BACKGROUND

San Francisco is well-known for the comfortable, human scale of its neighborhoods, due in part to a street grid of small blocks, highly-articulated architectural treatment on residences, and its dramatic topography and setting. These attributes have made the city one of the few walkable American cities. The Transbay Design for Development can enhance this character through careful attention to urban form — how buildings enhance the pedestrian realm, in the size and relationship of city blocks, and in the placement and sculpting of new additions to the skyline. Responding to the adjacency of the Bay, downtown, and so many of San Francisco’s distinct neighborhoods, the Design for Development offers future Transbay residents a compatible, exciting new urban neighborhood.

New development in Transbay will prevent congested building massing with widely-spaced towers that will preserve sunlight and views by stepping down towards the water and the historic district.

Issues and Constraints

- Building Form and Massing
- Views and Sunlight

Building Form and Massing

The prevalent development trend in the area has been the construction of mid-rise, large floor plate office buildings. Such development does not take full advantage of its location downtown and proximity to transit. Therefore, massing alternatives and appropriate building footprint sizes have been further analyzed to reach the maximum development potential and to create a livable ground level environment. The northern edge of the Transbay Area, which borders the Financial District, maintains some of the downtown character. A few new high-rise office developments are interspersed along Mission and Howard Streets. The northwest section of the Transbay Project Area has a fine grain parcelization with historic and mid-rise buildings that should be respected with new development.

Views and Sunlight

In order to meet the city’s housing needs and to fully utilize the public parcels, new development in the district should be dense. However, the way in which this density is achieved, and the quality of the environment on the street will be fundamental to the area’s success. Location, separation, and floor size (bulk) of towers will significantly affect public access to views and sunlight. Therefore, an important aspect of the Design for Development is to maintain public views to and from San Francisco’s neighborhoods citywide, the Financial District, and the Bay.
Opportunities
– High-density Residential Character
– Adjacent Development Patterns

High-density Residential Character
Unquestionably, to meet the current and future housing needs of San Francisco residents, new residential development is needed. Given the limited land available for development and the Transbay Project Area’s close proximity to the downtown core and the proposed new Transbay Terminal, the sustainable solution is to develop high-density housing. To best understand how to achieve this density while creating a livable neighborhood, the Design for Development references the best practices of other cities. The dense residential development in downtown Vancouver, British Columbia has become a model for many North American cities, and has informed the Transbay Design for Development guidelines. The building types and the public amenities of recent Vancouver developments serve as ideal examples for San Francisco’s downtown development.

Since 1991, Vancouver has produced approximately 30,000 new downtown housing units, about 20% of which are affordable. The Transbay Design for Development requires a broad mix of low- and high-rise housing and ensures that at least 35% of the new units will be affordable to moderate-, low- and very low-income families.

In Vancouver, the housing, which was developed primarily by large private developers, has had a positive effect on the city’s public realm due, in part, to the presence and clarity of public realm design guidelines set by the Vancouver Planning Department. In addition, Vancouver requires development fees for city services and amenities, including developer construction and land dedication for community facilities.

Most blocks are comprised of point towers (with height, bulk and placement restrictions), that meet the sidewalk in the form of low-rise residential townhouses or ground floor retail space. The townhouses at the base of the towers open onto the street. Each townhouse unit has its own entry, slightly elevated from the sidewalk and fronted by stoops and landscaping. Such treatment provides privacy for the residents while activating the street edge. These individual unit entries enhance the public realm by creating front door comings and goings, providing “eyes on the street,” creating a richer architectural variety, and allowing far more personalization than commonly found in high-density residential buildings. The slight elevation of the ground floor units and dimensions of the front transition space are all key to providing units with privacy and defensibility. Parking is completely underground (except where prohibited by underground rail lines) with approximately four feet of planting soil above to allow for ample tree growth. These key urban design elements have been adapted and incorporated in the Design for Development in order to ensure the highest quality design in the Transbay neighborhood.

