
Prepared for

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# India Basin

## Transportation Plan

SF15-0820

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# Table of Contents

# List of Figures



# List of Tables

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# Chapter 1. Introduction

The India Basin Transportation Plan provides a description of transportation improvements that will be constructed as part of the India Basin project, focusing only on the Build Property at 700 Innes Avenue. As described below, the full project site includes both the Build Property and a nearby park site owned by the San Francisco Recreation and Park Department (the "RPD Property"). However, trips to and from the RPD Property are negligible and therefore do not merit a TDM plan nor further discussion in this Plan. From this point forward, the Build Property is referred to as the "project site".

This Plan includes detail on vehicular parking and loading and potential shuttle service. It also includes the project's Transportation Demand Management (TDM) Plan, which describes specific strategies that will be employed on an ongoing basis upon building occupation to reduce the use of single-occupant vehicles. The project has set a performance standard of reducing the number of aggregate daily one-way vehicle trips by at least 20 percent compared to the DEIR's forecasted auto traffic generation, which exceeds the 15 percent reduction required as part of air quality Mitigation Measure M-AQ-1f. This TDM Plan is designed to help the project meet the trip reduction standard. The project will be held responsible to comply with monitoring, reporting, and adjustment requirements for the life of the project per the City's TDM Program Standards. As the Proposed Project advances through the design and approvals process, this document will serve as a resource documenting the applicant's transportation-related commitments to ensure that design and implementation of the Proposed Project aligns with the City's expectations.

Chapter 2 provides an overview of the project description, including discussions and figures explaining the project setting, land use program, roadway changes, pedestrian circulation changes, bicycle circulation changes, and transit changes.

Chapter 3 contains the TDM Plan detailing the selected TDM strategies. For each of the proposed strategies this Transportation Plan summarizes how the strategy would be implemented, providing high-level information on phasing, the target audience of each measure (resident, employee, visitors, etc.), and the monitoring and reporting process that will apply.

Chapter 4 includes the parking and loading plan for the India Basin project site, focusing on on-street activity. It presents overall amounts and ratios of automobile parking. It describes locations for each of the types of parking and loading activity that are expected to occur, including delivery truck loading, on-street parking, passenger pick-up/drop-off, and microtransit. This chapter includes general guidelines and performance measures as to how pick-up/drop-off zones should be oriented relative to building entrances and discusses how the plan has been configured to adapt to currently evolving transportation trends caused by increasing use of online shopping, transportation network companies (TNCs), and other technologies.

Chapter 5 describes the shuttle plan for India Basin. Should the Project buildout occur prior to the implementation of the appropriate suite of transit improvements contained within the Candlestick Point Hunters Point Shipyard (CPHPS) Transportation Plan, the Project will provide shuttle service on an interim basis to bridge gaps in transit capacity, as required by DEIR Mitigation Measure M-TR-3P and 3V, Option 2. The interim shuttle service would supplement existing, nearby transit service by providing connections to local and regional rail service. The shuttle plan includes a route connecting the project site to Glen Park BART station, 22nd Street Caltrain station, and the T-Third line, as well as planning-level recommendations on the frequency of the route, operating hours, and number of shuttle vehicles needed to operate the service.

# Chapter 2. Project Overview

## 2.1 Setting

The India Basin project is located in the Bayview Hunters Point neighborhood in the southeast quadrant of San Francisco. The site perimeter has frontage on Innes Avenue, Hunters Point Boulevard, and Earl Street, and the site has frontage onto Hudson Avenue, Griffith Street, and Arelious Walker Drive.

Currently, the project site is generally undeveloped and open, except for six buildings and structures covering only a small portion of the site. The few structures on this property range from one to four stories and are between 10 and 40 feet tall. This area is generally made of fill materials, covered by light brush, debris, dirt, and gravel mounds. The area is mostly flat between Hudson Avenue and Earl Street to the India Basin Open Space boundary, which then slopes toward the Bay. There is more slope downward from Innes Avenue toward Hudson Avenue. The project site generally surrounds a single dead-end street, Arelious Walker Drive, which is an unaccepted public right-of-way ending in a cul-de-sac. Approximately twelve acres of the site is open space and includes a portion of the Blue Greenway – a City project to construct a portion of the Bay Trail along the City's eastern waterfront - along the Project's shoreline.

The neighborhood surrounding the project site is being developed with numerous development proposals in the planning and approval stages, the largest of which is the Candlestick Point-Hunters Point Shipyard (CPHPS) project to the east. Hunters Point Shipyard Phase 1, which includes 519 residential units, has nearly completed construction and would be fully-occupied prior to the opening of the initial phases of the Proposed Project. Additionally, the reconstruction of Hunters Point Boulevard and Innes Avenue as obligated by the CPHPS project is anticipated to be completed as part of Hunters Point Shipyard Sub-phase HP-02, currently anticipated to occur in year 2022. The CPHPS project includes more than 10,000 residential units, more than 1,100 ksf of neighborhood retail, 150 ksf of office space, 395 hotel rooms, a 10,000 seat arena, parkland, research & development space, artist studios, a marina, a Junior High/High School, a High School/post-secondary center, and community services.

The Proposed Project, co-sponsored by Build and the San Francisco Recreation and Park Department (RPD), would redevelop both project sponsors' parcels along the India Basin shoreline of the San Francisco Bay. The parcels that are collectively referred to as 700 Innes Avenue property ("Build Property") comprise nearly 17.12 acres of the site and are owned or would be acquired by Build. The parcels that are collectively referred to as 900 Innes Avenue property, India Basin Open Space, and India Basin Shoreline Park ("RPD Property"), make up more than 14.2 acres and are owned by the RPD. The remaining 5.94 acres make up the developed and undeveloped public right-of-way on Griffith Street, Hudson Avenue, Earl Street, and Arelious Walker Drive.

The project setting is described in greater detail in the project's Design Standards and Guidelines (DSG) document, sections 1.1.1-1.1.4. Additional information is also available in the project's Infrastructure Plan, sections 1.2-1.3, and in the project's Transportation Impact Study (TIS), pages 12-14.

## 2.2 Land Use

The project contains 1,575 dwelling units, 122 ksf of office space, 87 ksf of retail space, and open space as detailed in **Table 1**. The project provides 1,800 off-street parking spaces; this includes 1,575 private parking spaces and 225 public parking spaces. The project would also provide sufficient bicycle parking to meet San Francisco Planning Code, and in any case a minimum of 1,575 bicycle parking spaces would be provided with the majority being Class I bicycle parking spaces (such as bike lockers, or secure bike rooms) alongside around 100 Class II bicycle parking spaces (publicly accessible bicycle racks). A detailed presentation of parking supply and ratios for automobile and bicycle parking is provided in Sections 4.2 and 4.4.

The Revised Proposed Project's land use program is shown in **Figure 1**. For more information about the project's land use program, consult sections 1.3.2, 1.3.3, and 4.1-4.4 of the DSG, or the "Supplemental Memorandum to the India Basin TIS: Transportation Impacts for the 'Revised Proposed Project'" (Fehr & Peers, 2018).

**Table 1. Project Land Use Configuration**

| Floor Area Use | Proposed Project | Floor Area (gsf) |
|---|---|---|
| Build Property | | |
| Residential | 1,575 units:<br>252 studios<br>299 one-bedroom<br>867 two-bedroom<br>157 three-bedroom | 1,506,324 |
| Commercial / Retail | General Office | 121,915 |
| | Restaurant | 13,026 |
| | Café | 17,369 |
| | Supermarket | 21,711 |
| | General Retail | 35,085 |
| | *Total* | *209,106* |
| Open Space | Big Green Open Space | 237,400 |
| *Subtotal* | - | *1,802,830* |
| RPD Property | | |
| Open Space (Public) | India Basin Open Space<br>900 Innes<br>India Basin Shoreline Park<br>*Total* | 270,000<br>78,400<br>243,900<br>*592,300 (=13.6 ac)* |
| *Total* | - | *2,395,130* |

Source: Build *Draft India Basin Notice of Preparation of an Environmental Impact Report and Public Scoping Meeting*, April 30, 2015, modified June 2017. Build *Project Description Changes*, April 2018.

## 2.2.1 Phasing

Buildout of the Build portion of the Project is anticipated to occur in six phases over an approximately eight year period, from 2020 through 2028. A map of the project's proposed phasing is detailed in **Figure 2**.

The street network will be built out in phases corresponding to the project phases, as shown on the figure. As each phase is constructed, the portions of the roadway network that abut the property under construction will be built. Similarly, buildout of the parks and open space within the Build parcel is tied in with the site development; in other words, the open space buildout spans multiple phases of the site development so cannot be separately defined as a phase.

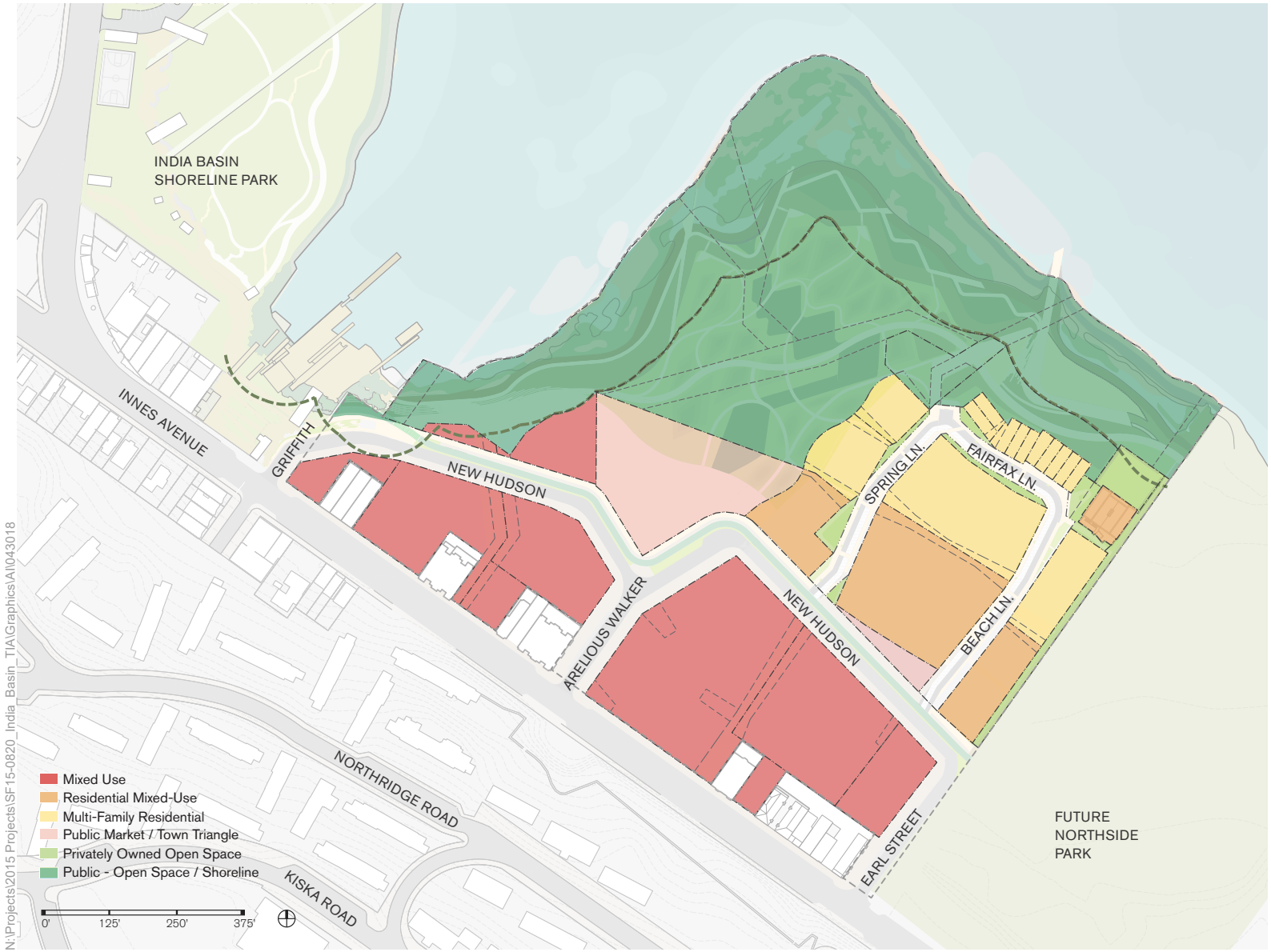
Hillside North includes construction of Arelious Walker Drive (from Innes Avenue to New Hudson Avenue), New Hudson Avenue (from Arelious Walker Drive to approximately Spring Lane), and all associated

infrastructure, as further described below. Construction of this portion of New Hudson Avenue will include installation of the two-way separated cycle track along that portion. This phase includes construction of all improvements to the intersection at Innes Avenue/Arelious Walker Drive, including crosswalks, installation of traffic signals and striping of an eastbound left turn lane.

Hillside South includes construction of New Hudson Avenue (from approximately Spring Lane to Earl Street) and Earl Street (from New Hudson Avenue to Innes Avenue). It will also include construction of all intersection improvements at Earl Street/Innes Avenue and the adjacent portion of the cycle track along New Hudson Avenue.

Flats Interior or Flats Exterior, whichever comes first, would include the street construction of the Shared Public Ways (Spring Lane, Fairfax Lane, and Beach Lane).

Cove West or Cove East, whichever comes first, would include the street construction of New Hudson Avenue (from Griffith Street to Arelious Walker Drive), Griffith Street, the intersection improvements at Griffith Street/Innes Avenue, the adjacent portion of the cycle track along New Hudson Avenue, and the connection point at the eastern end of Griffith Street to the bike facilities through the 900 Innes parcel.

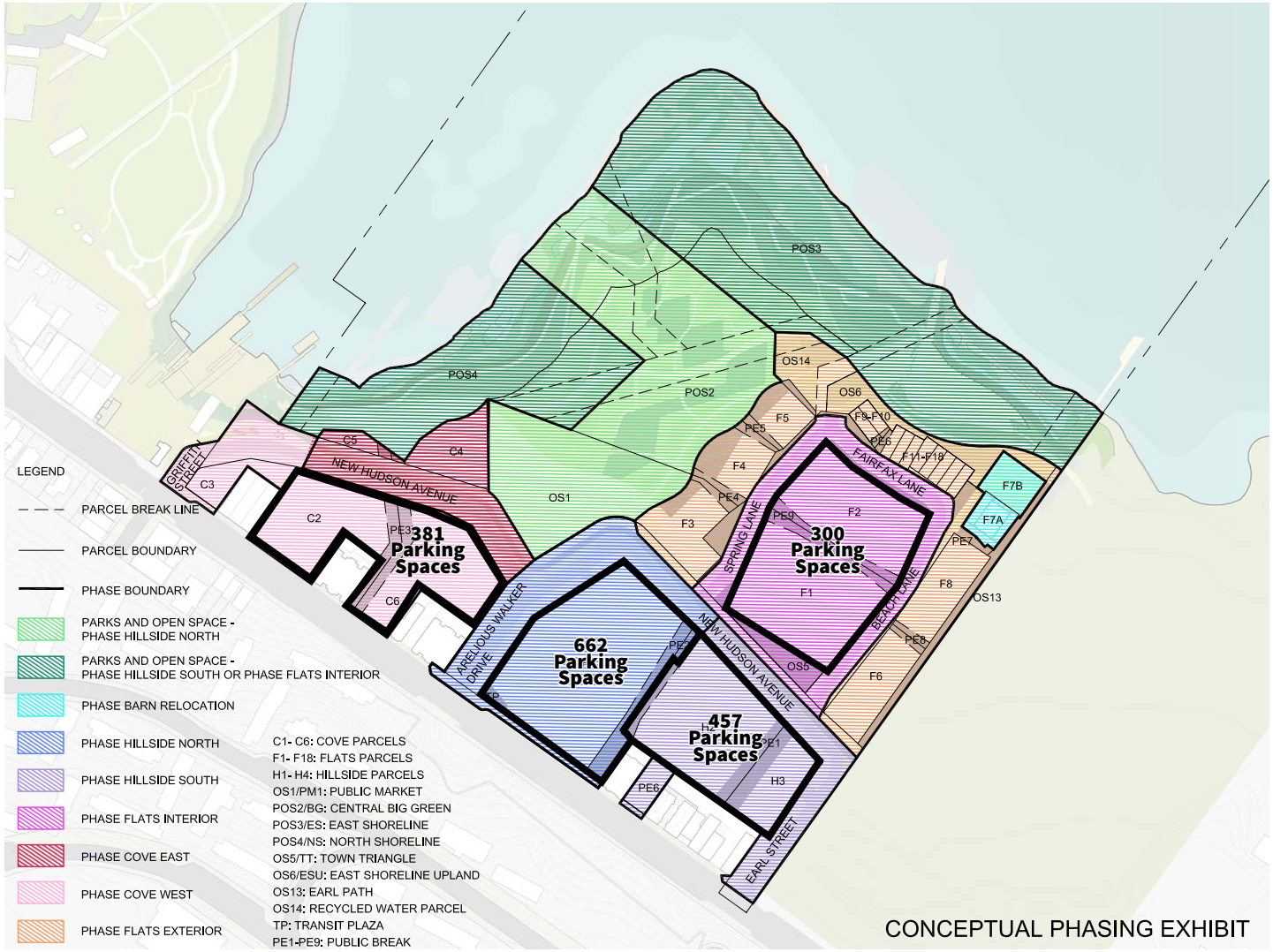



Source: India Basin Design Standards & Guidelines document

Note:
For additional details of each land use designation, please consult the India Basin Design Standards & Guidelines document, page 268.

