB	33	1	0	0.00
96	Route 96 on Broadway at 8th St	NB	25	7	13	0.51
	Route 96 on Broadway at 9th St	SB	25	10	14	0.56
O	Route O on Market at 5th St	EB	38	36	48	1.27
		WB	N/A	N/A	N/A	N/A
W	Route W on Market at 5th St	EB	38	29	36	0.95
		WB	N/A	N/A	N/A	N/A
Broadway Shuttle	Route Broadway Shuttle on Broadway at 3rd St	NB	25	9	13	0.52
	Route Broadway Shuttle on Broadway at 3rd St	SB	25	9	13	0.52

NOTES: EB = eastbound; N/A = not applicable; NB = northbound; SB = southbound; WB = westbound

SOURCE: AC Transit, 2018; summarized by Fehr & Peers. Bus stop chosen is the closest to Project site with data available.

The 12th Street BART station is underground with multiple access points including stairs, escalators, and elevators. Several bus stops are located near the BART access points. No designated passenger loading zones serve the 12th Street Station. The Lake Merritt BART station, also located underground, has four access points including stairs, an escalator, and one elevator. Bus stops and passenger loading zones are located on Oak Street between 8th and 9th Streets adjacent to the station access points. The West Oakland BART station is above ground, including on-site passenger pick-up/drop off facilities as well as bus stops. BART owns and operates small parking lots at both the Lake Merritt and West Oakland BART stations, but these lots are planned for redevelopment.

Table 4.15-3 summarizes the existing a.m. and p.m. peak-hour BART station boardings and alightings. The 12th Street BART station serves the most passengers of the three stations, serving up to 4,300 riders during the weekday commute p.m. peak hour, while the West Oakland and Lake Merritt BART stations serve fewer riders at up to about 2,000 riders each.

TABLE 4.15-3
BART STATION PEAK-HOUR ENTRIES AND EXITS (WEEKDAY)

	Lake Merritt Station		12th Street Station		West Oakland Station	
	(8 to 9 a.m.)	(5 to 6 p.m.)	(8 to 9 a.m.)	(5 to 6 p.m.)	(8 to 9 a.m.)	(5 to 6 p.m.)
Entries	1,294	531	952	3,225	1,595	400
Exits	747	944	3,050	1,063	181	1,339
Total	**2,041**	**1,475**	**4,002**	**4,318**	**1,776**	**1,739**

SOURCE: October 2018 Tuesday–Thursday ridership data provided by BART, Fehr & Peers, 2020. (Appendix TRA)

Load factors are another way to understand BART's service and to identify where the system is serving the highest number of riders and where the system has capacity to serve more riders. **Table 4.15-4** summarizes peak-hour train loads near the 12th Street BART Station for all BART lines. Currently, the SFO to Antioch yellow line, Millbrae to Richmond red line, Daly City to Warm Springs green line, and Daly City to Dublin blue line are the most heavily used routes during the weekday commute p.m. peak hour (generally between 5:00 and 6:00 p.m.) with average load factors above BART's planning capacity (107 passengers per train car). All lines during the a.m. peak hour that are destined for San Francisco and the Peninsula have maximum load factors above BART's planning capacity.

TABLE 4.15-4
BART PEAK-HOUR LOADS BY LINE

Line	Peak Hour	Trains per Peak Hour	Average Cars per Train	Average Maximum Load (Passengers/Car)	Load Factor
a.m. Peak Hour					
Antioch–SFO/Millbrae	7:45 a.m.–8:45 a.m.	10	9	110	1.03
SFO/Millbrae–Antioch	8:30 a.m.–9:30 a.m.	4	10	81	0.76
Richmond–Daly City/Millbrae	8:00 a.m.–9:00 a.m.	4	10	124	1.16
Daly City/Millbrae–Richmond	8:15 a.m.–9:15 a.m.	4	9	40	0.37
Richmond–Warm Springs	7:45 a.m.-8:45 a.m.	4	6	53	0.50
Warm Springs–Richmond	7:45 a.m.–8:45 a.m.	4	7	82	0.76
Warm Springs–Daly City	8:15 a.m.–9:15 a.m.	4	10	142	1.32
Daly City–Warm Springs	7:45 a.m.–8:45 a.m.	4	10	9	0.09
Dublin/Pleasanton–Daly City	8:00 a.m.–9:00 a.m.	4	9	134	1.25
Daly City–Dublin/Pleasanton	7:30 a.m.–8:30 a.m.	4	9	15	0.14
p.m. Peak Hour					
Antioch–SFO/Millbrae	5:15 p.m.–6:15 p.m.	7	10	34	0.31
SFO/Millbrae–Antioch	5:15 p.m.–6:15 p.m.	10	9	123	1.15
Richmond–Daly City/Millbrae	5:00 p.m.–6:00 p.m.	4	9	43	0.41
Daly City/Millbrae –Richmond	5:30 p.m.–6:30 p.m.	4	10	109	1.02
Richmond–Warm Springs	4:45 p.m.–5:45 p.m.	4	7	82	0.76
Warm Springs–Richmond	5:00 p.m.–6:00 p.m.	4	6	90	0.85
Warm Springs–Daly City	5:00 p.m.–6:00 p.m.	4	10	17	0.16
Daly City–Warm Springs	5:00 p.m.–6:00 p.m.	4	10	132	1.24
Dublin/Pleasanton–Daly City	5:15 p.m.–6:15 p.m.	4	9	20	0.19
Daly City–Dublin/Pleasanton	5:00 p.m.–6:00 p.m.	4	9	145	1.35

SOURCE: October 2018 Tuesday–Thursday ridership data provided by BART, Fehr & Peers, 2020. (Appendix TRA)

Regional Rail Service

Amtrak operates intraregional and interregional rail service through the Oakland Jack London Square station on 2nd Street between Harrison and Jackson Streets, about 0.6 miles east of the Project site's eastern edge. Regional rail service includes Capitol Corridor, an intercity passenger rail service operated between the Sierra Nevada foothills, Sacramento, the East Bay, and San Jose. Amtrak operates two additional routes that stop at the Jack London Square station: the San Joaquin, which operates between the Bay Area, Sacramento, and Bakersfield; and the Coast Starlight, which operates between Los Angeles, the Bay Area, Portland, and Seattle. Average weekday ridership at Jack London Square station was about 510 boardings per day in 2017, while annual boardings plus alightings was 371,000, based on Amtrak State Fact Sheets. The station operates from 5:15 a.m. to 11:00 p.m. seven days per week.

Capitol Corridor connects Sacramento and San Jose through Oakland, with 15 trains per direction on weekdays and 11 trains per direction on weekends, with headways of about one hour during peak periods. All trains connect Sacramento and Oakland, with around half also serving San Jose. The scheduled trip time between Oakland Jack London Square station and Sacramento is about two hours, and about one hour to San Jose. In addition, there are up to 32 deadhead trips (trips without passengers) per day between the Oakland Jack London Square Station and the railyard north of the site where the primary train maintenance yard is located.

The Coast Starlight connects Seattle and Los Angeles through Portland, Sacramento, Oakland, and San Jose. The service operates one train in each direction daily. Under the schedule at the time of the NOP, the southbound train arrives at Oakland Jack London Square Station at 8:35 a.m. The northbound train departs Oakland Jack London Square Station at 9:39 p.m.

San Joaquin connects Oakland and Bakersfield through Sacramento and Stockton. The service operates five trains per day in each direction using Oakland Jack London Square station. The scheduled trip time between Oakland and Stockton is about 1 hour, 45 minutes. Under the current schedule, the last southbound train departs Oakland at 5:55 p.m.

Ferry Service

WETA operates the San Francisco Bay Ferry, which provides regular weekday and weekend ferry service between the Oakland Jack London Square Terminal (less than 1,000 feet from the eastern edge of the Project site) and the Alameda Terminal, the San Francisco Ferry Building Terminal, the San Francisco Pier 41 Terminal, and the South San Francisco Terminal. Today, service between the Jack London Square and South San Francisco terminals is direct, whereas services to the San Francisco Ferry Building and San Francisco Pier 41 terminals make an intermediate stop at the Alameda Terminal. Under the current schedule, ferries depart the Oakland Jack London Square Terminal on weekdays between 6:30 a.m. and 8:45 p.m. with typical headways of 30 to 45 minutes, and on weekends between 8:55 a.m. and 9:25 p.m. with typical headways of 45 to 60 minutes. Based on the WETA Executive Director's Report (April 2019), the average weekday ridership for the Oakland Jack London Square Terminal was approximately 3,300 passengers in February 2019.

The San Francisco Bay Ferry offers event service to supplement regular service. For example, event service is provided between the Oakland Jack London Square and Oracle Park terminals for San Francisco Giants weekday evening and holiday and weekend mid-day games. Ferries depart Oakland at 6:10 p.m. on weekday evening game days and 11:30 a.m. on weekend and holiday game days, departing Oracle Park 30 minutes after the last out or fireworks display on weekdays, and 20minutes after the last out or fireworks display on weekends and holidays. A similar service is currently being implemented for the Chase Center in San Francisco. Ferry riders can transfer for free to AC transit buses and are eligible for free parking in the 101 Washington parking garage.

Existing Bicycle Network

The City of Oakland 2019 Oakland Bike Plan (Let's Bike Oakland) identifies the following bicycle facility types.

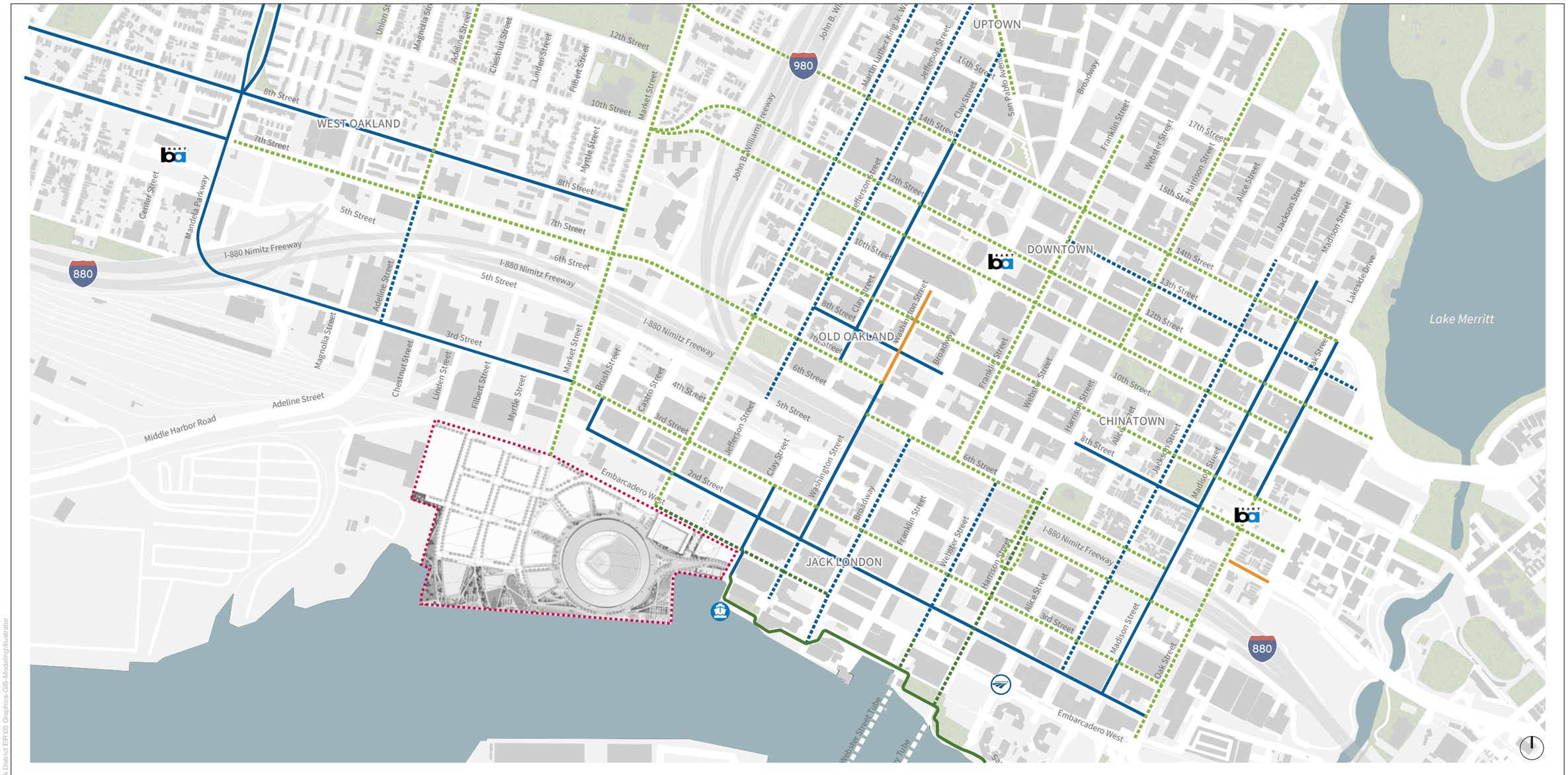
- *Class 1 Paths* are located off-street and can serve both bicyclists and pedestrians. Recreational trails can be considered Class 1 facilities. Class 1 paths are typically 8 to 10 feet wide, excluding shoulders, and are generally paved.
- *Class 2 Bicycle Lanes* provide a dedicated area for bicyclists within the paved street width using striping and appropriate signage. These facilities are typically 5 to 6 feet wide.
- *Class 2B Buffered Bicycle Lanes* provide a dedicated area for bicyclists within the paved street, separated from the motor vehicle travel lanes by a painted buffer.
- *Class 3 Bicycle Routes* are located along streets that do not provide enough width for dedicated bicycle lanes. The street is then designated as a bicycle route using signage, informing drivers to expect bicyclists.
- *Class 3A Arterial Bicycle Routes* are located along some arterial streets where bicycle lanes are not feasible and parallel streets do not provide adequate connectivity. Speed limits as low as 25 miles per hour (mph), and shared-lane bicycle stencils, wide curb lanes, and signage are used to encourage shared use. According to the 2019 Oakland Bike Plan, New Class 3A facilities will no longer be proposed.
- *Class 3B Neighborhood Bike Routes* are located along residential streets with low traffic volumes. Assignment of right-of-way to the route, traffic calming measures, and bicycle traffic signal actuation are used to prioritize through-trips for bicycles.
- *Class 4 Protected Bicycle Lanes*, also known as cycle tracks, provide space that is exclusively for bicyclists and separated from motor vehicle travel lanes, parking lanes, and sidewalks. Parked cars, curbs, bollards, or planter boxes provide physical separation between bicyclists and moving cars. Where on-street parking is allowed, it is placed between the bikeway and the travel lanes (rather than between the bikeway and the sidewalk, as is typical for Class 2 bike lanes).

Figure 4.15-6 shows the existing and proposed bicycle facilities in downtown Oakland per the City's Bike Plan. Many of the City's bike facilities are being implemented over time as part of street repaving projects. As a result, existing bike facilities are not always continuous; the proposed facilities are also described to illustrate system connectivity. Key bike facilities serving the project site are:

- *San Pablo Avenue* provides mostly Class 3 Bike Routes from Frank Ogawa Plaza north into Emeryville, with some Class 2 Bike Lanes along the way. Class 4 Protected Bicycle Lanes are planned for San Pablo Avenue through the City of Oakland.
- *Telegraph Avenue* provides Class 4 Protected Bicycle Lanes between 20th and 29th Streets and between MacArthur Boulevard and 51st Street, Class 2B Buffered Bicycle Lanes south of 20th Street, and a Class 3A Arterial Bicycle Route north of 29th Street. Class 4 Protected Bike Lanes are planned for Telegraph Avenue between 29th Street and MacArthur Boulevard through the City of Oakland.
- *Market Street* currently has a combination of Class 2 and Class 2B Bike Lanes from 3rd Street and continuing to Adeline Street. South of 3rd Street to Embarcadero West and the

Project site there are no bicycle facilities. Class 4 Protected Bike Lanes are planned on Market Street between Embarcadero West at the Project site and 18th Street, north of which Class 2B Bike Lanes are planned.

- *Martin Luther King Jr. Way* currently does not have any bike facilities between the Project site at Embarcadero West and San Pablo Avenue. Class 4 Protected Bike Lanes are planned for the corridor between Embarcadero West and 7th Street. North of 7th Street to San Pablo Avenue, Class 2B Buffered Bike Lanes are planned.
- *Jefferson Street* currently does not have any bike facilities between the Project site at Embarcadero West and San Pablo Avenue. Jefferson Street is discontinuous between 4th and 5th Streets. Class 2B Buffered Bike Lanes are planned for the corridor between 6th Street and San Pablo Avenue.
- *Clay and Washington Streets* currently have several north-south bicycle facilities. Clay Street provides Class 2B Buffered Bike Lanes between San Pablo Avenue and 7th Street. Washington Street has Class 2 Bike Lanes between 7th and 2nd Streets and Class 3 Bike Routes between 7th and 10th Streets. Class 2 Bike Lanes on 8th Street and Class 3 Bike Routes on 9th Street provide east-west connectivity between Clay and Washington Streets.
- *Madison* and *Oak Streets* form a one-way couplet and generally provide Class 2B Buffered Bike Lanes between Lakeside Drive and 2nd Street. The lanes on Oak Street continue south across the railroad tracks to Class 2B Bike Lanes on Embarcadero and across the Lake Merritt Channel. Continuous Class 4 Protected Bike Lanes are planned on Oak Street between 9th Street to Embarcadero.
- *14th Street* currently has Class 2 Bike Lanes west of Castro Street and east of Oak Street with a route designation through downtown. Class 4 Protected Bike Lane are planned for 14th Street through downtown between Castro and Oak Streets. Once completed, the corridor will have a continuous bike facility through West Oakland, Downtown, and into East Oakland.
- *7th Street* provides Class 2 Bike Lanes between Peralta Street and Mandela Parkway and a Class 3 Bike Route east of Mandela Parkway to Union Street. Class 4 Protected Bike Lanes are planned between Washington Street and the Port of Oakland where the lanes would connect with a similar facility on Maritime Street. There would continue to be a short Class 2B Buffered Bike Lane segment between Peralta Street and Mandela Parkway after the planned Class 4 facility is constructed.
- *3rd Street* provides Class 2B Buffered Bike Lanes west of Brush Street to Mandela Parkway and there are no existing bike facilities east of Brush Street. Instead, Class 2 Bike Lanes turn south on Brush Street to 2nd Street where Class 2 Bike Lanes continue to Oak Street. East of Market Street Class 4 Protected Bike Lanes are planned for 3rd Street that would extend east through Jack London District past Oak Street connecting to the Lake Merritt Trail.
- *2nd Street* through Jack London District generally provides Class 2 Bike Lanes between Brush and Oak Streets and transitions to 3rd Street (via Brush Street) where Class 2B Buffered Bike Lanes continue west to Mandela Parkway.



LEGEND

EXISTING BIKE NETWORK
PROPOSED BIKE NETWORK

- Multi-Use Path
- Protected Bikeway
- Buffered/Non-Buffered Bike Lanes
- Neighborhood Bike Route/ Bike Route
- Project Boundary
- BART Station
- Amtrak

NOTE: Planned bike network shown to provide context for existing network since the existing network is discontinuous.

SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-6
Existing and Planned Bicycle Network

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- *Bay Trail* is a Class 1 multi-use path that extends along the waterfront through Jack London District between Clay Street and the Estuary Park where a planned facility would continue to the planned path along the Lake Merritt Channel. At Clay Street, the Bay Trail turns inland and follows the alignment of 2nd Street to Brush Street and then to 3rd Street, where it continues into West Oakland at 7th Street.
- *Lake Merritt Trail* is a Class 1 multi-use path that follows the lake's shoreline and connects several parks and other attractions. There are plans to connect the Lake Merritt Trail with the Bay Trail via a new bridge starting under the I-880 freeway and spanning over the Embarcadero and the UPRR tracks.

Existing Pedestrian Network

Pedestrian facilities generally include sidewalks, paths, and stairs. Other types of pedestrian facilities include marked crosswalks, curb ramps, pedestrian signal heads and buttons, lighting, curb extensions, and wayfinding signs.

Figure 4.15-7 shows the existing and proposed pedestrian network in downtown Oakland at the time of the NOP as well as the corridors that are part of the High Injury Network described in the City's 2017 Pedestrian Master Plan, which was adopted by Oakland's City Council on June 27, 2017. As shown in the figure, there are a few sidewalk gaps in the vicinity of the Project site, including segments on 3rd Street between Market and Clay Streets as well as sections of Jefferson and Clay Streets between 2nd and 3rd Streets. The areas on 3rd Street are generally used for angle or perpendicular parking in the space where sidewalks would typically be located. In other locations such as segments of Clay and Jefferson Streets, between 2nd and 3rd Streets, decomposed granite paths are provided. East of Broadway in the Jack London District, there are a few additional locations with sidewalk gaps: On Oak Street at 2nd Street; on 3rd Street between Oak and Madison Streets and between Webster and Harrison Streets; and on 4th Street between Jackson and Alice Streets. While there are sidewalks in the Produce Market area, generally bounded by 2nd and 4th Streets from west of Franklin Street to Webster Street, they are used during the morning hours by the merchants for transferring goods to and from trucks.[3]

Curb ramps have been upgraded to comply with Americans with Disabilities Act (ADA) standards at most intersections; but there are still a few locations, mostly along 3rd Street, where some ramps need improvement and some sidewalk segments need to be improved to maintain the minimum clear width of 3 feet at sidewalk obstacles. The sidewalks on Market Street and Martin Luther King Jr. Way end at the railroad tracks. There are no pedestrian facilities across the railroad tracks at the Project site, except for a narrow sidewalk on Embarcadero West between Martin Luther King Jr. Way and Clay Street.

Crosswalk delineation in the area varies with either vehicle stop limit lines (i.e., no striped crosswalks) or two striped crosswalk lines provided. There are no high-visibility crosswalks (i.e., crosswalks marked with special striping such as the zebra or continental pattern) in the study

[3] The term "truck(s)" as used in this section refers to drayage trucks serving the Seaport and Howard Terminal, as well as delivery trucks serving area land uses.

area except at a few locations on Clay Street in Old Oakland, along Broadway where some intersections have decorative crosswalks, and on 7th, 8th, and 9th Streets in Chinatown District.

Whether the neighborhood adjacent to the Project site is walkable also depends on what daily needs and services are within walking distance. The 2017 Pedestrian Master Plan used Walk Score to identify how walkable various areas of Oakland are. The area adjacent to the Project site has a Walk Score of 81 according to the Walk Score website, indicating that the area is very walkable for errands on foot (Walk Score, n.d.). The scores do not account for factors that may influence walking trips, such as physical characteristics, driving speeds, vehicle mix, sidewalk obstacles, amenities, and width.

Existing Traffic Conditions

Existing traffic conditions in the vicinity of the Project site are described below.

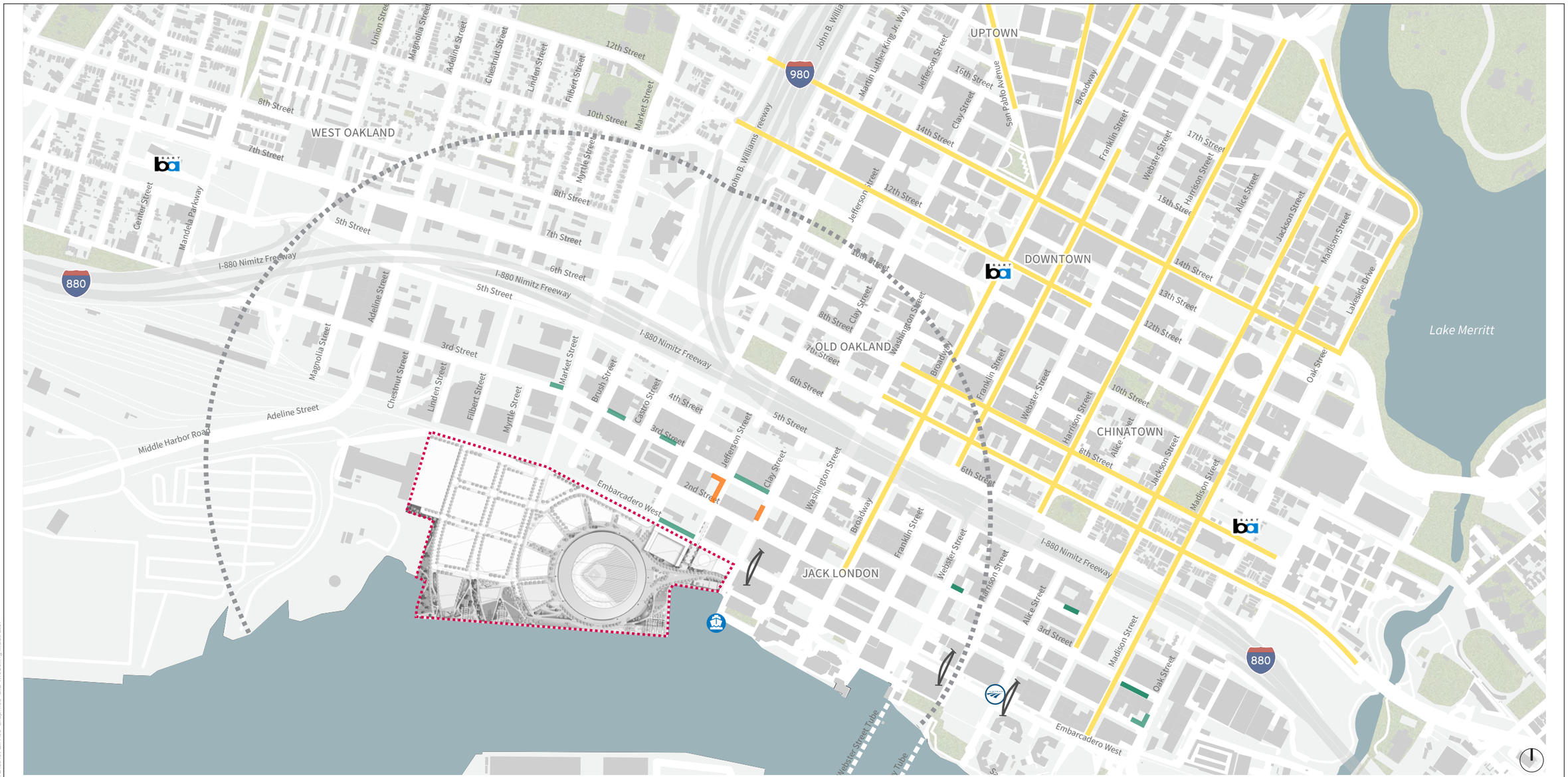
Vehicle Miles Traveled

Vehicle miles traveled, or VMT, refers to the amount and distance of automobile travel attributable to a project. In 2013, Governor Jerry Brown signed Senate Bill (SB) 743, which added Public Resources Code Section 21099 to CEQA, to change the way that transportation impacts are analyzed under CEQA to better align local environmental review with statewide objectives to reduce greenhouse gas (GHG) emissions, encourage infill mixed-use development in designated priority development areas, reduce regional sprawl development, and reduce VMT in California. Oakland adopted VMT thresholds in September 2016 to implement the directive from SB 743 (discussed in more detail in the State discussion in Section 4.15.2, *Regulatory Setting*).

Increased VMT leads to several direct and indirect impacts on the environment and human health. Among other effects, increasing VMT on the roadway network leads to increased emissions of air pollutants, including GHGs, as well as increased consumption of energy. Transportation is associated with more GHG emissions than any other sector in California. As documented in the City of Oakland Equitable Climate Action Plan (updated July 2020), 67 percent of Oakland's local GHG emissions are produced by transportation (City of Oakland, 2020). Making transportation more efficient by reducing VMT per capita is the most effective means to reduce GHG emissions per capita.

This analysis uses the Metropolitan Transportation Commission (MTC) Travel Model to estimate VMT.[4] The model includes Year 2020, which approximates existing conditions. Based on the MTC Travel Model, the regional average VMT per worker is 21.8, while the weighted average for the Project site is 16.5.

[4] MTC VMT estimates for each TAZ in the region are published through online maps, including Simulated VMT per Capita by Place of Residence and Simulated VMT per Capita by Place of Work (at https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=5dac76d69b3d41e583882e146491568b and https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=98463b4f73ca43c5944a5c30648fd689, respectively).



LEGEND

- Project Boundary
- Existing Pedestrian Connection
- Decomposed Granite Path
- Sidewalk Gap
- High Injury Network (Corridors)
- 1/2 Mile From Project Boundary
- BART Station
- Amtrak
- Ferry

Source: Downtown Oakland Specific Plan

SFO1170XXXD171044.00 - A's Ballpark District EIR\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-7
Existing Sidewalk Gaps and Pedestrian High Injury Network

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Traffic Volumes

New multimodal (i.e., vehicles, pedestrians, and bicyclists) intersection turning movement counts were collected at over 70 intersections in 2018 and 2019. The count data were collected on clear days, while area schools were in normal session. The traffic data collection was conducted during the weekday morning peak period (7:00 a.m. to 9:00 a.m.) and evening peak period (4:00 p.m. to 6:00 p.m.). These time periods were selected because trips generated by the Project, in combination with existing traffic, are expected to result in the typical day-to-day worst traffic conditions at these times. Within the peak periods, the peak hours (i.e., the hour with the highest traffic volumes observed in the study area) are from 8:00 a.m. to 9:00 a.m. (a.m. peak hour) and from 4:45 p.m. to 5:45 p.m. (p.m. peak hour). These peak hours define the global peak hours used to define the traffic conditions against which the Project will be evaluated.

In addition, multimodal intersection turning movement counts were collected at 32 intersections during the weekday afternoon and evening period (3:00 p.m. to 8:00 p.m.).[5] This time period was selected to evaluate the Project's ballpark traffic from a weekday afternoon game ending at 3:30 p.m. and a weekday evening game starting at 7:00 p.m. Trips generated by the ballpark traffic in combination with the existing traffic and traffic from the other Project land uses are expected to represent worst traffic conditions between 3:00 p.m. and 8:00 p.m. Multiple hours are evaluated with the ballpark traffic to account for the time-spread of fan arrivals and departures.

Field reconnaissance was performed to identify the number of lanes, intersection spacing, and other features that influence vehicle traffic flow.

Appendix TRA presents the existing a.m. and p.m. peak-hour intersection turning movements at the 70 study intersections. The same appendix also presents the hour-by-hour intersection turning movements for the 32 study intersections between 3:00 p.m. and 8:00 p.m. In all cases, a peak-hour factor of 1.0 is used per the City's *Transportation Impact Review Guidelines*. Peak-hour factor is a measure of volume fluctuation during the peak hour; a peak-hour factor of 1.0 reflects the average operations over the peak one hour.

Congestion Management Program and Metropolitan Transportation System Roadway Segments

Alameda CTC conducts monitoring of major roadways on the CMP roadway network and the Metropolitan Transportation System (MTS) in Alameda County. The monitoring program uses Level of Service grades to define road segment operations. For the road segment analysis, the LOS grade system includes LOS (A, B, C, D, E, and F) ranges from LOS A, representing free-flow conditions with little to no motor vehicle delay, to LOS F, representing at-capacity

[5] Intersections were selected based on guidance provided in the City of Oakland Transportation Impact Review Guidelines (City of Oakland, 2017a), including intersections of streets adjacent to the Project; intersections where the Project would add 100 or more peak-hour trips; signalized intersections with 50 or more Project-related peak-hour trips and existing LOS D, E, or F; and side-street stop-controlled intersections where the Project would add 50 or more peak-hour trips to any individual movement other than the major-street through movement. Study intersections are shown in Figure 4.15-1.

conditions with extensive motor vehicle delay. The transition between LOS E and LOS F represents the road segment capacity per the *2010 Highway Capacity Manual*.

As of the publication of the NOP, the most recent LOS Monitoring Report had been released by Alameda CTC in December 2017.[6] As part of the 2021 CMP update, Alameda CTC will reevaluate and identify any changes to multimodal performance measures in light of the changes to the State CEQA Guidelines based on SB 743, which replaces the LOS metric with VMT starting July 1, 2020, for transportation impact assessments under CEQA.

The 2017 Alameda CTC LOS Monitoring Report assesses existing freeway operations through commercial speed data or "floating car" travel time surveys, which are conducted on all freeway segments during the evening peak hours (4:00 p.m. to 6:00 p.m.). Based on the results of these surveys, Alameda CTC assigns a LOS grade to each segment according to the method described in the 1985 Highway Capacity Manual (HCM), except that Tier 2 arterial segments are reported using HCM 2000. Any freeway segment with an average speed less than 30 mph is assigned LOS F by Alameda CTC. Freeway ramps and special freeway segments such as direct connectors with speeds below 50 percent of free-flow speed are assigned LOS F. The travel time surveys concluded that 40 freeway segments, five freeway ramps, and special freeway segments, and 16 arterial segments in Alameda County operate at LOS F during the p.m. peak hours, including the following 14 freeway segments and six freeway ramps and special freeway segments within the vicinity of the Project site:

Freeway Segments

- I-80 eastbound: Toll Plaza to I-580 (grandfathered segment)[7]
- I-580 eastbound: I-80 to I-980 (grandfathered segment)
- I-580 eastbound: I-980 to Harrison Street
- I-580 eastbound: Harrison Street to Lakeshore Avenue
- I-580 eastbound: Coolidge Avenue to SR 13
- I-580 westbound: SR 24 to I-80/580 split (grandfathered segment)
- I-880 northbound: Between I-80 ramps
- I-880 southbound: Between I-80 merge and junction I-980
- I-880 southbound: Between I-980 and 23rd Avenue
- SR 13 northbound: Moraga Avenue to Hiller Drive
- SR 13 southbound: Redwood Road to I-580
- SR 24 eastbound: I-580 to Broadway/SR 13 (grandfathered segment)
- SR 24 eastbound: Broadway/SR 13 to Caldecott Tunnel (grandfathered segment)
- SR 24 eastbound: Caldecott Tunnel to Fish Ranch Road (grandfathered segment)

6 https://www.alamedactc.org/wp-content/uploads/2018/11/2017_Alameda_County_CMP.pdf?x33781.

7 Grandfathered segments that operated at LOS F during the initial data collection effort in 1991 by the Alameda County Congestion Management Agency, a predecessor to Alameda CTC, and are therefore "grandfathered," meaning that they are exempt from LOS standards. The other segments are not exempt, meaning that they operate at unacceptable conditions based on Alameda CTC standards. Alameda CTC requires preparation of a deficiency plan for non-grandfathered segments that fail to meet the established standards.

Freeway Ramps

- I-80/I-580 interchange: I-580 westbound to I-80 northbound
- I-580/SR 24 interchange: I-580 westbound to SR 24 eastbound
- I-580/SR 24 interchange: SR 24 westbound to I-580 eastbound
- SR 13/SR 24 interchange: SR 13 northbound to SR 24 eastbound (grandfathered segment)
- I-880/SR 260 connection: SR 260 eastbound to I-880 northbound
- I-880 northbound off-ramp to 5th Street/Broadway intersection

In addition, the travel time surveys concluded that 28 freeway segments, three freeway ramps and special freeway segments, and six arterial segments in Alameda County operate at LOS F during the a.m. peak hours, including the following eight freeway segments and one freeway ramp and special freeway segment in the vicinity of the Project site:

Freeway Segments

- I-80 westbound: I-580 to Toll Plaza
- I-80 westbound: Toll Plaza to San Francisco County
- I-580 westbound: Foothill Boulevard to MacArthur Boulevard/SR 13
- I-580 westbound: SR 13 to Fruitvale Avenue
- I-580 westbound: SR 24 to I-880/580
- I-880 northbound: SR 112 to Hegenberger Road
- I-880 northbound: Hegenberger Road to High Street/42nd Avenue
- I-880 northbound: High Street/42nd Avenue to 23rd Avenue

Freeway Ramps

- I-880/SR 260 connection: SR 260 eastbound to I-880 northbound

Based on the LOS Monitoring Report, all non-freeway CMP and MTS roadway segments in the plan area operate at LOS E or better during both a.m. and p.m. peak hours. The corridors near the Project site include:

- Grand Avenue
- Broadway
- Telegraph Avenue
- San Pablo Avenue
- Webster-Posey Tubes
- Webster Street
- Harrison Street
- Martin Luther King Jr. Way
- Castro Street
- Brush Street
- Market Street
- Middle Harbor Road/Adeline Street
- 14th, 12th, 11th, 8th, and 7th Streets

Existing Oakland–Alameda County Coliseum Site Characteristics

The existing Oakland A's ballpark is located at the Oakland–Alameda County Coliseum (Oakland Coliseum), on the southern region of the City of Oakland, roughly 6 miles southeast from the proposed new ballpark location at Howard Terminal. This section describes the existing travel patterns of ballpark attendees to inform the Project's transportation analysis. Existing travel characteristics for attendees to the Oakland Arena are also presented to inform the analysis of concerts and similar events.

A variety of data describing the existing travel behavior of attendees to Oakland A's games at the Oakland Coliseum and to larger events at Oakland Arena was collected to help develop ballpark trip generation estimates for the Project. A brief description of the data, the data source, and the purpose for which the data were used is presented in **Table 4.15-5**.

The Oakland Coliseum seats up to 47,100 baseball fans and provides 9,100 parking spaces for private vehicles. Private vehicles are the primary travel mode to the Oakland Coliseum. Baseball fans who drive were observed during site investigations to park on-site, likely because there is ample on-site parking within 1,200 feet of the Oakland Coliseum. There are overflow parking areas off-site, but these have been used for football games and similarly sized special events.

The Coliseum BART station is located approximately 800 feet from a major stadium entrance, providing access via a pedestrian bridge over San Leandro Boulevard and the railroad tracks. BART is the second largest travel mode to the Oakland Coliseum. Although several bus lines serve the Oakland Coliseum, most operate at headways of 15 minutes or greater, and field observations found a negligible number of ballgame attendees arriving by bus or any other mode other than automobile and BART.

The geographic distribution of fans attending a baseball game was captured using 2017 season data for home games, including location-based data obtained from StreetLight and station origin and destination data provided by BART. **Figure 4.15-8** shows the geographic distribution of attendees who use BART for a typical weekday evening game and **Figure 4.15-9** shows the same information for attendees who drive. **Figure 4.15-10** shows the fan distribution combining the BART riders and the attendees who drive.

For home games during the 2017 season, BART hourly ridership data by origin-destination pairs were used to calculate the average number of exits at the Coliseum BART station on each of the three game-day types (weekday day game, weekday evening game, and weekend game) for three hours before to one hour after the scheduled start time. The average volume of Coliseum exits during those times on days without a game was then subtracted to estimate BART riders traveling to the Oakland Coliseum for the Oakland A's game. Days on which other events occurred at either the Oakland Coliseum or the Oakland Arena were excluded from the calculations. Variable game ending times make it difficult to accurately describe departure mode split using historical data, so the departure mode split was estimated to be the same as the arrival mode split.

TABLE 4.15-5
DATA SOURCES USED FOR BALLPARK TRIP GENERATION

Data	Data Source	Use
BART Hourly Origin-Destination Volumes[a]	BART	Existing Game-Day/Event BART Mode Share Geographic Distribution of BART Rider Attendees
Oakland Coliseum Game-Day Attendance[b]	Oakland A's	Existing Game-Day Mode Share at Oakland Coliseum
Oakland Arena Concert Attendance[c]	Billboard	Existing BART Mode Share for High-Demand Concerts at Oakland Arena
Vehicle Origin-Destination Distribution for Oakland A's and Oakland Arena[d]	StreetLight Data	Geographic Distribution of Vehicle Attendees
Driveway Counts[e]	IDAX	Game-Day/Event TNC (Lyft and Uber) Mode Share Driver Second-Choice Mode Preferences
Vehicle Occupancy[f]	Fehr & Peers	Game-Day Vehicle Occupancy at Main Gate
Downtown Oakland Parking Supply and Occupancy[g]	City of Oakland	Parking Spaces Available for Ballpark Attendees

NOTES:

TNC = transportation network company

1 BART hourly origin-destination volumes can be found at http://64.111.127.166/origin-destination/. Data collected for Oakland A's games during the 2017 season.

2 Per-game data collected at entrances for Oakland A's games during 2017 season. Game-day attendance differs from published attendance data, which represent ticket sales.

3 Six large weekend evening concerts at Oakland Arena in 2017 were studied, using data from Billboard Boxscore (Boxscore, 2017):
- Red Hot Chili Peppers (3/12)
- Panic! At the Disco (3/25)
- Roger Waters (6/10)
- Arcade Fire (10/21)
- Enrique Iglesias and Pitbull (10/28)
- Jay-Z (12/16)

4 Based on cell phone location–based services data collected for Oakland A's games played between July 2016 and September 2017. More information on the data source can be found at https://www.streetlightdata.com/.

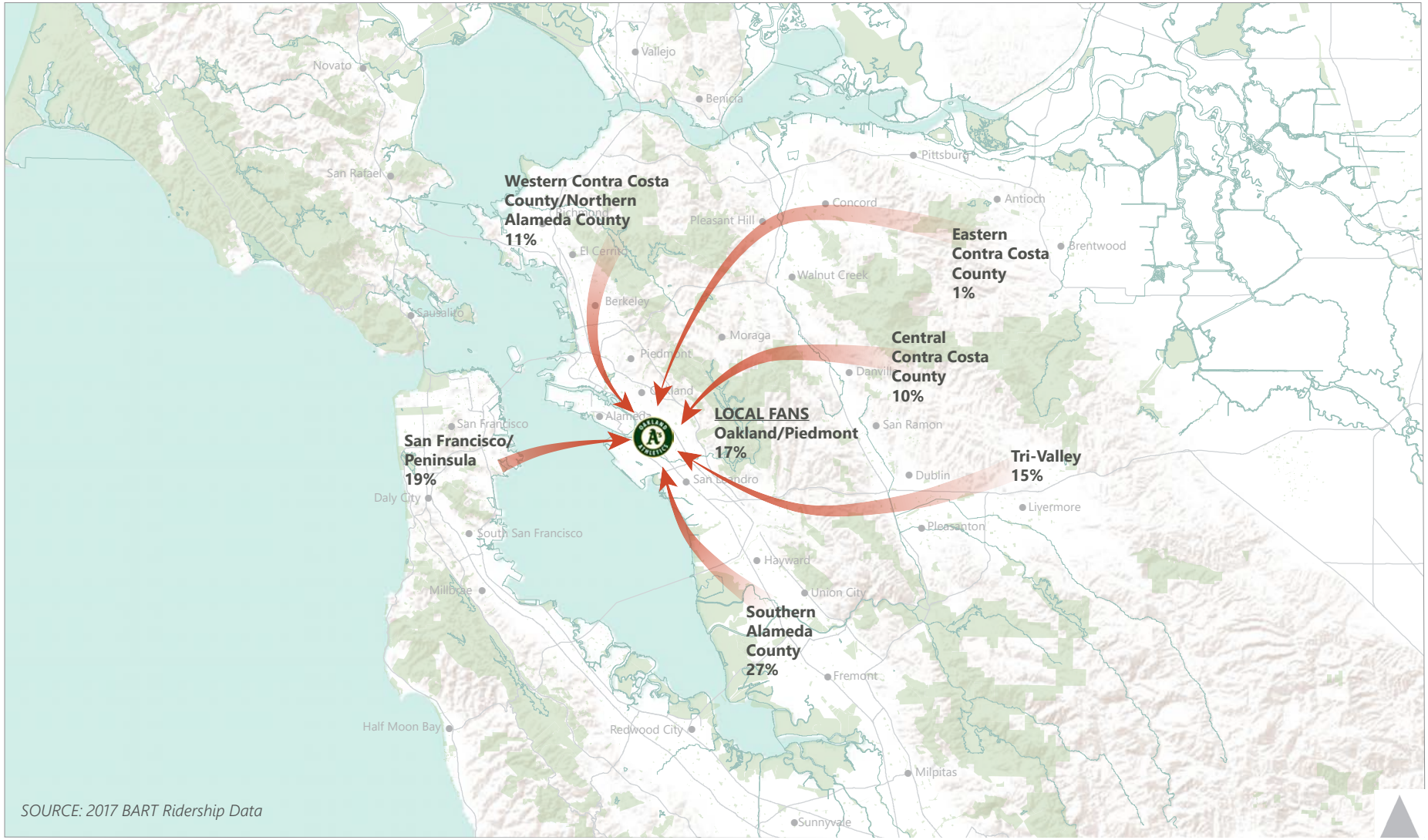
5 Driveway counts of entering and exiting vehicles were collected at the main gate and gates with significant traffic on one game day for each type (weekday evening, weekday day, and weekend) during September 2018 and June and July 2019. Counts were collected from two hours prior to the game's start time to two hours after the final out.

6 Field observations of vehicle occupancy were collected at the main gate on one game day for each type (weekday evening, weekday day, and weekend) during September 2018 and June and July 2019. Counts were collected from two hours prior to the game's start time to 30 minutes after the start time.

7 Parking supply data included on-street and publicly available off-street spaces. Occupancy data included availability on each block and lot/garage at 1:00 p.m. and 7:00 p.m. on weekdays and Saturday at 1:00 p.m. Supply and occupancy data were collected in 2015. Parking supply was adjusted to reflect parking lots developed since 2015 and the parking demand associated with the removed lots was dispersed to other available parking supply.

SOURCE: Fehr & Peers, 2020

These BART ridership numbers were compared against the average turnstile attendance in the 2017 season for each game type to calculate the BART mode share, as presented in **Table 4.15-6**. All other attendees were assumed to travel to games at the Oakland Coliseum by automobile because land use intensity near the Oakland Coliseum is low, bus service is limited with only six lines, and field observations found a negligible number of attendees arriving on foot or by bus.



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SOURCE: Fehr & Peers, 2020

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Figure 4.15-8
Weekday Evening Game
Geographic Distribution (2017) of Oakland A's Game Attendees Who BART

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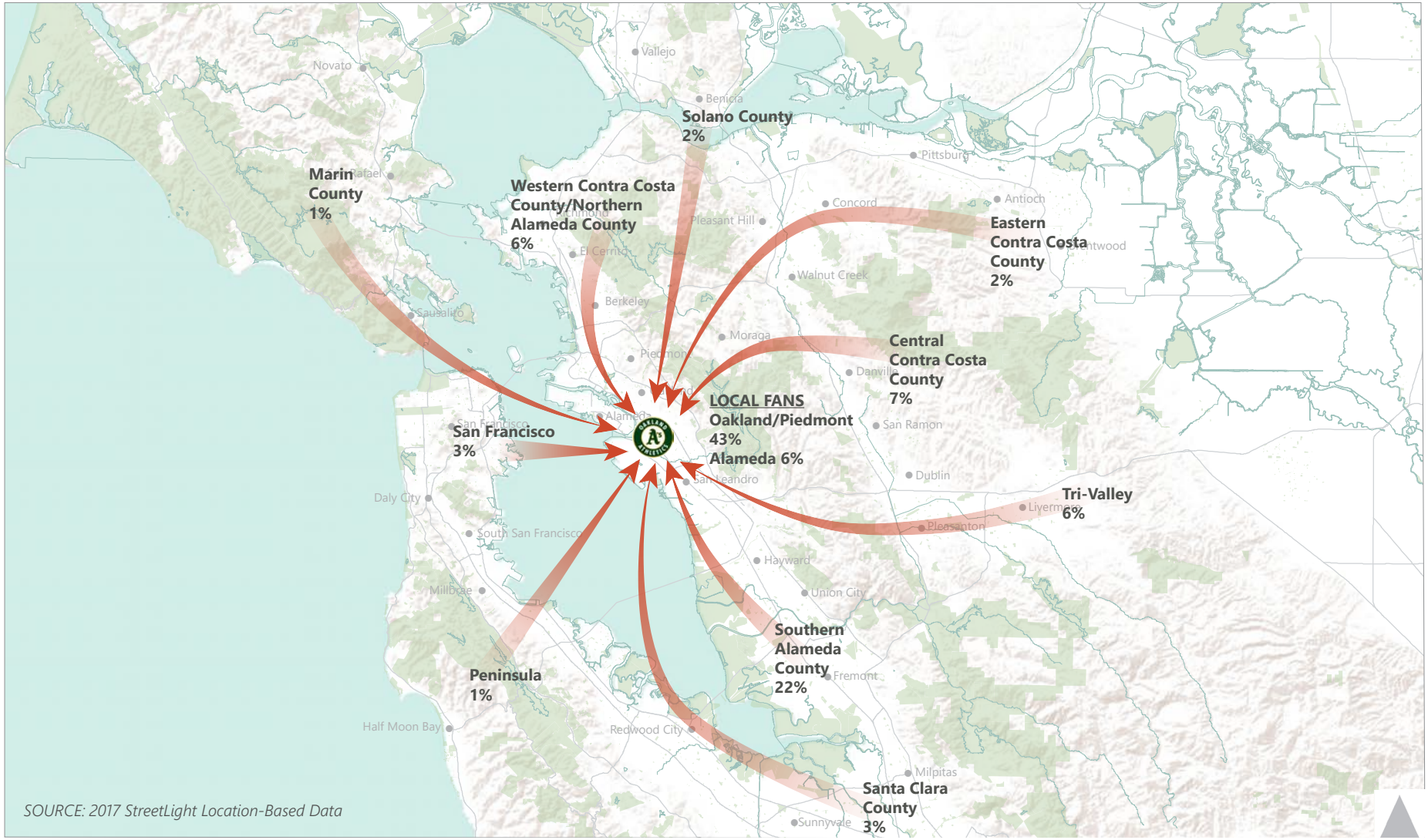

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SOURCE: Fehr & Peers, 2020

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Figure 4.15-9
Weekday Evening Game
Geographic Distribution of (2017) Oakland A's Game Attendees Who Drive

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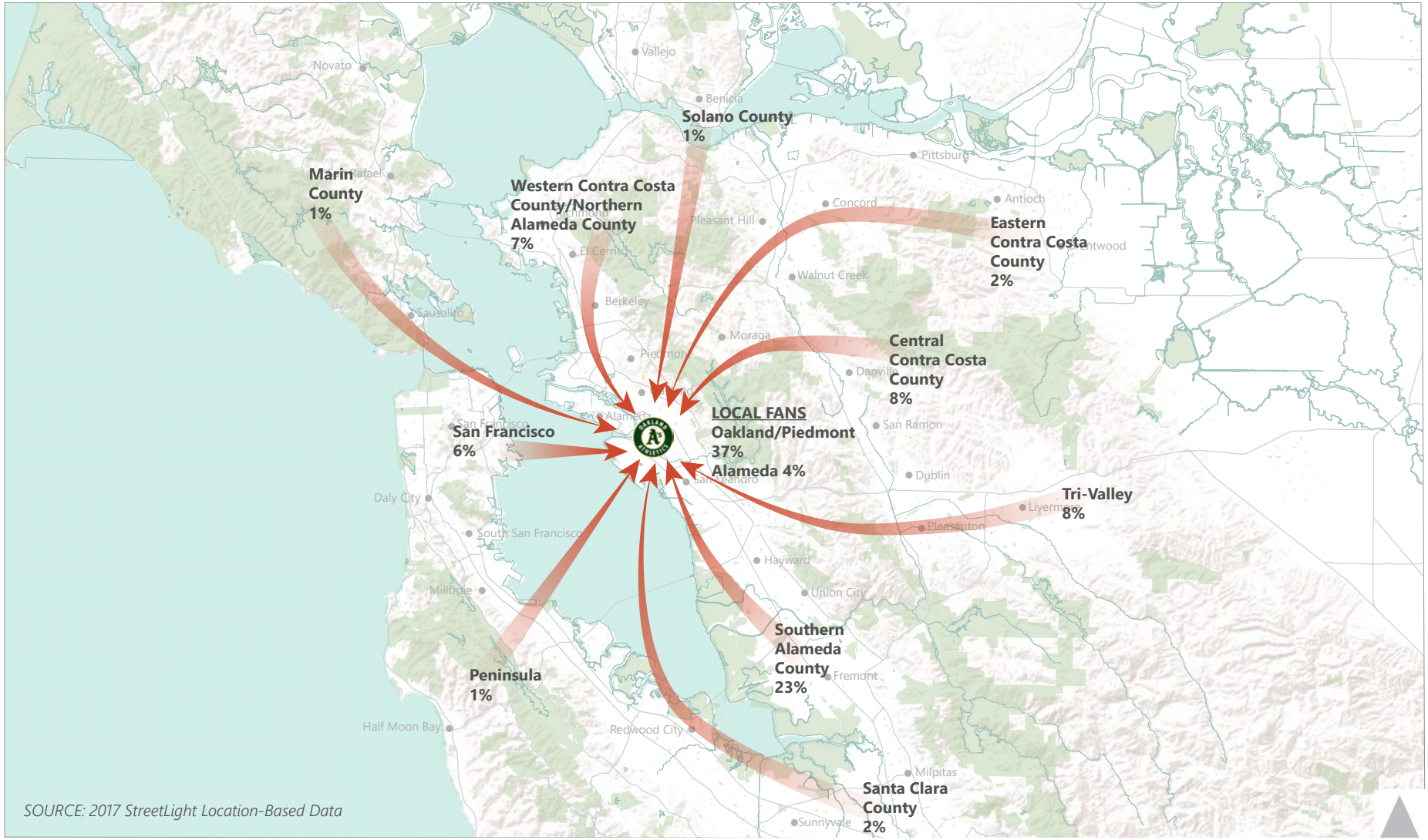

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SOURCE: Fehr & Peers, 2020

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Figure 4.15-10
Weekday Evening Game
Existing Geographic (2017) Distribution of All Oakland A's Game Attendees

ESA

TABLE 4.15-6
EXISTING OAKLAND–ALAMEDA COUNTY COLISEUM BART RIDERSHIP CALCULATIONS

Mode	Non-Game Day[a]	Game Day[a]	Estimated BART Attendees[b]	Average Attendance[c]	BART Mode Share[d]
Weekday Evening	1,991	4,786	2,795	11,868	24%
Weekday Day	600	2,590	1,990	8,879	22%
Weekend	397	3,618	3,221	17,086	19%

NOTES:
a Coliseum BART station ridership.
b Calculated by subtracting game-day ridership from non–game day ridership.
c Average turnstile attendance for the 2017 season.
d Calculated by dividing the estimated number of attendees using BART by the turnstile attendance.

SOURCE: Fehr & Peers, BART, 2019

Transportation network companies (TNCs) such as Uber and Lyft were observed arriving at the Oakland Coliseum main gate and were waved through to drop off passengers and then return to the main gate to exit the site. The share of attendees arriving by TNC was estimated by using driveway counts from one game of each game type (weekday evening, weekday day, weekend) in September 2018 and June and July 2019. Vehicles exiting the Oakland Coliseum between two hours prior and one hour after game start were observed to be TNCs, and that number was used to establish the percentage of vehicle trips that were TNCs. The percentage across the three game types was then averaged, and the average TNC rate was established and applied to all three game types for both drop-offs and pick-ups.

Table 4.15-7 presents modes of access for attendees of the Oakland Coliseum ballpark for each time when baseball games are typically played: weekday evening, weekday day, and weekend. A similar process was followed to establish the modes of access for events at the Oakland Arena, also presented in the table.

TABLE 4.15-7
EXISTING OAKLAND–ALAMEDA COUNTY COLISEUM BALLPARK MODE OF ACCESS

Mode	Weekday Evening[a]	Weekday Day[a]	Weekend[a]	Arena Event[b]
Drive	70%	72%	75%	74%
TNC[c]	6%	6%	6%	6%
BART	24%	22%	19%	20%
Walk/Bike/Other Transit[d]	—	—	—	—

NOTES:
TNC = transportation network company
a Reflects average mode of travel during the 2017 baseball season, the most recent set of data prior to the Notice of Preparation.
b Based on BART and Billboard data for the following high-demand concerts at the Oakland Arena in 2017:
- Red Hot Chili Peppers (3/12)
- Panic! At the Disco (3/25)
- Roger Waters (6/10)
- Arcade Fire (10/21)
- Enrique Iglesias and Pitbull (10/28)
- Jay-Z (12/16)

c Based on driveway count data.
d Negligible use of other modes observed during field visits.

SOURCE: Fehr & Peers, BART, 2019

Existing Parking Characteristics

The following section describes the current conditions for personal automobile parking around the Project site. This includes supply and occupancy for both on-street parking and off-street parking (i.e., parking lots/garages).

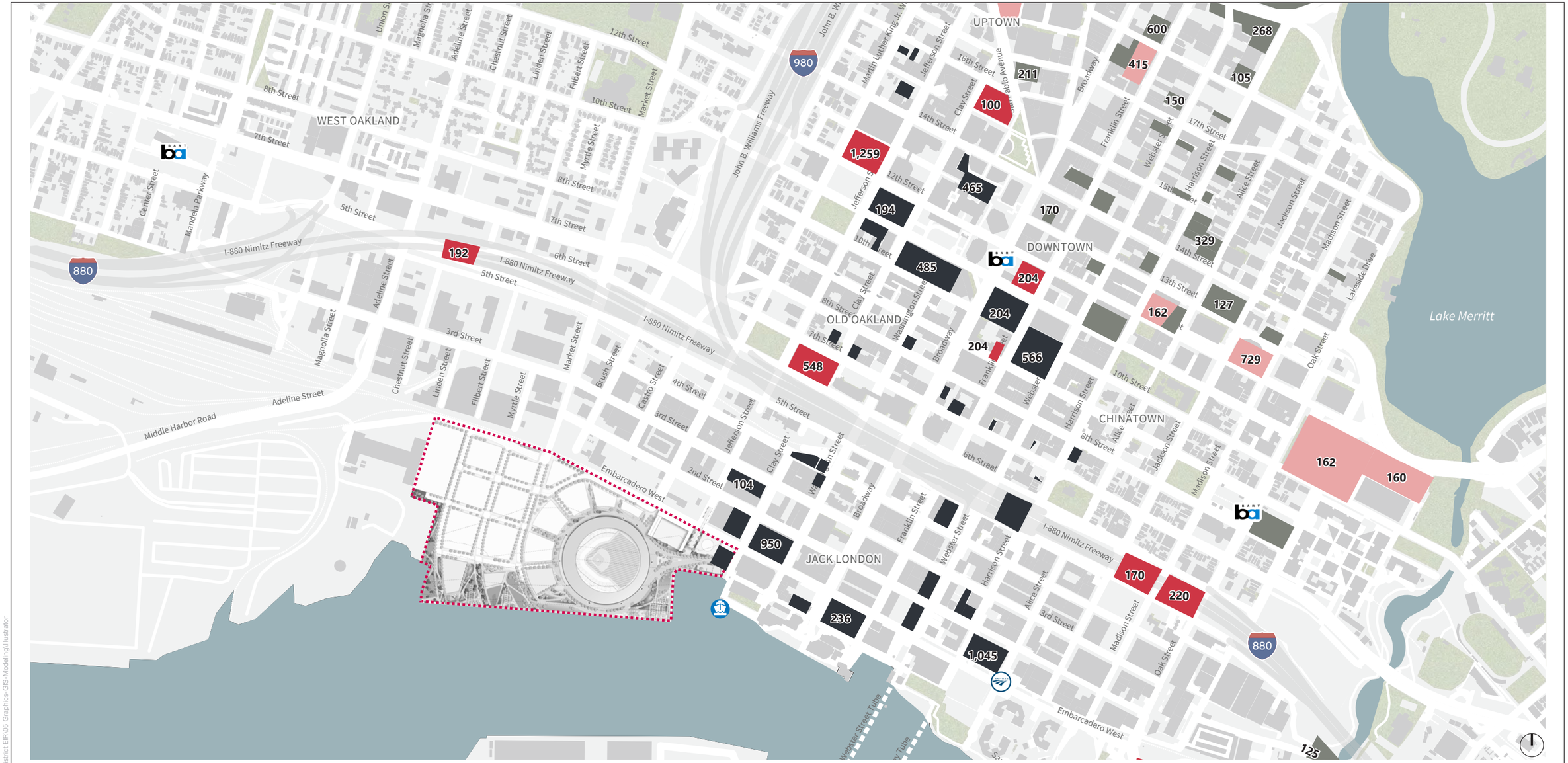
Figure 4.15-11 shows the locations of the existing parking garages within 1.0 mile of the project site. Major parking garages include the 1,259-space City Center West Garage at 12th Street and Martin Luther King Jr. Way, the 1,045-space Amtrak Jack London Garage, and the 950-space structure at Washington Street and Embarcadero West. Moderate-sized parking garages include the 548-space garage at 7th Street and Jefferson Street, the 485-space structure at the Convention Center, and the 465-space City Center Garage at 12th Street.

The Downtown Oakland Final Parking Management Report (June 2016) provided the basis for calculating the typical weekday parking demand and parking supply within 1.0 mile of the Project site at 1 p.m. and at 7 p.m. (City of Oakland & MTC, 2016) The data was supplemented with new data collected in 2019, including an inventory of parking supply and parking demand in the Jack London District and West Oakland. **Table 4.15-8** presents the resulting on- and off-street parking demand and supply characteristics within 0.5 miles and 1.0 miles from the Project site. There are currently around 2,890 on- and off-street parking spaces within 0.5 miles of the project site and 12,980 parking spaces available within 1.0 mile. Of the total parking spaces within 1.0 miles of the site, 4,210 are available on weekdays around 1:00 p.m., and 7,600 are available on weekday evenings around 7:00 p.m. Much of the existing parking demand in the area is associated with those who work in the area during weekdays. For this reason, weekend parking characteristics are like the weekday evening parking characteristics.

TABLE 4.15-8
EXISTING PARKING CHARACTERISTICS

	Within 0.5 Miles of the Project Site		Within 1.0 Miles of the Project Site	
Parking Type	**Parking Demand**	**Parking Supply**	**Parking Demand**	**Parking Supply**
Weekday at 1:00 p.m.				
On-Street	601	891	3,344	4,654
Off-Street	1,472	2,003	5,423	8,325
Weekday at 7:00 p.m.				
On-Street	342	891	2,382	4,654
Off-Street	1,429	2,003	2,994	8,325

SOURCE: Fehr & Peers, 2020



NOTE: Parking supply was measured in 2015 and updated in 2019 to reflect known parking supply removed from inventory

SOURCE: Fehr & Peers, 2020

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Figure 4.15-11
Existing Parking Garages Available for Public Use

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Existing Railroad Characteristics

The Union Pacific Railroad (UPRR) is a freight-hauling railroad company that owns and operates the rail lines adjacent to the site. These rail lines are used both for passenger transportation by Amtrak and the Capitol Corridor Joint Powers Authority (Capitol Corridor), and freight transport by UPRR.

Figure 4.15-12 shows the results from a recent week-long observation of railroad gate activities at the Market Street and Martin Luther King Jr. Way crossings to the Project site. The figure illustrates the median gate downtime event each hour and the variability in gate downtime events within each hour. The data was collected between July 22 and July 28, 2019, between 11:00 a.m. and 11:00 p.m., when ballpark activities would likely occur. During this time on each day, an average of 6 freight trains and 36 passenger trains passed through the area.

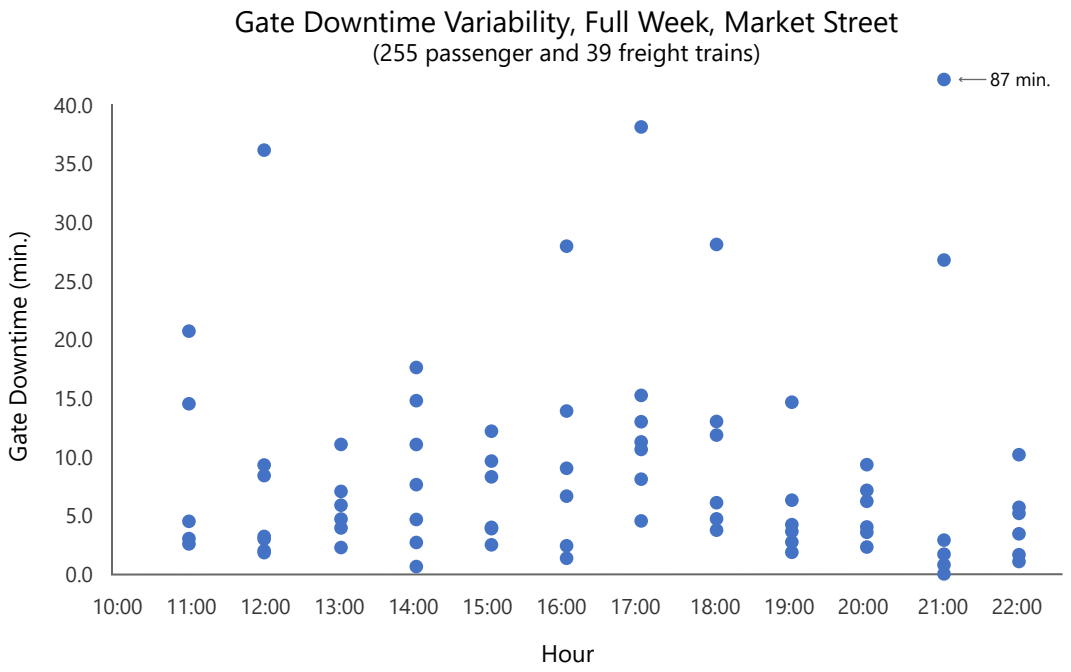
Table 4.15-9 summarizes the same information about "gate-down" time to highlight the average, minimum, and maximum gate-down times for the data collection period. The freight data for the Market Street crossing in the table include one extraordinary freight train event that caused the gate to be down for 87 minutes, from about 9:13 p.m. to 10:40 p.m. on Sunday evening. The event is considered extraordinary because the next longest freight gate-down time observation was 29 minutes. The Martin Luther King Jr. Way crossing gate was down for 29 minutes across eight down times during the 87-minute period, with the longest being 16 minutes. There were 13 observed instances during the seven-day study period in which gate-down times at the Market Street crossing exceeded 7 minutes, and 7 such instances at the Martin Luther King Jr. Way crossing. All these observations were associated with freight trains. There were six instances during the week when the gates were down at both crossings for freight trains, with the longest being about 19 minutes and the shortest being about 7 minutes.

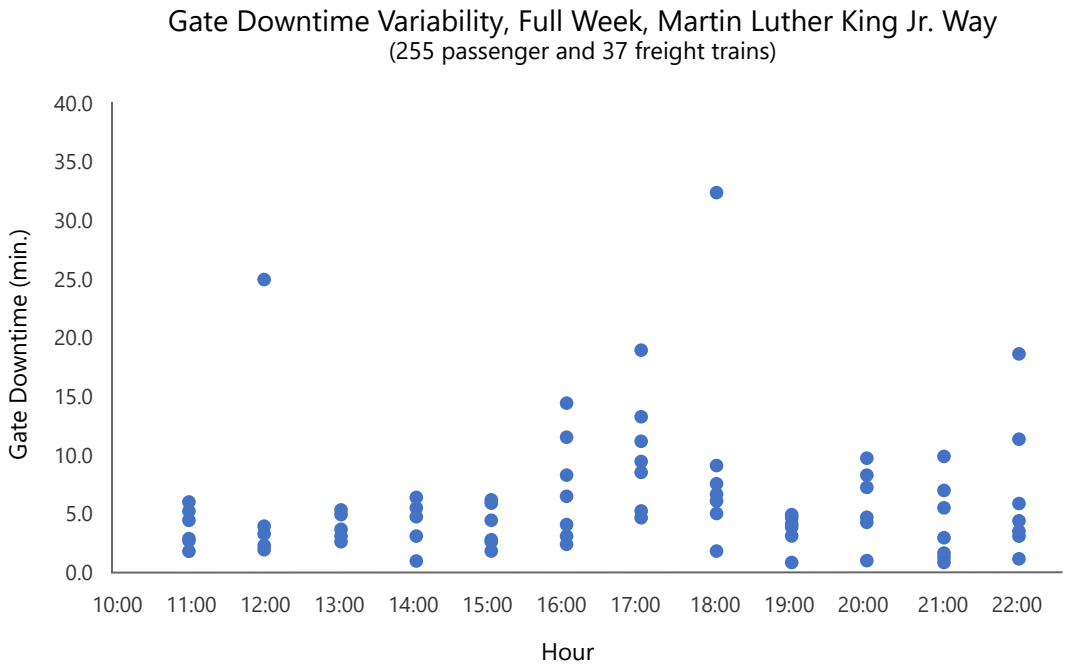
TABLE 4.15-9
GATE DOWN TIMES AT HOWARD TERMINAL

Parking Type	Median Gate-Down Time (Minutes)	Minimum Gate-Down Time (Minutes)	Maximum Gate-Down Time (Minutes)
Market Street			
Passenger	1.0	0.8	14.0
Freight	4.3[a]	0.8	87.0[a]
Martin Luther King Jr. Way			
Passenger	1.0	0.8	3.5
Freight	4.4	0.7	19.0

NOTES:
a Data summary includes one extraordinary event. The Market Street at-grade crossing gates were down for 87 minutes Sunday evening between about 9:13 p.m. and 10:40 p.m. The Martin Luther King Jr. Way crossing gates were down for 29 minutes across eight down times during this period, with the longest being 16 minutes.

SOURCE: Fehr & Peers, 2020





Source: Observations from July 2019

SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 3.15-12
Market Street and Martin Luther King Jr. Way Gate Downtimes
(11 a.m. to 11 p.m.)

There are at-grade crossings at Market Street and Martin Luther King Junior Way as well as Clay, Washington, Broadway, Franklin, Webster, and Oak Streets. There are two UPRR mainline tracks through all the at-grade crossings, except at Market Street and Oak Street where there are three tracks. In addition, Amtrak has a maintenance yard adjacent to UPRR's West Oakland Yard, located west of Adeline Street and south of I-880. The at-grade railroad crossing characteristics are described below, including a summary of train collisions (any collision involving a train at the at-grade crossing) between 2015 and 2019, as reported in the Federal Railroad Administration Office of Safety Analysis's Highway-Rail Grade Crossing Accident/Incident Reports (n.d.). The use of five years of collision data is consistent with the City's guidelines for evaluating crash history.

- *Market Street* on the north side of the railroad is a four-lane road with sidewalks on both sides. The crossing surface has been improved for motor vehicles, but the sidewalks terminate prior to the crossing. Bike lanes on Market Street terminate one block prior to the crossing at 3rd Street. The crossing serves truck access to the Project site and Schnitzer Steel. The crossing has two 9A warning devices (flashing light signals with automated gate arms and additional flashing lights on a cantilever), one in each direction, and is a designated truck route. There have been no train crashes at this crossing within the last five years.
- *Martin Luther King Jr. Way* on the north side of the railroad is a four-lane road with on-street parking and sidewalks on both sides. South of the tracks, it is a two-lane road with no sidewalks. The crossing surface has been improved for motor vehicles, but the sidewalks terminate prior to the crossing. The crossing serves motor vehicle access to the Project site, the Vistra Power Plant, and other uses. The crossing has two 9A warning devices, one in each direction, and is a designated truck route. There was a train crash in 2019 at the Market Street crossing with an unoccupied motor vehicle that resulted in no injuries.
- *Clay Street* is a two-lane road with on-street parking/loading and sidewalks on both sides of the railroad tracks. There is a striped crosswalk across the railroad tracks on the east side of the crossing, and there are bike lanes on Clay Street north of the crossing. The crossing surface has been improved for all users and extends from west of Clay Street through the Jack London Square property to Webster Street. The crossing serves commercial uses on both sides of the track, provides access to the Ferry Terminal, and is the designated Bay Trail route. The crossing has two 9A warning devices, one in each direction. There have been no train crashes at this crossing within the last five years.
- *Washington Street* is a two-lane road with on-street parking/loading and sidewalks on both sides of the railroad tracks. There are striped crosswalks across the railroad tracks, and there are bike lanes on Washington Street one block north of the crossing at 3rd Street. The crossing surface has been improved for all users. The crossing serves commercial uses on both sides of the track and provides access to the Ferry Terminal. The crossing has two 9A warning devices, one in each direction. There have been no train crashes at this crossing involving a vehicle within the last five years. However, there was a train/pedestrian crash in 2017 between the Washington Street and Clay Street crossings when two pedestrians were injured as they went beyond the gate into the rail right-of-way. This was a multiple-threat crash in which the pedestrians started crossing the tracks after the train passed (before the gate arm was up) and were hit by a train on the other track passing in the opposite direction.
- *Broadway* is a four-lane road with on-street parking/loading and sidewalks on both sides of the railroad tracks; there are striped crosswalks across the railroad tracks. The crossing surface has been improved for all users. The crossing serves commercial uses on both sides of

the track and provides access to the Jack London Square property. The crossing has two 9A warning devices, one in each direction. There was a train crash in 2019 at the Broadway crossing with the rear end of an occupied semi-trailer that went around the gates but resulted in no injuries.

