

CENTRAL MOBILITY HUB AND CONNECTIONS COMPREHENSIVE MULTIMODAL CORRIDOR PLAN

Appendix A: Literature and Performance Review and CMH Concept Development

A. Literature and Performance Review and CMH Concept Development	2
A.1 Summary of Ideas.....	2
A.2 Plan and Performance Review	3
A.3 Considered Concepts	49
Existing Conditions.....	49
Concept Alternatives	54

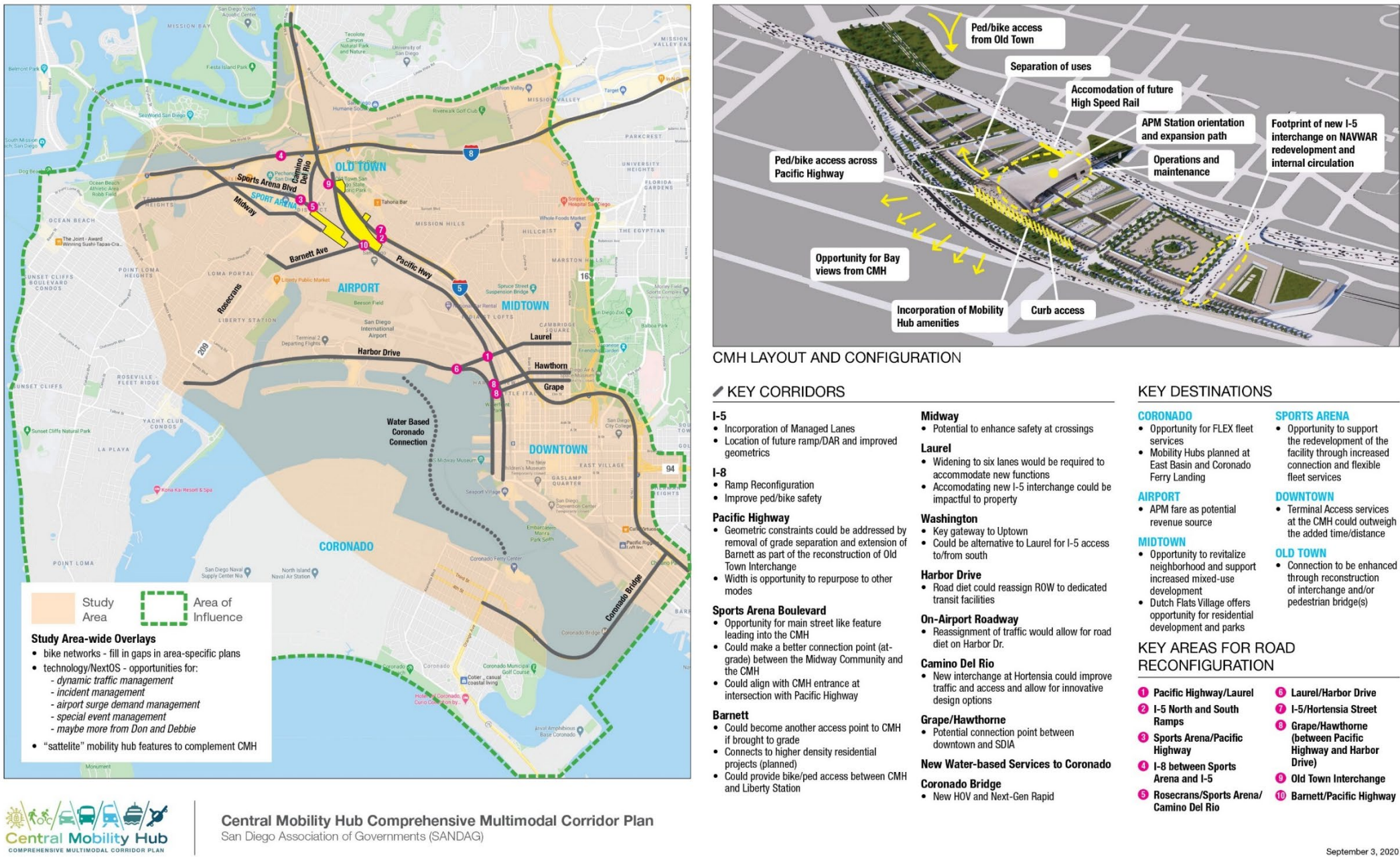
A. Literature and Performance Review and CMH Concept Development

A.1 Summary of Ideas

The map below highlights the core ideas, key corridors, destinations, and areas for road reconfiguration that have been considered as part of the original area of interest.

Figure A-1: Summary of Ideas, Constraints, Challenges and Opportunities

SUMMARY OF IDEAS, CONSTRAINTS, CHALLENGES AND OPPORTUNITIES



A.2 Plan and Performance Review

The following table provides a comprehensive list of all plans and documents that were referenced for the creation of the CMH CMCP.