Vancouver’s new residential development has created high quality, high-density neighborhoods with widely-spaced towers and townhouses that engage the sidewalk (above and above left). Source: Vancouver Planning Department
Adjacent Development Patterns

The adjacency of the Transbay Area to downtown San Francisco highlights the differences in block configuration, height limits, and land use. When determining how best to redevelop the Transbay publicly-owned parcels with high-density residential towers, the tower placement and street conditions of downtown San Francisco were referenced and contrasted with South of Market. This comparison highlights how the pattern of smaller downtown blocks allows for greater tower separation, light access, and views to and from the buildings and the city’s landmarks. In contrast, some of the blocks within Transbay are as long as three North of Market blocks. The current development trend to fully develop the large blocks with four or more high-rise towers per block and minimum podium heights of eight floors would create an opaque wall of development, and prevent light, air, views, and sky exposure within the blocks. Without additional streets and sidewalks, ample tower spacing, and variety along the podium level, future development is bound to create a congested South of Market with a compromised public environment.

- North/South oriented street grid
- Smaller blocks
- Greater natural tower separation
- Views preserved to and from buildings

- Street grid shifted off due North
- Larger blocks with fewer streets
- Tight building spacing with less natural tower separation
- Lack of transparency
- Obstructed views

The North of Market block (above) maintains light on its facade due to generous spacing between towers and wide sidewalks. Whereas, the building spacing in South of Market (right) can sometimes create dark sidewalks and unpleasant street experience. Additional development must be carefully planned to prevent creating urban canyons and dark street environments.
SKYLINE TREATMENT

Invariably, the skyline can shape the way residents and visitors think of the city. Residents form sentimental attachments to natural and built landmarks; visitors travel long distances to be photographed in front of them. San Francisco’s skyline has long been regarded as unique, given the city’s position in the Bay Area, its fluctuating terrain, its bridges, and more recently, the downtown skyscrapers. Vantage points throughout the Bay Area and the city offer residents and visitors views of the downtown. As one enters the city from the east via the Bay Bridge, or from the south on I-280, the Financial District’s high-rises dominate the skyline and shape one’s image of San Francisco. Similarly, the views from important public spaces, like Dolores Park, Twin Peaks and the Bay, provide sweeping views of downtown that orient people to the city. As a result, any new high-density development must consider its cumulative effect on the skyline and on the views to and from the city.

To avoid creating a continuation of one downtown mass of high-rise development that blocks views through and across the district to important landmarks (like the Bay Bridge and Twin Peaks), towers should be slender and well-spaced. This development pattern will allow light and views to and from downtown. Until now, most high-rise development that has spread south from Market has been in the form of large, closely-spaced, squat towers. This configuration is due in part to the floor plate requirements of commercial office space and unrestricted setback requirements. However, the crowded result is detrimental to both the skyline and the ground level experience. The bulk, limited variety among tower tops, and heights of the towers create a dull skyline; make the street level dark, foreboding, and crowded by towers looming above; and block access to the sky. Instead, the high-rises should be designed as elegant point towers with varied roof treatment to provide a dynamic skyline.

Vancouver, B.C. has regulated the spacing of new residential towers to maintain public views between buildings and to the water. High-density is achieved without compromising the quality of life for residents and workers.

To maximize the buildout of the large South of Market block size, previous proposals have placed two towers (per half-block) above an eight-floor base. This configuration requires the towers to be placed in a checkerboard pattern, in efforts proponents claim will increase privacy and improve views for residents within each tower.
Congested residential towers exemplified in Hong Kong (above left) decrease the quality of life for residents and reduce value of all development. Whereas, towers in downtown Vancouver with more generous spacing (above right) provide relief to the skyline and street level.