Figure 1

## Land Use Program




Source: Build Inc.

Figure 2

Phasing

# 2.3 Roadway Changes

The existing public ROW within the project site consists of four streets: Griffith Street, Hudson Avenue, Earl Street, and Arelious Walker Drive. Each are partially paved where they meet Innes Avenue, but in general they are unpaved and/or partially paved, unimproved, unaccepted, and fenced from public access. Hudson Avenue runs west to east through the project site, starting at Hunters Point Boulevard and terminating at Earl Street. Sections of Earl Street and Hudson Avenue are paper streets. Earl Street forms the eastern boundary of the project site, running from the edge of the Bay to Innes Avenue. Griffith Street is the shortest of the streets, starting at Innes Avenue and running south to north, bisecting the project site and terminating at the edge of the shoreline. Arelious Walker Drive is a paved street that runs south to north and roughly bisects the 700 Innes property, ending in a cul-de-sac.

The Revised Proposed Project would construct the following new public streets, internal to the project site:

- Griffith Street would be a new residential street that would extend north of Innes Avenue into the project site.
- New Hudson Avenue would replace the existing unpaved Hudson Avenue and would extend east-west connecting Griffith Street, Arelious Walker Drive, and Earl Street.
- A new shared public way loop road would be constructed off of New Hudson Avenue. The streets on this loop would be named Beach Lane, Fairfax Lane, and Spring Lane.

Additionally, Arelious Walker Drive and Earl Street would be modified to become neighborhood commercial streets within the site. Street cross sections are included in the project's Design Standards and Guidelines (DSG) document. Further information about roadway changes associated with the India Basin project can be found in sections 8.1-8.6 of the Infrastructure Plan, and section 2.1.1 of the DSG.

The following five intersections would be signalized as part of the Proposed Project. The last three intersections would also receive eastbound left-turn lanes to accommodate vehicle traffic entering the site:

- Hunters Point Boulevard/Hudson Avenue/Hawes Street
- Hunters Point Boulevard/Innes Avenue
- Innes Avenue/Griffith Street
- Innes Avenue/Arelious Walker Drive
- Innes Avenue/Earl Street

The construction of the three eastbound left-turn pockets would result in the elimination of a total of 36 parking spaces on the north side of Innes Avenue as follows: four between Hunters Point Boulevard and Griffith Street, 10 between Griffith Street and Arelious Walker Street, nine between Arelious Walker Street and Earl Street, and 13 between Earl Street and Donahue Street. The parking removal between Earl Street

and Donahue Street would be necessary to enable the travel lanes to line up with the new lane alignments west of Earl Street. These off-site intersection changes are shown in **Figure 3**.

To improve vehicular mobility at the intersection of Jennings Street/Evans Avenue, the project proposes to construct a 100-foot southbound left turn pocket and convert the eastbound approach to provide one 100-foot left turn pocket, one through lane, and one shared through/right turn lane. Adding the southbound left-turn pocket would require restricting parking on the west side of Jennings Avenue, removing approximately five parking spaces. No additional right-of-way will be required for the modifications on the eastbound approach. Build will fund SFMTA costs to review the design and implement the new southbound and eastbound approach configurations. FivePoint is obligated to reconstruct Hunters Point Boulevard and Innes Avenue between Jennings Street and Donahue Way, as a condition of the Shipyard development. The City is currently undergoing a planning process to finalize the design of this street. The Proposed Project's external roadway improvements listed above are intended to be compatible with the ultimate configuration of Innes Avenue constructed by FivePoint as part of their obligations.

If FivePoint faces substantial delays in building out Innes Avenue, the improvements required to be constructed as part of the India Basin project (e.g., new traffic signals, striping to include left-turn lanes, and the India Basin project's frontage) would be constructed, and the remainder of the improvements required of FivePoint (sidewalk improvements along the south side of Innes Avenue, streetscape improvements along the remainder of the corridor, and other signals required of FivePoint) would not be constructed, until required as part of the Shipyard project.

All internal and external streetscape improvements are subject to change per review by SFMTA, Department of Public Works, and the Fire Department. If changes occur, those changes will be subject to further review.

Further information about roadway changes associated with the India Basin project can be found in sections 8.1-8.6 of the Infrastructure Plan, and section 2.1.1 of the DSG.

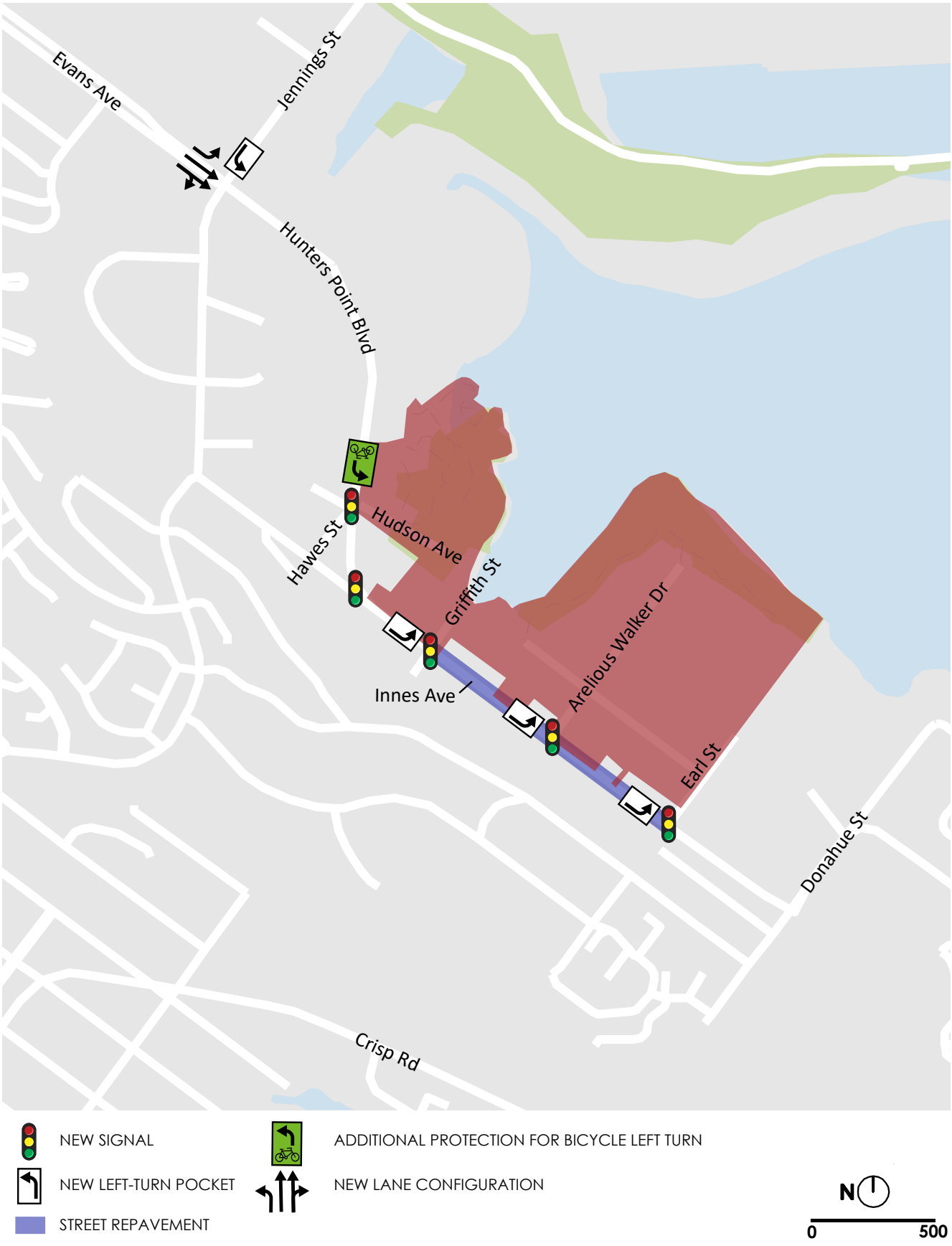



Figure 3

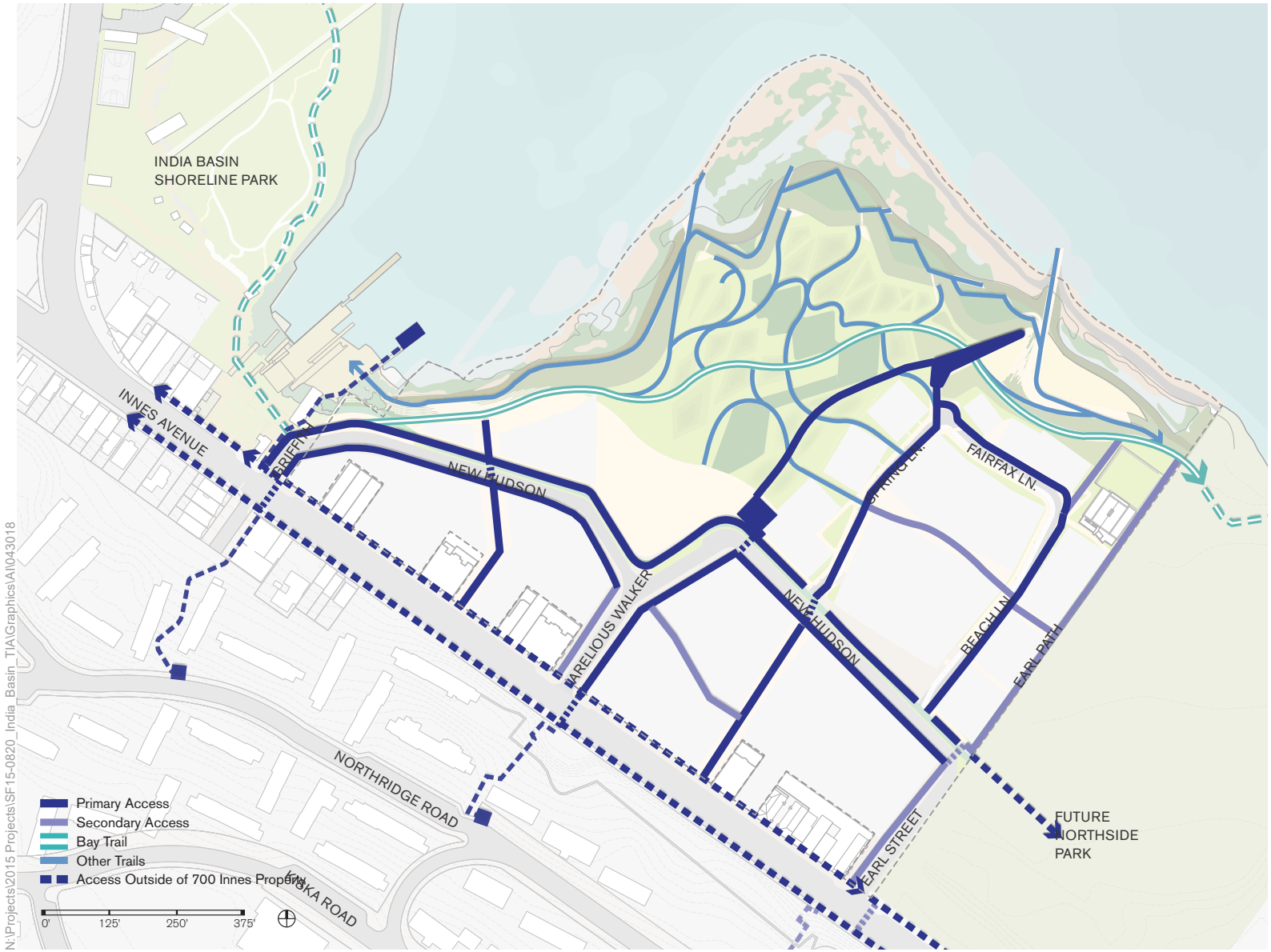
## Off-Site Intersection Changes

# 2.4 Pedestrian Circulation Changes

The Innes Avenue corridor currently features a patchwork of incomplete and narrow sidewalks, which present a less-than-ideal pedestrian condition. However, the Innes Avenue corridor will feature a substantially improved pedestrian experience as a result of the improvements planned by the adjacent Shipyard development and the Project's improvements on the north of the street. Continuous sidewalks on both sides of the street, corner bulbouts, bus stops, and new crossing opportunities providing better access to the site and nearby transit stops from the project as well as adjacent uses at the hilltop are planned. The sidewalk design would be constructed in a manner consistent with the Better Streets Plan but would be finalized at a later date in coordination with SFMTA, Planning Department, FivePoint, DPW, and others.

As part of their signalization, crosswalks are intended to be installed on all approaches at the intersections of Hunters Point Boulevard/Hudson Avenue/Hawes Street, Hunters Point Boulevard/Innes Avenue, Innes Avenue with Griffith Street, Arelious Walker Street, and Earl Street. The designs would be finalized during the detailed design phase.

Pedestrian circulation within and adjacent to the project site, as well as to major activity centers (the Public Market and bus stops on Northridge Road), are shown in **Figure 4**. Further information about pedestrian circulation can be found in section 8.6 of the Infrastructure Plan and sections 2.1.2-2.2.12 of the DSG.




Source: India Basin Design Standards & Guidelines document

Note:
-Crosswalk locations across Innes Avenue at Griffith Street, Arelious Walker Drive, and Earl Street are preliminary and will be finalized during detailed design.
-Squares and rectangles indicate pedestrian activity centers including the Public Market, and Muni 54 bus stops on Northridge Road

Figure 4

## Pedestrian Circulation

# 2.5 Bicycle Circulation Changes

While signed as a bike route, the Innes Avenue corridor does not currently contain any dedicated bicycling facilities, and bicyclists are currently subjected to sharing vehicle lanes with fast-moving arterial traffic. The project plans for a corridor that will feature a fully-separated east-west bicycle link, which will substantially improve cyclist comfort and provide convenient access to destinations within the project site.

The existing Class II bicycle facility (i.e. standard bicycle lanes) on Hunters Point Boulevard between Hudson Avenue and Innes Avenue and the existing Class III bicycle facility (i.e. shared lane markings) on Innes Avenue between Hunters Point Boulevard and Earl Street would be removed. The facility would be relocated to a new Class I facility along the north side of Hudson Avenue within the project site. The new Class I facility ("Hudson Avenue bikeway") would connect India Basin with an extensive bicycle network approved within the Hunters Point Shipyard site to the east and the Blue Greenway (a planned 13-mile network of parks and trails around the waterfront of southeastern San Francisco) to the west, closing a gap link in the plans for a continuous bicycle facility from Candlestick Point and Hunters Point Shipyard along the waterfront to Downtown San Francisco. The Hudson Avenue bikeway will be constructed alongside roadway changes described above in Section 0. Construction of the bikeway would occur alongside construction of the adjacent phases of development, beginning with the Hillside North phase and ending with Cove East.

Eventually the Hudson Avenue bikeway will connect to the Class I facility in Northside Park to the east of the project site, although in the interim period the Class I facility will terminate at Earl Street/Hudson Avenue and continue as a Class III shared lane facility on Earl Street between Innes Avenue and Hudson Avenue. Eventually the Hudson Avenue bikeway will connect to the Class I facility on the east side of Hunters Point Boulevard, although in the interim period, the project would ensure a continuous bicycle connection from the current Class II bike lanes on Hunters Point Boulevard to the Class I bicycle corridor within the project site as follows. A connection would be constructed for cyclists making left turns at the multi-lane intersection of Hunters Point Boulevard/Hudson Avenue (signalized as part of the project) from the bike lane on southbound Hunters Point Boulevard to the Class I facility on Hudson Avenue. Design and construction of this facility would be subject to final review and approval of the City Traffic Engineer. This may include one of the following two designs and is indicated on **Figure 3**:

- installation of bicyclist signal heads, bicycle left-turn lane, and an accompanying dedicated signal phase for the maneuver; or,
- installation of a two-stage turn queue box at the far side of the intersection; which is a space where cyclists can wait more safely prior to completing the maneuver in a location visible to other road users.

Additionally, Earl Path is the extension of Earl Street, north of New Hudson Avenue, which would be a path for pedestrians and bicyclists only. Furthermore, recreational paths connecting the on-site bike route to the Bay Trail, Northside Park, and India Basin Shoreline Park would be constructed throughout the proposed shoreline open space.

Bicycle circulation within and adjacent to the project site is shown in **Figure 5**. Further information about bicycle circulation can be found in section 8.6 of the Infrastructure Plan and section 2.1.1 of the DSG.


Source: India Basin Design Standards & Guidelines document

Note:
Class II bike parking will be provided within the furnishing zone and at other locations to be determined throughout the project site.