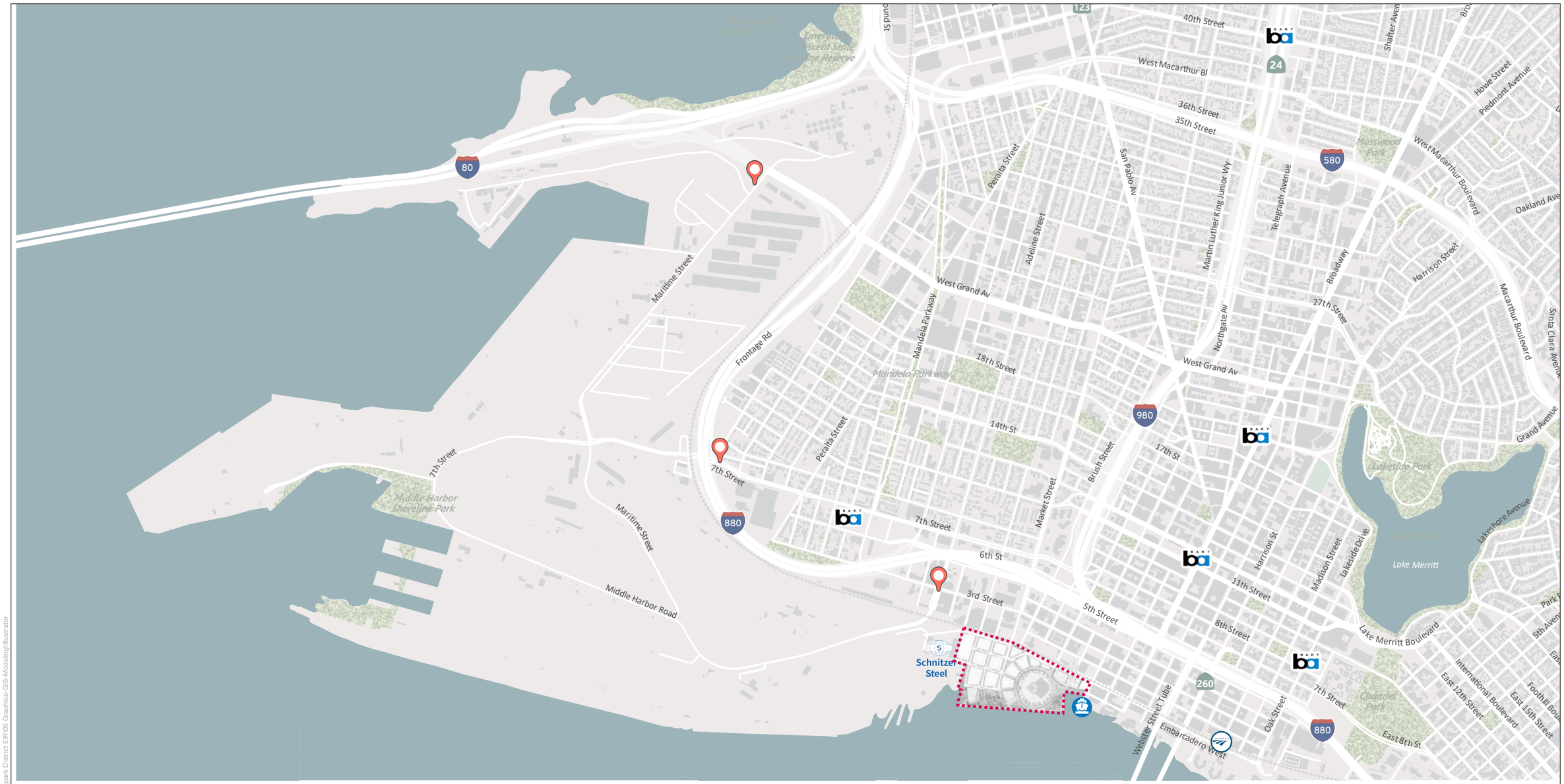
- *Franklin Street* is a one-way, one-lane road with on-street parking/loading and sidewalks on both sides of the railroad tracks, and striped crosswalks across the railroad tracks. The crossing surface has been improved for all users. The crossing serves commercial uses on both sides of the track. The crossing has two 9A warning devices, one in each direction. There was a train/pedestrian crash in 2015 at the Franklin Street crossing that resulted in a pedestrian fatality.
- *Webster Street* is a two-lane road with on-street parking/loading and sidewalks on both sides of the railroad tracks and a striped crosswalk across the east side of the railroad tracks. The crossing surface has been improved for all users. The crossing serves commercial uses on both sides of the track. The crossing has three 9A warning devices. There have been no train crashes at this crossing within the last five years.
- *Oak Street* is a two-lane road with on-street parking, bike lanes, and sidewalks on both sides of the railroad tracks except on the east side of the tracks, where there is no sidewalk on the south side of the tracks. The crossing surface has been improved for all users. The crossing serves commercial uses on both sides of the track. The crossing has two 9A warning devices. There have been no train crashes at this crossing within the last five years.

Because there were so few train crashes in the last five reporting years, a review of crash data dating back to the 1970s is summarized. There was a cluster of collisions (18) at the at-grade crossings and Embarcadero West in the 1970s, followed by an extended period – 1980 through 1998 – when there were only five collisions. Between 1999 and 2009 there was another cluster of collisions (13); only four collisions have occurred since 2009.

Existing Port Characteristics

Port Access

The Port of Oakland is located along the eastern shoreline of San Francisco Bay, on the southwest region of the City of Oakland. It consists of approximately 1,300 acres of land that are dedicated to shipping and shipping-related activities. The Seaport, shown in **Figure 4.15-13**, is bounded by freight and passenger rail lines, I-80, and I-880, and has three access points, at Maritime, 7th, and Adeline Streets. The Seaport is bordered by the San Francisco Bay shoreline to the west, the Oakland Inner Harbor to the south and West Oakland and Jack London District to the east, and West Grand Avenue to the north. The Project site is physically separated from the Seaport by the Schnitzer Steel property. Currently, trucks use 3rd Street via either Market Street or Martin Luther King Jr. Way and Adeline Street to travel between the Project site and the Seaport.



LEGEND

- Project Boundary
- Seaport Access Point
- BART Station
- Amtrak
- Ferry

SOURCE: Fehr & Peers, 2020

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Figure 4.15-13
Port of Oakland Access

ESA

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The City of Oakland, in Chapter 10.52 of the Municipal Code, specifies certain streets and freeways that must be used by trucks over 20 feet in length for the transportation of property, including tractor-trucks and trailers, when such trucks are driving within or across the city of Oakland. Relevant routes include:

- The *7th Street corridor* from east of Union Street serves as the primary truck route between I-880 and downtown Oakland. It also serves as a secondary truck route to the Project site via Market Street or Martin Luther King Jr. Way. A total of 43 trucks were observed on 7th Street between Adeline Street and Market Street during the p.m. peak hour. This data has been incorporated into the Project analysis.[8]
- The *5th and 6th Street corridors* between Union Street and Market Street serve as the truck routes between I-880 and the Seaport via Adeline Street as well as the Project site via Market Street. These roads provide secondary access to the Project site via Martin Luther King Jr. Way. Between Union Street and Market Street, 59 trucks were observed on 5th Street and 60 were observed on 6th Street during the p.m. peak hour. This data has been incorporated into the Project analysis.[9]
- The *3rd Street corridor* is a designated truck route between Adeline Street and Market Street to serve trucks traveling between the Seaport and either Schnitzer Steel or the Project site. While not part of the Municipal Code Section 10.52.120, the 3rd Street corridor between Adeline Street and Oak Street is part of the route designated by the Oakland Police Department to be used by overweight trucks as part of the Heavy Container Permit Program (Municipal Code Chapter 10.53). The route extends on 3rd Street from Adeline Street to Oak Street, south on Oak Street to Embarcadero, north on 5th Avenue, and then east on 8th Street. The primary reason for the program is that overweight trucks are not allowed on State highways to protect interstate freeway bridge structures. Drivers of overweight trucks must obtain a special permit issued by the Oakland Police Department prior to using the corridor. About 70 permits are issued at any given time. Fifteen trucks were observed on 3rd Street east of Martin Luther King Jr. Way during the p.m. peak hour; 575 passenger vehicles were also observed on 3rd Street during the same hour. This data has been incorporated into the Project analysis.[10]

Traffic through Seaport

Two distinct types of vehicles use the Port's internal road network: drayage trucks (heavy-duty trucks that transport cargo, including containers, to and from the Port terminals, intermodal railyards, and other locations) and passenger vehicles for employees and customers. Although Port-related vehicles are the main users of the Port's roads, some cut-through traffic exists from passenger vehicles whose drivers are trying to avoid I-880 to travel between I-80 at the Bay Bridge and downtown or the Jack London District.

Truck Traffic

Approximately 9,000 drayage trucks are registered with the Port's Secure Truck Enrollment Program; of these, up to about 3,000 may be in operation on any given day, with each driving one or more trips (*West Oakland Truck Management Plan*, 2019). The trucks that serve the Seaport use one of three access roads – Maritime Street, 7th Street, or Adeline Street – to enter and exit

8 Traffic counts collected by Fehr & Peers in September 2018.
9 Traffic counts collected by Fehr & Peers in September 2018.
10 Traffic counts collected by Fehr & Peers in September 2018.

the Seaport. **Table 4.15-10** presents the distribution of trucks across each Seaport access road based on intersection counts of trucks between 4:00 p.m. and 6:00 p.m. The counts were conducted on Tuesday, September 11, 2018, for the Adeline Street access, and on Wednesday, May 29, 2019, for the 7th Street and Maritime Street access points. Adeline Street is the busiest access, used by about 50 percent of the trucks accessing or leaving the Seaport between 4:00 p.m. and 6:00 p.m. 7th Street also attracts a substantial percentage of Seaport truck activity.

TABLE 4.15-10
DISTRIBUTION OF TRUCK VOLUMES TO SEAPORT ACCESS

Intersection	Commute Peak Period Distribution (4 to 6 p.m.)[a]
Adeline Street and 3rd Street	50%
7th Street and I-880 Ramps	34%
West Grand Avenue and Maritime Street	16%

NOTE:
a The 4 to 6 p.m. period coincides with evening game start times and represents the typical weekday evening commute peak period in the neighborhoods surrounding Howard Terminal.

SOURCE: Fehr & Peers, 2020

Cut-Through Volumes

Drivers who use the Port as a cut-through route on their way to another destination may have a limited understanding of truck operations in the Port, potentially disrupting those operations. Too high a level of cut-through traffic could increase congestion on Seaport roadways and cause delays in Seaport operations. For the purposes of this traffic analysis, cut-through traffic is defined as passenger vehicles that use one of the Seaport access points but spend less than 20 minutes traveling through the Seaport. The assessment of cut-through traffic considered all passenger vehicles entering the Seaport via Adeline, 7th, and Maritime Streets. **Table 4.15-11** shows the average a.m. and p.m. peak commute period volumes of existing cut-through traffic using the Seaport's internal road network. About 11 percent of the passenger vehicles entering the Seaport during the a.m. commute period (7 to 9 a.m.) are presumed to travel through the Port, based on a travel time of less than 20 minutes. During the p.m. peak period (4 to 6 p.m.), the percentage increases to about 20 percent of entering passenger vehicles. While the p.m. peak period percentage cut-through traffic is higher than the a.m. peak period, the total number of vehicles cutting through in the p.m. peak period is about 80 percent of that in the a.m. peak period.

Existing Project Site Characteristics

The Project site is about 55 acres located along the northern shoreline of the Inner Harbor of the Oakland-Alameda Estuary, on the southeastern area of the Port. Directly west of the site is Schnitzer Steel, which has access from Market Street via Embarcadero West. Regional freeway access is provided by I-880 and I-980 and direct local access through local streets including Market Street and Martin Luther King Jr. Way. Vehicle and non-vehicle traffic need to cross the UPRR tracks to access the Project site and Schnitzer Steel.

TABLE 4.15-11
EXISTING WEEKDAY CUT-THROUGH AVERAGE HOURLY VOLUMES THROUGH THE PORT OF OAKLAND AND TOTAL PASSENGER VEHICLE VOLUMES

Cut-Through Route	Hourly Average (7 to 9 a.m.)		Hourly Average (4 to 6 p.m.)	
	Passenger Vehicle Cut-Throughs	Total Passenger Vehicle Volume Using Entrance or Exit	Passenger Vehicle Cut-Throughs	Total Passenger Vehicle Volume Using Entrance or Exit
Northbound Exit from Maritime Street				
Cars taking 7th Street to Maritime Street	33	387	27	175
Cars taking Adeline Street to Maritime Street	32	315	13	124
Subtotal	*65*	*702*	*40*	*299*
Southbound Entrance from Maritime Street				
Cars using Maritime Street to 7th Street	33	205	35	105
Cars using Maritime Street to Adeline Street	13	80	14	44
Subtotal	*46*	*285*	*49*	*149*
Combined Total (Northbound + Southbound)	**111**	**987**	**89**	**448**

SOURCE: StreetLight Data for year 2018 used to establish vehicles passing through the Seaport, Fehr & Peers

A large portion of the 50-acre Howard Terminal, which composes most of the Project site, is currently used for, but not limited to, truck parking, storage and staging of loaded and unloaded containers, longshoreperson training facilities, and berthing vessels for maintenance and storage. Multimodal traffic counts were conducted at Howard Terminal on Wednesday, May 23, 2018, to establish the site's a.m. and p.m. peak-hour trip generation. The site does not generate any active transportation (i.e., bicycle and pedestrian) trips. During the global a.m. peak hour (8:00 to 9:00 a.m.), the site generated about 140 trips; during the global p.m. peak hour (4:45 to 5:45 p.m.), traffic generated by the existing uses was about 200 trips. The global peak hour is defined as the hour with the highest traffic volumes observed in the study area.

Table 4.15-12 summarizes hour-by-hour daily trends, which do not necessarily coincide with the global peak hours, regarding truck trips associated with Howard Terminal and Schnitzer Steel. The Schnitzer Steel truck trips would remain and coexist with the Project traffic.

Planned Transportation Network Changes

Changes are planned for various transportation modes in the Project vicinity, as described in this section. Changes in this section include projects planned by the City of Oakland, AC Transit, or one of the other transportation agencies that are not related to the Project and would be implemented regardless of the Project. Changes that have undergone environmental clearance and have secured funding are assumed in the analysis of cumulative conditions in this EIR. Changes lacking final design, full approval, and/or full funding are not considered reasonably foreseeable, and are not assumed in the analysis; however, they are considered in the context of consistency with adopted plans.

TABLE 4.15-12
HOURLY TRUCK TRIPS AT HOWARD TERMINAL AND SCHNITZER STEEL

Hour	Howard Terminal Trucks	Schnitzer Steel Trucks
7:00 a.m.–8:00 a.m.	95	49
8:00 a.m.–9:00 a.m.	98	54
9:00 a.m.–10:00 a.m.	101	63
10:00 a.m.–11:00 a.m.	129	70
11:00 a.m.–12:00 p.m.	191	69
12:00 p.m.–1:00 p.m.	157	77
1:00 p.m.–2:00 p.m.	118	59
2:00 p.m.–3:00 p.m.	194	66
3:00 p.m.–4:00 p.m.	135	37
4:00 p.m.–5:00 p.m.	188	22
5:00 p.m.–6:00 p.m.	78	7
6:00 p.m.–7:00 p.m.	50	8

SOURCE: Fehr & Peers 2018

The following transportation changes have obtained (or are in the process of obtaining) environmental clearance and full funding, and are included in the analysis:

- *Global Opportunities at Port of Oakland (GOPORT)* – Environmental clearance completed for these projects. The Freight Intelligent Transportation System is under construction, with completion expected in summer 2021. The 7th Street Grade Separation (East Segment) is in final design, with construction expected to start in 2022. The 7th Street Grade Separation (West Segment) is currently in design (Alameda CTC, 2020a).
- *Oakland Alameda Access Project* – Environmental clearance expected in 2021; construction tentatively scheduled between 2023 and 2026 if project is fully funded (Alameda CTC, 2020b).

Below is a list of transportation network changes within the Project influence areas (shown in Figure 4.15-1 through Figure 4.15-4) that have been identified within transportation-related plans. Some of these plans have been adopted while other plans are in draft form, but all are considered in the plan consistency analysis because they are potentially relevant to the Project (Impact TRANS-2).

2017 Pedestrian Plan, "Oakland Walks!"

- *8th Street between Franklin Street and Fallon Street (Highway Safety Improvement Program 2013)* – Upgraded traffic signals on 8th Street at Madison and Oak Streets. New bikeway striping, repaved, and new ADA curb ramps along the corridor. Identified in Lake Merritt Station Area Plan as a community priority for two-way conversion, or sidewalk extensions. Downtown Plan calls for two-way conversion with a potential parking protected Class 4 bike lane.
- *Broadway between 9th Street and 19th Streets (AC Transit East Bay Bus Rapid Transit [BRT])* – Pedestrian improvements funded through the BRT Project, including new ADA curb ramps and pedestrian access to BRT stations. Specific sections included in safety strategy.

- *9th Street/Madison Street Intersection* – Lake Merritt BART Bikeways; Madison Street road diet.
- *Brush Street between 12th Street and 14th Street* – Addition of "Pedestrian Crossing Prohibited" signage at Brush Street and 12th Street, replacing pedestrian countdown timers. Other improvements to restripe marked crosswalks, implement Lead Pedestrian Interval, restrict on-street parking within 20 feet of intersections and marked crosswalks, and implement pedestrian safety zones extending from the curb. In the long term, implementation of road diet and adjustment to signal timing to separate turning movements from pedestrian phase crossing.
- *7th Street at Harrison Street* – Installation of pedestrian countdown timers and activation buttons, implementation of Leading Pedestrian Interval, and integrated protected northbound right-turn phase.
- *8th Street at Market Street* – Improvements to restripe crosswalks, install pedestrian countdown timers and activation buttons, convert devices to fixed pedestrian recall, and implement pedestrian safety zones extending from the curb. In the long term, addition of lighting for crosswalks across Market Street, conversion of eastbound and westbound left-turn phase to protected left-turn phase, and extension of median.

2019 Oakland Bike Plan

- *2nd Street between Brush Street and Oak Street* – Class 2 Bike Lane
- *3rd Street between Mandela Parkway and Market Street* – Class 2B Buffered Bike Lane
- *3rd Street between Market Street and Oak Street* – Class 4 Protected Bike Lanes
- *6th Street between Washington Street and Madison Street* – Class 4 Protected Bike Lanes
- *7th Street between Mandela Parkway and Washington Street* – Class 4 Protected Bike Lanes
- *9th Street between Martin Luther King Jr. Way and Fallon Street* – Class 4 Protected Bike Lanes
- *11th Street between Market Street and Lake Merritt Boulevard* – Class 4 Protected Bike Lanes
- *12th Street between Market Street and Lake Merritt Boulevard* – Class 4 Protected Bike Lanes
- *13th Street between Franklin Street and Lake Merritt Boulevard* – Class 2B Buffered Bike Lane
- *Adeline Street between 3rd Street and 7th Street* – Class 2 Bike Lane
- *Adeline Street between 7th Street and 35th Street* – Class 4 Protected Bike Lanes
- *Broadway between Bay Trail and 6th Street* – Class 2B Buffered Bike Lanes
- *Brush Street between Embarcadero and 2nd Street* – Class 1 Bicycle Path
- *Brush Street between 2nd Street and 3rd Street* – Class 2 Bike Lane
- *Clay Street between Water Street and 3rd Street* – Class 2 Bike Lane
- *Embarcadero West between Martin Luther King Jr. Way and Broadway* – Class 1 Bicycle Path
- *Franklin Street between 6th Street and 22nd Street* – Class 4 Protected Bike Lanes
- *Jefferson Street between I-880 and 19th Street* – Class 2B Buffered Bike Lane
- *Madison Street between 6th Street and 5th Street* – Class 4 Protected Bike Lanes
- *Mandela Parkway between 7th Street and 5th Street* – Class 2B Buffered Bike Lane

- *Mandela Parkway between 5th Street and 3rd Street* – Class 2B Buffered Bike Lane
- *Market Street between Embarcadero West and 18th Street* – Class 4 Protected Bike Lanes
- *Martin Luther King Jr. Way between San Pablo Avenue and 7th Street* – Class 2B Buffered Bike Lane
- *Martin Luther King Jr. Way between 7th Street and Embarcadero West* – Class 4 Protected Bike Lanes
- *Oak Street between 2nd Street and 9th Street* – Class 4 Protected Bike Lanes
- *Washington Street between Embarcadero West and 7th Street* – Class 2 Bike Lanes
- *Washington Street between 7th Street and 9th Street* – Class 3 Bike Route

West Oakland Truck Management Plan

- *Intersections at Union Street/5th Street, Union Street/7th Street, Adeline Street/3rd Street, Adeline Street/5th Street, and Adeline Street/7th Street* – Work with the City of Oakland's Planning and Building Department to identify developments proposed near these intersections to encourage the inclusion of safety improvements in the development projects. Possible improvements include high-visibility crosswalks and bike crossings, pedestrian/ bicycle signals, traffic signal changes, improved signage, and pedestrian refuges. Improvements at Truck Route intersections must accommodate safe truck turning movements (e.g., turning radii) (City of Oakland & Port of Oakland, 2019).

AC Transit Service Expansion Plan

- *Line 12* – Split route in Temescal, creating Line L20 Jack London Square to Grand Lake via Broadway and Grand, continuing via Piedmont Avenue and Shattuck Avenue to Downtown Berkeley and to Gilman district via Hopkins and Gilman.
- *Line 18* – Realign with Line 12 in Temescal in Downtown Oakland, creating Line L20 (see above).
- *Line 62* – Increase frequency.

Lake Merritt Station Area Plan

- *Madison Street/8th Street* – Add bulbouts and install pedestrian signal heads.
- *Oak Street/8th Street* – Add bulbouts and a bus bulbout on the northeast corner.
- *Jackson Street/9th Street* – Add bulbouts.
- *Harrison Street/8th Street* – Add bulbouts (Phase I) and pedestrian scramble (Phase II).
- *Harrison Street/9th Street* – Add bulbouts (Phase I) and pedestrian scramble (Phase II).
- *Oak Street/8th Street* – Upgrade curb ramps, bulbouts, and countdown timers.
- *Oak Street/6th Street* – Consider closing access to 6th Street with addition of bikeway, landscaping, realignment of the freeway off-ramps, bulbouts, curb ramps, and countdown timers; or upgrading curb ramps, adding bulbout at the northwest corner, no right turn on red, restriping lanes, and countdown timers.
- *Oak Street/5th Street* – Improve lighting, artwork, and fencing.

- *Madison Street/9th Street* – Upgrade or add new bulbouts and improved curb ramps, add pedestrian signal heads.
- *9th Street between Broadway and Harrison Street* – Phase I includes corner bulbouts, enhanced pedestrian crosswalks, bicycle sharrow, and sidewalk amenities including pedestrian-oriented lighting and additional street trees. Phase II, Option A: Street conversion from three lanes one-way to two-way (left-turn lane where needed). Phase II, Option B: Lane reduction from three lanes one-way to two lanes one-way with sidewalk widening.
- *9th Street east of Harrison Street* – Phase I includes restriping Class 2 bike lanes, corner bulbouts, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees. Phase II, Option A: Street conversion from three lanes one-way to two-way (including left-turn lane where needed). Phase II, Option B: Lane reductions from three lanes one-way to two lanes one-way with sidewalk widening.
- *8th Street between Broadway and Harrison Street* – Phase I includes corner bulbouts, enhanced pedestrian crosswalks, a bicycle sharrow, and sidewalk amenities including pedestrian-oriented lighting and street trees. Phase II, Option A: Street conversion from one-way to two-way. Phase II, Option B: Lane reduction from four lanes one-way to three lanes one-way and sidewalk widening.
- *8th Street east of Harrison Street* – Phase I includes a lane reduction from four lanes one-way to three lanes one-way, Class 2 bike lanes, corner bulbouts, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees. Phase II, Option A: Street conversion from one-way to two-way. Phase II, Option B: Lane reduction and sidewalk widening.
- *Oak Street (entire plan area)* – Phase I includes striping a four- to three-lane reduction one-way with the addition of a Class 2 bike lane. The street will receive corner bulbouts, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting, street trees, and wayfinding – particularly at the Lake Merritt BART Station. Phase II, Option A: Street conversion from one-way to two-way traffic. Phase II, Option B: Sidewalk widening (building on Phase I) (City of Oakland, 2014a).

West Oakland Specific Plan

- *Rail Lines* – At-grade rail crossings at Market Street and Martin Luther King Jr. Way are in poor condition and should be repaired.
- *3rd Street between Brush Street and Castro Street* – Reconfigure street to provide continuous sidewalk on north side.
- *Adeline Street, truck parking enforcement* – The City and the Port coordinate to enact reasonable resolution to current circulation problems associated with on Adeline Street truck parking, especially in the mornings. Appears to be sign and enforcement, as there currently appears to be parking available outside gates on Port property, on the south side of the Middle Harbor Drive bridge. A truck parking program with appropriate time limits and enforcement should be implemented.
- *Mandela Parkway/7th Street Intersection* – While the pedestrian connection from Mandela Parkway to the West Oakland BART Station is new and in good condition, additional street lighting and sidewalk improvements will provide safer pedestrian circulation.

- *Adeline Street* – Implement planned streetscape improvements for Adeline Street; implement Class 2 bike lanes between 36th Street and 3rd Street by converting traffic travel lanes to bicycle lanes.
- *West Oakland BART Station* – Develop parking garage; improve station access and public safety at nighttime with an on-demand (by phone) door-to-door bus/van service to and from BART in the evenings and at night, and with improved nighttime lighting in the parking lots and station vicinity.
- *7th Street* – Complete implementation of enhanced streetscape as described in the 7th Street Conceptual Urban Design Plan; implement bike lanes from Martin Luther King Jr. Way to Wood Street.
- *Transit Service* – Work with AC Transit and other transit service providers to enhance transit service to this area, potentially including a secondary connection or loop down 3rd Street.
- *Shuttles* – Coordinate with AC Transit and the City of Emeryville to study and consider expanded shuttle/transit service in West Oakland, like the Emery-Go-Round (City of Oakland, 2014b).

General Plan Lane Use and Transportation Element

- *I-880 Overpass* – Initiate streetscape improvements, including increased lighting and public art elements.
- *Broadway Shuttle* – Expand service to support evening and weekend retail and entertainment activities within Uptown and Jack London Square.
- *Jack London Square Intermodal Connection* – Shuttle or bus route serving the Jack London Square Amtrak station, with service to the ferry terminal, the downtown AC Transit hub/12th Street BART Station, and the Lake Merritt BART Station.

Downtown Oakland Specific Plan (Draft, August 2019)

- *8th Street/Franklin Street Intersection, 8th Street/Jackson Street Intersection, and 8th Street/Madison Street Intersection* – Add pedestrian countdown timers within the California Manual on Uniform Traffic Control Devices (CA MUTCD) recommended time of 3.5 feet per second; implement Leading Pedestrian Interval (LPI); convert permissive phase to protected phase; restrict on-street parking within 20 feet of the intersection and marked crosswalks; install directional curb ramps and accessible pedestrian signals.
- *8th Street/Webster Street Intersection and 8th Street/Oak Street Intersection* – Add pedestrian countdown timers within the CA MUTCD recommended time of 3.5 feet per second; implement LPI; restrict on-street parking within 20 feet of the intersection and marked crosswalks; install directional curb ramps and accessible pedestrian signals.
- *8th Street/Harrison Street Intersection* – Add pedestrian countdown timers within the CA MUTCD recommended time of 3.5 feet per second; implement LPI; convert permissive phase to protected phase; restrict on-street parking within 20 feet of the intersection and marked crosswalks; implement pedestrian safety zones from curb; install directional curb ramps and accessible pedestrian signals.
- *9th Street/Franklin Street Intersection, 9th Street/Webster Street Intersection, and 9th Street/Harrison Street Intersection* – Add pedestrian countdown timers within the CA MUTCD recommended time of 3.5 feet per second; shorten signal cycle length; restrict on-street parking within 20 feet at intersections marked with crosswalks; implement near-term

quick build road diet; consider parking protected bike lanes; install directional curb ramps and accessible pedestrian signals.

- *9th Street/Alice Street Intersection* – Add advanced yield signage at marked crosswalks; restrict on-street parking within 20 feet at intersection and marked crosswalks; implement near-term quick build road diet; consider parking protected bike lanes; install directional curb ramps and accessible pedestrian signals.
- *Broadway between 9th Street and 11th Street* – Incorporate streetscape improvements such as street furniture and street trees; convert intersection to fixed pedestrian recall; add pedestrian countdown timers within the CA MUTCD recommended time of 3.5 feet per second; shorten signal cycle length; implement LPI; implement pedestrian safety zones from the curb; install directional curb ramps and accessible pedestrian signals.
- *Jack London Square District* – Connect the Lake Merritt BART Station and Chinatown to the Jack London Square District; install distinctive lighting; enhance pedestrian crossings; encourage active uses; and install attractive parking area screen walls if parking remains in place (Oak Street from 8th Street to 4th Street).
- *Embarcadero West between Clay Street and Market Street* – Continue pedestrian, bicycle, and public realm improvements from the Jack London Waterfront to serve the proposed Oakland A's stadium.
- *Embarcadero West/Oak Street Intersection* – Realign Embarcadero West through Port-owned parking lot. Install directional curb ramps and accessible pedestrian signals.
- *Embarcadero West between Oak Street and Market Street* – Rail Safety Project to facilitate an application for a "Quiet Zone" and provide pedestrian safety improvements, including quad gates at each crossing and fencing on both sides of the railroad tracks between each intersection. Embarcadero West would become a pedestrian corridor through much of its length except where property access is needed.
- *Oak Street/2nd Street Intersection* – Intersection improvements needed for pedestrians and bicyclists, such as installing/repainting the crosswalks, improving/constructing refuge medians, and installing directional curb ramps and accessible pedestrian signals. Complete sidewalk gap on west side of street.
- *3rd Street between Brush Street and Clay Street* – Complete sidewalks along corridor.
- *8th Street between Broadway and Fallon Street* – Implement streetscape amenities, lighting, street crossing improvements, and other traffic calming measures. Establish an active, pedestrian-oriented, well-lit connection between Chinatown and the Lake Merritt BART Station/Laney College.
- *9th Street between Broadway and Fallon Street* – Implement streetscape amenities, lighting, street crossing improvements, and other traffic calming measures. Establish an active, pedestrian-oriented, well-lit connection between Chinatown and the Lake Merritt BART Station/Laney College.
- *Brush Street, railroad crossing* – Provide pedestrian connectivity across the railroad tracks.
- *Jefferson Street, railroad crossing* – Provide pedestrian connectivity across the railroad tracks.
- *Washington Street between 6th Street and 7th Street* – Remove the pedestrian bridge if buildings are redeveloped.

- *Market Street between 5th Street and 6th Street, Martin Luther King Jr. Way between 5th Street and 6th Street, and Washington Street between 6th Street and 5th Street* – Potential treatments include safety enhancements and speed reduction measures at ramps and intersections, widening sidewalks, improving pedestrian-level lighting, public art, and installing directional curb ramps.
- *Broadway between 4th Street and 7th Street* – Transform the areas around, under, and through the I-880 freeway underpass into a beautiful, safe, walkable, inviting, green, and iconic passageway connecting Downtown Oakland and the Waterfront. Project description to be revised as Walk This Way study recommendations are drafted.
- *Oak Street between 5th Street and 6th Street* – Potential treatments include safety enhancements and speed reduction measures at ramps and intersections, widening sidewalks, improving pedestrian-level lighting, public art, and installing directional curb ramps.
- *Waterfront Trail Oakland A's Ballpark Connector, between Clay Street and Market Water Street, from Martin Luther King Jr. Way to Clay Street* – Class 1 Shared Use Path. Include a trail connection around the Howard Terminal site should this be developed.
- *3rd Street from Market Street to Lake Merritt Channel* – **Option 1:** One-way Class 4 Separated Bikeways – Install a parking protected Class 4 Separated Bikeway (westbound) along the north side of the roadway with curb stops for the angled parking and delineator posts or concrete medians. Diagonal parking and 11-foot travel lanes for buses would be maintained. On the south side of the roadway, install a Class 4 Separated Bikeway Lane (eastbound) and remove parallel parking. **Option 2:** Two-way Class 4 Separated Bikeway – Install a two-way Class 4 Separated Bikeway on the south side of the roadway. Remove parallel parking on the south side and maintain diagonal parking throughout the corridor on the north side. Maintain 11-foot travel lanes for buses.
- *2nd Street from Broadway to Embarcadero Bridge* – Intersection improvements such as bike boxes or wayfinding to facilitate turning movements to other Low-Stress Core Corridors.
- *7th Street from Castro Street to Washington Street* – Class 4 Separated Bikeway. Project may require the removal of one travel lane. Project should address 8th Street connection from Martin Luther King Jr. Way.
- *9th Street from Martin Luther King Jr. Way to Fallon Street* – Class 4 Separated Bikeway. One-way facilities on both sides of the street that will require conversion to a two-way street. Project may require the removal of one travel lane.
- *Martin Luther King Jr. Way from Embarcadero to San Pablo Avenue* – Class 2B Buffered Bike Lanes. May require the removal of a travel lane in each direction.
- *Clay Street from 7th Street to 17th Street* – Wayfinding and intersection improvements to facilitate bicycle turning movements to another low-stress core network.
- *Madison Street from Embarcadero to 19th Street* – Class 4 Separated Bikeway. Project may require the removal of travel lanes and conversion to a two-way street to install one-way separated bikeways on both sides of the street.
- *Washington Street from Embarcadero to 7th Street* – Class 2 Bike Lanes.
- *Broadway between 20th Street and 11th Street* – Dedicated transit lanes or vehicle access restrictions.
- *Oak Street (no limits provided)* – New transit street.

- *Lake Merritt BART between 8th Street and 9th Street* – Transit center bus priority improvements.
- *Broadway/2nd Street, Broadway/3rd Street* – New traffic signal.
- *Broadway Shuttle* – Service enhancements or fare-free zone. Either increase service frequency and extend to 27th Street during daytime hours or enact fare-free zone within downtown area.
- *7th Street from Castro Street to Fallon Street* – Convert from one-way to two-way street. Overlaps with the Core Bicycle Network from Castro Street to Clay Street, and with the Vision Bicycle Network from Clay Street to Washington Street. Overlaps with the bus transit network from Castro Street to Broadway, and with the Bus Transit Priority Treatments from Broadway to Oak Street.
- *8th Street from Castro Street to Fallon Street* – Convert from one-way to two-way street. Overlaps with the Core Bicycle Network from Madison Street to Fallon Street.
- *Castro Street from 5th Street to 7th Street* – Convert from one-way to two-way street.
- *Franklin Street from 7th Street to 22nd Street* – Convert from one-way to two-way street; one travel lane and one parking lane in each direction. Overlaps with the Core Bicycle Network from 7th Street to 22nd Street.
- *Harrison Street from 8th Street to 10th Street* – Convert from one-way to two-way street. Overlaps with the Bus Transit Network from 8th Street to 10th Street.
- *Jack London Square Waterfront between Washington Street and Embarcadero West* – Improve the Jack London Square Waterfront with better lighting, pedestrian and bicycle paths, and open space amenities; identified as part of the "Green Loop" Path.
- *Water Street between Clay Street and Broadway* – Continue pedestrian, bicycle, and public realm improvements from the Jack London Square Waterfront along Water Street.
- *9th Street between Castro Street and Oak Street* – Transform to include context-sensitive infill and safer street design. The street can be transformed from one-way into two-way, as well as reconfigured with head-in diagonal parking converted into back-in diagonal parking. The addition of physical or visual texture on the street surface increases safety for bicyclists because it signals to motorists to drive slower and more cautiously.
- *Clay Street from Water Street to Embarcadero West* – Continue pedestrian, bicycle, and public realm improvements from the Jack London Square Waterfront along Clay Street.
- *Washington Street between 8th Street and 10th Street* – Convert into a plaza street.

West Oakland Community Action Plan

- *West Oakland BART Station* – BART will develop a bike station with controlled access at the West Oakland BART Station (BAAQMD, 2019).

Estuary Crossing Study Final Feasibility Study Report

- *Minor modifications to Posey Tube* – Modifications to the existing tube pathway to improve conditions for pedestrians and bicyclists.
- *New water crossing* – Provide water taxi service between Alameda and Oakland, making use of new and modified piers connecting either (a) Clay Street at the Main Street Ferry

Terminal, (b) Broadway and Alameda Landing, (c) Broadway and Alameda, or (d) Estuary Park and Marina Village Shopping Center.

- *Bicycle and pedestrian bridge* – Provide a connection between Alameda and Oakland connecting either (a) Washington Street and Alameda Landing, (b) Franklin Street and Alameda Landing, (c) Webster Street and Mariner Square Drive, or (d) Estuary Park and Marina Village Shopping Center (City of Alameda, 2009).

Oakland-Alameda Access Project (Expected Construction 2023 through 2026)

- *6th Street from Oak Street to Broadway* – Remove Broadway off-ramp and construct a new multimodal corridor on 6th Street from Oak Street to Washington Street, including a two-way cycle track.
- *Oak Street off-ramp* – Upgrade Oak Street off-ramp.
- *5th Street and Jackson Street* – Construct right turn from Posey Tube onto a designated Horseshoe loop under I-880 at 5th and Jackson Street to access northbound I-880.
- *I-980/Jackson Street off-ramp* – Reconstruct I-980/Jackson Street off-ramp.
- *Madison Street between 4th Street and 8th Street* – Convert Madison Street to two-way traffic between 4th Street and 8th Street.
- *Webster Tube on-ramp at 5th Street and Broadway* – Reconstruct the Webster Tube on-ramp entrance at 5th Street and Broadway.
- *5th Street at Broadway* – Enhance pedestrian safety at key intersections throughout the project area with signal, sidewalk, and crosswalk improvements.
- *7th Street at Harrison Street, 7th Street at Alice Street, and 7th Street at Jackson Street* – Enhance pedestrian safety at key intersections throughout the project area with signal, sidewalk, and crosswalk improvements.
- *Oak Street from 6th Street to 4th Street* – Construct two-way cycle track.
- *5th Street from Oak Street to Harrison Street* – Construct bike and pedestrian facilities.
- *Harrison Street from 6th Street to 4th Street* – Construct designated multi-use path from 6th Street to 4th Street along Harrison Street to connect to the Posey Tube and Alameda (Alameda CTC, 2020b).

GoPort Project (Expected Construction 2020 through 2027)

- *Freight Intelligent Transportation Systems and Technology Master Plan* – Apply Intelligent Transportation Systems (ITS), signal systems along W. Grand Avenue, Maritime Street, 7th Street, and Middle Harbor Road, and other technologies to cost effectively manage truck arrivals and improve incident response.
- *7th Street Grade Separation West Segment* – Realign and grade-separate the 7th Street intersection with Maritime Street and construct a rail spur underneath to improve access and minimize conflicts between rail, motor vehicles, pedestrians, and bicyclists.
- *7th Street Grade Separation East Segment* – Replace existing railroad underpass between I-880 and Maritime Street to increase clearance for trucks and improve shared pedestrian and bicycle path along 7th Street (Alameda CTC, 2020a).

2011 BART/Silicon Valley Rapid Transit Core Stations Modification Study

- *West Oakland BART Station* – Widen the ends of the platform; add four emergency stairs and two daily escalators.
- *12th Street BART Station* – Expand platform size by adding platform doors, modifying utility rooms, and excavating shallow alcoves; adding two emergency stairs; and adding eight fare gates.
- *Lake Merritt BART Station* – Add two daily stairs (BART, 2011).

4.15.2 Regulatory Setting

This section outlines the existing plans, policies, and regulations that relate and apply to the Project at the State, regional, and local levels.

State

Senate Bill 743

On September 27, 2013, SB 743 was signed into law, building on legislative changes from SB 375, Assembly Bill (AB) 32, and AB 1358, and described in Section 4.7, *Greenhouse Gas Emissions.* SB 743 began the process to modify how impacts to the transportation system are assessed for purposes of CEQA compliance. SB 743 created a shift in transportation impact analysis under CEQA from a focus on automobile delay, as measured by LOS and similar metrics, toward a focus on reducing VMT.

SB 743 also includes amendments that revise the definition of "infill opportunity zones" to allow cities and counties to opt out of traditional LOS standards established by CMPs, and requires the Governor's Office of Planning and Research (OPR) to update the State CEQA Guidelines and establish criteria for determining the significance of transportation impacts. The statute states that upon certification of the new criteria, automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA, except in certain locations specifically identified in the new criteria.

The new criteria, contained in State CEQA Guidelines Section 15064.3, were certified and adopted in December 2018. Section 15064.3 states that VMT is the most appropriate metric to assess transportation impacts and that, with limited exceptions, a project's effect on automobile delay does not constitute a significant environmental impact.

State CEQA Guidelines Section 15064.3 provides that a lead agency may elect to be governed by the new provisions immediately, and that the provisions will apply statewide beginning on July 1, 2020. On September 21, 2016, the City of Oakland Planning Commission updated Oakland's CEQA Thresholds of Significance Guidelines aligning with SB 743.

Assembly Bill 734

CEQA requires a lead agency to prepare and certify the completion of an EIR on a project that it proposes to carry out or approve that may have a significant effect on the environment. This bill established specified procedures for the administrative and judicial review of the environmental

review and approvals granted for the Oakland Sports and Mixed-Use Project, the name of the proposed Project as specified in the bill. This EIR uses the project name "Oakland Waterfront Ballpark District Project." The bill establishes procedures requiring actions or proceedings seeking judicial review pursuant to CEQA or the granting of project approvals to be resolved within 270 days of the filing of the certified record of proceedings including the final EIR.

The legislation (Public Resources Code Section 21168.6.7(a)(3)(A)(iii)) states that the Project must have a transportation management plan or a transportation demand management program, or both, that achieves a 20 percent reduction in vehicle trips as compared to operations absent the plan and program. The plan or program for the baseball park shall achieve the 20 percent reduction within one year after completion of the first baseball season. The plan or program for the non-ballpark development shall achieve the 20 percent reduction within one year after the completion of that development. In both instances, the plan and/or program must include a menu of options designed to reduce the number of vehicle trips, including temporarily expanding the capacity of a public transit line, as appropriate, to serve the baseball park events. The legislation also requires participation in a transportation management association that will determine a range of services and programs designed to meet the 20 percent reduction, including providing incentives for transit usage and carpools, bicycle parking and support, signage, and real-time transit information.

California Public Utilities Commission Rail Crossing Rules and Regulations

The California Public Utilities Commission (CPUC) includes several regulations, referred to as Commission General Orders (GOs), that apply to railroad crossings. GO 88-B specifically establishes criteria for alterations of existing public highway-railroad crossings. Alterations must meet two criteria: The public agencies having jurisdiction over the roadway involved and the railroad corporation shall agree as to the public necessity for altering the existing highway-rail crossing and the proposed alteration shall comply with all applicable Commission GOs. Additional guidance on rail crossing alterations is included in the CPUC Rules of Practice and Procedure, Rule 3.7: Public Road Across Railroad and Rule 3.8: Alter or Relocate Existing Railroad Crossing (CPUC, 2018).

Regional

Plan Bay Area 2040

Plan Bay Area acts as both the Bay Area's Regional Transportation Plan, as well as its Sustainable Communities Strategy. Plan Bay Area grew out of "The California Sustainable Communities and Climate Protection Act of 2008,"[11] which requires each of the state's 18 metropolitan areas to reduce greenhouse gas emissions from cars and light trucks.

Within Plan Bay Area, the MTC and the Association of Bay Area Governments (ABAG) found that the Bay Area consistently ranks as one of the most congested metropolitan areas in the nation. They concluded, however, that additional roadway capacity would not solve the problem

[11] Steinberg, 2013. Available at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB743, accessed March 10, 2017.

and that the region must instead find ways to operate the existing highway and transit networks more efficiently (MTC & ABAG, 2017).

To that end, Plan Bay Area recommends increasing non-auto travel mode share and reducing VMT per capita and per employee by promoting transit-oriented development, transit improvements, and active transportation modes such as walking and bicycling. These strategies seek to not only improve mobility within the region, but also reduce regional and statewide GHG emissions. This Project seeks to respond to these recommendations by promoting transit-oriented development downtown near regional transit lines and the commercial core, transit improvements, and active transportation modes.

AC Transit Service Expansion Plan

The AC Transit Service Expansion Plan outlines guiding principles that inform changes to be made to the existing bus service, based on input received from users through a public outreach campaign. The goals and guiding principles that directly relate to the Project are outlined below.

- *Destinations*
  - Serve Priority Development Areas and transit-oriented development.
- *Streets*
  - Serve designated transit streets as identified by the cities and counties.
- *Routes*
  - Simplify corridor route design in places where there are three or more routes serving the corridor.
  - Establish consistent weekday and weekend routing.
  - Develop shorter routes to improve reliability.
- *Frequency*
  - Increase frequency to 30 minutes or better and only in conjunction with improving reliability.
  - Ensure 15-minute frequency or better on major corridors, 10 minutes or better on trunk lines.
- *Hours of Operation*
  - Develop consistent, improved service spans with 5:00 a.m. start times on trunk lines, 6 a.m. start times on other routes, and 8 p.m., 10 p.m., or 12 a.m. end times depending on service type.

Additionally, proposals were developed for specific lines within each of the geographic areas that make up AC Transit's service area. Proposals for the lines that directly serve the area near the Project site are listed below:

- Line 12
  - Separate into two services:
    - L23 MLK/Solano – direct service from Downtown Oakland to Downtown Berkeley via Martin Luther King, continuing via Shattuck to North Berkeley and Solano District
    - L20 Shattuck/Grand – Jack London District to Grand Lake via Broadway and Grand, continuing via Piedmont Avenue and Shattuck Avenue to Downtown Berkeley and to Gilman district via Hopkins Street and Gilman Street
- Line 72/72M/72R
  - No proposals were included in the current version of this plan, as more focused planning and outreach activities are to be developed for this line.

Alameda County Transportation Commission Congestion Management Program

The Alameda CTC is a joint powers authority that plans, funds, and delivers transportation programs and projects that expand access and improve mobility to foster a vibrant and livable Alameda County. Alameda CTC also serves as the County's congestion management agency. As stated previously, the Alameda CTC conducts periodic monitoring of the major roadways on the CMP roadway network and the MTS in Alameda County. The monitoring program uses Level of Service (LOS) grades to define road segment operations. The Alameda CTC monitoring report assesses existing freeway operations through commercial speed data or "floating car" travel time surveys, which are conducted on all freeway segments during the evening peak hours (4:00 p.m. to 6:00 p.m.). The report analyzes CMP segment LOS with a volume-to-capacity (v/c) ratio.

The Alameda CTC administers a Land Use Analysis Program, which is one of the legislatively required elements of the Alameda CTC Congestion Management Program (Alameda CTC, 2017). The goals of the Land Use Analysis Program are to:

- Better integrate local land use and regional transportation investment decisions.
- Better assess the impacts of development in one community on another community.
- Promote information sharing between local governments when the decisions made by one jurisdiction will impact another.

Alameda CTC reviews local land use plans and projects with the potential to cause countywide or regional-scale impacts, including specific plans. The CTC's threshold for review is if the plan or project would cause a net increase of 100 p.m. peak-hour vehicle trips or more. The purpose of the Alameda CTC's review is to assess impacts of individual development actions on the regional transportation system and to ensure that significant impacts are appropriately mitigated. This analysis is conducted at the road segment level for year 2020 and year 2040.

Alameda CTC guidelines state that impacts to all modes should be considered:

- *Transit*: Effects of vehicle traffic on mixed-flow transit operations, transit capacity, transit access/egress, need for future transit service, consistency with adopted plans and circulation element needs.
- *Bicycles*: Effects of vehicle traffic on bicyclist conditions, site development and roadway improvements, and consistency with adopted plans.
- *Pedestrians*: Effects of vehicle traffic on pedestrian conditions, site development and roadway improvements, and consistency with adopted plans.
- *Other impacts and opportunities*: Noise impacts for projects near State highway facilities and opportunities to environmentally clear access improvements for transit-oriented development projects.

Alameda CTC also requires an assessment of vehicle delay using the HCM 2010 methodology (unless an alternative methodology must be used to comply with local requirements) and consistency with adopted plans.[12] Alameda CTC has not adopted thresholds of significance for CMP land use analysis purposes. Project sponsors are directed to use professional judgment to 1) define a threshold that is appropriate for the project context; and 2) use this threshold to determine impacted segments.

Alameda County Transportation Commission Goods Movement Plan

Home to the Port of Oakland, Oakland International Airport, and miles of rail and interstate infrastructure, Alameda County is critical to the region's goods movement. The Alameda CTC Goods Movement Plan explores opportunities and strategies the County may pursue to reach multiple goals related to goods movement, including economic prosperity, quality of life, interconnectedness and multimodal operations, safety and reliability, and innovation. Related to these goals, the Alameda CTC has explored opportunity areas to increase and improve the county's goods movement, some of which may interact with the development at Howard Terminal. Implementation of the Project and its associated infrastructure improvements may affect the following opportunity areas (Alameda CTC, 2016):

- *Increase Safety and Reliability:* Improve time-of-day controls, signal coordination, street design features and truck routing to reduce hindrances to truck movements. Improve at-grade rail crossings and implement quiet zones so that rail traffic may increase to meet future demands while minimizing safety and noise concerns.
- *Design for Complete Streets:* Design streets to be inclusive of all modes, including incorporating goods movement. Similarly, design to minimize queueing and congestion at intersections, freeway ramps, and Port access locations.

[12] The 2017 CMP recognize that at the time the CMP was published, the California Governor's Office of Planning and Research (OPR) was finalizing the rulemaking of SB 743 which eliminates auto delay based measures as a criteria for significance for transportation impacts within Transit Priority Areas (and potentially outside of Transit Priority Areas) and notes that the Alameda CTC will revisit the required and preferred methodologies for its Land Use Analysis Program after the revised State CEQA Guidelines are adopted. As of the publication of the NOP for the Downtown Specific Plan, the CMP has not yet been updated. Jurisdictions have until July 1, 2020 to implement the new transportation thresholds.

- *Improve Connectivity:* Improve the road network and reevaluate the overweight truck network to better connect industrial areas to the I-880 corridor.
- *Implement Technology to Improve Operations:* Implement queue detection technology and changeable message signs to reduce congestion and improve safety.
- *Modernize Goods Movement Infrastructure:* Modernize the road network in industrial corridors, improve safe access to industrial corridors and facilities, and improve last-mile truck routes and rail connections.
- *Sustainably Increase Global Competitiveness:* Continue to be a global leader in goods movement while addressing community impacts, including separating truck activity from sensitive populations and environments, implementing rail quiet zones, and update zoning to preserve and further implement buffer zones along freight corridors.
- *Continue to Work Collaboratively:* Ensure key stakeholders are actively engaged in decision making processes that may impact goods movement in the County.

These opportunity areas align with the five main goals in Metropolitan Transportation Commission's document *San Francisco Bay Area Goods Movement Plan,* which identifies five key goals for the Plan (MTC, 2016):

- Increase economic growth and prosperity.
- Reduce environmental and community impacts and improve the quality of life in communities most affected by goods movement.
- Provide safe, reliable, efficient, and well-maintained freight movement facilities.
- Promote innovative technology strategies to improve efficiency.
- Preserve and strengthen a multimodal system that supports freight movement and is coordinated with passenger transportation systems and local land-use decisions.

Local Plans, Ordinances, and Policies

City of Oakland General Plan

The Oakland General Plan comprises numerous elements, and those containing policies relevant to transportation resources are contained primarily in the Land Use and Transportation Element (LUTE). The goals and policies contained in the various General Plan Elements are often competing. In reviewing a project for conformity with the General Plan, the City is required to balance the competing goals and policies. This project is reviewed for compliance with the following local plans and policies:

- General Plan LUTE.
- City of Oakland Pedestrian Master Plan (incorporated into the City's General Plan).
- City of Oakland Bicycle Master Plan (incorporated into the City's General Plan).
- City of Oakland Public Transit and Alternative Modes Policy.
- City of Oakland Complete Streets Policy.
- September 21, 2016, City of Oakland Planning Commission update to Oakland's CEQA Thresholds of Significance Guidelines aligning with Senate Bill 743.

The General Plan is a comprehensive plan for the growth and development of the City. The General Plan includes policies related to land use and circulation; housing; recreation; conservation and open space; noise; environmental hazards; and historic resources. These topics are addressed within individual elements of the General Plan: Land Use and Transportation; Pedestrian Master Plan; Bicycle Master Plan; Housing; Historic Preservation; Open Space; Conservation; Recreation; Noise; and Safety. Each is addressed separately below.

Regarding a project's consistency with the General Plan in the context of CEQA, the General Plan states the following:

> *The General Plan contains many policies which may in some cases address different goals, policies, and objectives and thus some policies may compete. The Planning Commission and City Council, in deciding whether to approve a proposed project, must decide whether, on balance, the project is consistent (i.e., in general harmony) with the General Plan. The fact that a specific project does not meet all General Plan goals, policies and objectives does not inherently result in a significant effect on the environment within the context of CEQA.*[13]

Land Use and Transportation Element

The City of Oakland, through various policy documents, states a strong preference for encouraging use of pedestrian, bicycle, and transit travel modes. The following policies are included in the LUTE (City of Oakland, 1998):

> ***LUTE Policy Framework, Encouraging Alternative Means of Transportation:*** "A key challenge for Oakland is to encourage commuters to carpool or use alternative modes of transportation, including bicycling or walking. The Policy Framework proposes that congestion be lessened by promoting alternative means of transportation, such as transit, biking, and walking, providing facilities that support alternative modes, and implementing street improvements. The City will continue to work closely with local and regional transit providers to increase accessibility to transit and improve intermodal transportation connections and facilities. Additionally, policies support the introduction of light rail and trolley buses along appropriate arterials in heavily traveled corridors, and expanded use of ferries in the bay and estuary."
>
> ***Policy T3.5, Including Bikeways and Pedestrian Walks:*** The City should include bikeways and pedestrian walks in the planning of new, reconstructed, or realized streets, wherever possible.
>
> ***Policy T3.6, Encouraging Transit:*** The City should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated "transit streets" as shown on the Transportation Plan. (Policies T3.6 and T3.7 are based on the City Council's passage of a "Transit First" policy in October 1996.)
>
> ***Policy T3.7, Resolving Transportation Conflicts:*** The City, in constructing and maintaining its transportation infrastructure, should resolve any conflicts between public transit and single occupant vehicles in favor of the transportation mode that has the potential to provide the greatest mobility and access for people, rather than vehicles, giving due consideration to the environmental, public safety, economic development, health and social equity impacts.

[13] City Council Resolution No. 79312 C.M.S.; adopted June 2005.

Policy T4.1, Incorporating Design Features for Alternative Travel: The City will require new development, rebuilding, or retrofit to incorporate design features in their projects that encourage use of alternative modes of transportation such as transit, bicycling, and walking.

2017 Pedestrian Master Plan

Oakland's Pedestrian Master Plan, *Oakland Walks!* was adopted June 27, 2017 and identifies policies and implementation measures that promote a walkable city. The plan's vision is built around four pillars – Safety, Equity, Responsiveness, and Vitality (City of Oakland, 2017b):

- **Holistic Community Safety –** Make Oakland's pedestrian environment safe and welcoming.
- **Equity –** Recognizing a historical pattern of disinvestment, focus investment and resources to create equitable, accessible walking conditions to meet the needs of Oakland's diverse communities.
- **Responsiveness –** Develop and provide tools to ensure that Oakland creates and maintains a vibrant pedestrian environment.
- **Vitality –** Ensure that Oakland's pedestrian environment is welcoming, well connected, supports the local economy, and sustains healthy communities.

Within these four pillars *Oakland Walks!* strives for five outcomes and within each are several actions.

- **Outcome 1 Increase Pedestrian Safety** – There are ten actions within this outcome. The City will install pedestrian safety improvements in high injury corridors, develop new policies, adopt Vision Zero, upgrade signals and other infrastructure, work to reduce vehicle speeds, improve lighting, and explore ways to equitably enforce traffic laws.
- **Outcome 2 Create Streets and Places that Promote Walking** – There are nine actions within this outcome. The City will integrate safety into the design of new streets, incorporate art into pedestrian infrastructure, plant more street trees, repair sidewalks, install accessible curb ramps and other features to improve the pedestrian environment for vulnerable populations, and provide public open space in underutilized roadways. The City will also pursue citywide programs and partnerships with nonprofits and community groups to promote walking.
- **Outcome 3 Improve Walkability to Key Destinations** – There are six actions within this outcome. The City will develop a prioritization strategy to best focus the benefits of the Safe Routes to School program, establish a similar program focused on first and last mile access to transit, support wayfinding efforts that can be used by vulnerable populations, and identify strategies for improving the walking environment in and near Caltrans-owned rights-of-way, such as underneath freeway overpasses, on and off ramps, and streets where the surface grade is un-even due to railroad tracks. Additionally, the City will use Walk Score® to improve walkability to key destinations and to enhance areas where car-ownership and usage is lower than the citywide average.
- **Outcome 4 Engage the Oakland Community in Creating Vibrant Pedestrian Environments** – There are five actions within this outcome. The City will reinvigorate existing communication methods and establish new protocols for engaging about pedestrian projects and enabling community-determined pedestrian projects. The City will also partner with groups that specialize in addressing specific vulnerable populations, for example, the

Mayor's Commission on Persons with Disabilities, to understand to the experiences of persons with disabilities.

- **Outcome 5 Improve Metrics, Evaluations, Funding, and Tools for Creating Pedestrian Environments** – There are nine actions within this outcome. The City will develop and implement a host of data collection, data analysis, and data reporting efforts, as well as ensure adequate staff training in pedestrian design standards to ensure that the Plan implementation is efficient, accountable, effective, and equitably distributed.

2019 Bicycle Master Plan

The Oakland City Council adopted the Let's Bike Oakland Plan on July 9, 2019 and adoption incorporated the plan into the adopted General Plan. The adopted plan includes four main goals regarding access, health and safety, affordability, and collaboration. Each goal outlines specific objectives and actions related to the goal. The following actions are applicable to the project (City of Oakland, 2019b):

Access Goal, Objective A: Increase access to jobs, education, retail, park and libraries, schools, recreational centers, transit, and other neighborhood destinations

Action A1: Build low-stress facilities that provide access to local destinations in every neighborhood in Oakland

Action A2: Increase the supply of bicycle parking at neighborhood destinations like schools, medical centers, grocery stores, and government offices

***Action A3*:** Evaluate the potential to combine transportation-impact fees for new developments within the same neighborhood to provide continuous, high-quality bicycle facilities

Access Goal, Objective C: Support public transit service

Action C1: Design bikeways that provide first and last mile connections to transit

Action C3: Install more secure, long-term bicycle parking at Oakland's BART stations, Amtrak stations, transit center and ferry terminal

Access Goal, Objective F: Serve people with disabilities

Action F1: Ensure that bikeway designs do not create additional barriers for people with disabilities

Health & Safety Goal, Objective C: Reduce air pollution, asthma rates and greenhouse gas emissions

Action C1: Build a bicycle network that encourages Oaklanders to choose modes of transportation other than driving by providing low-stress facilities and integrating bikes with transit

Action C2: Achieve a 20 percent reduction in vehicle miles traveled annually as residents, workers and visitors meet daily needs by walking, bicycling, and using transit, consistent with the City's Energy and Climate Action Plan (2018)

Affordability Goal, Objective A: Reduce the overall household costs for all Oaklanders

Action A1: Build a bicycle network that provides low-stress bicycle facilities for people in low-income neighborhoods, encouraging the use of bicycling as low-cost transportation

Action A2: Build bikeways that provide first and last mile connections to public transit stations and major bus stops

Affordability Goal, Objective B: Reduce long-term transportation costs by reducing the need for vehicle ownership or for parking in new developments

Action B1: Update the Oakland Planning Code to eliminate parking minimums

Action B2: Revise the menu of Transportation Demand Management options to include bike share passes, fix-it stations and hydration stations

Action B3: Update Oakland's Bicycle Parking Ordinance to determine whether it reflects the type and quantity of parking needed in new developments and major renovations

Action B4: Update the Oakland Planning Code to require end-of-trip facilities such as showers and changing rooms in major non-residential developments

Let's Bike Oakland (page 87) provides flexibility for building out the bike network in the vicinity of Jack London District particularly as it relates to development at Howard Terminal:

> *The Oakland Athletics are currently proposing to relocate their ballpark to Howard Terminal. This unique nature of this proposed project may necessitate adjustments to this Bike Plan network to balance competing game-day demands on surrounding streets, including but not limited to Broadway, Market Street, Martin Luther King Jr. Way, Embarcadero West, and 3rd Street. While precise street segments on the Bike Network may change to accommodate these demands, high quality bicycle facilities to and from the ballpark will be incorporated in both the Howard Terminal project design and any revisions to the network envisioned herein to ensure safe and sustainable transportation to and from the waterfront.*

City of Oakland Public Transit and Alternative Modes Policy

The City of Oakland adopted the Public Transit and Alternative Modes Policy, also known as the "Transit-First Policy," in October 2006 (City Council Resolution 73036 C.M.S.). This resolution supports public transit and other alternatives to single occupant vehicles and directs the LUTE to incorporate "various methods of expediting transit services on designated streets and encouraging greater transit use." The resolution also directs the City, in constructing and maintaining its transportation infrastructure, to resolve any conflicts between public transit and single occupant vehicles on City streets in favor of the transportation mode that provides the greatest mobility for people rather than vehicles giving due consideration to the environment, public safety, economic development, health, and social equity impacts.

West Oakland Truck Management Plan

The West Oakland Truck Management Plan was released in May 2019 as a joint effort between the City of Oakland and the Port of Oakland to implement a mitigation measure from the Oakland Army Base Redevelopment Environmental Impact Report, with goals of reducing disruptions from truck circulation and truck parking on residents and businesses in West Oakland and increasing safety along designated truck routes. Ten strategies resulted from the planning process and the City and Port committed to implement them in a span of five years. The strategies that may overlap with the Project and key implementation steps are listed below (City of Oakland & Port of Oakland, 2019):

Strategy 1, Improve Safety at Street Intersections Near the Port: Improve safety for pedestrians, bicycles, and cars at intersections near the Port on Union Street and Adeline Street.

> ***Implementation Step 2:*** The Truck Management Plan Team will work with the City's Planning and Building Department to identify private developments proposed near these intersections to encourage the inclusion of the identified potential safety improvements in the private development projects. Typically, developers implement improvements to the streets and sidewalks adjacent to development projects. The Truck Management Plan Team will provide input to these projects so that pedestrian and bicycle safety is addressed while maintaining requirements for truck movement.

Strategy 3,[14] **Update the Network of Truck Routes and Truck Prohibited Streets:** Propose additions or changes to the Truck Routes and Truck Prohibited Street network so that Truck Routes are more effective.

> ***Implementation Step 2:*** Engage stakeholders affected by the proposed changes, including residents and businesses and the truck drivers that support those businesses, as described in Implementation Approach.

Strategy 7, Improve Training for Issuing Parking Tickets: Improve training for issuing truck and trailer parking tickets in West Oakland to increase compliance with parking regulations.

> ***Implementation Step 1:*** The TMP Team will work collaboratively with OakDOT and OPD to develop the enhanced training, including content and supporting materials.

> ***Implementation Step 4:*** OakDOT and OPD will deliver training to relevant City or Port staff. Consider videotaping training sessions so it is easy to train additional staff.

Strategy 8, Change Parking Regulations: Change the parking regulations so they are applicable to more streets in West Oakland and are easier to enforce.

> ***Implementation Step 2:*** Develop maps of West Oakland that identify where truck parking is currently allowed and where it may no longer be allowed under proposed changes to truck parking regulations. Engage with stakeholders to obtain feedback on proposed changes.

[14] Note that Strategy 3 implementation will not address any truck route changes proposed as part of the Project.

Implementation Step 3: Identify businesses that could be affected by proposed changes. Conduct direct outreach to these businesses for feedback and help them develop a plan to comply with changes in parking regulations.

Implementation Step 7: Conduct enforcement training on the new regulations (see Strategy 7). Consider a "grace period" while businesses and enforcement staff adjust to the parking regulation changes.

Strategy 9, Consider Increasing Truck Fines: Consider revisions to the City's Master Fee Schedule to increase truck parking fines or other penalties.

Strategy 10, Conduct Targeted Parking Enforcement: Provide targeted enforcement of parking regulations at specific times and locations.

Implementation Step 1: The TMP Team will use the annual parking ticket data from Strategies 7 and 8 to identify locations where trucks and trailers continue to regularly park in prohibited areas.

West Oakland Community Action Plan

West Oakland Community Action Plan was a joint effort between the West Oakland Environmental Indicators Project (Indicators Project) and the Bay Area Air Quality Management District, with direction from the West Oakland Community Action Plan Steering Committee. The Plan provides strategies for addressing long-standing disparities in air pollution and related health effects in West Oakland. Strategies focus on reducing the impact of pollution sources within and adjacent to West Oakland, including stationary sources, such as the East Bay Municipal Utility District wastewater treatment plant, and mobile sources, such as heavy-duty trucks and harbor craft. These strategies will be implemented at the community level to maximize emission reductions and reduce residents' cumulative exposure to criteria air pollutants, diesel particulate matter (Diesel PM), fine particulate matter (PM2.5), and toxic air contaminants (TAC). Once implemented, the Plan will work towards eliminating West Oakland's air pollution burden.

Lake Merritt Station Area Plan

The Lake Merritt Station Area Plan establishes policies and improvements that seek to establish the area as a well-connected, economically diverse, and vibrant neighborhood and regional destination. The identified policies aim to create opportunities for community groups, institutions, businesses, and public agencies to work together towards this common goal. A specific chapter for Streetscape and Circulation is included, which identifies priorities and actions for improving the access, safety, and street vibrancy throughout the plan's identified Planning Area. The policies that are applicable to the project are listed below (City of Oakland, 2014a):

Overarching Policies

C-3. Pedestrian access in the Chinatown core: Improve access to the Chinatown core by all modes and improve the pedestrian experience and safety by implementing pedestrian-oriented lighting and improving pedestrian crossings at key intersections.

C-5. Clear connections to BART: Establish clear connections to and from the Lake Merritt BART Station with Chinatown, Laney College, Jack London District, the Oakland Museum

of California, Alameda County offices, Lake Merritt, and other regional destinations. Ensure connections are multi-modal, with a focus on pedestrian-oriented amenities, such as lighting.

C-6. Freeway under-crossings: Improve the freeway under-crossings for pedestrian safety and comfort by implementing the following improvements between 7th and 5th Streets along Broadway, Webster, Jackson, Madison, and Oak Streets:

- Pedestrian-oriented improvements such as special pedestrian-oriented lighting, murals, or ornamental screening.
- Improving and/or activating the spaces under the freeway.
- Providing improved directional signage for pedestrians, bicyclists, and drivers.

C-7. Connections to the Eastlake Gateway District: Improve connections between the Eastlake Gateway District and the rest of the Planning Area by improving connections along 10th Street.

Additionally, specific interventions listed as policies in the Lake Merritt Station Area Plan that are relevant to the project are addressed in the *Planned Transportation Network Changes* section in Section 4.15.1, *Environmental Setting*.

West Oakland Specific Plan

The West Oakland Specific Plan (WOSP) was developed by the City of Oakland with the purpose of identifying strategies for facilitating the development of vacant or underutilized properties as a means of providing jobs and services needed by the West Oakland community. These new developments will need to be supported by improvements to the underlying transportation system and specific strategies are underscored in the Circulation chapter of the WOSP. The Circulation chapter is divided into two sections: Complete Streets and Enhancing Transit. The first section details strategies to provide a better and safer network to drivers, transit users, pedestrians, and bicyclists, regardless of age, ability, or mode of choice. Those strategies directly related to the project are listed below (City of Oakland, 2014b):

Complete Streets Strategy for West Oakland Streets: Provide a network of "Complete Streets" to support the desired mix and intensity of land uses, and to enhance mobility for all travel modes.

Complete Streets-1: Ensure adequate capacity and safety on those arterial streets that serve the planned intensification of land use within West Oakland by committing only the right-of-way necessary to accommodate vehicle movement, transit, bicycle, and pedestrian uses. These arterial streets include Mandela Parkway, West Grand Avenue, 7th Street, 5th Street, Union Street (south of 7th Street), Adeline Street (south of 7th Street), Market Street, San Pablo Avenue, and 27th Street.

- Remove unused rail sidings and spurs to eliminate hazards for drivers, bicyclists, pedestrians, and bus riders.
- Provide bike lanes (or other appropriate bicycle facilities) and high-quality pedestrian streetscapes on arterials.

Complete Streets-3: Work with the Port to develop strategies to prioritize freight movement along arterial corridors outside of the West Oakland residential areas.

Streetscapes: Improve the attractiveness of streetscapes to promote walking and biking, traffic safety, public safety, and attract desired development

Streetscapes-1: Fully implement the improvements identified in various streetscape Master Plans that the City has already prepared, including the following:

- 7th Street Concept and Urban Design Plan: Complete implementation of the recommendations and design strategies contained in the 7th Street Concept and Urban Design Plan. The 7th Street Concept and Urban Design Plan includes schematic designs for streetscape improvements on Seventh Street in three zones: the historic district commercial zone bifurcated by the BART tracks, the new transit-oriented development area arising around the West Oakland BART station and former industrial parcels; and the mixed-use district at Mandela Parkway.

Streetscapes-5: Improve the streetscapes of other neighborhood local streets as development occurs. Throughout West Oakland, new development projects should include incremental improvements to the streetscapes of the local streets which they abut. Typical streetscape improvements could include a variety of elements, such as installing special signage that identifies West Oakland's formally historic neighborhoods as well as other neighborhoods and could involve a public process in designing the elements. Capital improvements should include funding for operations and maintenance. Elements of these improvements could be:

- Low-impact development stormwater management approaches;
- New or widened sidewalks to include more bus stop amenities such as benches and shelters;
- The inclusion of street furniture, landscaping, and art;
- Street trees and planter strips between sidewalks and the street to provide a safety buffer for pedestrians, allowing tree wells and planters to be used instead of planter strips where parking or bicycle lanes are next to sidewalks;
- Adequate and neighborhood-scaled lighting for pedestrian safety and comfort;
- Medians, pocket plazas, and wide sidewalk spaces as potential gathering areas and to display public art; and
- Educational and interpretive signs, artwork, and landscaping to highlight historical and cultural features.

Pedestrians: Fully develop and improve West Oakland's pedestrian network.

Pedestrian-2: Promote land use and site design that makes walking convenient and enjoyable.

- Discourage facilities that create blank walls, unscreened edges along sidewalks, and gaps between sidewalks and building entrances.
- Locate parking lots, driveways and loading areas behind buildings, with access on side or rear streets where feasible.
- Continue blight elimination and nuisance abatement programs and install trash cans in heavily used pedestrian areas, especially near local serving retail establishments.

Pedestrian-4: Maintain a complete sidewalk network free of gaps by implementing the City's Pedestrian Master Plan to ensure that all streets have continuous sidewalks conforming to ADA standards.

- Identify those gaps in the sidewalk network that are high priority fixes for safety reasons.
- Promote use of the City's SeeClickFix web-based program to identify specific areas of concern.
- Continue to require property owners to add sidewalks, ADA-accessible ramps at intersections, and other streetscape improvements along the entire property frontage at the time of new development, substantial additions, or rehabilitations.
- Consider the creation of a special financing district to aid in the finance of coordinated and complete sidewalks.

Pedestrian-5: Improve pedestrian safety at street crossings, particularly at locations with high pedestrian activity. Design and improvements that can enhance pedestrian safety include:

- Neighborhood-scaled street lighting at regular intervals, which promotes pedestrian safety and discourages criminal activity;
- Enhancements at uncontrolled crosswalks, including high-visibility crosswalk markings on the street at unsignalized locations; and
- Making all walkways more accessible to people with physical disabilities, particularly with ADA-accessible ramps at intersections.

Pedestrian-6: Improve the following pedestrian connections between activity centers:

- Improve existing connections across or under freeways to activity centers, on Mandela Parkway at I-580 and on West Grand Avenue at I-980, using lighting, public art, way-finding signage acoustics, and other design features.
- Work with the City's Safe Routes to School project to improve pedestrian safety around schools.
- Coordinate the location of new crosswalks with the location of bus stops to ensure convenient and safe access to bus stops and that also maintain pedestrian visibility of automobile drivers.
- Implement pedestrian improvements along transit corridors and at the West Oakland BART station to strengthen connections to transit.

Parking: Ensure an adequate supply of parking to attract and support desired development and uses, while encouraging alternative travel modes and efficient use of parking supply

Parking-1: Provide parking consistent with the parking recommendations identified in the Land Use Element of the General Plan and as required by Zoning Code Chapter 17.116 but study the option of instituting maximum parking requirements/limits to encourage alternative travel modes.

- Allow the sharing of parking facilities among buildings with different peak demand times. Allow reduced parking requirements for buildings with adequate parking spaces in shared surface parking lots.
- Consider requiring dedicated Car Sharing spaces in larger residential and employment developments.

- Consider providing preferred parking for alternative energy vehicles and charging stations for electric powered vehicles.
- Encourage parking garages for higher density developments.
- Retain on-street parking.

Parking-3: Ensure that all new development provides for the mitigation of potential adverse aesthetic impacts of parking.

- Ensure that any necessary surface parking, driveways and loading areas in new development is located at the rear of the building or is screened by landscaping.
- Encourage podium parking in higher intensity residential and non-residential development to be "wrapped" with active uses along the primary façades.
- Design façades of parking structures to reduce adverse effects on the pedestrian environment where ground-floor uses are not possible, with "green screens," landscaping, public art, lighting, semi-opaque windows, etc. Mitigate any required blank walls with plantings, murals, architectural articulation, faux façades, etc.
- Reduce the bulk of parking structures by breaking up façades with articulated fronts, varying rooflines, architectural details, and upper story step-backs.
- Provide ample lighting in and around parking lots and structures to ensure safety. Ensure that these lights are "full cut-off" to prevent glare and over-lighting.
- Encourage the installation of solar panels on roof-decks of parking structures, both as shading devices for vehicles and as a sustainable energy source.

The second section of the Circulation chapter of the WOSP identifies strategies that seek to improve the connections to the local and regional transportation system, to, from and within West Oakland. Those directly related to the project are listed below:

Enhancements to Existing Transit Services: Seek and identify funding sources to significantly enhance existing transit service between the West Oakland BART station, the Oakland Army Base and Emeryville

Existing Transit Enhance-1: Seek and identify funding mechanisms to increase the frequency of AC Transit bus service and make other transit improvements in and through West Oakland.

- As recommended in the 2006 West Oakland Community-Based Transportation Plan, work with AC Transit to create an expanded senior shuttle service and BART access evening Shuttle.
- Work with AC Transit to expand bus service schedules, especially at night and on weekends (evening/weekend services, longer service hours, greater frequencies, bus stop amenities, etc.).
- Work with AC Transit to expand AC Transit bus service routes to better serve key destinations such as the Oakland Army Base, West Oakland job centers, Emeryville, Jack London Square and downtown Oakland.
- Work with AC Transit to ensure that bus service increases as development occurs and transit demand increases.
- Provide optimal bus stop locations throughout West Oakland. Bus stops should be located so as to maintain a minimum of 1,000 feet between transit stops, should be

located on the far-side of intersections, and should be designed in a manner that permits vehicles to pass during loading and unloading (i.e., with turn-outs).