However, the tower proximity is too close to maintain public access to light and views, regardless of the diagonal distance between them. The offset towers create a wall of development along the skyline from various vantage points. In addition, a consistent 85-foot base height and little difference in tower height create a monotonous street wall and skyline, respectively. In response, rather than cluster new towers on one block, the Design for Development requires the following skyline treatment:

### The Skyline Treatment

**Requirements**

- Require tall, slender towers to be widely-spaced to enhance public views and the skyline.
- Enhance the skyline with varying building heights.
- Step building heights down toward the waterfront and away from the downtown core to the south and west.
- Concentrate tallest buildings adjacent to the high-density Financial District and the Terminal.
- Enforce guidelines that ensure visual interests and slender dimensions.
Development Concepts

To fully explore the development potential in the Transbay Project Area, the Team generated three development concepts.

**Concept One** extends the maximum allowable development pattern from the EIS/EIR, placing two towers per half-block. The pattern overlaid onto the Project Area’s development sites would result in 13 towers of 30–40 floors, with an eight-floor base covering the remaining land area. Significant features of Concept One are:

- Many towers (13 at 30–40 floors each), blocking views to and from downtown and the waterfront.
- Eight-floor base, creating a monotonous and shaded pedestrian environment.
- 4,700 residential units, the maximum studied in the EIS/EIR.

**Concept Two** has fewer towers and a lower podium level. It creates a more livable neighborhood than Concept One, providing greater distance between towers and increasing access to air, light and views. But, it still has a large number of towers, which creates congestion along the skyline and at the ground level. In addition, this concept does not take advantage of the available transit-oriented development opportunities in the area because it is not able to supply enough housing, creating only 2,400 units. By limiting the number of dwelling units, it does little to address the city’s need for housing or to improve the job to housing balance. The features of Concept Two include:

- Fewer, shorter towers (nine at 18–30 floors), leaving more light and space, but still blocking some views.
- Lower base height (three to seven floors), creating a better pedestrian environment, but less variety.
- 2,400 residential units.

**Concept Three** reduces the number of towers even further than Concept Two, but increases their heights and slenderness. The base varies from four to eight floors. The Team, the CAC, and the members of the public present at the workshops found that this concept maximizes the transparency of the development and preserved the most views to downtown and the waterfront. It also provides a greater mix of low-rise and tower units than the other concepts, which allow for a more interesting street level environment, improved access to sunlight, and variety within individual developments. Finally, it provides a larger amount of development than Concept Two, though still well under the maximum studied in the EIS/EIR.

- Fewest number of towers (six at 30–55 floors), preserving most views.
- Low base height (four to eight floors), allowing more low-rise development to activate the street and improve the human scale of the development.
- 3,200 residential units.
Shadow Impacts
Building massing, including the height, bulk, and location, proposed under the Transbay Design for Development was designed to minimize shadows on the public environment. Transbay Square, the proposed new park between Main and Beale Streets, will receive maximum amount of sunlight at midday from 11 AM to 2 PM (Pacific Standard Time) between the spring and fall Equinox. Imaginary cut-off shadow planes that project upwards from the park edges were used to set the allowable building heights under this standard. Morning sunlight will reach the northern sidewalk of Folsom Boulevard on those blocks within the Project Area where development on the south side of Folsom Boulevard stays below 85 feet.

Two previously proposed projects (shown in tan in the shadow diagram) currently in the final stages of the approval process and located outside the project area to the south of Folsom Boulevard, between Beale and Steuart Streets, will significantly block sun access to the northern sidewalk on Folsom Boulevard during the mid-day hours for all months of the year. Within the Project Area to the north of Folsom Boulevard, building placement and heights have been arranged in such a way as to maximize sunlight to both sidewalks during the early afternoon hours between the spring and fall Equinox. Likewise, sunlight will reach alternating sidewalks from late morning to mid-day hours for all months of the year on First, Fremont, Beale, Main and Spear Streets.

A shadow study was conducted for each concept to reveal how well its development layout will maintain sunlight on public open spaces, streets, alleys and individual units throughout the year. The studies shown represent mid-day sun conditions on.