Figure 5

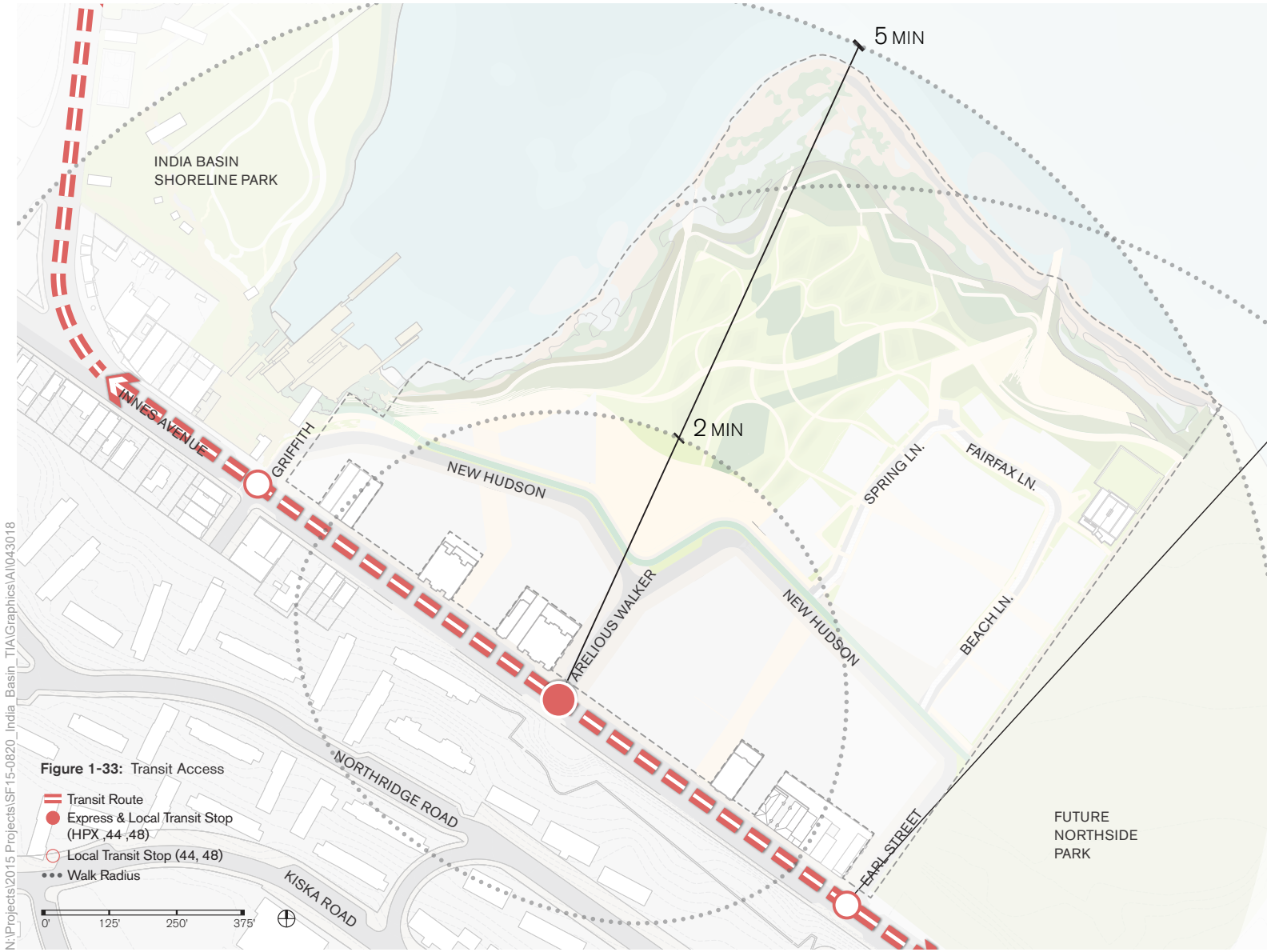
## Bicycle Circulation

# 2.6 Transit Changes

The project would provide SFPUC power hookups to shelter locations along Hunters Point Boulevard and Innes Avenue adjacent to the project site and would coordinate with SFMTA on the location of the hookups. In addition, the project would provide funding to the SFMTA for implementation of a transit only lane in each direction from the intersection of Hunters Point Boulevard/Evans Street/Jennings Street to the intersection of Donahue Street and Robinson Street.

The area surrounding the project is slated for substantial transit service improvements not specifically tied to the project, including service increases specified in the CPHPS Transportation Plan. Existing Muni lines 44 O'Shaughnessy and 48 Quintara would be extended along Innes Avenue to Hunters Point Shipyard via India Basin to replace the 19 Polk, which would be rerouted away from the project site. Additionally, the Hunters Point Express (HPX) will run express between Downtown San Francisco and the project's stop at Innes Avenue/Arelious Walker Street, providing a rapid connection for passengers. These routes will ultimately result in combined service of 25 buses per direction per hour along Innes Avenue; a substantial improvement over the current four buses per hour per direction. These improvements will be implemented during construction of CPHPS, in the 2021-2026 timeframe. They are described in detail in Section 5.2.2 of this document.

Transit circulation in the vicinity of the project site is shown in **Figure 6**. Further information about transit changes associated with the India Basin and CPHPS project can be found on pages 29-30, 142-164, and 203-227 of the TIS, and in section 8.2 of the Infrastructure Plan.




Source: India Basin Design Standards & Guidelines document

Figure 6

## Transit Circulation

# Chapter 3. Transportation Demand Management (TDM) Plan

This chapter contains the project's Transportation Demand Management (TDM) Plan. An overview of the TDM Plan and its goals is presented. Then, a monitoring and reporting plan is presented and the plan's overall likely effectiveness is discussed. Finally, the 16 strategies that make up the plan are described in detail.

## 3.1 Overview

The project sponsor is committed to reducing vehicle trips to and from the project site beyond that which is required by Mitigation Measure Mitigation Measure M-AQ-1f in the Draft Environmental Impact Report (DEIR). The project has been designed to prioritize and promote travel by walking, biking, and transit for new residents, tenants, employees, and visitors. As the project is at the scale of a small neighborhood, these design decisions will be particularly influential to people's travel patterns. Key design elements include the provision of an internal road network with narrow streets designed to neighborhood-appropriate speeds; a comprehensive pedestrian network of sidewalks, crosswalks, mid-block pathways, and open space trails; a new Class I bicycle facility throughout the site comprising part of a major regional bicycle connection; the closure of the gap in the Bay Trail through the project site; signalization of five project-adjacent intersections that enhances pedestrian and bicycle connectivity; and support and accommodation for a bus-only lane along Innes Avenue adjacent to the project site.

The multimodal project design is complemented and supported by the project's TDM Plan, which includes specific strategies to reduce vehicular trip-making by shifting trips that would otherwise be made by private automobile to other modes such as walking, bicycling, or transit. This generally involves improving the appeal of these modes via supportive amenities (such as showers and lockers for bike commuting or real-time transit information screens), making the costs associated with private auto-mobility more apparent (such as unbundling parking spaces from residential units), and reducing the need for site users to make longer distance trips that tend to be more likely made by automobile (such as by providing key amenities like a grocery store within the project site).

To mitigate the project's significant air quality impact, Mitigation Measure M-AQ-1f in the DEIR compels the project to reduce by 15 percent the total daily one-way project vehicle trips analyzed in the EIR (for both the 700 Innes and India Basin Open Space sites). The project sponsor has agreed to exceed this requirement by committing to the performance standard of a 20 percent vehicle trip decrease. This will be

achieved through a combination of the multimodal design elements inherent in the project and individual strategies contained within the TDM plan.

The strategies presented in this chapter constitute the initial plan for the first phase of development. The project sponsor will evaluate the project against the performance standard at a number of checkpoints during buildout. At each of these checkpoints, the project sponsor would convene with SFMTA and Planning Department to evaluate the effectiveness of the TDM strategies implemented to date in the context of levels of transit service implemented and yet to be implemented near the site. If the project is found to be falling short of the performance standard at a particular checkpoint, the project sponsor will work with SFMTA and Planning Department to consider adjustments to TDM strategies or new measures to achieve the performance standard (e.g. changes to amount of parking). These checkpoints would be scheduled to provide enough time for the project sponsor to make TDM adjustments or adjustments to project design in the subsequent phase, if needed.

The effective daily vehicle trip generation rates for each land use type contained within the *Supplemental Memorandum to the India Basin TIS: Transportation Impacts for the "Revised Proposed Project"* shall be used at these checkpoints to determine the base against which the performance standard can be measured. This memorandum presents two sets of rates, for Project Conditions and Cumulative Conditions scenarios. It is intended that the Project Conditions scenario trip generation rates shall be used until the point at which SFMTA implements 75 percent of the level of transit service ultimately planned and committed to as part of the Candlestick Point/Hunters Point Shipyard Transportation Plan (or 1,280 seats per hour in each direction along Innes Avenue), at which point the Cumulative Conditions scenario trip rates, which are lower to reflect mode shift from auto to transit, shall be used.

## 3.2 Monitoring and Reporting Requirements

The TDM Coordinator will undertake monitoring and reporting of the TDM plan consistent with the City's TDM Program Standards. If a Transportation Management Association (TMA) is formed to oversee the TDM plan implementation, the TDM Coordinator may be a representative of the TMA. The three main monitoring and reporting components of the Program Standards are a pre-occupancy site visit, ongoing monitoring and reporting statements, and periodic updating of the Plan if needed after entitlement. While the key elements of the monitoring and reporting standard were included in the DEIR Mitigation Measure M-AQ-1f, the project has chosen to exceed these requirements in three areas: addition of three interim checkpoints where the Plan may be adjusted, the increase of the performance standard from 15 percent daily vehicle trip reduction to 20 percent, and the addition of monitoring, reporting, and adjustments for the life of the project.

The TDM Coordinator will submit the first report for all buildings that are at least 75 percent occupied 18 months after issuance of the first certificate of occupancy of any building on the 700 Innes property that includes off-street parking or the establishment of surface parking lots or garages. After the first reporting period, reports will be submitted on an annual basis until five consecutive reporting periods show that the fully built project has met the 20 percent performance standard, after which they may be submitted every three years for the life of the project. While the mitigation measure states that monitoring, reporting, and adjustments may cease once the reduction goal has been met for up to eight consecutive reporting periods, the project has committed to continue monitoring, reporting, and adjusting (if needed) for the life of the project. While the mitigation measure requires that the Project's TDM coordinator shall adjust the TDM plan based on the monitoring results if three consecutive reporting periods demonstrate that measures in the TDM plan are not achieving the reduction goal, this Plan enables for more responsive course-correction during project buildout if the project is not meeting its goal as determined by monitoring conducted after certain checkpoints, to be agreed to between the project sponsor and the City, as defined in Section 3.1. Adjustments may include reducing the parking supply for future phases of the project below the maximum allowable.

For ease of reference, the full text of the Mitigation Measure is provided below in italics:

> ***TDM Plan Monitoring and Reporting****: The TDM Coordinator shall collect data, prepare monitoring reports, and submit them to the Planning Department. To ensure that the goal of reducing by at least 15 percent the aggregate daily one-way vehicle trips is reasonably achievable, the project sponsor shall monitor daily one-way vehicle trips for all buildings that have received a certificate of occupancy and that are at least 75 percent occupied, and shall compare these vehicle trips to the aggregate daily one-way vehicle trips anticipated for those buildings based on the trip generation rates contained within the project's Final Transportation Impact Study.*
>
> ***Timing****. The TDM Coordinator shall collect monitoring data and shall begin submitting monitoring reports to the Planning Department 18 months after issuance of the first certificate of occupancy for buildings that are at least 75 percent occupied on the 700 Innes property that include off-street parking or the establishment of surface parking lots or garages. Thereafter, annual monitoring reports shall be submitted (referred to as "reporting periods") until five consecutive reporting periods show that the fully built project has met the reduction goal. From that point on, monitoring data shall be submitted to the Planning Department once every three years.*
>
> *Each trip count and survey (see below for description) shall be completed within 30 days after the end of the applicable reporting period. Each monitoring report shall be completed within 90 days after the applicable reporting period. The timing of monitoring reports shall be modified such that a new monitoring report is submitted 12 months after adjustments are made to the TDM plan to meet the*

*reduction goal, as may be required under the "TDM Plan Adjustments" heading, below. In addition, the Planning Department may modify the timing of monitoring reports as needed to consolidate this requirement with other monitoring and/or reporting requirements for the proposed project or variant, such as annual reporting under the proposed project's or variant's development agreement.*

***Term**. The project sponsors shall monitor, submit monitoring reports, and make plan adjustments until the earlier of: (i) the expiration of the Development Agreement, or (ii) the date the Planning Department determines that the reduction goal has been met for up to eight consecutive reporting periods.*

***Components:** The monitoring and reporting, including trip counts, surveys and travel demand information, shall include the following components or comparable alternative methodology and components, as approved, accepted or provided by Planning Department staff:*

*(1) Trip Count and Intercept Survey: Provide a site-wide trip count and intercept survey of persons and vehicles arriving and leaving the project site for no less than two days during the reporting period between 6:00 a.m. and 8:00 p.m. One day shall be a Tuesday, Wednesday, or Thursday on which San Francisco public schools are in session during one week without federally recognized holidays, and another day shall be a Tuesday, Wednesday, or Thursday on which San Francisco public schools are in session during another week without federally recognized holidays. The trip count and intercept survey shall be prepared by a qualified transportation or survey consultant, and the Planning Department shall approve the methodology prior to the Project Sponsors conducting the components of the trip count and intercept survey. The Planning Department anticipates it will have a standard trip count and intercept survey methodology developed and available to project sponsors at the time of data collection.*

*(2) Travel Demand Information: The above trip count and survey information shall be able to provide the travel demand analysis characteristics (work and non-work trip counts, origins and destinations of trips to/from the project site, and modal split information), as outlined in the Planning Department's Transportation Impact Analysis Guidelines for Environmental Review, October 2002, or subsequent updates in effect at the time of the survey.*

*(3) Documentation of Plan Implementation: The TDM coordinator shall work in conjunction with the Planning Department to develop a survey (online or paper) that can be reasonably completed by the TDM coordinator and/or Transportation Management Association (TMA) staff members to document implementation of TDM*

*program elements and other basic information during the reporting period. The project sponsors shall include this survey in the monitoring report submitted to the Planning Department.*

*(4) Assistance and Confidentiality: The Planning Department will assist the TDM coordinator with questions regarding the components of the monitoring report and will assist the TDM coordinator in determining ways to protect the identity of individual survey responders.*

***TDM Plan Adjustments**. The project sponsors shall adjust the TDM plan based on the monitoring results if three consecutive reporting periods demonstrate that measures in the TDM plan are not achieving the reduction goal. The TDM plan adjustments shall be made in consultation with Planning Department staff and may require refinements to existing measures (e.g., change to subsidies, increased bicycle parking), inclusion of new measures (e.g., a new technology), or removal of existing measures (e.g., measures shown to be ineffective or induce vehicle trips). If the Planning Department determines that the reduction goal has been met for eight consecutive reporting periods, the TDM Plan in place at the time of the eighth consecutive successful reporting period shall be considered the final TDM Plan.*

*If the monitoring results from three consecutive reporting periods demonstrate that measures in the TDM plan are not achieving the reduction goal, the TDM plan adjustments shall occur within 270 days after the last consecutive reporting period. The TDM plan adjustments shall occur until the monitoring results of three consecutive reporting periods demonstrate that the reduction goal is achieved.*

*If after implementing TDM plan adjustments, the project sponsors have not met the reduction goal for up to eight consecutive reporting periods, as determined by the Planning Department, then the project sponsors may, at any time thereafter, elect to use another means to address the shortfall in meeting the TDM plan reduction target.*

*Specifically, in addition to paying the emission offset fees set forth in Mitigation Measure M-AQ-1d, the project sponsors may pay an additional offset fee in accordance with Mitigation Measure M-AQ-1d. This additional offset fee would be the amount required to address both the shortfall in reduction during the previously monitored years and the anticipated shortfall in the remaining expected years of project operations. The anticipated shortfall shall be based on the shortfall that occurred in the most recently monitored year. Calculations of emissions to be offset shall be based on the total amount of emissions anticipated to be reduced by achieving the 15 percent TDM goal, adjusted for the actual percentage of aggregate daily one-way vehicle trip reduction achieved in the most recently monitored year.*

*After paying this additional offset fee, the project sponsors shall continue to monitor, report and adjust their TDM Plan in accordance to this Mitigation Measure M-AQ-1f, to ensure that the shortfall from the reduction goal does not increase significantly over time for the duration of the term defined herein. At the end of that term, the project sponsors' monitoring, reporting, and adjusting obligations of MM-AQ-1f shall terminate, but the project sponsors shall continue to implement the final TDM Plan for the life of the project. The final TDM Plan shall be either a) the TDM Plan that met the reduction goal for eight consecutive monitoring periods; or b) if the project sponsors have paid an additional offset fee, the TDM plan that achieved the highest reduction goal for any reporting period.*

# 3.3 Overall Effectiveness

The project transportation network and TDM plan could reduce daily vehicle trips to and from the Build Property by 20 percent compared to the trip numbers forecasted in the DEIR. The DEIR trip forecasts were developed using trip generation rates contained within the San Francisco Guidelines and mode splits developed for the Candlestick Point Hunters Point Shipyard (CPHPS) EIR. As is the case for other elements of the project description that may affect travel patterns, such as parking supply and the Class I bicycle facility, several of the TDM strategies listed below are not explicitly accounted for in the project mode split rates. However, these elements are accounted for to the extent that the buildings and areas that constitute the generalized data set for mode split include them. Therefore, it is reasonable to expect additional reductions beyond those estimated for the TDM plan due to the presence of the comprehensive bicycle facility, extensive pedestrian network, and traffic-calmed street network.