- Enhance bus stops with appropriate new amenities (e.g., shelters, benches, lighting, real-time passenger information, and security apparatus) to improve the comfort and safety of transit riders.
- Limit the use of private shuttles along AC Transit routes, as these shuttles diminish the viability of the AC Transit network. Where a shuttle is proposed, first work with AC Transit to determine if service changes are possible and apply any developer fees that would support a shuttle to AC Transit service.

Existing Transit Enhance-2: Undertake the following station capacity improvements at the West Oakland BART Station to ensure public safety and to meet BART's performance standards.

- Work with BART to assess whether the West Oakland station needs to have wider train platforms (for both the lower and upper platforms).
- Work with BART to assess whether additional vertical circulation (stairways, escalators, and elevators) should be provided, including adding pedestrian access to the station platform at the north and south ends of the West Oakland station.
- Work with BART to assess the needs for additional fare gates, and potentially additional platform screen doors.

Existing Transit Enhance-3: Improve West Oakland BART station access and public safety at night-time with an on-demand (by phone) door-to-door bus/van service to and from BART in the evenings and at night, and with improved night-time lighting in the parking lots and station vicinity. Safety could also be enhanced by instituting Crime Prevention Through Environmental Design (CEPTED) strategies introduced in Chapter 7: 'Obstacles to Community & Economic Development', with emphasis on ensuring clear lines of sight and visual connections, and well-lit pedestrian connections to parking areas.

Local Enhanced Transit System: Develop a high-quality West Oakland transit system for all residents, employees and visitors traveling to, from and within West Oakland.

Enhanced Local Transit-5: To develop a fully complete and enhanced local transit service, the City of Oakland, in conjunction with AC Transit, BART, Caltrans, Emeryville, and the Port of Oakland, should undertake a West Oakland Transit Needs Study. The Study should consider the transit needs of West Oakland at intermediate stages of development, identifying technical requirements, costs, and funding sources. The study will engage a cross-section of the West Oakland community in evaluating the options. A specific outreach program will be tailored to the business community that may be asked to financially support for the system. The Transit Needs Study could also include evaluation of noise issues associated with transit, but should also formulate technically sound analyses and findings on at least the following topics:

- Transit routes which would best serve the evolving needs of West Oakland residents and businesses;
- Appropriate service characteristics (such as frequency and hours of operation) for the West Oakland transit network;
- The level of transit capacity required on various routes at various levels of land use development;

- The need for capital improvements and roadway changes (such as reserving rights-of way for dedicated transit lanes);
- The probable levels of funding required, considering varying alternatives for both transit operating costs and capital improvements;
- Potential sources of operating and capital improvements for transit service above current levels;
- The appropriate and cost-effective ways that stops, stations and vehicles of the transit linkage system should reflect the history and character of West Oakland; and
- Economic analysis of the value (both absolute and relative to other types of public services and capital improvements) of improvements to bus and rail service, with an emphasis on experience in cities which share common characteristics with Oakland.

Downtown Oakland Specific Plan

The Downtown Oakland Specific Plan[15] (DOSP) establishes policies that will guide the development of Downtown Oakland taking into consideration the community's current and future needs. The plan includes a Mobility and Accessibility chapter, where specific policies are outlined in order to reach the goals of making downtown's streets comfortable, safe and inviting and of improving connections to the city so that everyone has efficient and reliable access to downtown's jobs and services. The policies developed to address the different outcomes are listed below. These are classified into Existing Policies/Programs (E), Revisions/Adjustments to Existing City Policies/Programs (R) and New Proposals for City Policies/Programs (N) (City of Oakland, 2019a).

Mobility Outcome M-1: Downtown is well-connected across its internal and adjacent neighborhoods with bicycle and pedestrian networks that are accessible and safe for people of all ages and abilities.

M-1.1 (N): Design and construct safety measures along the high-injury pedestrian network, including ADA measures that support access for people with disabilities.

M-1.2 (E): Implement the pedestrian and bicycle programs/policies for Downtown Oakland detailed in the 2017 Oakland Pedestrian Plan and 2019 Oakland Bike Plan.

M-1.3 (N): Plan and design for emerging mobility technologies. Actions include:

- Include micromobility devices and users in transportation improvements, including designated parking.
- Digitize curb space to better manage curbs and associated regulations for parking, ride share and other activities.
- Install electric charging stations where appropriate, including ADA accessible spaces, however, ensure that due public process ensues and avoid yielding sidewalks and parks for private companies to install devises.
- Use pilot programs to experiment with new technology.

[15] Taken from the Downtown Oakland Specific Plan Public Review Draft, August 28, 2019. This plan has not been adopted and is currently undergoing environmental review.

M-1.4 (N): Design and construct connectivity and access improvements throughout downtown.

M-1.5 (N): Link neighborhoods with the waterfront through the Green Loop, West Oakland Walk, and other connectivity improvements.

M-1.6 (N): Update signal timing and upgrade signals throughout downtown to reduce the delay and support access for bicyclists, pedestrians, and transit.

M-1.7 (N): Install signals that accommodate two-way circulation as standard practice in all future intersection.

M-1.8 (N): Design and construct a low-stress bicycle network throughout downtown.

M-1.9 (N): Support the Let's Bike Oakland library partnership with the Oakland Department of Transportation (OakDOT) which will provide bike mechanics, fix-it stations and bike repair and maintenance tools for free at library locations.

M-1.10 (N): Continue to expand bike parking supply including short-term and long-term facilities for both commercial and residential land uses.

Mobility Outcome M-2: Communities that are more transit-dependent are well-served in travelling to and from downtown with frequent, reliable, and safe transit service.

M-2.1 (N): Implement transit priority treatments on key downtown corridors and decrease bus headways to improve overall transit travel times and access to, from and within downtown.

M-2.2 (N): Improve passenger amenities (including wayfinding) and security at bus stops on all transit streets through downtown. Bus stops can include lighting, new shelters, benches, wayfinding information in multiple languages, and other amenities including those that improve access and comfort for people with disabilities.

M-2.3 (R): Reconfigure transit service in Jack London and Chinatown to better connect with regional transit (Ferry Terminal, Amtrak and Lake Merritt BART) and improve bus transit connections between downtown and East Oakland (in conjunction with one-way to two-way street conversions on 7th Street and Oak Street).

M-2.4 (N): Work with transit agencies to offer a low-income transit pass to reduce the cost of transit fare.

M-2.5 (N): Maintain reliable, ADA-accessible access to transit stations (i.e., BART elevators and escalators) and find opportunities to increase the number of elevators. Address all access needs identified in previous BART planning efforts for the 19th Street Station and 12th Street/City Center Station.

M-2.6 (N): Name transportation facilities and stations to reflect the location or character of the place that they serve.

M-2.7 (E): Preserve enough bus layover capacity around Lafayette Square, Lake Merritt BART, and Jack London District to serve existing and future transit service needs to and from downtown.

M-2.8 (N): Capitalize on potential regional transit expansion opportunities for BART, Capitol Corridor, and ferry service.

M-2.9 (N): Consider locations for a transbay crossing and new BART Station in downtown. Evaluate locations such as, but not limited to, I-980, Broadway, Franklin, Webster, Clay Street or Washington Street.

M-2.10 (N): Develop a policy requiring downtown employers with more than 50 employees to develop and implement Transportation Demand Management (TDM) plans and monitor and report on trip reduction.

M-2.11 (R): Continue to implement the recommendations of the 2011 Train Quiet Zone Study that details the specific safety measures for each intersection and provide a blueprint of the Jack London Train Quiet Zone. Extend study area east of Oak Street.

Mobility Outcome M-3: Oaklanders connect to downtown's resources with intermodal and multimodal options that accommodate people of all ages and abilities from their front door to their destination and back.

M-3.1 (R): Implement the City's adopted Complete Streets Policies and focus on reconfiguring road space on public streets with excess capacity to other modes or uses, such as bicycles, pedestrians, transit and loading/unloading.

M-3.2 (E): Decrease freeway traffic on local streets through improvements proposed as part of the Oakland/Alameda Access Project.

M-3.3 (N): Establish parking maximums, include requirements for electric vehicle charging and consider a means by which developers can build parking up to 1.25 spaces per unit in exchange for providing community benefits.

M-3.4 (N): Prioritize the movement of emergency service vehicles throughout downtown by: 1) Allowing emergency service vehicles to use proposed dedicated transit lanes; and 2) Upgrading signal technology to provide emergency pre-emption throughout Downtown Oakland.

M-3.5 (N): Study the long-term feasibility of replacing I-980 with a multi-way boulevard to better connect West Oakland and downtown, creating opportunities for new housing and other uses, using the revenues from public land to repair inequities caused during the creation of I-980, and supporting walking, biking, and transit.

M-3.6 (N): Actively manage curbside space to serve Oakland's residents, merchants and visitors, and their diverse mobility needs. Programs to pursue include:

- Implementing the Color Curb Program in Chinatown or a combined commercial loading/metered parking zones on select streets.
- Developing a Curbside Management Study to analyze the uses of curbside space, both auto and non-auto as well as potential future uses such as automated vehicles and develop a clear methodology to guide decision-making on how to manage and prioritize the use of scarce curb space.

M-3.7 (N): Expand the Park Oakland program to additional areas of Downtown Oakland to manage public parking to balance the diverse needs of Downtown Oakland's visitors, merchants, commuters, and residents. Goals include ensuring parking availability; increasing ADA-accessible parking and passenger loading with the objectives of serving

the needs of people with disabilities, seniors, and downtown businesses; reducing the number of motorists circulating to find parking; balancing the needs placed on curb space; and better managing parking resources and demand. Actions include:

- Increase ADA-accessible parking and passenger loading with the objectives of serving the needs of people with disabilities, seniors, and businesses.
- Implement real-time parking signage to display parking availability and pricing
- Adopt the Sensor Independent Rate Adjustment (SIRA) methodology developed for San Francisco's SFpark to monitor parking occupancy in real time.
- Establish parking benefit districts in which a portion of parking revenues are used for improvements in the areas where the funds are collected.
- Give existing merchant and neighborhood organizations, such as Business Improvement Districts and Cultural Districts, a significant advisory role in deciding how to spend their local parking benefit district's revenues.
- Establish a committee, with significant representation from people with disabilities, to propose reforms to (a) improve curb parking availability for people with disabilities, and (b) reduce Disabled Placard fraud and abuse.

M-3.8 (E): Include green infrastructure practices – including planting and maintenance of street trees – described in the City's Green Streets Guide where feasible within the right-of-way.

M-3.9 (N): Maintain truck routes to, from, and within the Jack London to facilitate safe and efficient goods movement from industrial and warehousing facilities. Development a truck management plan for the larger Downtown Oakland area.

M-3.10 (E): Adopt stronger regulations to ensure safe access for pedestrians, bicyclists, and transit riders of all abilities during construction projects Downtown.

Central Estuary Area Plan

The City of Oakland Central Estuary Plan was developed to provide recommendations related to land use, development, urban design, shoreline access, public spaces, regional circulation and local street improvements for the Central Estuary region and waterfront. Although Howard Terminal is not within the Central Estuary Plan boundaries, some of the goals outlined in the Central Estuary Area Plan are relevant for the Project's impact area. The relevant goals outlined in the planning document are listed below (City of Oakland, 2013a):

Objective C-1: Improve and clarify regional access to Oakland's waterfront.

> […] The I-980 connection to the Alameda Tubes at the Jackson Street off-ramp and the I-880 – 16th Street off ramp currently routes traffic through city streets, and should be improved to alleviate congestion on local streets and clarify access routes to Alameda and on Oakland local streets. […] A new interchange should be investigated to provide direct access from I-880 to Jack London Square and downtown Oakland.

Objective C-2: Establish a continuous waterfront roadway system; a safe promenade for pedestrians, bicycles, and slow-moving automobiles.

> For the most part, vehicular circulation should be accommodated on existing roadways. However, a continuous waterfront roadway system is a top priority in the Estuary Policy

> Plan. The waterfront roadway system should take advantage of the Embarcadero right-of-way, extending from Jack London Square to Park Street. […] West of Oak Street, the waterfront roadway system should meet the city grid, providing several routes west to Mandela Parkway. […] All waterfront roads should be treated (sic) with appropriate landscaping, lighting, signage, rest/overview areas, and, where appropriate, parking, and other features which provide a continuous character for pleasant driving, walking, and cycling. Waterfront roads should be slow-moving and accompanied by separate or contiguous bicycling and pedestrian paths where feasible.

Objective C-3: Balance through movement with local access along the waterfront.

> The concept of the waterfront roadway system, described above, aims to properly balance local access with through movements. […] Traffic-calming methods should be incorporated into roadway design throughout the study area, to ensure that vehicular movement is managed in consideration of recreational and aesthetic values. The waterfront roadway system should not become an overflow or alleviator route to the I-880 freeway; however, it will remain part of the City's heavyweight truck route.

Objective C-4: Strengthen local circulation connections between the Oakland neighborhoods and the waterfront.

> Specifically, emphasis should be placed on improving those connections [between the waterfront and inland neighborhoods] which already exist – Washington, Broadway, Webster, Franklin, Oak, 5th, 16th, 23rd, 29th Avenues, Fruitvale, and High Streets. These links can be strengthened through alterations of street alignments or extensions of existing roadways, relocating parking areas, and improving pedestrian facilities.

Objective C-5: Promote transit service to and along the waterfront.

> […] Transit services should be focused along Broadway, Washington, Franklin, Third, and Fruitvale. A special transit loop linking Jack London Square with other significant activity centers (e.g., Old Oakland, the Oakland Museum, and the Lake Merritt and City Center BART stations), should also be encouraged. […]

Objective C-6: Improve pedestrian and bicycle circulation.

> […] Bicycle and pedestrian networks should be extended throughout the waterfront. By enhancing the Embarcadero and the streets parallel to the waterfront, a continuous pedestrian path and bicycle route can be established along the waterfront. Links from the waterfront roadway system to upland neighborhoods are proposed along connecting routes including Oak, Lake Merritt Channel, […]

Objective C-7: Provide adequate parking without diminishing the quality of the urban environment.

> In the Jack London District in particular, provision of adequate parking is critical to accommodate both existing and future demands. […] a comprehensive parking management strategy should be developed to plan for and provide adequate parking.

Seaport Air Quality 2020 and Beyond Plan

The Seaport Air Quality 2020 and Beyond Plan (June 2019) is acknowledged here but does not address transportation impact topics (Port of Oakland, 2019). See Section 4.2, *Air Quality*, for information pertaining to this document.

City of Oakland Complete Streets Policy

The City of Oakland adopted the Complete Streets Policy to Further Ensure that Oakland Streets Provide Safe and Convenient Travel Options for all Users in January 2013 (City Council Resolution 84204 C.M.S.). This resolution, consistent with the California Complete Streets Act of 2008, directs the City of Oakland to plan, design, construct, operate, and maintain the street network in the City to accommodate safe, convenient, comfortable travel for all modes, including pedestrians, bicyclists, transit users, motorists, trucks, and emergency vehicles (City of Oakland, 2013b).

4.15.3 Project Transportation Characteristics

This section discusses various characteristics of the Project identified in Chapter 3, *Project Description*, that affect transportation and circulation.

Proposed Project

The Project would make site improvements necessary to support a ballpark with a 35,000-attendee capacity and additional development including a 3,500-seat performance venue, a 400-room hotel or hotels, up to 3,000 residential units, up to 1.5 million square feet of commercial/office (which could include a range of commercial uses, including but not limited to, general administrative and professional offices and life sciences/research), and up to approximately 270,000 square feet of retail uses (which could include dining/restaurant/ entertainment) at full buildout. Phase 1 of the Project would include a subset of this development including the ballpark and the 400-room hotel or hotels as well as up to 540 residential units, up to 250,000 square feet of office/commercial, and up to 30,000 square feet of retail. It is estimated for purposes of this EIR that full buildout of the Project would be completed within eight calendar years. The proposed phasing for development of the Project is considered conservative. Actual build-out would be influenced by market and financing considerations and may occur over a longer period, as discussed in Chapter 3, *Project Description*. See Section 4.15.7, *Impacts of the Project*, for detailed multimodal trip generation and VMT generated by the Project.

The Project would also implement a Transportation Management Plan (TMP) and a Transportation and Parking Demand Management (TDM) Plan to achieve a 20 percent vehicle trip reduction (VTR) consistent with requirements of AB 734 and the City's guidelines.

The TMP is the document that addresses the ballpark-related transportation management, while the TDM Plan is the plan for the other developments on the site, including the office, retail, residential, hotel, and performance theater. The contents and implementation of both plans are discussed in Section 4.15.4, *Transportation Improvements*.

Parking

The Project would provide parking for all uses on the site to support the Project's development program including the non-ballpark development as well as the ballpark, with a maximum of about 8,900 total spaces at full buildout, as described in this section.

The overall strategy for the ballpark parking is to reduce ballpark parking on-site over time from a maximum of 3,500 on-site parking spaces under Phase 1 to no more than 2,000 on-site parking spaces at buildout, in addition to the proposed on-site non-ballpark development parking supply described below. (As a point of reference, the Oakland Coliseum currently provides about 9,100 parking spaces for ballpark events.) Under Phase 1, ballpark parking spaces would generally be located on the large surface area west of the ballpark. This area could also accommodate a range of transportation services beyond motor vehicle parking, including limited ride-sourcing (i.e., Lyft and Uber) and shuttle buses as well as parking for bicycles, scooters, and other shared mobility services. Both the ballpark and performance venue components of the Project would share this parking.

As the Project site builds out, the large surface parking area would be replaced with development and a network of streets. At buildout there will be up to 1.5 miles of curb space to support a range of mobility services. That curb space may be used for ride sourcing, shuttle and other buses, and bicycles and scooters. With transportation trends quickly evolving, the Project through the TMP and TDM Plan would have the flexibility to adjust curb space management to accommodate changes in travel behavior. As noted, each non-ballpark development block would provide its own parking, either on site or within a shared/district parking framework, with the following proposed parking maximums, resulting in a proposed maximum of about 6,900 parking spaces for the non-ballpark development:

- 1.0 parking spaces per residential unit
- 2.0 parking spaces per 1,000 square feet gross floor area of office
- 2.6 parking spaces per 1,000 square feet gross floor area of retail and restaurant
- 0.5 parking spaces per hotel room

These parking maximums are the same as or more stringent than current parking maximums in downtown. The City through the site-specific rezoning process will update zoning and the Project will be required to adhere to the new parking regulations which may include lower maximums, but in no event would they be more than those identified above. The Project would also provide bicycle parking spaces consistent with the City of Oakland Bicycle Parking Requirements (chapter 17.118 of the Oakland Planning Code).

Residential Parking

Automobile use at residential locations is a function of the number of automobiles available for the household to use, as well as demographic composition of residents, mix of nearby land uses, and convenience of transportation options. The Project's residential parking rates were compared

to vehicle ownership for households in Alameda County Census Tracts 9832 and 4033,[16] which have similar transportation contexts and are located adjacent to or close to the Project. Tract 9832 is bound by the Estuary, Martin Luther King Jr. Way, 5th Street, and Alice Street, and Tract 4033 is bound by the Estuary, Alice Street, 14th Street, and Oak Street. These census tracts have similar demographics as anticipated at the Project site and are somewhat closer to transit. The average number of vehicles kept at home for households in these census tracts is 0.94 vehicles per household, which provides an estimate of residential parking demand per unit for the Project. Because the provided parking supply of a maximum of 1.0 parking spaces per unit is like the estimated parking demand based on nearby areas with similar land use and transportation contexts, automobile ownership and use are estimated to be like those areas.

Office Parking

Automobile use at offices is a function of the availability of parking, as well as the type of employment, demographics of the workers, and convenience of other transportation options. **Table 4.15-13** summarizes mode share for workers commuting to the Alameda County Census Tracts 9832 and 4033, which include the Jack London District and a portion of the Chinatown District neighborhoods and, based on U.S. Census data, represent a similar transportation context as at the Project. The table also presents the vehicle trips and parking demand per worker for each commute mode and calculates the overall rates of each for these census tracts.

TABLE 4.15-13
EXISTING COMMUTE MODE OF TRAVEL, VEHICLE TRIPS, AND PARKING DEMAND

Travel Mode	Mode Share	Daily Commute Vehicle Trips per Worker	Parking Demand per Worker
Drive Alone	60%	2	1
2-person Carpool	7%	1	0.5
3-person Carpool	3%	0.67	0.33
Bus	8%	0	0
BART	14%	0	0
Ferry	0%	0	0
Bike	3%	0	0
Walk	4%	0	0
Taxi	1%	4	0
Total	**100%**	**1.33**	**0.65**

SOURCE: U.S. Census Bureau, 2016. 2012-2016 Census Transportation Planning Products 5-Year Data Set, Alameda County Census Tracts 4033 and 9832, Table A202105; Fehr & Peers, 2020. (Appendix TRA)

As presented in Table 4.15-13, workers in these census tracts generate an average of 1.33 daily automobile commute trips, with an average parking demand of 0.65 spaces per worker. Using this data and an average of 225 gross square footage per worker (including lobbies and common areas), the office component of the Project is estimated to have an unconstrained parking demand

[16] U.S. Census Bureau, 2017a. 2013-2017 American Community Survey 5-Year Estimates, Alameda County Census Tracts 4033 and 9832, Table B08203.

of about 2.9 spaces per thousand square feet. The project would supply 2.0 spaces per thousand square feet for office uses. Since parking demand for office uses in the Project is estimated to exceed the provided parking supply, automobile use is estimated to be lower than in similar areas.

Retail and Restaurant Parking

Parking demand for retail and restaurant components of the Project was derived using data from ITE's *Parking Generation (5th Edition*), which estimates hourly parking demand for each land use type by day of the week and, for retail uses, month of the year. ITE rates were reduced by 36.7 percent to account for the typical use of non-automobile modes for the Project's transportation and land use context, as estimated in Table 2 of the City's *Transportation Impact Review Guidelines*. The retail and restaurant use were assumed to share the same parking spaces. Using the square footages provided for each use, combined hourly parking demand for these uses was estimated for non-Friday weekdays, Fridays, Saturdays, and Sundays, for non-December months and December. Combined retail and restaurant peak parking demand at the busiest time of year would be about 4.7 spaces per thousand square feet, and peak parking demand on non-December, non-Friday weekdays would be about 2.8 spaces per thousand feet. The retail and restaurant components would provide 2.6 parking spaces per thousand square feet, which is less than the non-December, non-Friday weekday peak parking demand. Automobile trips are therefore estimated to be lower compared to similar uses in similar contexts in the area.

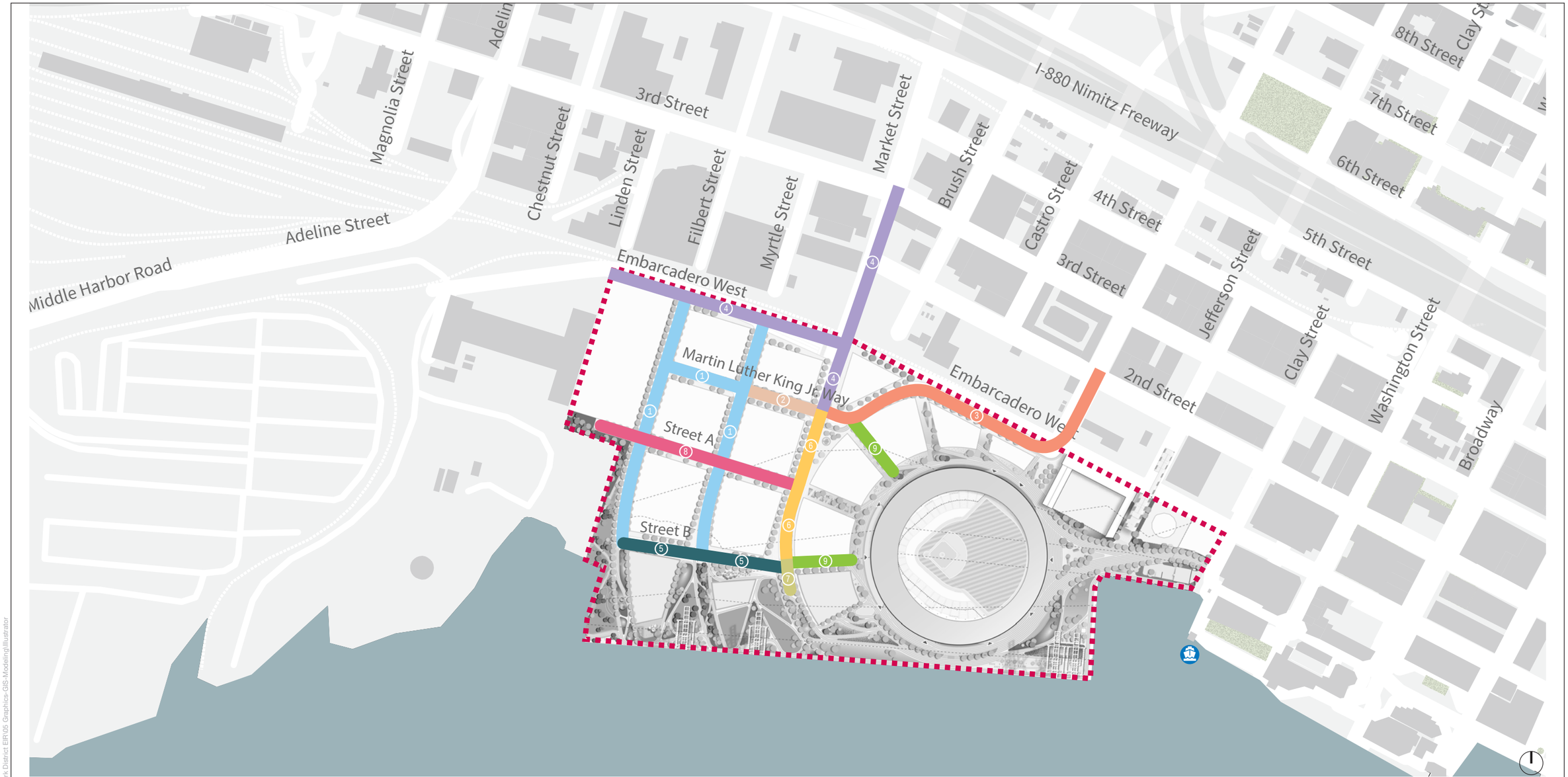
Hotel Parking

Data regarding parking demand for hotel uses in the vicinity of the Project site is not readily available. However, the City of Oakland municipal code (section 17.116.060) was recently amended to require one parking space per 1,000 square feet, with no parking required in downtown zones. The City's prior requirement of 0.5 spaces per room is conservatively assumed to represent parking demand for hotel uses in the absence of TDM strategies. Because parking demand would align with the provided parking supply, automobile trips would be about the same compared to similar uses in the area.

On-Site Transportation Network

Figure 4.15-14 shows how the Project's blocks would be formed by an extension of the City street grid in the west area of the site; no new at-grade railroad crossings would be provided as shown. The Project's streets, except Embarcadero West and portions of Market Street and Martin Luther King Jr. Way, would have one motor vehicle lane in each direction and on-street parking. Market Street and Embarcadero West both have two lanes in each direction to accommodate the automobile and truck traffic to the site and the adjacent Schnitzer Steel site. Once on-site, the Market Street corridor has one lane in each direction with on-street parking along one side of the street, providing flexibility during special events. Martin Luther King Jr. Way has a third lane to accommodate property access and provide flexibility during special events for curb-side commercial and passenger loading.

Figure 4.15-15 illustrates select mobility features on the Project site. Sidewalks and paths are provided throughout the site connecting the development blocks on all sides, the ballpark, the streets crossing the railroad tracks, the Water Street corridor, and the Bay Trail. Key bike and path features include:



LEGEND

- Project Boundary
- Ferry
- 1 One lane and one parking lane each way
- 2 One parking lane and one lane each way plus one eastbound left turn lane
- 3 One lane each way with two way cycle track plus left turn lane
- 4 Two lanes each way
- 5 One lane each way and parking lane on one side
- 6 One parking lane, one lane each way plus two-way cycle track
- 7 One lane each way plus two-way cycle track
- 8 One lane each way
- 9 Driveway

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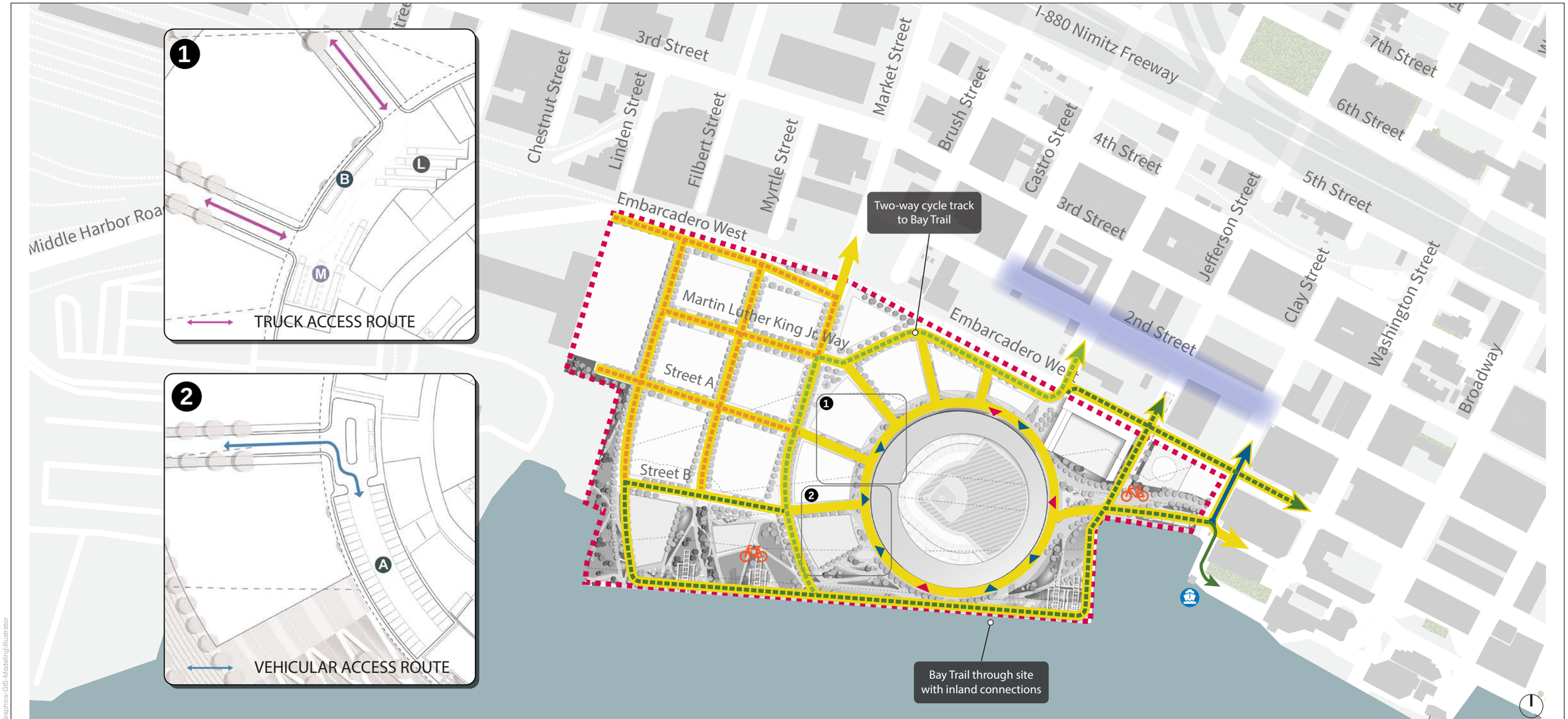
SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-14
On-Site Street Types Plan

ESA



LEGEND

EXISTING BIKE NETWORK
PROPOSED BIKE NETWORK

- Multi-Use Path
- Protected Bikeway
- Buffered/Non-Buffered Bike Lanes
- Neighborhood Bike Route/ Bike Route
- Special Event Bike Parking
- Pedestrian Routing
- Gameday Pedestrian Ballpark Access
- Gameday and Non-Gameday Roof Park Pedestrian Access
- Project Boundary
- Ferry
- A Player Parking
- B Team Buses
- L Loading Docks
- M Media Trucks

Transportation Hub (up to 120 buses per hour)

West Oakland Shuttle (if provided)
2 Loading Zones (up to 24 buses per hour)

Lake Merritt BART Shuttle (if provided)
2 or 3 Loading Zones (24 to 36 buses per hour)

AC Transit Line Extensions (10 to 12 buses per hour)

12th St BART Shuttle (up to 36 buses per hour)

AC Transit Line Rerouting (6 to 8 buses per hour)

Rerouting AC Transit Lines requires approval by AC Transit.
Shuttle use of bus stops requires approval by AC Transit.

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-15
On-Site Mobility Access Plan

ESA

- Class 4 Bike Lanes (two-way) would be provided along Martin Luther King Jr. Way from 2nd Street through the Project site to Market Street where the facility would turn south and extend to the water and the Bay Trail. North of 2nd Street, the Let's Bike Oakland Plan calls for Class 4 Bike Lanes that would serve as a primary artery connecting to other planned and existing bike facilities in West Oakland, Jack London District, and Downtown.
- The Bay Trail would extend from its current terminus at Clay Street along the Project site's water edge with inland connections along the Jefferson Street and Martin Luther King Jr. Way alignments.
- The portion of Embarcadero that is south of the active UPRR tracks and between Martin Luther King Jr. Way to Washington Street (and potentially to Broadway) would be physically separated from the railroad tracks by a fence to accommodate a multi-use path. The multi-use path would replace the vehicle street that exists today (emergency vehicles would be accommodated to the extent feasible). The fence line separating the railroad tracks and Embarcadero would be offset from the active track or third track by approximately 10 feet, or the minimum allowable by UPRR. The multi-use path would be up to 30 feet wide between the fence and the existing buildings if the fence is offset from the active track. The portion of Embarcadero between Washington Street and Broadway could also accommodate a multi-use path between the fence and the existing buildings, to the extent feasible, if the existing 12-foot-wide vehicle lane were combined with the 8-foot wide sidewalk.
- Water Street will connect the pedestrian- and bicycle-only corridor in Jack London Square to Athletics Way, the ballpark, and further into the project. Bicyclists could continue to access Water Street via Clay Street, Washington Street, and Broadway. Water Street would remain the designated EVA for fire apparatus serving the existing Jack London Square buildings and would also serve the project.

The ballpark would have seven access points distributed around the ballpark for attendees: two on Water Street and five on Athletics' Way, a pedestrianized street that would wrap around the ballpark. There would also be three access opportunities to the ballpark's rooftop park. Special-event bicycle and scooter parking has been identified on the east and west sides of the ballpark with pedestrian connections to the ballpark and Athletics' Way without crossing motor vehicle streets.

Primary motor vehicle access for the ballpark would be accommodated below Athletics' Way via connecting driveways to Market Street. Commercial loading for up to four 70-foot trucks, four 65-foot media trucks, and two team buses would be accommodated. Player and coach parking, as well as buses for concert events would also be accommodated on Athletics' Way.

Primary emergency vehicle access would be provided by at-grade railroad crossings at Market Street, Martin Luther King Jr. Way, and Clay Street as well as via the extension of Water Street at Fire Station No. 2. Washington Street and Broadway are additional at-grade railroad crossings south of the project site that also connect to Water Street and serve emergency vehicles crossing the railroad tracks. As described in Chapter 3, *Project Description*, an additional EVA on the west side of the Project site would be constructed on an alignment to be determined by the Port that connects the west end of Embarcadero West to Middle Harbor Road. Middle Harbor Road connects to Adeline Street, which contains an above-grade rail overpass. This EVA would be made available to police, fire, ambulance and other emergency service providers only for the

purpose of responding to an emergency on the Project site when other means of access to and from the area are unavailable or sub-optimal. In the event of a major/mass casualty event (e.g., a major earthquake), if needed to safely evacuate the ballpark, the EVA may also be used for general egress as directed by on site fire/police personnel. While the EVA would cross the "Roundhouse" railroad spur, this spur is off the mainline and used less frequently. Emergency vehicle access via Water Street would remain available in the unlikely event that, during an emergency, rail traffic utilizing the "Roundhouse" spur blocks the Middle Harbor EVA at the same time that rail traffic on the UPRR main line in Embarcadero West separately blocks access via Market and Martin Luther King Jr. Way. Fire Station No. 2 at the Water Street/Clay Street intersection would remain and have direct access to the Project site via an extension of Water Street into the site. The emergency access routes described in this paragraph would not change if Fire Station No. 2 is closed at some point in the future. Water Street is rated for fire apparatus and serves the existing buildings in Jack London Square. Additional streets that are rated for fire apparatus and serve Jack London Square include Clay Street, Washington Street, and Broadway, which intersect Water Street and cross the railroad tracks. Parking and commercial loading access for each development block would be accommodated within its block and be consistent with the Project's design guidelines.

Existing and Removed/Relocated uses

As discussed in Chapter 3, *Project Description*, the Howard Terminal portion of the Project site is approximately 50 acres. With development of the proposed Project, the existing tenants and users of Howard Terminal are assumed to move to other locations in the Seaport (including the Roundhouse parking adjacent to Howard Terminal), the City, or the region where their uses are permitted under applicable zoning and other regulations. The Port has located 15 acres of parking in the Roundhouse, directly west of Schnitzer Steel, to fulfill its obligation per OAB redevelopment to provide 15 acres of overnight truck parking. Truck drivers or businesses currently parking at Howard Terminal should find sufficient overnight parking in the Seaport or the former OAB. For those who prefer to use container depot facilities, where containers are stored for several days or more instead of overnight, they would likely need to find a location outside the Seaport. Each driver or business would make an independent assessment. All trucks currently making trips in/out of Howard Terminal will continue to make the same number of trips to and from the Seaport from their new locations. Further discussion on this assumption for the potential relocation of truck parking from Howard Terminal to the Roundhouse site is included in Section 4.2, *Air Quality,* in Chapter 4 of this Draft EIR

VMT associated with truck travel is likely to change, but the magnitude of the change and whether VMT would increase or decrease is currently not known by either the Project sponsor, the City, or the Port. Therefore, estimating the change in VMT would be speculative and is therefore not conducted.

4.15.4 Transportation Improvements

This section discusses various transportation improvements that are incorporated into the Project, to be imposed as Project mitigation measures under CEQA, or are recommended for implementation prior to or during the development of the Project based upon Non-CEQA

analyses conducted pursuant to the City's Transportation Impact Review Guidelines (TIRG). The Transportation Improvements in this section include both infrastructure and operational changes that support the Project's transportation needs, and some may also support those of the Port and the surrounding neighborhoods within about one mile of the Project site, on days with and without a capacity ballpark event. These features also reflect the City's desire through its plans and policies to prioritize transit, walking, and biking to the Project to achieve the vehicle trip reduction goals for the Project.

The TIRG provides guidelines for the analysis of operational and other transportation issues that are not required to be analyzed under CEQA, and direction on appropriate measures to address these non-CEQA transportation issues in the context of the City's overall policies and objectives. Improvements identified under the TIRG analysis are identified as Non-CEQA Recommendations in this section. This section does not consider Non-CEQA analyses conducted pursuant to the City's TIRG in determining the significance of Project impacts under CEQA. Nevertheless, due to the unique nature of this Project (which includes a stadium use which presents special transportation demands), the City recognizes that the public and decision makers may be interested in information about the Non-CEQA TIRG analysis and the recommended Non-CEQA transportation improvements. The information contained in this section related to Non-CEQA TIRG analysis is provided solely for informational purposes and is not used to determine the significance of environmental impacts pursuant to CEQA.

The inclusion of the Non-CEQA analysis under the TIRG and the recommended non-CEQA transportation improvements in this section does not convert those issues into environmental impacts under CEQA. The CEQA analysis is based on the City's adopted Thresholds of Significance and identifies impacts and required mitigations based on those thresholds (4.15.6 Significance Criteria). Improvements required to address significant CEQA impacts are identified as CEQA Mitigation Measures.

Site Access Routes and Circulation Overview

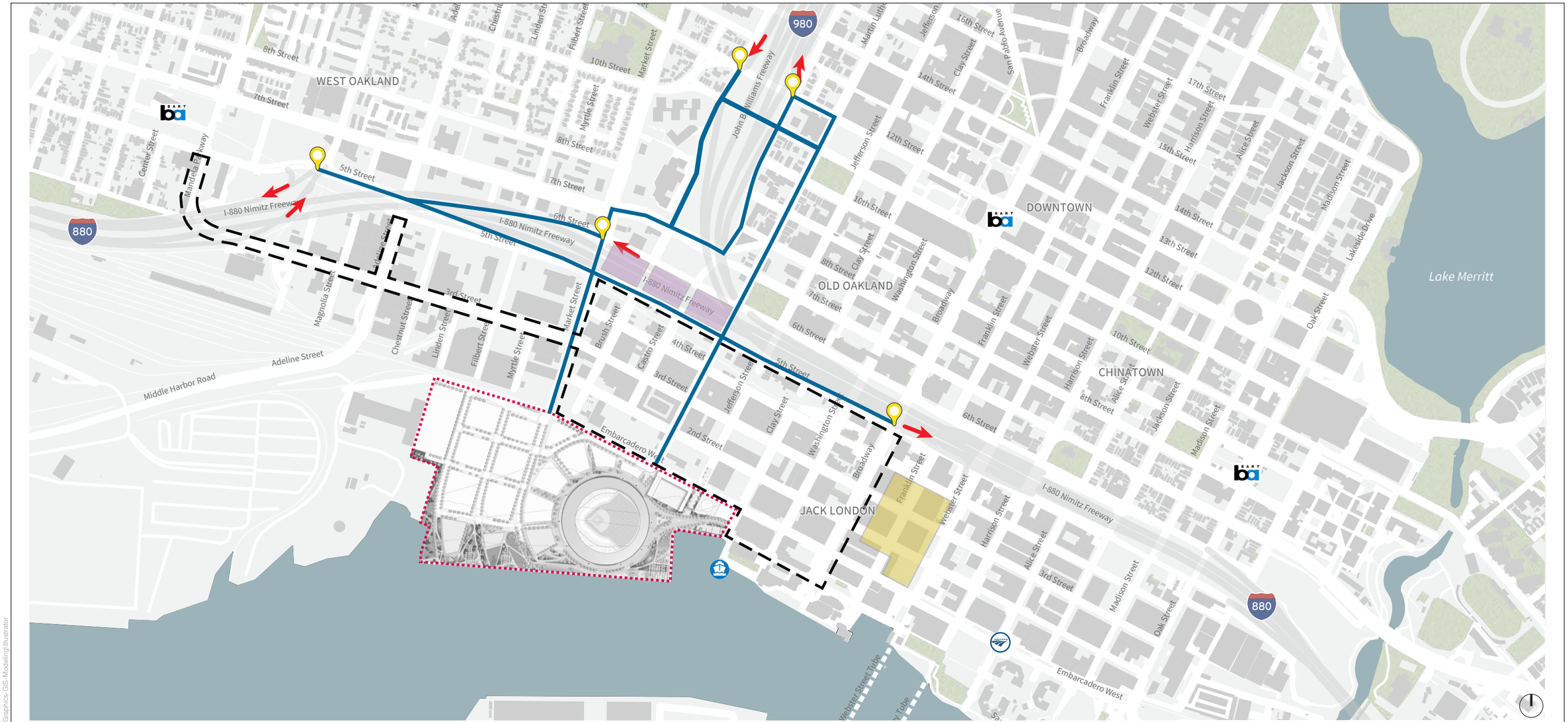
The routes people use to travel to and from the site are based on their travel mode of choice and the routes are similar for people traveling to the non-ballpark development as well as the ballpark. The following figures illustrate how people would travel to the site if all mitigation measures and non-CEQA recommendations transportation improvements are completed. Subsequent sections describe the features shown in the figures.

- **Figure 4.15-16** – Drivers to the Project represent longer-distance trips and would generally use the nearby freeways including I-880 and I-980. As illustrated, drivers' use of local roads between the freeways and the Project site would be minimized with drivers primarily using Market Street and Martin Luther King Jr. Way, the 5th and 6th Street corridors, and the Brush Street and Castro Street corridors. Drivers who travel between the Project site and local destinations such as downtown and West Oakland would generally use either Market Street or Martin Luther King Jr. Way connecting to road corridors serving these areas including: 7th and 8th Streets, 11th and 12th Streets, and West Grand Avenue.

  Drivers to the ballpark would have similar travel patterns to those to the non-ballpark development with one exception. The Project's parking supply for the ballpark would be limited to 3,500 parking spaces at opening day and would be reduced to 2,000 parking spaces

at Project buildout. As a result, many drivers to the ballpark would park off-site in available parking garages or at available on-street parking spaces within about one mile of the Project site, which is similar to the distance to the West Oakland, 12th Street, and Lake Merritt BART stations. The City is proposing a system in which these parking spaces would be managed by OakDOT, or another entity could manage the parking spaces, and include a reservation system for drivers to minimize driver recirculation through the area to find an available parking space. This has the effect of dispersing drivers across many roads in Downtown and in the Jack London District where on- and off-street parking is available. The primary mode of travel between the off-site parking and the ballpark would be walking as well as using buses and shuttles, bikes, or scooters. Potential TNC passenger loading areas supporting ballpark events are also shown on the figure and, if provided, people would generally walk between these loading areas and the Project site.

- **Figure 4.15-17** – There are numerous transit options in the area and people using transit would generally walk between transit stops and the Project site. People using Amtrak and the San Francisco Bay Ferry would walk on Water Street to access the Project site. The Transportation Hub on 2nd Street would provide at-grade walking connection between the Project site and the Hub via Martin Luther King Jr. Way and Clay Street. BART riders have several options to access the Project site including walking, buses and shuttles, shared bikes and scooters, and TNCs. Buses and shuttles would be particularly attractive because the Transportation Hub would provide bus priority along 2nd Street during event days and then dedicated bus-only lanes that connect to the 12th Street BART station. AC Transit 72, 72M, and 72R would continue to operate on 2nd Street and additional lines could be extended and rerouted to the area at AC Transit's discretion.
- **Figure 4.15-18** – There are several bike corridor projects under consideration that would improve bike riding access for the Project including Class 4 Protected Bike Lanes on Martin Luther King Jr. Way and Class 2B Buffered Bike Lanes on 7th Street, which would connect with the larger bike network serving West Oakland, Downtown Oakland, and beyond. The City of Oakland submitted a Caltrans Active Transportation Program (ATP) grant application to implement Class 4 Separated Bike Lanes, transit boarding islands, and other corridor improvements along 7th Street to respond to long-term multimodal needs on the corridor. If the City is awarded the grant, the Class 4 Separated Bike Lanes funded by the grant would replace the Class 2B Buffered Bike Lanes required by the Project. The 2nd Street Class 2 Bike Lanes would remain, including through the Transportation Hub. The 3rd Street corridor was considered as an alternative to 2nd Street but discarded due to the Port's use of 3rd Street as the overweight truck route and the substantial truck and commerce activities at the Produce Market. Rather a shared use path is proposed as an alternative to 2nd Street through the Transportation Hub and it would extend along Embarcadero West connecting Martin Luther King Jr. Way, Clay and Washington Streets, and potentially Broadway.
- **Figure 4.15-19** – While the Project would generate a substantial number of pedestrian trips to the nearby neighborhoods, there would be additional pedestrian demands to nearby transit stops and off-site parking particularly during ballpark events. Walking between West Oakland, including the BART station, and the Project site would occur on 7th Street via Market Street. Martin Luther King Jr. Way would provide walking connections to Downtown and off-site parking. Both Washington Street and Broadway, via Water Street, provide walking connections to Downtown and BART. The Transportation Hub on 2nd Street at Jefferson Street would provide a direct walking connection over the railroad tracks at Jefferson Street with secondary connections on Martin Luther King Jr. Way and Clay Street at the at-grade crossings. People walking from the Lake Merritt BART station would use 8th Street to Broadway or Washington Street.



LEGEND

- Automobile Routing to Freeways from Site
- Freeway Ramps and Intersections
- Potential Off-Street Passenger Loading or Parking for Ballpark Events
- Produce market (Potential Area for Passenger Loading when Market Closed)
- Local Traffic Only on Game Days
- Project Boundary
- BART Station
- Amtrak
- Ferry

SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-16
Howard Terminal Automobile Routing

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LEGEND

- Potential AC Transit routing to connect West Oakland and Lake Merritt BART
- Potential AC Transit line extensions connecting to 12th Street BART
- Potential shuttle routing
- Proposed Bus-Only Lanes
- Project Boundary
- Produce Market
- BART Station
- Amtrak
- Ferry
- Transportation Hub (up to 120 buses per hour)
  - West Oakland Shuttle (if provided)
  - 2 Loading Zones (up to 24 buses per hour)
  - Lake Merritt BART Shuttle (if provided)
  - 2 or 3 Loading Zones (24 to 36 buses per hour)
  - AC Transit Line Extensions (10 to 12 buses per hour)
  - 12th St BART Shuttle (up to 36 buses per hour)
  - AC Transit Line Rerouting (6 to 8 buses per hour)
  - Rerouting AC Transit Lines requires approval by AC Transit.
  - Shuttle use of bus stops requires approval by AC Transit.

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-17
Howard Terminal Potential Transit Routing

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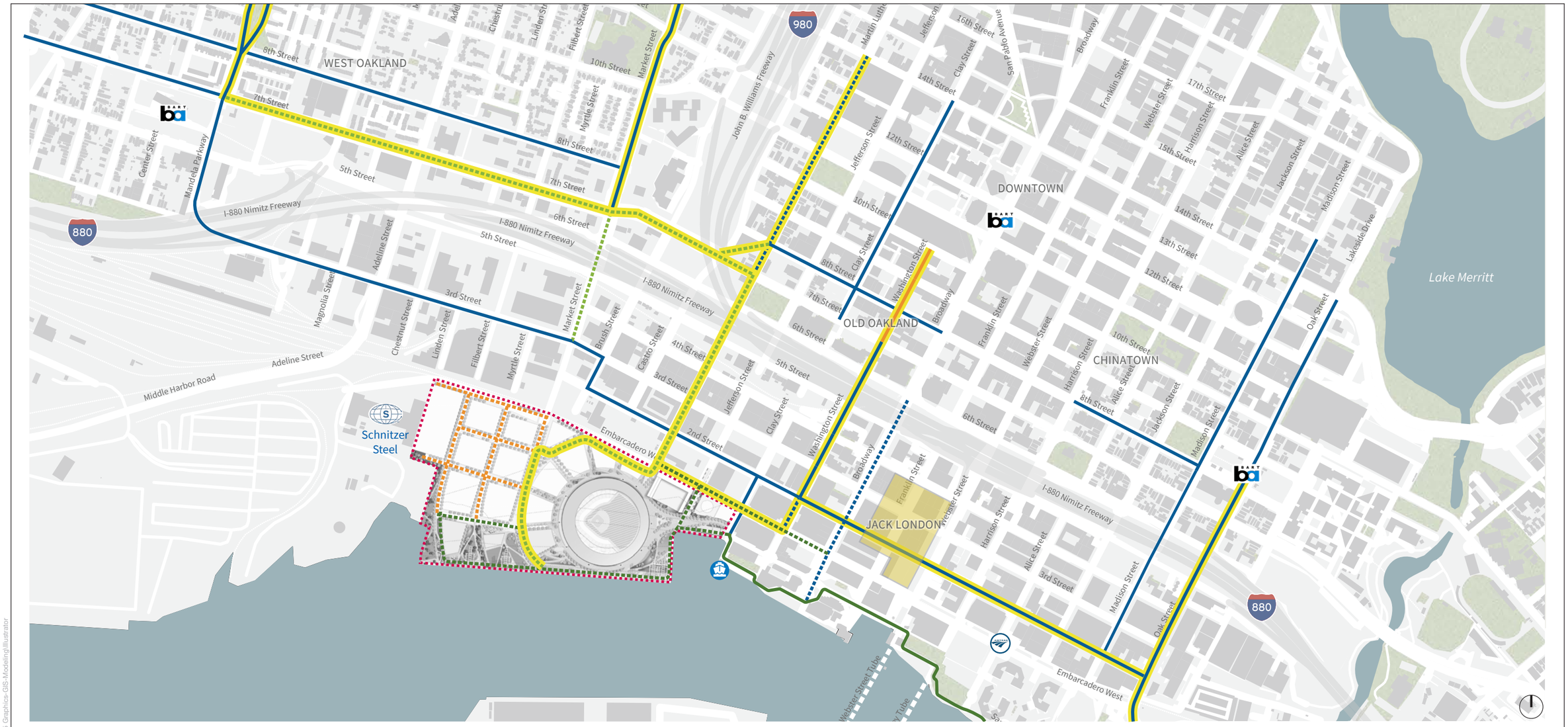

LEGEND

EXISTING BIKE NETWORK
PROPOSED BIKE NETWORK PER OAKLAND BIKE PLAN
Primary Bike Facilities used by Howard Terminal

Multi-Use Path
Protected Bikeway
Buffered/Non-Buffered Bike Lanes
Neighborhood Bike Route/ Bike Route
Produce Market

Project Boundary
BART Station
Amtrak
Ferry

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-18
Howard Terminal Bicycle/Scooter Routing

ESA

LEGEND

- Pedestrian Routing
- Produce Market
- Potential Off-Site Parking under the Freeway
- Project Boundary
- BART Station
- Amtrak
- Ferry

Transportation Hub (up to 120 buses per hour)

West Oakland Shuttle (if provided)
2 Loading Zones (up to 24 buses per hour)

Lake Merritt BART Shuttle (if provided)
2 or 3 Loading Zones (24 to 36 buses per hour)

AC Transit Line Extensions (10 to 12 buses per hour)

12th St BART Shuttle (up to 36 buses per hour)

AC Transit Line Rerouting (6 to 8 buses per hour)

Rerouting AC Transit Lines requires approval by AC Transit.
Shuttle use of bus stops requires approval by AC Transit.

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-19
Howard Terminal Pedestrian Routing

ESA

- **Figure 4.15-20** – Drayage truck volumes on Market Street and Martin Luther King Jr. Way would be lower with redevelopment of the Project at Howard Terminal. Trucks associated with the Project that are traveling to/from the Project site would generally use the nearby freeways including I-880. As illustrated, drivers of Project-related trucks would use Market Street and Martin Luther King Jr. Way and the 5th Street and 6th Street corridors between I-880 on- and off-ramps. Trucks currently traveling to/from Schnitzer Steel would continue to occur if the Project is implemented. With the Project, the Schnitzer Steel trucks would use the same routes as the Project trucks and the access between Schnitzer Steel and the Seaport, if needed, would shift from 3rd Street to the 5th Street and 6th Street corridors. Similarly, trucks between the Project site and the Seaport, if needed, would also use 5th and 6th Streets.

The combination of modal networks described above is shown in **Figure 4.15-21**. The Project site would continue to be served by Market Street and Martin Luther King Jr. Way, both of which have at-grade railroad crossings prior to entering the site. There is no grade separated connection either over or under the railroad tracks.

Railroad Crossing Improvements

The detailed description and engineering drawings of the at-grade railroad crossing improvements planned with the Project is documented in *Oakland A's Howard Terminal Project Railroad Corridor and Grade Crossing Improvements*, May 31, 2019, prepared by RSE, Inc. for the Oakland A's. The improvements are consistent with solutions identified in the Alameda CTC Grade Crossing Toolkit (Cambridge Systematics, 2018), are consistent with Quiet Zone features, which are defined as areas with reduced levels of train horn sound, and consider the *Final Report Oakland Railroad Quiet Zone Study* prepared for the City of Oakland in June 2011 (City of Oakland, 2011). These railroad crossing improvements, described below, are required in Mitigation Measure TRANS-3a (see Section 4.15.7, *Impacts of the Project*), and are subject to review and approval from the CPUC and other responsible agencies. Following are the key features of the proposed railroad at-grade crossing improvements:

- Install fencing along both sides of the railroad corridor extending along the Project site's frontage starting at the Schnitzer Steel boundary and continuing to Broadway. This change would alter Embarcadero West circulation as follows:
  - Between Market Street and Schnitzer Steel Embarcadero West would remain two-way with a signalized intersection at Market Street.
  - Between Market Street and Martin Luther King Jr. Way the street would be abandoned such that there would no longer be a motor vehicle intersection at Martin Luther King Jr. Way.
  - The portion of Embarcadero that is south of the active UPRR tracks and between Martin Luther King Jr. Way to Washington Street (and potentially to Broadway) would be physically separated from the railroad tracks by a fence to accommodate a multi-use path. The multi-use path would replace the vehicle street that exists today (emergency vehicles would be accommodated to the extent feasible). The fence line separating the railroad tracks and Embarcadero would be offset from the active track or third track by approximately 10 feet, or the minimum allowable by UPRR. The multi-use path would be up to 30 feet wide between the fence and the existing buildings if the fence is offset from the active track. The portion of Embarcadero between Washington Street and Broadway could also accommodate a multi-use path between the fence and the existing buildings, to

the extent feasible, if the existing 12-foot wide vehicle lane were combined with the 8-foot wide sidewalk. On the north side of the railroad Embarcadero West would remain one-way westbound with forced right turns at Jefferson, Clay, and Washington Streets as well as at Broadway. Vehicle access to the Vistra Plant could be via an extension of Water Street at Clay Street or driveway easement and used infrequently solely for site access.

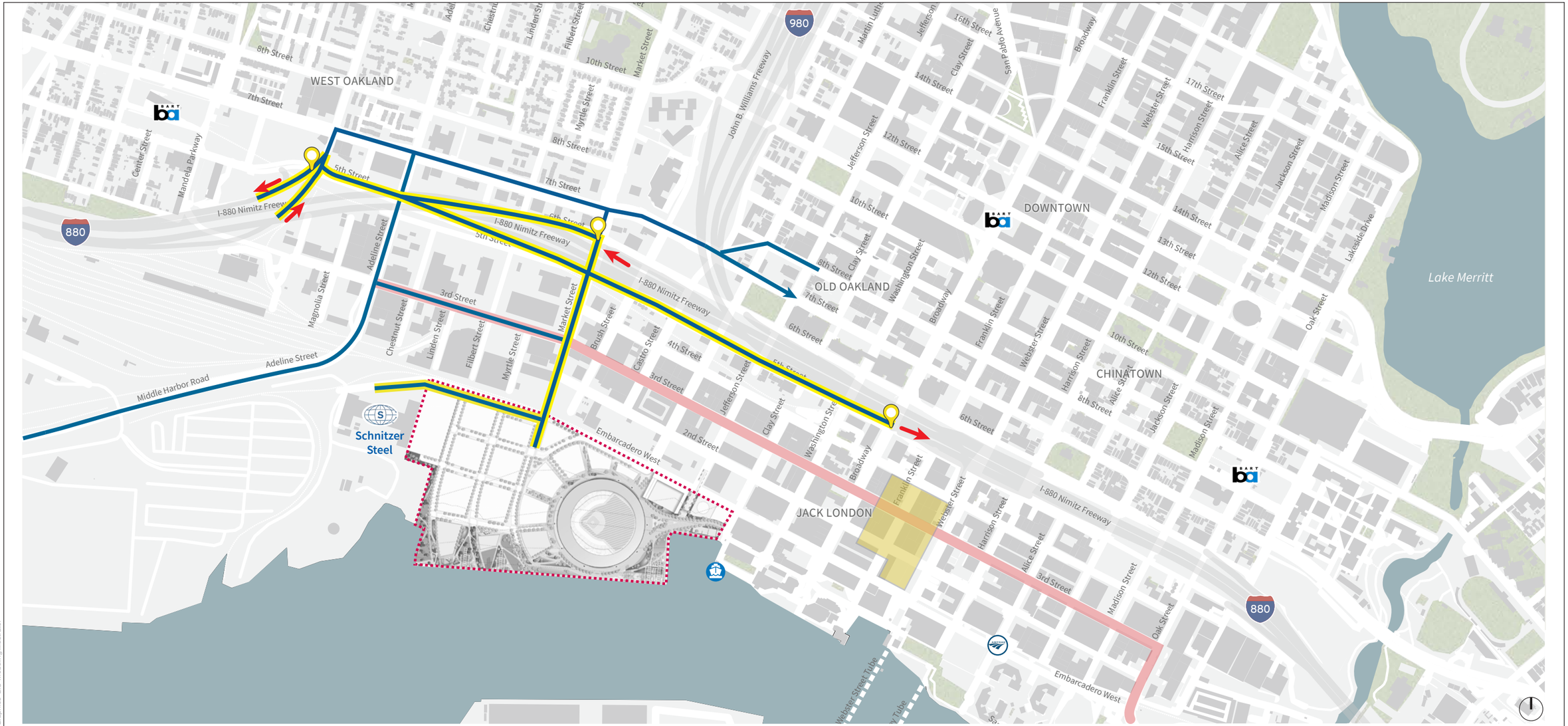
- Upgrade the existing at-grade railroad crossings at Market Street, Martin Luther King Jr. Way, Clay Street, Washington Street and Broadway with quad gates for motor vehicles and separate signals and gates for pedestrians and bicyclists. Provide improved pedestrian and bicycle surfaces at each crossing and clearly defined staging areas for pedestrians and bicyclists to wait as a train passes by.
- Install a traffic signal at the Market Street at-grade crossing and its intersection with Embarcadero West as well as a traffic signal on Market Street at 3rd Street. These signals would be part of the railroad preemption system and include queue cutter loops on Market Street that would be tied to both traffic signals to minimize the potential for motor vehicles to queue across the railroad tracks. A railroad preemption system provides an opportunity for vehicles to clear the track area before the train arrives at the crossing. A queue cutter loop signal is a traffic signal installed at a highway-rail grade crossing in a manner similar to a pre-signal; its function is to provide a means to prevent vehicles from stopping on the tracks or within the railroad right-of-way as a result of traffic queuing from a downstream signalized intersection.
- While there is no motor vehicle intersection at the Martin Luther King Jr. Way at-grade crossing, install a traffic signal at the at-grade crossing as well as traffic signals at 2nd Street where left turns would be prohibited and at 3rd Street where a left-turn lane would be provided to separate left turning and through movement traffic. These signals would be part of the railroad preemption system and include a queue cutter loop on Martin Luther King Jr. Way that would be tied to all three traffic signals to minimize the potential for motor vehicles to queue across the railroad tracks.

Off-Site Transportation Improvements

Various off-site Transportation Improvements were identified through the CEQA and Non-CEQA analyses conducted pursuant to the City's Transportation Impact Review Guidelines (TIRG). Consistent with the TIRG, the Transportation Improvements identified herein are intended to increase and prioritize access for transit, pedestrians, and bicyclists to the Project site in order to provide streets that are safe and convenient for all users and reduce vehicle miles traveled and vehicle trips as required for the Project. As described above, these improvements fall into one of two categories:

- CEQA Mitigation Measures – Identified through the Project's CEQA analysis
- Non-CEQA Recommendations – Identified through the Project's Non-CEQA analyses

The off-site Transportation Improvements identified as CEQA Mitigation Measures in this section are actions to be taken to avoid or reduce the magnitude of a significant impact. All CEQA Mitigation Measures will be (1) included as part of the design, construction, and/or operation of the proposed Project; (2) adopted as conditions of approval for the proposed Project; and (3) subject to monitoring and reporting requirements of CEQA and the terms of the discretionary approvals for the Project. Responsibility for carrying out the CEQA Mitigation Measures that are adopted will be



LEGEND

- Freeway Ramps for Project and Schnitzer Steel Trucks
- Existing Local Street Truck Circulation
- Overweight Truck Corridor
- Truck Routes Used by Howard Terminal and Schnitzer Steel
- Project Boundary
- Produce Market
- BART Station
- Amtrak
- Ferry

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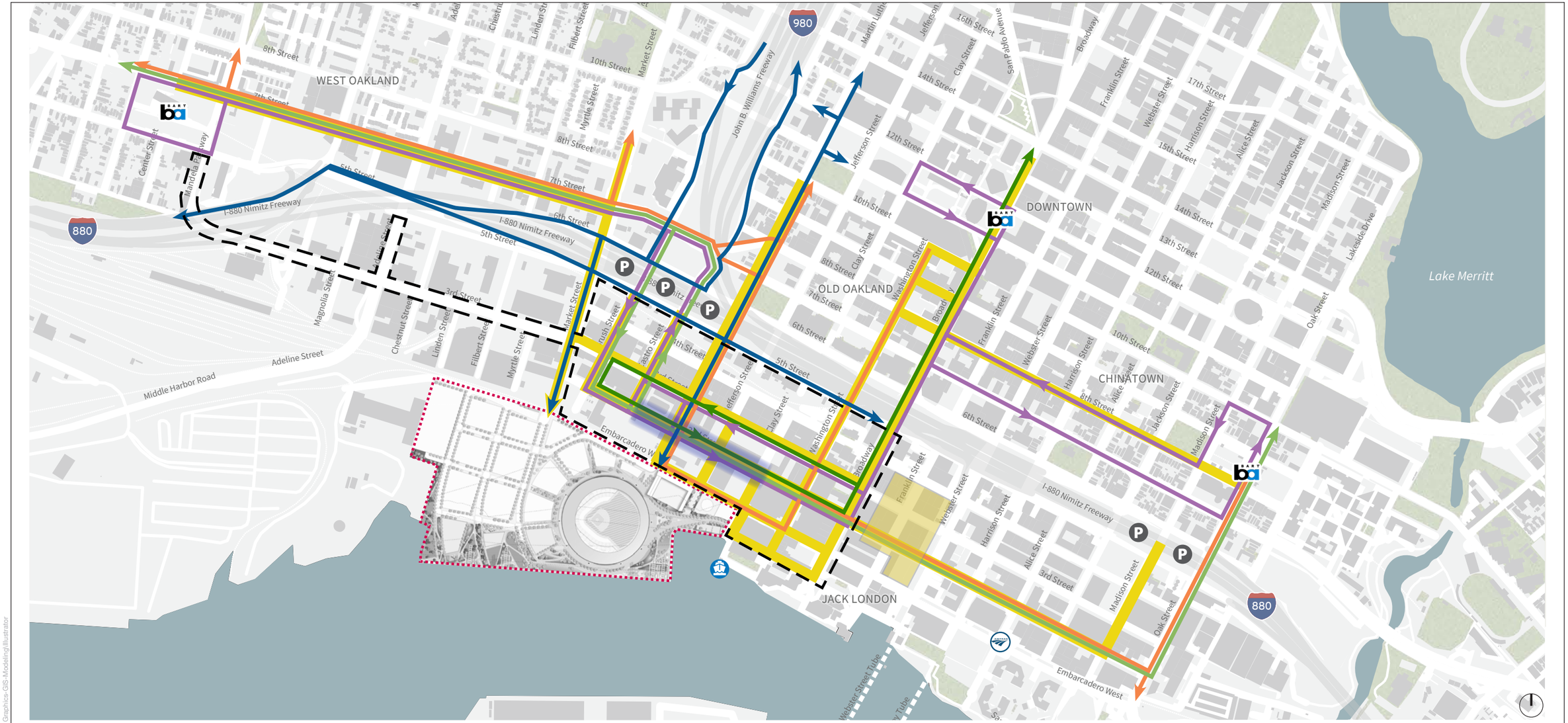
SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-20
Howard Terminal Truck Routing

ESA



LEGEND

- Potential AC Transit routing to connect West Oakland and Lake Merritt BART
- Potential AC Transit line extensions connecting to 12th Street BART
- Potential shuttle routing
- Howard Terminal Traffic
- Bike Routing
- Bike Routing Alternatives
- Pedestrian Routing
- Potential Off-Site Parking under the Freeway
- Produce Market
- Local Traffic Only Boundary on Game Days
- Project Boundary
- BART Station
- Amtrak
- Ferry

Transportation Hub (up to 120 buses per hour)

West Oakland Shuttle (if provided)
2 Loading Zones (up to 24 buses per hour)

Lake Merritt BART Shuttle (if provided)
2 or 3 Loading Zones (24 to 36 buses per hour)

AC Transit Line Extensions (10 to 12 buses per hour)

12th St BART Shuttle (up to 36 buses per hour)

AC Transit Line Rerouting (6 to 8 buses per hour)

Rerouting AC Transit Lines requires approval by AC Transit.
Shuttle use of bus stops requires approval by AC Transit.

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-21
Howard Terminal Overall Mobility Access Plan

ESA

identified in the Mitigation Monitoring and Reporting Program adopted at the time the Project is approved. The Mitigation Measures describe in this Section 4.15, *Transportation and Circulation*, do not trigger secondary transportation impacts because the measures do not increase roadway capacity, induce additional vehicle travel beyond that already assumed in the analysis, and can be constructed within the existing roadway rights-of-way.

The off-site Transportation Improvements identified herein as Non-CEQA Recommendations are recommended for implementation prior to or during the development of the Project. These are not required to address a CEQA impact, but would support the Project's transportation needs, and some may also support those of the Port and the surrounding neighborhoods within about one mile of the Project site, on days with and without a capacity ballpark event. Decision makers for the Project will consider non-CEQA Recommendations during Project review and may impose one or more of them as Project-specific conditions of approval. Some elements of the Non-CEQA Recommendations may be implemented by the City through its Paving Plan, included in current or future grant applications, or implemented by some other mechanism, such as an infrastructure financing district. For those Non-CEQA Recommendations that the City adopts, the entity responsible for implementing those measures will be identified in the conditions of approval, the development agreement, or other approval documents. The Non-CEQA Recommendations describe in this Section 4.15, *Transportation and Circulation*, do not trigger secondary transportation impacts because the measures do not increase roadway capacity, induce additional vehicle travel beyond that already assumed in the analysis, and can be constructed within the existing roadway rights-of-way.

The off-site Transportation Improvements discussed in this chapter are grouped by street corridor given the quantity of features identified. In addition, figures were developed to illustrate the recommended as-built condition of each corridor, assuming the implementation of all Transportation Improvements (CEQA Mitigation Measures and Non-CEQA Recommendations). **Figure 4.15-22** provides a key map for all the identified off-site Transportation Improvements, and **Figure 4.15-23 through Figure 4.15-39** are scaled-conceptual drawings that represent the improvements identified through the preparation of this chapter. Transportation Improvements shown on the figures are designed within the existing curb-to-curb cross section except where noted, and the pedestrian features would generally be designed within the available public right-of-way; although easements may be necessary at some locations to address inconsistent property boundaries along some corridors.

Certain Transportation Improvements have also been incorporated into the Draft Transportation Management Plan (TMP) for the ballpark use, which is provided in Appendix TRA. The TMP is the document that addresses the ballpark transportation management, including capital and operational strategies.

The analysis that follows identifies and describes in greater detail the CEQA Mitigation Measures and Non-CEQA Recommendations and the resulting user experience, by corridor. The final design of all Transportation Improvements will be subject to the final design review and approval by the City to ensure that they are based on the most up-to-date design and construction standards and to ensure physical and operational feasibility. Further, implementation of some off-site

Transportation Improvements would require permits and approvals from other applicable regulatory agencies including, but not limited to, Caltrans (for improvements related to Caltrans facilities) and the California Public Utilities Commission (for improvements related to railroad crossings), prior to installing the features. It is anticipated that all elements of the design would be subject to City standards in effect at the time of construction and comply with ADA (according to Federal and State Access Board guidelines); that all new or upgraded signals would include enhancements as required by the City. Due to the quantity of new and upgraded traffic signals incorporated into the Transportation Improvements, the current City design guidance is summarized here, but may change based on standards in effect at the time of construction:

- 2070L Type Controller with cabinet accessory
- GPS communication (clock)
- Accessible pedestrian crosswalks according to Federal and State Access Board guidelines with signals (audible and tactile)
- Countdown pedestrian head module switch out
- City standard ADA wheelchair ramps
- Video detection on existing (or new, if required)
- Mast arm poles, full activation (where applicable)
- Polara (pedestrian) push buttons (full activation)
- Bicycle detection (full activation)
- Pull boxes
- Signal interconnect and communication with trenching (where applicable), or through existing conduit (where applicable), 600 feet maximum
- Conduit replacement contingency
- Fiber switch
- PTZ camera (where applicable)
- Transit Signal Priority (TSP) equipment consistent with other signals along corridor
- Signal timing plans for the signals in the coordination group
- By-directional curb ramps (where feasible, and if project is on a street corner)
- Upgrade ramps on receiving curb (where feasible, and if project is on a street corner)

The following text describes the off-site improvements shown in Figure 4.15-23 through Figure 4.15-39. The analysis also addresses the extent to which these improvements would affect vehicles, trucks, transit operations, bicyclists, and pedestrians.

Conceptual drawings are representations of transportation improvements if all features are implemented, subject to detailed engineering analysis, review, and approval by the City of Oakland.