<table>
<thead>
<tr>
<th>UNIT MIX</th>
<th>Low-rise</th>
<th>Tower</th>
<th>Dwelling Units/Acre</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept One</td>
<td>35%</td>
<td>65%</td>
<td>470</td>
<td>4700</td>
</tr>
<tr>
<td>Concept Two</td>
<td>45%</td>
<td>55%</td>
<td>240</td>
<td>2400</td>
</tr>
<tr>
<td>Concept Three</td>
<td>42%</td>
<td>57%</td>
<td>320</td>
<td>3200</td>
</tr>
</tbody>
</table>

The table above identifies the unit ratios for each concept.
December 21st (winter solstice), when the sun is the lowest in the sky and shadows are the longest. Even in these conditions, Concept Three met the sunlight requirements, allowing sunlight to all of the above-mentioned components of the private and public realm. This, combined with its positive impact on the skyline, led it to be developed into the preferred concept.
The Plan

Based on the comparative analysis of the three conceptual designs, and community input from the second and third public workshops, the Team identified Concept Three as the preferred design concept. With fewer, taller towers and a varied base height, it has the most potential to create a livable, high-density downtown neighborhood. This concept is able to achieve the greatest diversity of unit types while still creating a large amount of new residential development to address the city’s and the region’s housing crisis. On the resubdivided, publicly-owned parcels alone, 3,200 units will be constructed. As a result of the public’s feedback, Concept Three was developed into the Design for Development Plan (Exhibit 4.1). The following requirements for the future downtown neighborhood were incorporated.

The Development Plan Requirements

- Towers should be elegant and well-spaced, instead of bulky and close together.
- Ensure high-quality designs that enhance livability, provide aesthetic variety and incorporate “green” building techniques.
- Place and sculpt towers to avoid shadows on public parks.

The plan demonstrates the potential growth of the Transbay area without constraints (Exhibit 4.1). Adjacent, privately-owned parcels, as well as vacant parcels in Rincon Hill, present the opportunity for a substantial amount of additional residential development. Such infill on private parcels will increase the total housing figure and the population for the area at-large. Therefore, it is even more important that the new development on the publicly-owned parcels provide ground level retail amenities and services to meet the neighborhood’s needs.
The Constrained Plan

In addition to the Design for Development Plan, a "Constrained Plan" was prepared to reflect possible, yet highly undesirable external factors that could influence development. These factors include the Caltrans proposal for a curved freeway off-ramp at the corner of Folsom and Fremont Streets ("the Folsom leg"); a proposed elevated mid-block loop at the intersection of the new Terminal ramp and the Folsom Street off-ramp; and the construction of a low-density live/work project on a key acquisition site (the northwest parcel on the block between First Street and Ecker Alley). Each of these constraints disrupt the full potential of blocks ideal for development. Overall, the Constrained Plan results in a less desirable development scheme and streetscape experience (Exhibit 4.2).
The Constrained Plan
- Curved Fremont/Folsom off-ramp
- Mid-block bus loop
- Fewer units due to pre-approved low-density development block, bordered by Ecker Alley and First Street.
Shadow Impacts
The shadow studies (below and right) show how the proposed development within the Transbay Project Area will affect sunlight and shadow. The Design for Development maintains direct sunlight to the public environment. Even during the winter months, when the sun is lowest in the sky and, therefore, shadows are longest, the proposed Transbay Square maintains at least three hours of direct sunlight mid-day and will be unaffected by the Design for Development high-rises.