**Table 2** summarizes both the individual and aggregate effects of the TDM measures on daily vehicle trips to and from the project site. Estimates are mostly taken from *Quantifying Greenhouse Gas Mitigation Measures*, a report for the California Air Pollution Control Officer's Association produced in 2010 ("CAPCOA") and are supplemented with data from other recent studies. Effectiveness in terms of percent reduction in daily trips is presented as a single percentage; however, the precise reduction will be dependent on factors that are not fully known at this time, such as degree of program implementation, demographics of future residents, parking prices and availability relative to the surrounding neighborhood, and TDM programs implemented by individual office or retail tenants. In some instances, the reduction accounts for local dampening of the CAPCOA standard based on the more urban land use context of the project site (so as not to double-count reductions already somewhat accounted for in the DEIR trip forecasts) compared to the context contained within the CAPCOA data. The estimation of reductions for each strategy includes separate application of different CAPCOA reduction rates to commute and non-commute trips. The aggregate reduction includes category caps that recognize the diminishing effectiveness of multiple different strategies in the same category.

The aggregate range of effectiveness for strategies contained within the TDM plan (with category capping considered) is 6 percent to 22 percent. Part of this spread is explained by the varying effect of the TDM strategies on different land use contexts, and the upper end of the range contains maximum possible reductions for elements such as a robust pedestrian network and parking unbundling, which are to a certain extent accounted for in the project trip rates. Considering the local land use context and the extent to which measures are likely accounted for in trip rates, the TDM plan is estimated to reduce daily vehicle trips by 10 percent. Further reduction should be expected for project components not included in the TDM plan but whose reduction is quantifiable, such as comprehensive bicycle improvements, paid parking, and pre-tax transit benefits (provided in compliance with the Commuter Benefits Ordinance). The combination of the

TDM plan with these specific project components is estimated to reduce daily vehicle trips by 13 percent. Further reduction should be expected for the subset of strategies for which no reliable data on reductions was available from CAPCOA or other sources. Additional potential reductions may arise from TDM programs and subsidies provided by individual office and retail tenants. As mentioned previously, further reductions should also be expected for design elements such as the traffic-calmed street network.

If the project's TDM measures are not trending to meet the goal of reducing estimated aggregate daily one-way vehicle trips by at least 20 percent during the checkpoints, compared to the forecasts in the project's DEIR, the project sponsor, in consultation with SFMTA and Planning Department, would explore other TDM options or adjust the project's designs, as the project continues to be built out. These options would be determined based on how site users' travel patterns are evolving, as identified by user surveys and would be developed in consultation with SFMTA and Planning Department.

**Table 2: Summary of TDM Strategies and Estimated Effectiveness**

| *Strategy Number* | *Strategy Name* | *Description* | *CAPCOA Reference* | *Effectiveness (Reduction in Daily Vehicle Trips)* | *Additional Benefits* | Notes |
|---|---|---|---|---|---|---|
| ***Strategies Contained Within TDM Plan*** | | | | | | |
| 3.4.1 | Bicycle Parking | Provide ample, secure, and convenient bicycle parking for all uses | TRT-6 | 0.6% | Helps create an environment that supports and encourages use of active transportation. | Reduction uses alternative literature presented in CAPCOA (Center for Clean Air Policy Guidebook) |
| 3.4.2 | Bicycle Repair Stations | Provide public stations for repair and maintenance of bicycles | TRT-6 | | Helps create an environment that supports and encourages use of active transportation. | Reduction uses alternative literature presented in CAPCOA (Center for Clean Air Policy Guidebook) |
| 3.4.3 | Showers and Clothes Lockers | Provide facilities for employees to shower and store personal belongings if they bicycle or walk to work | TRT-6 | | Helps create an environment that supports and encourages use of active transportation. | Reduction uses alternative literature presented in CAPCOA (Center for Clean Air Policy Guidebook) |
| 3.4.6 | Bicycle Maintenance | Vouchers would be provided to residents and employees for bicycle repairs by a mechanic or bike shop | TRT-6 | | Helps create an environment that supports and encourages use of active transportation. | Reduction uses alternative literature presented in CAPCOA (Center for Clean Air Policy Guidebook) |

| Strategy Number | Strategy Name | Description | CAPCOA Reference | Effectiveness (Reduction in Daily Vehicle Trips) | Additional Benefits | Notes |
|---|---|---|---|---|---|---|
| 3.4.4 | Improve Walking Conditions | Maintain safe, accessible, and welcoming pedestrian facilities | SDT-1 | 1.0% | May provide additional traffic calming benefits that encourage use of active transportation. | Reduction assumes that pedestrian networks are prevalent within site as well as connecting off-site |
| 3.4.5 | Bike Share Stations and Membership | Space will be dedicated for bike share stations, and residents will be provided with memberships once active | TRT-12 | 1.3% | Visibility of bike share stations may help advertise potential of bicycling as a mode of transport | Data estimated from Capitol Bikeshare reports on vehicle ownership changes due to bikeshare |
| 3.4.7 | Fleet of Bicycles | Until bike share stations are available, free bicycles will be available for lending to residents and employees. | TRT-12 | | Fleet would include cargo bicycles to facilitate family travel or trips where the rider needs to carry packages or bags. | Becomes redundant once docked bicycle sharing is available. |
| 3.4.8 | Carshare Parking | Provide carshare parking | TRT-9 | 1.0% | The presence of carshare allows for households to live without owning an automobile, which reduces their total vehicle trips | |

| Strategy Number | Strategy Name | Description | CAPCOA Reference | Effectiveness (Reduction in Daily Vehicle Trips) | Additional Benefits | Notes |
|---|---|---|---|---|---|---|
| 3.4.9 | Delivery Supportive Amenities | Features that support delivery of goods and services, including lockers, temporary storage, etc. | N/A | no data | While this measure largely provides an amenity for residents, its presence may assist zero-car households; this mechanism is similar to that for carshare. | |
| 3.4.10 | Family TDM Amenities | Includes on-site storage for personal car seats and utility carts for households that may not own a car | N/A | no data | While this measure largely provides an amenity for residents, its presence may assist zero-car households; this mechanism is similar to that for carshare. | |
| 3.4.11 | On-Site Childcare | On-site childcare that reduces the distance that families travel to access childcare. | LUT-3 | N/A | Studies show no demonstrable effect; however, research shows around 10 percent of trip chaining during commutes is due to escorting children to/from childcare (Davidson, 1991). Around half of commute trips are chained, and around 30 percent of trips to/from the project site are commute related, leading to a potential reduction of up to 1.5% | |
| 3.4.12 | Multi-modal Wayfinding | Signage that directs residents, employees, and visitors to a variety of transportation services and infrastructure. | TST-2 | no data | Helps create an environment that supports and encourages use of active transportation and transit. | |

| Strategy Number | Strategy Name | Description | CAPCOA Reference | Effectiveness (Reduction in Daily Vehicle Trips) | Additional Benefits | Notes |
|---|---|---|---|---|---|---|
| 3.4.13 | Real-time Transportation Displays | Displays and electronic signs showing departures and arrivals of transit service. | TST-2 | no data | Helps create an environment that supports and encourages use of transit. | |
| 3.4.14 | Tailored Transportation Marketing Services | Ongoing promotion and marketing of sustainable transportation modes | TRT-8 | 2.5% | Helps create an environment that supports and encourages use of active transportation and transit. | Range of reduction is 1 - 4 percent. Midpoint selected due to measures applying primarily to commute trips, but having some general applicability to all trips. |
| 3.4.15 | On-Site Affordable Housing | Inclusion of 25% affordable housing | LUT-6 | 1.0% | Lower-income households tend to make fewer vehicle trips, and have lower rates of vehicle ownership. | |
| 3.4.16 | Unbundled Parking | Require office tenants and residents to pay for parking spaces separately from lease or ownership costs | PDT-2 | 3.0% | Encourages households to forego owning a car that requires storage, and encourages office tenants to charge employees for parking or offer parking cash-out. | Range of reduction is 2.6 to 13%. Reduction assumes that effectiveness is dampened due to common practice of charging for parking in San Francisco |
| **Subtotal** (including category capping) | | | | **10.0%**[1] | | |
| ***Quantifiable Additional Reductions*** | | | | | | |
| N/A | Comprehensive Bicycle Improvements | Anticipated cumulative effect of multiple bicycle-friendly design options | SDT-2, SDT-4 | 1.0% | Comprehensive bicycle promotion and facilitation may have a traffic calming effect, which CAPCOA estimates can provide up to a 1% reduction in trips. | Assumes that strength of bicycle network creates benefits similar to the CAPCOA Traffic Calming strategy |

| *Strategy Number* | *Strategy Name* | *Description* | *CAPCOA Reference* | *Effectiveness (Reduction in Daily Vehicle Trips)* | *Additional Benefits* | Notes |
|---|---|---|---|---|---|---|
| N/A | Paid Parking | Increased price to park on-site for both employees and visitors | PDT-3 | 2.8% | Assumes increases in price to park on-site for both employees and visitors, as well as residents, in addition to unbundling parking from lease price. | Per CAPCOA, assumes that prices increase by 25 percent over those at similar sites |
| N/A | Pre-Tax Transit Benefits | Employer tenants offering pre-tax transit benefits to employees | TRT-4 | 0.2% | Some employer tenants will choose to provide transit benefits or pre-tax transit withholding under San Francisco Commuter Benefits Ordinance. | Assumes equivalent to a 25% subsidy of transit costs for participating employees. Assumes 10% of trips would be eligible. |
| **Total with Quantifiable Additional Reductions** (including category capping) | | | | **13.5%**[1] | | |

1. The TDM Plan includes elements for which no data is available to quantify specific reductions in vehicular travel demand, including 3.4.9 (Delivery Supportive Amenities), 3.4.10 (Family TDM Amenities, 3.4.11 (On-site childcare), 3.4.12 (Multi-modal wayfinding), and 3.4.13 (Real-time Transportation Displays). The combined effects of these elements plus elements for which quantifiable data is available will likely lead to further reductions than the totals summarized in this table, bringing the project's total trip generation closer to the goal of a 20 percent reduction.

Source: Fehr & Peers, 2018; CAPCOA, 2010

# 3.4 Detailed Review of Each Strategy

The following sections examine each of the 16 TDM strategies proposed as part of the India Basin development. All monitoring and reporting indicated below are for the purposes of complying with City requirements unless otherwise noted.

## 3.4.1 Bicycle Parking

**Description:**

- Includes secure bicycle parking, both indoors (Class I) and outdoors (Class II). Class I spaces would be protected from the elements and can either be provided in the form of enclosed lockers or a secure room. A room can accommodate a greater density of bicycles, but requires a large amount of consolidated space. Lockers take up more room overall, but can be stacked vertically and are more flexible in their space requirement. In addition to the indoor spaces provided for residents and employees, open-air Class II parking spaces would be provided for the public and site visitors. An appropriate portion of both Class I and Class II bike parking facilities would be for larger bikes. The project would provide enough bicycle parking to meet San Francisco Planning Code Requirements, and would provide at a minimum 1,477 Class I and 98 Class II bicycle parking spaces, for a total of 1,575 bicycle parking spaces. The project's approximate bicycle parking ratios are presented in **Table 5** on page 55. The bicycle parking ratios will be upheld by phase and to the extent possible, be spread across buildings appropriately based on their size, noting that buildings with fewer than six residential units may not each contain Class I bicycle parking due to space limitations.

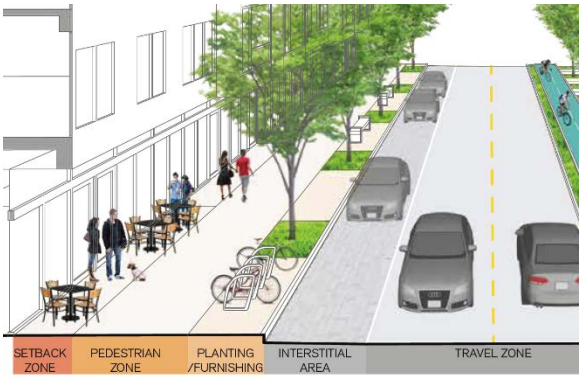
**Phasing:**

- Prior to submittal of project construction permit applications, verify that the appropriate buildings have been designed with required bicycle parking.
- Bicycle parking would be installed in each building as it is constructed and would be available for use upon receipt of Certificate of Occupancy for each building.

**Siting:**

- Class I bicycle parking would be provided in each building, except those with fewer than six residential units, approximately at the ratios presented in **Table 5**, near the natural pedestrian entrance, with ground floor access or ramp access; bicyclists would not need to ride an elevator or climb stairs to store their bicycle. Doorways between the street and parking area would be automated to the extent possible.

- Short-term public bicycle parking (Class II) would be located within 150 feet of building entrances in amounts adequate for visitors to each building, as well as in the furnishing zone along the New Hudson Avenue cycle track and Arelious Walker Drive. The furnishing zone (shown among conceptual streetscape zones to the right) along these streets is particularly appropriate for bicycle parking because of the major bicycle facility along New Hudson Avenue and because of the proximity of the Public Market and other retail destinations along Arelious Walker Drive. People on bicycles would be able to safely exit the New Hudson Avenue bicycle facility and cross that street to access all building entrances south of it via pedestrian crosswalks located at each intersection along the bicycle facility.




**Target Audience:**

- All site users.

## 3.4.2 Bicycle Repair Stations

**Description:**

- Bicycle repair stations typically include the basic tools required to fix a flat tire, adjust the chain and gears, and tighten brakes. Available tools would include, at a minimum, a bicycle pump, wrenches, a chain tool, lubricants, tire levers, hex keys/Allen wrenches, Torx keys, screwdrivers, and spoke wrenches. A typical bicycle repair station is shown at right (source: Institute for Transportation Research and Education).


**Phasing:**

- Bicycle repair stations would be installed commensurate with the bicycle infrastructure being constructed at each phase at that location. No fewer than three repair stations would be constructed.

**Siting:**

- Repair tools would be provided within every Class I bicycle storage room on-site with capacity of at least 20 bicycles.
- Public bicycle repair stations would be located along the most heavily used bicycle routes. Specifically, the project would include two outdoor repair stations, one on New Hudson Avenue and one along the Bay Trail.

**Target Audience:**

- All site users.

## 3.4.3 Showers and Clothes Lockers

**Description:**

- Showers and clothes lockers enable employees who bicycle to the project site to freshen up upon arrival, thereby making bicycle commuting more feasible and attractive.
- The exact site uses by building are still be determined, however, showers and clothes lockers would be provided according to the schedule of requirements listed in San Francisco Planning Code section 155.4(c). As such, more precise shower locations would be prescribed prior to the construction of each phase.

**Phasing:**

- Prior to phase construction, verify that the appropriate buildings have been designed with showers and lockers.

**Siting:**

- Showers and lockers would be located as close to Class I bike parking as possible. Showers and lockers would be located in well-lit locations selected to improve personal safety at all hours.

**Target Audience:**

- Employees (part-time and full-time).

## 3.4.4 Improve Walking Conditions

**Description:**

- The property owner would complete streetscape improvements so that the public right-of-way is safe, accessible, convenient and attractive to persons walking. The India Basin Design Standards and Guidelines (DSG) document specifies that streetscapes will be consistent with the Better Streets Plan.

**Phasing:**

- Prior to project construction, verify that streetscape design includes safe and accessible rights-of-way.

**Siting:**

- Throughout project site, with a specific focus on access to building entrances and adjacent transportation infrastructure.

**Target Audience:**

- All site users.

## 3.4.5 Bike Share Stations and Membership

**Description:**

- Bike share is a service in which bicycle are made available for shared use to individuals on a short term basis for a price that varies based on how long the bike is checked out.
- Ford GoBike, operated by Motivate, is the Bay Area's current dock-based bike share system, and like most systems, it allows users to borrow bikes at one location and return them to a different location. Current annual memberships allow users to check out a bike for 45 minutes at a time at no additional cost. Beyond 45 minutes, each additional 15 minutes currently costs $3. In the event that a bike share station is approved for construction within the project site and once dates of installation are provided by the City, property managers would proactively offer to fully subsidize annual bike share memberships for residents (one per dwelling unit per year) and employees (both part-time and full-time).

**Phasing:**

- At this time, there are no stations installed or planned for the India Basin neighborhood. In the event that Motivate and the City decide to expand the system to the project site, Property Management would coordinate with SFMTA to reallocate curb space to accommodate 1-2 bike share stations on the project site.
- Subsidies for bike share memberships would be offered once dates of installation are provided by the City for bike share stations within the project site.

**Siting:**

- Bike share stations are typically located next to transit stations, major attractions, large employment centers, and residential centers. Stations can be on a sidewalk or at the curb and the project sponsor would work with SFMTA to reallocate curb space. Property Management would cooperate with Motivate, or any other bike share operator, to assist in the siting of one or two bike share locations along New Hudson Avenue at the time Ford GoBike decides to site a bike share station within the project site.