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-22
Off-Site Transportation Features Key Map

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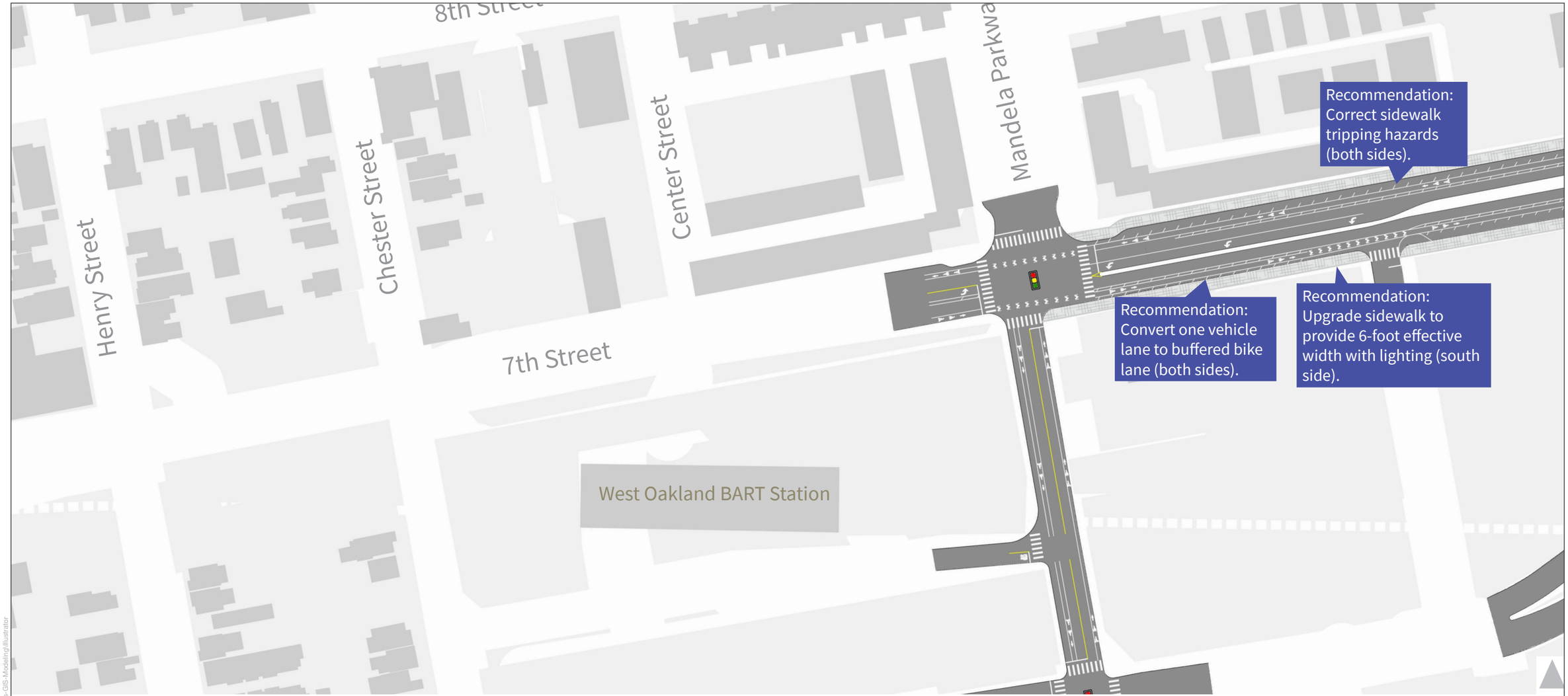

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-23
Off-Site Transportation Features - Grid 1

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-24
Off-Site Transportation Features - Grid 2

ESA

Conceptual drawings are representations of transportation improvements if all features are implemented, subject to detailed engineering analysis, review, and approval by the City of Oakland.

SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-25
Off-Site Transportation Features - Grid 3

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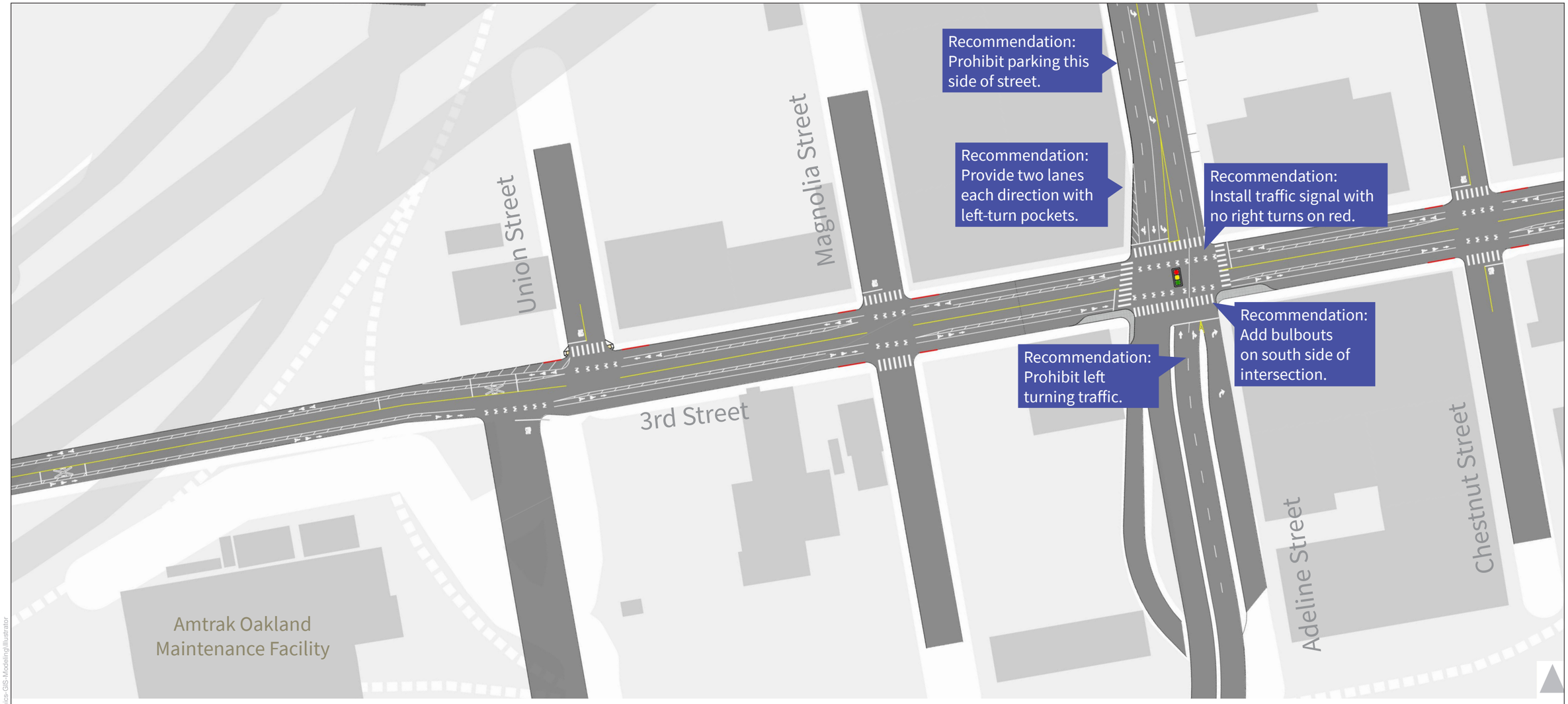
SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-26
Off-Site Transportation Features - Grid 4

ESA



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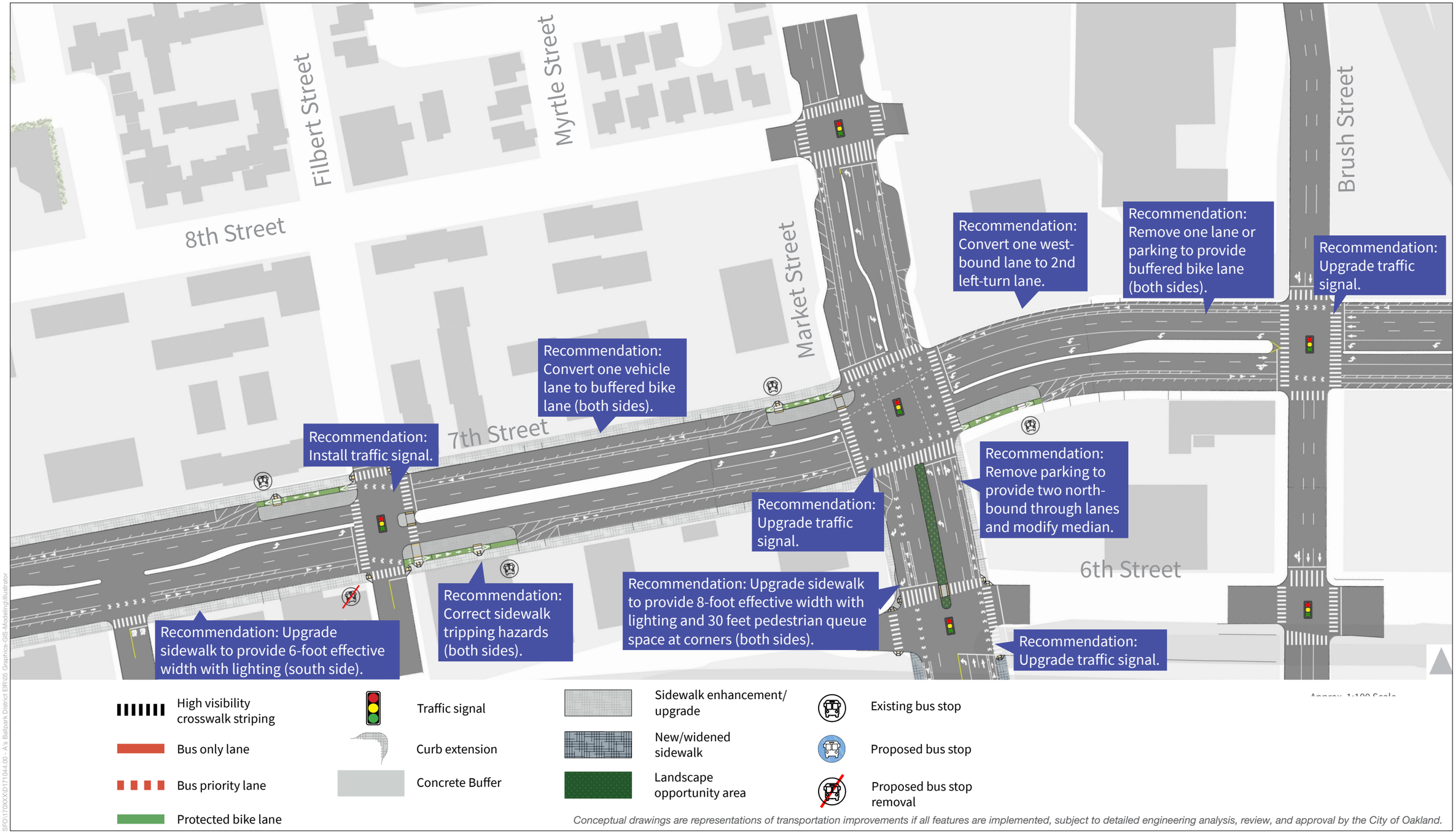
SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-27
Off-Site Transportation Features - Grid 5

ESA



SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-28
Off-Site Transportation Features - Grid 6

ESA

SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-29
Off-Site Transportation Features - Grid 7

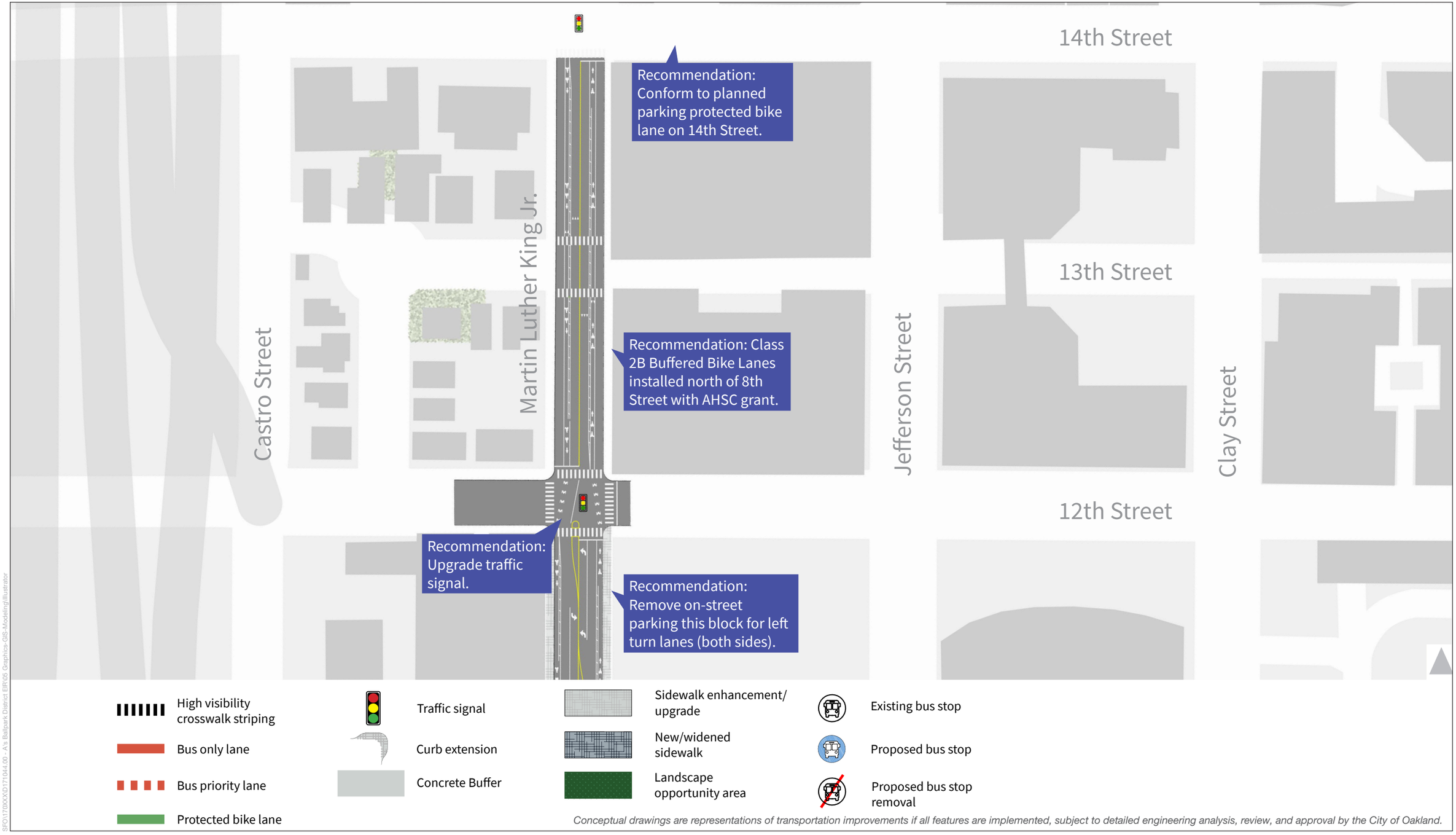
ESA

SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-30
Off-Site Transportation Features - Grid 8

ESA



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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-31
Off-Site Transportation Features - Grid 9

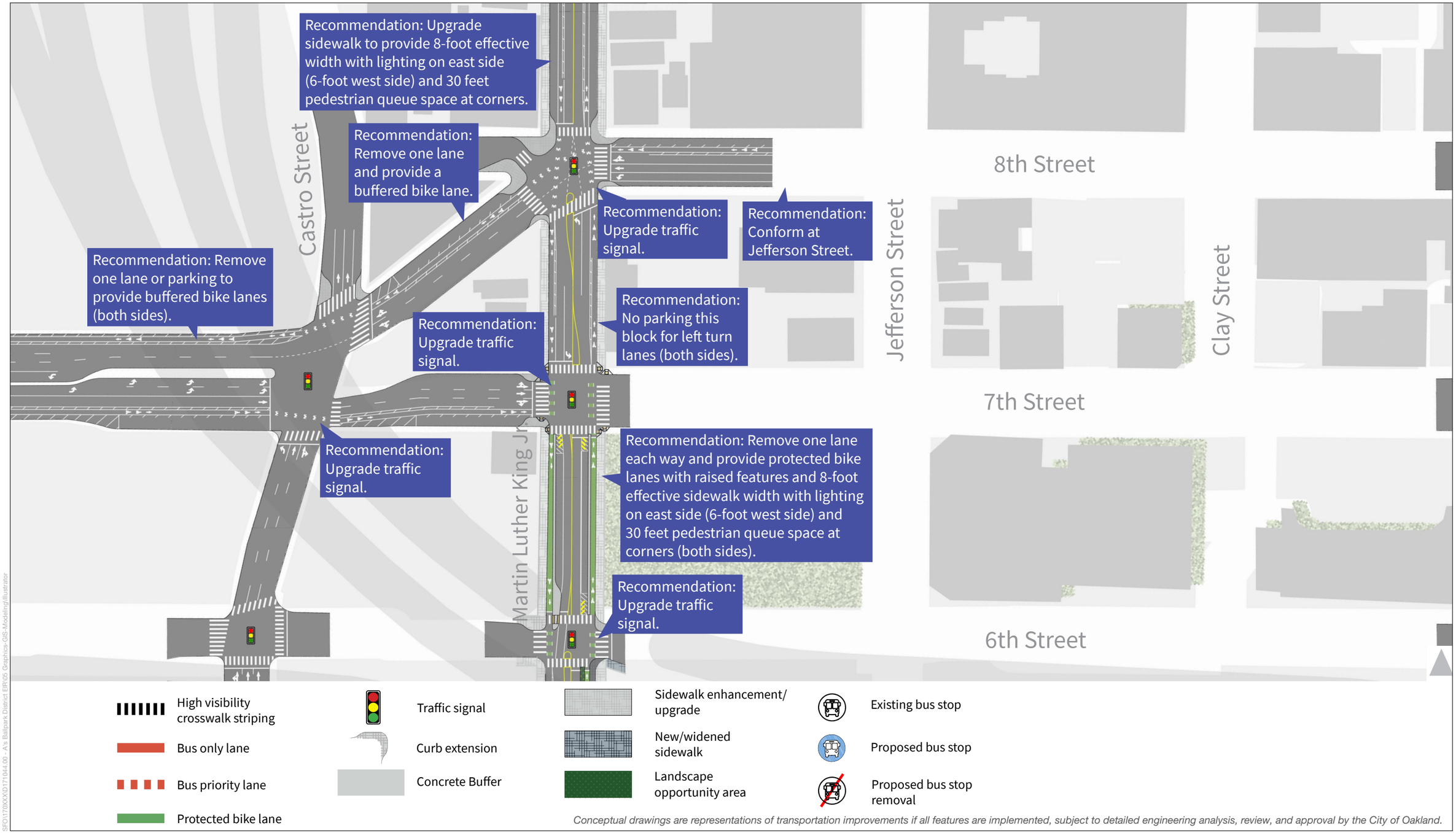
ESA

SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-32
Off-Site Transportation Features - Grid 10

ESA



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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-33
Off-Site Transportation Features - Grid 11

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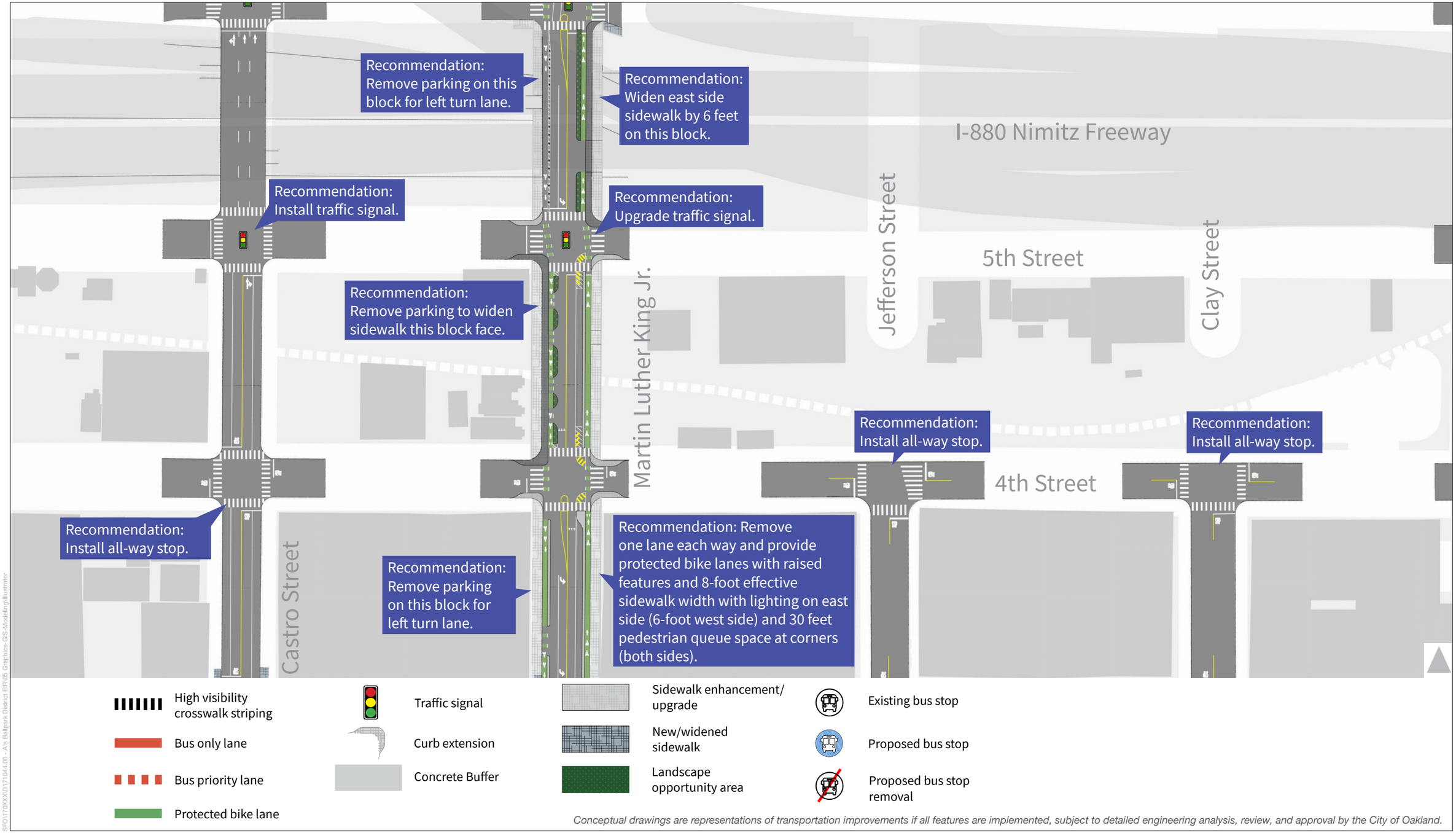

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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-34
Off-Site Transportation Features - Grid 12

ESA

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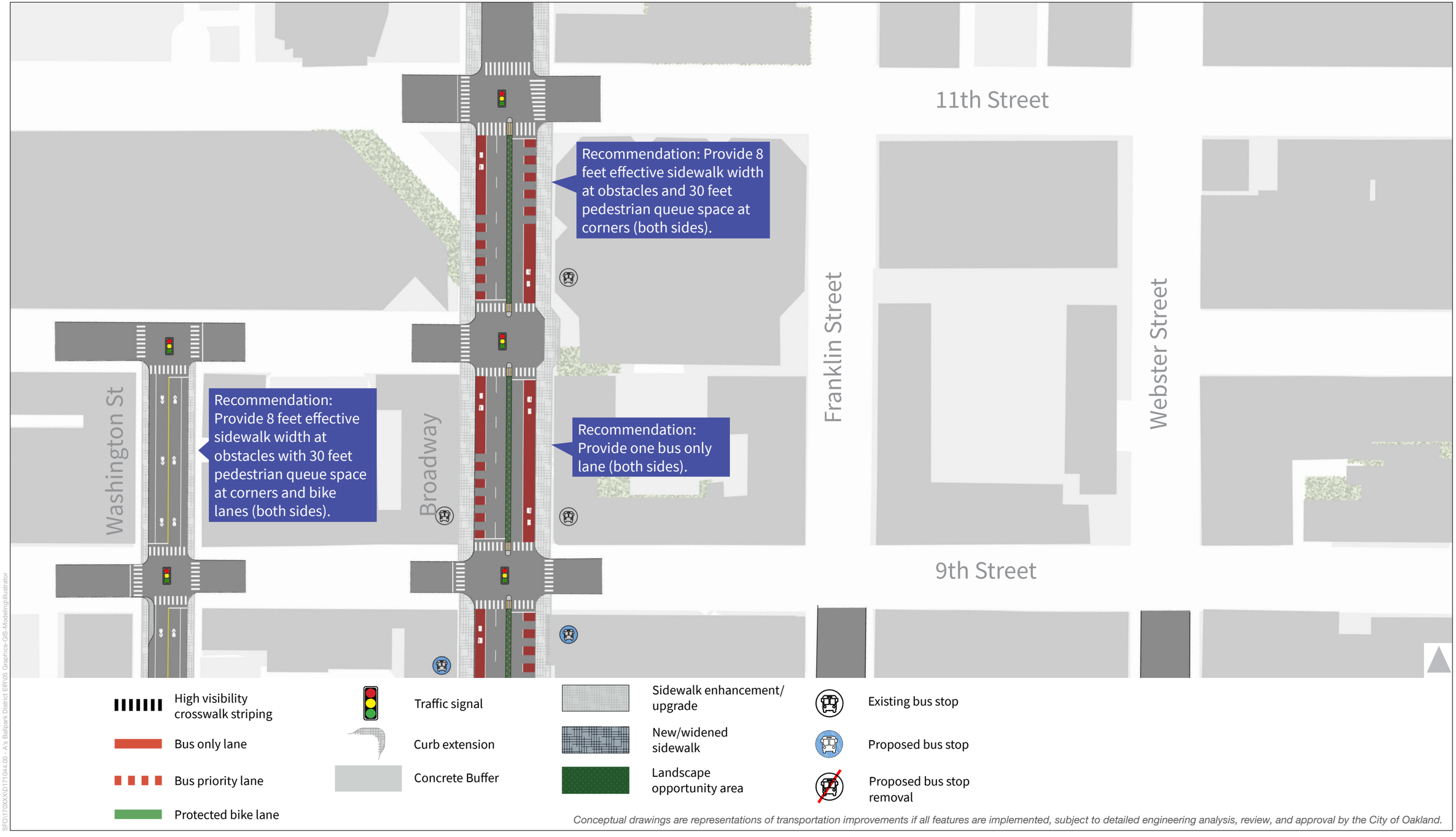
SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-35
Off-Site Transportation Features - Grid 13

ESA



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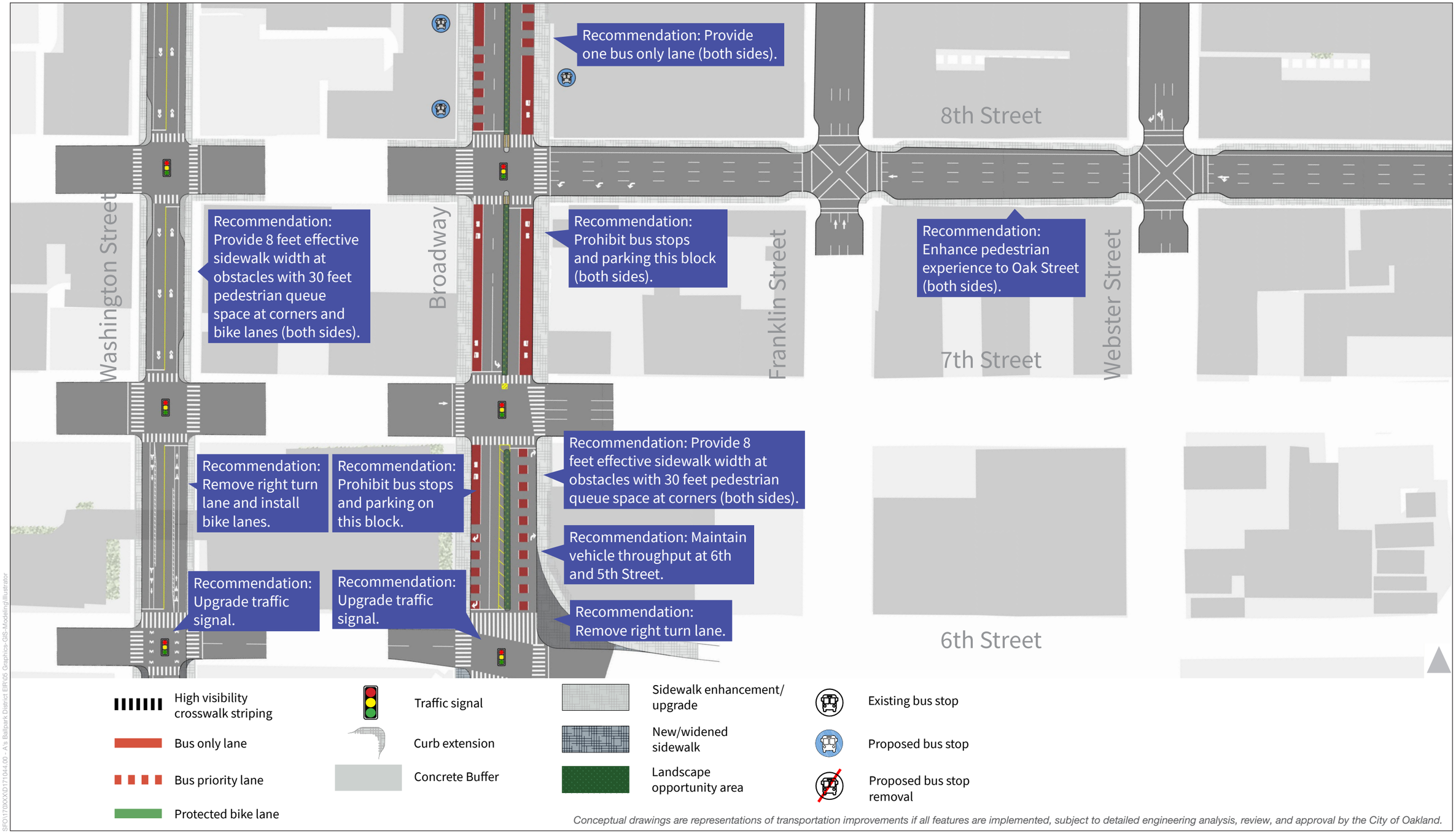
SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-36
Off-Site Transportation Features - Grid 14

ESA



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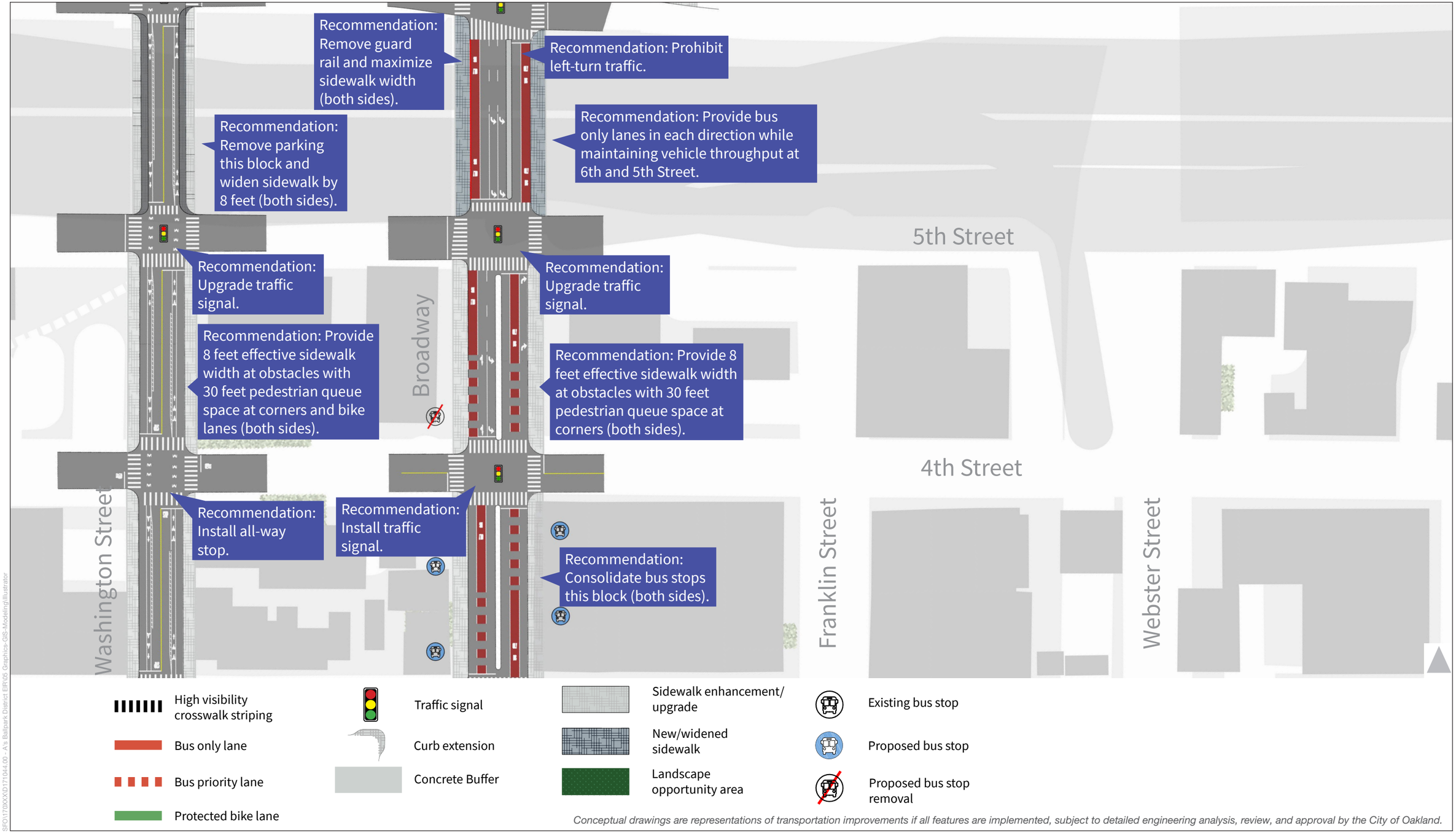
SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-37
Off-Site Transportation Features - Grid 15

ESA



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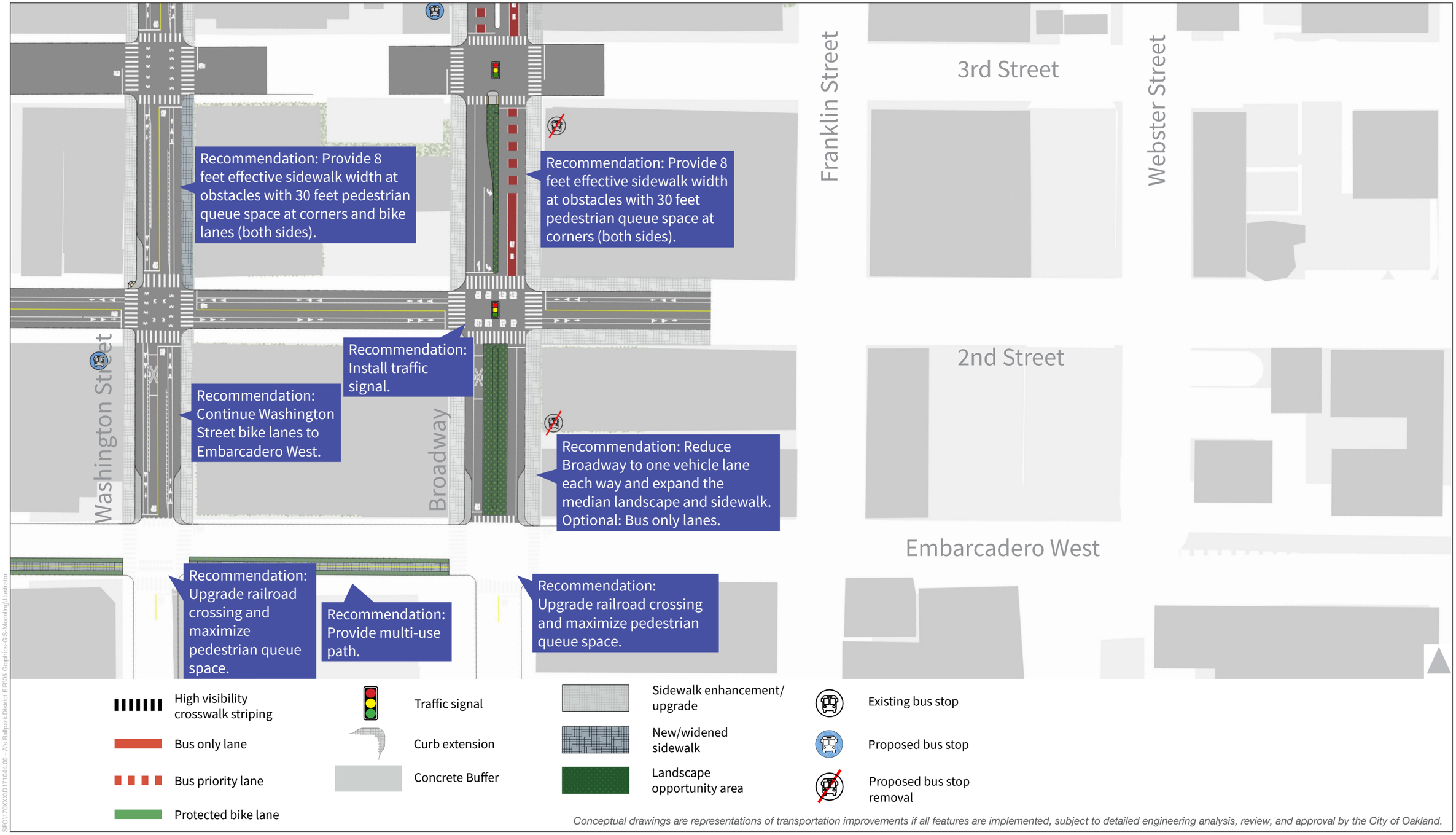
SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-38
Off-Site Transportation Features - Grid 16

ESA



SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-39
Off-Site Transportation Features - Grid 17

ESA

7th Street Corridor

The 7th Street corridor connects to the Project site via Market Street and Martin Luther King Jr. Way. It is expected to be the primary route for pedestrians and bike riders between West Oakland and the Project site, including people walking or biking from the West Oakland BART station.

In summer 2020, the City submitted a Caltrans Active Transportation Planning (ATP) grant application for 7th Street. In winter 2021, the City's proposed 7th Street project was selected as one of 41 projects statewide recommended for funding. If funded, the ATP grant would be used to implement Class 4 Separated Bike Lanes, transit boarding islands, intersection safety and signal improvements, sidewalk repairs, and new trees on 7th Street between Mandela Parkway and Martin Luther King Jr. Way. Construction would be complete by January 2028. A base set of improvements that would support access to the Project site on opening day of the ballpark are summarized below. If the ATP grant is awarded, the two sets of improvements would be coordinated to ensure efficient implementation and minimize disruption to adjacent land uses. **Table 4.15-14** summarizes the user experience by mode after implementing the following base set of transportation improvements for the 7th Street corridor that would support access to the ballpark site on opening day of the ballpark.

Base Set of Transportation Improvements – Ballpark Opening

- Upgrade the sidewalk on the south side of 7th Street between Mandela Parkway and Market Street connecting the West Oakland BART station and the ballpark to provide a 6-foot clear space at sidewalk obstacles, and pedestrian lighting;[17] Correct sidewalk tripping hazards on both sides of the street. Daylight intersections and driveways on both sides of the street with red curb per City guidance. (Mitigation Measure TRANS-1e)
- Unless bike lanes have previously been installed, remove one motor vehicle lane in each direction to provide Class 2B Buffered Bike Lanes in each direction between Mandela Parkway and Martin Luther King Jr. Way with bus boarding islands at bus stops to separate bikes and buses through bus stops. (Mitigation Measure TRANS-2a)
- Provide pedestrian wayfinding signage to direct ballpark patrons to the most efficient routes in and out of the BART station and to the ballpark via 7th Street and Market Street. Provide bicycle wayfinding signage directing southbound bike riders on Mandela Parkway, Adeline Street, and Market Street to use 7th Street and Martin Luther King Jr Way to access the ballpark and Jack London District. (Non-CEQA Recommendation)
- Provide two left-turn lanes on 7th Street westbound at Market Street and eastbound at Castro Street as well as necessary traffic signal modifications and signal communications to optimize motor vehicle flow particularly before and after ballpark events to handle the heavy volume of left turning vehicles. This recommendation addresses motor vehicle traffic between the I-980 freeway and the Project site via Market Street. (Non-CEQA Recommendation)

[17] Sidewalk widening is focused on the south side of the street because many people using 7th Street for Project access would be using West Oakland BART, and the pedestrian desire line for travel between the station and the site is on the south side of 7th Street.

TABLE 4.15-14
7TH STREET CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience
Bike Riders	Bike lanes along this corridor provide east/west bike connectivity with north/south bike corridors i.e., Mandela Parkway, Adeline Street, Market Street, and Martin Luther King Jr. Way. Class 2B Buffered Bike Lanes are provided between Mandela Parkway and Martin Luther King Jr. Way. The bike lanes provide an alternative connection between West Oakland and Jack London District including the ballpark, avoiding the Port and industrial trucking activity along 3rd Street and Adeline Street.
Bus Riders	Lane reduction,3 to 2 lanes, would increase delay for bus riders but intersection operations would continue to be LOS C or better for motor vehicles. While intersection delay would increase, the in-line bus stop platforms would eliminate delay pulling in/out of bus stops, improving rider comfort, and providing transit amenity opportunities. Platform amenities elevate transit branding making the system more attractive to riders.
Drivers – Autos and Trucks	Lane reduction, 3 to 2 lanes, while maintaining turning capacity at intersections, would increase delay for drivers destined for downtown Oakland but operations would be manageable with intersections operating at automobile LOS C or better. Transit buses would stop at a bus stop to (un)load passengers at Adeline, Filbert, and Market Streets, where bus platforms would extend out to the travel lane for Line 62. The in-line bus stops are necessary to separate buses and bikes through bus stop areas. Service frequency on Line 62 is once every 20 minutes, and buses typically stop for 15 to 20 seconds, so most drivers would not be impacted by a stopped bus, particularly if the driver were in the travel lane closest to the median.
Parking	The on-street parking would generally remain on 7th Street except between Market and Castro Streets, where most of the parking would be eliminated. Some limited loss of on-street parking could occur along the corridor near driveways and intersections to ensure adequate sight lines for drivers turning to and from 7th Street.
Pedestrians	Sidewalks on the south side of 7th Street would have pedestrian lighting, a six-foot effective width, pedestrian wayfinding directing people to the Project, creating a more welcoming environment for pedestrians. Sidewalk tripping hazards and intersection and driveway daylighting would be corrected on both the north and south side of the street. The wider sidewalks provide more space for pedestrians to walk between the West Oakland BART station and the ballpark.

SOURCES: Fehr & Peers, 2020

2nd Street Corridor

The 2nd Street corridor extends through Jack London District connecting Brush and Oak Streets and serves bike riders, pedestrians, and transit riders. There are Class 2 Bike lanes, enhanced sidewalks where properties have been redeveloped, and transit stops near Washington Street, on Broadway at 2nd Street, and at the Amtrak Station. A set of base transportation improvements that would support access to the Project site on opening day of the ballpark are summarized below.

Base Set of Transportation Improvements – Ballpark Opening

- Provide a Transportation Hub and associated transit amenities primarily on the south side of 2nd Street between Martin Luther King Jr. Way and Clay Street. This Transportation Hub would connect to the ballpark via the proposed pedestrian and bicycle overcrossing and provide a nexus between transit, pedestrian, and bicycle routes. (Mitigation Measure TRANS-1c)
- Install a traffic signal on 2nd Street at Broadway as part of the Hub to facilitate transit, bicycle, and pedestrian movements to and through Broadway. (Mitigation Measure TRANS-1c)
- Reconstruct and upgrade the sidewalk and landscape on the south side of 2nd Street through the Hub, particularly between Jefferson and Clay Streets, to maximize the sidewalk width for pedestrians at the Hub before and after ballpark events. (Mitigation Measure TRANS-1c)

- Provide bike riders an alternative route to 2nd Street between Martin Luther King Jr. Way and Washington Street via the Class 1 Multi-Use Path on Embarcadero West. (Mitigation Measure TRANS-1c and TRANS-3a)
- Close the Class 2 Bike Lane gap on eastbound 2nd Street between Harrison and Alice Streets potentially converting the angle parking to either back-in angle or parallel parking. (Non-CEQA Recommendation)

The Transportation Hub on 2nd Street would connect to bus-only lanes on Broadway. Subject to extension and rerouting of AC Transit bus lines, on non-event days up to 20 buses per hour could use the Transportation Hub, increasing on event days up to 120 buses per hour. The Hub's core, because of its proximity to the ballpark, is anticipated to be between Martin Luther King Jr. Way and Clay Street and would be used by AC Transit while east and west of the core would be designated for event-day shuttle buses.

At opening day of the ballpark, the Transportation Hub on 2nd Street would likely be limited to transit, shared micromobility and "placemaking" amenities such as benches, shelters, lighting, signing, and real-time transit information that can be implemented within the available public right-of-way, i.e., the sidewalks because the land uses adjacent to the Hub are not currently planned for redevelopment.

Two bus stop designs are being considered: parallel curb stops and sawtooth (or angle) bus stops; a determination based on multimodal and parking needs will be made during the Hub's final design. Class 2 Bike Lanes are currently provided on 2nd Street between Brush and Oak Streets; however, bike lanes may prove incompatible with some Hub designs given right-of-way constraints. Regardless, an alternative to the 2nd Street bike route through the Hub will be provided at Embarcadero West via a Class 1 Multi-Use Path (Mitigation Measure TRANS-3), which may be preferred by riders, particularly during periods when shuttle buses operate at the Hub. **Table 4.15-15** summarizes the 2nd Street corridor user experience by mode after implementing the base set of transportation improvements listed above.

3rd Street Corridor

The 3rd Street corridor connects West Oakland BART station through Jack London District to Oak Street and serves bike riders, auto and truck drivers, and pedestrians. There are Class 2B Buffered Bike lanes west of Brush Street which extend to the West Oakland BART station, enhanced sidewalks where properties have been redeveloped, and the corridor accommodates overweight commercial trucks serving the Port and trucks serving the Produce Market. A set of transportation improvements have been identified that focus on closing sidewalk gaps in the vicinity of the Project site where pedestrians attracted to the pedestrian bridge over the railroad tracks (Mitigation Measure TRANS-3b) may walk.

TABLE 4.15-15
2ND STREET CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience
Bike Riders	The added traffic signal at Broadway would improve bicycle access to and from the corridor and movement across Broadway. The Class 2 Bike Lanes currently provided on the corridor may be congested as buses pull in and out of bus stops at the Transportation Hub, in which case Embarcadero West would be the alternative east-west bike route to 2nd Street through the Hub area between Martin Luther King Jr. Way and Washington Street. The bike lane gap closure near the Amtrak station would benefit bike riders traveling through Jack London District to the ballpark from the east.
Bus Riders	Buses would use 2nd Street as a connection between the Transportation Hub and bus-only lanes on Broadway. Rider comfort would improve because of wider sidewalks in constrained locations and additional amenities as part of the Hub. More bus routes would use the corridor as an endpoint or mid-route stop, facilitating smoother transfers and improving transit access. The added traffic signal at Broadway would improve transit vehicle turning to and from the corridor and movement across Broadway. The sawtooth bus stops under consideration would reduce the amount of space needed for buses on each block, improve comfort because of smoother bus operations, and improve bus stop visibility.
Drivers – Autos and Trucks	There would be minimal change to driver delay on 2nd Street on non-event days, and there would be auto and truck prohibitions on event days via traffic control personnel between Brush Street and Broadway. The added traffic signal at Broadway would, on non-event days, improve turning to and from the corridor and movement across Broadway. Widened sidewalks and intersection treatments would better separate pedestrians and motor vehicles and provide intersection features that generally make pedestrians more visible to drivers. 2nd Street is not a designated route for trucks to the Port.
Parking	On-street parking would be removed on the south side of 2nd Street between Martin Luther King Jr. Way and Clay Street to create the Transportation Hub. Depending on the Hub and Class 2 Bike Lane designs, parking may also be removed on the north side of 2nd Street. Parking on 2nd Street between Brush Street and Broadway could be prohibited on event days when 2nd Street is closed to automobile traffic.
Pedestrians	The landscape and placemaking opportunities with the Transportation Hub and sidewalk upgrades and gap closures enhance the corridor aesthetics for walking and improve the connections to the proposed pedestrian and bicycle bridge serving the Ballpark.

SOURCES: Fehr & Peers, 2020

Base Set of Transportation Improvements – Ballpark Opening

- 3rd Street at sidewalk gaps between Myrtle and Market Streets, and Brush and Clay Streets: Fill sidewalk gaps, including replacing angle / perpendicular parking with parallel parking where necessary. Provide minimum 6-foot effective width at obstacles for pedestrian path of travel while maintaining adequate cross-sectional width to accommodate the future Class 4 Protected Bike Lanes per the 2019 Bike Plan. (Mitigation Measure TRANS-3b)
- Upgrade the 3rd Street intersections at Brush Street and at Castro Street to include stop signs on all approaches. (Non-CEQA Recommendation)

Mitigation Measure TRANS-1b (i.e., Transportation Management Plan) includes traffic and/or parking control offices or other personnel acceptable to the City to manage pedestrian flows to and from the ballpark directing pedestrians to the primary corridors serving the Project site including 7th Street, Market Street, Martin Luther King Jr. Way, Washington Street, and Broadway. Ballpark event parking would also be prohibited by the plan within several blocks of the ballpark. Even so, some pedestrians such as those that use the pedestrian bridge over the railroad tracks (Mitigation Measure TRANS-3b) are expected to use local sidewalks near the ballpark site as they transition between the ballpark and local land uses and pedestrian corridors

to the BART stations, Downtown, Chinatown and West Oakland. Continuous pedestrian walkways on local streets between Market Street and Broadway would accommodate incidental project-related pedestrians before and after ballpark events.

I-880/5th Street/Adeline Street Corridor

Roughly 50% of the truck traffic to and from the Seaport during the weekday afternoon commute period uses the Adeline Street corridor and I-880 via the 5th and 6th Street corridors. The 5th and 6th Street corridors also serve as connections between I-880 and the Jack London District including the Project site. A set of base transportation improvements have been identified that focus on improving truck and automobile connections to the Seaport while also improving connections for drivers traveling between I-880 and the Jack London District including access to the Project site on opening day of the ballpark. Caltrans must approve design changes at the I-880 freeway off-ramp.

Base Set of Transportation Improvements – Ballpark Opening

- Restripe the I-880 southbound off-ramp with Union Street to include one left-turn lane, one through lane, and one right-turn lane; upgrade the traffic signal to allow right-turning traffic at the off-ramp to go at the same time as the left-turning traffic onto the on-ramp; and tighten the curb radius at the off-ramp to slow right turning traffic. (Non-CEQA Recommendation)
- Restripe eastbound 5th Street between Union Street and Adeline Street to provide two through lanes and one right-turn lane at Adeline Street; upgrade the 5th Street traffic signal with Adeline Street to allow eastbound 5th Street right-turning traffic to go at the same time as the northbound left-turning traffic. (Non-CEQA Recommendation)
- Install permanent signage on eastbound 5th Street directing drivers destined to Jack London District and the Project site to continue straight through the Adeline Street intersection. (Non-CEQA Recommendation)
- Include a blank-out sign on eastbound 5th Street in the median that directs drivers to continue straight through the Adeline Street intersection to the ballpark. The sign would be turned on two hours prior to events at the ballpark and remain on until one to two hours after the event starts. (Non-CEQA Recommendation)
- Reconfigure Adeline Street to provide two lanes in each direction from 7th Street to the Seaport with left-turn lanes at 7th and 5th Streets. (Non-CEQA Recommendation)
- Reconfigure Adeline Street at 3rd Street to provide a southbound left-turn lane from Adeline Street to eastbound 3rd Street while prohibiting left-turning traffic on northbound Adeline Street leaving the Seaport and providing curb extensions on the south side of 3rd Street on either side of Adeline Street. (Non-CEQA Recommendation)
- Upgrade and activate Adeline Street traffic signal at 3rd Street with signal phasing allowing two lanes in each direction on Adeline Street to operate concurrently for trucks accessing the Seaport, add signal ahead warning lights for northbound traffic approaching 3rd Street, and prohibit right turning traffic on red from 3rd Street. (Non-CEQA Recommendation)

This configuration would maximize motor vehicle flows exiting the freeway to 5th Street and Adeline Street serving drivers destined to the Seaport and Jack London District including the Project site. The additional lanes on Adeline Street would preclude Class 2 Bike Lanes from being implemented on Adeline Street between 3rd and 5th Streets. The mitigation measure

(Mitigation Measure TRANS-2a) would provide similar bike lanes on 7th Street connecting Mandela Parkway, Market Street and Martin Luther King Jr. Way so riders on Adeline Street can shift via 7th Street to other corridors to access the Jack London District, including the Project site. **Table 4.15-16** summarizes the user experience by mode after implementing the base set of transportation.

TABLE 4.15-16
I-880/5TH STREET/ADELINE STREET CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience
Bike Riders	The changes to Adeline Street to accommodate trucks to the Seaport would preclude planned bike lanes on Adeline Street between 5th and 3rd Streets. Bike riders on Adeline Street would have the option to use equivalent bike lanes on 7th Street to connect to Downtown, Chinatown, the Jack London District, including the ballpark, and to other north-south corridors. (Mitigation Measure TRANS-2a) and to travel east/west through the area. Local land uses in the immediate vicinity of Adeline Street south of 5th Street would only be accessible by bike if bikes mixed with motor vehicle traffic. Local land uses on 3rd Street could be accessed from Bike Lanes on either Mandela Parkway or Market Street.
Bus Riders	There are no buses operating on Adeline Street between 7th Street and the Seaport. There are bus stops on 7th Street at Adeline Street. Bus riders from these stops would have an improved comfort using the intersection because of the upgraded traffic signals, restriping, and associated intersection improvements associated with Mitigation Measure TRANS-2a.
Drivers – Autos and Trucks	The added lanes and upgraded traffic signal operations would minimize delay increases for drivers destined to the Seaport and Jack London District including the Project site, even with added traffic from the Project's non-ballpark development. The existing automobile LOS of B would worsen to C on event days and queues would be longer but contained between intersections. Signage on eastbound 5th Street would direct non-Port drivers away from Adeline Street and the Seaport access. The added lanes and upgraded traffic signals would improve driver turning to and from Adeline Street, making more efficient use of the existing curb-to-curb widths for trucks accessing the Seaport. Drivers leaving the Seaport would not be allowed to turn left at 3rd Street. Instead these drivers would need to turn left at 5th Street toward Mandela Parkway to access the continuation of 3rd Street that turns into Mandela Parkway.
Parking	On-street parking would be removed on Adeline Street between 5th and 7th Streets for the left turn lanes and buffered bike lanes. Parking along southbound Adeline Street approaching 3rd Street would also be removed.
Pedestrians	The upgraded intersections and traffic signals provide additional active transportation enhancements making pedestrians and drivers more visible to one another.

SOURCES: Fehr & Peers, 2020

Market Street Corridor

The Market Street corridor connects directly to the Project site and extends north into the City of Berkeley, where it becomes Sacramento Street. With 7th Street it is expected to be the primary route for pedestrians in West Oakland and passengers exiting the West Oakland BART Station to access the Project site. It also serves as the primary access for motor vehicle traffic to and from I-980 via 7th Street as well as to and from I-880 via 5th and 6th Streets. A set of base transportation improvements have been identified to accommodate the expected ballpark activities at opening day. Caltrans must approve design changes at the I-980 freeway off-ramp and under the freeway overpass and the CPUC must approve design changes associated with the railroad crossing.

Base Set of Transportation Improvements – Ballpark Opening

- Provide two motor vehicle lanes in each direction on Market Street between the Project site and 7th Street with left-turn lanes at select locations and consider removing the southbound

right-turn lanes at 7th and 6th Streets while maintaining the existing Class 2B Buffered Bike Lanes between 3rd and 7th Streets. (Non-CEQA Recommendation)

- Modify the landscape median between 6th and 7th Streets, potentially remove the median between 5th and 6th Streets, and remove on-street parking between 5th and 7th Streets to keep the existing Class 2B Buffered Bike Lanes. (Non-CEQA Recommendation)
- Install new traffic signals with signal communications on Market Street at the railroad tracks and at 3rd Street and prohibit northbound left-turning traffic onto 3rd Street with a signal protected southbound left-turn pocket. Install blank-out turn restriction signs on 3rd Street for the eastbound right-turn and the westbound left turn, to be activated by railroad preemption and two hours prior to and one to two hours after an event at the ballpark. Install a similar blank-out right turn restriction sign on northbound Market Street at 3rd Street. (Mitigation Measure TRANS-1e and Mitigation Measure TRANS-3a)
- Upgrade existing traffic signals at 5th, 6th, and 7th Streets to current design and operating standards including protected left-turn phasing where pockets are provided and signal communications to optimize motor vehicle flow particularly before and after events at the ballpark. Install blank-out right turn restriction sign on northbound Market Street at 5th Street that would be activated two hours prior to and one to two hours after an event at the ballpark. (Non-CEQA Recommendation)
- Add 3-inch yellow reflective sheeting to traffic signal backplates at the Market Street intersections and replace any existing 8-inch red signal heads with 12-inch signal heads. (Non-CEQA Recommendation)
- Upgrade the sidewalk on both sides of Market Street between 7th Street and the Project site to provide 8-foot clear space at sidewalk obstacles, maximize sidewalk waiting areas within 30 feet of intersections, provide pedestrian lighting, correct sidewalk tripping hazards, provide 15-foot north/south crosswalks, daylight intersections and driveways with red curb per City guidance and provide pedestrian wayfinding signage to direct patrons to the ballpark. In addition, widen the sidewalks on both sides of Market Street between 3rd Street and the Project site from face of existing curb to the public right-of-way to maximize the clear space sidewalk width accessing the site. (Mitigation Measure TRANS-1e)
- Enhance the freeway underpass with improved lighting, aesthetics, "placemaking," and wayfinding and relocate the fence line to maximize clear space at sidewalk obstacles while keeping the existing curb line. (Non-CEQA Recommendation)

The signal and communication upgrades would maximize motor vehicle flows to and from the Project site particularly before and after ballpark events, maintain trucking capacity on Market Street south of 7th Street, and optimize motor vehicle flow crossing the railroad tracks. The expanded pedestrian facilities would serve patrons walking between the ballpark and the West Oakland BART station via 7th Street. The recommended Transportation Improvements on Market Street would preclude bike lanes from being implemented on Market Street between the Project site and 3rd Street. The resulting mitigation measures would provide the planned bike lanes per the 2019 Bike Plan on Martin Luther King Jr. Way connecting the Project site with 7th Street (Mitigation Measure TRANS-2b) and on 7th Street connecting Mandela Parkway, Market Street, and Martin Luther King Jr. Way (Mitigation Measure TRANS-2a). **Table 4.15-17** summarizes the user experience by mode after implementing the Market Street corridor transportation improvement.

TABLE 4.15-17
MARKET STREET CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience Changes
Bike Riders	The bike lanes would be kept between 3rd and 7th Streets, and the upgraded intersections and traffic signals would provide protection from left-turning traffic and include safety enhancements to address crashes. The changes to Market Street to accommodate autos and trucks to the Project site and Schnitzer Steel would preclude the Bike Plan's proposed bike lanes on Market Street between 3rd Street and the Project site. Bike riders on Market Street would have the option to use bike lanes on 7th Street (Mitigation Measure TRANS-2a) to travel east/west to bike lanes on Martin Luther King Jr. Way (Mitigation Measure TRANS-2b) to access the Project site. Bike riders to local land uses on 3rd Street could still use the bike lanes on Market Street.
Bus Riders	There are no buses running on Market Street. However, there are bus stops on 7th Street at Market Street. Bus riders from these stops would have an improved comfort using the Market Street sidewalks to access the site and surrounding neighborhood.
Drivers – Autos and Trucks	The two lanes in each direction, left-turn lanes, and upgraded traffic signal operations on the Market Street corridor would minimize vehicle queue back up into adjacent intersections and improve turning to and from the corridor. The added traffic signals at Embarcadero West and at 3rd Street would improve motor vehicle operations crossing the railroad tracks and the left-turn prohibitions from Market Street onto westbound 3rd Street would direct traffic away from the Port's Adeline Street access. Blank-out signs would minimize auto-pedestrian and auto-bike conflicts before and after events and maintain 3rd Street traffic flow during railroad preemption.
Parking	On-street parking is generally prohibited along Market Street between the Project site and 7th Street. The remaining on-street parking would be removed to keep Class 2B Buffered Bike Lanes and accommodate placemaking through the freeway interchange area.
Pedestrians	The wider sidewalks and lighting and upgraded intersections and traffic signals provide added active transportation enhancements making pedestrians, bike riders, and drivers more visible to one another. The wider sidewalks provide more space for pedestrians to walk between the West Oakland BART station and the ballpark.

SOURCES: Fehr & Peers, 2020

Martin Luther King Jr. Way Corridor

The Martin Luther King Jr. Way corridor connects Downtown Oakland with the Project site and, along with Washington Street and Broadway, is expected to be a primary route for pedestrians to access the site from Downtown, 12th Street BART station, and Chinatown. It is also expected to be the primary access for bike riders since it connects with existing and planned east / west bike corridors including 2nd, 3rd, 7th, 9th and 14th Streets. The Martin Luther King Jr. Way corridor would also serve as a secondary Project access for motor vehicle traffic.

In collaboration with affordable housing partners, the City obtained an Affordable Housing and Sustainable Communities (AHSC) Program grant for improvements to Martin Luther King Jr. Way. The grant project will reconfigure the Martin Luther King Jr. Way corridor between 7th Street and San Pablo Avenue by removing one motor vehicle lane in each direction and providing Class 2B Buffered Bike Lanes. Construction will be complete by 2023. In addition to work to be completed pursuant to the AHSC grant, a base set of improvements to support access to the Project site on opening day of the ballpark are summarized below, together with a second set of improvements to address latter phases of the Project development. Caltrans must approve design changes under the freeway overpass and the CPUC must approve design changes associated with the railroad crossing.

Base Set of Transportation Improvements – Ballpark Opening

- Remove one motor vehicle lane in each direction to provide a Class 4 Separated Bike Lane with raised features (i.e., landscape opportunities to distinguish between the bike lanes and motor vehicle lanes) from the Project site to 7th Street and the 8th Street cut-off. Provide a signal protected northbound left-turn lane for vehicles at 8th Street and signal protected southbound left-turn lanes for vehicles at 7th and 5th Street. If the AHSC grant project is not constructed the bike lanes would continue as Class 2B Buffered Bike Lanes to 14th Street. (Mitigation Measure TRANS-2b)
- Install new traffic signals with signal communications on Martin Luther King Jr. Way at the railroad tracks and at 2nd and 3rd Streets. Prohibit left turning traffic to 2nd Street, provide bike signal phasing at 2nd Street, and provide signalized protected left turn pockets at 3rd Street. Install blank-out turn restriction signs on 3rd Street for the eastbound right-turn and the westbound left turn to be activated by railroad preemption and two hours prior to and one to two hours after an event at the ballpark and install a similar blank-out right turn restriction signs on northbound Martin Luther King Jr. Way at 2nd and 3rd Streets. (Mitigation Measure TRANS-3a)
- Add 3-inch yellow reflective sheeting to traffic signal backplates at the Martin Luther King Jr. Way intersections with the railroad tracks as well as the signalized intersections up to 14th Street, if it has not already been installed. (Non-CEQA Recommendation)
- Upgrade the sidewalk on both sides of Martin Luther King Jr. Way between 12th Street and the Project site to provide 8-foot clear space at sidewalk obstacles on the east side of the street (6-foot on the west side); maximize sidewalk waiting areas within 30 feet of intersections; provide pedestrian lighting as necessary; correct sidewalk tripping hazards; provide 15-foot north/south crosswalks; daylight intersections and driveways with red curb per City guidance; and provide pedestrian wayfinding signage to direct patrons to the ballpark. Last, remove the sidewalk on the west side of the street between the Project site and 2nd Street to minimize pedestrian crossing locations at the railroad tracks. (Mitigation Measure TRANS-1e)

Additional Transportation Improvements – Non-Ballpark Development

As the non-ballpark development occurs, there would be greater demands for traffic management along the Martin Luther King Jr. Way corridor on non-event days. The following transportation improvements are recommended when motor vehicle trips across the railroad tracks at Martin Luther King Jr. Way exceed 300 peak hour vehicles in one direction. This level of traffic demand could result in traffic backing up to adjacent intersections along Martin Luther King Jr. Way, and would likely be triggered after about 68 percent of the non-ballpark development on the Project site is occupied. The following measures are recommended as non-CEQA improvements to manage traffic congestion along the corridor. The measures would not induce more traffic generation and would not increase corridor motor vehicle capacity.

- Upgrade traffic signals to provide a signal protected northbound left turn lane on Martin Luther King Jr. Way at 12th Street and potentially a southbound left turn at 11th Street; prohibit left turning traffic at 2nd, 4th, and 6th Streets; and upgrade existing traffic signals between the site and 12th Street to current design and operating standards, as needed, including signal communications to optimize motor vehicle flow particularly before and after events at the ballpark. (Non-CEQA Recommendation)

- Upgrade traffic signals at 5th and 7th Streets to current design and operating standards, as needed, including blank-out turn restriction signs on Martin Luther King Jr. Way northbound for the right turns at 5th Street and 7th Street that would be activated two hours prior to and one to two hours after an event and at the ballpark. (Non-CEQA Recommendation)

The bike lanes on Martin Luther King Jr. Way would connect the Project site to existing and future east/west bike corridors such as 2nd, 3rd, 7th/8th, 9th, and 14th Streets serving West Oakland, Downtown and Chinatown and with Mitigation Measure TRANS-2a provide a continuous bike connection between the West Oakland BART station and the ballpark. As required by Mitigation Measure TRANS-3a, the signal and communication upgrades would optimize motor vehicle flow crossing the railroad tracks particularly before and after ballpark events potentially minimizing the need for traffic and/or parking control officers or other personnel acceptable to the City. The base and additional improvements would preclude on-street parking between:

- Railroad tracks and 2nd Street (prohibit parking both sides to expand sidewalks)
- 2nd and 3rd Streets (prohibit parking both sides to provide a 3rd Street left-turn lane and to expand sidewalk on east side)
- 3rd and 4th Streets (prohibit parking west side to provide 3rd Street left-turn lane)
- 4th and 5th Streets (prohibit parking west side to expand sidewalk)
- 5th and 6th Streets (prohibit parking both sides to provide 5th Street left-turn lane and expand east side sidewalk)
- 7th and 8th Streets (prohibit parking both sides to provide 7th and 8th Street left-turn lanes)
- 11th and 12th Streets (prohibit parking both sides to provide 11th and 12th Street left-turn lanes)

Table 4.15-18 summarizes the user experience by mode after implementing the Martin Luther King Jr. Way corridor improvements for both the base and additional measures.

Washington Street Corridor

Washington Street connects Downtown Oakland with the Project site via Water Street. While most pedestrians coming from Downtown, 12th Street BART station, and Chinatown would use Broadway and Water Street to access the ballpark, some may prefer walking along Washington Street because it is less trafficked than Broadway and connects through Old Oakland. Accordingly, a set of base transportation improvements has been identified to accommodate ballpark activities at opening day while also responding to long-term multimodal needs to serve the local land uses along Washington Street. The ballpark's need for these pedestrian improvements is dependent upon event size and how many pedestrians choose to walk on Washington Street over Broadway. For non-event days and ballpark events with up to 21,000 attendees, the existing pedestrian infrastructure on Washington Street is anticipated to be adequate to meet pedestrian demand.[18] Therefore, as an alternative to installation of the base set

[18] Each sidewalk on Washington Street can handle up to 2,300 walkers per hour. Before and after a 21,000 attendee event at the ballpark, up to 3,800 people in a single hour could walk along Washington Street, and would distribute to either the west side or east side sidewalk. Assuming an unbalanced distribution to each sidewalk we estimate that up to 2,300 people could be concentrated along one sidewalk for an event with 21,000 attendees. Sidewalk demands greater than 2,300 people would necessitate Traffic Control Officers to manage pedestrian flows.

TABLE 4.15-18
MARTIN LUTHER KING JR. WAY CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience Changes
Bike Riders	The Class 4 Protected Bike Lanes would provide the greatest comfort for bike riders in the street by providing separation from moving motor vehicles. Upgraded intersections and traffic signals slow turning motor vehicle traffic and provide protection from left-turning traffic. Bike lanes address some of the more common bike crashes in Oakland. The bike lanes would be a minimum of 6 feet wide, which can accommodate up to 150 bike riders per hour. During a capacity event with 35,000 fans, speeds in the bike lanes would be constrained by the bicycle lane width.
Bus Riders	There are no buses operating on Martin Luther King Jr. Way and there are no bus stops at the cross streets. However, 2nd Street at Martin Luther King Jr. Way is proposed to be a Transportation Hub and some transit users from the hub would use Martin Luther King Jr. Way to access the Project site and surrounding neighborhoods. Bus riders from the Hub would have an improved comfort using the Martin Luther King Jr. Way sidewalks to access the site and surrounding neighborhoods.
Drivers – Autos and Trucks	The added traffic signals at the railroad crossing as well as 2nd and 3rd Streets would improve motor vehicle operations crossing the tracks. There would be a change to driver delay on the corridor, but improvements including left-turn lanes, blank-out turn restriction signs, and signal coordination would help to minimize driver delay. The bike lanes would reduce auto-bike conflicts and delays caused by mixing motor vehicle and bike traffic. Drivers would experience automobile LOS D or better along the corridor, including on event days. With the Project, fewer trucks would use Martin Luther King Jr. Way to access the Project site since the site would no longer be a freight facility. As a result, there would likely be fewer trucks on Martin Luther King Jr. Way, particularly between Embarcadero West and 8th Street.
Parking	On-street parking changes would be substantial along the Martin Luther King Jr. Way corridor. Most of the lost parking would be between the railroad tracks and 8th Street where 10 of the 14 block faces would have parking losses.
Pedestrians	The wider sidewalks provide more space for pedestrians to walk and lighting and correcting tripping hazards make the corridor more comfortable for pedestrians. The bike lanes enhance the corridor for walking providing greater separation from moving motor vehicles. The upgraded intersections and traffic signals, including blank-out turn restriction signs, provide additional active transportation enhancements making pedestrians, bike riders, and drivers more visible to one another.

SOURCES: Fehr & Peers, 2020

of pedestrian improvements listed below, traffic and/or parking control officers (or other personnel acceptable to the City) may be provided before and after ballpark events that exceed this threshold to facilitate the safe and efficient flow of people to the ballpark. Further, if traffic control is utilized in lieu of improvements, pedestrian flows on Washington Street shall be monitored and evaluated pursuant to the TMP and the threshold adjusted as needed to ensure pedestrian safety and comfort. Finally, pedestrian improvements, if any, to be completed for the Howard Terminal project would be coordinated with the City's final design plans for Washington Street Sidewalk Improvement Project between 7th and 9th Streets. Caltrans must approve design changes under the freeway overpass and the CPUC must approve design changes associated with the railroad crossing.

Base Set of Transportation Improvements – Ballpark Opening

- Upgrade Washington Street sidewalks to provide 8-foot clear space at sidewalk obstacles, maximize sidewalk waiting areas within 30 feet of intersections, provide pedestrian lighting as necessary, correct sidewalk tripping hazards, provide 15-foot north/south crosswalks, daylight intersections and driveways with red curb per City guidance and provide pedestrian wayfinding signage to direct patrons to the ballpark. (Mitigation Measure TRANS-1e)

- Curb extensions may be necessary at several locations where 30-foot sidewalk waiting areas at intersections along Washington Street cannot be provided. Locations include the northwest and northeast corners at Embarcadero West; northwest corner at 2nd Street; northeast corner of 7th Street; northwest, southwest and southeast corners of 8th Street; and southwest corner of 9th Street. (Mitigation Measure TRANS-1e)
- Widen Washington Street sidewalks to provide 8-foot clear space at sidewalk obstacles between 5th and 6th Streets by removing on-street parking and provide pedestrian lighting, as necessary; upgrade the existing traffic signals to current design and operating standards for pedestrian features; add 3-inch yellow reflective sheeting to signal backplates; and replace any existing 8-inch signal heads with 12-inch signal heads. (Mitigation Measure TRANS-1e)
- Remove the northbound right-turn lane on Washington Street at 7th Street, close the Class 2 bike lane gap between Embarcadero West and 2nd Street, and install all-way stop control at the Washington Street and 4th Street intersection to provide a continuous Class 2 bike lane between Embarcadero West and 7th Street; north of 7th Street bike riders would share the road. (Mitigation Measure TRANS-2c)
- Install blank-out right turn restriction signs at 5th Street and 7th Street that would be activated two hours prior to a ballpark event and one to two hours after the event. (Non-CEQA Recommendation)

Table 4.15-19 summarizes the user experience by mode after implementing the Washington Street corridor Transportation Improvements.

TABLE 4.15-19
WASHINGTON STREET CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience (If Improvements are Constructed)
Bike Riders	Class 2 bike lanes would provide continuous facilities between Embarcadero West and 7th Street as an alternative to similar facilities on Broadway. The intersections would be upgraded with features to improve sight lines and visibility between bike riders, pedestrians, and motor vehicle drivers.
Bus Riders	There are no buses running on Washington Street. In so far as bus riders have destinations on Washington Street the enhanced sidewalks would improve comfort.
Drivers – Autos and Trucks	There would be no change to driver delay on the corridor but sight line improvements at intersections and driveways would increase visibility for drivers turning to and from Washington Street.
Parking	On-street parking losses would be limited to under the freeway between 5th and 6th Streets and one parking space would be lost at each curb extension.
Pedestrians	The upgraded intersections provide additional active transportation enhancements making pedestrians, bike riders, and drivers more visible to one another. The wider sidewalks provide more space for pedestrians to walk.

SOURCES: Fehr & Peers, 2020

Broadway Corridor

Broadway connects the 12th Street BART station, Chinatown, and Downtown Oakland with the Jack London District, including the Project site, via Water Street. The Broadway corridor is likely to be the primary pedestrian and transit corridor serving Project residents and visitors. The City recently converted a motor vehicle lane each way on Broadway to bus only lanes between 11th

and 20th Streets for bus only use, connecting AC Transit riders with the 12th Street BART station. The City's adopted and funded 2019 3-Year Paving Plan includes repaving and striping the most southerly stretch of Broadway, from the current terminus of the bus only lanes through downtown at 11th Street south to Embarcadero. In addition to the City's project, a set of base transportation improvements has been identified to accommodate ballpark activities at opening day. The set of base transportation improvements and the City's resurfacing project would be coordinated as part of implementation. Caltrans must approve design changes under the freeway overpass and at the 5th and 6th Street intersections and the CPUC must approve design changes at the railroad crossing.