Height Restrictions
To respect the established urban form of the downtown “mound” and the public views to and from the Bay and hills, the plan provides tower heights that step down toward the waterfront and requires towers closer to downtown and away from the shoreline to be taller than the others. Proposed buildings along the southern side of Folsom Boulevard, outside of the Transbay Project Area, would shade open space if it was located directly along Folsom Boulevard for the majority of time between the hours of 11am–2pm. Therefore, the proposed Transbay Square will be located a block north of Folsom Boulevard, bordered by Clementina and Tehama Streets. These streets will be more residentially-oriented with front stoops and entries to townhouse units to engage the street and to provide a human scale. The building heights on the block directly to the south of Transbay Square are restricted to avoid producing long shadows and an unpleasant open space environment. Low- to mid-rise buildings step up, away from the park, framing it as a special “urban room.” To maintain both sunlight access, as well as a more intimate, human-scaled environment in the narrower streets and alleys, such as Clementina Street, towers are set back from the alleys. Alley-fronting buildings will be no higher than 45 feet, with anything higher set back at least 15 feet, as recommended in the Planning Department’s San Francisco’s proposed Alley Guidelines.
The MTC Plan incorporates a hotel adjacent to the Terminal site. Such an amenity would accommodate high-speed rail travelers and benefit the Project as a whole; however, careful placement will determine its value. Given the approval of a 600-foot commercial tower at 301 Mission (the block immediately adjacent to east of the hotel proposed in the MTC Plan), such tower spacing would violate the Design for Development requirements by creating a congested skyline, and an urban canyon at the intersection of Fremont and Mission Streets (see above left). In addition, the open Terminal Plaza proposed at the southeast corner of First and Mission Streets will be shaded by the new Terminal, which will be at least 85 feet in height, and by the adjacent tower at this corner for the majority of time between the hours of 1pm–4pm.

Therefore, the Design for Development Team has identified a new location for the hotel that reduces the high-rise’s proximity to adjacent towers (see above middle). The repositioning of the original hotel placement to the southwest side of the entry plaza maintains views and sunlight between towers. To maximize the potential of the site adjacent to both the Transbay Terminal and the Terminal’s grand civic Plaza and mark this new downtown hub on the skyline, a Transit Tower has been proposed in place of the hotel (above right). This tower would encompass a mix of uses. At ground level, the Transit Tower will be open to the public and flow into the adjacent Plaza. Together, the positioning and design of the Tower, the Plaza and the Terminal will offer the city a signature gateway, while accentuating the San Francisco skyline with a distinctive landmark. Further height, shadow, and wind studies will determine how to best sculpt the tower to create such a notable landmark tower.

**The Transit Tower Requirements**

- Celebrate transit hub as a major gateway to the city, and take advantage of prime transit service.
- Offer a mixed-use program: hotel and office space.
- Introduce a civic landmark to the skyline.
- Supplement total development program.
- Provide funds for the Transbay Terminal.
Given all of the urban design objectives, view studies were performed to test the effect of the Design for Transbay Development on the San Francisco skyline. Six views from around the city were modeled to show the existing skyline compared with the city’s future development. Numerous proposed projects outside of the Transbay Area are also modeled to more accurately represent the city’s skyline in 2020.
VIEW FROM BAY BRIDGE

Existing

Transbay Development (in blue)
VIEW FROM I-280

Existing

Transbay Development (in blue)
VIEW FROM DOLORES PARK

Existing

Transbay Development (in blue)
Transbay Development–Rendered

Transbay Development with Rincon Hill and downtown Pipeline Projects (in green)
Transbay Development – Rendered

Transbay Development with Rincon Hill and downtown Pipeline Projects (in green)
VIEW FROM ST. REGIS MUSEUM TOWER
(at Mission and Third Streets)
Transbay Development with Rincon Hill and downtown Pipeline Projects (in green)
**BASE TREATMENT**

A key component of the Design for Development Plan is the treatment of the building base design; how pedestrians experience and view both commercial and residential buildings from the ground determines the quality of a neighborhood. Therefore, a key element in creating an active and lively neighborhood is creating attractive, engaging low-level spaces, that are either experienced or visible from the street level. This treatment includes providing a variety of building heights along the low-rise podium level; requiring development to be rich and diverse in architectural character; and maximizing the quality and frequency of storefronts, openings, and pedestrian entries at the ground level. The Design for Development has made it a priority to avoid monotonous, rigid development and to produce guidelines that strive for the diversity in character that makes San Francisco neighborhoods famous. Some of the key ways to do this are listed below:

### The Base Treatment Requirements

- Activate the street edge with attractive, engaging entry treatment and uses.
- Form streets, alleys or mews at the human scale.
- Vary low-rise building heights and architectural character to encourage pedestrian interest.
- Provide a rhythm of entries to individual units allowing “a personalization” of the ground floor environment.