**Target Audience:**

- Property management would proactively offer to provide memberships for all employees (part-time and full-time) and residents (one membership per dwelling unit per year) at the project site. On-site stations would be available for use by anyone with a membership.
- Annual membership would be offered on an ongoing basis.

## 3.4.6 Bicycle Maintenance

**Description:**

- Bicycle maintenance services would be provided to residents and employees through vouchers for nearby bicycle shops or through an on-call bicycle mechanic. The property owner would pay for maintenance minimally equivalent to the cost of one annual bicycle tune-up. The cost of a basic tune-up would be estimated in consultation with local bicycle repair shops.

**Phasing:**

- The bicycle maintenance program would be ongoing, and first implemented upon building occupancy, contingent upon the presence of local bicycle shops that would accept the vouchers.

**Siting:**

- Tune-ups would take place at a nearby bicycle shop, or would be performed by an on-call bicycle mechanic.

**Target Audience:**

- Employees (part-time and full-time) and residents.

## 3.4.7 Fleet of Bicycles

**Description:**

- To enable project residents and employees to make short-haul trips by bicycle instead of by car, the property manager would provide a fleet of bicycles for use by residents, employees, and visitors. A maximum of 30 bicycles would be provided, which is an amount similar to the number of docks at two bike share stations. The property owner would provide helmets, locks, lights, baskets, and other amenities to facilitate convenient use of the fleet of bicycles. The fleet would include at least two cargo bikes that can accommodate family travel. When Ford GoBike or another major bike share system reaches the project site, the property manager could phase out this fleet of property-provided bicycles in favor of subsidized bike share membership.

**Phasing:**

- Bicycles would be purchased prior to building occupation.

**Siting:**

- Secure bicycle parking would be provided for the fleet of bicycles within an easily accessible bicycle room or a bicycle cage. Ideally, the fleet of bicycles would be located near showers and clothes lockers.
- Secure bicycle parking for the fleet of bicycles would be in addition to the bicycle parking described in Section 3.4.1. The project would provide more bicycle parking than required by the San Francisco Planning Code at the outset of the project, with the intention that the excess spaces would be used for the fleet of bicycles; later, as bike share reaches the vicinity of India Basin, the fleet of bicycles would be phased out and the excess bicycle parking would be used to satisfy the bicycle parking requirement for future phases of development.

**Target Audience:**

- Employees (part-time and full-time) and residents.

## 3.4.8 Carshare Parking

**Description:**

- Vehicles would be made available by reservation on an hourly basis, or in smaller intervals. To meet the number of carshare spaces recommended by the Planning Code, the project would designate approximately 17 parking spaces for carshare use, provided by a certified carshare organization. This number was derived using the ratios indicated in Table 166 of the Planning Code, which recommend 2 spaces for the first 200 dwelling units plus 1 space for every 200 dwelling units over 200, and 1 space for every 50 parking spaces provided for non-residential uses, as indicated in **Table 3**. Carshare signage would include wayfinding information from public access points. If the carshare spaces are not utilized (i.e. carshare companies decline to station vehicles there, or project residents or employees do not make use of carsharing), the designated spaces could be permanently repurposed for private vehicle parking or other uses.
- Scooter share, a relatively new paradigm in which electric-assist scooters are available for point-to-point trips, would not necessarily be provided at the project site. However, parking garages at the project site would include electric charging infrastructure suitable for use with scooter share vehicles, such that it would be feasible to accommodate shared scooters.

**Phasing:**

- Carshare parking would be provided with construction of parking garages, at the ratios indicated in **Table 3**. Carshare parking ratios will be upheld by phase, and services would be in place prior to occupation of adjacent buildings.

**Siting:**

- In each subsurface garage, close to the pedestrian access point to the garage. Garages containing carshare parking spaces will be publicly accessible, (i.e. for carshare members who are not residents or employees at the project site).

**Target Audience:**

- Employees (part-time and full-time) and residents. The vehicles would typically also be made available to users who do not live or work on the project site.

**Table 3: Proposed Carshare Parking Ratios**

| | | Number of Required Carshare Parking Spaces |
|---|---|---|
| **Number of Residential Units** | 0-49 | 0 |
| | 50-200 | 1 |
| | 200 or more | 2, plus 1:200 each additional 200 |
| **Number of Parking Spaces Provided for Non-Residential Uses or in a Non-Accessory Parking Facility** | 0-24 | 0 |
| | 25-49 | 1 |
| | 50 or more | 1, plus 1:50 each additional 50 |

## 3.4.9 Delivery Supportive Amenities

**Description:**

- Delivery supportive amenities make it easier for project residents/employees to obtain goods or services by delivery, rather than by making vehicle trips. These amenities include features that permit deliveries in a manner and at a time convenient for both delivery companies and the recipients of deliveries, such as clothes lockers for delivery services, temporary storage areas for packages and other deliveries, and/or temporary refrigeration for grocery deliveries. These amenities would be provided in each building.

**Phasing:**

- Prior to project construction, verify that the appropriate buildings have been designed with delivery supportive amenities.

**Siting:**

- Delivery supportive amenities are most appropriate for medium- to large-scale residential and office buildings. These amenities would generally be located near the main entrance to each building, on the ground floor.
- Specific building plans are still being developed for the India Basin site; therefore, it is not yet feasible to identify which specific buildings will be appropriate for delivery supportive amenities. As a general rule, buildings with at least twenty residential units or at least 20 ksf of non-residential use would be suitable for delivery supportive amenities.

**Target Audience:**

- Office employees (part-time and full-time) and residents.

## 3.4.10 Family TDM Amenities

**Description:**

- Family TDM amenities reduce vehicle trips by making it easier for families to meet their needs using carshare, which makes it easier for families to forgo private vehicle ownership. Family TDM provisions address challenges that families or households face in making trips without a private vehicle. Amenities would include on-site secure storage for personal car seats, strollers, athletic gear, and shared collapsible shopping or utility carts. Storage would be located near off-street carshare parking spaces and could be unlocked using carshare membership cards (e.g. Zipcar's "zipcard").
- For buildings with at least 40 dwelling units, one secure storage location and one secure cargo bicycle parking space will be provided per every 20 dwelling units. In addition, for these buildings, collapsible shopping or utility carts will be provided at a rate of one per every 10 dwelling units.

**Recommendation for Phasing:**

- Family TDM amenities would be purchased and implemented prior to occupation.

**Recommendation for Siting:**

- These amenities would generally be located in close proximity to carshare parking spaces and/or near building entrances.

**Target Audience:**

- Residents.

## 3.4.11 On-site Childcare

**Description:**

- On-site childcare facilities reduce commuting distances between households, places of employment, and childcare. At least one on-site childcare facility would be provided within the project.

**Phasing:**

- The childcare facility is planned to be constructed as part of the Cove East section of the site (phases are shown on Figure 2).

**Siting:**

- The project sponsor intends to construct the childcare facility in the Cove East phase.

**Target Audience:**

- All site users, as well as families in neighboring areas. Childcare spaces would be reserved for employees (part-time and full-time) and residents at the project site, and secondarily for people residing within approximately one mile of the project site.

## 3.4.12 Multi-modal Wayfinding Signage

**Description:**


- Wayfinding signage directs residents, employees, and visitors to transportation services and infrastructure, including transit, bike share, carshare parking, bicycle parking and amenities, the Bay Trail, etc. Signage would be located both indoors and outdoors, and outdoor signage would be constructed to withstand weather elements. The property owner would provide signage to guide people walking to nearby destinations and transportation facilities. The property owner would coordinate with SFMTA and other local and regional agencies during implementation. A conceptual wayfinding sign, directing bicyclists and pedestrians to nearby destinations, is shown at right (source: Build). Bicycle wayfinding signage would be installed and maintained by SFMTA; pedestrian wayfinding signage would be installed and maintained by the project sponsor.

**Phasing:**

- Wayfinding signage would be installed prior to occupation.

**Siting:**

- Indoor signage would be located near the main entrance to each building and would direct building users to the on-site transportation resources, such as carshare parking and the fleet of bicycles in the secure bicycle parking area. Exterior signage would provide clear direction from building entrances to destination transportation facilities such as transit stops and bicycle facilities.

**Target Audience:**

- All site users.

## 3.4.13 Real-time Transportation Information Displays

**Description:**

- Real-time transportation information displays, including large television screens or computer monitors (such as the devices produced by TransitScreen), communicate sustainable transportation options and support informed trip-making. The property manager would install displays in strategic locations to be determined, such as lobbies in buildings with a high number of employees or residents.

**Phasing:**

- Information displays would be implemented prior to occupation.

**Siting:**

- Information displays would be located in prominent locations at pedestrian exits and lobbies in buildings with more than 100 dwelling units, or more than 200 employees.

**Target Audience:**

- All site users.

## 3.4.14 Tailored Transportation Marketing Services

**Description:**

- The project would deliver ongoing promotions to encourage use of sustainable transportation modes, and welcome packets for new residents and employees, as follows:
    - (1) Promotions. The TDM coordinator shall develop and deploy promotions to encourage use of sustainable transportation modes. This includes targeted messaging and communications campaigns, incentives and contests, and other creative strategies. These campaigns may target existing and/or new residents/employees/tenants.
    - (2) Welcome Packets. New residents and employees shall be provided with tailored marketing information about sustainable transportation options associated with accessing the project site (e.g., specific transit routes and schedules; bicycle routes; carpooling programs, etc.) as part of a welcome packet. For employees, the packet should reflect options for major commute origins. New residents and employees shall also be offered the opportunity for a one-on-one consultation about their transportation options.

- Marketing services would be provided by the TDM coordinator, if that employee has the capacity to do so. Alternatively, the project sponsor could retain a professional service (such as GreenTRIP) to deliver tailored transportation marketing services.

**Phasing:**

- Tailored transportation programs would be implemented on an ongoing basis, interfacing with residents and employees both during move-in and onboarding, as well as during their tenure living or working on-site.

**Siting:**

- N/A

**Target Audience:**

- Employees (part-time and full-time) and residents.

## 3.4.15 On-Site Affordable Housing

**Description:**

- Affordable housing generates fewer peak hour vehicle trips and lower parking demand than market-rate housing units. Approximately 25 percent of the dwelling units on-site (394 units) are designated as affordable at an average AMI of less than 110%.

**Phasing:**

- On-site affordable housing will be phased in accordance with the project's Development Agreement, more specifically the Phasing Plan Exhibit.

**Siting:**

- The location of affordable dwelling units has not yet been determined.

**Target Audience:**

- Residents.

## 3.4.16 Unbundle Parking

**Description:**

- The cost of parking would be unbundled, or separate from the cost of rent, lease, or ownership of residential units and non-residential uses at the project. Complying with San Francisco Planning Code, residential parking would not be sold or rented with residential units in either for-sale or rental buildings. Residents or workers who wish to have a car onsite would have to pay separately for use of a parking space. Residential and non-residential parking spaces would be leased at market rate. Residential parking would be leased on a monthly basis. Non-residential parking rates shall maintain a rate or fee structure such that:
    - Base hourly and daily parking rates are established and offered.
    - Base daily rates shall not reflect a discount compared to base hourly parking rates; calculation of base daily rates shall assume a ten-hour day.
    - Weekly, monthly, or similar-time specific periods shall not reflect a discount compared to base daily parking rates, and rate shall assume a five-day week.
    - Daily or hourly rates may be raised above base rate level to address increased demand, for instance during special events.

**Phasing:**

- Unbundled parking policies would be implemented as residents and tenants purchase or lease property within the project.
- Prior to construction of later phases of the project, the project sponsor will review with the City the utilization of parking spaces from earlier phases using data collected as part of ongoing monitoring and reporting, to inform whether parking ratios for later phases could be lowered. Other information to factor into this decision would include available public transit options, performance of the TDM program, and other transportation innovation trends.

**Siting:**

- N/A

**Target Audience:**

- Residents and employees (part-time and full-time).

# Chapter 4. Parking and Loading Plan

This chapter describes the supply, location, and purpose of on-street parking and loading spaces at India Basin. While the EIR project description and the Design Standards and Guidelines (DSG) document provide siting information for these spaces; this plan provides additional definition. Bicycle parking is also briefly discussed in Section 4.4 below.

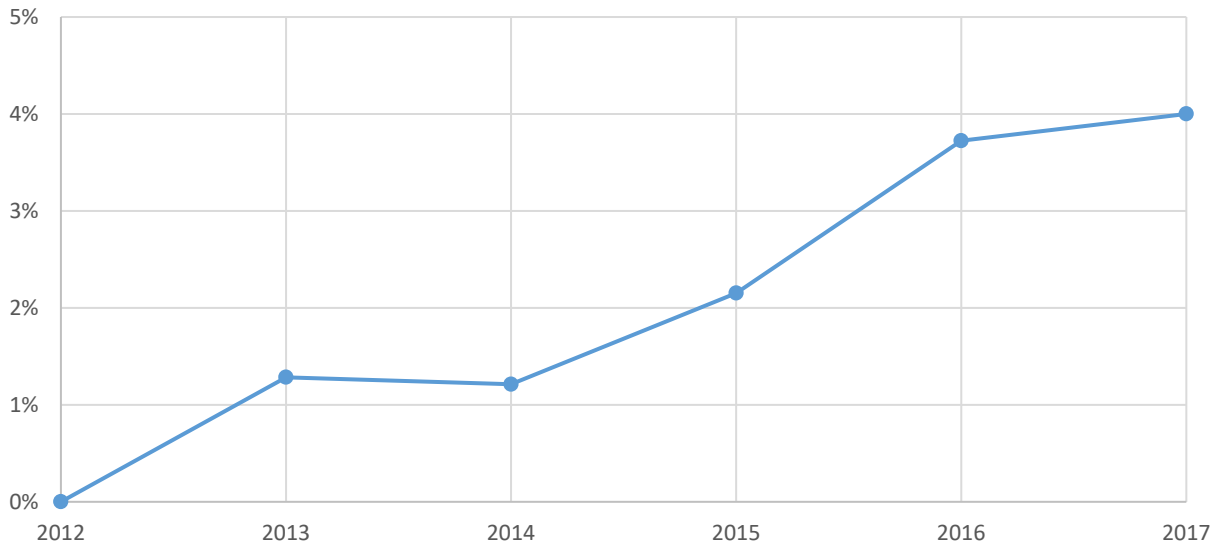
The discussions presented in this chapter are intended to supplement the loading discussions and improvement/mitigation measures included in the EIR, such as the Active Loading Management Plan (Improvement Measure I-TR-7). The relationships between supply and demand for loading and parking are discussed in TIS Sections 4.5 and 4.6, respectively, and are not further addressed here.

## 4.1 Relevant Trends

Three trends are particularly relevant to understanding loading needs for the India Basin project. First, ride hailing (also known as Transportation Network Companies) usage is rapidly increasing. Second, online shopping is capturing more of the shopping market, therefore, the amount of package delivery is expanding. Third, continued innovation in transportation-related technologies (such as smaller delivery vehicles, electric delivery bicycles, and vehicle automation) continues to streamline freight and package delivery activities.

San Francisco is the home of the TNC industry: both Uber and Lyft were founded and are headquartered in the city, and TNC ridership is high and appears to continue to be rising. As a travel mode, TNCs did not exist prior to 2009; nevertheless, by 2017 they represented a double-digit mode share at many travel survey sites throughout San Francisco. **Figure 7** shows the increase in TNC mode share over time, according to the SFMTA's Travel Decision Survey. As TNCs and other companies begin to deploy autonomous passenger vehicles, the possibility of driverless (and therefore inexpensive) taxi-like fleets becomes more realistic. This development could even further increase TNC ridership. Therefore, it is likely that passenger loading needs at India Basin and elsewhere will increase in future.

**Figure 7: TNC Mode Share by Year**

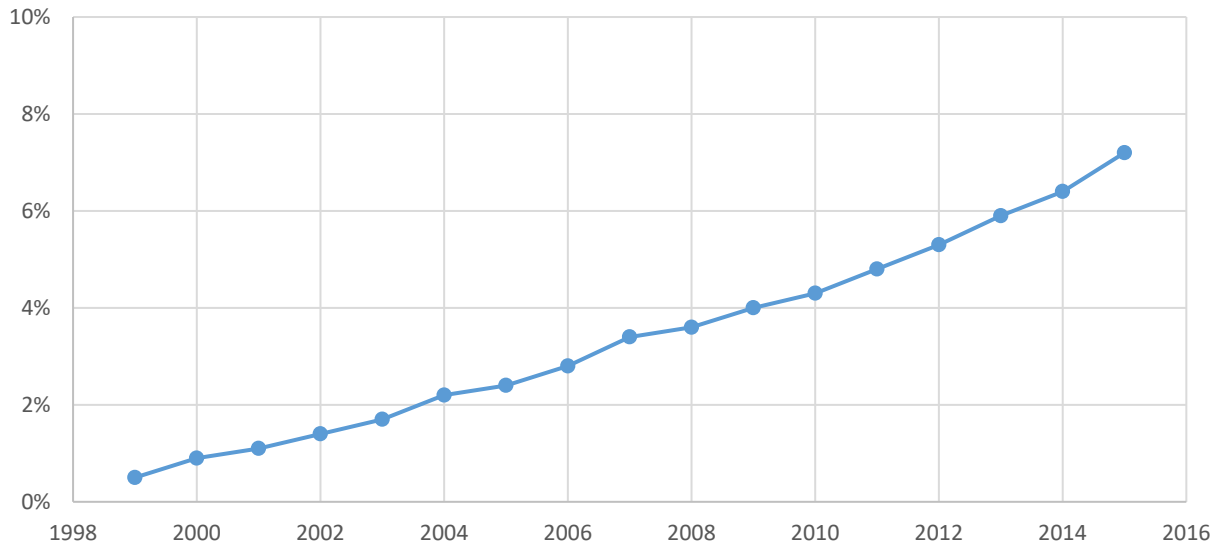



(Source: SFMTA Travel Decision Survey)

Package delivery is also on the rise. Notably, the United States Postal Service, which had been suffering as paper mail becomes less prevalent, has found new life acting as the last-mile deliverers of packages sent via FedEx and UPS. As shown in **Figure 8**, e-commerce represents a growing share of total retail trade, rising from 0.5 percent of retail sales in 1999 to 7.2 percent in 2015. Business Insider forecasts that national online retail sales will rise from approximately $385 billion in 2016 to $632 billion in 2020.[1] The continued growth in online retail has generated more delivery loading activity. Similar to TNC ridership, it is likely that e-commerce will continue to expand and therefore demand for package delivery loading space will increase in future.