Base Set of Transportation Improvements – Ballpark Opening

- Unless transit lanes have already been installed, remove one motor vehicle lane in each direction to provide bus-only lanes, with pull-out bus stops considered as a design option. Concentrate bus stops between 3rd and 4th Streets and 8th and 10th Streets where on-street parking and commercial loading would be prohibited; maintain existing roadway capacity through the 5th and 6th Street intersections by removing the median, upgrading traffic signals, and prohibiting northbound left turning traffic at 6th Street; modify traffic signals to provide transit signal priority between 2nd and 11th Streets; add 3-inch yellow reflective sheeting to signal backplates; and replace any existing 8-inch signal heads with 12-inch signal heads. (Mitigation Measure TRANS-1d)
- Implement a southbound signal protected left-turn lane at 7th Street serving Chinatown District and prohibit northbound left turn traffic at 8th Street to facilitate vehicle movements and separate left turning traffic from pedestrian crossings at both intersections or an alternative approved by the City. (Mitigation Measure TRANS-1d and Mitigation Measure TRANS-1e)
- Install new traffic signals at 2nd and 4th Streets; implement left-turn lanes and protected signal phasing at each intersection to separate left turning traffic from pedestrian crossings or an alternative approved by the City. (Mitigation Measure TRANS-1d and Mitigation Measure TRANS-1e)
- Consistent with the Oakland Alameda Access Project remove the separate westbound right-turn lane from 6th Street at Broadway bringing the movement to the signalized intersection unless already constructed by the Oakland Alameda Access Project. (Mitigation Measure TRANS-1e).
- Remove the public art at the back of the sidewalks between 5th and 6th Street to expand the available sidewalk space for patrons walking to and from the ballpark and enhance the freeway underpass with improved lighting, aesthetics, "placemaking," and wayfinding (Non-CEQA Recommendation)
- Upgrade Broadway sidewalks between 12th Street BART station and Water Street to provide minimum 8-foot clear space at sidewalk obstacles; maximize sidewalk waiting areas within 30 feet of intersections; provide pedestrian lighting as necessary; correct sidewalk tripping hazards; provide 15-foot north/south crosswalks; daylight intersections and driveways with red curb per City guidance; and provide pedestrian wayfinding signage to direct patrons to the ballpark. (Mitigation Measure TRANS-1e)

Bus-only lanes with transit signal priority would connect the 12th Street BART station to Chinatown and the Jack London District, providing high quality, reliable transit facilities to make

transit more attractive for riders while providing an effective system to transport people along the Broadway corridor to the Project site. Bus stops designed as bus pull-outs would minimize bus bunching and a breakdown in the bus-only lane operation and maximize express bus operations. In-line bus stops (i.e., buses stop in the bus-only lane) maximize the area for transit amenities with less encroachment into the sidewalk space. Design decisions on the bus-only lane and bus stop designs would be determined through a City review process including consultation with AC Transit and other stakeholders. The expanded pedestrian facilities serve patrons using transit as well as walking between the Jack London District, Chinatown and the 12th Street BART station.

The recommended Transportation Improvements on Broadway would preclude bike lanes from being implemented on Broadway between 4th and 6th Streets. The resulting mitigation measures would complete planned bike lanes on Washington Street, per the 2019 Bike Plan, connecting Embarcadero West with 10th Street (Mitigation Measure TRANS-2c). Washington Street is less trafficked, with slower speeds than Broadway, and there are no buses running on Washington Street, so there would be no bus-bike conflicts. **Table 4.15-20** summarizes the user experiences by mode of the Broadway corridor transportation improvement.

TABLE 4.15-20
BROADWAY CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience
Bike Riders	Due to right-of-way limitations on Broadway following installation of bus only lanes south to Embarcadero, bike riders will be directed to Washington Street, where bike lanes would be provided per the Bike Plan with connections to the future east/west primary bike corridors at 2nd, 3rd, 6th, and 9th Streets. While Washington Street would not provide buffered bike lanes, traffic volumes and speeds on Washington Street are lower than Broadway, and there are no buses and fewer trucks on Washington Street, making it an attractive alternative for bike riders.
Bus Riders	The bus lanes reduce delay and improve reliability on Broadway for bus riders. The consolidated bus stops between 3rd and 4th Streets and between 8th and 10th Streets help riders locate the correct bus stop. Bus pull-outs, if provided, would help to ensure that buses in the bus lane are not delayed by buses stopping to (un)load passengers and ensures that express buses, if provided, travel through the area without delay. The designated lanes along with improved reliability elevate transit branding, making the system more attractive to riders. Today, AC Transit lines 12, 18, 19, 20, 51A, 72, 72M, 72R, 96, and the Broadway Shuttle would use the bus-only lanes, representing 35 to 40 buses per hour in Downtown and Chinatown and about 20 buses per hour in Jack London District. On event days, up to 36 shuttles per hour could also utilize the bus only lanes, connecting ballpark patrons with Chinatown and Downtown parking and the 12th Street BART station.
Drivers – Autos and Trucks	There would be a change to driver patterns on the overall Broadway corridor once the bus-only lanes are complete. Drivers traveling through the area to I-880 would generally shift to using I-980 and one of the east/west corridors to access downtown. Local drivers are not expected to divert to other streets but would continue to use Broadway to access Downtown, Chinatown, and Jack London. Driving through the 5th and 6th Street intersections for local drivers would be improved as freeway-destined drivers shift to I-980. Signal protected left turn lanes at 2nd and 4th Street, if provided, would improve local access to Jack London District while protecting pedestrian crossings and the left-turn lane at 7th Street would improve access to Chinatown District while protecting pedestrians.
Parking	On-street parking losses would be limited to blocks with bus stops or left-turn lanes and between 4th and 7th Streets to maintain motor vehicle capacity through the freeway interchange at 5th and 6th Streets.
Pedestrians	The upgraded intersections provide additional active transportation enhancements making pedestrians and drivers more visible to one another. The wider sidewalks provide more space for pedestrians to walk. The signal protected left turns at select intersections would separate pedestrians from left turning traffic.

SOURCES: Fehr & Peers, 2020

Jefferson Street and Clay Street Corridors

Jefferson and Clay Streets are local streets serving Jack London District and because of their proximity to the Transportation Hub are likely to be closed to motor vehicle traffic between 2nd and 3rd Streets when there are ballpark events. A set of base transportation improvements have been identified to accommodate ballpark activities at opening day. As an alternative to the improvements, provide traffic and/or parking control officers or other personnel acceptable to the City before and after ballpark events to facilitate the safe and efficient flow of people using Jefferson and Clay Streets to the ballpark. The CPUC must approve design changes at the railroad crossing.

Base Set of Transportation Improvements – Ballpark Opening

- Upgrade pedestrian facilities serving the pedestrian bridge over the railroad tracks to at a minimum correct sidewalk tripping hazards, and daylight intersections and driveways with red curb per City guidance. Consider constructing concrete sidewalks where decomposed granite is provided. (Mitigation Measure TRANS-3b)
- Expand the effective sidewalk width by removing on-street parking on the west side of Clay Street between Embarcadero West and 2nd Street. (Mitigation Measure TRANS-1c)
- Provide all-way stop controls along Jefferson and Clay Streets at 2nd, 3rd, and 4th Streets. (Non-CEQA Recommendation)

Mitigation Measure TRANS-1b (i.e., Transportation Management Plan) includes traffic and/or parking control officers or other personnel acceptable to the city to manage pedestrian flows between the ballpark, transportation hub, and the primary pedestrian streets serving the ballpark i.e., Market Street, Martin Luther King Jr. Way, Washington Street, and Broadway. Similarly, ballpark event parking would be prohibited by the plan within several blocks of the ballpark and some local streets may be closed to motor vehicle traffic. Even so, some pedestrians such as those that use the pedestrian bridge over the railroad tracks (Mitigation Measure TRANS-3b) are expected to use local sidewalks near the ballpark site as they transition between the ballpark and local land uses and primary pedestrian corridors to the BART stations, Downtown, Chinatown, and West Oakland. The pedestrian enhancements on Jefferson and Clay Streets respond to this anticipated behavior. **Table 4.15-21** summarizes the consequences of the Jefferson Street and Clay Street corridor transportation improvements.

Embarcadero West Corridor

Embarcadero West extends from Schnitzer Steel, west of Market Street, through Jack London Square to Oak Street. Between Clay and Webster Streets there is an active railroad running down the middle of the street with no physical separation between the railroad tracks and lanes where motor vehicles operate. The Alameda CTC recently completed a railroad crossing prioritization study for all crossings in Alameda County and the railroad crossings through Jack London District i.e., Market Street, Martin Luther King Jr Way, Jefferson Street, Clay Street, Washington Street, Broadway, Franklin Street, Webster Street, and Oak Street were categorized as Tier 1 crossings the highest priority for improvement to address safety. The base transportation improvements identified to accommodate ballpark activities at opening day include a subset of the improvements contemplated in the Alameda CTC prioritization study. The CPUC must approve design changes along the railroad corridor.

TABLE 4.15-21
JEFFERSON STREET AND CLAY STREET CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience
Bike Riders	The sight line improvements at intersections and driveways would increase visibility between bike riders, pedestrians, and motor vehicle drivers.
Bus Riders	The enhanced and continuous sidewalks on Jefferson and Clay Streets would enhance access and comfort for bus riders to the Transportation Hub on 2nd Street.
Drivers – Autos and Trucks	There would be no change to driver delay on the corridor on non-game days, but sight line improvements at intersections and driveways would increase visibility for drivers turning to and from Jefferson and Clay Streets. Except for local access, auto and truck traffic would be restricted on event days.
Parking	On-street parking would be maintained on Jefferson and Clay Streets except on the west side of Clay Street between the railroad tracks and 2nd Street.
Pedestrians	The upgraded intersections and driveways with improved sight lines make pedestrians and drivers more visible to one another.

SOURCES: Fehr & Peers, 2020

Base Set of Transportation Improvements – Ballpark Opening

- Install fencing on either side of the railroad tracks between Broadway and Schnitzer Steel with at-grade crossing improvements at Market Street, Martin Luther King Jr. Way, Jefferson Street, Clay Street, Washington Street, and Broadway as well as a pedestrian and bike bridge serving the ballpark. (Mitigation Measure TRANS-3a and Mitigation Measure TRANS-3b)
- The portion of Embarcadero West that is south of the active UPRR tracks and between Martin Luther King Jr. Way to Washington Street (and potentially to Broadway) would be physically separated from the railroad tracks by a fence to accommodate a multi-use path. The multi-use path would replace the vehicle street that exists today (emergency vehicles would be accommodated to the extent feasible). The fence line separating the railroad tracks and Embarcadero would be offset from the active track or third track by approximately 10 feet, or the minimum allowable by UPRR. The multi-use path would be up to 30 feet wide between the fence and the existing buildings if the fence is offset from the active track. The portion of Embarcadero between Washington Street and Broadway could also accommodate a multi-use path between the fence and the existing buildings, to the extent feasible, if the existing 12-foot wide vehicle lane were combined with the 8-foot wide sidewalk. Embarcadero West that is on the north side of the railroad would remain one-way westbound with forced right turns at Jefferson, Clay, and Washington Streets as well as at Broadway. (Mitigation Measure TRANS-3a)

On-street parking would be removed along Embarcadero West and the parking on the Jefferson Street stub would be eliminated. These parking spaces are currently primarily used by existing Howard Terminal tenants and employees of the Vistra Power Plant and related facilities. Vehicle access to the Vistra Plant could be via an extension of Water Street at Clay Street or driveway easement and used infrequently solely for site access. **Table 4.15-22** summarizes the user experiences by mode after implementing the Embarcadero West corridor transportation improvement.

TABLE 4.15-22
EMBARCADERO WEST CORRIDOR TRANSPORTATION IMPROVEMENTS – USER EXPERIENCE

Road User	User Experience
Bike Riders	The multi-use path would provide a low stress connection between Martin Luther King Jr. Way and Washington Street and potentially to Broadway with connecting opportunities to bike lanes on Washington Street, Clay Street, and Martin Luther King Jr. Way.
Bus Riders	No change.
Drivers – Autos and Trucks	Travel on eastbound Embarcadero West between Martin Luther King Jr. Way and Broadway would be prohibited. Drivers who currently use the corridor from the Schnitzer Steel site would shift to streets to the north, such as 3rd Street, but a substantial amount of traffic on eastbound Embarcadero West would be eliminated because the corridor primarily serves Howard Terminal tenants, which would be removed from the site. Drivers using westbound Embarcadero West who currently use the corridor to travel through the area, or turn left, would shift to 3rd Street and those traveling straight across the railroad tracks would continue to do so.
Parking	The on-street parking spaces would be removed between Martin Luther King Jr. Way and Clay Street as well as the parking on the Jefferson Street stub. These spaces are primarily used by Howard Terminal tenants and adjacent businesses and to the extent that this parking is not replaced drivers would park in the Washington Street parking garage.
Pedestrians	The multi-use path would provide a low-stress connection between Martin Luther King Jr. Way and Washington Street and potentially Broadway as an alternative to Water Street.

SOURCES: Fehr & Peers, 2020

BART Wayfinding with I-880 Underpass Enhancements

The BART wayfinding program would include pedestrian enhancements connecting the three BART stations with the ballpark and is a Non-CEQA recommendation to enhance the pedestrian experience thereby attracting more people to walk to the ballpark. Wayfinding would be incorporated into the 7th Street and Market Street corridors connecting the West Oakland BART station with the ballpark. Wayfinding for the 12th Street BART station would be provided on Broadway and potentially Washington Street directing pedestrians to the ballpark. Wayfinding for the Lake Merritt BART station would be provided on 8th Street through Chinatown which would also include pedestrian walk time adjustments at traffic signals, connecting to Broadway and/or Washington Street. The wayfinding program would also enhance the freeway underpasses with improved lighting, aesthetics, and "placemaking" so that the underpasses are more inviting to pedestrians walking to the ballpark. Caltrans must approve design changes under the freeway overpasses.

Collision Analysis

City's *Transportation Impact Review Guidelines* requires an evaluation of the most recent five years of vehicle, pedestrian, and bicycle collision data for all intersections plus road segments in proximity to the Project site. Following the City's *Transportation Impact Review Guidelines* guidance, 76 intersections and 52 road segments were considered in the collision analysis and the five-year history (January 1, 2012 to December 31, 2016) of collision data was obtained from the Statewide Integrated Traffic Records System (SWITRS) and evaluated. The detailed evaluation is provided in the technical memorandum *Howard Terminal – Collision History Analysis,* which is included in Appendix TRA.

In the five-year period, there were 912 reported collisions at the intersections and 15 collisions on the road segments. A crash rate analysis[19] was conducted to determine which intersections and road segments experienced high crash rates when compared to similar intersection and segment types within the analysis population. City's *Transportation Impact Review Guidelines* indicates that intersections and roadway segments with collision frequency greater than the predicted frequency should have their collision trends and potential roadway or intersection modification evaluated in greater detail to determine if the Project could influence the frequency.

Recommended transportation improvements were developed referencing the Federal Highway Administration's Crash Modification Factors Clearinghouse (n.d.), which uses a 5-STAR rating system to rank the effectiveness of each Crash Modification Factor (CMF). Six CMFs were considered from the clearinghouse and each has either a 4- or 5-STAR rating:

- Converting a minor-road stop control to all-way stop control (CMF #1)
- Install a traffic signal (CMF #2)
- Illumination (CMF #3)
- Road diet from 4 lanes to 3 or 2 lanes (CMF #4)
- Add 3-inch yellow reflective sheeting to signal backplates (CMF #5)
- Replace 8-inch red signal heads with 12-inch heads (CMF #6)

The following eleven intersections were identified for treatments and the treatments are listed along with an explanation of how the treatments would be accomplished. In all but three instances, the intersection treatments would be incorporated into corridor transportation improvements discussed in the previous section where required as mitigation measures or for recommended improvements if adopted by the City. For the three intersections not located on a corridor with transportation improvements, recommended treatments are identified for City consideration. For reference, the intersection numbers are reflected in Figure 4.15-1. The analysis found two road segments, both on Embarcadero West, that were identified for treatment, but the Project would convert the segments to a multi-use path. The detailed evaluation is provided in the technical memorandum *Howard Terminal – Collision History Analysis*, which is included in Appendix TRA.

- Market Street & 3rd Street (#7): Install a traffic signal: Signalize the intersection with permitted east/west phasing, a protected southbound left-turn phase, and left-turn prohibition for northbound left-turns. (CMF #2). Add 3-inch yellow reflective sheeting to signal backplates (CMF #5). These improvements are included in Mitigation Measure TRANS-3a. This intersection was previously identified as part of the City's High-Injury Network.
- Market Street & 5th Street (#8): Evaluate luminance using lighting criteria published by Illuminating Engineering Society (IES). Or the City may use its own lighting design criteria. (CMF #3). Add 3-inch yellow reflective sheeting to signal backplates (CMF #5) and replace existing 8-inch red signal heads with 12-inch signal heads (CMF #6). These improvements are included in the Non-CEQA Recommendations for Market Street.

[19] *Highway Safety Manual*, Part B, Chapter 4, Section 4.4.2.5 (American Association of State Highway and Transportation Officials, 2010).

Other measures to consider include improving signal visibility, adding overhead signal heads, and installing high visibility crosswalks and bicycle lane markings through the intersection. These considerations do not have 4- and 5-star ratings and so there is less confidence in the results of the studies that produced their CMF. This intersection was previously identified as part of the City's High-Injury Network.

- Brush Street & 3rd Street (#20): Convert minor-road stop control to all-way stop control: Install stop signs at all intersection approaches. (CMF #1). This improvement is included in the Non-CEQA Recommendations for 3rd Street.

- Brush Street & 17th Street (#27): Add 3-inch yellow reflective sheeting to signal backplates at the Brush Street southbound approach. (CMF #5). Replace the 8-inch red signal heads with 12-inch signal heads at the Brush Street southbound approach. (CMF #6). This is an additional non-CEQA Recommendation beyond those previously identified in the *Off-Site Transportation Improvements* section.

  Other measures to consider include improving signal visibility, evaluating red clearance intervals, and installing an additional signal head(s). These considerations do not have 4- and 5-Star ratings and so there is less confidence in the results of the studies that produced their CMF. This intersection was previously identified as part of the City's High-Injury Network.

- Brush Street & 18th Street (#28): Add 3-inch yellow reflective sheeting to signal backplates at the Brush Street southbound approach. (CMF #5). Replace 8-inch red signal heads with 12-inch signal heads at the Brush Street southbound approach. (CMF #6). This is an additional non-CEQA Recommendation beyond those previously identified in the *Off-Site Transportation Improvements* section.

  Other measures to consider include improving signal visibility, evaluating red clearance intervals, installing an additional signal head(s), and installing high visibility crosswalks. These considerations do not have 4- and 5-Star ratings and so there is less confidence in the results of the studies that produced their CMF. This intersection was previously identified as part of the City's High-Injury Network.

- Martin Luther King Jr. Way & 7th Street (#44): Road diet from 4- to 3-lanes (CMF #4). Add 3-inch yellow reflective sheeting to signal backplates (CMF #5) and replace existing 8-inch red signal heads with 12-inch signal heads (CMF #6). These improvements are included in Mitigation Measure TRANS-2b.

  Other measures to consider include improving signal visibility, adding overhead signal heads, evaluating red clearance intervals, installing high visibility crosswalks and bicycle lane markings through the intersection if bike lanes are provided with the road diet. These considerations do not have 4- and 5-Star ratings and so there is less confidence in the results of the studies that produced their CMF.

- Martin Luther King Jr. Way & 8th Street (#45): Road diet from 4- to 3-lanes (CMF #4). Add 3-inch yellow reflective sheeting to signal backplates (CMF #5) and replace existing 8-inch red signal heads with 12-inch signal heads (CMF #6). The road diet would be completed pursuant to the AHSC grant. The other improvements are included in Mitigation Measure TRANS-2b.

  Other measures to consider include improving signal visibility, adding overhead signal heads, evaluating red clearance intervals, installing high visibility crosswalks and bicycle lane markings through the intersection if bike lanes are provided with the road diet. These considerations do not have 4- and 5-Star ratings and so there is less confidence in the results of the studies that produced their CMF.

- Martin Luther King Jr. Way & 11th Street (#47): Road diet from 4- to 3-lanes (CMF #4). Add 3-inch yellow reflective sheeting to signal backplates (CMF #5) and replace existing 8-inch red signal heads with 12-inch signal heads (CMF #6). The road diet would be completed pursuant to the AHSC grant. The other measures are included in the Non-CEQA Recommendations for Martin Luther King Jr. Way.

  Other measures to consider include improving signal visibility, adding overhead signal heads, evaluating red clearance intervals, installing high visibility crosswalks and bicycle lane markings through the intersection if bike lanes are provided with the road diet. These considerations do not have 4- and 5-Star ratings and so there is less confidence in the results of the studies that produced their CMF.

- Martin Luther King Jr. Way & 14th Street (#49): Road diet from 4- to 3-lanes (CMF #4). Add 3-inch yellow reflective sheeting to signal backplates at the 14th Street northbound approach. (CMF #5). Replace 8-inch red signal heads with 12-inch signal heads at the 14th Street northbound approach. (CMF #6). The road diet would be completed pursuant to the AHSC grant. The other measures would be additional non-CEQA Recommendation beyond those previously identified in the *Off-Site Transportation Improvements* section.

  Other measures to consider include improving signal visibility, adding overhead signal heads, evaluating red clearance intervals, installing high visibility crosswalks and bicycle lane markings through the intersection if bike lanes are provided with the road diet. These considerations do not have 4- and 5-Star ratings and so there is less confidence in the results of the studies that produced their CMF. This intersection was previously identified as part of the City's High-Injury Network.

- Martin Luther King Jr. Way & 17th Street (#51): Road diet from 4- to 3-lanes (CMF #4). Add 3-inch yellow reflective sheeting to signal backplates. (CMF #5). Replace 8-inch red signal heads with 12-inch signal heads. (CMF #6). The road diet would be completed pursuant to the AHSC grant. The other measures would be additional non-CEQA Recommendation beyond those previously identified in the *Off-Site Transportation Improvements* section.

  Other measures to consider improving signal visibility, adding overhead signal heads, evaluating red clearance intervals, installing an additional signal head(s), and installing high visibility crosswalks. These considerations do not have 4- and 5-Star ratings and so there is less confidence in the results of the studies that produced their CMF.

- Broadway & 5th Street (#67): Evaluate luminance using the lighting design criteria published by the Illuminating Engineering Society (IES). Alternatively, the City may use its own lighting design requirements. (CMF #3). Add -inch yellow reflective sheeting to signal backplates. (CMF #5). Replace 8-inch red signal heads with 12-inch heads at all approaches. (CMF #6). These improvements are included in Mitigation Measure TRANS-1d.

  Other measures to consider include improving signal visibility, evaluating red clearance intervals, and installing high visibility crosswalks and pedestrian curb extensions. These considerations do not have 4- and 5-star ratings and so there is less confidence in the results of the studies that produced their CMF. This intersection was previously identified as part of the City's High-Injury Network.

Transportation Management

AB 734 provides that the construction of a new ballpark for the Oakland A's and an accompanying mixed-use development would qualify for expedited judicial review in the event of a CEQA challenge. To qualify for this expedited review, the project needs to meet several

environmental standards, including preparation of a Transportation Management Plan (TMP) and a Transportation Demand Management (TDM) Plan. The TMP is the document that addresses the ballpark transportation management, while the TDM Plan addresses the other proposed development on the Project site. These are described in the following sections.

Transportation Management Plan for Ballpark

On event days, an integrated approach for managing people walking and biking, using transit and micromobility, and driving or riding in cars is necessary within the vicinity of the Project site. The TMP, included in Appendix TRA, illustrates the recommended event management strategies, including traffic control plans pre- and post-event. These strategies are intended to manage routes for private motor vehicle traffic accessing the Project site, and to provide enough space for and promote and enhance pedestrians, bicycles, and transit options.

To meet the requirements of AB 734, the Project must implement a TMP program for the ballpark development that achieves a minimum 20 percent vehicle trip reduction compared to the number of trips that would occur without a TMP program. The TMP for the ballpark, identified as Mitigation Measure TRANS-1b, identifies a wide range of potential measures to implement. The TMP outlines operational strategies to optimize access to and from the ballpark within the constraints inherent to a large public event. It considers the travel characteristics of ballpark attendees, workers, and all other visitors to the site. Its primary goal is to ensure safe and efficient access for all people traveling to and from the site, with a focus on promoting pedestrian, bicycle, and transit access, thereby reducing motor vehicle impacts to the site and surrounding neighborhoods. To increase the likelihood that ballpark attendees have a positive experience traveling to and from the area, the TMP includes strategies to increase the use of and attractiveness of transit, walking, bicycling, scooters, and other shared micromobility i.e., bikes and scooters. The TMP also includes attendee and employee traffic and TNC and taxi management techniques to ensure that people who travel via car can effectively navigate to their parking, drop-off, and pick-up location with fewer delays.

Appendix TRA contains the Draft TMP. The TMP is intended to be a living document and would be amended periodically by the Oakland A's, in coordination with Port of Oakland and City of Oakland. The TMP, as a living document, would also be updated over time as travel patterns change because of development and changes to transportation infrastructure and operations. This approach is consistent with what has occurred at other event venues developed in recent years. There, too, project sponsors, transit agencies, and local agencies have updated TMPs as experience is gained regarding the transportation characteristics of events at a given site. Examples include Golden 1 Center in Sacramento and Oracle Park and Chase Arena in San Francisco. The TMP at this time establishes an operational oversight group made up of the transportation agencies that could be impacted by ballpark events as well representation from local businesses and neighborhoods. Ongoing operational oversight is essential to ensure the implementation strategies are responsive to actual conditions.

As detailed in the TMP, Broadway, 2nd Street, and 7th Street would serve as primary routes for transit vehicles. Private automobiles and trucks would be restricted to local access only on 2nd Street west of Broadway to maximize transit throughput at the planned Transportation Hub on

2nd Street. Market Street and Martin Luther King Jr. Way, the primary motor vehicle access routes to the ballpark, would have turn restrictions on event days to improve motor vehicle flow and reduce conflicts between turning vehicles and bicycles and pedestrians before and after ballpark events.

Pedestrian routes would disperse across several corridors and the operational measures in the TMP must be flexible and responsive to each corridor. Market Street would attract pedestrians from West Oakland and its BART station via 7th Street. Martin Luther King Jr. Way would primarily attract pedestrians walking from off-site parking within downtown. Washington Street and Broadway would both serve people parking in downtown as well as people walking from the 12th Street BART station. Last, 8th Street corridor would serve people from Chinatown and the Lake Merritt BART station. Washington Street could also be closed to vehicle traffic on high attendance event days and serve as a festive space and primary bicycle and pedestrian route between Downtown Oakland and the Project site.

The primary pedestrian flows will be between the three BART stations and the ballpark. The stations will experience additional BART riders before and after events at the ballpark. A sellout baseball game could attract up to 35,000 attendees, about 8,000 of whom are anticipated to arrive by BART. These BART riders would be geographically dispersed to the West Oakland, 12th Street, and Lake Merritt BART stations and temporally dispersed over a 2- to 3-hour period because of the 15- to 20-minute walking distance between the BART stations and the ballpark. As a result, the crowding now experienced at the Coliseum BART station before and after a large event is not expected with the new ballpark location. The three BART stations would attract a substantial number of ballpark attendees before and after an event with roughly 1,800 riders at West Oakland, 3,600 riders at 12th Street, and 2,600 riders at Lake Merritt. These additional BART riders would be station entries during the two hours after a weekday afternoon game i.e., 3:30 p.m. to 5:30 p.m. or station exits during the two hours before a weekday evening game i.e., 5:00 p.m. to 7:00 p.m. There are 12 to 14 weekday day games each year and about 41 weekday evening games. While these riders are not anticipated to cause station capacity to be exceeded the additional riders will need to be managed with additional resources to guide attendees through the stations. In addition, the A's and BART will need to coordinate as they do today at the Coliseum BART station to provide additional BART trains, as needed, after weekday evening events and after weekend games to enhance rider experience by reducing BART station wait times.

TNCs would be managed through agreements between the Oakland A's and TNC operators at one or more off-site locations such as areas under the I-880 underpass between Market Street and Castro Street, and at other yet-to-be-determined locations in the Jack London District east of Broadway. The Oakland A's would coordinate with TNC companies to focus riders to these locations. At this time, Oakland A's would restrict, with limited exceptions, TNCs from coming on-site to serve events at the ballpark through an agreement with operators. Unauthorized TNC vehicles would be restricted from entering a cordon area bounded on the north by 5th Street and on the east and west by Adeline Street and Broadway and would be redirected to the designated managed lots.

The TMP also includes a Parking Management Plan for the ballpark, which is summarized in the following section and then followed by a summary of the TMP operational strategies preferred by the City. The TMP also addresses railroad crossings, event-day operations and communication, curb management, freight, and emergency vehicle access. The TMP concludes with a framework for monitoring, refinement, and performance standards. See the Draft TMP in Appendix TRA for more details.

Parking Management and Reservation System

As part of the Project, the City of Oakland prepared a Parking Management Plan (PMP), attached in Appendix TRA, that addresses daily on- and off-street parking management in Oakland, with additional details for parking management near the Project site on event days. The PMP identifies the following principles from City of Oakland Resolution No. 84664 C.M.S. to guide parking and curb management decisions:

- Parking is part of a multimodal approach to developing neighborhood transportation infrastructure.
- Parking should be actively managed to maximize efficient use of a public resource.
- Parking should be easy for customers.
- Parking policy and regulations should help the City meet other transportation, land use, and environmental goals.

For on-street parking management, the PMP recommends enforcing on-street meters 362 days a year including Sundays and extending enforcement hours depending on the hours of adjacent businesses, with the goal of approximately 85 percent maximum occupancy per block. These changes are applicable where parking meters are needed and would support parking management efforts at the Project site by having on-street parking management during all days and times when there would be baseball games. The PMP recommends new on-street meters for all block faces that do not have Residential Parking Permits (RPP) where the City of Oakland anticipates people may park for events at the Project site. It also includes potential new RPP areas to protect on-street parking for Oakland residents, especially in areas of West Oakland, and extending enforcement hours of RPP like on-street meters.

For off-street parking management, the PMP recommends prohibiting monthly and daily pricing, while avoiding or eliminating permit and discount programs, and require that parking be sold by the hour. It also recommends time-of-day pricing at off-street parking locations and the ability to charge higher special event rates. The PMP also recommends implementing an off-street parking garage reservation system for special events to minimize congestion and conflicts caused by people who drive directly to the ballpark and circle to find parking.

Implementing the recommendations outlined in the PMP would result in reducing the number of people who drive to the area on event days by increasing the cost of parking closest to the Project site, therefore increasing the attractiveness of other modes of travel. It would also reduce daily vehicle circling in and around the Project site by creating a reservation system for off-street parking and ensuring a minimum level of availability for on- and off-street parking. Reduced

vehicle circling will improve vehicle operations for those accessing the Project site as well as other road users in the area, such as Port users.

Transportation Management Plan Strategies – City Priorities

Consistent with the City of Oakland's Transit First Policy (City of Oakland, 1996), as well as AB 734, the ballpark component of the Project would implement measures as part of a broader TMP that would reduce the automobile trips generated by the ballpark by a minimum of 20 percent. Strategies that could be included in the TMP that are preferred by the City and that align with City policies and plans are listed below. Those strategies in **bold** represent strategies that are expected to be implemented by opening day of the ballpark and will be adopted as mitigation measures or conditions of approval, as applicable.

1. **Extending transit service to the Transportation Hub on 2nd Street in coordination with AC Transit and the City of Oakland. (Required as Mitigation Measure TRANS-1c)**
2. Additional regular AC Transit bus service connecting the Project site to Downtown, as well as the West Oakland, 12th Street, and Lake Merritt, BART stations.
3. **Bus priority lanes serving the 12th Street BART station and Downtown Oakland to increase the speed, reliability, and attractiveness of transit services. (Required as Mitigation Measure TRANS-1d)**
4. Bus priority lanes serving the West Oakland and Lake Merritt BART stations to increase the speed, reliability, and attractiveness of transit services.
5. **Supplemental shuttle service (provided by AC Transit or a private operator) to the 12th Street BART station to increase frequency and capacity of transit connections to BART stations on event days.**
6. Supplemental shuttle service (provided by AC Transit or a private operator) to the West Oakland and/or Lake Merritt BART stations to increase frequency and capacity of transit connections to BART stations on event days.
7. **Pedestrian improvements along 7th Street, Market Street, Martin Luther King Jr. Way, Washington Street, and Broadway connecting the BART stations and the ballpark as well as improvements on streets serving the Transportation Hub and the Pedestrian Bridge over the railroad tracks. (Required as Mitigation Measure TRANS-1e and TRANS-3b)**
8. **Bicycle network improvements on 7th Street, Market Street, Martin Luther King Jr. Way, Washington Street, and 2nd Street. (Required as Mitigation Measure TRANS-2a, TRANS-2b, and TRANS-2c)**
9. **Wayfinding between the West Oakland BART station and the ballpark via 7th Street, between 12th Street BART station and the ballpark via Broadway and Washington Street, and between Lake Merritt BART station and the ballpark via 8th Street.**
10. **At-grade railroad crossing improvements along the project's frontage and extending to Broadway. (Required as Mitigation Measure TRANS-3a and TRANS-3b)**
11. Transit subsidies to provide free or reduced cost transit for ballpark attendees and/or employees particularly at the Transportation Hub on 2nd Street.
12. **No parking subsidies for employees.**

13. **A combination of standard, secure, and valet bicycle parking at multiple locations, identified in collaboration with OakDOT.**
14. **Identification of geofenced micromobility parking (such as scooters and bike share), as well as priority and coordination for on-site and/or site-adjacent shared micromobility services identified in collaboration with OakDOT.**
15. **Coordination with transit providers to provide timed transit service before and/or after the game or event, including but not limited to AC Transit, BART, Amtrak and WETA.**
16. **Agreements between A's and TNC operators (such as Lyft and Uber) to use geofencing or similar methods to restrict pick-up and drop-off zones to designated locations significantly farther from the ballpark than bus transit and shared micromobility options.**
17. **Enforcement of local access restrictions to limit circulation of vehicles other than local traffic within the neighborhoods adjacent to the Project site before, during, and after ballgames.**
18. Implementation of a TNC fee (through private agreements between the A's and TNC operators) for access to designated locations to limit demand that supports VTR goals.
19. **Coordination with OakDOT on management of the off-site parking garages within one mile of the Project site.**
20. **Coordination with OakDOT on the management of on-street parking on-site and in adjacent neighborhoods within one mile of the Project site, including the implementation of Residential Parking Permits (RPPs), through the OakPark parking plan described in the PMP.**
21. Further reduction of on-site parking as needed to achieve VTR goals.
22. Additional measures and technology. With approval from the City of Oakland, the TMP may include additional or substitute measures and technology to reduce Project-generated trips that are not currently known or available, provided that the VTR plan demonstrates to the City's satisfaction that such measures are equally or more effective as existing available measures, are consistent with the City of Oakland's various published plan documents, as amended, and meet the City of Oakland's policy goals and values.

In addition, the ballpark employees and attendees would also benefit from the strategies that would be implemented for the non-ballpark components of the Project, which would consist of both one-time physical improvements and on-going operational strategies. The City has indicated a desire to prioritize transit-supportive measures as well as micromobility and walking to achieve the required vehicle trip reduction goals.

Transportation Management Plan Effectiveness

Table 4.15-23 describes the grouped TMP strategies for the ballpark component of the Project, as well as the range of effectiveness of each grouped strategy based on a travel mode choice model developed to estimate trip generation by mode at the ballpark. See the technical memorandum *Howard Terminal– Transportation and Parking Demand* in Appendix TRA. Only those grouped strategies that can be measured with the mode choice model are presented to establish the TMP's effectiveness at reducing vehicle trips.

TABLE 4.15-23
TRANSPORTATION MANAGEMENT PLAN STRATEGIES AND EFFECTIVENESS – BALLPARK

Strategy	Measures	Vehicle Trip Reduction Estimate
Encourage Walking and Bicycling	• Develop Howard Terminal high-density housing and office uses. • Bike lanes on: Martin Luther King Jr. Way between the site and 8th Street and 7th Street between Mandela Parkway and Martin Luther King Jr. Way including the 8th Street fork. • Bike lanes north of 8th Street on Martin Luther King Jr. Way to San Pablo Avenue, Market Street from 3rd Street north into Berkeley, and 2nd Street connecting to the Oak / Embarcadero corridor. – Upgrade sidewalks along the primary corridors serving the ballpark including 7th and Market Streets, Martin Luther King Jr. Way, Washington Street, and Broadway. • Free bicycle/scooter valet and/or secure parking spaces for at least 500 bicycles and scooters with flexibility to expand to 1,000 spaces.	0–3%
Better Transit Options	• Event-day ferry service between the Oakland Jack London Square ferry terminal and San Francisco, Alameda, Richmond, and/or Marin. • Extend bus lines to provide high-frequency AC Transit service near the ballpark along 2nd Street i.e., Transportation Hub. • Bus-only lanes on Broadway between Embarcadero and 11th Streets connecting the 12th Street BART station; 7th Street between the West Oakland BART station and Castro Street; and/or 7th and 8th Streets connecting Broadway to the Lake Merritt BART station. • Reroute bus lines closer to the ballpark, connecting West Oakland and Lake Merritt BART stations via 2nd Street. • Transit reimbursement equivalent to one roundtrip fare on AC Transit; provide free transit after ballpark events at the Transportation Hub.	1–10%
Downtown Connections	• Event-day shuttles between 12th Street BART station and the ballpark. • Event-day shuttles between West Oakland and Lake Merritt BART stations and the ballpark. • Gondola service between 12th Street and the ballpark along Washington Street. Refer to Section 5.2 Aerial Gondola Variant for further information.	2–6%
Parking Supply Management	• Limit on-site parking spaces available for ballpark attendees to 3,500 at opening day and 2,000 spaces at site buildout. • Parking pricing to maintain 90-95% occupancy rate at nearby off-site garages; use pricing to maintain 85% occupancy rate at nearby on-street spaces. • Through curb management prohibit on-street parking by ballpark attendees near the ballpark, if necessary, to maintain on-street parking for local businesses and residents. • Expand residential parking permit programs in West Oakland and Downtown Oakland.	0–11%
Reduced Vehicle/Trip Demand	• Manage TNC operations by prohibiting drop-off/pick-ups except in designated areas significantly farther from the ballpark than the transit hub before and after ballpark events. Enforce via physical barriers and traffic and/or parking control offices or other personnel acceptable to the City. • Implement a TNC fee to manage demand at priority pick-up/drop-off zones on-site (if provided) and nearby off-site (if provided) locations.	3–14%

SOURCES: Fehr & Peers, 2020

As shown in Table 4.15-23, the TMP strategies have a wide range of effectiveness, which illustrates that the implemented TMP strategies will need to be aggressive but that the AB 734 requirements can be successfully achieved. The VTR ranges represent conservative assumptions

about potential trip reduction at the low end of the ranges. Due to the location of the project in an area that has very good transit, bicycle, and pedestrian access with dispersed parking, it is expected that the TMP would achieve a 20 percent VTR if all strategies were moderately effective. As a result, the ballpark development with a TMP is expected to achieve the 20 percent VTR required by AB 734 legislation.

Transportation and Parking Demand Management – Non-Ballpark

The previous section addressed event management for the ballpark and summarized the TMP that applies to the ballpark. This section addresses the Transportation Demand Management (TDM) Plan for the non-ballpark development. To meet the requirements of AB 734, the Project must implement a TDM Plan for non-ballpark development that achieves a minimum 20 percent vehicle trip reduction compared to operations without a TDM Plan.

The TDM Plan for the Project's non-ballpark development would consist of both one-time physical improvements and on-going operational strategies. Physical improvements would be constructed contemporaneously with the Project and are therefore anticipated to have a one-time capital cost. Operational strategies provide on-going incentives and support for the use of non-auto transportation modes.

The TDM Plan ultimately established for the non-ballpark development would include establishment of a Transportation Management Association (TMA) for the Project site. A TMA is generally a non-profit membership-funded organization made up of employers, developers, and/or property managers working together to improve travel for its members, increase car-free travel options, and provide education informing the site users about the diverse benefits of transit and shared mobility. Local TMA examples include:

- Alameda Point TMA, focusing on transit service, AC Transit EasyPass program, and TDM monitoring.
- Emeryville TMA, focusing on providing a "last-mile" shuttle service connecting employees, residents, and visitors of Emeryville from the MacArthur BART Station to various locations in Emeryville.

The TDM Plan for the Project's non-ballpark development is identified as Mitigation Measure TRANS-1a, which identifies a wide range of potential measures to implement. A summary of those measures is provided in this section. The City of Oakland typically requires both physical improvements and operational strategies for development projects, consistent with the City of Oakland's Transit First Policy. **Table 4.15-24** lists the typically required TDM measures that are part of the City's *Transportation Impact Review Guidelines* (dated April 14, 2017) and their applicability to the Project. Since the Project would fully re-construct the transportation network within the Project site, many of these elements would be incorporated in the design of the Project's internal transportation network. In addition to the listed physical improvements, the Project would also implement several off-site corridor transportation improvements, which are illustrated in Figure 4.15-22 through Figure 4.15-39 and discussed in Table 4.15-14 through Table 4.15-22.

TABLE 4.15-24
NON-BALLPARK DEVELOPMENT TRANSPORTATION AND PARKING DEMAND MANAGEMENT PLAN CONSISTENCY WITH CITY'S TRANSPORTATION IMPACT REVIEW GUIDELINES

Improvement	Required by Code or When …	Required for Proposed Project?
1. Bus boarding bulbs or islands	• A bus boarding bulb or island does not already exist, and a bus stop is located along the project frontage; and/or • A bus stop along the project frontage serves a route with 15 minutes or better peak hour service and has a shared bus-bike lane curb	**Yes.** The Transportation Hub (Mitigation Measure TRANS-1c) on 2nd Street would, depending on design, provide bus boarding bulbs or islands.
2. Bus shelter	• A stop with no shelter is located within the project frontage, or • The project is located within 0.10 miles of a flag stop with 25 or more boardings per day	**Yes.** The Transportation Hub (Mitigation Measure TRANS-1c) on 2nd Street would include bus shelters or other, comparable amenities.
3. Concrete bus pad	• A bus stop is located along the project frontage and a concrete bus pad does not already exist	**Yes.** The Transportation Hub (Mitigation Measure TRANS-1c) on 2nd Street would incorporate concrete bus pads.
4. Curb extensions or bulb-outs	• Identified as an improvement within site analysis	**Yes.** Project would construct bulb-outs where additional pedestrian waiting space is needed at intersections and where truck and emergency access can still be accommodated (Mitigation Measure TRANS-1e).
5. Implementation of a corridor-level bikeway improvement	• A buffered Class 2 or Class 4 bikeway facility is in a local or county adopted plan within 0.10 miles of the project location: and • The project would generate 500 or more daily bicycle trips	**Yes.** Bike lanes on Martin Luther King Jr. Way between the site and 8th Street (Mitigation Measure TRANS-2b); on 7th Street between Mandela Parkway and Martin Luther King Jr. Way (Mitigation Measure TRANS-2a); on Embarcadero West, south side of the railroad tracks, between Martin Luther King Jr. Way and Washington Street and potentially to Broadway (Mitigation Measure TRANS-3a); and completed bike lanes on Washington Street between Embarcadero West and 10th Street (Mitigation Measure TRANS-2c) would constitute multiple corridor-level bikeway improvements.
6. Implementation of a corridor-level transit capital improvement	• A high-quality transit facility is in a local or county adopted plan within 0.25 miles of the project location; and • The project would generate 400 or more peak period transit trips	**Yes.** The Transportation Hub on 2nd Street (Mitigation Measure TRANS-1c) together with bus-only lanes on Broadway to connect the Transportation Hub and the 12th Street BART Station (Mitigation Measure TRANS-1d) would constitute a corridor-level transit capital improvement,
7. Installation of amenities: lighting; pedestrian-oriented green infrastructure, trees, and greening landscape; trash receptacles per Pedestrian Master Plan and applicable streetscape plans.	• Always required	**Yes.** Pedestrian amenities to be installed throughout the site together with off-site upgrades to sidewalks, lighting, curb ramps, and crosswalks on several transportation corridors serving the Project (Mitigation Measure TRANS-1e).

TABLE 4.15-24 (CONT.)
NON-BALLPARK DEVELOPMENT TRANSPORTATION AND PARKING DEMAND MANAGEMENT PLAN CONSISTENCY WITH CITY'S TRANSPORTATION IMPACT REVIEW GUIDELINES

Improvement	Required by Code or When …	Required for Proposed Project?
8. Installation of safety improvements identified in the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.)	• When improvements are identified in the Pedestrian Master Plan along project frontage or at an adjacent intersection	**Yes.** Construct railroad safety improvements between Schnitzer Steel and Broadway which requires CPUC approval (Mitigation Measure TRANS-3a). Pedestrian safety improvements to be installed throughout the site together with off-site upgrades to sidewalks, lighting, curb ramps, and crosswalks on several transportation corridors serving the Project (Mitigation Measure TRANS-1e).
9. In-street bicycle corral	• A project includes more than 10,000 square feet of ground floor retail, is located along a Tier 1 bikeway, and on-street vehicle parking is provided along the project frontages.	**Yes.** In-street bicycle corrals or bicycle parking of similar ease and density to be provided on-site.
10. Intersection improvements[a]	• Identified as an improvement within site analysis	**Yes.** On- and off-site intersections would be designed to address these concerns.
11. New sidewalk, curb ramps, curb and gutter meeting current City and ADA standards	• Always required	**Yes.** All on-site sidewalks, curb ramps, curbs, and gutters would meet current City and ADA standards.
12. No monthly permits and establish minimum price floor for public parking[b]	• If proposed parking ratio exceeds 1:1000 sf. (commercial)	**Yes.** In commercial developments where the parking ratio exceeds 1:1,000 sq. ft., no monthly permits would be offered for publicly available spaces, and a price floor would be established for all publicly available parking.
13. Parking garage is designed with retrofit capability	• Optional If parking ratio exceeds 1.25 spaces per unit (residential) or 1:1000 sf. (commercial)	**Yes.** Residential parking would be limited to 1 space per unit. Commercial developments with parking more than 1:1,000 sq. ft. could be designed with retrofittable garages.
14. Parking space reserved for car share	• If a project is providing parking and a project is located within downtown. One car share space reserved for buildings between 50 and 200 units, then one car share space per 200 units.	**Yes.** Project would include car share parking that meets these residential ratios and car share parking for commercial parking at one car share space per 200 parking spaces. And regularly monitor car share parking usage and adjust, as necessary.
15. Paving, lane striping or restriping (vehicle and bicycle), and signs to midpoint of street section	• Typically required	**Yes.** All on-site streets would be newly constructed.
16. Pedestrian crossing improvements	• Identified as an improvement within site analysis	**Yes.** New on-site streets and intersections as well as off-site transportation improvements would include the pedestrian crossing features.
17. Pedestrian-supportive signal changes[c]	• Identified as an improvement within operations analysis	**Yes.** All new and modified on- and off-site signals would have pedestrian supportive signal features.
18. Real-time transit information system	• A project frontage block includes a bus stop or BART station and is along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better	**Yes.** The Transportation Hub (Mitigation Measure TRANS-1c), each building, and the ballpark would make real time transit information available for transit serving the Hub, BART, Amtrak, and ferries.

TABLE 4.15-24 (CONT.)
NON-BALLPARK DEVELOPMENT TRANSPORTATION AND PARKING DEMAND MANAGEMENT PLAN CONSISTENCY WITH CITY'S TRANSPORTATION IMPACT REVIEW GUIDELINES

Improvement	Required by Code or When …	Required for Proposed Project?
19. Relocating bus stops to far side	• A project is located within 0.10 miles of any active bus stop that is currently on the near side	**Yes.** Construct Transportation Hub on 2nd Street (Mitigation Measure TRANS-1c). Bus stops would either have parallel pull-in or saw-tooth designs depending on Class 2 Bike Lanes and parking priorities.
20. Signal upgrades[d]	• Project size exceeds 100 residential units, 80,000 sf. of retail, or 100,000 sf. of commercial; and • Project frontage abuts intersection with signal infrastructure older than 15 years	**Yes.** All new and upgraded traffic signals, whether on- or off-site, would meet city standards in effect at the time of installation or upgrade.
21. Transit queue jumps	• Identified as a needed improvement within project operations analysis with frontage along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better	**Yes.** The bus-only lanes on Broadway between Embarcadero West and 11th Street (Mitigation Measure TRANS-1d) function as transit queue jumps.
22. Trenching and placement of conduit for providing traffic signal interconnect	• Project size exceeds 100 units, 80,000 sf. retail, or 100,000 sf. commercial; and • Project frontage block is identified for signal interconnect improvements as part of a planned ITS improvement; and • A major transit improvement is identified within operations analysis requiring traffic signal interconnect	**Yes.** New and modified traffic signal installations, whether on- or off-site, would be interconnected to City standards at the time of installation or upgrade.
23. Unbundled parking	• If proposed parking ratio exceeds 1.25 spaces per unit (residential)	**Yes.** Residential parking would be limited to 1 space per unit. Therefore, unbundled parking not required.

NOTES:
a Such as visibility improvements, shortening corner radii, pedestrian safety islands, accounting for pedestrian desire lines.
b May also provide a cash incentive or transit pass alternative to a free parking space in commercial properties.
c Including but not limited to reducing signal cycle lengths to less than 90 seconds to avoid pedestrian crossings against the signal, providing a leading pedestrian interval, provide a "scramble" signal phase where appropriate.
d Including typical traffic lights, pedestrian signals, bike actuated signals, transit-only signals.

SOURCES: City of Oakland Transportation Impact Review Guidelines, 2017.

Table 4.15-25 describes the TDM strategies for the non-ballpark components of the Project, as well as the effectiveness of each grouped strategy based on available research, which is primarily compiled in *Quantifying Greenhouse Gas Mitigation Measures* (California Air Pollution Control Officers Association [CAPCOA], 2010). The CAPCOA report is a resource for local agencies to quantify the benefit, in terms of reduced travel demand, of implementing various TDM strategies. For purposes of illustrating the effectiveness of the TDM strategies only those strategies shown through research to be effective are discussed. The measures listed in Table 4.15-24 and in Table 4.15-25 are generally required as a matter of City policy but may be adjusted over time, as necessary, to achieve the 20 percent vehicle trip reduction on an on-going basis.

TABLE 4.15-25
TRANSPORTATION AND PARKING DEMAND MANAGEMENT STRATEGIES AND PLAN EFFECTIVENESS
NON-BALLPARK DEVELOPMENT

TDM Strategy	Description	Estimated Vehicle Trip Reduction[a]		
		Residents	Workers	Non-Event Visitors
Infrastructure Improvements	Various improvements	4%–8%[b]	4%–8%[b]	5%–10%[b]
Limited Parking Supply	Provide 1.0 parking space per residential unit, compared to average vehicle ownership of 0.94 spaces in the surrounding neighborhood	0%[c]	10–20%	2–6%
	Provide 2.0 parking spaces per KSF of office, compared to the average of 2.9 spaces per KSF			
	Provide 2.6 parking spaces per KSF of retail and restaurant, compared to the average of 2.8 spaces per KSF for non-December period			
Off-street Parking Management	For publicly accessible parking, no monthly permits and establish minimum price floor			
On-street Parking Management	Parking Management Plan includes pricing control of on-street parking			
Unbundled Parking	Parking spaces leased separately from unit rent	1–5%	N/A	N/A
Carshare Parking Spaces	Dedicated on-site carshare parking spaces	<1%	<1%	N/A
Transit Operations	Contribute to AC Transit service enhancement	—[c]	—[c]	—[c]
Transit Fare Subsidy	Provide transit subsidy to residents (per bedroom) and employees at least equal to an unlimited AC Transit EasyPass or half a monthly unlimited bus pass	2–6%	10–15%	N/A
Pre-Tax Commuter Benefit	Encourage employers to enroll in a service to assist employees to use pre-tax income for transit passes			
TDM Marketing and Education	Active marketing of carpooling, BART, AC Transit, bike sharing, and other non-auto modes and services such as guaranteed ride home programs	1%–2%	1%–2%	1%–2%
TDM Representatives	Representatives of building tenants and building management responsible for disseminating information from the TMA about the TDM Plan to employees, residents, and visitors			
Transportation Management Association (TMA)	TMA for the non-ballpark development made up of its employees, developers, and/or property managers responsible for implementing and managing the TDM Plan for the non-ballpark development			

NOTES:
a The focus of the CAPCOA document is reductions to VMT but the research used to generate the reductions also indicates vehicle trip reductions are applicable as well. For the purposes of this analysis the VTR is assumed to equal the VMT reduction. See the cited CAPCOA research for more information and related information on page 8 of the BAAQMD *Transportation Demand Management Tool User's Guide* (June 2012).
b Estimated based on mode shift associated with protected bike lanes, bus-only lanes, and expanded bus transit services.
c The effectiveness of this strategy cannot be quantified at this time. This does not necessarily imply that the strategy is ineffective. It only demonstrates that at the time of the CAPCOA report development, existing literature did not provide a robust methodology for calculating its effectiveness. In addition, many strategies are complementary to each other and isolating their specific effectiveness may not be feasible.

SOURCES: Fehr & Peers, 2020. (Appendix TRA)

As shown in Table 4.15-25, the TDM strategies are estimated to reduce the overall automobile trips generated by the non-ballpark components of the project. The efficacy of these strategies varies based on location and other factors. Due to the location of the project in an area that has very good transit, bicycle, and pedestrian access, it is expected that the higher end of the VTR range would be achieved with these TDM strategies. However, even if all strategies were only moderately effective, the non-ballpark development with TDM would still achieve the 20 percent VTR required by AB 734 legislation.

Considered and Discarded Strategies

Several Transportation Improvements were discarded as infeasible, inapplicable, or ineffective. These are noted below with an explanation as to why the feature was not considered in the analysis.

- *I-980 Freeway Replacement* – Replacing the I-980 freeway with a surface roadway and infill development is identified for further study in the Downtown Oakland Specific Plan. Given the complexity and cost of this potential improvement, an I-980 freeway replacement was determined to be infeasible within the timeframe that the Project would be constructed.
- *Passenger Rail (Amtrak)* – Providing a new rail station for Amtrak at the Project site was considered and discarded. The existing Amtrak station is within walking distance, about six to seven blocks away from the site, and Amtrak has a limited number of trains per day operating on fixed schedules that can use the UPRR tracks. Schedule changes to accommodate special events at the ballpark would interfere with freight operations and would therefore not be consistently available. This feature was discarded due to the limited effectiveness of the new station compared to its complexity and cost.
- *Passenger Rail (BART)* – Providing a new BART station along 5th Street near the Project site was considered and discarded. According to a feasibility study conducted by BART, adding an infill station would require skip-stop operations at the West Oakland station to mitigate line capacity and throughput impacts due to closely spaced stations. Although the study did not consider the Project development, the station would be located about 0.6 miles from the Project site, between Filbert and Chestnut Streets, which would not offer a large travel time savings. This feature was discarded due to the complexity, cost, skip-stop operations, and limited benefits of providing the infill station.
- *Second Transbay Rail Crossing* – BART and the Capitol Corridor Joint Powers Authority (CCJPA) are studying a second transbay rail line with potential station locations near the Project site. Evaluating the feasibility of transbay crossing lines and station locations is identified for further study in the Downtown Oakland Specific Plan. Given this potential project's complexity and cost, providing a second transbay rail crossing was determined to be infeasible within the timeframe that the ballpark would be constructed. However, the Project is encouraged to pursue sponsorship opportunities for the station, should the second bay crossing move forward with a station near the Project area.
- *Transit Hub On-Site* – Providing an on-site transit hub was considered and discarded. For an on-site transit hub, transit vehicles would access the site via Market Street or Martin Luther King Jr. Way. These locations may experience heavy congestion during special events, degrading service reliability. Reliability would also be negatively affected by freight trains, which occasionally block these entrances for extended periods of time. Instead of an on-site transit hub, a Transportation Hub is planned on 2nd Street between Martin Luther King Jr. Way and Clay Street. This location would experience minimal conflicting automobile traffic

and would not be affected by railroad gate downtimes, while still providing a transit hub less than 0.2 miles from the ballpark.

- *Neighborhood Circulators* – Providing neighborhood circulator buses was considered and discarded. The small block sizes in the vicinity of the Project site maximize circulation for walking and biking but limit the ability to manage a large amount of circulating vehicle traffic. Neighborhood streets in the area are also discontinuous, which further limits local vehicular circulation around blocks. Lastly, the I-880 freeway and BART tracks limit options for through connections to Downtown. Instead of neighborhood circulators, bus-only lanes are proposed to connect nearby BART station(s) to the Project site via a Transportation Hub on 2nd Street. These lanes would accommodate high-frequency, high-capacity buses that could carry up to several thousand people per hour to the Project site.

4.15.5 Port Operations

The CEQA thresholds of significance no longer include local roadway congestion; see Section 4.15.6, *Significance Criteria*. However, given the importance to Seaport operations of efficient freight movement on local roadways, analysis was completed to evaluate potential non-CEQA effects of the Project on local roadway congestion and Port transportation activities. This section summarizes potential effects and Project design features or other measures that avoid or reduce potential effects. The section addresses both event day and non–event day roadway effects. Details of the analysis are included in Appendix TRA. Transportation Improvements that would help to maintain safe and efficient rail use are also discussed below.

In the long term, automobile, truck, bicycle, and pedestrian traffic is expected to grow in the area around the Project site. The City of Oakland is proposing substantial development in the area, through the Draft Downtown Oakland Specific Plan, the West Oakland Specific Plan, and other planning efforts. In addition, the Port of Oakland plans to continue to grow its throughput. The non-CEQA effects of this collective growth on Port transportation activities are not evaluated in this section. The Port of Oakland has initiated a Seaport Transportation and Circulation Study, expected to be complete in 2021/22, to evaluate and support longer-range transportation planning in this part of Oakland.

Event-Day Traffic Management

Event-day traffic management would take an integrated approach to manage people walking and biking, using transit, and driving or riding in cars. People using different modes of transportation will compete for the right of way, and active management before and after events at the Project site will be necessary to encourage smoother operations. As described previously in Section 4.15.3, *Project Transportation Characteristics*, the TMP is the document that addresses the ballpark-related transportation management. It includes specific measures for game days and events.

Event-day measures would typically begin two hours prior to the event's start time until the start of the event and then again be put in place prior to the event's conclusion typically until one to two hours after the end of the event, depending on how long it takes for all attendees to exit the ballpark site. Measures specific to protecting Seaport access on Adeline Street will be implemented consistent with the event management scenarios described in the TMP.

The following measures have been identified in the TMP to specifically address event transportation that could influence Seaport operations. See the TMP in Appendix TRA to review the entire document.

- Mandela Street south of 5th Street would be closed to through traffic, using at a minimum traffic or parking control officers or other personnel acceptable to the City of Oakland. Wayfinding signs and A's personnel would be located at the West Oakland BART station and on 7th Street to direct pedestrians and bicyclists to proceed east on 7th Street, to enter the Project on either Market Street or Martin Luther King Jr. Way. As noted below, the Project's transportation plan includes bicycle and pedestrian improvements on 7th Street and on Martin Luther King Jr. Way to provide an attractive route for walking and bicycling and pedestrian improvements on Market Street provide an additional attractive route to the Project for walking. The actions would keep pedestrians and bicyclists away from the Adeline Street corridor at 3rd Street.
- A traffic or parking control officer or other personnel acceptable to the City of Oakland would be located on 3rd Street and Adeline Street. This measure and the previous measure would improve safety at the Adeline Street and 3rd Street intersection by minimizing conflicts with the large number of trucks using Adeline Street.
- Permanent signs would be installed on 5th Street east of Union Street to direct ballgame vehicular traffic to Market Street. This would provide positive reinforcement to avoid vehicle and truck conflicts at the Adeline Street and 3rd Street intersection. In addition, personnel would be located at Adeline Street at 5th Street to direct ballpark destined drivers to stay on 5th Street to Market Street. In addition, a blank-out sign flashing "Ballpark Straight Ahead" would be activated at Adeline Street two hours prior to game scheduled start time and continue for one hour after scheduled start.
- Blank-out vehicle turn restriction signs would be used on Market Street at 3rd and 5th Streets with the potential for traffic control personnel at 6th and 7th Street where turning vehicle traffic may conflict with pedestrian traffic. The actions, particularly at the 3rd Street intersection, would keep traffic away from the Adeline Street corridor at 3rd Street.
- Martin Luther King Jr. Way would serve as the primary route for bicyclists and for pedestrians who park in downtown and walk to the ballpark. Blank-out vehicle turn restriction signs would be used on Martin Luther King Jr. Way at 2nd, 3rd, 5th, and 8th Streets with the potential for traffic control personnel at 7th Street where turning vehicle traffic may conflict with pedestrian traffic. Like the Market Street turn restrictions, these actions would keep traffic away from the Adeline Street corridor at 3rd Street.
- Other potential locations for personnel acceptable to the City to manage traffic include: near the at-grade railroad crossings to manage crowds near the tracks; at the 2nd Street Transportation Hub to manage bus and shuttle operations as well as pedestrian flows to and through the Hub; and potentially along Broadway when sidewalks are crowded to encourage people to use Washington Street.

The TMP includes monitoring of a dozen performance standards, including three Port-specific standards related to safety at key Adeline Street intersections, travel times between Port entry points and nearby freeway or truck routes, and cut-through traffic through the Port. Monitoring would include regular coordination meetings among the A's, City of Oakland, and Port of Oakland to determine if the standards are being met and what, if any, changes are necessary to meet each standard. The TMP will be continually refined by improving existing measures and

introducing new strategies to respond to transportation conditions as they evolve over time. All proposed and approved changes to the TMP will be reported to the City of Oakland and referenced in an Annual Report.

Seaport Access (Ingress and Egress) at Adeline Street

Adeline Street is the access most frequently used by truck drivers to enter and leave the Seaport. Increased traffic and congestion at the intersections of Adeline Street with 5th Street and 3rd Street, on both event days and non-event days, could result in delays for trucks traveling between the Seaport and I-880 and decrease safety for cars, bicycles, and pedestrians. Several elements of the Project's transportation plan will promote truck access on Adeline Street and improve multimodal traffic safety. These measures support truck movement on Adeline Street and generally maintain Project-related vehicle, bike, and pedestrian traffic at or east of Market Street.

- Two lanes each way on Adeline Street from 7th Street south to the Seaport and Middle Harbor Road; this will improve truck flow to and from the Seaport through the Port's busiest access.
- No bike lanes on Adeline Street between 3rd and 7th Streets, with signage directing bike riders from Adeline Street and the West Oakland BART station area to use 7th Street rather than 3rd Street; this will reduce the potential for truck and bike rider conflicts on Adeline Street.
- Left turn prohibition on northbound Adeline Street approaching 3rd Street, signalization of the Adeline Street and 3rd Street intersection, and signal ahead warning lights for northbound traffic approaching 3rd Street; this will improve flow for trucks to and from the Seaport.
- Right turn on red prohibitions from 3rd Street onto Adeline Street; this would reduce right turning conflicts and improve safety when trucks on Adeline Street have a green light.
- Prioritize green time for northbound and southbound trucks on Adeline Street through the 3rd Street intersection; this will improve flow for trucks to and from the Seaport.
- Provide left and right turn lanes onto Adeline Street at 5th Street and prioritize green time for trucks turning to and from Adeline Street; this will complement the prioritized green time for trucks on Adeline Street through 3rd Street.
- Bike and pedestrian improvements on 7th Street between Mandela Parkway and Martin Luther King Jr. Way; this will provide an attractive route alternative to 3rd Street; no bike improvements on 3rd Street would be made except at intersections being improved by the Project.
- Pedestrian improvements on Market Street to serve as a primary north-south connection between 7th Street and the Project site; combined with 7th Street pedestrian improvements, this will attract pedestrians who might otherwise use Adeline Street and 3rd Street.
- Bike and pedestrian improvements on Martin Luther King Jr. Way to serve as a primary north-south connection to 7th Street and the Project site; combined with 7th Street improvements, this would provide an attractive option to 3rd Street and to Adeline Street for pedestrians and bike riders.
- Traffic signal and signal communication upgrades on Market Street between the Project site and 7th Street, with a prohibition on a left turn from northbound Market Street onto westbound 3rd Street; this would prohibit drivers leaving the Project site from turning onto 3rd Street toward Adeline Street.

With these elements of the transportation plan, the Level of Service at 3rd Street and 5th Street intersections with Adeline Street are expected to be in the Level of Service (LOS) B or C range with average delays ranging from 15 to 30 seconds depending on the time of day due to modified intersection capacity on Adeline Street and reduction of Project vehicle traffic at the 3rd Street intersection.

I-880 On-Ramp and Off-Ramp at Union Street

Many trucks serving the Seaport enter and exit the I-880 freeway using the on- and off-ramps along 5th and 6th Streets. Increased traffic from the Project on 5th and 6th Streets, including the intersection at 5th Street and Union Street as well as at Adeline Street, could increase delays for trucks serving the Seaport if transportation improvements are not implemented. Several elements of the Project's transportation plan will promote truck movements between I-880 at Union Street and Adeline Street. Coupled with the improvements on Adeline Street, described in the previous section, these measures will improve truck movements to the Seaport and improve safety while maintaining project-related vehicle traffic on the 5th and 6th Streets.

- Stripe the I-880 southbound off-ramp with Union Street to include one left-turn lane, one through lane, and one right-turn lane; this will improve truck flow exiting the freeway as trucks will no longer mix with vehicles going north into West Oakland.
- Upgrade the off-ramp traffic signal allowing right-turning traffic at the off-ramp to go at the same time as the left-turning traffic onto the on-ramp; this will increase the right turning capacity and will mean that more right turning traffic is separated from pedestrians crossing the intersection.
- Redesign the curb radius at the off-ramp; this will make pedestrians more visible to right turning drivers while still accommodating turning trucks.
- Stripe eastbound 5th Street between Union Street and Adeline Street to provide two through lanes and one right-turn lane at Adeline Street; this will separate trucks turning right at Adeline Street from other traffic going straight toward the City of Alameda and Jack London District including the Project site.
- Upgrade the traffic signal at 5th Street to allow right-turning traffic on eastbound 5th Street to go at the same time as the left-turning traffic from Adeline Street; this will increase the right turning capacity toward the Seaport and will mean that more right turning traffic is separated from pedestrians crossing the intersection.
- Upgrade the traffic signal at 5th Street to allow right-turning traffic on northbound Adeline Street to go at the same time as the left-turning traffic from westbound 5th Street; this will increase the right turning capacity leaving the Seaport toward southbound I-880 and will mean that more right turning traffic is separated from pedestrians crossing the intersection.
- Provide signs on eastbound 5th Street directing drivers heading to Jack London District and the Project site to continue straight; this will direct drivers away from Adeline Street and the Seaport access.

Railroad Access

Many more people than currently do will be crossing the railroad tracks to access the Project site both on a day-to-day basis for the non-ballpark development and on event days for the ballpark.

As a result, a series of at-grade and grade separated crossing improvements have been identified for the railroad corridor. The improvements are consistent with solutions identified in the Alameda CTC Grade Crossing Toolkit and their railroad prioritization study; are consistent with Quiet Zone features, which are defined as areas with reduced levels of train horn sound; and consider the *Final Report Oakland Railroad Quiet Zone Study* prepared for the City of Oakland in June 2011. These railroad crossing improvements are required in Mitigation Measure TRANS-3a, as described in Section 4.15.7*, Impacts of the Project,* and are listed here as well.

- Install fencing along both sides of the railroad corridor extending along the Project site's frontage starting at the Schnitzer Steel boundary and continuing to Broadway; this will reduce people crossing the railroad tracks between intersections. This change would alter Embarcadero West circulation as follows:
  - Between Market Street and Schnitzer Steel Embarcadero West would remain two-way with a signalized intersection at Market Street.
  - Between Market Street and Martin Luther King Jr. Way the street would be abandoned such that there would no longer be a motor vehicle intersection at Martin Luther King Jr. Way.
  - The portion of Embarcadero that is south of the active UPRR tracks and between Martin Luther King Jr. Way to Washington Street (and potentially to Broadway) would be physically separated from the railroad tracks by a fence to accommodate a multi-use path. The multi-use path would replace the vehicle street that exists today (emergency vehicles would be accommodated to the extent feasible). The fence line separating the railroad tracks and Embarcadero would be offset from the active track or third track by approximately 10 feet, or the minimum allowable by UPRR. The multi-use path would be up to 30 feet wide between the fence and the existing buildings if the fence is offset from the active track. The portion of Embarcadero between Washington Street and Broadway could also accommodate a multi-use path between the fence and the existing buildings, to the extent feasible, if the existing 12-foot wide vehicle lane were combined with the 8-foot wide sidewalk. On the north side of the railroad Embarcadero West would remain one-way westbound with forced right turns at Jefferson, Clay, and Washington Streets as well as at Broadway. Vehicle access to the Vistra Plant could be via an extension of Water Street at Clay Street or driveway easement and used infrequently solely for site access.
- Upgrade the existing at-grade railroad crossings at Market Street, Martin Luther King Jr. Way, Clay Street, Washington Street and Broadway with quad gates for motor vehicles and separate signals and gates for pedestrians and bicyclists. Provide improved pedestrian and bicycle surfaces at each crossing and clearly defined staging areas for pedestrians and bicyclists to wait as a train passes by; this will reduce the potential for people to cross the railroad tracks when a train is approaching.
- Install a traffic signal at the Market Street at-grade crossing and its intersection with Embarcadero West as well as a traffic signal on Market Street at 3rd Street and make them part of the railroad preemption system; this will reduce the likelihood that a vehicle will be on the tracks when a train approaches.
- Install queue cutter loops on Market Street that would be tied to the Embarcadero West and 3rd Street traffic signals to minimize the potential for motor vehicles to queue across the railroad tracks at all times; similar to a pre-signal, this will provide a means to help prevent vehicles from stopping on the tracks or within the railroad right-of-way as a result of traffic queuing from a downstream signalized intersection.

- While there is no motor vehicle intersection at the Martin Luther King Jr. Way at-grade crossing, install a traffic signal at the at-grade crossing as well as traffic signals at 2nd Street where left turns would be prohibited and at 3rd Street where a left-turn lane would be provided and make them part of the railroad preemption system; this will reduce the likelihood that a vehicle will be on the tracks when a train approaches.
- Install queue cutter loops on Martin Luther King Jr. Way that would be tied to the 2nd Street traffic signal to minimize the potential for motor vehicles to queue across the railroad tracks at all times; similar to a pre-signal this will provide a means to help prevent vehicles from stopping on the tracks or within the railroad right-of-way as a result of traffic queuing from a downstream signalized intersection.

In addition, Mitigation Measure TRANS-3b would require a pedestrian and bicycle overcrossing located at Clay Street or Jefferson Street, or a comparable nearby location, to create a safer and more accessible route for pedestrians and bicyclists traveling to the Project site on both event days and non-event days. It would connect the Transportation Hub at 2nd Street, which is north of the railroad tracks, to Athletics' Way south of the railroad tracks.

Sensitivity Testing of Intersection Operations and Vehicle Queueing

The transportation improvements summarized above are intended to directly benefit Port truck movement by providing additional lanes, by improving the efficiency of intersection operations, and by applying geometric and intersection design features to separate Project-related multimodal traffic from trucks traveling to and from the Seaport. The technical analysis in Appendix TRA shows that Port-related traffic would not be substantially impacted by trips to and from the Project site. Port-related traffic would continue to be able to use Adeline Street to travel between the Port and the I-880 corridor. It is possible, however, that some truck drivers may make the conscious choice to avoid the Adeline Street corridor when there is an event at the ballpark. For this reason, a sensitivity test was performed to analyze traffic conditions that would occur under this scenario. The following eleven intersections were considered in the sensitivity testing:

- Union Street at 7th Street
- Union Street/I-880 On- and Off-Ramp
- Adeline Street at 7th Street
- Adeline Street at 5th Street
- Adeline Street at 3rd Street
- Middle Harbor Road at Maritime Street
- Maritime Street at 7th Street
- I-880 On-Ramp at 7th Street
- I-880 Off-Ramp/Frontage Road at 7th Street
- Maritime Street at West Grand Avenue
- I-80/Frontage Road at West Grand Avenue

Two sensitivity scenarios were studied in which 25 and 50 percent of Port traffic would reroute away from Adeline Street. For each scenario, the stated percentage of traffic using Adeline Street to enter or exit the Port was rerouted to the Port access intersections along 7th Street and West Grand Avenue in proportion to the existing traffic distribution i.e., 32 percent to West Grand Avenue and 68 percent to 7th Street.

Under both scenarios, the intersection of Maritime Street at 7th Street would operate at LOS D during the midday. All other intersections during both the midday and p.m. peak hours would operate at LOS C or better. Average vehicle queue lengths during both the midday and p.m. peak hours would be contained within the available storage for all intersection approaches. This is an indication that the added traffic from rerouting would have no noticeable effect on vehicle queue characteristics from the driver perspective over the one-hour period.

Another metric, 95th percentile queue, was also reported from the analysis and generally reflects the longest queue measured from one signal cycle during the hour; typically, there are about 40 signal cycles per hour. As with the existing conditions (without the Project), the 95th percentile vehicle queues with the Project and with one of the sensitivity scenarios would exceed the storage length at:

- Maritime Street at 7th Street (midday peak hour for both sensitivity tests; p.m. peak hour for 50 percent sensitivity test only) for the eastbound and westbound left turn lanes, which are 125 and 100 feet long, respectively.

These turn pockets lengths, 100 to 125 feet, are generally inadequate for an active Port where a single truck with a trailer could be 75 feet long and so the second truck waiting to turn left would queue beyond the left turn pocket and potentially block the through motor vehicle lane. The differences in the 95th percentile queues are no greater than 25 feet from each scenario to the next, meaning that the change in queue would not be noticeable to drivers passing through the intersection. The change would only be noticeable to a person observing the intersection for the entire one-hour period, when comparing the existing condition to one where 50 percent of the traffic rerouted away from Adeline Street. Traffic signal retiming and coordination are tools used to minimize queue lengths and optimize flow and should be implemented with regular monitoring. Another improvement that could be considered is making lane geometric changes through restriping at the northbound I-880 off-ramp at 7th Street to prioritize truck traffic turning left toward the Seaport.