The placement and treatment of residential and commercial entries can help to create an active street edge that complements the streetscape improvements. The variety and proximity of entrances along the sidewalk help activate the street for pedestrians and residents and improve the human scale. As compared to long expanses of blank walls shielding parking garages or large commercial space, individual entrances to residences, retail establishments and service providers activate the sidewalk and keep “eyes on the street,” thereby, increasing the feeling of security within the neighborhood. The proximity and rhythm of these entries, spaced every 20–30 feet, will make the sidewalk experience much more pleasant and more secure. Residential and commercial entrances should be designed as distinct, identifiable access points. In addition to architectural elements, such as low walls, stoops, and canopies, special streetscape elements, such as paving, planting and lighting, can help distinguish entries.
Residential Base Treatment
The drawings to the right demonstrate how a typical residential block lined with townhouses at the ground level provides a human scale to high-density development. Each ground floor unit, regardless if it is part of a low-rise, mid-rise, or tower configuration, has its own entrance stepped up approximately three feet above the sidewalk (as shown in detail in the drawing, near right). All ground level townhouses will have residential units above to maintain the plan’s commitment to density. These upper units will be accessed either from within the core, and in some cases, at street level.

The Residential Base Treatment Requirements
- Create individual entries at street.
- Soften building edge with landscaping.
- Provide privacy to ground floor residents.
- Ensure sunlight access to units and internal courtyards.
- Allow personalization of entry gardens and stoops.

As proven successful in Vancouver, BC and in San Diego, these entries will be setback from the sidewalk at a distance of ten feet to provide residents with a semi-private garden buffer. On slower traffic streets with widths of 35 feet or less, the setbacks can be six feet in depth and still provide the desired privacy. The stoops, raised above the sidewalk, provide a visual buffer between pedestrians and the resident; a ground level higher than four feet creates a distance too great to maintain an active sidewalk and “eyes on the street”.

Though the publicly-owned blocks will be developed at approximately the same time, the design guidelines will require that individual buildings maintain their individuality. Development will be accented with a lively repetition of porches, awnings, and bay windows. Public street planting, combined with the semi-public entry way planting, will create a pleasant pedestrian experience, buffering pedestrians and ground-floor residents from street noise.

Each block will enclose a semi-public courtyard at grade. These semi-public courtyards will be visible, at certain points, from the public right-of-way. In addition, to improve the quality of high-density development, the rooftops of the low- and mid-rise buildings will be designed to accommodate roof gardens. Such open space will provide residents with easy access to open space and provide relief to the urban neighborhood.
Retail Base Treatment
In order to avoid underutilized retail and lifeless sidewalks, individualized entries to retail and service establishments should be numerous and directly accessible to pedestrians on the sidewalk. Restaurant and retail entrances should be made visible with the use of architectural canopies, signage and lighting. Ground floor spaces should have a minimum ceiling height of 15 feet and should be designed to provide flexible space that can be transformed to serve new uses over time.

The Retail Base Treatment Requirements
- Provide engaging, identifiable, closely-spaced entries.
- Encourage retail and restaurants to open onto sidewalks.
- Design flexible ground level space.

Parking Treatment
Each block will have an underground parking garage that does not degrade the quality of the street-level experience. No more than a total of two entrances and exits to the parking lot are allowed to disrupt the sidewalk on an entire block. All service providers will use the same entrance and exit and will be accommodated inside the garage. The parking structures will not negatively impact the ground floor residential and commercial space. A single garage under each block does not require that all development by block look identical. Rather, the garage will be constructed as part of a master plan for each block. Each block will be developed with multiple buildings by different developer/architect teams. Regardless, the design guidelines will ensure that each block will uphold fine grain character that makes it unique from other large-scale development projects.