[1] BI Intelligence (Business Insider), February 3, 2017. "Amazon accounts for 43% of US online retail sales." http://www.businessinsider.com/amazon-accounts-for-43-of-us-online-retail-sales-2017-2

**Figure 8: E-commerce as a Percentage of Total Retail Trade**




(Source: Census Bureau E-Stats)

At the same time, several approaches are emerging that promise to reduce freight loading space needs. First, retailers are experimenting with drone delivery, which could replace some package truck trips. However, it is not clear whether drone delivery can effectively scale to provide a significant alternative to truck delivery. Meanwhile, last-mile delivery by motorized or non-motorized bicycle could supplant some truck traffic and building features such as delivery-supportive amenities (as discussed in the TDM plan above) are becoming more common and have the potential to reduce dwell for package delivery vehicles.

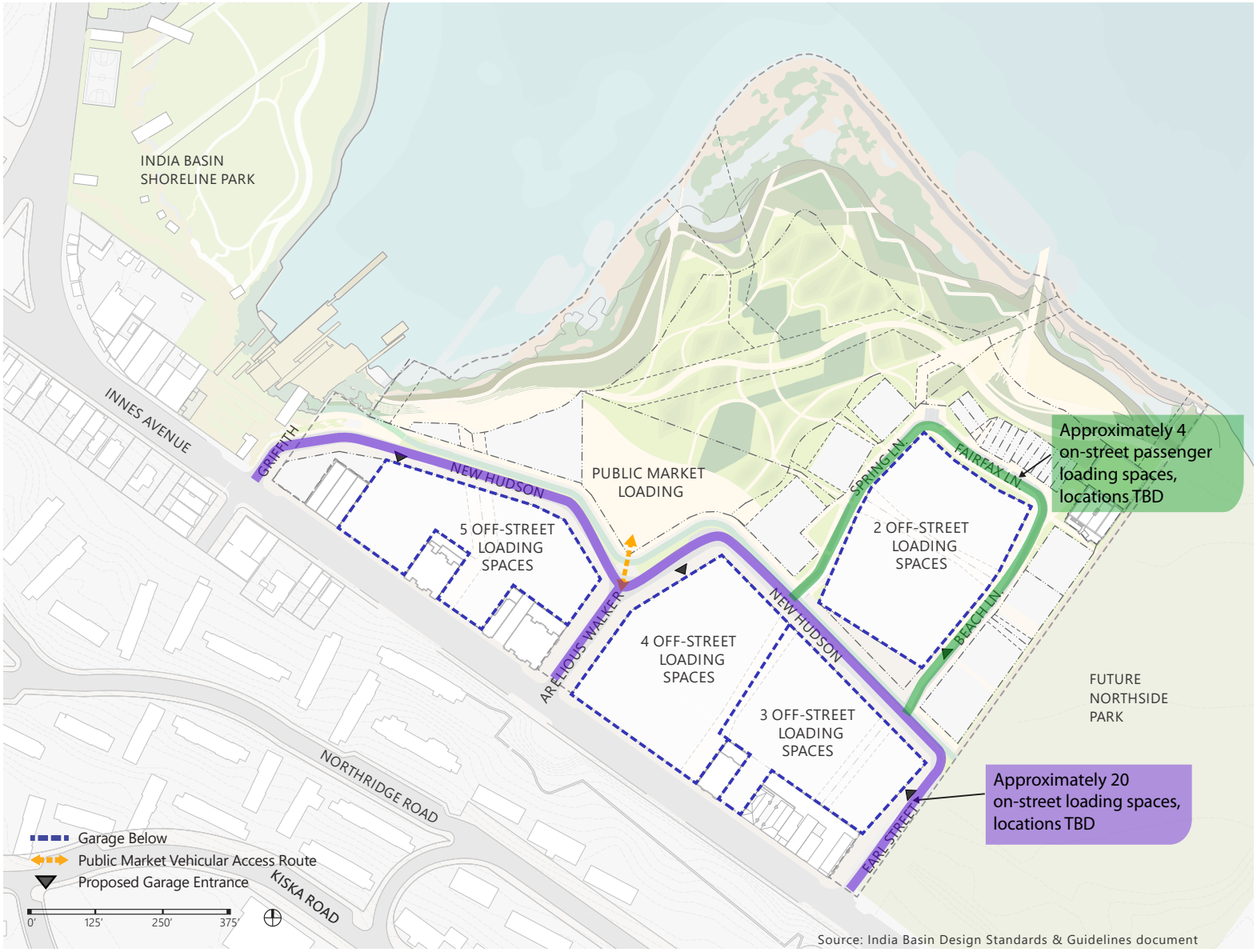
It is important to note that, in the face of these trends, cities are recognizing the value of a holistic approach to curb space management and many municipalities, including San Francisco, are developing or revising their loading guidelines accordingly. For example, the San Francisco Planning Department is currently revising its environmental analysis guidance for several transportation topics, including calculation of loading demand related to new development. While official guidance has not been finalized or released, initial analysis indicates that deliveries may require increased curb space, and that an approach by which passenger loading and limited freight/delivery loading could be accommodated in shared curb spaces may be particularly effective. In sum, these and other similar efforts could enable more delivery activity to take place within the same or a smaller amount of delivery loading space.

This plan accounts for changing forces by prioritizing on-street loading space within the project site and providing an amount of loading space that extends beyond what is typically provided. In the face of so

much change, the design of the project needs to accommodate flexibility so that it can adapt in response to the changing transportation landscape.

## 4.2 Overview of Parking and Loading Provision

In order to minimize street widths to encourage slow auto speeds and maximize the pedestrian realm, the project's parking plan minimizes on-street parking and instead focuses public parking within off-street garages. **Figure 9** shows proposed loading locations for the project, while **Figure 10** shows off-street parking facilities for the project.

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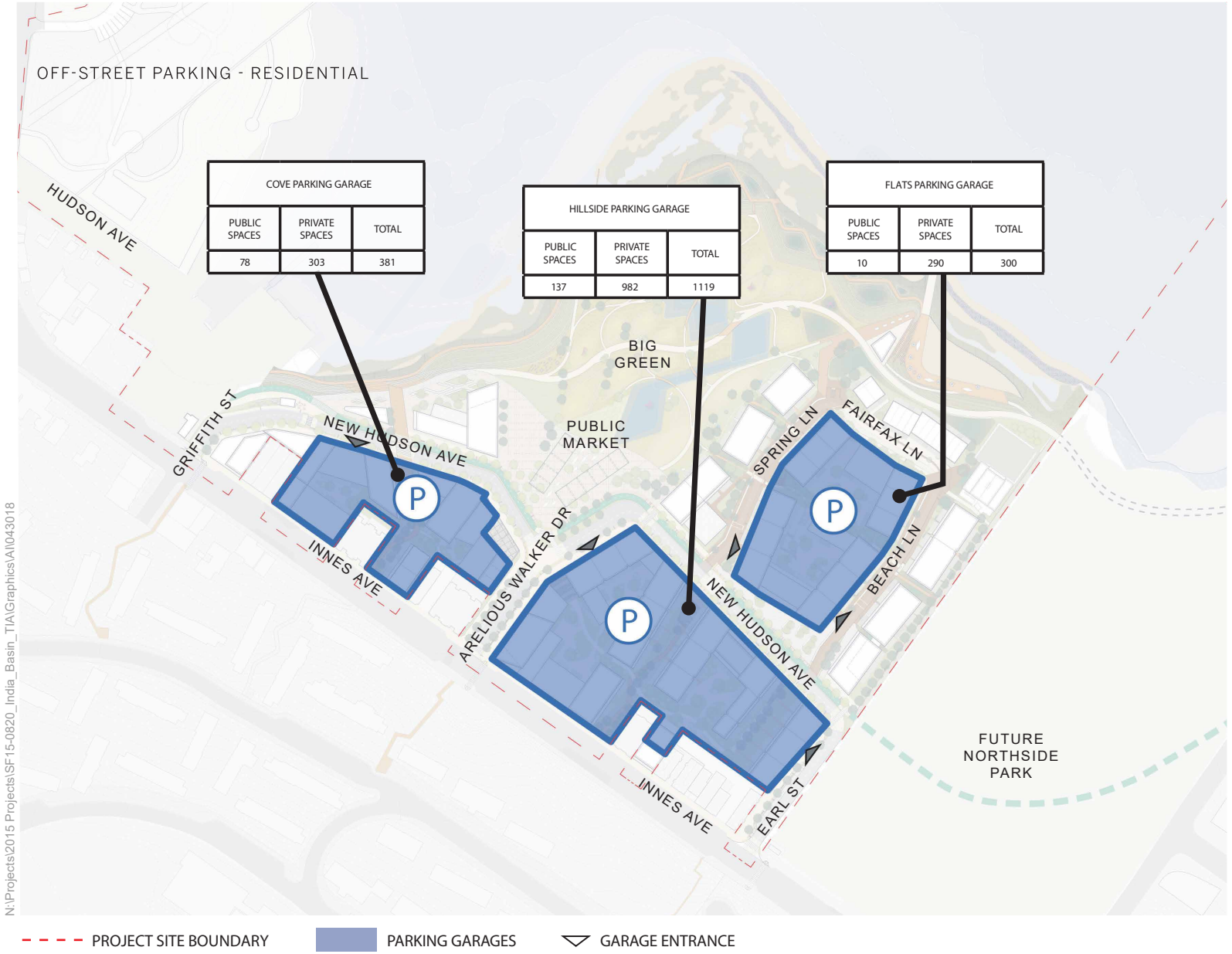
Note:
The numbers indicated refer to the total count of loading spaces in each area. Spaces will be located throughout the areas, not solely at the specific locations indicated by the arrows.

Figure 9

## Loading Plan




Note:
The number of parking spaces noted here represents the maximum number of spaces that would be provided. The Project Sponsor may ultimately choose to provide fewer parking spaces than noted here.

Figure 10

## Proposed Project (Build Property) Parking Plan - Off-street

### On-Street Loading

Excluding the curb along Innes Avenue adjacent to the project site, the project would provide on-street loading zones to accommodate approximately 24 vehicles within the project site.[2] Of the on-street stalls not designated as accessible, the remainder will be designated as a mix of white and yellow zones, i.e. used for passenger pick-up and drop-off or temporary commercial loading (e.g., mail package delivery), and would be 20-30 feet in length. With ample off-street parking provided nearby, utilizing limited curb space for parking would be less efficient than utilizing it for loading, because parking would serve fewer people per hour and would result in unnecessary circling by drivers looking for convenient on-street parking.

As shown in Figure 9 above, for the project, approximately 24 on-street loading spaces would be provided along New Hudson Avenue, Arelious Walker Drive, and Earl Street. These loading spaces would generally be clustered into groups of two or three spaces per location. Loading zone size, design, and location would be further developed and reviewed by the SFMTA before being finalized but it is anticipated that these clusters of loading zones would be centered on New Hudson Avenue in order to be centrally situated in the project site. This number includes four passenger loading zones along the loop of Beach Lane, Fairfax Lane, and Spring Lane. These zones would be situated at midblock locations in order to ensure that fire engines would be able to complete turning maneuvers through this loop.

### Off-Street Parking

The project would provide a total of 1,800 off-street parking spaces, which are intended to be shared across different land uses. The project is providing fewer parking spaces than would be required by Planning Code were the project not in a Special Use District. The project's parking will be phased in with the construction of each associated building, as presented in **Figure 2**. Parking supply and approximate parking ratios by land use are presented in **Table 4**. This table also shows the typical Planning Code minimum requirements that would apply were the project subject to typical land use controls.

[2] The DSG indicates six on-street parking/loading spaces on Arelious Walker Street and seven on-street parking/loading spaces on Earl Street; the project TIS indicates that 20 parking/loading spaces would be available across these two locations.

**Table 4. Parking Ratios by Land Use**

| Land Use | | Maximum Proposed Parking | | General Planning Code Minimum Parking Requirements[1] | |
|---|---|---|---|---|---|
| Type | Amount | Ratios (approx.) | Amount | Ratios | Amount |
| Residential *(dwelling units)* | 1,575 | 1 dwelling unit : 1 parking space | 1,575 | 1 dwelling unit : 1 parking space | 1,575 |
| Retail *(sf)* | 87,191 | 700 sf Retail : 1 parking space | 125 | 1 for each 500 sf up to 20 ksf; plus 1 for every 250 sf when in excess of 20 ksf | 309 |
| Office *(sf)* | 121,915 | 1,200 sf Office : 1 parking space | 100 | 500 sf Office : 1 parking space | 245 |
| Open Space *(acres)* | 24.5 | n/a | 0 | | 0 |
| *Total* | - | - | *1,800* | - | *2,128* |

*Notes:*

1. *Requirements that would apply were the project not in a Special Use District.*

The project's 1,800 off-street parking spaces include 1,575 private parking spaces and 225 public parking spaces. These parking spaces would be located in garage structures built into the other land uses on both the ground level and up to two stories below ground. Wayfinding signage would clearly direct arriving vehicles toward the several garage entrances throughout the site.

The cost of parking will be unbundled, or separate from the cost of rent, lease, or ownership of any land use at the project. Section 3.4.16 describes how the project's unbundled parking policies would comply with San Francisco Planning Code.

The project and the City will meet and confer soon after the buildout of certain pre-agreed checkpoints of the project, as described in Section 3.1. These conversations will explore potential changes to subsequent phases that should consider: transit services in place and/or imminent; performance of project's TDM strategies, opportunities to enhance the TDM program; trends in driving/parking; and other relevant factors. In light of these, the project and City will pursue the potential to provide less parking than entitlements allow, to the extent feasible.

### Off-Street Loading

Within the Build property, the project would include 14 off-street loading spaces distributed across the four proposed off-street parking garages, in addition to the 24 on-street loading spaces. Each off-street space would be at least 35 feet long and 12 feet wide to meet the dimension requirements contained within the Planning Code.

# 4.3 Locations of Specific Parking and Loading Activities

This section presents where the following types of parking and loading activity would be expected and encouraged to occur within the project site:

- Delivery truck loading
- Automobile parking
- Passenger loading
- Microtransit

Ordinarily, this section would include detailed recommendations regarding the location and quantity of curb space that should be allocated to each parking and loading type at each building on the site. However, because detailed information about building sizes and access points was not available as of this writing, it was not possible to make recommendations specific to the buildings at the project site. Therefore, this section describes on a holistic basis where the above parking and loading activities would take place, and designates on-street accessible parking/loading areas planned for the project site.

### Delivery Truck Loading

Package delivery would take place at any of the on-street commercial loading zones. The package delivery vehicle (a light truck) would remain within the street loading zone and the delivery employee would use a cart or hand truck to deliver packages to individual buildings. The maximum permitted dwell time at these on-street loading zones would be established at 30 minutes, the standard yellow curb/freight loading duration limit. Deliveries that require longer than 30 minutes would be made at off-street delivery sites. While the precise locations of these on-street loading zones have yet to be finalized, the project sponsor would make efforts to locate the zones close to building entrances, in order to encourage delivery trucks to use the zones.

Large trucks (which can be between 40 and 60 feet in length) would be accommodated in the project's 14 off-street loading facilities which would each be at least 35 feet long and 12 feet wide (see Figure 9, prior). These trucks are too large to perform loading operations on the street. These larger trucks would be directed to off-street loading facilities by a combination of signage which may include a color scheme to be developed. Additionally, a delivery management coordinator would direct trucks to the appropriate facilities.

### Automobile Parking

A portion of the on-street curbside parking/loading area would be reserved (as blue-curb zones) for use by persons with disabilities; at least one blue-curb zone would be provided at each curbside parking/loading area that is at least 80 feet in length. However, as noted above, no on-street parking would be provided internal to the project site. Residents and employees of the proposed project would learn to seek off-street parking; visitors arriving at the site by car would similarly be directed toward the several off-street parking garages.