The sensitivity analysis shows that the transportation network would function well with all but one intersection operating at LOS C or better and average queues within available storage lengths even if some truck drivers avoid the Adeline Street access to the Port and reallocate to the 7th Street and West Grand Avenue Port access points. Per the TMP, if Port-related performance standards are not met, for example due to increased ballpark traffic, additional measures would be implemented, such as additional road closures or traffic control personnel.

Seaport Cut-Through Traffic

As shown on Table 4.15-11, about 110 and 90 passenger vehicles currently cut through the Seaport between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m., respectively, to travel between the Howard Terminal area and the Bay Bridge to avoid traveling on I-880. Cut-through travel patterns

for the Howard Terminal area were analyzed by using location-based services origin-destination data between the Bay Bridge and the western portion of the Jack London District, bounded by Adeline Street, 5th Street, and Broadway, with middle filters set at the Adeline and 7th Street Seaport entrances. The data show that all the cut-through traffic originated at, or was destined for, the Bay Bridge; origins/destinations unrelated to the Bay Bridge were negligible.

Based on observations, the southbound route between the Bay Bridge and the neighborhood adjacent to Howard Terminal is uncongested during both the a.m. and p.m. commute peak periods with the freeway and local streets both operating well. As such, drivers crossing the Bay Bridge and destined for the local neighborhood would tend to remain on I-880 and exit the freeway at the Union Street interchange. Out of 285 cars entering the Port at Maritime Street during the a.m. commute period (7 to 9 a.m.), 46 cars were identified as cutting southbound from the Bay Bridge through the Port. During the p.m. commute period (4 to 6 p.m.), of the 149 cars entering the Port at Maritime Street, 49 cars were identified traveling through the Port (see Table 4.15-11).

Northbound freeway congestion is extensive during the a.m. commute period because vehicle queues from the I-880, I-80, and I-580 converge at the Bay Bridge. Because of the congestion extending back onto northbound I-880, some drivers choose to drive through the Port via Adeline or 7th Streets to Maritime Street rather than accessing the freeway at Union Street. Of the 702 cars that entered the Port from either Adeline or 7th Streets during the a.m. commute period (7 to 9 a.m.), 65 of those cars traveled through the Port and exited at Maritime Street to travel to the Bay Bridge. During the p.m. commute period (4 to 6 p.m.), of the 299 cars that entered the Port, 40 traveled through the Port and exited at Maritime Street toward the Bay Bridge.

Based on the Project development program, it is estimated that an additional 10 a.m. vehicle trips from the site would use Port streets to access the Bay Bridge and fewer than 10 p.m. peak-hour vehicle trips from the site would cut through the Seaport.

Navigational applications such as Waze, Google Maps, and vehicle-based GPS systems route drivers to the fastest route to a destination and would be used by drivers, pedestrians, and bicyclists who travel to and from the ballpark. These applications follow the California Vehicle Code when routing users. Because Adeline, 7th, and Maritime Streets are public roads, these applications route drivers through the Port if the route is fastest. These applications direct drivers originating in the Jack London District to use the I-880 freeway to access the Bay Bridge under days with typical traffic conditions and so these applications are not expected to direct drivers through the Port. Even so, one of the TMP strategies for the ballpark is to collaborate with the navigational application providers to remove, to the extent feasible, one or more Port streets from the application so drivers are routed around the Port rather than through the Port. This could also be achieved by prohibiting certain movements as allowed per the California Vehicle Code, which would remove the route from the application results.

The TMP includes a performance standard for cut-through traffic. If the standard is not met, additional measures would be implemented to reduce cut-through traffic. One possible measure would be preventing eastbound and westbound through movements of private vehicles at the intersection of I-880/Frontage Road and 7th Street to reduce cut-through volumes. Such a

measure would not increase the capacity of the roadway system and so would not cause a significant transportation impact per the significance criteria as described in the City's *Transportation Impact Review Guidelines*.

4.15.6 Significance Criteria

The following thresholds are consistent with OPR guidance and with the City's *Transportation Impact Review Guidelines*. The Project would have a significant impact on the environment if it would:

1. Cause substantial additional VMT per capita, per service population, or other appropriate efficiency measure. Specifically,
   - For residential uses, a project would cause substantial additional VMT if it exceeds existing regional household VMT per capita minus 15 percent.
   - For office uses, a project would cause substantial additional VMT if it exceeds the existing regional VMT per worker minus 15 percent.
   - For retail uses, a project would cause substantial additional VMT if it exceeds the existing regional VMT per worker minus 15 percent.
   - For retail projects greater than 80,000 square feet, a project would cause substantial additional VMT if it results a net increase in citywide total VMT per service population.[20]
   - For the ballpark and performance venue a project would cause substantial additional VMT if it exceeds existing VMT per attendee minus 15 percent where existing VMT per attendee is measured from existing uses at the Coliseum.[21]
2. Conflict with a plan, ordinance, or policy addressing the safety or performance of the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths (except for automobile level of service or other measures of vehicle delay).
3. Substantially induce additional automobile travel by increasing physical roadway capacity in congested areas i.e., adding new mixed-flow lanes or adding new roadways to the network.

The City's current criteria do not include any thresholds specific to Alameda CTC's requirement for an assessment of impacts on the regional transportation network. As discussed in Regulatory Framework, above, Alameda CTC reviews land use actions, such as specific plans and projects, that would cause a net increase of 100 p.m. peak-hour vehicle trips or more. The Alameda CTC guidelines state that impacts to all modes should be considered. To assess vehicle delay on the regional CMP roadway segments near the Project site, Alameda CTC requires use of the Alameda CTC Travel Demand Model. Alameda CTC has not adopted thresholds of significance for CMP land use analysis purposes. In response to this, a fourth criterion is included:

4. For the Alameda CTC analysis, the City of Oakland has, based on its professional judgement and consistent with the 2017 CMP's use of LOS, determined that the implementation of the

[20] While this is not a stated significance criterion in the City of Oakland, it is used here because it is consistent with OPR guidance that recommends that "agencies should analyze the effects of a retail project by assessing the change in total VMT, because retail projects typically re-route travel from other destinations."

[21] While this is not a stated significance criterion in the City of Oakland, it is used here because it is consistent with the guidance used for residential and office VMT thresholds. The threshold applies the same logic used in OPR guidance, measured against per-attendee VMT at the existing Coliseum.

Project would have a significant impact on the CMP roadway segments if implementation of the Project would cause:

- A facility operating at LOS E or better to deteriorate to LOS F, or
- A facility operating at LOS F to continue to operate at LOS F with an increase in the volume-to-capacity (v/c) ratio of 0.03 or more.

Approach to Analysis

Transportation Analysis Methodology

The transportation analysis approach for the Project assessed the adequacy of the existing transportation network and the Project improvements for transit, pedestrians, bicycles, pedestrians, trucks, and automobiles. Daily conditions with non-ballpark development were evaluated, and conditions under peak demand with events at the ballpark. Roadway and pedestrian operations were evaluated using HCM methodologies. The Transit Capacity Research Program's (TCRP's) Transit Capacity and Quality of Service Manual formed the basis for analysis of adequacy of walkway widths at bus stops on event days (TCRP, 2013). Protected bikeway capacities were evaluated using MassDOT Separated Bike Lane Planning and Design Guide. The design of sidewalks and roadways were assessed based on their adherence to the standards established in the Oakland Great Streets Design Guide (City of Oakland, 2018).

Travel Demand Methodology – Non-Ballpark

Trip generation data published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual (Tenth Edition) (ITE, 2017) was used as a starting point to estimate the vehicle trip generation for the non-ballpark development. Reductions were made to the ITE trip generation consistent with the City of Oakland's *Transportation Impact Review Guidelines*, which is based on U.S. Census commute data for Alameda County. Vehicle trips were further reduced to account for the TDM Plan that the Project would implement as required by AB 734 legislation. Vehicle trips were distributed and assigned to the roadway network based on the Alameda CTC Travel Model. Trip generation for walking, biking, and transit trips was estimated using the City's *Transportation Impact Review Guidelines* and U.S. Census data for commute mode share in the Jack London District. A VMT screening was conducted using the MTC Travel Model for residential and commercial uses, and the Alameda CTC Travel Model for retail uses.

Travel Demand Methodology – Ballpark

Trip generation estimates for the ballpark used data from existing uses at the Oakland Coliseum and Oakland Arena as a starting point. Travel mode shares for each event type at the Oakland Coliseum were estimated using location-based driver data, attendance data, BART data, and field observations of TNC vehicles. The distribution of attendee origins and destinations was calculated using location-based services cell phone data for automobiles and BART origin-destination data for BART riders.

This information was used to develop a travel mode choice model for events at the Project site, which addressed mode shift due to the change in location and the change to the geographic distribution of attendee origin locations. Vehicle trip generation was estimated using the estimated travel mode shares and vehicle occupancy data collected at the Oakland Coliseum and

Oakland Arena. Vehicle trips were then reduced and redistributed to walking, bicycling, and transit to account for the ballpark's Transportation Management Plan (TMP), which addresses infrastructure changes considered with the ballpark, event-day operational needs, and a TDM Plan for event-day employees.

A VMT assessment for events at the ballpark was performed using trip distances calculated from location-based cellphone data, as well as the estimated mode share for events at the Oakland Coliseum compared to expected mode shares for events at the proposed ballpark.

Trip Generation – Non-Ballpark Development

Trip generation is the process of estimating the number of vehicles that would likely access the Project; in this case the proposed new development associated with the Project. Trip generation data published by the Institute of Transportation Engineers (ITE) in the Trip Generation Manual (Tenth Edition) (ITE, 2017) was used as a starting point to estimate the vehicle trip generation. The ITE data is based on data collected at mostly single-use suburban sites where the automobile is often the dominant travel mode. However, the Project is in a dense mixed-use urban environment where many trips are walk, bike, or transit trips. Within one mile, the Project site is served by the Lake Merritt, 12th Street, and West Oakland BART Stations as well as the Amtrak Station and Ferry Terminal and is within a 10- to 15-minute walk of 13 AC Transit bus lines and the Broadway Shuttle. Therefore, this analysis reduces the ITE based trip generation by 36.7 percent to account for the non-automobile trips. This reduction is consistent with the City's *Transportation Impact Review Guidelines* and is based on the U.S. Census Committee Data for Alameda County from the 2014 5-Year Estimate of the American Community Survey (ACS), which shows that the non-automobile mode share within one mile of a BART Station in Alameda County is about 36.7 percent.[22]

Table 4.15-26 summarizes the net automobile trip generation for the Project's non-ballpark development. Buildout is estimated to generate about 31,960 daily, 2,340 a.m.-peak-hour, and 2,900 p.m.-peak-hour automobile trips without a TDM Plan. Because the Project is expected to generate more than 100 vehicle trips during a single peak hour, the City's *Transportation Impact Review Guidelines* require a TDM Plan that reduces vehicle trips by 20 percent, the same standard required by AB 734. **To** reduce vehicle trips by 20 percent or more, the Project would need to incorporate a TDM Plan. TDM measures are described in the previous section of this chapter. The Project and the City, through the TDM Plan, would select measures to implement to achieve a 20 percent (or more) reduction in automobile trips and the Project would be required to provide monitoring information on the Plan's effectiveness to the City, so the City could require expanding it if 20 percent vehicle trip reduction is not met. See the *Transportation Demand Management (TDM) Plan – Non-Ballpark Development* section for a detailed description of the TDM Plan considered for the non-ballpark development. The final list of measures would be established prior to issuance of building permits, as called for in Mitigation Measure TRANS-1.

[22] City of Oakland *Transportation Impact Review Guidelines* considers ferry terminals and rail stations in its analysis, Jack London Square Ferry Terminal and Amtrak Station are within 0.5 miles of the project site. Due to the Project scale compared to the ferry and rail capacity, this study also considers BART and uses 0.5 to 1.0 miles as the distance category to apply from the City's *Transportation Impact Review Guidelines*.

Table 4.15-27 on the following page summarizes the automobile, transit, bike, and walk trips for the Project without a TDM Plan.

TABLE 4.15-26
AUTOMOBILE TRIP GENERATION – NON-BALLPARK DEVELOPMENT

Land Use, ITE Code[a]	Units[b]	Daily	A.M. Peak Hour			P.M. Peak Hour		
			In	Out	Total	In	Out	Total
Residential, 222[c]	3,000 du	12,040	206	654	860	628	401	1,029
Office, 710[d]	1,564 ksf	15,290	1,287	210	1,497	248	1,304	1,552
Retail, 820[e]	180 ksf	8,970	150	92	242	403	437	840
Restaurant, 932 [f]	90 ksf	10,100	492	403	895	546	334	880
Hotel, 310[g]	400 rooms	4,090	115	80	195	140	134	274
ITE Trip Generation Subtotal		50,490	2,250	1,439	3,689	1,965	2,610	4,575
Non-Auto Reduction (-36.7%)[h]		-18,530	-826	-528	-1,354	-721	-958	-1,679
Total Vehicle Trips without TDM		**31,960**	**1,424**	**911**	**2,335**	**1,244**	**1,652**	**2,896**
TDM Vehicle Trip Reduction (-20%)		**-6,390**	**-285**	**-182**	**-467**	**-249**	**-330**	**-579**
Total Vehicle Trips with TDM		**25,570**	**1,139**	**729**	**1,868**	**995**	**1,322**	**2,317**

NOTES:
a The performing venue was not included in this trip generation because it is expected to have about 50 events per year, many of which would occur on weekends. Additionally, it would be expected to generate negligible weekday a.m.-peak-hour trips and few p.m.-peak-hour trips due to the likely event schedules.
b DU = Dwelling Units, KSF = 1,000 square feet.
c ITE Trip Generation (10th Edition) land use category 222 (High Rise Housing):
Daily: T = 3.94 * X + 211.81
a.m. Peak Hour: T = 0.28 * X + 12.86 (24% in, 76% out)
p.m. Peak Hour: T = 0.34 * X + 8.56 (61% in, 39% out)
d ITE Trip Generation (10th Edition) land use category 710 (General Office):
Daily: Ln(T) = 0.97 * ln(X) + 2.5
a.m. Peak Hour: T = 0.94 * X + 26.49 (86% in, 14% out)
p.m. Peak Hour: Ln(T) = 0.95 * ln(X) +0.36 (60% in, 40% out)
e ITE Trip Generation (10th Edition) land use category 820 (Shopping Center):
Daily: Ln(T) = 0.68 * ln(X) + 5.57
a.m. Peak Hour: T = 0.5 * X + 151.78 (62% in, 38% out)
p.m. Peak Hour: Ln(T) = 0.74 * ln(X) + 2.89 (48% in, 52% out)
f ITE Trip Generation (10th Edition) land use category 820 (High-Turnover Sit-Down Restaurant):
Daily: T = 112.18 * X
a.m. Peak Hour: T = 9.94 * X (55% in, 45% out)
p.m. Peak Hour: Ln(T) = 9.77 * X (62% in, 38% out)
g ITE Trip Generation (10th Edition) land use category 310 (Hotel):
Daily: T = 11.29 * X - 426.97
a.m. Peak Hour: T = 0.5 * X - 5.34 (59% in, 41% out)
p.m. Peak Hour: T = 0.75 * X - 26.02 (51% in, 49% out)
h The 36.7% reduction is based on data from the City's *Transportation Impact Review Guidelines* for development in an urban environment between 0.5 and 1.0 mile of a BART station, ferry or rail terminal, or major transit corridor.

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

To reduce vehicle trips by 20 percent or more, the Project would need to incorporate a TDM Plan. TDM measures are described in the previous section of this chapter. The Project and the City, through the TDM Plan, would select measures to implement to achieve a 20 percent (or more) reduction in automobile trips and the Project would be required to provide monitoring information on the Plan's effectiveness to the City, so the City could require expanding it if 20 percent vehicle trip reduction is not met. See the *Transportation Demand Management (TDM) Plan – Non-Ballpark Development* section for a detailed description of the TDM Plan considered for the non-ballpark development. The final list of measures would be established prior to issuance of building permits, as called for in Mitigation Measure TRANS-1.

TABLE 4.15-27
TRIP GENERATION BY TRAVEL MODE – NON-BALLPARK DEVELOPMENT WITHOUT TDM PLAN

Travel Mode	Mode Share Adjustment Factors[a]	Daily	Weekday a.m. Peak Hour	Weekday p.m. Peak Hour
Automobile	63.3%	31,960	2,335	2,896
Transit	25.0%			
BART		8,550	625	775
AC Transit		2,140	156	194
Ferry		1,400	102	127
Amtrak		510	38	47
Bike	5.2%	2,620	191	237
Walk	6.6%	3,310	242	300
Total Trips		**50,490**	**3,689**	**4,575**

NOTES:
a Based on the City's *Transportation Impact Review Guidelines*, assuming the project site is in an urban environment between 0.5 and 1.0 mile from a BART station, ferry terminal, or rail station, with "other" modes assigned to transit, bicycling, and walking proportionately. Transit mode share was assigned to BART, AC Transit, ferry, and Amtrak based on 2013-2017 American Community Survey 5-Year Estimates, Table B08006, Alameda County Tract 9832 (U.S. Census Bureau, 2017a; U.S. Census Bureau, 2017b).

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

As noted in **Table 4.15-28**, with the TDM Plan and 20 percent trip reduction, the Project would generate about 25,570 daily, 1,870 a.m.-peak-hour, and 2,320 p.m.-peak-hour automobile trips.

TABLE 4.15-28
TRIP GENERATION BY TRAVEL MODE – NON-BALLPARK DEVELOPMENT WITH TDM PLAN

Travel Mode	Mode Share Adjustment Factors[a]	Daily	Weekday a.m. Peak Hour	Weekday p.m. Peak Hour
Automobile (without TDM)		31,960	2,335	2,898
Automobile (with TDM)	50.6%	25,570	1,868	2,317
Transit	33.6%			
BART		11,500	840	1,042
AC Transit		2,880	210	260
Ferry		1,880	138	171
Amtrak		690	51	63
Bike	7.0%	3,520	257	319
Walk	8.8%	4,450	325	403
Total Trips		**50,490**	**3,689**	**4,575**

NOTES:
a Based on the City's *Transportation Impact Review Guidelines*, assuming the project site is in an urban environment between 0.5 and 1.0 mile from a BART station, ferry terminal, or rail station, with "other" modes assigned to transit, bicycling, and walking proportionately. TMP vehicle trip reductions were redistributed to transit, bicycling, and walking proportionately. Transit mode share was assigned to BART, AC Transit, ferry, and Amtrak based on 2013-2017 American Community Survey 5-Year Estimates, Table B08006, Alameda County Tract 9832.

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

Trip Generation – Ballpark

The ballpark would host 81 regular season baseball games, one to two pre-season games, and up to 11 post-season games. Up to nine concerts would occur each year, and there would be about 35 other small events, 100 corporate/community events, and up to 16 events at the proposed plaza adjacent to the ballpark. A travel mode choice model was developed to estimate trip generation at the ballpark by mode. Mode choice was based on specific geographies of ball game attendees. This information was used to estimate how modes would shift as compared to mode split at the Oakland Coliseum/Oakland Arena. A ballpark at the Project site would result in three primary changes in the travel patterns of attendees, each of which were addressed in the model:

- Attendees who currently take BART to the Oakland Coliseum from origins in and around downtown Oakland would shift modes to access a ballpark at Howard Terminal, to walking, bicycling, transit buses, or TNCs.
- Attendees who currently drive to the Oakland Coliseum from origins near the Project site would shift modes to access a ballpark at the Project site, to walking, bicycling, transit, or TNC.
- Attendees from south or southeast of the Oakland Coliseum site, for whom the Project site represents a longer travel distance, may no longer attend games, replaced by those for whom games would be more conveniently located. Alternatively, those who traveled to the Oakland Coliseum site by walking, bicycling, or transit, may now drive to a ballpark at the Project site.

Most attendees from outside of a five-mile radius of the Project site were modeled as experiencing zero mode shift from a move to the Project site. Mode choice estimation models like the Alameda CTC Travel Model predict mode split based on travel preferences for typical trip purposes and are therefore not well-suited to predict mode share for ballpark events, which have unique travel characteristics and attendee desires. As such, the observed travel preferences of attendees were used to estimate mode shares, except for attendees for whom the move represented a substantial change in the desirability or feasibility of their travel options.

The ballpark would be constructed on the eastern portion of the Project site and have a 35,000-person capacity. The existing Oakland Coliseum has 9,100 parking spaces and a capacity of 47,100 attendees, a ratio of 19.4 percent. If the same ratio (parking spaces to stadium capacity) were applied at Howard Terminal, the Project would provide approximately 6,800 parking spaces (35,000 attendees x 19.4 percent). The Project proposes 3,500 parking spaces for the ballpark under Phase 1, and 2,000 parking spaces for the ballpark under Phase 2. The Project is therefore designed to encourage transportation modes other than private automobiles traveling to, and parking at, the ballpark.

Vehicle occupancy data was collected at entrances to the Coliseum from two hours prior to the start of the game to 30 minutes after game start on September 8, 2018 and June 16, July 2, and July 19, 2019. The average observed vehicle occupancy across these four games was 2.2 occupants per vehicle for all vehicles observed. TNCs within this mix were estimated to represent 8 percent of all vehicles based on entering and exiting vehicle volumes from driveway counts collected at these four games plus at games on September 19 and September 20, 2018. Therefore, the estimated existing average vehicle attendee occupancy was calculated as 2.12 attendees per vehicle (2.2 occupants – 1 TNC driver x 8 percent of vehicles).

The location of the project in a more urban environment with fewer easily accessible parking spaces is expected to increase average vehicle occupancy particularly with a TMP. Based on data collected at event centers with TMPs including at the Golden 1 Center in Sacramento, Oracle Park in San Francisco, Key Arena in Seattle, and Providence Park in Portland, average vehicle occupancies ranged from 2.3 to 2.7. To present a conservative analysis, an average vehicle attendee occupancy of 2.3 attendees per vehicle was used for the project with a TMP.

Three types of game-day scenarios were studied: weekday evening games, which typically start around 7:00 p.m.; weekday day games, which typically start around 12:30 p.m.; and weekend games, which typically start at either 1:00 p.m. or 6:00 p.m. Around half of Oakland A's home games are weekday evening games, about one-sixth are weekday day games, and about one-third are weekend games. The ballpark is anticipated to occasionally host large special events, such as concerts, with at most 35,000 people attending. These events would be similar type of concert events that now occur at the Oakland Arena. Like the baseball games, vehicle trips for these events were estimated under a scenario without and with vehicle trip reduction measures.

Table 4.15-5 summarizes the data sources used to describe existing travel behavior of attendees to Oakland A's games at the Oakland Coliseum and attendees to larger popular events at Oakland Arena, while Figure 4.15-8 and Figure 4.15-9 summarize the distribution of drivers and BART riders and Table 4.15-6 and Table 4.15-7 summarize the existing BART ridership and mode of access, respectively, to the existing Oakland Coliseum.

Mode Shift of Current BART Riders

Some attendees who currently take BART to the Oakland Coliseum would switch modes to attend games at the Project site. Depending on the origin station, varying proportions of attendees would switch to TNCs, walking, bicycling, [23] buses, or ferries. Attendees who currently use BART to attend games were estimated to continue to be non-drivers, and therefore none would switch to driving a personal vehicle because driving will be much more inconvenient at Howard Terminal where on-site parking is limited and many of those using a personal vehicle will be required to park off-site, potentially pay more for parking, and walk up to one mile; compared to the Oakland Coliseum where parking is plentiful and within 1,200 feet of the stadium. See Appendix TRA for supporting evidence regarding mode shift changes of current BART riders.

Attendees who take BART from the three Downtown Oakland BART stations or the West Oakland BART station to games at the Oakland Coliseum would not use BART if games were played at the Project site. West Oakland, 12th Street Oakland City Center, and Lake Merritt stations are the three closest stations to the Project site and are roughly equidistant to the site. The 19th Street Oakland station is also close to the Project site, and attendees would not ride BART to travel from 19th Street to 12th Street. Without a TMP strategy, those using BART to travel to the Project site would alight at the three closest stations and mostly either walk to the ballpark, take a TNC, or use micromobility such as a bike or e-scooter with a small percentage taking the Broadway Shuttle (for weekday games only, as the Broadway Shuttle does not currently operate on weekends).

[23] Bicycling includes shared micromobility options like docked and dockless bike share and e-scooters.

Some riders who currently take BART to the Oakland Coliseum from the MacArthur, Ashby, Rockridge, or Fruitvale BART stations would switch modes to TNCs or driving, as the closer location makes these rides more economical, and the ability to use local roads and the greater distance of the ballpark from BART stations makes TNC rides more time attractive. Lastly, some attendees who currently take BART from the San Francisco stations of Embarcadero and Montgomery would switch to ferries for the game types and times when convenient ferry service is provided. This is primarily arrivals for weekday evening games and departures from weekend games without a TMP strategy, as ferry service for other time periods is either not provided or not well-timed to game attendance needs.

Mode Shift of Current Drivers

Some attendees who currently drive to the Oakland Coliseum from areas near the Project site would also switch modes to attend games at the Project site. Most attendees within one mile of the Project site would switch to walking or using micromobility with a small number taking a bus. At one to two miles from the Project site, most current drivers would switch to TNCs, use micromobility, or take the bus, with a small number continuing to drive themselves. For current drivers between two and five miles from the Project site, the majority would remain drivers, with those switching modes using TNCs. See Appendix TRA for supporting evidence regarding mode shift changes of current drivers.

In addition to attendees close to the Project site, some who drive to the Oakland Coliseum from locations less than about 1.5 miles away from the Oakland Coliseum would change modes to BART or TNCs, as driving from those locations becomes more onerous with a move to the Project site.

Geographic Shift of Attendees

Moving to a new ballpark at the Project site would not only cause mode shift for some current attendees, but also result in a new geographic distribution of attendees. Fewer attendees would hail from areas south or southeast of the Oakland Coliseum, as travel distances and travel times would increase for those fans, while areas with shorter travel times and distances to the Project site would have a larger distribution of attendees. See Appendix TRA for supporting evidence regarding trip distribution changes from ballpark relocations.

Travel times for BART riders from south of the Coliseum station would increase by at least 30 minutes to get to the Project site compared to the Oakland Coliseum, taking into consideration both time on BART and time walking to the Project site. Additionally, all riders at stations from Castro Valley and beyond along the Dublin/Pleasanton line, and some riders at stations from Hayward and beyond along the Warm Springs/South Fremont line, would either change trains at Lake Merritt to get to 12th Street, continue to the West Oakland station, or walk the additional distance (about 1.1 miles) from the Lake Merritt station to the ballpark. Because of these factors, ridership from stations south or southeast of Bay Fair was reduced.

Drivers from south of the Oakland Coliseum would also see their travel times substantially increased with the move to the Project site. Although the Project site is only about six miles north of the Oakland Coliseum, that travel would be during peak commuting hours for arrivals to

weekday evening games and departures from weekday day games. Uncongested travel times to cover the six miles is about 10 minutes while congested travel times are between 18 and 40 minutes depending on traffic conditions. In addition, drivers would need to park up to one mile from the Project site and walk up to 20 minutes to the Project site. As a result, relocating the ballpark to the Project site could add anywhere from 30 to 60 minutes to travel times depending on game type. As such, the number of drivers from locations more than 20 miles south or southeast of the Project site were reduced. Traffic on weekends is less peaked, but the longer travel distances would still discourage some people from those locations from attending.

Geographic locations with gains in attendance, by contrast, would be concentrated in close-in areas in Oakland and Alameda, as well as other areas where the Project site represents a more convenient trip, like San Francisco, northern Alameda County, and central and northern Contra Costa County. The distribution of these attendance gains was established through discussion with the A's and their expectation that more fans would be attracted from the east bay. The mode split of attendees from these locations varied depending on availability and ease of transportation options.

Figure 4.15-40 summarizes the resulting distribution of drivers and BART riders to a 35,000-capacity baseball game at Howard Terminal.

Estimated Ballpark Mode Split and Trip Generation

The Oakland Coliseum attendee travel characteristics were adjusted to reflect the mode shift of current BART riders, mode shift of current drivers, and geographic shift from relocating the ballpark to the Project site.

Absent a TMP, ample parking would be available for those whose primary mode preference is driving and **Table 4.15-29** summarizes the calculated automobile trip generation for each game type at the Project site. TNC trips were adjusted to account for the fact that each TNC trip must both enter and exit the area when dropping off or picking up passengers.

Consistent with the legislative requirements set forth in AB 734, the ballpark component of the Project is required to reduce the number of vehicle trips by 20 percent compared to the scenario without a TMP. See the *Transportation Management Plan (TMP) – Ballpark* section for a detailed description of the TMP considered for the ballpark trip generation analysis. **Table 4.15-30** and **Table 4.15-31** summarize the estimated mode share for maximum capacity events at the ballpark without and with a TMP, respectively.

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SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-40
Weekday Evening Game
Anticipated Geographic Distribution of Oakland A's Game Attendees at Howard Terminal

ESA

TABLE 4.15-29
AUTOMOBILE TRIP GENERATION FOR BALLPARK

	Weekday Evening[a]		Weekday Day[a]		Weekend[a]		Concert[b]	
	Attendee Mode Share	Total Vehicle Trips[c]	Attendee Mode Share	Total Vehicle Trips[c]	Attendee Mode Share	Total Vehicle Trips[c]	Attendee Mode Share	Total Vehicle Trips[c]
Drive	57%	20,590	57%	20,360	62%	22,230	58%	20,610
Ride-sourcing[d]	18%	11,850	19%	12,600	18%	11,590	19%	12,840
Total Auto Trips w/out TMP		32,440		32,960		33,820		33,450
TMP Vehicle Trip Reduction (-20%)[e]		-6,490		-6,590		-6,760		-6,690
Total Auto Trips with TMP		25,950		26,370		27,060		26,760

NOTES:
a Assume a 35,000-attendee game with 1,320 employees.
b Assume a 35,000-attendee event with 1,200 employees.
c Auto occupancy of 2.12 attendees per vehicle used for both drive and ride-sourcing trips without the TMP. Per City's *Transportation Impact Review Guidelines*, 63.3% of employees estimated to drive, with single occupant vehicles assumed for calculation purposes.
d Ride sourcing involves two vehicle trips for each leg—one to pick up the passenger and one to drive to the passenger's destination.
e See Table 4.15-23 describing groups of strategies with a range of effectiveness illustrating the TMP can achieve a 20% VTR.

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

TABLE 4.15-30
ATTENDEES BY TRAVEL MODE – BALLPARK WITHOUT TMP

	Weekday Evening[a]		Weekday Day[a]		Weekend[a]		Concert[b]	
	% Mode Share[c]	Persons[c]	% Mode Share[c]	Persons[c]	% Mode Share[c]	Persons[c]	% Mode Share[c]	Persons[c]
Drive[d]	57%	20,060	57%	19,810	62%	21,790	58%	20,230
BART	21%	7,380	20%	7,130	17%	6,100	18%	6,350
Ride-sourcing[d]	18%	6,280	19%	6,680	18%	6,140	19%	6,810
Walk	2%	760	3%	890	2%	600	3%	1,150
Bus	1%	300	1%	330	1%	280	1%	330
Bicycle	<1%	50	<1%	60	<1%	40	<1%	60
Ferry	<1%	170	<1%	100	<1%	50	<1%	60

NOTES:
a Assume a 35,000-attendee game.
b Assume a 35,000-attendee event.
c Represents average of arrival and departure travel mode shares, which may vary slightly. Represents primary mode of travel.
d Average vehicle occupancy of 2.12.

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

TABLE 4.15-31
ATTENDEES BY TRAVEL MODE – BALLPARK WITH TMP

	Weekday Evening[a]		Weekday Day[a]		Weekend[a]		Concert[b]	
	% Mode Share[c]	Persons[c]	% Mode Share[c]	Persons[c]	% Mode Share[c]	Persons[c]	% Mode Share[c]	Persons[c]
Drive[d]	50%	17,330	49%	17,120	54%	18,840	50%	17,490
BART	23%	8,040	22%	7,810	21%	7,150	21%	7,120
Ride-sourcing[d]	16%	5,430	17%	5,770	15%	5,310	17%	5,890
Walk	4%	1,500	5%	1,600	3%	1,000	5%	1,870
Bus	3%	1,200	3%	1,200	3%	1,200	3%	1,130
Bicycle	1%	500	1%	500	1%	500	1%	500
Ferry	3%	1,000	3%	1,000	3%	1,000	3%	1,000

NOTES:

See Table 4.15-23 describing groups of strategies with a range of effectiveness illustrating the TMP can achieve a 20% VTR.

a Assume a 35,000-attendee game.
b Assume a 35,000-attendee event.
c Represents average of arrival and departure travel mode shares, which may vary slightly. Represents primary mode of travel
d Average vehicle occupancy of 2.3.
e Includes attendees who walk to/from a shuttle from their origin/destination.

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

Site Access Trip Assignments

The automobile, bike, and pedestrian trips generated by the non-ballpark development as well as the ballpark were assigned to the transportation network. Automobile trips were assigned to the roadway network based on typical routes of travel between the Project site and the locations identified during trip distribution such as freeway interchanges, taking into account vehicle turn restrictions and TNC routing restrictions expected to be in place during pre- and post-event conditions at the ballpark. Pedestrian trips were assigned based on route directness and expected quality of the pedestrian experience. Bicycle trips were assigned based on routes that would provide the highest quality bicycle infrastructure available to the riders.

- **Figure 4.15-41** illustrates the assignment of automobile traffic by the non-ballpark development for the weekday p.m. peak hour.
- **Figure 4.15-42** illustrates the assignment of bicycle traffic by the non-ballpark development for the weekday p.m. peak hour.
- **Figure 4.15-43** illustrates the assignment of pedestrian traffic by the non-ballpark development for the weekday p.m. peak hour.
- **Figure 4.15-44** illustrates the assignment of automobile traffic by the ballpark for the weekday evening baseball game with 35,000 attendees.
- **Figure 4.15-45** illustrates the assignment of bicycle traffic by the ballpark for the weekday evening baseball game with 35,000 attendees.
- **Figure 4.15-46** illustrates the assignment of pedestrian traffic by the ballpark for the weekday evening baseball game with 35,000 attendees.

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SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-41
Non-Ballpark Development PM Peak Hour Volumes - Automobiles

ESA

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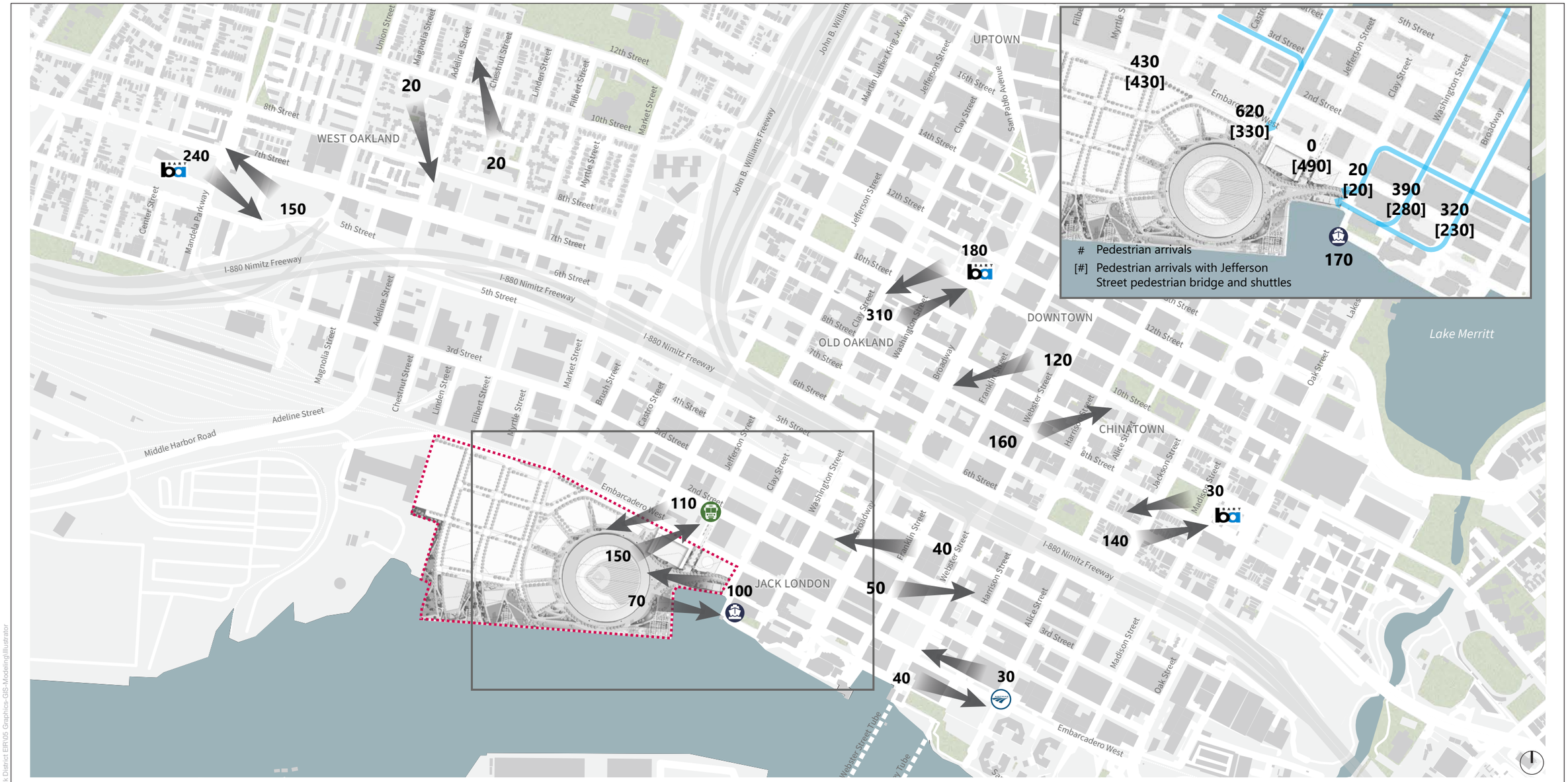
SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-42
Non-Ballpark Development PM Peak Hour Volumes - Bicycles

ESA



Note: Volumes represent pedestrian demand, which may be served by walking, shuttles, or micromobility.

SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-43
Non-Ballpark Development PM Peak Hour Volumes - Pedestrians

ESA

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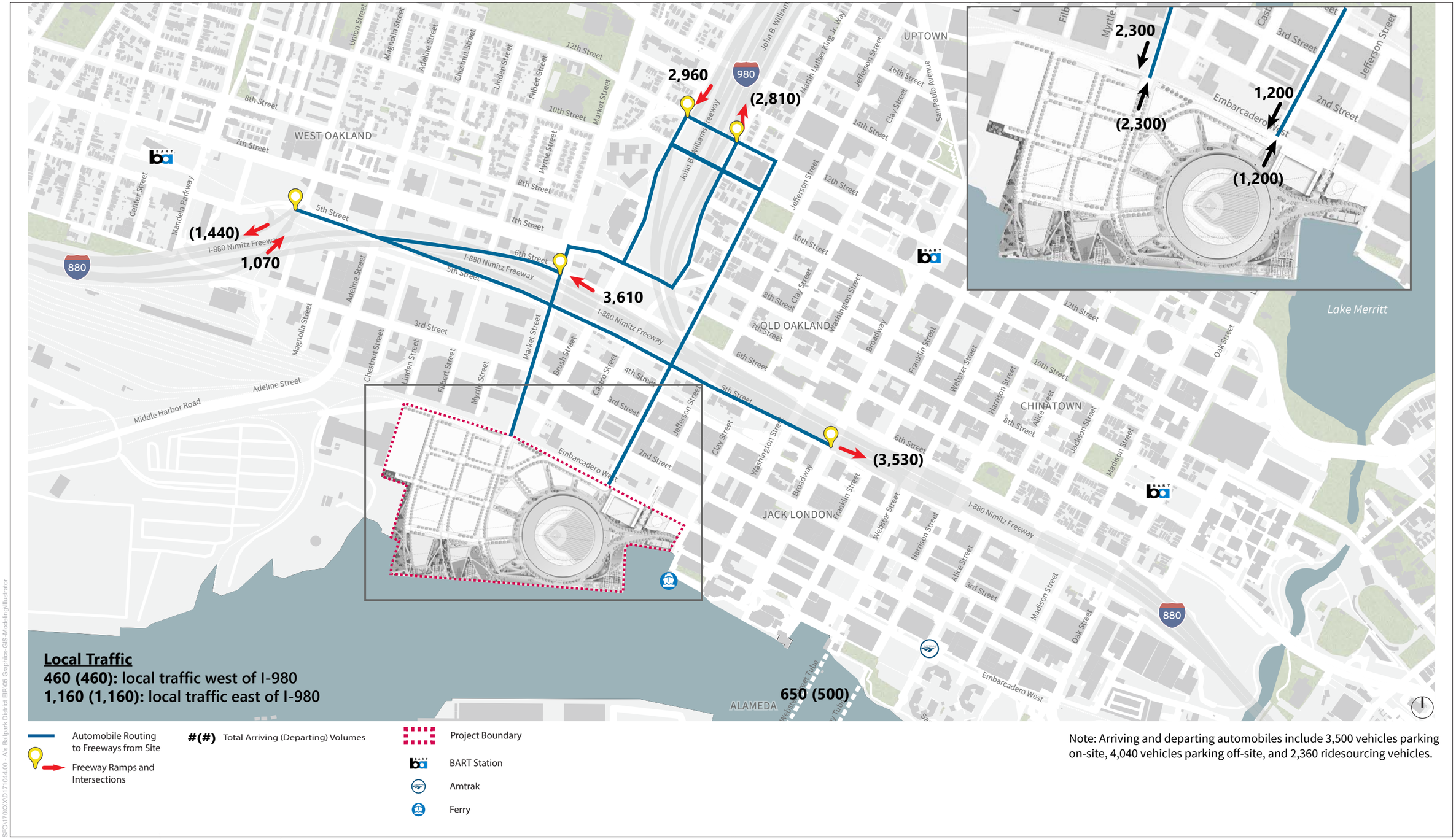

SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-44
Ballpark Weekday Evening Game Volume and Distribution - Automobiles

Note: Volume and distribution of bicycles is similar is similar for arrivals and departures.

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SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-45
Ballpark Weekday Evening Game Total Arrivals - Bicycles

ESA

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SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-46
Ballpark Weekday Evening Arrivals - Pedestrians

ESA

Vehicle Miles Traveled

Many factors affect travel behavior, including density of development, diversity of land uses, design of the transportation network, access to regional destinations, distance to high-quality transit, development scale, demographics, and transportation demand management. Typically, low-density development that is located at a great distance from other land uses, in areas with poor access to non-single occupancy vehicle travel modes, generates more automobile travel compared to development located in urban areas, where a higher density of development, a mix of land uses, and travel options other than private vehicles are available. As shown in the analysis above, the non-ballpark development associated with the Project is estimated to generate about 50 percent of the automobile trips with a TDM Plan than the same development located in a more suburban setting (Table 4.15-28). This is a result of the large amount of non-automobile trips that occur within an urban transit-rich environment. Many vehicle trips are eliminated given many trips occur via foot, scooters or bikes, and transit. As discussed above, the Project is very accessible via transit including several BART stations, Amtrak, the ferry, AC Transit, and the Broadway "B" Shuttle.

The City of Oakland General Plan LUTE, as well as the City's Public Transit and Alternative Mode and Complete Streets Policies, state a strong preference for encouraging the use of non-automobile transportation modes, such as transit, bicycling, and walking. These policies favor the greatest mobility for people rather than vehicles, giving due consideration to the environmental, public safety, economic development, health, and social equity impacts. The Project would provide for high-density development in a compact area with excellent pedestrian and bicycle infrastructure, and transit improvements and incentives would be prioritized to ensure that the Project meets the City's existing policies.

The high usage of non-auto modes is due to the Project locating a diverse and dense set of land uses within proximity to transit. Major transit nodes include the West Oakland, Lake Merritt, and 12th Street BART Stations; the Amtrak Station; the Ferry Terminal; the Transportation Hub on 2nd Street at Jefferson Street (Mitigation Measure TRANS-1c); and the bus-only lanes on Broadway from Embarcadero West to 11th Street (Mitigation Measure TRANS-1d), all of which are connected by AC Transit bus routes through downtown. By providing a mix of uses in a dense walkable urban environment with quality pedestrian, bicycle, and transit infrastructure and a limited parking supply, the Project would encourage the use of non-automobile transportation modes. Policies and infrastructure improvements, as outlined in this chapter, would also provide for safer and more attractive pedestrian, bicycle, and transit infrastructure, and further encourage these travel modes.

Further supporting this preference for encouraging non-automobile transportation modes, the City's guidelines require new developments to implement TDM strategies that directly encourage more residents, employees, and visitors to shift from driving alone to other travel modes. The TDM strategies described in the *Transportation and Parking Demand Management – Non-Ballpark Development* section would consist of strategies that incentivize travel by non-automobile modes, such as discounted transit tickets, and strategies that disincentive travel by automobile, such as higher parking fees.

The Office of Planning and Research established that the VMT metric is the appropriate metric to fully account for the many factors that affect travel behavior described above, and specifically indicated that VMT should be reported on a per capita basis for residential uses and a per worker basis for office uses.

Non-Ballpark Development VMT Estimate Approach

Estimating VMT requires the use of travel demand models to fully capture the length of trips on the transportation network as well as the changes in VMT behavior that may occur with the introduction of the Project. This analysis uses two travel demand models to analyze the VMT impacts of the Project. The VMT analysis for the residential and commercial components of the Project uses the MTC Travel Model while the VMT analysis for the retail component uses the Alameda CTC Countywide Travel Demand Model. The following describes how the two models estimate VMT.

MTC Travel Model

Neighborhoods within Oakland are expressed geographically in transportation analysis zones, or TAZs. The MTC Travel Model includes approximately 120 TAZs within Oakland that vary in size from a few city blocks in the downtown core, to multiple blocks in outer neighborhoods, to even larger geographic areas in lower density areas in the hills. TAZs are used in transportation planning models for transportation analysis and other planning purposes.

The MTC Travel model assigns all predicted trips within, across, to or from the nine-county San Francisco Bay Area region on the roadway network and the transit system, by mode (single-driver and carpool vehicle, biking, walking, or transit) and transit carrier (bus, rail) for a given development and network scenario.

The travel behavior from MTC Travel Model is modeled based on the following inputs:

- Socioeconomic data developed by the Association of Bay Area Governments.
- Population data created using 2000 U.S. Census and modified using the open source PopSyn software.
- Zonal accessibility measurements for destinations of interest.
- Travel characteristics and automobile ownership rates derived from the 2000 Bay Area Travel Survey.
- Observed vehicle counts and transit boardings.

The daily VMT output from the MTC Travel Model for residential and commercial uses comes from a tour-based analysis. The tour-based analysis examines the entire chain of trips over the course of a day, not just trips to and from the Project site. In this way, all the VMT for an individual resident or worker is included, not just trips to and from the person's home or workplace. For example: a resident leaves her apartment in the morning, stops for coffee, and then goes to the office. In the afternoon she heads out to lunch, and then returns to the office, with a stop at the drycleaners on the way. After work she goes to the gym to work out, and then joins some friends at a restaurant for dinner before returning home. The tour-based approach would

add up the total amount driven and assign the daily VMT to this resident for the total number of miles driven on the entire "tour."

Based on the MTC Travel Model, the regional average daily VMT per resident is 15.0 under 2020 conditions and 13.8 under 2040 conditions, and the regional average daily VMT per worker is 21.8 under 2020 conditions and 20.3 under 2040 conditions. MTC has calculated these same metrics for every TAZ in the nine-county Bay Area (MTC, n.d.).

Alameda CTC Travel Model

The MTC model does not calculate retail-based service population VMT where service population is defined as workers plus residential population, and so the Alameda CTC travel model is used to estimate VMT for the retail component of the Project. Like the MTC Model, neighborhoods within Oakland are expressed geographically in TAZs. The Alameda CTC Travel Model includes approximately 370 TAZs within Oakland that vary in size. Generally, Oakland TAZs in the Alameda CTC model are smaller than those in the MTC model.

The travel behavior for the Alameda CTC Model is based on the same inputs as described above for the MTC Model but produces outputs differently. As opposed to the MTC's tour-based analysis, the Alameda CTC model is a trip-based analysis. That is to say that it tracks trips to and from TAZs (or project sites) but does not keep track of the entire chain of trips over the course of a day. Thus, the Alameda CTC model does not track VMT for a specific resident or worker over an entire day. The overall regional VMT values estimated by the two models are comparable even though the two models use different methodologies to estimate VMT. The benefits of using the Alameda CTC Model compared to the MTC Model include:

- Increased granularity (finer level of detail) in Alameda County.
- Ease of use and fewer degrees of assumptions that could influence results.
- Consistency with regional planning despite less complexity than MTC Model.
- Ability to track retail trips.

Based on these factors, the Alameda CTC Model was used for the VMT analysis to capture city-level scale VMT impacts for the retail component of the Project using service population, while still maintaining consistency with the MTC Model and regional planning.

4.15.7 Impacts of the Project

Vehicle Miles Traveled

Impact TRANS-1A Non-Ballpark Development: VMT per capita generated by the residential and commercial components of the Project would be more than 15 percent below the regional averages, and citywide VMT per service population would remain the same without and with the retail component of the Project, resulting in a less-than-significant impact for the residential and commercial components of the Project. VMT generated by the performance venue would be more than 15 percent below similar uses with a TDM Plan, resulting in a less-than-significant impact for the ballpark component of the Project. (Criterion 1) (*Less than Significant with Mitigation*)

VMT Analysis – Non-Ballpark Development

This section evaluates impacts of the Project's non-ballpark development on the transportation network under Existing and 2040 conditions consistent with the City's *Transportation Impact Review Guidelines*, which state that VMT impacts would be less than significant for the Project if any of the identified screening criteria are met:

- *Criteria #1: Small Projects* – The Project generates fewer than 100 vehicle trips per day.
- *Criteria #2: Low-VMT Areas* – The Project meets map-based screening criteria by being in an area that exhibits below-threshold VMT, or 15 percent or more below the regional average.
- *Criteria #3: Near Transit Stations* – The Project is in a Transit Priority Area or within one-half mile of a Major Transit Corridor or Stop and satisfies the following:
  - Has a floor area ratio (FAR) of more than 0.75.
  - Does not includes more parking for use by residents, customers, or employees of the project than other typical nearby uses, or more than required by the City (if parking minimums pertain to the site) or allowed without a conditional use permit (if minimums and/or maximums pertain to the site).
  - Is consistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the MTC).

Residential and Commercial VMT Analysis Screening

This section describes the VMT per capita for the residential component of the Project and the VMT per worker for the office, retail, and restaurant components of the Project. The City's *Transportation Impact Review Guidelines* specify that hotels are considered residential for screening and analysis purposes.

Criterion 1: Per Table 4.15-26 the Project would generate more than 100 trips per day and therefore does not meet Criterion #1.

Criterion 2: **Table 4.15-32** describes the 2020 and 2040 VMT for the TAZs that make up the Project site as well as applicable VMT thresholds of 15 percent below the regional average. As shown in Table 4.15-32, the 2020 and 2040 average daily VMT per capita and VMT per worker in the Project TAZs are more than 15 percent below the regional averages. The Project would generate less VMT than 15 percent below the regional averages and its impact would be less than significant for the residential

and commercial portions of the Project. The Project would satisfy Criterion #2. Accordingly, the Project would not result in a significant transportation impact with respect to the VMT criteria for residential and commercial development.

TABLE 4.15-32
DAILY VEHICLE MILES TRAVELED PER CAPITA

Land Use	2020		2040		Weighted Average TAZ 966 and 967[a]	
	Regional Average	Regional Average Minus 15%	Regional Average	Regional Average Minus 15%	2020	2040
Residential (VMT per capita)[b]	15.0	12.8	13.8	11.7	6.4	6.6
Commercial (VMT per worker)[c]	21.8	18.5	20.3	17.3	16.5	14.2

NOTES:
a VMT per resident weighted by TAZ population; VMT per worker weighted by TAZ employment.
b MTC Model results at analytics.mtc.ca.gov/foswiki/Main/PlanBayAreaVmtPerCapita and accessed in December 2018.
c MTC Model results at analytics.mtc.ca.gov/foswiki/Main/PlanBayAreaVmtPerWorker and accessed in December 2018.
SOURCE: Fehr & Peers, 2020. (Appendix TRA)

Criterion 3: The Project is located adjacent to the San Francisco Bay Ferry Terminal, within a one-mile area that includes the Lake Merritt, 12th Street, and West Oakland BART Stations, the Amtrak Rail Station, and within a 10- to 15-minute walk of 13 AC Transit bus routes serving downtown and beyond. The Project would satisfy Criterion #3 because it would meet all the following three conditions for this criterion:

- The project has a FAR greater than 0.75. (Satisfied)
- The Project allows for structured parking spaces and includes parking maximums in its development policies. As described in the Parking subsection starting on page 4.15-80, the parking maximums proposed by the Project are less than the current demand rates for similar nearby uses. (Satisfied)
- The Project is located within the Downtown and Jack London Priority Development Area (PDA) as defined by Plan Bay Area and is therefore consistent with the region's Sustainable Communities Strategy. (Satisfied)

Regional Retail VMT Analysis

The Project proposes 270,000 square feet of retail uses and is considered regional-serving retail because it would exceed 80,000 square feet of retail. A full VMT analysis is recommended for regional serving retail because larger retail projects typically reroute travel from other destinations potentially increasing total VMT in the area under consideration.

To assess the VMT generated by the retail component of the Project, the total accounting method was used to understand the development's influence on overall city-wide travel behavior. As opposed to analyzing only Project trips, analyzing the Project's retail VMT impacts requires understanding how the proposed development would interact with other uses in the region, as adding retail uses could affect the shopping and employment decisions of residents and workers

in Oakland and other parts of the region. This is consistent with OPR guidance that recommends that "agencies should analyze the effects of a retail project by assessing the change in total VMT, because retail projects typically re-route travel from other destinations." This analysis was completed using the Alameda CTC travel demand model.

The base 2020- and 2040-year Alameda CTC Models were run for the Project. Results are shown in **Table 4.15-33** for the Total Accounting Method[24] (or Origin-Destination Method) for the retail component of the Project. The City of Oakland VMT per service population (defined as total number of residents plus workers within the city) is approximately 17.3 miles in 2020 and 17.2 miles in 2040 with or without the retail component of the Project. While the VMT per service population would experience a slight reduction, the Project would result in a marginal (i.e., less than 1 percent) overall increase in total VMT and the VMT per service population would remain essentially the same.

TABLE 4.15-33
CITY OF OAKLAND VMT PER SERVICE POPULATION – FULL ACCOUNTING

	2020			2040		
	No Project	Plus Project	Difference	No Project	Plus Project	Difference
Population	487,700	487,700	0	678,400	678,400	0
Employment	243,600	244,140	540	335,630	336,170	540
Service Population	731,300	731,840	540	1,014,030	1,014,570	540
VMT[a]	12,643,000	12,659,000	16,000	17,369,000	17,394,000	25,000
VMT/Service Population	17.3	17.3	0.0	17.1	17.1	0.0

NOTES:
a Citywide VMT generated by City of Oakland as estimated by the Alameda CTC Model.
SOURCE: Alameda CTC Model and Fehr & Peers, 2020. (Appendix TRA)

Regional Retail VMT Analysis Conclusions – A project with regional-serving retail would cause substantial additional VMT if it results in a net increase in citywide VMT per service population. As noted in Table 4.15-33, the retail component of the Project maintains the same citywide VMT per service population of 17.3 for year 2020 and 17.1 for year 2040. Therefore, the retail component of the Project has a less-than-significant impact on VMT.

Performance Venue VMT Analysis

Due to its relatively unique use, VMT per attendee for the 3,500-seat performance venue component of the Project cannot be assessed using the screening criteria or the regional travel demand models used for the other components of the Project. The threshold this study uses for assessing substantial additional VMT is if the VMT per attendee at the performance venue

[24] The total account method, also known as origin-destination method, tracks all vehicle trips generated by the city of Oakland (including the proposed Project) across the entire regional network. These trips are then multiplied by the distance traveled to determine the total VMT, and this total is then divided by the total residential and employment populations to establish the VMT per service population.

exceeds the existing VMT per attendee at similar events, as represented by concerts at Oakland Arena, minus 15 percent.

Data from Oakland Arena was used to estimate the travel mode characteristics for the Project's performance venue. Table 4.15-7 presents the Oakland Arena's travel characteristics, which differ from those for the baseball games at the Oakland Coliseum. The geographic distribution of the arena attendees also differs from baseball game attendees. Concert attendees use the San Francisco BART stations and drive from San Francisco in greater numbers than the baseball attendees while there are fewer arena attendees using BART or driving from the Castro Valley and Dublin/Pleasanton areas.

Average trip lengths for the studied events were calculated using shortest network distance between trip origin/destination locations and Oakland Arena established from location-based services cell phone data. Estimated trip lengths for the performance venue were calculated using shortest network distance between these trip origin/destination locations and the Project site for the studied events, with the trip distribution modified to account for a changed geographic composition of attendees and a shifted travel mode for attendees near the Project site. **Table 4.15-34** presents the existing travel characteristics and VMT of concerts at Oakland Arena and the estimated travel characteristics and VMT of events at the Project's performance venue.

TABLE 4.15-34
TRAVEL CHARACTERISTICS AT OAKLAND ARENA AND THE PERFORMANCE VENUE

Event Type	Travel Mode			Average Trip Length (mi)	VMT per Attendee
	Drive	TNC	Other Modes		
Concerts at Oakland Arena (existing)[a]	74%	6%	20%	12	10.5
Events at Project Performance Venue (estimated)	58%	19%	23%	11	9.0
				VMT per Attendee Reduction	**-14%**

NOTES:
a Represented by high-demand concerts at Oakland Arena in 2017: Red Hot Chili Peppers (3/12), Panic! At the Disco (3/25), Roger Waters (6/10), Arcade Fire (10/21), Enrique Iglesias and Pitbull (10/28), and Jay-Z (12/16).
SOURCE: Fehr & Peers, 2020. (Appendix TRA)

Although attendees to events at the performance venue are expected to have lower average VMT than attendees at concerts at Oakland Arena, the estimated VMT per attendee reduction does not meet the threshold used in this analysis, which is to reduce VMT to a level of 15 percent below similar existing uses. Implementation of a TDM Plan, components of which are incorporated into the Project Description (see Chapter 3), would substantially reduce VMT for the entire development, of which the performance venue is one component.

Performance Venue VMT Reduction with Transportation Management Plan

Per AB 734, the Project's non-ballpark development, which includes the performance venue, would be required to incorporate a TDM Plan that would reduce vehicle trip generation by at least 20 percent. By reducing vehicle trips, the VMT would also be reduced with differences

attributable to different average trip lengths without and with a TDM Plan. The TDM Plan would incorporate a wide variety of measures to reduce vehicle demand and other transportation-related impacts of the performance venue. The TDM strategies described in the *Transportation and Parking Demand Management – Non-Ballpark Development* section illustrate a mix of strategies that could be employed with a TDM Plan that would reduce vehicle trips and the associated VMT to below the VMT threshold. Because the TDM Plan is required to reduce the impacts of the Project's performance venue has not been defined with specificity and would require continued monitoring and adjustment, a mitigation measure is included to ensure its implementation and ongoing effectiveness. (See Mitigation Measure TRANS-1a below.)

Table 4.15-35 presents the total daily VMT of the performance venue with an at-capacity event and calculates the percentage reduction in VMT. The TDM Plan would reduce vehicle trips by at least 20 percent consistent with requirements of AB 734. Total VMT for the performance venue would be reduced by 17 percent compared to without the TDM Plan. The VMT reduction from the TDM Plan is in addition to the VMT reductions attributable to the Project's location (see Table 4.15-34). The performance venue would therefore have a less-than-significant impact on VMT with incorporation of a TDM Plan.

TABLE 4.15-35
TDM PLAN VMT REDUCTION FOR PERFORMANCE VENUE EVENT DAYS

Event Type	Daily Trips	Average Trip Length (mi)	Total VMT
Without TDM Plan			
Performance Venue	2,860	11.4	32,700
With TDM Plan			
Performance Venue	2,290	11.8	27,000
		TDM Plan VMT Reduction (mi)	**-5,700**
		TDM Plan VMT Reduction (%)	**-17%**

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

Performance Venue VMT Analysis Conclusions – Projects that reduce VMT to at least 15 percent below similar existing uses are considered to have a less-than-significant VMT impact. The TDM Plan would result in VMT reductions for the performance venue of 17 percent, which means that the performance venue would have a less-than-significant impact on VMT with the TDM Plan.

VMT Analysis Conclusions – Non-Ballpark Development

Overall, the Project's non-ballpark development would have a less-than-significant impact on VMT because:

- VMT per capita generated by the Project would be more than 15 percent below the regional averages and would thus be less than significant for the residential and commercial i.e., office, retail, and commercial components of the project.

- Citywide VMT per service population would remain the same without and with the retail/restaurant component of the Project, which would be less than significant for the regional retail component of the Project.
- VMT generated by the Project for the performance venue would be more than 15 percent below existing similar uses with a comprehensive TDM Plan encompassing the entirety of the non-ballpark development including the parking maximums described in Chapter 3, *Project Description*.

A TDM Plan is proposed as part of the Project's non-ballpark development to meet requirements of AB 734 and would include implementation of strategies to provide incentives that encourage walking, biking, and transit and reduce private automobile trips and parking demand. Because the TDM Plan is required to reduce VMT for certain components of the Project and would require continued monitoring and adjustment, the following mitigation measure is included to ensure VMT for the overall project would be below the City's CEQA significance thresholds.

Mitigation Measure TRANS-1a: Transportation and Parking Demand Management (TDM) Plan.

This mitigation measure is intended to ensure that the Project achieves a 20 percent project VTR for the non-ballpark development over conditions without a TDM Plan, as prescribed in AB 734.

A separate TDM Plan shall be prepared for each building within the non-ballpark development unless otherwise approved by the City. The building owner or their designee shall submit a Transportation and Parking Demand Management (TDM) Plan for the non-ballpark development for review and approval by the City prior to building occupancy. A draft TDM Plan is included in Draft EIR Appendix TRA. To ensure implementation of the TDM Plan, the building owners or their designees shall actively participate in a Transportation Management Association (TMA) to be established by the Project sponsor prior to occupancy of the first non-ballpark building. The TMA at a minimum covers the non-ballpark development for the site but could also cover the ballpark or additional development in Jack London District and potentially downtown.

The goals of the TDM Plan shall be the following:

- Reduce vehicle traffic and parking demand generated by the Project to the maximum extent practicable.
- Prioritize pedestrian, bicycle, transit, and carpool/vanpool modes of travel. All four modes of travel shall be considered, as appropriate.
- Enhance the City's transportation system, consistent with City policies and programs.

The TDM Plan shall include the baseline calculations of non-ballpark development vehicle trips. These will be the baseline measurements that the TDM Plan will be measured against.

The TDM Plan shall comply with the requirements of AB 734 (Section 21168.6.7(a)(3)(A)(iii)), which states that the Project must have a TDM Plan that achieves a 20 percent reduction in vehicle trips as compared to operations absent the plan. A separate TDM Plan shall be prepared for each building in the non-ballpark

development, unless otherwise approved by the City. The TDM plan for each building shall achieve the 20 percent reduction within one year after the completion of that building. The TDM Plan for each building shall include a range of services and programs designed to meet the 20 percent reduction, such as providing incentives for transit usage and carpools, bicycle parking and support, signage, and real-time transit information.

As stated in Table 4 of the City's *Transportation Impact Review Guidelines*, the following TDM strategies (**Table 4.15-36**) are required to be incorporated into the TDM Plan based on the project location or other characteristics. These strategies should be identified as a credit toward a project's VTR.

The performance venue shall establish a TDM Plan that incorporates traffic management strategies to minimize its traffic impact on neighboring communities, including the Seaport, that may include traffic and/or parking control offices or other personnel acceptable to the City to manage traffic at key intersections and railroad crossings.

TABLE 4.15-36
NON-BALLPARK DEVELOPMENT TRANSPORTATION AND PARKING DEMAND MANAGEMENT PLAN CONSISTENCY WITH CITY'S TRANSPORTATION IMPACT REVIEW GUIDELINES

Improvement	Required by Code or When …	Required for Proposed Project?
1. Bus boarding bulbs or islands	• A bus boarding bulb or island does not already exist, and a bus stop is located along the project frontage; and/or • A bus stop along the project frontage serves a route with 15 minutes or better peak hour service and has a shared bus-bike lane curb	**Yes.** The Transportation Hub (Mitigation Measure TRANS-1c) on 2nd Street would, depending on design, provide bus boarding bulbs or islands.
2. Bus shelter	• A stop with no shelter is located within the project frontage, or • The project is located within 0.10 miles of a flag stop with 25 or more boardings per day	**Yes.** The Transportation Hub (Mitigation Measure TRANS-1c) on 2nd Street would include bus shelters or other, comparable amenities.
3. Concrete bus pad	• A bus stop is located along the project frontage and a concrete bus pad does not already exist	**Yes.** The Transportation Hub (Mitigation Measure TRANS-1c) on 2nd Street would incorporate concrete bus pads.
4. Curb extensions or bulb-outs	• Identified as an improvement within site analysis	**Yes.** Project would construct bulb-outs where additional pedestrian waiting space is needed at intersections and where truck and emergency access can still be accommodated (Mitigation Measure TRANS-1e).
5. Implementation of a corridor-level bikeway improvement	• A buffered Class 2 or Class 4 bikeway facility is in a local or county adopted plan within 0.10 miles of the project location: and • The project would generate 500 or more daily bicycle trips	**Yes.** Bike lanes on Martin Luther King Jr. Way between the site and 8th Street (Mitigation Measure TRANS-2b); on 7th Street between Mandela Parkway and Martin Luther King Jr. Way (Mitigation Measure TRANS-2a); on Embarcadero West, south side of the railroad tracks, between Martin Luther King Jr. Way and Washington Street and potentially to Broadway (Mitigation Measure TRANS-3a); and completed bike lanes on Washington Street between Embarcadero West and 10th Street (Mitigation Measure TRANS-2c) would constitute multiple corridor-level bikeway improvements.

TABLE 4.15-36 (CONT.)
NON-BALLPARK DEVELOPMENT TRANSPORTATION AND PARKING DEMAND MANAGEMENT PLAN CONSISTENCY WITH CITY'S TRANSPORTATION IMPACT REVIEW GUIDELINES

Improvement	Required by Code or When …	Required for Proposed Project?
6. Implementation of a corridor-level transit capital improvement	• A high-quality transit facility is in a local or county adopted plan within 0.25 miles of the project location; and • The project would generate 400 or more peak period transit trips	**Yes.** The Transportation Hub on 2nd Street (Mitigation Measure TRANS-1c) together with bus-only lanes on Broadway to connect the Transportation Hub and the 12th Street BART Station (Mitigation Measure TRANS-1d) would constitute a corridor-level transit capital improvement,
7. Installation of amenities: lighting; pedestrian-oriented green infrastructure, trees, and greening landscape; trash receptacles per Pedestrian Master Plan and applicable streetscape plans.	• Always required	**Yes.** Pedestrian amenities to be installed throughout the site together with off-site upgrades to sidewalks, lighting, curb ramps, and crosswalks on several transportation corridors serving the Project (Mitigation Measure TRANS-1e).
8. Installation of safety improvements identified in the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.)	• When improvements are identified in the Pedestrian Master Plan along project frontage or at an adjacent intersection	**Yes.** Construct railroad safety improvements between Schnitzer Steel and Broadway which requires CPUC approval (Mitigation Measure TRANS-3a). Pedestrian safety improvements to be installed throughout the site together with off-site upgrades to sidewalks, lighting, curb ramps, and crosswalks on several transportation corridors serving the Project (Mitigation Measure TRANS-1e).
9. In-street bicycle corral	• A project includes more than 10,000 square feet of ground floor retail, is located along a Tier 1 bikeway, and on-street vehicle parking is provided along the project frontages.	**Yes.** In-street bicycle corrals or bicycle parking of similar ease and density to be provided on-site.
10. Intersection improvements[a]	• Identified as an improvement within site analysis	**Yes.** On- and off-site intersections would be designed to address these concerns.
11. New sidewalk, curb ramps, curb and gutter meeting current City and ADA standards	• Always required	**Yes.** All on-site sidewalks, curb ramps, curbs, and gutters would meet current City and ADA standards.
12. No monthly permits and establish minimum price floor for public parking[b]	• If proposed parking ratio exceeds 1:1000 sf. (commercial)	**Yes.** In commercial developments where the parking ratio exceeds 1:1,000 sq. ft., no monthly permits would be offered for publicly available spaces, and a price floor would be established for all publicly available parking.
13. Parking garage is designed with retrofit capability	• Optional If parking ratio exceeds 1.25 spaces per unit (residential) or 1:1000 sf. (commercial)	**Yes.** Residential parking would be limited to 1 space per unit. Commercial developments with parking more than 1:1,000 sq. ft. could be designed with retrofittable garages.
14. Parking space reserved for car share	• If a project is providing parking and a project is located within downtown. One car share space reserved for buildings between 50 and 200 units, then one car share space per 200 units.	**Yes.** Project would include car share parking that meets these residential ratios and car share parking for commercial parking at one car share space per 200 parking spaces. And regularly monitor car share parking usage and adjust, as necessary.

TABLE 4.15-36 (CONT.)
NON-BALLPARK DEVELOPMENT TRANSPORTATION AND PARKING DEMAND MANAGEMENT PLAN CONSISTENCY WITH CITY'S TRANSPORTATION IMPACT REVIEW GUIDELINES

Improvement	Required by Code or When …	Required for Proposed Project?
15. Paving, lane striping or restriping (vehicle and bicycle), and signs to midpoint of street section	• Typically required	**Yes.** All on-site streets would be newly constructed.
16. Pedestrian crossing improvements	• Identified as an improvement within site analysis	**Yes.** New on-site streets and intersections as well as off-site transportation improvements would include the pedestrian crossing features.
17. Pedestrian-supportive signal changes[c]	• Identified as an improvement within operations analysis	**Yes.** All new and modified on- and off-site signals would have pedestrian supportive signal features.
18. Real-time transit information system	• A project frontage block includes a bus stop or BART station and is along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better	**Yes.** The Transportation Hub (Mitigation Measure TRANS-1c), each building, and the ballpark would make real time transit information available for transit serving the Hub, BART, Amtrak, and ferries.
19. Relocating bus stops to far side	• A project is located within 0.10 miles of any active bus stop that is currently on the near side	**Yes.** Construct Transportation Hub on 2nd Street (Mitigation Measure TRANS-1c). Bus stops would either have parallel pull-in or saw-tooth designs depending on Class 2 Bike Lanes and parking priorities.
20. Signal upgrades[d]	• Project size exceeds 100 residential units, 80,000 sf. of retail, or 100,000 sf. of commercial; and • Project frontage abuts intersection with signal infrastructure older than 15 years	**Yes.** All new and upgraded traffic signals, whether on- or off-site, would meet city standards in effect at the time of installation or upgrade.
21. Transit queue jumps	• Identified as a needed improvement within project operations analysis with frontage along a Tier 1 transit route with 2 or more routes or peak period frequency of 15 minutes or better	**Yes.** The bus-only lanes on Broadway between Embarcadero West and 11th Street (Mitigation Measure TRANS-1d) function as transit queue jumps.
22. Trenching and placement of conduit for providing traffic signal interconnect	• Project size exceeds 100 units, 80,000 sf. retail, or 100,000 sf. commercial; and • Project frontage block is identified for signal interconnect improvements as part of a planned ITS improvement; and • A major transit improvement is identified within operations analysis requiring traffic signal interconnect	**Yes.** New and modified traffic signal installations, whether on- or off-site, would be interconnected to City standards at the time of installation or upgrade.
23. Unbundled parking	• If proposed parking ratio exceeds 1.25 spaces per unit (residential)	**Yes.** Residential parking would be limited to 1 space per unit. Therefore, unbundled parking not required.

NOTES:
a Such as visibility improvements, shortening corner radii, pedestrian safety islands, accounting for pedestrian desire lines.
b May also provide a cash incentive or transit pass alternative to a free parking space in commercial properties.
c Including but not limited to reducing signal cycle lengths to less than 90 seconds to avoid pedestrian crossings against the signal, providing a leading pedestrian interval, provide a "scramble" signal phase where appropriate.
d Including typical traffic lights, pedestrian signals, bike actuated signals, transit-only signals.

SOURCES: City of Oakland Transportation Impact Review Guidelines, 2017.

Other TDM strategies, some of which are described in City's *Transportation Impact Review Guidelines*, that could be considered for each building in the non-ballpark development include, but are not limited to, the following:

1. Provide long-term and short-term bicycle parking and (for commercial uses) shower and locker facilities more than the minimums set forth in chapter 17.117 of the Oakland Planning Code.
2. Provide additional access to bikeways per the Let's Bike Oakland Plan: construction of priority bikeway projects, on-site signage, and bike lane striping.
3. Provide additional safety elements per the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count-down signals, bulb outs, etc.) to encourage convenient and safe crossing at arterials, in addition to safety elements required to address safety impacts of the project.
4. Provide additional amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan Update, the Master Street Tree List and Tree Planning Guidelines, which can be viewed at http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak042662.pdf and http://www2.oaklandnet.com/oakca1/groups/pwa/documents/form/oak025595.pdf, respectively) and any applicable streetscape plan.
5. Provide additional transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements.
6. Provide direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency).
7. Provide transit subsidy to employees or residents in the form of an AC Transit EasyPass or Clipper Card loaded with the equivalent of half of an AC Transit unlimited monthly pass.
8. Provide ongoing contribution to service to the area between the Project and nearest mass transit station prioritized as follows: (1) Contribution to AC Transit bus service; (2) Contribution to an existing area shuttle or streetcar service; and (3) Establishment of new shuttle service. The amount of contribution (for any of the above scenarios) would be based upon the cost of establishing new shuttle service (Scenario3).
9. Provide guaranteed ride home program for employees, either through 511.org or through separate program.
10. Provide pre-tax commuter benefits (commuter checks) for employees.
11. Provide free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants. Designate at least the minimum number of on-site residential parking spaces for car-sharing (as required by Oakland Municipal Code, Section 17.116.105).
12. Provide on-site carpooling and/or vanpooling program that includes preferential (discounted or free) parking for carpools and vanpools.
13. Provide information concerning alternative transportation options.
14. Sponsor a bike share station in the project vicinity.

15. Designate a staff person from each tenant as their TDM representative to coordinate, monitor, and publicize TDM activities that are being implemented by the building management.
16. Designate a TDM representative for the building management that coordinates TDM strategies with residents and tenants, participates in the Transportation Management Association, and oversees the annual building TDM Plan monitoring.
17. Provide parking spaces sold/leased separately for residential units (as required by Oakland Municipal Code, Section 17.116.310).
18. Charge employees for parking or provide a cash incentive or transit pass alternative to a free parking space in commercial properties.
19. Prohibit monthly parking permits and establish a minimum price floor for publicly accessible parking.
20. Provide less parking than parking demand for residential and commercial uses.
21. Provide shared parking opportunities and/or parking districts to optimize parking use without increasing vehicle trip reduction goals.
22. Allow employees to work off-site.
23. Allow employees to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite (e.g., working four, ten-hour days; allowing employees to work from home two days per week).
24. Allow employees to stagger work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours.

The TDM Plan shall include an ongoing monitoring and enforcement program to ensure that the TDM Plan is implemented on an ongoing basis during project operation. The program shall comply both with the AB 734 legislation as well as the requirements of the Oakland Municipal Code Chapter 10.68 (Employer-Based Trip Reduction Program). The TDM Plan shall also specify the topics to be addressed in an annual report as explained below. A separate TDM Plan shall be prepared for each building (unless otherwise approved by the City) prior to building occupancy.

- TDM Implementation – For VTR strategies involving physical improvements, the Project sponsor shall obtain the necessary permits/approvals from the City and install the improvements prior to the completion of the Project Phase 1.
- TDM Monitoring – The owner or their designee for each building of the non-ballpark development, through the TMA, shall submit an annual compliance report each year through and including the fifth year following buildout of the non-ballpark development for review and approval by the City. The annual report shall document the status and effectiveness of the TDM strategies, including the actual VTR achieved during building operation. If deemed necessary, the City may elect to have a peer review consultant, paid for by the building's owner or their designee, review the annual report. If timely reports are not submitted and/or the annual reports indicate that the building has failed to achieve the VTR goal, additional measures shall be implemented until the goal is met. If in two successive years, the VTR goals are not satisfied, the building's owner or their designee shall prepare and submit for City

Staff approval a Corrective Action Plan to bring the TDM Plan into conformance with VTR goals. The Corrective Action Plan shall detail the additional measures for the building to be implemented and their expected vehicle trip reduction. If the required automobile trip reduction target is still not being met one year after the Corrective Action Plan is implemented, or if the building's owner or manager fails to submit the reports described above, or if the reports do not meet City requirements, the building will be considered in violation of the Mitigation Measure and the City may initiate enforcement action as provided for in the Project's Conditions of Approval and Oakland Planning Code Chapter 17.152, including but not limited to imposition of a penalty, in an amount to be determined by the City, at least sufficient to fund and manage transportation improvements that would bring vehicle trips to the targeted level.

Mitigation Measure Effectiveness

As discussed in the description of the Project's regulatory context, AB 734 requires the Project's non-ballpark components to meet a 20 percent VTR via implementation of a TDM plan. For non-ballpark components of the Project, the A's have proposed a TDM plan, and Mitigation Measure TRANS-1a above includes City requirements and ensures its effectiveness. As shown in Table 4.15-25, features of the TDM plan are enough to accomplish the required 20 percent VTR. The VMT for the retail use would not exceed the CEQA threshold and the impact is less than significant. For the performance venue, the above analysis shows how this 20 percent reduction in vehicle trips from attendees and required mitigation would result in a greater than 15 percent reduction in VMT per attendee from similar uses that meet the CEQA threshold and result in a less-than-significant impact with mitigation. While the residential, commercial, and retail uses meet the screening criteria for VMT, they would have additional VMT reductions with the 20 percent VTR, as reductions in vehicle trips have the net effect of reducing VMT.

Significance after Mitigation: Less than significant.

Impact TRANS-1B Ballpark VMT: VMT per attendee generated by the ballpark component of the Project would be more than 15 percent below similar uses, resulting in a less-than-significant impact for the ballpark component of the Project. (Criterion 1) (*Less than Significant with Mitigation*)

VMT Analysis – Ballpark

Due to its unique use and size, VMT per attendee for the 35,000-attendee capacity ballpark component of the Project cannot be assessed using the screening criteria or the regional travel demand models used for the other components of the Project.

The Project would replace the existing 47,100-attendee capacity ballpark at the Oakland Coliseum as the home field of the Oakland A's. For Oakland A's home games, trips that previously would have begun or ended at the Oakland Coliseum would instead be replaced with trips to or from the Project site, to the extent that the ballpark's smaller seating capacity would be able to accommodate them. The Project's ballpark would also compete with Oakland Arena for some special events. As such, the threshold this study uses for assessing substantial additional

VMT is if the VMT per attendee at the Project's ballpark exceeds the existing VMT per attendee at similar events at the Oakland Coliseum or Oakland Arena minus 15 percent.

Table 4.15-5 describes the data used to establish the attendee mode split characteristics for the Oakland Coliseum and Oakland Arena. The *Approach to Analysis* section discusses the mode and geographic shift associated with relocating an existing ballpark in the same market area. Average trip lengths for the Oakland Coliseum were calculated using shortest network distance between each trip origin/destination and the Oakland Coliseum for baseball games in 2017. The estimated trip lengths from these origins and destinations were then recalculated for the Project site using the shortest network distance for the same games, with the trip distribution modified to account for a changed geographic composition of attendees and a shifted travel mode for attendees near the Project site. Similar methods were used for Oakland Arena.

Table 4.15-37 presents the existing travel characteristics and VMT of attendees of baseball games at the Oakland Coliseum and concerts at Oakland Arena. **Table 4.15-38** presents these estimates for the Project's ballpark without a TMP, along with a comparison of the VMT per attendee to the equivalent existing conditions at the Oakland Coliseum or Oakland Arena. Baseball games at the Project site ballpark are expected to have a lower VMT per attendee than games at the Oakland Coliseum, and concerts at the ballpark are expected to have a lower VMT per attendee than similar events at Oakland Arena. However, the VMT per attendee reduction does not meet the threshold used in this analysis to presume a less-than-significant impact on VMT for any event type. Therefore, the ballpark component of the Project would not meet the screening criteria for a less-than-significant impact on VMT. Further reductions in VMT per attendee are necessary for the ballpark component of the Project to achieve a VMT per attendee less than existing events minus 15 percent.

TABLE 4.15-37
EXISTING TRAVEL CHARACTERISTICS AT THE OAKLAND–ALAMEDA COUNTY COLISEUM AND OAKLAND ARENA

Event Type	Travel Mode			Average Attendees (2017)	Total Vehicle Trips[a,b]	Average Trip Length (mi)[c]	Vehicle Miles Traveled	VMT per Attendee
	Drive	TNC	Other Modes					
Baseball Games								
Weekday Evening	70%	6%	24%	11,868	10,050	13.3	125,000	10.6
Weekday Day	71%	6%	23%	8,879	7,830	13.8	101,000	11.4
Weekend	75%	6%	19%	17,086	14,930	14.2	198,000	11.6
Large Concerts[d]	74%	6%	20%	12,597	11,600	12.1	132,000	10.5

NOTES:
a Average vehicle occupancy of 2.12. Attendee use of a TNC results in two vehicle trips—one one-mile trip to pick up attendee and one at the average trip length to take them to their destination.
b Vehicle trips include trips by event staff of 760 for ballgames and 1,200 for large concerts, with an assumed mode share of 53.1% driving in single-occupancy vehicles, per the City's *Transportation Impact Review Guidelines*.
c The average trip lengths presented in this table represent the average length of primary trips and does not include TNC deadhead trips to pick up attendees. The deadhead trips are not included in this column to allow for a representation of the distances between origins/ destinations and the Coliseum/Howard Terminal. However, one-mile deadhead trips are included for TNCs in the calculations of total VMT.
d Represented by high-demand concerts at Oakland Arena in 2017: Red Hot Chili Peppers (3/12), Panic! At the Disco (3/25), Roger Waters (6/10), Arcade Fire (10/21), Enrique Iglesias and Pitbull (10/28), and Jay-Z (12/16).

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

TABLE 4.15-38
PROJECT BALLPARK TRAVEL CHARACTERISTICS – WITHOUT TMP

Event Type	Travel Mode			Attendees (Capacity)[a]	Total Vehicle Trips[b,c]	Average Trip Length (mi)[d]	Vehicle Miles Traveled	VMT per Attendee	VMT per Attendee Reduction[e]
	Drive	TNC	Other Modes						
Baseball Games									
Weekday Evening	57%	18%	25%	35,000	32,440	13.3	358,000	10.2	-3%
Weekday Day	57%	19%	24%	35,000	32,960	13.3	360,000	10.3	-10%
Weekend	62%	18%	20%	35,000	33,820	14.1	400,000	11.4	-1%
Large Concerts[f]	58%	19%	23%	35,000	33,450	11.4	315,000	9.0	-14%
Other Events[g,h]	58%	19%	23%	7,500	7,450	11.4	71,000	9.4	—[i]
Corporate/ Community Events[g,h]	58%	19%	23%	2,000	1,860	11.4	17,000	8.7	—[i]
Plaza Events[g,h]	58%	19%	23%	4,000	3,680	11.4	34,000	8.6	—[i]

NOTES:
a An at-capacity crowd at Howard Terminal was assumed for ballgames and concerts for the purposes of these calculations.
b Average vehicle occupancy of 2.12. Attendee use of a TNC results in two vehicle trips—one one-mile trip to pick up attendee and one at the average trip length to take them to their destination.
c Vehicle trips include trips by event staff of 1,320 for ballgames, 1,200 for large concerts, 480 for other events, and 25 for corporate/ community events and plaza events, with an assumed mode share of 63.3% driving in single-occupancy vehicles, per the City's *Transportation Impact Review Guidelines*.
d The average trip lengths presented in this table represent the average length of primary trips and does not include TNC deadhead trips to pick up attendees. The deadhead trips are not included in this column to allow for a representation of the distances between origins/ destinations and the Coliseum/Howard Terminal. However, one-mile deadhead trips are included for TNCs in the calculations of total VMT.
e Compared to existing conditions at the Oakland–Alameda County Coliseum and Oakland Arena.
f There are about 9 concerts per year each with 1,200 staff
g The VMT calculations in this table assume that there are 35 other events per year (480 staff), 100 corporate / community events per year (25 staff), and 16 plaza events (25 staff) per year. Combined these events would generate 526,000 annual visitors at maximum attendance levels and 243,400 annual visitors at average attendance levels. For purposes of analysis the maximum attendance levels are assumed. The Project's parks and open spaces would attract some visitors. Non-local visitors would presumably travel to the site by the same modes as others visiting the Project; of these, most would be linked to shared trips with other Project components or with trips to nearby neighborhoods (e.g., Jack London Square). Local visitors would travel on foot or by bike. For these reasons, VMT associated solely with park and open space uses would be minimal.
h Large concert travel characteristics used for the smaller events proposed for the ballpark.
i No corresponding event at the Oakland–Alameda County Coliseum or the Oakland Arena.

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

VMT Reduction with Ballpark and a Transportation Management Plan

Per AB 734, the Project would be required to incorporate a TMP that would reduce vehicle trip generation by at least 20 percent. See the *Transportation Management Plan (TMP) – Ballpark* section for additional detail regarding strategies for reducing ballpark-generated vehicle trips. Reducing vehicle trips leads to reduced VMT per attendee.

To achieve VMT per attendee to levels less than the existing ballpark minus 15 percent, the Project would need to incorporate a TMP that would reduce VMT per attendee compared to similar existing uses. The TMP would incorporate a wide variety of measures to reduce vehicle demand and other transportation-related impacts. These measures would change travel behavior, vehicle trip generation and VMT through improvements and incentives for alternative transportation modes such as bus-only lanes, a high capacity transportation hub, and transit fare reductions, and disincentives to driving like reduced parking supply and increased parking prices.

Table 4.15-39 presents the estimated travel characteristics and VMT per attendee for the ballpark with implementation of the strategies described in this chapter. The total vehicle trips in Table 4.15-39 reflect a 20 percent vehicle trip reduction, which the ballpark would be required to meet within one year after completion of the first baseball season for the ballpark. With these TMP strategies, at full buildout, the Project's ballpark would reduce the estimated VMT per attendee for all baseball game types and concerts to levels more than 15 percent below similar existing uses. The VMT per attendee reductions shown in Table 4.15-39 are applicable with both Phase 1 when 3,500 parking spaces are provided on-site for the ballpark and build-out when 2,000 parking spaces are provided.

TABLE 4.15-39
PROJECT BALLPARK TRAVEL CHARACTERISTICS – WITH TMP

Event Type	Travel Mode			Attendees (Capacity)[a]	Total Vehicle Trips[b,c]	Average Trip Length (mi)[d]	Vehicle Miles Traveled	VMT per Attendee	VMT per Attendee Reduction[e]
	Drive	TNC	Other Modes						
Baseball Games									
Weekday Evening	50%	16%	34%	35,000	25,950	13.7	290,000	8.3	-22%
Weekday Day	49%	17%	34%	35,000	26,370	13.7	291,000	8.3	-27%
Weekend	54%	15%	31%	35,000	27,060	14.5	323,000	9.2	-20%
Large Concerts[f]	50%	17%	33%	35,000	26,760	11.8	254,000	7.3	-31%
Other Events[g,h]	50%	17%	33%	7,500	5,960	11.8	58,000	7.7	—[i]
Corporate/Community Events[g,h]	50%	17%	33%	2,000	1,490	11.8	14,000	7.0	—[i]
Plaza Events[g,h]	50%	17%	33%	4,000	2,940	11.8	27,000	6.9	—[i]

NOTES:
a An at-capacity crowd at Howard Terminal was assumed for ballgames and concerts for the purposes of these calculations.
b Average vehicle occupancy of 2.3. Attendee use of a TNC results in two vehicle trips—one one-mile trip to pick up attendee and one at the average trip length to take them to their destination.
c Vehicle trips include trips by event staff of 1,320 for ballgames, 1,200 for large concerts, 480 for other events, and 25 for corporate/community events and plaza events, with an assumed mode share of 63.3% driving in single-occupancy vehicles, per the City's *Transportation Impact Review Guidelines*.
d The average trip lengths presented in this table represent the average length of primary trips and does not include TNC deadhead trips to pick up attendees. The deadhead trips are not included in this column to allow for a representation of the distances between origins/destinations and the Coliseum/Howard Terminal. However, one-mile deadhead trips are included for TNCs in the calculations of total VMT.
e Compared to existing conditions at the Oakland–Alameda County Coliseum and Oakland Arena.
f There are about 9 concerts per year each with 1,200 staff
g The VMT calculations in this table assume that there are 35 other events per year (480 staff), 100 corporate/community events per year (25 staff), and 16 plaza events (25 staff) per year. Combined these events would generate 526,000 annual visitors at maximum attendance levels and 243,400 annual visitors at average attendance levels. For purposes of analysis the maximum attendance levels are assumed. The Project's parks and open spaces would attract some visitors. Non-local visitors would presumably travel to the site by the same modes as others visiting the Project; of these, most would be linked to shared trips with other Project components or with trips to nearby neighborhoods (e.g., Jack London Square). Local visitors would travel on foot or by bike. For these reasons, VMT associated solely with park and open space uses would be minimal.
h Large concert travel characteristics used for the smaller events proposed for the ballpark.
i No corresponding event at the Oakland–Alameda County Coliseum or the Oakland Arena.

SOURCE: Fehr & Peers, 2020. (Appendix TRA)

The ballpark is expected to host up to nine concerts per year, compared to a minimum of 81 baseball games, all of which would have VMT per attendee reductions greater than the threshold level. **Table 4.15-40** presents the annualized VMT per attendee at the ballpark with the implementation of TMP for all baseball games and concerts. The annual VMT per attendee with TMP strategies would also be reduced to a level more than 15 percent below similar existing uses.

TABLE 4.15-40
PROJECT BALLPARK – ANNUAL VMT PER ATTENDEE

Event Type	Events per Year at Howard Terminal	VMT per Attendee	
		Existing at Coliseum/Arena	Howard Terminal with TMP
Baseball Games			
Weekday Evening	41	10.6	8.3
Weekday Day	13	11.4	8.3
Weekend	27	11.6	9.2
Concerts	9	10.5	7.3
Annualized VMT per Attendee[a]		**11.0**	**8.4**
Annualized VMT per Attendee Reduction		**-23%**	

NOTE:
a Annualized number based on equal attendance at the number of events presented in this table.
SOURCE: Fehr & Peers, 2020. (Appendix TRA)

VMT Analysis Conclusions – Ballpark

Projects that reduce VMT to a level 15 percent below similar existing uses are considered to have a less-than-significant impact on VMT. The combination of a TMP as well as the Project sponsor's decision to incorporate parking maximums for ballpark parking (up to 3,500 spaces with Phase 1 and 2,000 spaces at buildout) would result in VMT reductions for ballpark attendees that would result in a less-than-significant impact on VMT. Because the TMP relies in part on strategies that have not been defined with specificity and would require continued monitoring and adjustment, a mitigation measure is included to ensure its ongoing effectiveness. (See Mitigation Measure TRANS-1b below.)

Mitigation Measure TRANS-1b: Transportation Management Plan.

The Project sponsor shall submit a draft Transportation Management Plan (TMP) for the ballpark for review and approval by the City together with its application for building permits for the ballpark. The TMP shall incorporate by reference Mitigation Measure TRANS-1a, which shall apply to the ballpark employees. The TMP shall outline operational strategies to optimize access to and from the ballpark within the constraints inherent to a large public event. The TMP must be approved by the City prior to the issuance of the Temporary Certificate of Occupancy. The TMP will be a living document requiring periodic updates over time as travel patterns change because of development and changes to transportation infrastructure and operations. All revisions to the TMP shall be subject to the review and approval of the City.

The following are the City's overarching goals for the TMP:

- To ensure improvements benefit the community at large and contribute to equitable opportunities for all people and communities.
- To provide residents, workers, and visitors with safe, efficient, affordable, convenient, and reliable mobility options including public transit, walking, carpooling, and biking.
- To manage how the project interacts with the surrounding area, including residential neighborhoods, the Port of Oakland, and local industries and businesses.

The City of Oakland has prioritized walking and public transit as critical to achieving these goals. Transit will have minimal impacts on community, neighborhood and Port operations, the environment, and safely move the maximum number of people. The TMP shall have the following high-level objectives.

- Minimize auto mode share and reduce vehicle trips and parking demand generated by the project to the maximum extent practicable.
- Facilitate and promote safe use of non-automobile transportation by people attending and supporting ball games and other events as well as other uses on-site.
- Highlight and optimize the use of transit by attendees and employees to ball games and other events.
- Facilitate and maximize bicycle use by attendees and employees to ball games and other events.
- Facilitate a high-quality walking experience to the ballpark from adjacent neighborhoods by identifying key walking routes and major street crossing locations, so that wayfinding, infrastructure improvements, and/or personnel (e.g., traffic control officers, parking control officers, or other personnel acceptable to the City) can be located at critical points to manage the interaction of pedestrians and vehicles during medium and large events.
- Maximize safety for all transportation users at key locations in and around the ballpark and broader neighborhood during event ingress and egress.
- Minimize conflicts between ridesourcing, i.e., Lyft, Uber, and taxi operations and key transit, walking, biking, and Port truck access streets near the ballpark.
- Facilitate the safe and efficient flow of vehicle traffic into and out of the site and the adjacent neighborhoods during event and no-event conditions.
- Minimize event-related vehicular, bicycle, and pedestrian impacts to surrounding residential and commercial areas, including warehouse and industrial operations and the Port.
- Minimize conflicts with Seaport operations, including freight movement by roadway and rail.

The TMP shall include the baseline calculations of ballpark development vehicle trips, which would reflect the ballpark at the Project site absent a TMP. These will be the baseline measurements that the TMP will be measured against.

A Parking Management Plan for the ballpark shall be one component of the TMP. But the TMP shall have many other elements including modal strategies addressing transit, pedestrians, bicycles, automobiles, parking, and ridesourcing, i.e., Lyft, Uber, and taxis. The TMP shall address the railroad crossings, event-day operations and communication, curb management, freight, and emergency vehicle access. The TMP shall provide the framework for monitoring, refinement, and performance standards. Refer to the Draft TMP in Appendix TRA for more details.

The TMP shall comply with requirements of AB 734 (Section 21168.6.7(a)(3)(A)(iii)), which states that the Project must have a TMP that achieves a 20 percent reduction in vehicle trips as compared to operations absent the plan. The TMP for the ballpark

development shall achieve the 20 percent reduction within one year after the completion of the first baseball season. The TMP shall include a menu of options including permanent infrastructure changes and operational changes designed to reduce the number of vehicle trips, including temporarily expanding the capacity of bus transit, as appropriate, to serve the baseball park events, use of traffic and/or parking control officers or other personnel acceptable to the City to manage the flow of people to and from the ballpark, and a range of services and programs designed to meet the 20 percent reduction, including providing incentives for transit usage and carpools, bicycle parking and support, signage, and real-time transit information.

The City identified the following priorities for the TMP that are consistent with the City of Oakland's Transit First Policy as well as AB 734. These strategies are preferred by the City and strategies in **bold** represent strategies that are expected to be implemented by opening day of the ballpark and will be adopted as mitigation measures or conditions of approval, as applicable.

1. **Extending transit service to and constructing the Transportation Hub on 2nd Street in coordination with AC Transit and the City of Oakland. (Required as Mitigation Measure TRANS-1c)**
2. Additional regular AC Transit bus service connecting the Project site to Downtown, as well as the West Oakland, 12th Street, and Lake Merritt, BART stations.
3. **Bus priority lanes serving the 12th Street BART station and Downtown Oakland to increase the speed, reliability, and attractiveness of transit services. (Required as Mitigation Measure TRANS-1d)**
4. Bus priority lanes serving the West Oakland and Lake Merritt BART stations to increase the speed, reliability, and attractiveness of transit services.
5. **Supplemental shuttle service (provided by AC Transit or a private operator) to the 12th Street BART station to increase frequency and capacity of transit connections to BART stations on event days.**
6. Supplemental shuttle service (provided by AC Transit or a private operator) to the West Oakland and/or Lake Merritt BART stations to increase frequency and capacity of transit connections to BART stations on event days.
7. **Pedestrian improvements along 7th Street, Market Street, Martin Luther King Jr. Way, Washington Street, and Broadway connecting the BART stations and the ballpark as well as improvements on streets serving the Transportation Hub and the Pedestrian Bridge over the railroad tracks. (Required as Mitigation Measure TRANS-1e)**
8. **Bicycle network improvements on 7th Street, Market Street, Martin Luther King Jr. Way, Washington Street, and 2nd Street. (Required as Mitigation Measure TRANS-2a, TRANS-2b, and TRANS-2c)**
9. **Wayfinding between the West Oakland BART station and the ballpark via 7th Street, between the 12th Street BART station and the ballpark via Broadway and Washington Street, and between the Lake Merritt BART station and the ballpark via 8th Street.**
10. **At-grade railroad crossing improvements along the project's frontage and extending to Broadway. (Required as Mitigation Measure TRANS-3a and TRANS-3b)**

11. Transit subsidies to provide free or reduced cost transit for ballpark attendees and/or employees particularly at the Transportation Hub on 2nd Street.
12. **No parking subsidies for ballpark employees.**
13. **A combination of standard, secure, and valet bicycle parking at multiple locations, identified in collaboration with OakDOT.**
14. **Identification of geofenced micromobility parking (such as scooters and bike share), as well as priority and coordination for on-site and/or site-adjacent shared micromobility services identified in collaboration with OakDOT.**
15. **Coordination with transit providers to provide timed transit service before and/or after the game or event, including but not limited to AC Transit, BART, Amtrak, and WETA.**
16. **Agreements between the A's and TNC operators (such as Lyft and Uber) to use geofencing or similar methods to restrict pick-up and drop-off zones to designated locations significantly farther from the ballpark than bus transit and shared micromobility options.**
17. **Enforcement of local access restrictions to limit circulation of vehicles other than local traffic within the neighborhoods adjacent to the Project site before, during, and after ballgames.**
18. Implementation of TNC fee (through private agreements between A's and TNC operators) for access to designated locations to limit demand to support VTR goals.
19. **Coordination with OakDOT on management of the off-site parking garages within one mile of the Project site.**
20. **Coordination with OakDOT on the management of on-street parking on-site and in adjacent neighborhoods within one mile of the Project site, including the implementation of RPPs, through the OakPark parking plan.**
21. Further reduction of on-site parking as needed to achieve VTR goals.
22. Additional measures and technology. With approval from the City of Oakland, the TMP may include additional or substitute measures and technology to reduce Project-generated trips that are not currently known or available, provided that the VTR plan demonstrates to the City's satisfaction that such measures are equally or more effective as existing available measures, are consistent with the City's various published plan documents, as amended, and meet the City's policy goals and values.

The TMP shall include an ongoing monitoring and enforcement program to ensure that the TMP is implemented on an ongoing basis during project operation. The program shall comply with the AB 734 legislation.

- TMP Implementation – For VTR strategies involving physical improvements, the Project sponsor shall obtain the necessary permits/approvals from the City and install the improvements prior to opening day of the ballpark.
- TMP Implementation Inaugural Events – The Project sponsor shall work with a designated team of ballpark and city and Port staff to establish, implement, monitor, debrief, and adjust the TMP during each ballpark event until the transportation patterns are established. Once transportation patterns are established the designated team shall meet quarterly the first two years, and at least annually thereafter, to coordinate transportation efforts and adjust, remove, or add measures to refine the TMP.

- TMP Monitoring – The Project sponsor shall follow the monitoring and performance requirements described in the TMP. Annual compliance reporting will be required each year that the ballpark is in operation and be submitted for review and approval by the City. The annual report shall document the status and effectiveness of the TMP, including but not limited to the actual VTR achieved by the Project during operation. If deemed necessary, the City may elect to have a peer review consultant, paid for by the Project sponsor, review the annual report. If timely reports are not submitted and/or the annual reports indicate that the Project sponsor has failed to implement the TMP, or if the reports do not meet City requirements, the Project sponsor will be considered in violation of the Mitigation Measure and the City may initiate enforcement action as provided for in the Project's Conditions of Approval and Oakland Planning Code Chapter 17.152, including but not limited to imposition of a penalty, in an amount to be determined by the City, at least sufficient to fund and manage transportation improvements that would bring vehicle trips to the targeted level.

Mitigation Measure TRANS-1c: Implement a Transportation Hub on 2nd Street.

The Project sponsor shall construct a Transportation Hub on the south side of 2nd Street between Martin Luther King Jr. Way and Clay Street with the ability to expand the Hub operations before and after events at the ballpark to Brush Street to the west and Washington Street to the east. The first phase of the Hub shall include features that can be implemented within the public right-of-way generally from the face of curb to the property line. The first phase shall be the responsibility of the Project sponsor and shall be completed and in operation prior to opening day of the ballpark. As the corridor land uses change, other features such as waiting and meeting spaces, restrooms, bicycle repair, cafes, car share, and information centers could be provided within buildings lining 2nd Street between Martin Luther King Jr. Way and Clay Street. The mitigation measure shall include the following measures to support the Hub.

- Reconstruct the sidewalk and landscape on the south side of 2nd Street between Jefferson and Clay Streets to maximize the sidewalk width for pedestrians at the Hub particularly before and after events at the ballpark.
- Expand by 8 feet the sidewalk on Clay Street between Embarcadero West and 2nd Street by removing on-street parking on the west side of Clay Street.
- Provide a uniform sidewalk and streetscape experience along the Transportation Hub between Martin Luther King Jr. Way and Clay Street with bus shelters, benches, pedestrian-scale lighting and landscaping, wayfinding, real-time transit arrival information, and concrete bus pads to support daily AC Transit operations.
- Provide a uniform sidewalk and streetscape experience with concrete bus pads between Castro Street and Martin Luther King Jr. Way and between Clay and Washington Streets to support event-day shuttle service.
- Install a traffic signal on 2nd Street at Broadway as part of the Transportation Hub to facilitate transit, bicycle, and pedestrian movements to and through Broadway.
- Provide bike riders an alternative route to 2nd Street through the Transportation Hub between Martin Luther King Jr. Way and Washington Street via the planned multiuse path on Embarcadero West which would connect Martin Luther King Jr. Way, Clay Street, and Washington Street.
- Provide designated space for shared micromobility.

The Transportation Hub on 2nd Street requires review and approval by the City of Oakland and coordination with AC Transit regarding bus stop location and design.

Mitigation Measure TRANS-1d: Implement Bus-Only Lanes on Broadway.

Unless transit lanes have already been installed, the Project sponsor shall implement bus-only lanes on Broadway generally between Embarcadero West and 11th Street by converting one motor vehicle lane in each direction to a bus-only lane while maintaining the existing vehicle throughput at the 5th and 6th Street intersections particularly to the Webster Tube. The mitigation measure shall include the following measures to support the bus-only lanes and shall be completed and in operation prior to opening day of the ballpark.

- Consider providing pull-out bus stops concentrated between 3rd and 4th Streets and between 8th and 10th Streets where on-street parking and commercial loading would be prohibited.
- Install new traffic signals at 2nd and 4th Streets; left-turn lanes and protected signal phasing on Broadway at each intersection to separate left turning traffic from pedestrian crossings and facilitate turning movements to Jack London District or an alternative approved by the City.
- Coordinate traffic signal timings and transit signal priority on Broadway generally between Embarcadero West and 11th Street.
- Install a signal protected southbound left-turn lane at the 7th to facilitate turning movements to Chinatown District and prohibit northbound left turns at 8th Street to separate left turning traffic on Broadway from pedestrian crossings at both intersections or an alternative approved by the City.

The bus-only lanes on Broadway require review and approval by the City of Oakland as well as Caltrans approval through the 5th and 6th Street intersections. In addition, the bus-only lanes require coordination with AC Transit regarding bus stop location and design. Absent Caltrans approvals the bus-only lanes would continue to be effective providing reliable transit service to the Broadway corridor.

The bus-only lanes on Broadway preclude implementing the Class 2B Buffered Bike Lanes identified in the 2019 Bike Plan. Specifically, there is insufficient roadway width between 4th and 6th Streets to accommodate both the bus-only lanes and the bike lanes. This is a potential conflict with the City's Bicycle Plan is discussed in Impact TRANS-2. Implementation of Mitigation Measure TRANS-2c would resolve potential conflicts with the City's Bicycle Plan.

Mitigation Measure TRANS-1e: Implement Pedestrian Improvements.

The Project sponsor shall construct pedestrian improvements along the primary corridors connecting the BART stations and the project site to support the high numbers of transit riders generated by the ballpark that would walk between transit and the ballpark. The mitigation measure shall include the following measures and shall be completed and in operation prior to opening day of the ballpark.

- Upgrade the sidewalk on the south side of 7th Street between Mandela Parkway and Market Street connecting the West Oakland BART station and the ballpark to provide a 6-foot clear space at sidewalk obstacles, and pedestrian lighting; Correct

sidewalk tripping hazards on both sides of the street. Daylight intersections and driveways on both sides of the street with red curb per City guidance.

- Upgrade the sidewalk on both sides of Market Street between 7th Street and the Project site to provide 8-foot clear space at sidewalk obstacles, maximize sidewalk waiting areas within 30 feet of intersections, provide pedestrian lighting, correct sidewalk tripping hazards, provide 15-foot north/south crosswalks, daylight intersections and driveways with red curb per City guidance and provide pedestrian wayfinding signage to direct patrons to the ballpark. In addition, widen the sidewalks on both sides of Market Street between 3rd Street and the Project site from face of existing curb to the public right-of-way to maximize the clear space sidewalk width accessing the site.
- Upgrade the sidewalk on both sides of Martin Luther King Jr. Way between 12th Street and the Project site to provide 8-foot clear space at sidewalk obstacles on the east side of the street (6-foot on the west side); maximize sidewalk waiting areas within 30 feet of intersections; provide pedestrian lighting as necessary; correct sidewalk tripping hazards; provide 15-foot north/south crosswalks; daylight intersections and driveways with red curb per City guidance; and remove the sidewalk on the west side of the street between the Project site and 2nd Street to minimize pedestrian crossing locations at the railroad tracks.
- Along Washington Street provide traffic and/or parking control officers (or other personnel acceptable to the City) before and after ballpark events that exceed 21,000 attendees to facilitate the safe and efficient flow of people to the ballpark. Monitor pedestrian flows on Washington Street pursuant to the TMP and adjust personnel to ensure pedestrian safety. Alternatively, upgrade Washington Street sidewalks as follows:
  - Provide 8-foot clear space at sidewalk obstacles, maximize sidewalk waiting areas within 30 feet of intersections, provide pedestrian lighting as necessary, correct sidewalk tripping hazards, provide 15-foot north/south crosswalks, daylight intersections and driveways with red curb per City guidance and provide pedestrian wayfinding signage to direct patrons to the ballpark.
  - Curb extensions may be necessary at several locations where 30-foot sidewalk waiting areas at intersections along Washington Street cannot be provided. Locations include the northwest and northeast corners at Embarcadero West; northwest corner at 2nd Street; northeast corner of 7th Street; northwest, southwest and southeast corners of 8th Street; and southwest corner of 9th Street.
  - Widen Washington Street sidewalks to provide 8-foot clear space at sidewalk obstacles between 5th and 6th Streets by removing on-street parking and provide pedestrian lighting, as necessary; upgrade the existing traffic signals to current design and operating standards for pedestrian features; add 3-inch yellow reflective sheeting to signal backplates; and replace any existing 8-inch signal heads with 12-inch signal heads.
- Upgrade Broadway sidewalks between 12th Street BART station and Water Street to provide minimum 8-foot clear space at sidewalk obstacles; maximize sidewalk waiting areas within 30 feet of intersections; provide pedestrian lighting as necessary; correct sidewalk tripping hazards; provide 15-foot north/south crosswalks; daylight

intersections and driveways with red curb per City guidance; and provide pedestrian wayfinding signage to direct patrons to the ballpark.

- Remove the separate westbound right-turn lane from 6th Street at Broadway bringing the movement to the signalized intersection unless already constructed by the Oakland Alameda Access Project.

The pedestrian improvements require review and approval by the City of Oakland as well as Caltrans approval for sidewalk segments passing under the freeway structure. Absent Caltrans approvals the pedestrian improvements would continue to be effective providing benefit to pedestrians walking between transit and the ballpark.

Mitigation Measure Effectiveness

As discussed in the description of the Project's regulatory context, AB 734 requires the Project's ballpark component to meet a 20 percent VTR via implementation of a TMP. For the ballpark portion of the Project, the A's have proposed a TMP, and Mitigation Measures TRANS-1b, TRANS-1c, TRANS-1d, and TRANS-1e above include City requirements and ensure that the 20 percent VTR requirement will be met for the ballpark. As shown in Table 4.15-23, features of the TMP are enough to accomplish the required 20 percent VTR. The above analysis shows how this 20 percent reduction in vehicle trips from attendees and required mitigation would result in a greater than 15 percent reduction in VMT per attendee from the existing Coliseum ballpark use, which meets the CEQA threshold and results in a less-than-significant impact with mitigation.

Significance after Mitigation: Less than significant.

Consistency with Adopted Policies, Plans, or Programs

In general, the Project including its associated development and the corridor transportation improvements under consideration are anticipated to be consistent with policies, plans, and programs addressing the safety or performance of the circulation system, including transit, roadways, bicycle lanes, and pedestrian sidewalks and paths as summarized below.

- The LUTE, which calls for promoting alternative means of transportation such as transit, biking, and walking, providing facilities that support alternative modes, and implementing street improvements.
- The Pedestrian Master Plan, which envisions a pedestrian system built on safety, equity, responsiveness, and vitality.
- The Let's Bike Oakland Plan, which envisions a comprehensive network of bicycle facilities addressing bicycle safety and access through street design and maintenance programs; bicycle access to transit; and secure and convenient bicycle parking.
- The City's Transit First Policy, supporting public transit and other alternatives to the single occupant vehicle incorporating various methods of expediting transit services on designated street and encouraging greater transit use.
- The City's Complete Streets Policy, which calls for the City to plan, design, construct, operate, and maintain the street network to accommodate safe, convenient, comfortable travel for all modes, including pedestrians, bicyclists, transit users, motorists, trucks and emergency vehicles.

Impact TRANS-2: Project or required transportation improvements could potentially conflict with a plan, ordinance, or policy addressing the safety or performance of the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths (except for automobile level of service or other measures of vehicle delay). (Criterion 2) (*Less than Significant with Mitigation*)

Implementation of the Project including the Mitigation Measures and the Non-CEQA Recommendations described in this chapter furthers the existing policies in these policy documents resulting in an overall beneficial impact on transportation in the area. Even so, there are potential conflicts between the Project and individual projects and policies in the many planning documents completed within the influence area of this Project that should be resolved.

Table 4.15-41 lists the applicable transportation-related plans and associated planned transportation network changes that are relevant to the Project influence areas shown in Figure 4.15-1 through Figure 4.15-4. Some of these plans have been adopted while other plans are in draft form, but all are considered in the plan consistency analysis because they are potentially relevant to the Project. Unless stated otherwise, the list of planned transportation network changes is unfunded and have not been designed.

The first column in the table identifies the segment of the transportation network where the improvement, per the adopted or proposed plan, would be located. The second column then describes the improvement in the corresponding plan. The third column describes the transportation improvements established through the City's *Transportation Impact Review Guidelines* process and fall into one of two categories including:

- *CEQA Mitigation Measures* – These are Transportation Improvements that have been identified through the CEQA analysis to address significant transportation impacts associated with the Project.
- *Non-CEQA Recommendations* – These are Transportation Improvements that have been identified through non-CEQA analyses conducted pursuant to the City's *Transportation Impact Review Guidelines*. These features are not required to address environmental impacts but are recommended to support the Project's transportation needs, and some may also support those of the Port and the surrounding neighborhoods within about one mile of the Project site, on days with and without a capacity ballpark event.

The last column describes the plan consistency analysis and determines whether the project-related transportation improvement is consistent with the stated transportation description from the applicable plan.

There are three corridors, Adeline Street and Market Street and Broadway, where planned transportation improvements described in adopted plans would potentially conflict with the Project's transportation improvements, illustrated in **Figure 4.15-47**. In each case as noted in the table, the Project and its planned components include transportation improvements, i.e., Mitigation Measures that resolve the conflict by providing an alternative solution to the planned transportation improvement.

TABLE 4.15-41
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
2017 Pedestrian Plan, "Oakland Walks!"			
8th Street, between Franklin and Fallon Streets (Highway Safety Improvement Program 2013)	Upgraded traffic signals on 8th Street at Madison and Oak Streets. New bikeway striping, repaved, and new ADA curb ramps along the corridor. Identified in Lake Merritt Station Area Plan as a community priority for two-way conversion, or sidewalk extensions. Downtown Plan calls for two-way conversion with a potential parking protected Class 4 bike lane.	None	N/A
Broadway, between 9th and 19th Streets (AC Transit East Bay BRT)	Pedestrian Improvements funded through the BRT Project including new ADA curb ramps and pedestrian access to BRT stations. Specific sections included in safety strategy.	**Broadway between Embarcadero West and 11th Street:** Convert one traffic lane each way on Broadway to bus-only lanes while maintaining vehicle throughput at the 5th and 6th Street intersections; Upgrade traffic signals and add new signals at 2nd and 4th Streets and separate left turning traffic on Broadway and pedestrian crossings at 2nd, 4th, 7th, and 8th Streets. (Mitigation Measure TRANS-1d) Upgrade sidewalks to provide minimum 8-foot clear space at sidewalk obstacles; maximize sidewalk waiting areas within 30 feet of intersections; provide pedestrian lighting as necessary; correct sidewalk tripping hazards; provide 15-foot north/south crosswalks; daylight intersections and driveways with red curb per City guidance; and provide pedestrian wayfinding signage to direct patrons to the ballpark. (Mitigation Measure TRANS-1e)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-1d and 1e) incorporate pedestrian enhancements on Broadway consistent with 2017 Pedestrian Plan. **Conclusion**: The transportation improvements are consistent with 2017 Pedestrian Plan.
9th Street/Madison Street Intersection	Lake Merritt BART Bikeways; Madison Street road diet	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
2017 Pedestrian Plan, "Oakland Walks!" (cont.)			
Brush Street between 12th and 14th Streets	Add "Pedestrian Crossing Prohibited" signage at Brush St & 12th St, replacing pedestrian countdown timers, re-stripe marked crosswalks, implement Lead Pedestrian Interval, restrict on-street parking within 20 feet of intersections and marked crosswalks, implement pedestrian safety zones extending from the curb. In the long term, implement road diet and adjust signal timing to separate turning movements from pedestrian phase crossing.	None	N/A
7th Street at Harrison Street	Install pedestrian countdown timers and activation buttons, implement Leading Pedestrian Interval, integrated protected northbound right turn phase	None	N/A
8th Street at Market Street	Restripe crosswalks, install pedestrian countdown timers and activation buttons, convert devices to fixed pedestrian recall, implement pedestrian safety zones extending from the curb. In the long term, add lighting for crosswalks across Market Street, convert eastbound and westbound left-turn phase to protected left-turn phase, and extend median.	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
2019 Oakland Bike Plan			
2nd Street, between Brush Street and Oak Street	Class 2 Bike Lane	**2nd Street Transportation Hub**: Provide a Transportation Hub between Martin Luther King Jr. Way and Clay Street serving up to 20 buses per hour, expandable to handle up to 120 buses per hour on ballpark event days when 2nd Street would be closed to automobile traffic. Bus stops would either be pull-in or sawtooth design; Provide a Class 1 Multi-Use Path on Embarcadero West between Martin Luther King Jr. Way and Washington Street. (Mitigation Measure TRANS-1c and Mitigation Measures TRANS-3a) **2nd Street between Broadway and Oak Streets**: Maintain Class 2 Bike Lane and convert angled parking at Amtrak Station to back-in angled parking and add Class 2 Bicycle Lane and install traffic signal at Broadway; Upgrade sidewalks, lighting, curb ramps, and crosswalks to enhance pedestrian comfort at the Transportation Hub. (Non-CEQA Recommendation)	**Discussion:** The Transportation Hub (Mitigation Measure TRANS-1c) would have the potential to move several thousand people to/from the ballpark each hour. During these periods up to 120 buses per hour could use the Hub and these buses would conflict with bike riders using the bike lanes on 2nd Street when the buses stop to (un)load passengers. The Hub's location on 2nd Street was chosen because it is within 900 feet of the ballpark, it does not require that buses cross the railroad tracks, and its wide sidewalks support safe passenger access between buses and the ballpark via the adjacent pedestrian bridge. 2nd Street is a low traffic street with limited property access so it can be closed on event days to bus and local traffic only. The Class 1 Multi-Use Path (Mitigation Measures TRANS-3a) on Embarcadero West between Martin Luther King Jr. Way and Washington Street would provide an alternative bike route for bike riders on event days when shuttle buses are operating. The Class 2 Bike Lanes would close the gap at the Amtrak Station. **Conclusion**: The transportation improvement is consistent with Plan.
3rd Street, between Mandela Parkway and Market Street	Class 2B Buffered Bike Lane	None	N/A
3rd St, between Market and Oak Streets	Class 4 Protected Bike Lanes	None	N/A
6th Street, between Washington and Madison Streets	Class 4 Protected Bike Lanes	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
2019 Oakland Bike Plan (cont.)			
7th Street, between Mandela Parkway and Washington Street	Class 4 Protected Bike Lanes	**7th Street and 8th Street Cut-Off between Mandela Parkway and Martin Luther King Jr. Way**: Remove one motor vehicle lane to provide bike lanes as either Class 2 Buffer Bike Lanes or Class 4 Protected Bike Lanes; Use green paint to denote driveway and intersection conflict areas. (Mitigation Measure TRANS-2a)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2a) would implement striped Class 2 Buffer Bike Lanes or Class 4 Protected Bike Lanes on 7th Street. The corridor would be designed so that it can be upgraded in the future to incorporate Class 4 Protected Bike Lanes per the Bike Plan if the Class 2 facilities are constructed. **Conclusion**: The transportation improvement provides bike lanes on the corridor and does not preclude implementing the Class 4 Protected Bike Lanes identified in the 2019 Bike Plan in the future.
9th Street, between Martin Luther King Jr. Way and Fallon Street	Class 4 Protected Bike Lanes	None	N/A
11th Street, between Market Street and Lake Merritt Blvd	Class 4 Protected Bike Lanes	None	N/A
12th Street, between Market Street and Lake Merritt Boulevard	Class 4 Protected Bike Lanes	None	N/A
13th Street, between Franklin Street and Lake Merritt Boulevard	Class 2B Buffered Bicycle Lane	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
2019 Oakland Bike Plan (cont.)			
Adeline Street, between 3rd and 7th Streets	Class 2 Bicycle Lane	**Adeline Street between 3rd and 7th Streets:** Stripe Adeline Street for two lanes each way plus a 200-foot southbound to eastbound left-turn pocket with protected phasing at 3rd Street; Prohibit northbound left turning traffic at 3rd Street; Upgrade the traffic signals at 3rd, 5th and 7th Streets per City guidelines and provide signal ahead flashers on Adeline Street bridge that are coordinated with the traffic signal; Prohibit right turns on red at 3rd Street; Upgrade intersection sidewalk, lighting, curb ramps, and crosswalks for pedestrian comfort; Maintain 4-foot clear at intersection sidewalk obstacles. (Non-CEQA Recommendation)	**Discussion:** The transportation improvements would enhance truck access to and from the Seaport via Adeline Street and separate, to the extent feasible, the Seaport vehicles from vehicles destined to Jack London District including the Project site. While improvements provide benefit to auto and truck traffic, they preclude installing Class 2 Bike Lanes at this time as described in the 2019 Bike Plan and so riders would need to find an alternative route. **Conclusion**: **Less than significant** with Mitigation Measure TRANS-2a which provides a similar accommodation on 7th Street which would connect bike riders to alternative north/south corridors such as Mandela Parkway, Market Street, Martin Luther King Jr Way which all connect to 3rd Street serving Jack London District.
Adeline Street, between 7th and 35th Streets	Class 4 Protected Bike Lanes	None	N/A
Broadway, between Bay Trail and 6th Street	Class 2B Buffered Bike Lanes	**Broadway between Embarcadero West and 11th Street**: Convert one traffic lane each way on Broadway to bus-only lanes while maintaining vehicle throughput at the 5th and 6th Street intersections; Upgrade traffic signals and add new signals at 2nd and 4th Streets and separate left turning traffic on Broadway and pedestrian crossings at 2nd, 4th, 7th, and 8th Streets. (Mitigation Measure TRANS-1d)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-1d) would separate automobile and truck traffic from bus/shuttle traffic and result in more reliable and faster service for transit riders but would preclude the Class 2B Buffered Bike Lanes from being implemented on Broadway between 4th and 6th Streets. The 2019 Bike Plan identifies Washington Street, one block to the west, for Class 2 Bike Lanes and it provides the same connections and similar accommodations to Broadway on a less trafficked street with lower driving speeds. **Conclusion**: **Less than significant** with Mitigation Measure TRANS-2c which completes the existing Class 2 Bike Lanes on Washington Street, one block to the west of Broadway, between Embarcadero West and 10th Street.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
2019 Oakland Bike Plan (cont.)			
Brush Street, between Embarcadero and 2nd Street	Class 1 Bicycle Path	None	N/A
Brush Street, between 2nd and 3rd Streets	Class 2 Bike Lane	None	N/A
Clay Street, between Water and 3rd Street	Class 2 Bicycle Lane	**Clay Street between Embarcadero West and 2nd Street**: Remove on-street parking on the street's west side and expand the sidewalk 8 feet while maintaining Bike Lanes. (Mitigation Measures TRANS-3a)	**Discussion:** The transportation improvement would remove parking and would not alter the existing bike lanes. **Conclusion**: The transportation improvement is consistent with 2019 Bike Plan.
Embarcadero West, between Martin Luther King Jr. Way and Broadway	Class 1 Bicycle Path	**Embarcadero West**: Provide a multi-use path connecting Martin Luther King Jr. Way with Washington and potentially Broadway and separated from the railroad by fencing; Maintain Embarcadero West on the north side of the tracks; Upgrade sidewalks, lighting, curb ramps, and crosswalks for pedestrian comfort. (Mitigation Measure TRANS-3a)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-3a) would implement the stated improvements from the 2019 Bike Plan. **Conclusion**: The transportation improvement is consistent with the 2019 Bike Plan.
Franklin Street, between 6th and 22nd Streets	Class 4 Protected Bike Lanes	None	N/A
Jefferson Street, between I-880 and 19th Street	Class 2B Buffered Bicycle Lane	None	N/A
Madison Street, between 6th and 5th Streets	Class 4 Protected Bike Lanes	None	N/A
Mandela Parkway, between 7th and 5th Streets	Class 2B Buffered Bicycle Lane	None	N/A
Mandela Parkway, between 5th and 3rd Streets	Class 2B Buffered Bicycle Lane	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
2019 Oakland Bike Plan (cont.)			
Market Street, between Embarcadero West and 18th Street	Class 4 Protected Bike Lanes	**Market Street between Embarcadero West and 7th Street**: Provide two lanes each way as primary truck and automobile access to Schnitzer Steel and Project site. Design cross-section to accommodate largest frequent trucks serving Schnitzer Steel and the existing bike lanes north of 3rd Street which would require median modifications. (Non-CEQA Recommendation)	**Discussion:** The transportation improvements would enhance truck and auto access to and from the Project site and Schnitzer Steel. While improvements provide benefit to auto and truck traffic, they preclude installing Class 4 Protected Bike Lanes between the site and 3rd Street as described in the 2019 Bike Plan. **Conclusion**: **Less than significant** with Mitigation Measure TRANS-2a and Mitigation Measure TRANS-2b which when combined provide an alternative route for bike riders to the project site via Martin Luther King Jr. Way.
		Market Street between the site and 7th Street: Upgrade sidewalks to provide 8 feet effective sidewalk width at sidewalk obstacles. Maintain existing and planned bike lanes. Daylight intersections and driveways with red curb per City guidance. (Mitigation Measure TRANS-1e)	**Discussion:** The transportation improvement would maintain the existing bike lanes and the transportation improvement would be designed so that the corridor can be upgraded in the future to incorporate Class 4 Protected Bike Lanes per the 2019 Bike Plan. **Conclusion**: The transportation improvement does not preclude the bike lanes planned in the 2019 Bike Plan from being implemented.
Martin Luther King Jr. Way, between San Pablo Avenue and 7th Street.	Class 2B Buffered Bike Lanes	**Martin Luther King Jr. Way between 8th and 14th Streets**: The City has a grant funded project to implement Class 2B Buffered Bike Lanes. Additional improvements would modify the bike lanes to allow signal protected left-turn lanes at 12th Street and potentially 11th Street. If the grant funded project has not been installed prior to completing the ballpark, the Project will be responsible for implementing the Class 2B Buffer Bike Lanes between 8th and 14th Streets. (Mitigation Measure TRANS-2b)	**Discussion:** The transportation improvement would support the grant funded bike lane project as described in the 2019 Bike Plan. If the grant funded project has not been installed prior to completing the ballpark, the Project will be responsible for implementing the Class 2B Buffer Bike **Conclusion**: The transportation improvement is consistent with the 2019 Bike Plan.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
2019 Oakland Bike Plan (cont.)			
Martin Luther King Jr. Way, between 7th Street and Embarcadero West	Class 4 Protected Bike Lanes	**Martin Luther King Jr. Way between Embarcadero West and 8th Street**: Remove one motor vehicle lane each way and provide Class 4 Protected Bike Lanes with raised features; Provide either parking or left-turn lanes at select locations; Use green paint to denote driveway and intersection conflict areas; Daylight intersections and driveways with red curb per City guidance. (Mitigation Measure TRANS-2b)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2b) would implement the stated improvements from the 2019 Bike Plan. **Conclusion**: The transportation improvement is consistent with 2019 Bike Plan.
Oak Street, between 2nd and 9th Streets	Class 4 Protected Bike Lanes	None	N/A
Washington Street, between Embarcadero West and 7th Street	Class 2 Bicycle Lane	**Washington Street between Embarcadero West and 7th Street**: Complete the Class 2 Bike Lanes by closing the gap in the bike lane between Embarcadero and 2nd Street, installing all-way stop control at 4th Street, and converting the right turn lane approaching 7th Street to a Class 2 Bike Lane. (Mitigation Measure TRANS-2c)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2c) would implement the remaining Class 2 bike lane elements to achieve the project described in the 2019 Bike Plan. **Conclusion**: The transportation improvement is consistent with 2019 Bike Plan.
Washington Street, between 7th and 9th Streets	Class 3 Bicycle Route	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
West Oakland Truck Management Plan			
Union Street/5th Street; Union Street/7th Street; Adeline Street/7th Street; Adeline Street/5th Street; and Adeline Street/3rd Street Intersections	Work with the City of Oakland's Planning and Building Department to identify developments proposed near these intersections to encourage the inclusion of safety improvements in the development projects. Possible improvements include high-visibility crosswalks and bike crossings, pedestrian/bicycle signals, traffic signal changes, improved signage, and pedestrian refuges. Improvements at Truck Route intersections must accommodate safe truck turning movements (e.g., turning radii).	**I-880 Southbound Off-Ramp at 5th Street:** Restripe off-ramp converting one shared through/right-turn lane to a dedicated right-turn lane and modify traffic signal phasing for leading pedestrian interval and right-turn overlap phasing; Tighten the corner radius to slow right turning vehicles. (Non-CEQA Recommendation) **Adeline Street at 7th Street**: Upgrade the sidewalks on the south side of 7th Street to 6-foot effective width at obstacles and eliminate sidewalk tripping hazards along both sides of 7th Street through the Adeline Street intersection. (Mitigation Measure TRANS-1e) **Adeline Street at 5th Street:** Re-stripe eastbound lanes to two through lanes and one right-turn lane, prohibit eastbound left turning traffic. Stripe southbound approach to one left lane, one through lane, one through/right-turn lane. Stripe northbound approach for one left, one through, and one right-turn lane. Upgrade the traffic signal including protected left turn phases and an eastbound right-turn overlap phase and a northbound right-turn overlap. (Non-CEQA Recommendation) **Adeline Street at 3rd Street**: Stripe Adeline Street for two lanes each way plus a 200-foot southbound to eastbound left-turn pocket with protected phasing at 3rd Street while prohibiting northbound left turning traffic; Upgrade traffic signals to be consistent with City guidelines and signal ahead flashers on Adeline Street bridge and coordinate Adeline Street traffic signals; Prohibit right turns on red at 3rd Street. (Non-CEQA Recommendation)	**Discussion:** Intersection improvements will include pedestrian safety improvements such as high-visibility crosswalks, upgraded sidewalks, and modified traffic signal phasing. The recommendations for protected turn phasing separate left turning traffic and pedestrians. Jack The improvements would prioritize trucks between the I-880 ramps at Union Street, 5th Street, and Adeline Street into the Seaport, which serves about 50 percent of total Seaport traffic. The improvements would also direct Jack London District traffic including the Project traffic to use 5th Street. Street rather than 3rd Street which would help to separate Project and Seaport traffic. These transportation improvements would preclude the planned bike lanes for riders traveling on Adeline Street south of 7th Street serving the Jack London District. Alternative bike lanes have been identified on 7th Street (Mitigation Measure TRANS-2a) so riders can access Jack London District via Mandela Parkway, Market Street, and Martin Luther King Jr Way **Conclusion**: The transportation improvements are consistent with the West Oakland Truck Management Plan for pedestrian safety at these intersections.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
AC Transit Service Expansion Plan			
Line 12	Split route in Temescal, creating Line L20 Jack London Square to Grand Lake via Broadway and Grand, continuing via Piedmont Av and Shattuck Av to Downtown Berkeley and to Gilman district via Hopkins and Gilman.	None	N/A
Line 18	Realign with Line 12 in Temescal in Downtown Oakland, creating Line L20 (see above)	None	N/A
Line 62	Increase frequency	**7th Street and 8th Street Cut-Off between Mandela Parkway and Martin Luther King Jr. Way**: Remove one motor vehicle lane to provide bike lanes as either Class 2B Buffered Bike Lanes or Class 4 Protected Bike Lanes and use green paint to denote driveways and intersections. Separate buses and bikes at bus stops. (Mitigation Measure TRANS-2a)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2a) would remove one lane of automobile traffic to provide bike lanes leaving two remaining lanes for autos, trucks, and buses. Even with two lanes the corridor intersections will operate at LOS C or better. The improvement would separate buses and bikes through bus stops by providing boarding island to the corridor for Line 62. **Conclusion**: The transportation improvement would not affect service frequency changes to Line 62.
Lake Merritt Station Area Plan			
Madison Street/8th Street	bulbouts and install pedestrian signal heads	None	N/A
Oak Street/8th Street	bulbouts and a bus bulbout on the northeast corner	None	N/A
Jackson Street/9th Street	bulbouts	None	N/A
Harrison Street/8th Street	bulbouts (Phase I), pedestrian scramble (Phase II)	None	N/A
Harrison and 9th Street Intersection	bulbouts (Phase I), pedestrian scramble (Phase II)	None	N/A
Oak Street/8th Street Intersection	Upgrade curb ramps, bulbouts and countdown timers	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Lake Merritt Station Area Plan (cont.)			
Oak Street/6th Street Intersection	Consider closing access to 6th Street with addition of bikeway, landscaping, realignment of the freeway off-ramps, bulbouts, curb ramps, countdown timers; or upgrading curb ramps, add bulbout at the northwest corner, no right turn on red, restriping lanes, and countdown timers.	None	N/A
Oak Street/5th Street Intersection	Improve lighting, artwork, fencing	None	N/A
Madison Street/9th Street Intersection	Upgrade or add new bulbouts and improved curb ramps, add pedestrian signal heads	None	N/A
9th Street, between Broadway and Harrison	Phase I includes corner bulbouts, enhanced pedestrian crosswalks, bicycle sharrow, sidewalk amenities including pedestrian-oriented lighting and additional street trees. Phase II, Option A: street conversion from three lanes one-way to two-way (left-turn lane where needed). Phase II, Option B: Lane reduction from three lanes one-way to two lanes one-way with sidewalk widening.	None	N/A
9th Street, east of Harrison	Phase I includes restriping Class 2 bike lanes, corner bulbouts, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees. Phase II, Option A: street conversion from three lanes one-way to two-way (including left-turn lane where needed). Phase II, Option B: Lane reductions from three lanes one-way to two lanes one-way with sidewalk widening.	None	N/A
8th St, between Broadway and Harrison	Phase I includes corner bulbouts, enhanced pedestrian crosswalks, a bicycle sharrow, and sidewalk amenities including pedestrian-oriented lighting and street trees. Phase II, Option A: street conversion from one-way to two-way. Phase II, Option B: Lane reduction from four lanes one-way to three lanes one-way and sidewalk widening.	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Lake Merritt Station Area Plan (cont.)			
8th Street, east of Harrison	Phase I includes a lane reduction from four lanes one-way to three lanes one-way, Class 2 bike lanes, corner bulbouts, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting and street trees. Phase II, Option A: street conversion from one-way to two-way. Phase II, Option B: Lane reduction and sidewalk widening.	None	N/A
Oak Street (entire plan area)	Phase I includes striping a four to three lane reduction one-way with the addition of a Class 2 bike lane. The street will receive corner bulbouts, enhanced pedestrian crosswalks, and sidewalk amenities including pedestrian-oriented lighting, street trees, and wayfinding – particularly at the Lake Merritt BART Station. Phase II, Option A: street conversion from one-way to two-way traffic. Phase II, Option B: sidewalk widening (building on Phase I)	None	N/A
West Oakland Specific Plan			
Rail Lines	At-grade rail crossings at Market Street and Martin Luther King Jr. Way are in poor condition and should be repaired.	**Railroad Crossing Improvements:** Upgrade at-grade railroad crossings at Market Street, Martin Luther King Jr. Way, Clay Street, Washington Street and Broadway: Provide additional motor vehicle gates, pedestrian gates, medians, expanded sidewalks, turn restrictions, and fencing between crossings. Changes are consistent with "Quiet Zone" features. (Mitigation MeasureTRANS-3a)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-3a) would implement the stated improvements from the West Oakland Specific Plan. **Conclusion**: The transportation improvement is consistent with West Oakland Specific Plan.
3rd Street, between Brush and Castro Streets	Reconfigure street to provide continuous sidewalk on north side	**3rd Street between Market Street and Broadway**: Replace angle / perpendicular parking with parallel parking to provide effective width of 6 feet for pedestrian path of travel between parking and buildings where sidewalk gaps exist. (Mitigation MeasureTRANS-3b)	**Discussion:** The transportation improvement would implement the stated improvements from the West Oakland Specific Plan by ensuring there is a continuous pedestrian path of travel on 3rd Street. **Conclusion**: The transportation improvement is consistent with West Oakland Specific Plan.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
West Oakland Specific Plan (cont.)			
Adeline Street – truck parking enforcement	City and Port coordinate to enact reasonable resolution to current circulation problems associated with Adeline Street truck parking, especially in the mornings. Appears to be sign and enforcement, as there currently appears to be parking available outside gates on Port property, on the south side of the Middle Harbor Drive bridge. A truck parking program with appropriate time limits and enforcement should be implemented.	**Parking Management Plan**: Implement through the Transportation Management Plan (TMP) a plan to manage both on- and off-street parking. While the parking plan addresses the greater downtown, the initial implementation will be for on- and off-street parking within one mile of the Project site including Adeline Street. (Mitigation Measure TRANS-1b)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-1b) would implement comprehensive parking management that addresses on-street parking within one mile of the Project site. Tools such as parking pricing and residential parking permits would be used to manage on-street parking. **Conclusion**: The transportation improvement is consistent with West Oakland Specific Plan.
Mandela Pkwy/7th Street Intersection	While the pedestrian connection from Mandela to the West Oakland BART Station is new and in good condition, additional street lighting and sidewalk improvements will provide safer pedestrian circulation	**7th Street and 8th Street Cut-Off between Mandela Parkway and Martin Luther King Jr. Way**: Remove one motor vehicle lane to provide bike lanes as either Class 2B Buffered Bike Lanes or Class 4 Protected Bike Lanes and use green paint to denote driveways and intersections. Separate buses and bikes at bus stops. (Mitigation Measure TRANS-2a) **Mandela Parkway to Market Street:** Upgrade sidewalks to provide 6-foot effective width along the south side of the street and correct sidewalk tripping hazards on both sides of the street. (Mitigation Measure TRANS-1e)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2a) would provide bike lanes along 7th Street which would provide greater separation between pedestrians and motor vehicle traffic. The transportation improvements (Mitigation Measure TRANS-1e) would improve the pedestrian sidewalks on both sides of 7th Street by eliminating tripping hazards and on the south side by ensuring that there is enough clear width for pedestrian demands. The improvements support pedestrian connections. **Conclusion**: The transportation improvements are consistent with the West Oakland Specific Plan.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
West Oakland Specific Plan (cont.)			
Adeline Street	Implement planned streetscape improvements for Adeline Street; implement Class 2 bicycle lanes between 36th Street and 3rd Street by converting traffic travel lanes to bicycle lanes	**Adeline Street between 3rd and 7th Streets:** Stripe Adeline Street for two lanes each way plus a 200-foot southbound to eastbound left-turn pocket with protected phasing at 3rd Street; Prohibit northbound left turning traffic at 3rd Street; Upgrade the traffic signals at 3rd and 5th Streets per City guidelines and provide signal ahead flashers on Adeline Street bridge that are coordinated with the traffic signal; Prohibit right turns on red at 3rd Street. (Non-CEQA Recommendation)	**Discussion:** These transportation improvements would preclude the planned bike lanes for riders traveling on Adeline Street south of 7th Street. The improvements would prioritize trucks on Adeline Street into the Seaport, which serves about 50 percent of total Seaport traffic. The improvements also direct Jack London District traffic including the Project traffic to use 5th Street rather than 3rd Street where it would mix with Seaport truck traffic. Implement the transportation improvements to prioritize Seaport-destined trucks and separate Project and Seaport traffic. Provide an alternative bike route for Adeline Street bike riders including 7th Street between Mandela Parkway and Martin Luther King Jr. Way so riders can use Mandela Parkway, Market Street, or Martin Luther King Jr. Way to access 3rd Street and Jack London District. **Conclusion**: **Less than significant** with Mitigation Measure TRANS-2a and Mitigation Measure TRANS-2b.
Adeline Street/5th Street Intersection	Modify the traffic signal to remove split phasing and provide protected permitted left turn phasing for the northbound and southbound left-turn movements (Mitigation Measure TRANS-8 from West Oakland Specific Plan EIR)	**Adeline Street at 5th Street:** Re-stripe eastbound lanes to two through lanes and one right-turn lane, prohibit eastbound left turning traffic. Stripe southbound approach to one left, one through, and one through/right-turn lane. Stripe northbound approach for one left, one through, and one right-turn lane. Upgrade the traffic signal including protected left turn phases and an eastbound right-turn overlap phase and a northbound right-turn overlap. (Non-CEQA Recommendation)	**Discussion:** The transportation improvement implements intersection changes that would reduce delay for motor vehicles and separate left turning vehicles and pedestrians. While not implementing the specific improvements proposed in the West Oakland Specific Plan, it would not preclude these improvements from being implemented in the future. **Conclusion:** The transportation improvement is consistent with the West Oakland Specific Plan.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
West Oakland Specific Plan (cont.)			
W Oakland BART Station	Develop parking garage; improve station access and public safety at nighttime with an on-demand (by phone) door-to-door bus/van service to and from BART in the evenings and at night, and with improved nighttime lighting in the parking lots and station vicinity.	None	N/A
7th Street	Complete implementation of enhanced streetscape as described in the 7th Street Conceptual Urban Design Plan; implement bike lanes from Martin Luther King Jr. Way to Wood Street	**7th Street and 8th Street Cut-Off between Mandela Parkway and Martin Luther King Jr. Way**: Remove one motor vehicle lane to provide bike lanes as either Class 2B Buffered Bike Lanes or Class 4 Protected Bike Lanes and use green paint to denote driveways and intersections. Separate buses and bikes at bus stops. (Mitigation Measure TRANS-2a) **Mandela Parkway to Market Street:** Upgrade sidewalks to provide 6-foot effective width along the south side of the street and correct sidewalk tripping hazards on both sides of the street. (Mitigation Measure TRANS-1e)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2a) would provide bike lanes along 7th Street which would provide greater separation between pedestrians and motor vehicle traffic. The transportation improvements (Mitigation Measure TRANS-1e) would improve the pedestrian sidewalks on both sides of 7th Street by eliminating tripping hazards and on the south side by ensuring that there is enough clear width for pedestrian demands. The improvements support pedestrian connections. **Conclusion**: The transportation improvements are consistent with the West Oakland Specific Plan.
Transit Service	Work with AC Transit and other transit service providers to enhance transit service to this area, potentially including a secondary connection or loop down 3rd Street.	None	N/A
Shuttle	Coordinate with AC Transit and the City of Emeryville to study and consider expanded shuttle/transit service in West Oakland, like the Emery-Go-Round.	None	N/A
General Plan Lane Use and Transportation Element			
I-880 Overpass	Initiate streetscape improvements, including increased lighting and public art elements.	**BART Wayfinding and I-880 Underpass Improvements:** The wayfinding program would enhance the freeway underpasses with improved lighting, aesthetics, and placemaking so that the underpasses are more inviting to pedestrians walking to the ballpark. (Non-CEQA Recommendation)	**Discussion:** The transportation improvement would implement the stated improvements from the General Plan Lane Use and Transportation Element. **Conclusion**: The transportation improvement is consistent with the General Plan Lane Use and Transportation Element.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
General Plan Lane Use and Transportation Element (cont.)			
Broadway Shuttle	Expand service to support evening and weekend retail and entertainment activities within uptown and Jack London Square	None	N/A
Jack London Square Intermodal Connection	Shuttle or bus route serving Jack London Square Amtrak station, with service to ferry terminal, downtown AC Transit hub/12th Street BART Station, and the Lake Merritt BART Station	**2nd Street Transportation Hub**: Provide a Transportation Hub between Martin Luther King Jr. Way and Clay Street serving up to 20 buses per hour, expandable to handle up to 120 buses per hour on ballpark event days when 2nd Street would be closed to automobile traffic. Bus stops would either be pull-in or sawtooth design; Provide a Class 1 Multi-Use Path on Embarcadero West between Martin Luther King Jr. Way, Clay Street, Washington Street, and Broadway. (Mitigation Measure TRANS-1c and Mitigation Measure TRANS-3a) **Broadway between Embarcadero West and 11th Street**: Convert one traffic lane each way on Broadway to bus-only lanes while maintaining vehicle throughput at the 5th and 6th Street intersections; Upgrade traffic signals and add new signals at 2nd and 4th Streets and separate left turning traffic on Broadway and pedestrian crossings at 2nd, 4th, 7th, and 8th Streets. (Mitigation Measure TRANS-1d)	**Discussion:** The Transportation Hub (Mitigation Measure TRANS-1c) would have the potential to move several thousand people to/from the ballpark each hour. During these periods up to 120 buses per hour could use the Hub and these buses would conflict with bike riders using the bike lanes on 2nd Street when the buses stop to (un)load passengers. The Hub's location on 2nd Street was chosen because it is within 900 feet of the ballpark and buses do not cross the railroad tracks, and its wide sidewalks support passenger access to buses. 2nd Street is a low traffic street with limited property access so it can be closed on event days to bus and local traffic only. The Hub would also be centrally located with access to bus-only lanes, serving the 12th Street BART station (Mitigation Measure TRANS-1d) and potentially others. The Class 1 Multi-Use Path on Embarcadero West (Mitigation Measure TRANS-3a) between Martin Luther King Jr. Way and Washington Street would provide an alternative bike route for bike riders on event days when shuttle buses are operating at the Hub. The completed bike lanes on Washington Street (Mitigation Measure TRANS-2c) provide an equivalent route to Broadway for bike riders. **Conclusion:** The transportation improvements are consistent with the General Plan Land Use and Transportation Element. **Less than significant** with Mitigation Measure TRANS-2c which provides Class 2 Bike Lanes on Washington Street between Embarcadero West and 10th Street.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019)			
8th Street/Franklin Street Intersection, 8th Street/Webster Street Intersection, 8th Street/Harrison Street Intersection, 8th Street/Jackson Street Intersection, 8th Street/Madison Street Intersection, and 8th Street/Oak Street Intersection	Depending on intersection, pedestrian countdown timers within the CA MUTCD recommended time of 3.5 feet per second; Implement Leading Pedestrian Interval (LPI); Convert permissive phase to protected phase; Restrict on-street parking within 20-feet of the intersection and marked crosswalks; Implement pedestrian safety zones from curb; Install directional curb ramps and accessible pedestrian signals	**BART Wayfinding and I-880 Underpass Improvements**: Provide pedestrian wayfinding between the ballpark and the West Oakland BART station (via 7th and Market Streets), 12th Street BART station (via Broadway and/or Washington Street), and Lake Merritt BART Station (via 8th Street and Broadway). The wayfinding program would enhance the freeway underpasses with improved lighting, aesthetics, and placemaking so that the underpasses are more inviting to pedestrians walking to the ballpark. (Non-CEQA Recommendation)	**Discussion:** The transportation improvement focus would be on wayfinding treatments but could modify pedestrian crossing times at traffic signals to accommodate the additional people walking. **Conclusion**: The transportation improvements are consistent with the Downtown Oakland Specific Plan and would not preclude further pedestrian improvements at these intersections.
9th Street/Franklin Street Intersection, 9th Street/Webster Street Intersection, and 9th Street/Harrison Street Intersection	Pedestrian countdown timers within the CA MUTCD recommended time of 3.5 feet per second; Shorten signal cycle length; Restrict on-street parking 20-feet at intersections marked crosswalks; Implement near-term quick build road diet; consider parking protected bike lanes; Install directional curb ramps and accessible pedestrian signals.	None	N/A
9th Street/Alice Street Intersection	Advanced yield signage at marked crosswalks; Restrict on-street parking 20-feet at intersection and marked crosswalks; Implement near-term quick build road diet; consider parking protected bike lanes; Install directional curb ramps and accessible pedestrian signals	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019) (cont.)			
Broadway, between 9th and 11th	Incorporate streetscape improvements such as street furniture and street trees; Convert intersection to fixed pedestrian recall; Pedestrian countdown timers within the CA MUTCD recommended time of 3.5 feet per second; Shorten signal cycle length; Implement Leading Pedestrian Interval (LPI); Implement pedestrian safety zones from the curb; Install directional curb ramps and accessible pedestrian signals.	**Broadway between Embarcadero West and 11th Street**: Convert one traffic lane each way on Broadway to bus-only lanes while maintaining vehicle throughput at the 5th and 6th Street intersections; Upgrade traffic signals and add new signals at 2nd and 4th Streets and separate left turning traffic on Broadway and pedestrian crossings at 2nd, 4th, 7th, and 8th Streets. (Mitigation Measure TRANS-1d) Upgrade sidewalks to provide minimum 8-foot clear space at sidewalk obstacles; maximize sidewalk waiting areas within 30 feet of intersections; provide pedestrian lighting as necessary; correct sidewalk tripping hazards; provide 15-foot north/south crosswalks; daylight intersections and driveways with red curb per City guidance; and provide pedestrian wayfinding signage to direct patrons to the ballpark. (Mitigation Measure TRANS-1e)	**Discussion:** The transportation improvements (Mitigation Measure TRANS-1d and Mitigation Measure TRANS-1e) would separate automobile and truck traffic from bus/shuttle traffic and result in more reliable and faster service for transit riders while also providing additional improvements for pedestrians both at bus stops and along the Broadway corridor. **Conclusion**: The transportation improvements are consistent with the Downtown Oakland Specific Plan.
Jack London Square District	Connect the Lake Merritt BART Station and Chinatown to the Jack London Square District. Install distinctive lighting; enhance pedestrian crossings; encourage active uses; and install attractive parking area screen walls if parking remains in place (Oak Street from 8th to 4th St)	**BART Wayfinding and I-880 Underpass Improvements**: Provide pedestrian wayfinding between the ballpark and the West Oakland BART station (via 7th and Market Streets), 12th Street BART station (via Broadway and/or Washington Street), and Lake Merritt BART Station (via 8th Street and Broadway). (Non-CEQA Recommendation) The wayfinding program would enhance the freeway underpasses with improved lighting, aesthetics, and placemaking so that the underpasses are more inviting to pedestrians walking to the ballpark. (Non-CEQA Recommendation)	**Discussion:** The transportation improvement focus would be on wayfinding treatments and enhancing freeway underpasses, which would support the Downtown Oakland Specific Plan. **Conclusion**: The transportation improvement is consistent with the Downtown Oakland Specific Plan.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019) (cont.)			
Embarcadero West, between Clay and Market	Continue pedestrian, bicycle, and public realm improvements from the Jack London Waterfront to serve the proposed Oakland A's stadium	**Embarcadero West**: Provide a multi-use path connecting Martin Luther King Jr. Way with Washington Street and potentially Broadway and separated from the railroad by fencing; Maintain Embarcadero West on the north side of the tracks. (Mitigation Measure TRANS-3a)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-3a) would implement the stated improvements from the 2019 Bike Plan and the DOSP. **Conclusion**: The transportation improvement is consistent with the plans.
Embarcadero West/Oak Street Intersection	Realign Embarcadero West through Port-owned parking lot. Install directional curb ramps and accessible pedestrian signals	None	N/A
Embarcadero West, between Oak and Market	Rail Safety Project to facilitate an application for a "Quiet Zone" and provide pedestrian safety improvements, including quad gates at each crossing and fencing on both sides of the railroad tracks between each intersection. Embarcadero West would become a pedestrian corridor through much of its length except where property access is needed.	**Railroad Crossing Improvements:** Upgrade at-grade railroad crossings at Market Street, Martin Luther King Jr. Way, Clay Street, Washington Street, and Broadway: Provide additional motor vehicle gates, pedestrian gates, medians, expanded sidewalks, turn restrictions, and fencing between crossings. Changes consistent with “Quiet Zone” features. (Mitigation Measure TRANS-3a)	**Discussion:** The transportation improvement (Mitigation MeasureTRANS-3a) would implement the Downtown Oakland Specific Plan recommendations between Broadway and Market Street. **Conclusion**: The transportation improvement is consistent with Downtown Oakland Specific Plan.
Oak Street/2nd Street Intersection	Intersection improvements needed for pedestrians and bicyclists, such as installing/repainting the crosswalks, improving/ constructing refuge medians, installing directional curb ramps and accessible pedestrian signals. Complete sidewalk gap on west side of street	None	N/A
3rd Street, between Brush and Clay Streets	Complete sidewalks along corridor	**3rd Street between Market Street and Broadway**: Replace angle / perpendicular parking with parallel parking to provide effective width of 6 feet for pedestrian path of travel between parking and buildings where sidewalk gaps exist. (Mitigation MeasureTRANS-3b)	**Discussion:** The transportation improvement (Mitigation MeasureTRANS-3b) would implement the stated improvements from the West Oakland Specific Plan by ensuring there is a continuous pedestrian path of travel on 3rd Street. **Conclusion**: The transportation improvement is consistent with West Oakland Specific Plan.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019) (cont.)			
8th Street, between Broadway and Fallon Street	Implement streetscape amenities, lighting, street crossing improvements, and other traffic calming measures. Establish an active, pedestrian-oriented, well-lit connection between Chinatown and the Lake Merritt BART Station/Laney College.	**BART Wayfinding and I-880 Underpass Improvements**: Provide pedestrian wayfinding between the ballpark and the West Oakland BART station (via 7th and Market Streets), 12th Street BART station (via Broadway and/or Washington Street), and Lake Merritt BART Station (via 8th Street and Broadway). (Non-CEQA Recommendation)	**Discussion:** The transportation improvement would include wayfinding treatments to enhance the comfort for pedestrians walking between Lake Merritt BART and Chinatown and the ballpark. **Conclusion**: The transportation improvement is consistent with the Downtown Oakland Specific Plan.
9th Street, between Broadway and Fallon Street	Implement streetscape amenities, lighting, street crossing improvements, and other traffic calming measures. Establish an active, pedestrian-oriented, well-lit connection between Chinatown and the Lake Merritt BART Station/Laney College.	None	N/A
Brush Street, railroad crossing	Provide pedestrian connectivity across the railroad tracks	None	N/A
Jefferson Street, railroad crossing	Provide pedestrian connectivity across the railroad tracks	**Pedestrian and Bike Overcrossing:** Provide a pedestrian and bike bridge over the railroad tracks at Jefferson or Clay Streets or similar location. (Mitigation MeasureTRANS-3b) **Railroad Crossing Improvements:** Upgrade at-grade railroad crossings at Market Street, Martin Luther King Jr. Way, Clay Street, Washington Street, and Broadway: Provide additional motor vehicle gates, pedestrian gates, medians, expanded sidewalks, turn restrictions, and fencing between crossings. Changes consistent with “Quiet Zone” features. (Mitigation MeasureTRANS-3a)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-3a) would implement pedestrian safety improvements at the at-grade crossings and Mitigation Measure TRANS-3b would implement the stated pedestrian and bike bridge. **Conclusion**: The transportation improvement is consistent with Downtown Oakland Specific Plan.
Washington Street, between 6th and 7th Streets	Remove the pedestrian bridge if buildings are redeveloped	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019) (cont.)			
Market Street, between 5th and 6th Streets	Potential treatments include safety enhancements and speed reduction measures at ramps and intersections, widening sidewalks, improving pedestrian-level lighting, public art, and installing directional curb ramps	**BART Wayfinding and I-880 Underpass Improvements**: Provide pedestrian wayfinding between the ballpark and the West Oakland BART station (via 7th and Market Streets), 12th Street BART station (via Broadway and/or Washington Street), and Lake Merritt BART Station (via 8th Street and Broadway). (Non-CEQA Recommendation) The wayfinding program would enhance the freeway underpasses with improved lighting, aesthetics, and placemaking so that the underpasses are more inviting to pedestrians walking to the ballpark. (Non-CEQA Recommendation)	**Discussion:** The transportation improvement would include wayfinding treatments and other features to enhance the walking experience under the freeway overpasses. **Conclusion**: The transportation improvement is consistent with the Downtown Oakland Specific Plan.
Martin Luther King Jr. Way, between 5th and 6th Streets			
Washington St, between 6th and 5th Streets			
Broadway, between 4th and 7th Streets	Transform the areas around, under and through the I-880 Freeway underpass into a beautiful, safe, walkable, inviting, green and iconic passageway connecting Downtown Oakland and the Waterfront. Project description to be revised as Walk This Way study recommendations are drafted.		
Oak St, between 5th and 6th Streets	Potential treatments include safety enhancements and speed reduction measures at ramps and intersections, widening sidewalks, improving pedestrian-level lighting, public art, and installing directional curb ramps	None	N/A
Waterfront Trail Oakland A's Stadium Connector, between Clay and Market	Class 1 Shared Use Path. Include a trail connection around the Howard Terminal site should this be developed	**Project Bay Trail Element:** Extend the existing Bay Trail's Class 1 Shared Use Path in Jack London District into the Project site via an extension of Water Street to Athletics' Way and through the site along the water front, making connections with the inland Bay Trail at Clay, Jefferson, and Martin Luther King Jr. Way. (Part of Project Description)	**Discussion:** The Project Description includes the Bay Trail that would serve as the waterfront trail consistent with the Downtown Oakland Specific Plan. **Conclusion**: The transportation improvement is consistent with the Downtown Oakland Specific Plan.
Water Street, from Martin Luther King Jr. Way to Clay Street			