### Passenger Loading

According to the DSG, the street cross-sections within the project site generally involve narrow travel lanes (as low as 10 feet wide adjacent to planted buffer zones or 11.5 feet wide adjacent to sidewalks) and very few dedicated loading or parking spaces adjacent to the travel lanes.[3] In the case of freight and package delivery loading, commercial operators can be expected to seek out officially permitted loading zones. However, drivers performing passenger loading activities will likely attempt to get as close to the desired origin or destination as possible, irrespective of whether a permitted loading zone is present.

Passenger loading along Beach Lane, Spring Lane, and Fairfax Lane would take place within the "shared/drop-off" space that the DSG envisions for those streets. Passenger loading along Arelious Walker Drive and Earl Street would use the on-street "flex-space" loading spaces on the west sides of those streets.

Passenger loading instances along Innes Avenue would likely take place informally near the curb. It is important to note that the provision of groups of flex-space loading spaces spread across the project site's several block faces would help reduce passenger loading activity along Innes Avenue. Options to manage passenger loading demand along Innes Avenue are limited, because stakeholders in the vicinity of the project site would likely oppose converting the on-street parking on Innes Avenue into passenger loading zones. Additionally, the City Family's ability to regulate where TNCs can pick up and drop off (such as geofencing an area where pick up and drop off are prohibited) is limited and would only be as powerful as the enforcement effort supporting such regulations.

### Microtransit

Microtransit refers to privately operated transit service that generally covers a more limited service area, during limited times of day, with smaller vehicles and more flexible operations than traditional public transit. While no microtransit services currently operate in the vicinity of the project site, they may be present in

[3] These cross-sections can be found in the DSG.

the future. Microtransit vehicles, such as the 14-seat vans operated by Chariot, are small enough to be able to navigate streets internal to the project site and perform passenger loading and unloading along the site's interior streets. Microtransit operators may wish to route their services adjacent to the project site along Innes Avenue, rather than through the project site, due to the greater linearity (and thus shorter runtime) of such a routing. If microtransit vehicles enter the project site, they would be permitted to conduct loading and unloading only within designated loading zones: the dwell associated with multiple passengers boarding and alighting would excessively inconvenience other vehicles if the microtransit vehicle were stopped in the travel lane. Any microtransit operations within or near the project site would need to comply with all applicable regulations.

# 4.4 Bicycle Parking

In addition to vehicle parking, the project would provide sufficient bicycle parking to meet San Francisco Planning Code, in any case a minimum of 1,575 bicycle parking spaces. Approximate bicycle parking ratios by land use, as outlined in Planning Code Section 155.2, are presented in **Table 5**. The majority of this bicycle parking would be Class I (suitable for long-term storage; generally in a secure/indoor location) and would be located within the various buildings in the Build property. The remaining bicycle parking, around 100 spaces, would be Class II (outdoor/general purpose/short-term storage) and would be located throughout the project site. An appropriate portion of both Class I and Class II bike parking facilities will be for larger bikes to ensure adequate parking for cargo and larger bikes.

**Table 5. Code Required Bicycle Parking Ratios by Land Use**

| Land Use Type | Approximate Bicycle Parking Supply Ratios Required by Code | |
|---|---|---|
| | Class I | Class II |
| Residential | 1 : 1 du[1] | 1 : 20 du |
| Retail | 1 : 7.5 ksf | 10 plus 1 : each additional 10 ksf |
| Office | 1 : 5 ksf | 2 for initial 5 ksf, plus 1 : each additional 50 ksf |
| Open Space | n/a | n/a |

Notes:
1. One Class 1 space for every Dwelling Unit. For buildings containing more than 100 Dwelling Units, 100 Class 1 spaces plus one Class 1 space for every four Dwelling Units over 100.

Source: San Francisco Planning Code Section 155.2.

Class II bicycle parking would be located commensurate with requirements for each building and any spaces associated with a particular building would be located within 150 feet of main building entrances. As outlined in the DSG, at least some of the Class II bicycle parking would be located within street furnishing

zones. Some of the Class II bicycle parking would be concentrated along New Hudson Avenue adjacent to the open space. In addition, on-street Class II bicycle parking would be installed along select locations on the north side of Innes Avenue where setbacks to the buildings would result in adequate space to accommodate the bicycle parking. Finally, Class II bicycle parking would be provided adjacent to the Bay Trail as it traverses the Big Green open space area; the precise locations of Class II bicycle parking adjacent to the Bay Trail are not yet known. All bicycle parking would comply with SFMTA Rack Placement Guidelines. **Figure 5** on page 16 above shows the proposed bicycle network and proposed bicycle parking locations.

# Chapter 5. Shuttle Plan

## 5.1 Background

As prescribed in the EIR, the project would fund increases in the 44 O'Shaughnessy bus route, or if for any reason SFMTA determines that providing increased transit frequency is not feasible at the time its implementation would be required, the project would provide a dedicated shuttle to nearby regional transit facilities should the project be built out before the transit service improvements that are part of the Candlestick Point Hunters Point Shipyard (CPHPS) Transportation Plan are in operation.

If required, the shuttle mitigation measure would be implemented during the first third of the project, prior to when the significant capacity impact is expected to occur. This chapter provides detail on the operations of this potential shuttle service.

## 5.2 Transit Conditions

This section contains an overview of current and future transit conditions.

### 5.2.1 Current Transit Conditions

Muni currently serves the site with three routes (one directly and two a moderate walk away), but access to Downtown San Francisco and regional destinations is challenging using the current transit network and this paucity of service presents substantial challenges to developing a successful project. Glen Park station is the most accessible rail station, which in itself requires a bus trip of around 30 minutes to access. The nearest Caltrain stations (22nd Street and Bayshore) are even less accessible, requiring a bus-to-bus or bus-to-light rail transfer to access. Travel to/from Downtown San Francisco might best be undertaken by a bus-to-light rail transfer onto the T-Third, a one-way trip that typically takes at least 45 minutes. A detailed description of current transit accessibility is provided below.

Immediate public transit access to the project site is provided by Muni bus service. The 19-Polk, 44-O'Shaughnessy, and 54-Felton Muni bus routes operate near the project site, as shown on **Figure 11**. The 19-Polk stops at the project site at Innes Avenue/Hunters Point Boulevard, Innes Avenue/Griffith Street, Innes Avenue/Arelious Walker Street, and Innes Avenue/Earl Street, and operates at 15 minute headways during peak hours. The 44-O'Shaughnessy stops at Middle Point Road and Innes Avenue, 0.2 miles from the project site (8-13 minute walk), and operates at 8–12 minute headways during peak hours. The 54-Felton stops at Northridge

Road and Harbor Road, 0.2 miles from the project site (5-10 minute walk with an 80 foot grade change), and operates at 20 minute headways during peak hours.

The T-Third is the closest Muni light rail line to the project, which provides access to downtown San Francisco, the Central Waterfront, and Mission Bay neighborhoods. The nearest T-Third stop at 3rd Street and Evans Avenue is 1.1 miles from the project site (20-30 minute walk), and operates at approximately 10 minute headways during peak hours.

The North Bay, East Bay, Peninsula and South Bay are accessible via connections from Muni to Golden Gate Transit (North Bay), AC Transit (East Bay), Bay Area Rapid Transit (BART), Caltrain (Peninsula and South Bay), and SamTrans (San Mateo County). The nearest regional transit stations, operated by BART and Caltrain, are located between 2.5 and 4 miles away from the project site, and are therefore not within walking distance.

The BART stations most easily accessible to the project site are the Glen Park Station (approximately 4 miles west of the project site) and the 24th Street Mission Station (approximately 3.5 miles northwest from the project site). The Glen Park Station can be accessed directly by a single Muni route, the 44 O'Shaughnessy. Access to the 24th Street Mission Station is onerous and in itself requires a transfer. It can be accessed by taking the 19 Polk Muni route and transferring at 25th Street and Connecticut Street to outbound Muni route 48 Quintara. Each station is served by around 32 trains per hour (total for both directions) in the peak periods.

The project site is roughly equidistant between the 22nd Street Caltrain station to the north and the Bayshore Station to the south; each are about 2.5 miles away. Access to each station is onerous and in itself requires a transfer. The 22nd Street Station can be accessed by taking the 19 Polk Muni route and transferring at 25th Street and Connecticut Street to inbound Muni route 48 Quintara. The 22nd Street Station is served by local, limited-stop, and "Baby Bullet" trains. In the weekday AM and PM peak periods, the station is served by around five trains per hour (total for both directions) by a mix of limited-stop trains and "Baby Bullet" trains. The Bayshore Station can be accessed by taking the 19 Polk Muni route and transferring at Third Street/Evans Avenue to the T-Third light rail line, which terminates a short walk from the Bayshore Station. The Bayshore Station is served by local and limited trains, but is not served by express "Baby Bullet" trains. Trains serve the Bayshore Station approximately twice per hour (total for both directions) during peak periods, and peak period trains are typically limited-stop trains. Therefore, the 22nd Street Station is likely a more desirable point of connection to Caltrain from the project site.


19 - Polk
24 - Divisadero
54 - Felton
Nearest Stop to Project Site
23 - Monterey
44 - O'Shaughnessy
T-Third

Figure 11

## Existing Transit Network

## 5.2.2 Future Transit Conditions

The CPHPS Transportation Plan's expansive transit service programming will help the City achieve its long-term vision of connecting the new 21st Century neighborhood that contains CPHPS and India Basin, with the existing urban fabric of the adjacent Bayview neighborhood and the remainder of the City. The CPHPS Transportation Plan targets a near doubling of the current mode share of transit in the vicinity of Candlestick Point and Hunters Point Shipyard, where India Basin is located. To achieve this, the CPHPS Transportation Plan has identified, in partnership with SFMTA, new and improved transit services in this area. The following transit strategies are included in the CPHPS Transportation Plan (also shown in **Figure 12**):

- New direct one-seat transit service is proposed to serve the high employment concentration of Downtown San Francisco through the Hunters Point Express (HPX), which will stop at Innes Avenue/Arelious Walker Street and ultimately have 6 minute frequency. This route will express between the project site and Downtown San Francisco and therefore provide a rapid connection for passengers.
- Existing Muni lines 44 O'Shaughnessy and 48 Quintara would be extended along Innes Avenue to Hunters Point Shipyard via India Basin to replace the 19 Polk which would be rerouted away from the project site. Service frequencies on these lines would be increased throughout the day, evening, and weekends to accommodate greater demand, with route 44 frequency ultimately increasing to 6.5 minutes at peak (currently 10 minutes), and route 48 frequency ultimately increasing to 10 minutes at peak (currently 10 minutes in the AM and 14 in the PM).

These proposals would result in a dramatic improvement of transit service along Innes Avenue from the current four buses per hour per direction (the existing frequency of route 19) to 25 buses per hour per direction (the combined proposed frequency of HPX, 44, and 48), and would greatly expand the areas of the City accessible with a one-seat bus ride.


Note: this is subject to change

Figure 12

## Proposed Future Transit Network

# 5.3 Proposed Shuttle Route

As described in the Background section, the project would need to provide shuttle service on an interim basis to bridge gaps in transit capacity in the event that: (1) project buildout occurs prior to the implementation of the appropriate suite of transit improvements contained within the Candlestick Point Hunters Point Shipyard Transportation Plan (CPHPS TP); and (2) the SFMTA decides not to otherwise increase transit frequency on the 44 O'Shaughnessy. The proposed interim shuttle route would supplement existing, nearby transit service by providing direct connections to local and regional rail service, such as the T-Third Muni Light Rail, BART, and Caltrain. The proposed service would be free to users and open to the public.

Recognizing the project will be constructed in phases with gradually increasing occupancy, the shuttle route is proposed to be rolled out in two phases. Phase 1 is the initial route, which would connect the project site with T-Third, Caltrain, and BART. All pick-ups are served by this single route to ensure the highest possible service frequency for a given expenditure, and therefore lower average wait times. Breaking the route into two (one for Caltrain and one for BART) would require roughly twice as many vehicles to meet the same headways, decreasing the cost-effectiveness of the route. As designed, the stop for the T-Third is on the quickest route for Caltrain and BART riders, presenting zero deviation. The quickest route between the India Basin project and the Glen Park BART station (whose selection is explained in more detail below in Section 5.3.1) is via the I-280 ramps at Cesar Chavez Street; therefore the stop at the 22nd Street Caltrain station presents only a minor deviation for BART riders of around five minutes, not large enough to outweigh the increased wait time that would result if the route were broken into two (to serve Caltrain and BART separately). **Figure 13** presents the Phase 1 proposed shuttle route. Should shuttle occupancy reach a point where capacity is exceeded, which is expected during the second half of project buildout, the route would be broken into two separate Phase 2 routes: one to serve Caltrain directly and the other to serve BART directly. Both Phase 2 routes would also stop at T-Third. **Figure 14** presents the Phase 2 shuttle routes.

Alternatively, microtransit providers could contract to operate the service and be better-placed to adapt vehicle size and routing to fit demand, if desired. In this case, the project may be willing to partially subsidize microtransit service, such as that provided by Chariot, in lieu of providing a shuttle.

## 5.3.1 Route Selection

The routes were designed to serve the 22nd Street Caltrain station and the Glen Park BART station. 22nd Street Station is selected because it provides the highest level of service of the nearby Caltrain stations and Glen Park station is selected because it is the quickest BART station to reach from the project site. The lower travel time and travel time variability of Glen Park station compared with other BART stations was calculated

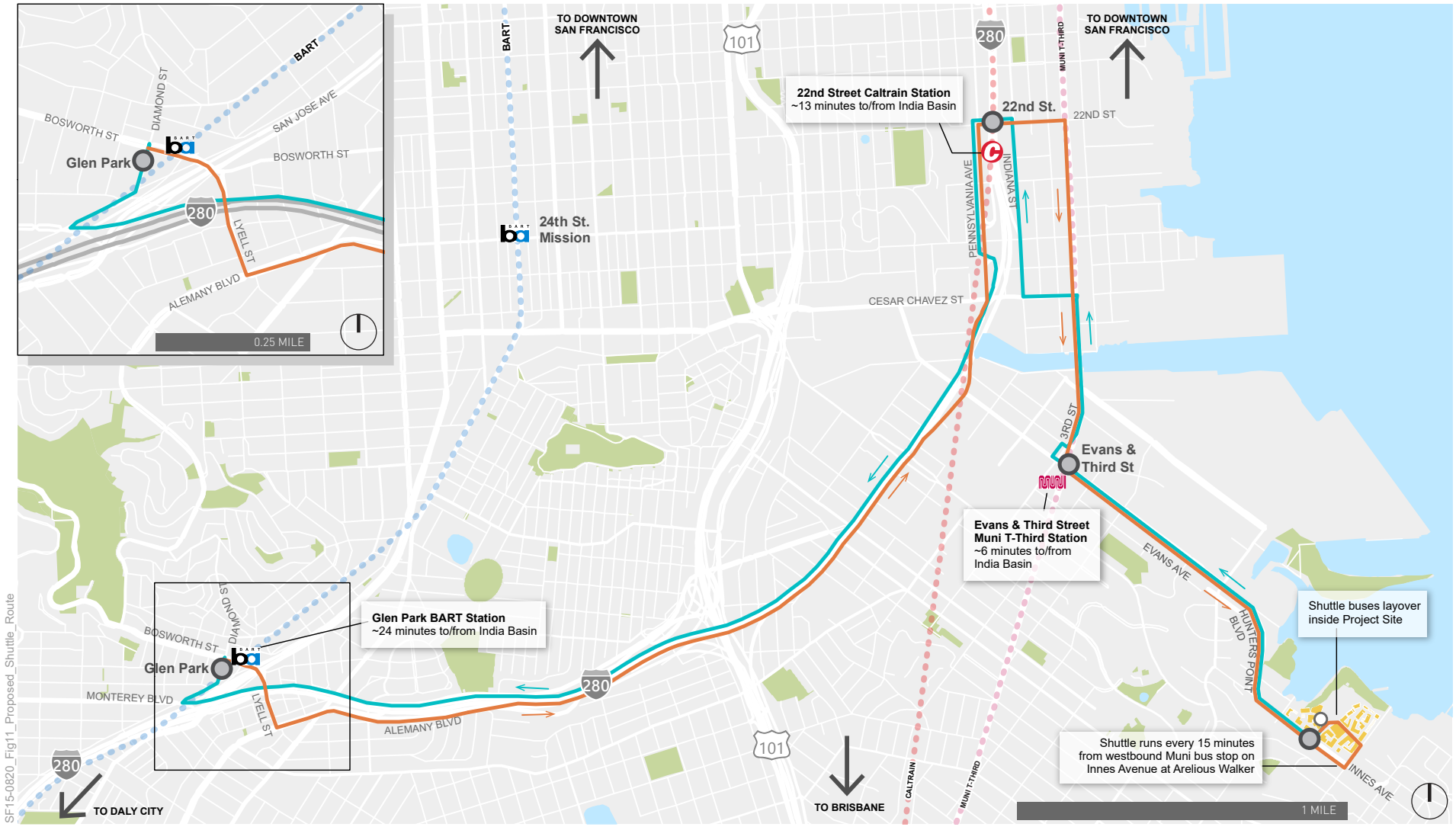
using an analysis of Google Maps traffic data metrics, as presented in **Appendix A**. The presence of existing passenger loading "white zones" adjacent to Glen Park BART station would also be favorable to SFMTA.