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019) (cont.)			
3rd Street, from Market Street to Lake Merritt Channel	**Option 1:** One-way Class 4 Separated Bikeways – Install a parking protected Class 4 Separated Bikeway (westbound) along the north side of the roadway with curb stops for the angled parking and delineator posts or concrete medians. Diagonal parking and 11-foot travel lanes for buses would be maintained. On the south side of the roadway, install a Class 4 Separated Bikeway Lane (eastbound) and remove parallel parking. **Option 2:** Two-way Class 4 Separated Bikeway – Install a two-way Class 4 Separated Bikeway on the south side of the roadway. Remove parallel parking on the south side and maintain diagonal parking throughout the corridor on the north side. Maintain 11-foot travel lanes for buses.	**3rd Street between Market Street and Broadway**: Remove angle parking and provide effective width 6 feet for pedestrian path of travel between parking and buildings. (Mitigation Measure TRANS-3b)	**Discussion:** The transportation improvement would implement continuous pedestrian paths of travel along portions of the 3rd Street corridor and would not alter the cross-sectional width of the street so bike lanes could be provided on 3rd Street consistent with the Downtown Oakland Specific Plan. **Conclusion**: The transportation improvement does not conflict with the stated improvements from the Downtown Oakland Specific Plan.
2nd Street from Broadway to Embarcadero Bridge	Intersection improvements such as bike boxes or wayfinding to facilitate turning movements to other Low-Stress Core Corridors	**2nd Street between Broadway and Oak Streets**: Maintain Class 2 Bike Lane and convert angled parking at Amtrak Station to back-in angled parking and add Class 2 Bicycle Lane and install traffic signal at Broadway. (Non-CEQA Recommendation)	**Discussion:** The transportation improvement would close the bike lane gap on 2nd Street, which would be consistent with the stated improvements from the Downtown Oakland Specific Plan. **Conclusion**: The transportation improvement is consistent with Downtown Oakland Specific Plan.
7th Street, from Castro to Washington Streets	Class 4 Separated Bikeway. Project may require the removal of one travel lane. Project should address 8th Street connection from Martin Luther King Jr. Way	**7th Street and 8th Street Cut-Off between Mandela Parkway and Martin Luther King Jr. Way**: Remove one motor vehicle lane to provide bike lanes as either Class 2B Buffered Bike Lanes or Class 4 Protected Bike Lanes and use green paint to denote driveway and intersection conflict areas. (Mitigation Measure TRANS-2a)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2a) would implement either Class 2B Buffered Bike Lanes or Class 4 Protected Bike Lanes. If Class 2B facilities are implemented they would be designed such that the corridor could be converted to provide Class 4 facilities in the future. **Conclusion**: The transportation improvement would not conflict with the recommendation in the Downtown Oakland Specific Plan.
9th Street, from Martin Luther King Jr. Way to Fallon Street	Class 4 Separated Bikeway. One-way facilities on both sides of the street that will require conversion to a two-way street. Project may require the removal of one travel lane.	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019) (cont.)			
Martin Luther King Jr. Way from Embarcadero to San Pablo Avenue	Class 2 Buffered Bike Lanes. May require the removal of a travel lane in each direction	**Martin Luther King Jr. Way between Embarcadero West and 8th Street**: Remove one motor vehicle lane each way and provide Class 4 Protected Bike Lanes with raised features; Provide either parking or left-turn lanes at select locations; Use green paint to denote driveway and intersection conflict areas; Daylight intersections and driveways with red curb per City guidance. (Mitigation Measure TRANS-2b) **Martin Luther King Jr. Way between 8th and 14th Streets**: The City has a grant funded project to implement Class 2B Buffered Bike Lanes expected construction in 2023. If these lanes are not constructed prior to the ballpark completion the Project Applicant would be required to construct the lanes. The additional improvements identified for the corridor to handle the non-ballpark traffic would modify the bike lanes to allow protected left turn lanes at 12th Street and potential 11th Street. (Non-CEQA Recommendation)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2b) would implement the Class 4 bike lanes per the 2019 Bike Plan between Embarcadero and 8th Street. North of 8th Street to 14th Street if the grant funded project i.e., Class 2B Buffered Bike Lanes is not constructed the bike lanes would be constructed as part of the ballpark. **Conclusion**: The transportation improvement is consistent with the Downtown Oakland Specific Plan.
Clay Street, from 7th to 17th Streets	Wayfinding and intersection improvements to facilitate bicycle turning movements to another low-stress core network.	None	N/A
Madison Street, from Embarcadero to 19th Street	Class 4 Separated Bikeway. Project may require the removal of travel lanes and conversion to a two-way street to install one-way separated bikeways on both sides of the street.	None	N/A
Washington Street, from Embarcadero to 7th Street	Class 2 Bike Lanes	**Washington Street between Embarcadero West and 7th Street**: Complete the Class 2 Bike Lanes by closing the gap in the bike lane between Embarcadero and 2nd Street, installing all-way stop control at 4th Street, and converting the right turn lane approaching 7th Street to a Class 2 Bike Lane. (Mitigation Measure TRANS-2c)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-2c) would implement the stated improvements from the Downtown Oakland Specific Plan. **Conclusion**: The transportation improvement is consistent with the Downtown Oakland Specific Plan.

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019) (cont.)			
Broadway, between 20th and 11th Streets	Dedicated transit lanes or vehicle access restrictions	None	N/A
Oak Street (no limits provided)	New transit street	None	N/A
Lake Merritt BART, between 8th and 9th Streets	Transit center bus priority improvements	None	N/A
Broadway/2nd Street Intersection Broadway/4th Street Intersection	New traffic signal	**Broadway between Embarcadero West and 11th Street**: Convert one traffic lane each way on Broadway to bus-only lanes while maintaining vehicle throughput at the 5th and 6th Street intersections; Upgrade traffic signals and add new signals at 2nd and 4th Streets and separate left turning traffic on Broadway and pedestrian crossings at 2nd, 4th, 7th, and 8th Streets. (Mitigation Measure TRANS-1d)	**Discussion:** The transportation improvements (Mitigation Measure TRANS-1d) would separate automobile and truck traffic from bus/shuttle traffic and result in more reliable and faster service for transit riders while also providing additional amenities for pedestrians both at bus stops and along the Broadway corridor. The new traffic signals would separate left turning traffic from pedestrian crossings. **Conclusion**: The transportation improvements are consistent with the Downtown Oakland Specific Plan.
Broadway Shuttle	Service enhancements or fare-free zone. Either increase service frequency and extend to 27th during daytime hours or enact fare-free zone within downtown area	None	N/A
7th Street, from Castro to Fallon Street	Convert from one-way to two-way street. Overlaps with the Core Bicycle Network from Castro Street to Clay St, and with the Vision Bicycle Network from Clay Street to Washington St. Overlaps with the bus transit network from Castro Street to Broadway, and with the Bus Transit Priority Treatments from Broadway to Oak St.	None	N/A
8th Street, from Castro to Fallon Street	Convert from one-way to two-way street. Overlaps with the Core Bicycle Network from Madison Street to Fallon St.	None	N/A
Castro Street, from 5th to 7th Streets	Convert from one-way to two-way street	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Downtown Oakland Specific Plan (Draft, August 2019) (cont.)			
Franklin Street, from 7th to 22nd Street	Convert from one-way to two-way street; one travel lane and one parking lane in each direction. Overlaps with the Core Bicycle Network from 7th Street to 22nd Street.	None	N/A
Harrison Street, from 8th to 10th Street	Convert from one-way to two-way street. Overlaps with the Bus Transit Network from 8th to 10th Street	None	N/A
Jack London Square Waterfront, between Washington Street and Embarcadero West	Improve the Jack London waterfront with better lighting, pedestrian and bicycle paths, and open space amenities; Identified as part of the "Green Loop" Path.	None	N/A
Water Street, between Clay Street and Broadway	Continue pedestrian, bicycle, and public realm improvements from the Jack London Square Waterfront along Water Street	None	N/A
9th Street, between Castro and Oak Streets	Transform to include context sensitive infill and safer street design. The street can be transformed from one-way into two-way, as well as reconfigured with head-in diagonal parking converted into back-in diagonal parking. The addition of physical or visual texture on the street surface increases safety for bicyclists because it signals to motorists to drive slower and more cautiously.	None	N/A
Clay Street, from Water Street to Embarcadero West	Continue pedestrian, bicycle, and public realm improvements from the Jack London Square Waterfront along Clay Street	None	N/A
Washington Street, between 8th and 10th Streets	Convert into a plaza street	None	N/A
West Oakland Community Action Plan			
West Oakland BART Station	BART will develop a bike station with controlled access at the West Oakland BART Station.	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Estuary Crossing Study Final Feasibility Study Report			
Minor modifications to Posey Tube	Modifications to the existing tube pathway to improve conditions for pedestrians and bicyclists.	None	N/A
New water crossing	Provide water taxi service between Alameda and Oakland making use of new and modified piers connecting either (a) Clay Street at Main Street Ferry Terminal, (b) Broadway and Alameda Landing, (c) Broadway and Alameda, or (d) Estuary Park and Marina Village Shopping Center.	None	N/A
Bicycle and pedestrian bridge	Provide a connection between Alameda and Oakland connecting either (a) Washington Street and Alameda Landing, (b) Franklin Street and Alameda Landing, (c) Webster Street and Mariner Square Drive, or (d) Estuary Park and Marina Village Shopping Center.	None	N/A
Oakland-Alameda Access Project (Expected Construction 2023 through 2026)			
6th Street, from Oak Street to Broadway	Remove Broadway off-ramp and construct a new multimodal corridor on 6th Street from Oak Street to Washington Street including a two-way cycle track	**Broadway between Embarcadero West and 11th Street**: Convert one traffic lane each way on Broadway to bus-only lanes while maintaining vehicle throughput at the 5th and 6th Street intersections; Upgrade traffic signals and add new signals at 2nd and 4th Streets and separate left turning traffic on Broadway and pedestrian crossings at 2nd, 4th, 7th, and 8th Streets. (Mitigation Measure TRANS-1d)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-1d) would separate automobile and truck traffic from bus/shuttle traffic and result in more reliable and faster service for transit riders while maintaining motor vehicle operations. **Conclusion**: The transportation improvements are consistent with the plan in the Oakland-Alameda Access Project.
Oak Street off-ramp	Upgrade Oak Street off-ramp	None	N/A
5th Street and Jackson Street	Construct right turn from Posey Tube onto a designated Horseshoe loop under I-880 at 5th and Jackson Street to access northbound I-880	None	N/A
I-980/Jackson Street off-ramp	Reconstruct I-980/Jackson Street off-ramp	None	N/A
Madison, between 4th and 8th Streets	Convert Madison to two-way traffic between 4th and 8th Streets	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Oakland-Alameda Access Project (Expected Construction 2023 through 2026) (cont.)			
Webster Tube on-ramp at 5th Street and Broadway	Reconstruct the Webster Tube on-ramp entrance at 5th and Broadway	None	N/A
5th Street at Broadway	Enhance pedestrian safety at key intersections throughout the project area with signal, sidewalk, and crosswalk improvements	**Broadway between Embarcadero West and 11th Street**: Convert one traffic lane each way on Broadway to bus-only lanes while maintaining vehicle throughput at the 5th and 6th Street intersections; Upgrade traffic signals and add new signals at 2nd and 4th Streets and separate left turning traffic on Broadway and pedestrian crossings at 2nd, 4th, 7th, and 8th Streets. (Mitigation Measure TRANS-1d) Upgrade sidewalks to provide minimum 8-foot clear space at sidewalk obstacles; maximize sidewalk waiting areas within 30 feet of intersections; provide pedestrian lighting as necessary; correct sidewalk tripping hazards; provide 15-foot north/south crosswalks; daylight intersections and driveways with red curb per City guidance; and provide pedestrian wayfinding signage to direct patrons to the ballpark. (Mitigation Measure TRANS-1e)	**Discussion:** The transportation improvement (Mitigation Measure TRANS-1d and Mitigation Measure TRANS-1e) would separate automobile and truck traffic from bus/shuttle traffic and result in more reliable and faster service for transit riders and would provide pedestrian amenities at the 5th Street intersection. **Conclusion**: The transportation improvements are consistent with the plan in the Oakland-Alameda Access Project.
7th Street at Harrison Street	Enhance pedestrian safety at key intersections throughout the project area with signal, sidewalk, and crosswalk improvements	None	N/A
7th Street at Alice Street	Enhance pedestrian safety at key intersections throughout the project area with signal, sidewalk, and crosswalk improvements	None	N/A
7th Street at Jackson Street	Enhance pedestrian safety at key intersections throughout the project area with signal, sidewalk, and crosswalk improvements	None	N/A
Oak Street, from 6th to 4th Streets	Construct 2-way cycle track	None	N/A
5th Street, from Oak Street to Harrison Street	Construct bike and pedestrian facilities	None	N/A

TABLE 4.15-41 (CONT.)
CONSISTENCY ANALYSIS
LIST OF PLANNED IMPROVEMENTS TO THE TRANSPORTATION NETWORK WITHIN THE STUDY INFLUENCE AREAS (FIGURE 4.15-1 THROUGH FIGURE 4.15-4)

Location	Description from Applicable Plan	Project-Related Transportation Improvements[a]	Plan Consistency Analysis
Oakland-Alameda Access Project (Expected Construction 2023 through 2026) (cont.)			
Harrison Street, from 6th to 4th Streets	Construct designated multi-use path from 6th Street to 4th Street along Harrison to connect to the Posey Tube and Alameda	None	N/A
GoPort Project (Expected Construction 2020 through 2027)			
Freight Intelligent Transportation Systems and Technology Master Plan	Apply ITS, signal systems along W. Grand Avenue, Maritime Street, 7th Street and Middle Harbor Road, and other technologies to cost effectively manage truck arrivals and improve incident response.	None	N/A
7th Street Grade Separation West Segment	Realign and grade separate the 7th Street intersection with Maritime Street and construct a rail spur underneath to improve access and minimize conflicts between rail, motor vehicles, pedestrians, and bicyclists.	None	N/A
7th Street Grade Separation East Segment	Replace existing railroad underpass between I-880 and Maritime Street to increase clearance for trucks and improve shared pedestrian and bicycle path along 7th Street.	None	N/A
2011 BART/Silicon Valley Rapid Transit Core Stations Modification Study			
West Oakland BART Station	Widen the ends of the platform, add four emergency stairs, and two daily escalators	None	N/A
12th Street BART Station	Expand platform size by adding platform doors, modifying utility rooms, and excavate shallow alcoves; adding two emergency stairs; and adding 8 fare gates.	None	N/A
Lake Merritt BART Station	Add two daily stairs	None	N/A

NOTES:
a This column refers to Transportation Improvements identified through the CEQA and Non-CEQA analysis of the proposed Project. The Transportation Improvements are separated into the two categories:
Mitigation Measure – These projects are identified as mitigation measures in Section 4.15.7, *Impacts of the Project*.
Non-CEQA Recommendation – These projects were identified through the non-CEQA transportation analysis per the City's *Transportation Impact Review Guidelines* process. These projects are recommended for installation.

SOURCE: Fehr & Peers, 2020

Mitigation Measure TRANS-2a: Implement Buffered Bike Lanes on 7th Street from Mandela Parkway to Martin Luther King Jr. Way.

Unless Class 2B or Class 4 bike lanes have already been installed, the Project sponsor shall implement Class 2B Buffered Bike Lanes on 7th Street between Mandela Parkway and Martin Luther King Jr. Way by converting one motor vehicle lane in each direction to provide bike lanes while maintaining on-street parking and providing transit boarding islands at bus stops. The mitigation measure shall be completed and in operation prior to opening day of the ballpark.

The bike lanes on 7th Street require review and approval by the City of Oakland.

Mitigation Measure TRANS-2b: Implement Bike Lanes Consistent with the Bike Plan on Martin Luther King Jr. Way from Embarcadero West to 8th Street.

The Project sponsor shall implement bike lanes consistent with the Bike Plan on Martin Luther King Jr. Way between Embarcadero West and 8th Street by converting one motor vehicle lane in each direction to provide bike lanes with raised features (i.e., landscape opportunities to distinguish between the bike lanes and motor vehicle lanes). The mitigation measure shall be completed and in operation prior to opening day of the ballpark.

The bike lanes require review and approval by the City of Oakland and review and approval by the CPUC at the railroad track crossing on Martin Luther King Jr. Way. Absent the CPUC approval the bike lanes would continue to provide benefit connecting to the existing bike lane system on 2nd Street.

Mitigation Measure TRANS-2c: Implement Bike Lanes Consistent with the Bike Plan on Washington Street from Embarcadero West to 10th Street.

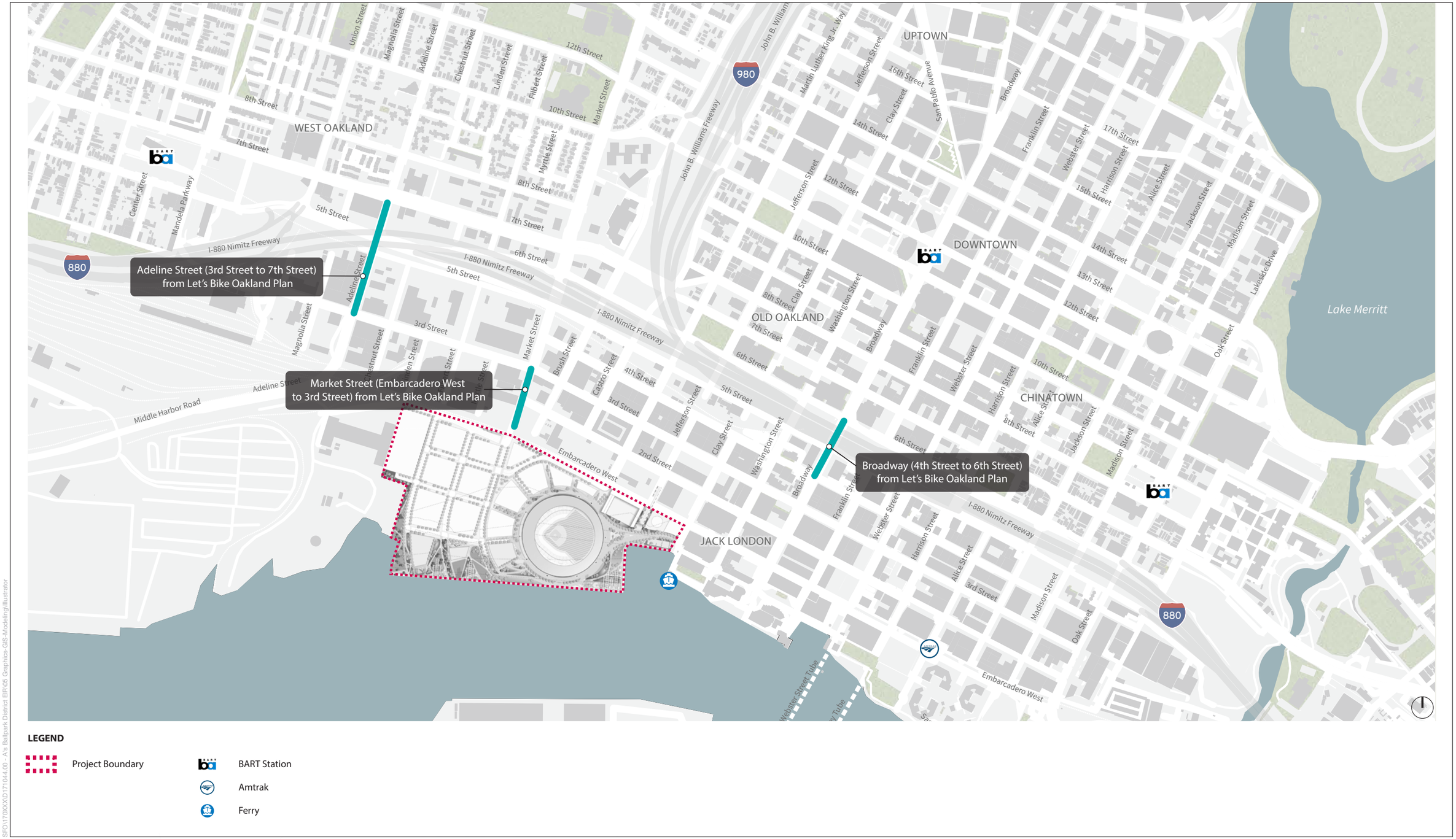
The Project sponsor shall implement bike lanes consistent with the Bike Plan on Washington Street between Embarcadero West and 10th Street. The mitigation measure shall be completed and in operation prior to opening day of the ballpark.

The bike lanes require review and approval by the City of Oakland and review and approval by the CPUC at the railroad track crossing on Washington Street. Absent the CPUC approval the bike lanes would continue to provide benefit connecting to the existing bike lane system on 2nd Street.

Mitigation Measure Effectiveness

Implementation of Mitigation Measures TRANS-2a and TRANS-2b and TRANS-2c would resolve potential conflicts with the City's Bicycle Plan not already addressed via mitigation measures and non-CEQA recommendation identified in Table 4.15-41 above.

Significance after Mitigation: Less than significant.



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SOURCE: Fehr & Peers, 2021

Oakland Waterfront Ballpark District Project

Figure 4.15-47
Plan Consistency Conflicts

ESA

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Impact TRANS-3: The Project would generate additional multimodal traffic traveling across the at-grade railroad crossings on Embarcadero that would expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a permanent or substantial transportation hazard. (Criterion 2) (*Significant and Unavoidable with Mitigation*)

UPRR owns and operates two mainline railroad tracks through Jack London District. Substantial residential and commercial development is contemplated with the Project, which would generate multimodal demand for services, introducing additional multimodal traffic at the existing at-grade railroad crossings and potentially at the uncontrolled areas between the at-grade crossings. This additional multimodal traffic would increase the potential for more train crashes with motor vehicles, bicyclists, and pedestrians along the railroad corridor in the Project vicinity and through Jack London District both at at-grade crossings and between crossings. **Table 4.15-42** provides a forecast of the Project's anticipated pedestrian, bicycle, and vehicle volumes crossing the railroad tracks with buildout of the Project before a 35,000-attendee weekday evening baseball game. Similar crossing demand would occur for weekday day games as well as weekend games.

TABLE 4.15-42
PROJECT-RELATED RAILROAD CROSSING VOLUMES BUILDOUT PLUS WEEKDAY EVENING BALLGAME

Crossing	3 to 4 p.m.	4 to 5 p.m.	5 to 6 p.m.	6 to 7 p.m.	7 to 8 p.m.
Market Street					
Pedestrian	310	720	830	1,160	560
Bicycle	—	—	—	—	—
Vehicle	1,140	1,830	2,050	2,220	1,290
Martin Luther King Jr. Way					
Pedestrian	440	2,000	2,390	4,070	1,700
Bicycle	140	230	250	280	160
Vehicle	530	880	980	1,090	620
Clay Street					
Pedestrian	20	110	130	240	90
Bicycle	50	80	80	90	50
Vehicle	—	—	—	—	—
Washington Street					
Pedestrian	280	1,970	2,390	4,350	1,730
Bicycle	50	80	80	90	50
Vehicle	—	—	—	—	—
Broadway					
Pedestrian	230	1,290	1,550	2,750	1,120
Bicycle	—	—	—	—	—
Vehicle	—	—	—	—	—

NOTE: "–" indicates that the at-grade crossing does not exist for that mode. For example, a pedestrian path may cross the railroad at a given location, the roadway terminates prior the railroad crossing.

SOURCE: Fehr and Peers, 2020

The Market Street crossing would realize the greatest Project demand for motor vehicle crossings as this would be the primary access to the Project site with hourly demands expected to peak at over 2,200 vehicles with an at-capacity baseball game and buildout development. The Washington Street crossing would realize the greatest demand for pedestrians with hourly demands expected to peak over 4,300 crossings. These demands are substantially higher than day-to-day crossing activities under existing conditions, except during relatively infrequent large special events at Jack London Square when thousands of people are attracted to the area and cross the railroad tracks as pedestrians.

As noted in the 4.15-1 Environmental Setting there were almost 300 trains that crossed the Market Street and Martin Luther King Jr. Way at-grade crossings over a 7-day period between 11:00 a.m. and 11:00 p.m., representing on average 42 trains per day. There were 13 observed instances during the seven-day study period where gate down times at the Market Street crossing exceeded 7 minutes and 7 such instances at the Martin Luther King Jr. Way crossing. All these observations were associated with freight trains. There were six instances during the week when the gates were down at both crossings for freight trains with the longest being about 19 minutes and the shortest being about 7 minutes. Site employees, residents, and visitors would not be able to exit the site during times when both the Market Street and Martin Luther King Jr. Way at-grade crossings are blocked by a train. However, the EVA connecting the site with Middle Harbor Road at Adeline Street would provide emergency access when needed.

According to Federal Railroad Administration Highway-Rail Grade Crossing Accident/Incident Reports (n.d.), there was a cluster of collisions (18) at the at-grade crossings and Embarcadero West in the 1970s followed by an extended period, 1980 through 1998, where there were only a few collisions (5). Between 1999 and 2009 there was another cluster of collisions (13) with few collisions (2) occurring since 2009. The historic crash frequency is no guarantee of future trends. The lack of crashes for extended periods is not indicative of the heightened safety concerns raised by railroad operators and people working in, living in, and visiting Jack London District. The railroad segment through Jack London District is unique in California in that passenger and freight trains operate within an urban street sharing the rail right-of-way with motor vehicles, bicycles, and pedestrians; where railroad crossing controls and protection are minimally provided at public street at-grade crossings but no features exist that preclude people from crossing mid-block or turning left across the railroad tracks even when crossing controls are activated.

The Project sponsor commissioned a study, *Oakland A's Howard Terminal Project – Railroad Corridor and Grade Crossing Improvements* (Railroad Study) that is included in Appendix TRA. The study identified at-grade railroad crossing improvements based on a review of existing site conditions, the forecasted increase in vehicular, pedestrian and bicycle traffic, and potential increases in rail service.

As noted in the Railroad Study there are currently special event activities at Jack London Square that attract large crowds including the Art & Wine Event (10,000 attendees), Wine Walks (5,000 attendees), PedalFest (15,000 to 30,000 attendees), Oakland A's FanFest (30,000 attendees), 4th of July (15,000 attendees), and the Eat Real Festival (90,000 attendees over three days). There is currently no formal plan for managing this event traffic, including railroad track crossings and

potential conflicts. The transportation experience during these events, particularly larger events, is characterized by fully utilized parking garages and on-street parking, at-capacity Broadway shuttle and AC Transit buses, people walking from the 12th Street and Lake Merritt BART Stations, and biking. The multimodal traffic crossing the railroad tracks under existing conditions is unmanaged, with no protections at intersecting streets with the railroad, and the at-grade crossing intersections themselves are generally only controlled by a 9A warning device in each direction.

The Railroad Study describes several recommendations to address at-grade railroad crossing safety, which are described in the *Railroad Crossing* subsection starting on page 4.15-96. The proposed improvements would substantially improve railroad corridor safety within the limits of the improvements but are subject to review and approval by the CPUC and would not eliminate the use of at-grade crossings by pedestrians, bicyclists, and vehicles accessing the proposed Project. Mitigation Measures TRANS-3a and TRANS-3b would improve safety at existing at-grade crossings but would not reduce the impact to less than significant and are subject to review and approval by another agency – the CPUC.

Mitigation Measure TRANS-3a: Implement At-Grade Railroad Crossing Improvements.

Subject to obtaining necessary approvals from CPUC and other responsible agencies, the Project sponsor shall install at-grade railroad crossing improvements including fencing and railroad crossing features to enhance multimodal safety along and across the railroad tracks including elements that would facilitate a Quiet Zone (if pursued by others) designation through Jack London District. The mitigation measure would substantially improve safety along the railroad corridor and shall include the measures listed below.

- Install fencing along both sides of the railroad corridor extending along the Project site's frontage starting at the Schnitzer Steel boundary and continuing to Broadway. This change would alter Embarcadero West circulation as follows:
  - Between Market Street and Schnitzer Steel Embarcadero West would remain two-way with a signalized intersection at Market Street.
  - Between Market Street and Martin Luther King Jr. Way the street would be abandoned such that there would no longer be a motor vehicle intersection at Martin Luther King Jr. Way.
  - The portion of Embarcadero that is south of the active UPRR tracks and between Martin Luther King Jr. Way to Washington Street (and potentially to Broadway) would be physically separated from the railroad tracks by a fence to accommodate a multi-use path. The multi-use path would replace the vehicle street that exists today (emergency vehicles would be accommodated to the extent feasible). The fence line separating the railroad tracks and Embarcadero would be offset from the active track or third track by approximately 10 feet, or the minimum allowable by UPRR. The multi-use path would be up to 30 feet wide between the fence and the existing buildings if the fence is offset from the active track. The portion of Embarcadero between Washington Street and Broadway could also accommodate a multi-use path between the fence and the existing buildings, to the extent feasible, if the existing 12-foot wide vehicle lane

were combined with the 8-foot wide sidewalk. On the north side of the railroad Embarcadero West would remain one-way westbound with forced right turns at Jefferson, Clay, and Washington Streets as well as at Broadway. Vehicle access to the Vistra Plant could be via an extension of Water Street at Clay Street or driveway easement and used infrequently solely for site access.

- Upgrade the existing at-grade railroad crossings at Market Street, Martin Luther King Jr. Way, Clay Street, Washington Street and Broadway with quad gates for motor vehicles and separate signals and gates for pedestrians and bicyclists. Provide improved pedestrian and bicycle surfaces at each crossing and clearly defined staging areas for pedestrians and bicyclists to wait as a train passes by.
- Install a traffic signal at the Market Street at-grade crossing and its intersection with Embarcadero West as well as a traffic signal on Market Street at 3rd Street. These signals would be part of the railroad preemption system[25] and include queue cutter loops[26] on Market Street that would be tied to both traffic signals to minimize the potential for motor vehicles to queue across the railroad tracks. Also, install blankout turn restriction signs for the eastbound right turn and the westbound left turn at 3rd Street that are activated during railroad preemption.
- While there is no motor vehicle intersection at the Martin Luther King Jr. Way at-grade crossing, install a traffic signal at the at-grade crossing as well as traffic signals at 2nd Street where left turns would be prohibited and at 3rd Street where a left-turn lane would be provided to separate left turning and through movement traffic. These signals would be part of the railroad preemption system and include a queue cutter loop on Martin Luther King Jr. Way that would be tied to all three traffic signals to minimize the potential for motor vehicles to queue across the railroad tracks. Also, install blankout turn restriction signs for the eastbound right turn and the westbound left turn at 3rd Street that are activated during railroad preemption.

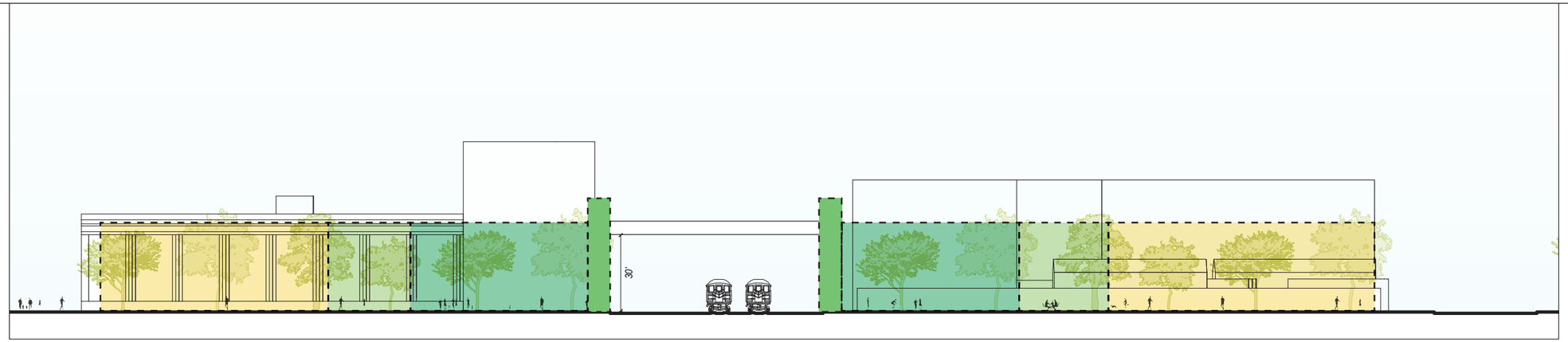
The Project sponsor shall be responsible for undertaking the necessary Diagnostic Study based on the suite of improvements described above and coordinating with the City, CPUC and affected railroads and obtaining all necessary permits/approvals, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings). and constructing the at-grade improvements prior to opening day of the ballpark.

Mitigation Measure TRANS-3b: Pedestrian and Bicycle Overcrossing.

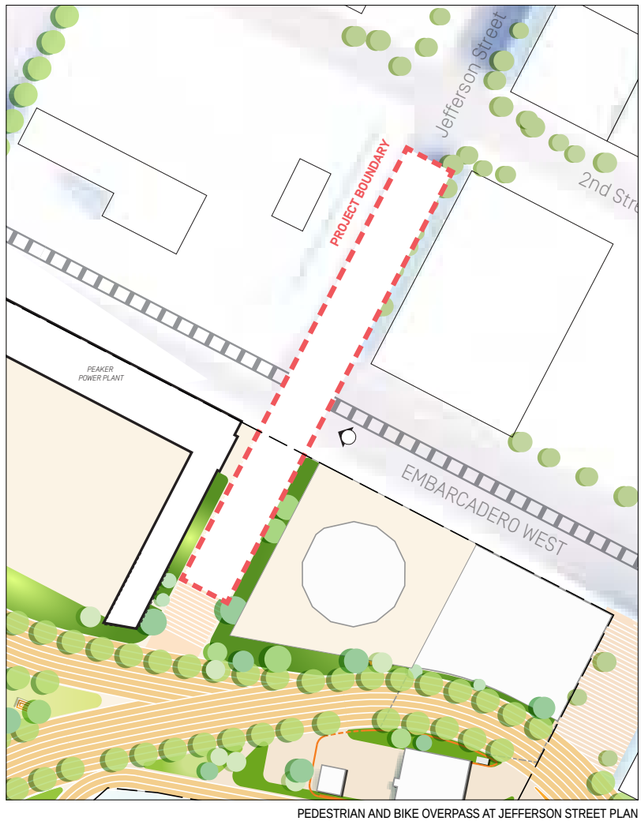
Prior to opening day of the ballpark, Project sponsor shall design and construct a grade-separated overcrossing for pedestrians and bicyclists seeking to access the Project site. The overcrossing, which would require review and approval by CPUC as well as the City and the Port, consultation with the Capital Corridor Joint Powers Authority, and potentially affected property owners such as the UPRR, shall be located at Jefferson Street (**Figure 4.15-48**) or Clay Street (**Figure 4.15-49**), or a comparable nearby location and shall create a safe and accessible route for pedestrians and bicyclists traveling to the Project site on both event and non-event days, connecting 2nd Street, which is north of

[25] A railroad preemption system provides an opportunity for vehicles to clear the track area before the train arrives at the crossing.

[26] A queue cutter loop signal is a traffic signal installed at a highway-rail grade crossing in a manner similar to a pre-signal; its function is to provide a means to prevent vehicles from stopping on the tracks or within the railroad right-of-way as a result of traffic queuing from a downstream signalized intersection.



PEDESTRIAN AND BIKE OVERPASS AT JEFFERSON STREET



PEDESTRIAN AND BIKE OVERPASS AT JEFFERSON STREET PLAN

GENERAL REQUIREMENTS:
- *26' VERTICAL CLEARANCE OVER THE RAILROAD WITH ELECTRIFICATION.*
- *PATHWAY TO BE 20' WIDE TO ACCOMMODATE TRAFFIC.*
- *EXISTING UTILITIES TO BE ACCOMMODATED OR RELOCATED.*

SWITCHBACK RAMP (ASSUMING NO BICYCLISTS)
- *VERTICAL RAMP RISE BEFORE LANDINGS SHALL BE 30 INCHES MAXIMUM.*
- *RAMPS SHALL HAVE A MAXIMUM SLOPE OF 7.5%.*
- *LANDING GRADES SHALL BE 1.5% MAXIMUM IN ALL DIRECTIONS AND DESIGNED TO ACCOMMODATE FOR TWO WHEELCHAIRS PASSING EACH OTHER.*
- *ANY CHANGES IN RAMP DIRECTION WILL REQUIRE A LANDING.*

LOOPED RAMP (ASSUMING PEDESTRIANS AND BICYCLISTS)
- *VERTICAL RAMP RISE BEFORE LANDINGS SHALL BE 30 INCHES MAXIMUM.*
- *RAMPS SHALL HAVE A MAXIMUM SLOPE OF 7.5%.*
- *LANDING GRADES SHALL BE 1.5% MAXIMUM IN ALL DIRECTIONS AND DESIGNED TO ACCOMMODATE FOR TWO WHEELCHAIRS PASSING EACH OTHER.*
- *ANY CHANGES IN RAMP DIRECTION WILL REQUIRE A LANDING.*
- *STRUCTURE TO MEET SIGHT DISTANCE AND VERTICAL CURVE REQUIREMENTS.*
- *HORIZONTAL RADIUS TO BE BASED ON THE BICYCLE DESIGN SPEED AND COMPLIANT WITH DESIGN STANDARDS.*

- GENERAL EXTENT OF ELVATORS
- GENERAL EXTENT OF STAIRS
- GENERAL EXTENT OF RAMPING - MORE SWITCHBACKS
- GENERAL EXTENT OF RAMPING - FEWER SWITCHBACKS

10 50 100 200

NOTE: VERTICAL CIRCULATION TO BE DETERMINED DURING DETAILED DESIGN

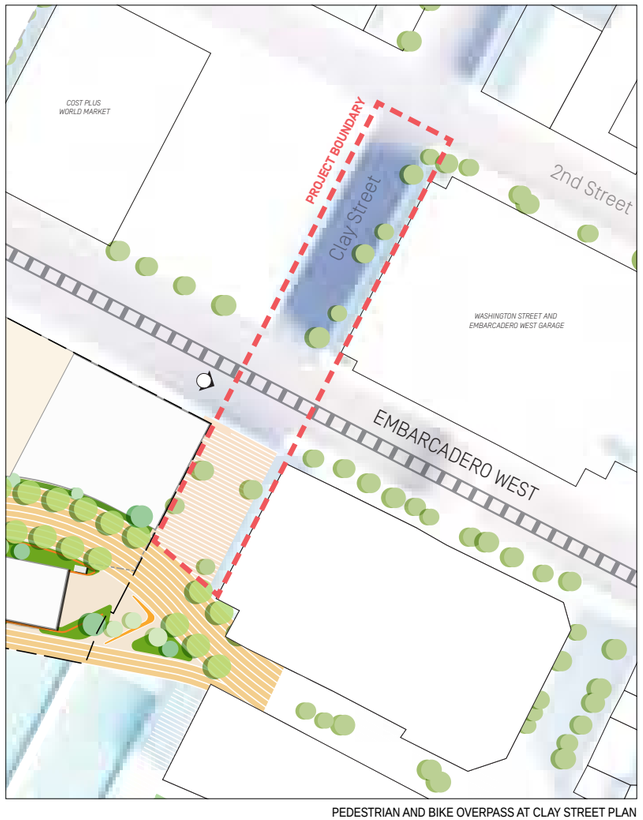
SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-48
Pedestrian and Bike Overpass at Jefferson Street

ESA

PEDESTRIAN AND BIKE OVERPASS AT CLAY STREET



PEDESTRIAN AND BIKE OVERPASS AT CLAY STREET PLAN

GENERAL REQUIREMENTS:
- *26' VERTICAL CLEARANCE OVER THE RAILROAD WITH ELECTRIFICATION.*
- *PATHWAY TO BE 20' WIDE TO ACCOMMODATE TRAFFIC.*
- *EXISTING UTILITIES TO BE ACCOMMODATED OR RELOCATED.*

SWITCHBACK RAMP (ASSUMING NO BICYCLISTS)
- *VERTICAL RAMP RISE BEFORE LANDINGS SHALL BE 30 INCHES MAXIMUM.*
- *RAMPS SHALL HAVE A MAXIMUM SLOPE OF 7.5%.*
- *LANDING GRADES SHALL BE 1.5% MAXIMUM IN ALL DIRECTIONS AND DESIGNED TO ACCOMMODATE FOR TWO WHEELCHAIRS PASSING EACH OTHER.*
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LOOPED RAMP (ASSUMING PEDESTRIANS AND BICYCLISTS)
- *VERTICAL RAMP RISE BEFORE LANDINGS SHALL BE 30 INCHES MAXIMUM.*
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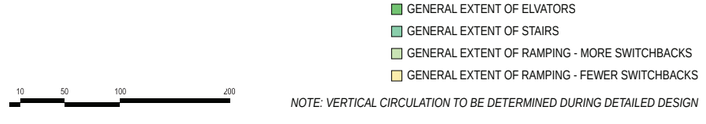
- *ANY CHANGES IN RAMP DIRECTION WILL REQUIRE A LANDING.*
- *STRUCTURE TO MEET SIGHT DISTANCE AND VERTICAL CURVE REQUIREMENTS.*
- *HORIZONTAL RADIUS TO BE BASED ON THE BICYCLE DESIGN SPEED AND COMPLIANT WITH DESIGN STANDARDS.*



NOTE: VERTICAL CIRCULATION TO BE DETERMINED DURING DETAILED DESIGN

SOURCE: Fehr & Peers, 2020

Oakland Waterfront Ballpark District Project

Figure 4.15-49
Pedestrian and Bike Overpass at Clay Street

the railroad tracks, to Athletics' Way to the south. Pedestrian facilities serving the bridge shall be upgraded on Jefferson and Clay Streets to correct tripping hazards and daylight intersections and driveways with red curb per City guidance. Along 3rd Street between Market Street and Broadway gaps in the pedestrian network would be closed by converting diagonal and perpendicular parking to parallel parking to provide a pedestrian path of travel between buildings and parking where no sidewalk exists today.

The overcrossing could include some combination of stair and elevator system potentially with ADA-compliant ramping that could also be used by bicycle riders. The tallest point at the overcrossing would be about 40 feet above grade taking into consideration architecture features of the bridge such as railing and fencing. The overcrossing could include a viewing space, providing views of the rail corridor, the ballpark, the Inner Harbor of the Estuary, the Oakland Hills, and downtown Oakland, as well as interpretive information celebrating the history of the railroad in Oakland.

If constructed along Jefferson Street, the overcrossing would border the PG&E Station C API, a historical resource, and be immediately adjacent to the National Register-eligible PG&E Station C contributor located at 601 Embarcadero West. Therefore, to avoid any adverse impacts on 601 Embarcadero West and the API, the design of the pedestrian and bicycle overcrossing along Jefferson Street shall incorporate transparent materials, small-dimension structural elements, and/or design features that maintain views from the street directly adjacent to the resource. Also, the structural design, including foundations, shall be subject to review by the Planning Director or the Director's designee, prior to the City Council's review and approval of a major encroachment permit.

Effectiveness of Mitigation

Mitigation Measure TRANS-3a would have the potential to improve safety and therefore reduce the severity of Impact TRANS-3. However, some travelers to and from the site would continue to use at-grade crossings at the numerous crossing locations along Embarcadero West. For this reason, and because the improvements are subject to the review and approval of another agency, the measure would reduce the severity of the impact, but not to a level that is less than significant. For these reasons, the impact would remain **significant and unavoidable**.

Similarly, Mitigation Measure TRANS-3b, Pedestrian and Bicycle Overcrossing, would offer a grade-separated alternative to bicyclists and pedestrians seeking to access the site, potentially accommodating an estimated 3,000 to 6,000 people during the peak hour going to and from the Project site on event days, depending on the frequency of bus and shuttle service to the Transportation Hub on 2nd Street near the overcrossing. However, while the crossing would provide a safe and convenient alternative to at-grade crossings of the railroad tracks at Market Street, Martin Luther King Jr. Way, Clay Street, Washington Street, and Broadway, some travelers to and from the site would continue to use the numerous existing at-grade crossings along Embarcadero West and the improvement is subject to the review and approval of another agency. For these reasons, the impact would remain **significant and unavoidable**.

Secondary impacts of Mitigation Measure TRANS-3b would include potential disturbance of hazardous materials on the site of the bridge and in the public right of way. Mitigation measuress included in Section 4.8, *Hazards and Hazardous Materials*, would address potential exposure to hazardous materials during and after construction, and would prevent significant impacts on

human health or the environment by ensuring DTSC oversight and compliance with regulatory requirements. Mitigation Measure TRANS-3b requires the use of transparent materials, small-dimension structural elements, and/or design features for the overcrossing, if it is constructed along Jefferson Street, which would maintain visibility of the PG&E Station C API, an historical resource, from the adjacent street, and require review of foundations and other structural elements by the Planning Director or the Director's designee, thus ensuring a less-than-significant impact on the historical resource.

Overall, the impact of Mitigation Measure TRANS-3a and Mitigation Measure TRANS-3b would remain **significant and unavoidable** since the improvement is subject to the review and approval of another agency.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-4: The Project would be constructed over several years and include on- and off-site construction activities as well as construction along the railroad corridor that could expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a substantial transportation hazard. (Criterion 2) (*Less than Significant with Mitigation*)

While the extent, duration and order of construction activities is not known at this time, broad parameters have been identified to guide the City, the Project sponsor, and the contractor to successfully construct this Project while minimizing the transportation effects on the surrounding communities.

During the construction period for either the Phase 1 or subsequent buildout, temporary and intermittent transportation impacts may result from truck movements as well as construction worker vehicles to and from the project site. The construction-related traffic may temporarily reduce capacities of roadways in the project vicinity because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. The construction trucks would use the local streets depicted in Figure 4.15-20 between the project site and the I-880 freeway. Considering the proximity of freeway ramps on 5th and 6th Streets, construction trucks on local roadways would likely be limited to Market Street as well as 5th and 6th Streets.

Parking for construction workers' vehicles would need to be accommodated while maintaining adequate parking supply for completed buildings on the site. It is expected that parking for most construction workers would be accommodated on-site during construction of the ballpark but if additional parking was needed there are existing areas under the freeway between Market Street and Martin Luther King Jr. Way that could also be used for construction worker parking.

Potential construction activity of off-site transportation improvements in the public right-of-way, could result in temporary closure of sidewalks, prohibition of on-street parking, and potentially vehicle travel lane closures. A set of comprehensive traffic control measures for motor vehicles, transit, bicycle, and pedestrian access and circulation would minimize the impact of off-site transportation improvements on the traveling public.

Mitigation Measure TRANS-4: Construction Management Plan.

The Project sponsor and general contractor shall prepare a Construction Management Plan (CMP) and the plan shall be submitted to the City of Oakland for review and approval prior to the City issuing the first construction-related permit. The Plan shall be reviewed by the City's Planning and Building Department, Fire Department, Department of Transportation, Public Works Department, and others as needed. The CMP shall contain measures to minimize potential construction impacts including measures to comply with all construction-related Mitigation Measures (and additional conditions of approval if applicable) such as dust control, construction emissions, hazardous materials, construction days/hours, construction traffic control, waste reduction and recycling, stormwater pollution prevention, noise control, complaint management, and cultural resource management.

The CMP shall provide project-specific information including descriptive procedures, approval documentation, and drawings (such as a site logistics plan, fire safety plan, construction phasing plan, proposed truck routes, traffic control plan, complaint management plan, construction worker parking plan, litter/debris clean-up plan, and others as needed) that specify how potential construction impacts will be minimized and how each construction-related requirement will be satisfied throughout construction of the project.

The CMP shall also consider construction activities in the public-right-of-way including obtaining an obstruction permit from the City prior to placing any temporary construction-related obstruction in the public right-of-way, including City streets, sidewalks, bicycle facilities, and bus stops. If obstructions impact vehicle or bicycle travel lanes, bus stops, or sidewalks, the Project sponsor shall submit a Traffic Control Plan to the City for review and approval prior to obtaining an obstruction permit. The Project sponsor shall submit evidence of City approval of the Traffic Control Plan with the application for an obstruction permit. The Traffic Control Plan shall contain a set of comprehensive traffic control measures for auto, truck, transit, bicycle, and pedestrian accommodations (or detours, if accommodations are not feasible), including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The Traffic Control Plan shall be in conformance with the City's Supplemental Design Guidance for Accommodating Pedestrians, Bicycles, and Bus Facilities in Construction Zones. The Project sponsor shall implement the approved Plan during construction and coordinate with the City and the Port to adjust, if necessary, to respond to transportation-related issues that arise out of the implementation. In addition, the Project sponsor shall repair any damage to the public right-of way, including streets and sidewalks caused by Project construction at their expense within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to approval of the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.

Significance after Mitigation: Less than significant.

Street Capacity

Impact TRANS-5: The Project would not induce additional automobile travel by increasing physical street capacity in congested areas. (Criterion 3) (*Less than Significant*)

As part of the Project and supporting components, one vehicle lane each way on 7th Street between Mandela Parkway and Martin Luther King Jr. Way would be converted to protected bike lanes (Mitigation Measure TRANS-2a). In addition, one vehicle lane each way on Martin Luther King Jr. Way between 8th Street and Embarcadero West would be converted to protected bike lanes (Mitigation Measure TRANS-2b). These changes would provide greater connectivity between the Project and the larger bike network as well as greater comfort and safety. The Project would also convert one vehicle lane each way on Broadway between Embarcadero West and 11th Street to bus-only lanes (Mitigation Measure TRANS-1d) to improve bus transit reliability and improve transit connectivity.

Through the City's *Transportation Impact Review Guidelines* process, a Non-CEQA Recommendation was identified for the Project that included one street modification. Adeline Street, between 3rd and 5th Streets, would increase physical street capacity by adding one new lane each way for 600 feet. This proposal would close a traffic lane gap where the corridor to the south and north is two lanes each way and so allow truck drivers to access the Seaport with less truck idling on Adeline Street. The added lanes also allow intersection traffic controls to be upgraded to provide additional pedestrian and bike traffic signal features at 3rd Street, which has Class 2B Buffered Bike Lanes.

Given the overall changes by the Project on several corridors to repurpose traffic lanes, impacts associated with implementation of the Project and supporting components would be less than significant related to street capacity.

Mitigation: None required.

Impacts to the Regional Congestion Management Program (CMP) Roadway Segments

As described above, the Alameda County CMP requires the assessment of whether a proposed development may affect regional roadways. The CMP and MTS roadways in the vicinity of the Project include I-580, I-980, I-880, SR 24, Grand Avenue, Broadway, San Pablo Avenue, Telegraph Avenue, Harrison Street, Webster Street, Martin Luther King Junior Way, Castro Street, Brush Street, Market Street, Middle Harbor Road, 14th Street, 12th Street, 11th Street, 8th Street, and 7th Street.

The Alameda CTC Model used in this study is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes and transit ridership using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process considers changes in travel patterns due to future growth and balances trip productions and attractions. This version of the Countywide Model is dated May 2018 and reflects land use forecasts from Plan Bay Area 2040.

For the purposes of this CMP and MTS analysis, development under the Project is assumed to not be included in the Alameda CTC Model to present a more conservative analysis.[27] The traffic forecasts for the near term (2020) and 2040 scenarios were extracted from the Alameda CTC Model for the CMP and MTS roadway segments from that model and used as the "No Project" forecasts. Vehicle trips generated by the Project were added to the "No Project" forecasts to estimate the "Plus Project" forecasts.

Consistent with past EIR documents for development in Oakland, the CMP and MTS segments were assessed using a v/c ratio methodology. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the latest CMP documents. For surface streets, a per-lane capacity of 800 vph was used. Roadway segments with a v/c ratio greater than 1.00 signify LOS F.

Impact TRANS-6: The Project traffic volumes would cause the significant degradation of two CMP or MTS segments in the near term. (Criterion 4) (*Significant and Unavoidable*):

- **Posey Tube in the eastbound direction between the City of Alameda and the City of Oakland.**
- **Webster Tube in the westbound direction between the City of Oakland and the City of Alameda.**

The near term or "2020 Plus Project" results were compared to the "No Project" results. Appendix TRA provides the peak-hour volumes, v/c ratios and the corresponding levels of service for no Project development and plus Project development conditions.

As previously described, the Project includes policies and strategies that encourage walking, biking, and transit, including a TDM Plan for the non-ballpark development and a TMP for the ballpark. These policies and strategies would reduce the Project's vehicle trip generation, which would reduce but not eliminate this impact. Mitigation Measures TRANS-1a and TRANS-1b specify City requirements and would ensure the effectiveness of the Project's TDM Plan for the non-ballpark development and the TMP for the ballpark. No other feasible mitigation measures are available to reduce the effect that the Project would have on the adversely affected roadway segments. The LOS at these roadway segments can be improved only by providing additional automobile travel lanes on the affected roadway segments. However, additional travel lanes cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way. Measures that add additional lanes of traffic would also induce additional automobile travel by increasing physical street capacity in congested areas and this would be a significant and unavoidable impact (Criterion 3). For these reasons, the impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

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[27] This means that traffic from the non-ballpark development to the extent that the Alameda CTC Model assumed development at this site as part of a PDA, would be accounted for twice.

Maritime Reservation Scenario

Under the Maritime Reservation Scenario, up to approximately 10 acres of the proposed Project site would not be developed. The reconfigured project site boundary would change, and the Project site area would become smaller. The Project's internal street grid would remain similar with the exception that the streets within the 10 acres would not be constructed. Access points to the Project site would remain unchanged under this scenario.

The Maritime Reservation Scenario would involve the same development program when compared with the proposed Project, leading to the same transportation projections (e.g., trip generation, VMT, etc.) described for the Project above. The Project would continue to implement a TDM Plan for the non-ballpark development and a TMP for the ballpark development to achieve a 20 percent VTR consistent with requirements of AB 734. All other site conditions relative to transportation would remain the same as described for the proposed Project, and therefore the impacts, analysis and mitigation for the Maritime Reservation Scenario would be the same as those discussed above for the proposed Project and the Maritime Reservation Scenario would continue to result in the same significant and unavoidable impact to transportation and circulation – Impact TRANS-3 (Railroad Crossing Hazards) and Impact TRANS-6 (CMP Segments).

4.15.8 Cumulative Impacts

This section considers whether there would be significant cumulative transportation impacts and whether the Project's construction or operation would have a considerable contribution to these impacts. For purposes of this analysis, cumulative conditions are primarily represented by regional projections of VMT per capita and VMT per worker prepared by MTC as well as the VMT per service population calculated using the Alameda CTC travel demand model.

Vehicle Miles Traveled

Impact TRANS-1.CU: VMT per capita generated by the residential and commercial components of the Project would be more than 15 percent below the regional averages, and citywide VMT per service population would remain the same without and with the retail component of the Project, resulting in a less-than-significant impact for the residential, commercial, and retail components of the Project. VMT per attendee generated by the ballpark would be more than 15 percent below similar uses, resulting in a less-than-significant impact for the ballpark component of the Project. (Criterion 1) (*Less than Significant with Mitigation*)

In year 2040, the average VMT per capita in the region is expected to decline as planned land use growth in the region would support more efficient travel from a VMT perspective. Likewise, the Project's VMT per capita measured against a 2020 horizon year will differ from that measured against a 2040 horizon year. In fact, according to MTC's screening the Project's residential VMT per capita will slightly increase between 2020 and 2040 while its VMT per worker will decrease. Even with the slight increase in the Project's residential VMT per capita, it will still be among the lowest in the region, about 52 percent lower than the regional average.

Table 4.15-32 shows the Project's 2040 VMT for residential and commercial uses. As shown, per capita VMT in 2040 for the Project would be 6.6 due to its location in in Jack London District (TAZs 966 and 967) compared to the regional average of 13.8. The per worker project VMT would be 14.2 due to its location in Jack London District compared to the regional average of 20.3. Both per capita and per worker Project-generated VMT would be more than 15 percent below the regional averages in 2040 and would therefore constitute a less-than-significant impact. Table 4.15-33 shows the proposed Project 2040 retail VMT in terms of citywide service population. As shown in the table, VMT per citywide service population would remain the same without and with the retail component of the proposed Project, and therefore the VMT impact would be less-than-significant impact for the retail component of the proposed Project in 2040.

Table 4.15-35 shows that the TDM Plan would result in VMT reductions (17 percent) for the performance venue and would have a less-than-significant impact on VMT with the TDM Plan. The ballpark is expected to host only up to 9 concerts per year, compared to a minimum of 81 baseball games, all of which would have VMT per attendee reductions greater than the threshold level. Table 4.15-39 presents the annualized VMT per attendee at the ballpark with the implementation of TMP strategies for all baseball games and concerts. The annual VMT per attendee with TMP strategies would also be reduced to a level more than 15 percent below similar existing uses. The combination of a TMP as well as the Project sponsor's decision to incorporate parking maximums for ballpark parking (up to 2,000 spaces at buildout) would result in VMT reductions for the ballpark that would not have a cumulatively considerable contribution to a cumulative impact. Therefore, a less-than-significant cumulative impact on VMT would occur provided is the mitigation measures identified for the Project are implemented to ensure that the required reduction in VMT standard is met. Specifically, the following mitigation measures are identified to ensure the Project complies with the 20 percent VTR requirement and the effectiveness of the TDM Plan (for the non-ballpark development) and the TMP (for the ballpark) that would reduce the Project's contribution to cumulative transportation impacts and achieve the required reduction in VMT per capita in 2040:

Mitigation Measure TRANS-1a: Transportation and Parking Demand Management (TDM) Plan. (See Impact TRANS-1A)

Mitigation Measure TRANS-1b: Transportation Management Plan. (See Impact TRANS-1B)

Mitigation Measure TRANS-1c: Implement a Transportation Hub on 2nd Street. (See Impact TRANS-1B)

Mitigation Measure TRANS-1d: Implement Bus-Only Lanes on Broadway. (See Impact TRANS-1B)

Mitigation Measure TRANS-1e: Implement Pedestrian Improvements. (See Impact TRANS-1B)

Significance after Mitigation: Less than Significant.

Consistency with Adopted Policies, Plans, or Programs

The Project and the associated recommended improvement measures presented in this Draft EIR were discussed in detail in the previous sections. Implementation of the Project and its associated development when considered together with cumulative development results in significant cumulative impact related to safety and performance.

Impact TRANS-2.CU: Project or required transportation improvements could potentially conflict with a plan, ordinance, or policy addressing the safety or performance of the circulation system, including transit, roadways, bicycle lanes, and pedestrian paths (except for automobile level of service or other measures of vehicle delay). (Criterion 2) (*Less than Significant with Mitigation*)

As previously noted, implementation of the Project including the Mitigation Measures and the Non-CEQA Recommendations described in this chapter is generally consistent with and furthers the existing policies in the policy documents resulting in an overall beneficial impact on transportation in the area. However, there are limited potential conflicts between the Project and individual plan elements and policies as noted in Impact TRANS-2 that are reduced to less than significant by Mitigation Measure TRANS-2a and Mitigation Measure TRANS-2b. Although the Project and its required transportation improvements would be generally consistent with applicable plans and policies, these mitigations would continue under cumulative conditions to reduce the Project's contribution to the cumulative effects of inconsistency with these limited individual plan elements. With implementation of these measures, the cumulative impact is deemed less than significant.

> **Mitigation Measure TRANS-2a: Implement Bike Lanes Consistent with the Bike Plan on 7th Street from Mandela Parkway to Martin Luther King Jr. Way.** (See Impact TRANS-2)
>
> **Mitigation Measure TRANS-2b: Implement Bike Lanes Consistent with the Bike Plan on Martin Luther King Jr. Way from Embarcadero West to 8th Street.** (See Impact TRANS-2)
>
> **Mitigation Measure TRANS-2c: Implement Bike Lanes Consistent with the Bike Plan on Washington Street from Embarcadero West to 10th Street.** (See Impact TRANS-2)
>
> **Significance after Mitigation:** Less than Significant.

Impact TRANS-3.CU: The Project would contribute to cumulative volumes of multimodal traffic traveling across the at-grade railroad crossings on Embarcadero that would cause or expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a permanent or substantial transportation hazard. (Criterion 2) (*Significant and Unavoidable with Mitigation*)

The Project sponsor commissioned a study, *Oakland A's Howard Terminal Project – Railroad Corridor and Grade Crossing Improvements* (Railroad Study) that is included in Appendix TRA, and the recommendations in that study are included in Mitigation Measure TRANS-3a. The

Railroad Study describes several recommendations to address at-grade railroad crossing safety. Even with these changes the impact to safety is considered cumulatively significant because the volume of bicycles, pedestrians, and vehicles using existing at-grade crossings would increase. Also, the CPUC has ultimate jurisdiction over the design and approval of recommended improvements. To address this significant impact and reduce the Project's contribution, the Project would be required to implement Mitigation Measures TRANS-3a and TRANS-3b to reduce the Project's contribution to cumulative traffic hazards at railroad crossings. Even with implementation of this measure, the impact would be significant and unavoidable.

> **Mitigation Measure TRANS-3a: Implement At-Grade Railroad Crossing Improvements.** (See Impact TRANS-3)
>
> **Mitigation Measure TRANS-3b: Pedestrian and Bicycle Overcrossing.** (See Impact TRANS-3)

Mitigation Measure Effectiveness

As discussed under Impact TRANS-3, while Mitigation Measures TRANS-3a and TRANS-3b would improve the safety of the rail corridor and crossings along Embarcadero West and would offer a safer and convenient grade-separated alternative for pedestrians and bicyclists seeking to cross the railroad tracks, they would not prevent increased use of at-grade railroad crossings by all modes of travel. For this reason, and because the improvements in Measures TRANS-3a and TRANS-3b require approvals from entities other than the City, the cumulative impact associated with increased use of at-grade crossings would remain significant and unavoidable.

> **Significance after Mitigation:** Significant and Unavoidable.

Construction Transportation Hazards

Impact TRANS-4.CU: The Project would be constructed in an area that is seeing additional construction, including housing and commercial development in Downtown and near the West Oakland BART, and street improvements throughout Downtown, and could contribute to a significant transportation hazard due to construction activity. (Criterion 2) (*Less than Significant with Mitigation*)

Proposed projects in the City of Oakland are subject to review and approval of construction management plans to avoid the potential for traffic hazards and provide an opportunity to coordinate temporary street closures or other actions that could affect users of the area. With these requirements, no significant cumulative traffic hazard would occur. Mitigation Measure TRANS-4, Construction Management Plan, would ensure that the Project's construction process does not itself result in hazards that could be significant when combined with those of nearby projects.

> **Mitigation Measure TRANS-4: Construction Management Plan.** (See Impact TRANS-4)
>
> **Significance after Mitigation:** Less than Significant.

Street Capacity

Impact TRANS-5.CU: The Project would not induce additional automobile travel by increasing physical street capacity in congested areas. (Criterion 3) (*Less than Significant*)

As previously noted, the Project and supporting components including Mitigation Measure TRANS-1d, Mitigation Measure TRANS-2a, and Mitigation Measure TRANS-2b would convert vehicle lanes on several corridors to serve either bikes or transit buses. These conversions would reduce the physical street capacity for automobiles. While providing greater connectivity between the Project and the larger bike network, as well as greater comfort and safety for bike riders, and improving bus transit reliability and improve transit connectivity. Given the overall changes by the Project on several corridors to repurpose traffic lanes, cumulative impacts associated with implementation of the Project and supporting components would be less than significant related to street capacity.

Mitigation: None required.

Impacts to the Regional Congestion Management Program (CMP) Roadway Segments

Impact TRANS-6.CU: The Project would contribute to congestion on CMP Roadway Segments, including degradation from LOS E or better to LOS F or an increase the v/c ratio by 0.03 or more for segments already projected to operate at LOS F on the following CMP or MTS segments in 2040 (Criterion 4) (*Significant and Unavoidable*):

- **I-880 in the northbound direction between 23rd Avenue and Embarcadero.**
- **SR 24 in the eastbound direction between Broadway and State Route 13.**
- **Posey Tube in the eastbound direction between the City of Alameda and the City of Oakland.**
- **Webster Tube in the westbound direction between the City of Oakland and the City of Alameda.**
- **Market Street in the northbound direction between 12th Street and 14th Street**
- **Market Street in the southbound direction between Grand Avenue and 18th Street**

The "Plus Project" results were compared to the "No Project" results for the 2040 horizon year. Appendix TRA provides the 2040 peak-hour volumes, v/c ratios and the corresponding levels of service for no Project development and plus Project development conditions.

As previously described, the Project includes policies and strategies that encourage walking, biking, and transit, including a TDM Plan for the non-ballpark development and a TMP for the ballpark. These policies and strategies would reduce the Project's development vehicle trip generation, which would reduce but not eliminate the magnitude of this impact.

No other feasible mitigation measures, beyond TDM measures and the TMP, are available to reduce the impact the development would have on the adversely affected roadway segments.

The LOS at these roadway segments could be improved by providing additional automobile travel lanes on the affected roadway segments. However, additional travel lanes cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way. Measures that add traffic lanes would induce additional automobile travel by increasing physical street capacity in congested areas and this would be a significant and unavoidable impact (Criterion 3). As such, the Project would result in a cumulatively considerable contribution to a cumulative impact. Therefore, the Project would contribute to a **significant and unavoidable** impact.

Maritime Reservation Scenario – Cumulative

Under the Maritime Reservation Scenario, up to approximately 10 acres of the proposed Project site would not be developed. The reconfigured project site boundary would change, and the Project site area would become smaller. The Project's internal street grid would be like the conditions with the Project except that the streets within the 10 acres would not be constructed reflect the smaller site. The Maritime Reservation Scenario would involve the same development program when compared with the proposed Project, leading to the same cumulative transportation projections (e.g., trip generation, VMT) described for the proposed Project above. All other site conditions relative to transportation would remain the same as described for the proposed Project, and therefore the impacts, analysis and mitigation for the Maritime Reservation Scenario under cumulative conditions would be the same as those discussed above for the proposed Project.

The Project under the Maritime Reservation Scenario would continue to contribute to the same significant and unavoidable cumulative impact to transportation and circulation – Impact TRANS-3.CU (Railroad Crossing Hazards) and Impact TRANS-6.CU (CMP Segments).

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