The proposed Phase 1 shuttle route would connect India Basin to Glen Park BART station in a similar fashion to the 44-O'Shaughnessy. Although the 44-O'Shaughnessy runs slightly more frequently (8-12 minute headway during peak hours) compared to the proposed shuttle (15 minute headway during peak hours), total travel time to/from Glen Park BART station would be less using the proposed shuttle route as it would perform fewer stops and be able to express along the freeway for part of the route. The Phase 1 proposed shuttle route would take approximately 25-30 minutes to get to/from Glen Park BART station, whereas the 44-O'Shaughnessy would take approximately 30-35 minutes, including additional walking time as the nearest stop is a quarter-mile walk from the project site.

Final routes and stops for the proposed interim shuttle will be reviewed and approved by the SFMTA prior to implementation.

### 5.3.2 Monitoring

The proposed shuttle routes are flexible and could be adapted to better serve future residents and employees of India Basin. The shuttle routes would be monitored for effectiveness by the TDM coordinator and/or Transportation Management Association (TMA), to ensure that the needs of shuttle users are being met. SFMTA would be responsible for monitoring crowding on the 44 O'Shaughnessy and determining whether the project results in crowding along that route. Monitoring practices could include analyzing ridership trends, shuttle frequency, travel time, travel time variability, and the results of passenger surveys.




Shuttle Stop
Layover Location
Shuttle Route (Outbound)
Shuttle Route (Inbound)
BART Service Route and Station
Caltrain Line and Station
Muni T-Third and Stop

Figure 13

## Phase 1 Proposed India Basin Shuttle Route

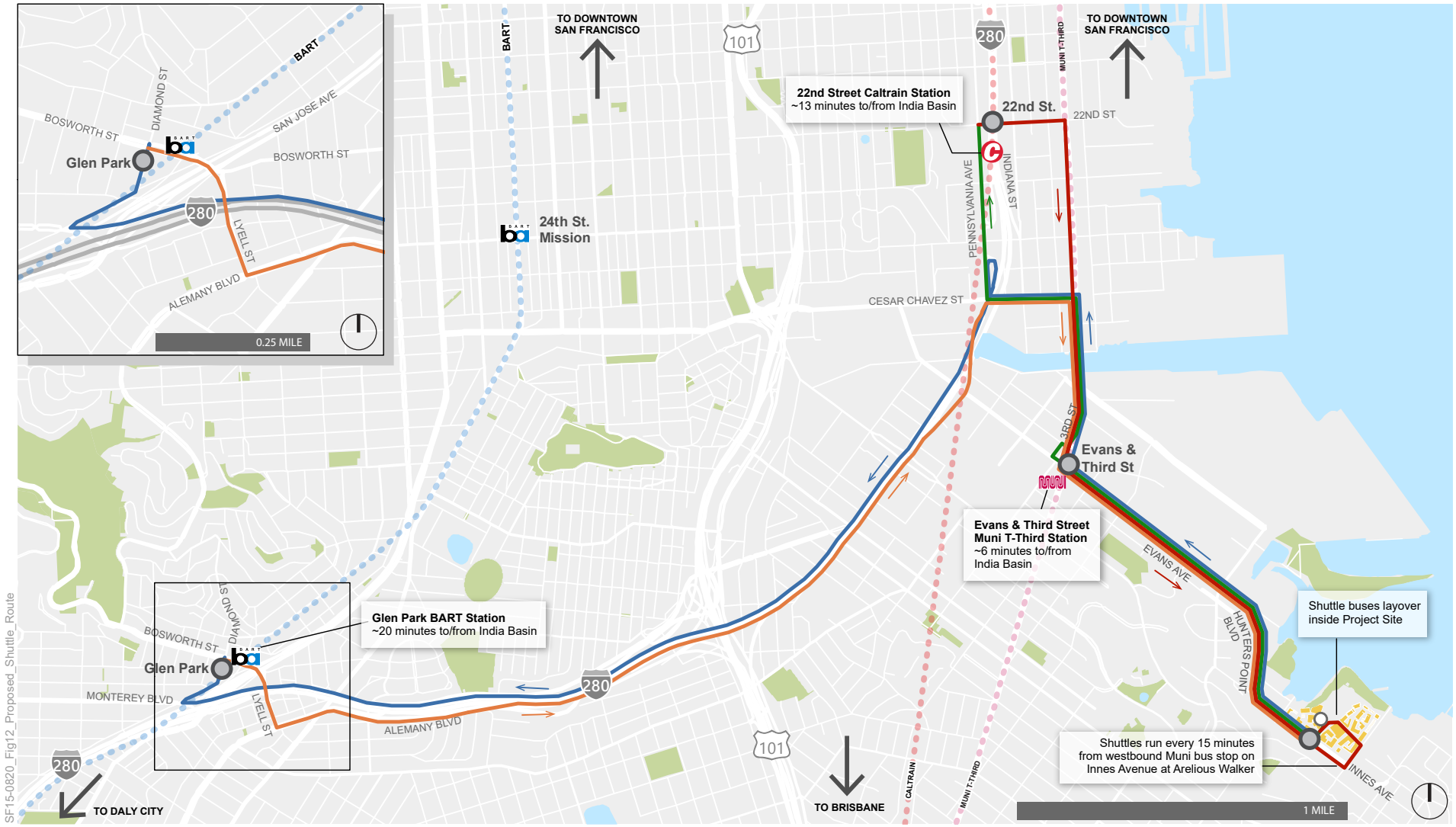



Figure 14

## Phase 2 Proposed India Basin Shuttle Routes

## 5.3.3 Phase 1 Route and Stops

The Phase 1 route would begin at a stop at the intersection of Innes Avenue and Arelious Walker Drive. After continuing westbound on Innes Avenue, the shuttle would next stop adjacent to the T-Third Muni Light Rail stop at 3rd Street and Evans Avenue. The route would continue to the 22nd Street Caltrain station, and finally connect to Glen Park BART station, using southbound I-280. The shuttle would return by traveling to the 22nd Street Caltrain station using northbound I-280, followed by a stop at the T-Third 3rd & Evans Station, and finally returning to India Basin along Innes Avenue. The shuttle buses would dwell and wait for the next run either at the first stop location along the route or at an on-street parking or loading space within the India Basin development.

Due to the continually evolving curbside uses in the vicinity of the proposed stop locations, it is premature to identify specific shuttle stop locations. In the event that the project operates this interim shuttle service, the project sponsor will work with the SFMTA to identify and legislate safe zones for loading/unloading for each of the proposed shuttle stops, and/or comply with the SFMTA's Commuter Shuttle Program or any other applicable regulatory program.

## 5.3.4 Phase 2 Routes and Stops

The Phase 2 shuttle routes would serve the same stop locations as the Phase 1 shuttle route. The primary benefit of the Phase 2 shuttle would be to provide a more direct connection to Glen Park BART station compared to the Phase 1 route. The Phase 2 Caltrain route would also provide better bi-directional coordination with the train schedule as the shuttle can dwell at the station and wait for specific train arrivals. Both the 22nd Street Caltrain route and the Glen Park BART route would also serve the T-Third 3rd & Evans Station. The route alignments have been selected as those with the lowest combination of travel time and travel time variability. The project sponsor will work with the SFMTA to identify to identify compatible stop locations, if they are required to operate an interim shuttle service.

## 5.3.5 Operating Plan

This section presents the operating plan for the Phase 1 and Phase 2 routes, which includes a discussion of hours of operations and frequency; concept travel time and fleet size; and relevant San Francisco shuttle regulations. Additional information regarding assumptions and calculations made to determine the operating plan are included in **Appendix A**.

### Operating Hours

The shuttle would operate during the morning between 6:00 AM and 10:00 AM, and the evening between 3:00 PM and 7:00 PM. The shuttle would operate at 15-minute headways to provide an adequate level of

service to urban commuters. A shuttle service operating at 20-minute headways could accommodate the estimated demand, but a 15-minute headway is the minimum reasonable frequency to serve urban commuters. Regional transit service at Glen Park BART station is frequent enough that transfer waiting time would generally be short and coordination for individual trains would not be effective. However, service at Caltrain service is more infrequent and therefore to avoid overly large wait times, the service should be scheduled to coordinate with the Caltrain schedule to the extent possible.

### Service Frequency and Fleet Size

Concept travel times for the Phase 1 shuttle route were developed from the following additive components: Google Maps travel time ranges for driving during the peak AM and PM periods, dwell time at shuttle stops, delay from proposed signals along Innes Avenue, and layover time. We estimate that the typical round-trip run time during peak periods (including layover) would be approximately 60 minutes. A fleet size of four shuttle vehicles would therefore be required in order to provide 15-minute headways. Each route within Phase 2 service would have at least a 15 minute frequency, with frequencies calibrated to optimally serve the demand for each service. A fleet size of around six vehicles would be required for Phase 2. The fleet should also include an additional spare vehicle in case of breakdown. A typical 30-foot cutaway shuttle bus with capacity of around 20-30 seats would be appropriate for this service and would accommodate demand.

SFMTA will undertake routine monitoring of crowding levels on nearby routes on an ongoing basis. If ridership on overcrowded Muni routes is found to be above 85 percent of overall service capacity, due to the addition of project transit trips, the property manager would provide additional shuttle frequency to reduce occupancy to below 85 percent utilization, or to below the extent caused by the project, whichever is higher.

### Commuter Shuttle Program Participation

The proposed shuttle route could participate in the SFMTA Commuter Shuttle Program, which regulates employer-provided shuttles in San Francisco.[4] Since the proposed shuttle is free to users and open to the public, there would be no fee to use the Commuter Shuttle Program's network of shuttle stops. However, at this time, the program network does not include dedicated stops along the proposed shuttle route.

[4] SFMTA (2017). "Commuter Shuttle Program." Accessed at https://www.sfmta.com/projects/commuter-shuttle-program

In the case that stops along the proposed shuttle route are not approved for inclusion in the Commuter Shuttle Program by the SFMTA, the project sponsor would need to work with SFMTA to find compatible stop locations. For example, the project sponsor could apply to install new passenger loading zones (a.k.a. "white zones") through the SFMTA's Color Curb program.[5] The project would be responsible for any application and installation/renewal fees for a white zone.

The proposed shuttle would be required to operate within all applicable SFMTA and City of San Francisco regulations and programs. The project sponsors would monitor ridership on the shuttle annually and produce a report to the SFMTA describing the level of service provided and associated ridership.

[5] SFMTA (2017). "New Color Curb." Accessed at https://www.sfmta.com/services/new-color-curb

# Appendix A. Shuttle Plan Calculations

## Route Selection Travel Time Comparison

### AM Peak Period

| Route Option | Leg | Travel Time (minutes) | | | |
|---|---|---|---|---|---|
| | | Mini-mum | Maxi-mum | Vari-ability | Aver-age |
| **22nd St. Caltrain & 24th St. BART** | Project Site to 22nd St. Caltrain | 7 | 14 | 7 | 10.5 |
| | 22nd St. Caltrain to 24th St. BART | 7 | 18 | 11 | 12.5 |
| | *Both legs* | *14* | *32* | ***18*** | ***23*** |
| **22nd St. Caltrain & 16th St. BART** | Project Site to 22nd St. Caltrain | 7 | 14 | 7 | 10.5 |
| | 22nd St. Caltrain to 16th St. BART | 8 | 16 | 8 | 12 |
| | *Both legs* | *15* | *30* | ***15*** | ***22.5*** |
| **22nd St. Caltrain & Glen Park BART** | Project Site to 22nd St. Caltrain | 7 | 14 | 7 | 10.5 |
| | 22nd St. Caltrain to Glen Park BART | 7 | 12 | 5 | 9.5 |
| | *Both legs* | *14* | *26* | ***12*** | ***20*** |

Source: Google Maps drive times for Tuesday 8 AM

### PM Peak Period

| Route Option | Leg | Travel Time (minutes) | | | |
|---|---|---|---|---|---|
| | | Mini-mum | Maxi-mum | Vari-ability | Aver-age |
| **22nd St. Caltrain & 24th St. BART** | Project Site to 22nd St. Caltrain | 7 | 12 | 5 | 9.5 |
| | 22nd St. Caltrain to 24th St. BART | 8 | 18 | 10 | 13 |
| | *Both legs* | *15* | *30* | ***15*** | ***22.5*** |
| **22nd St. Caltrain & 16th St. BART** | Project Site to 22nd St. Caltrain | 7 | 12 | 5 | 9.5 |
| | 22nd St. Caltrain to 16th St. BART | 9 | 18 | 9 | 13.5 |
| | *Both legs* | *16* | *30* | ***14*** | ***23*** |
| **22nd St. Caltrain & Glen Park BART** | Project Site to 22nd St. Caltrain | 7 | 12 | 5 | 9.5 |
| | 22nd St. Caltrain to Glen Park BART | 7 | 14 | 7 | 10.5 |
| | *Both legs* | *14* | *26* | ***12*** | ***20*** |

Source: Google Maps drive times for Tuesday 5 PM

# Round-Trip Travel Time Estimate

## Phase 1 Route

*Assumptions*

Dwell Time per stop: 0.5 minute
Delay per new signal[6]: 0.5 minute

| Period | Average Travel Time Estimate (minutes) | | | | |
|---|---|---|---|---|---|
| | | Adjustments | | | |
| | Google Estimate[7] | Dwell Time | New Signals | Layover Factor[8] | Adjusted Travel Time |
| **AM** | 47 | 3.5 | 4.5 | 1.1 | 60.5 |
| **PM** | 45 | 3.5 | 4.5 | 1.1 | 58.3 |

## Phase 2 Route

*Assumptions*

Dwell Time per Stop: 0.5 minute
Delay per new signal: 0.5 minute

| Route | Period | Average Travel Time Estimate (minutes) | | | | |
|---|---|---|---|---|---|---|
| | | | Adjustments | | | Adjusted Travel Time |
| | | Google Estimate | Dwell Time | New Signals | Layover Factor | |
| **22nd Street** | **AM** | 22.5 | 3 | 4.5 | 1.1 | 33.0 |
| | **PM** | 21.5 | 3 | 4.5 | 1.1 | 31.9 |
| **Glen Park** | **AM** | 33 | 3 | 4.5 | 1.1 | 44.6 |
| | **PM** | 31 | 3 | 4.5 | 1.1 | 42.4 |

[6] Project signals to be installed at Hunters Point Boulevard/Hawes Street/Hudson Avenue, Innes Avenue/Hunters Point Boulevard, Innes Avenue/Griffith Street, Innes Avenue/Arelious Walker Street, and Innes Avenue/Earl Street. Shuttle would experience 9 new project signals on a round-trip loop, not accounted for in Google travel time estimates.

[7] Estimate from Google Maps of in-motion travel time.

[8] Layover assumed to be 10 percent of running time.

# Fleet Size

## Phase 1 Route

*Assumptions*

Headway: 15.0

| Period | Fleet Size |
|---|---|
| **AM** | 4.0 |
| **PM** | 3.9 |

## Phase 2 Route

*Assumptions*

Headway: 15.0 minutes

| Route | Period | Fleet Size |
|---|---|---|
| **22nd Street** | **AM** | 2.2 |
| | **PM** | 2.1 |
| **Glen Park** | **AM** | 3.0 |
| | **PM** | 2.8 |
| **Total** | **AM** | 5.2 |
| | **PM** | 5.0 |

# Ridership Estimate

**Transit Person Trip Demand**
**(Source: India Basin TIS)**

| Transit Line | AM In | AM Out | PM In | PM Out | Shuttle Demand |
|---|---|---|---|---|---|
| 19-Polk (LMLP[9]) | 63 | 67 | 106 | 57 | 50% |
| 44-O'Shaughnessey (GMLP[10]) | 52 | 49 | 88 | 42 | 80% |
| Caltrain (Regional Screenline) | 23 | 23 | 21 | 21 | 100% |
| BART (Regional Screenline) | 20 | 20 | 18 | 18 | 100% |

**Hourly Shuttle Demand by Stop**

| Station | AM In | AM Out | PM In | PM Out |
|---|---|---|---|---|
| T-Third | 31 | 33 | 53 | 29 |
| Caltrain | 23 | 23 | 21 | 21 |
| BART | 62 | 59 | 88 | 51 |
| Total | 116 | 115 | 162 | 101 |

**Shuttle Demand by Shuttle Vehicle**

Assumptions:

| | | |
|---|---|---|
| Shuttle Headway | 15 | minutes |
| Shuttle Frequency | 4 | shuttles/hour |

| Route | AM In | AM Out | PM In | PM Out |
|---|---|---|---|---|
| Phase 1: T-Third -> Caltrain -> BART | 29 | 29 | 41 | 25 |
| Phase 2: T-Third -> Caltrain | 10 | 10 | 12 | 9 |
| Phase 2: T-Third -> BART | 19 | 19 | 29 | 16 |

Typically shuttle capacity is ~25 seated persons per vehicle. Shuttle may experience standing-room only levels of demand where demand per vehicle is shown to be >25.

[9] LMLP = local maximum load point between the project site and Third Street.
[10] GMLP = global maximum load point along entire route.