Table A-1: Plans and Documents

Plans and Documents		
Document	Year	Description
Climate Action Plan for Transportation Infrastructure (CAPTI)	2021	The plan details how the state recommends investing billions of discretionary transportation dollars annually to aggressively combat and adapt to climate change while supporting public health, safety and equity.
SANDAG Regional Plan	2021	Vision for how the San Diego region will grow through 2050 and implement a fast, fair, and clean transportation system and a resilient region.
California Transportation Plan 2050	2021	Long-range transportation roadmap for achieving the state's vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health.
Caltrans Corridor Planning Process Guide	2020	Provides direction on the comprehensive analysis of transportation corridors to Caltrans and relevant partner agency staff
Caltrans Smart Mobility Framework	2010	Guidance that emphasizes the integration of transportation and land use concepts to bring about smart growth transportation strategies across California.
Midway Pacific Highway Community Plan	2018	Establishes a vision with policies to guide the future growth and development within Midway - Pacific Highway, consistent with the General Plan; Provides strategies and implementing actions to accomplish the vision; Provides guidance to design and evaluate development proposals and improvement projects; Provides the basis for plan implementation including zoning, development regulations, and a public facilities financing plan.
Airport Development Plan	2020	Envisions the replacement of the aging and outdated Terminal 1 and related improvements to San Diego International Airport (SAN)
Port Master Plan Update	2023 (Draft)	A water and land use plan that designates specific areas of San Diego Bay and the surrounding

Plans and Documents

Document	Year	Description
		waterfront for maritime, fishing, visitor-serving commercial, recreational, conservation, and institutional uses. The plan determines where port activities should take place, where recreational amenities should be located, and where commercial uses like hotels, restaurants, and visitor-serving retail may be built
Military Multimodal Access Strategy	2019	Aims to develop a process to collaborate and prioritize transportation improvements to support both military and local needs, identify access improvements that benefit multiple stakeholders, develop recommendations and next steps to guide the military working group, and serve as a model for other regions to coordinate transportation solutions with the military or other employers with dispersed campuses
Coast, Canyons, and Trails CMCP	2023 (Draft)	Aims to guide the development of an innovative transportation network, transforming the way people and goods move east and west through the central San Diego region. This CMCP evaluates all travel modes and transportation facilities in the Coast, Canyons, and Trails study area
San Diego Regional Bicycle Plan Riding to 2050	2010	Proposes a vision for a diverse regional bicycle system of interconnected bicycle corridors, support facilities, and programs to make bicycling more practical and desirable to a broader range of people in our region. This vision is intended to guide the development of the regional bicycle system through the year 2050.
San Diego Bicycle Master Plan	2013	Provides a framework for making cycling a more practical and convenient transportation option for a wide variety of San Diegans with different riding purposes and skill-levels.
Airport Connectivity Analysis, Revised (SANDAG)	2019	Structured to describe the airport transit connection Concepts 1 through 4 in greater detail, as well as the goals and evaluation criteria agreed to by the Airport Connectivity Subcommittee, and the initial analysis and findings.
SDIA Airport Development Plan Final EIR	2020	The environmental impact report associated with Airport Development plan finalized in 2020. Includes analysis of 15 resource areas pertaining to the environment.
City of San Diego Pedestrian Master Plan Volume 1	2015	Includes a comprehensive analysis of each community's existing pedestrian conditions and needs with an emphasis on community input throughout the process. The Plan identifies

Plans and Documents

Document	Year	Description
		pedestrian routes to activity centers and infrastructure improvement projects along these routes.
Downtown-Airport Skyway Feasibility Study Final	2018	Evaluates the feasibility of building an aerial cableway system between the San Diego Convention Center and San Diego International Airport, the busiest single-runway airport in the U.S.
Airport Transit Access and ITC Study MTDB	2003	
Transit Demand and Access Study San Diego International Airport	2007	
CCDC Downtown Design Guidelines	2011	Intended to provide guidance that will further enhance the natural beauty, physical character and livability of downtown San Diego.
Central Mobility Hub Refined Program of Requirements (DRAFT)		
Harbor Drive Study	2020	Identifies opportunities to improve mobility, safety and quality of life for everyone who lives, works or plays along Harbor Drive and in the surrounding communities near San Diego's Working Waterfront.
Uptown Community Plan	2019	Provides a long range guide for the future physical development of the community and was updated concurrently with the community plans for North Park and Golden Hill
I-5 Ramps Study (PSR)	2000	Studies the access between SR-56 and 1-5 (the north section of the interchange) in the City of San Diego.
Old Town Community Plan	2018	Provides a framework of land use and urban design policies to assist development in Old Town over the next 20 to 30 years to realize the goal of the 1968 Old San Diego Community Plan: a historically compatible and vital community with an appearance reflective of the community's history prior to 1872.
Midway- PCH and Old Town Communities Mobility Report	2016	Summarizes the physical and operational conditions of the Midway-Pacific Highway and Old Town communities' mobility systems as part of the City of San Diego's community plan update process
CAHSR Preliminary Alternatives Analysis	2015	Describes the background and development of the California HSR System and its individual components. It also describes the background, development, and details of the alternatives

Plans and Documents		
Document	Year	Description
		preliminarily considered for the HSR system and the reasons for selecting the alternatives to be studied in detail in this EIR/EIS.
Coronado City-Wide Major Traffic Study	2005	Provides a comprehensive review of traffic circulation and impacts within the City of Coronado thereby providing the Coronado City Council and City staff with the necessary information to make more informed transportation planning decisions.

The following tables outline the components that were evaluated as part of CMH facility analysis. This process also included an analysis of relevant corridors and key destinations. Source documents that were used as part of this project are referenced in this section, as well as the opportunities, challenges and questions that arose as each component was analyzed.

Table A-2: Plan and Performance Review

Plan and Performance Review					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Bicycle Network	Complete Corridors	TBD	- 2010 San Diego Regional Bicycle Plan Riding to 2050 - 2013 San Diego Bicycle Master Plan	The study shows a cycle track south of the site, and a bike lane on the north. There is no indication of a connection between the north and south at the site.	A connection between the two bicycle networks should be provided as well as bicycle parking areas as well as long term bicycle storage at the mobility hub
Vehicle access	Complete Corridors	A new I-5 Interchange at Hortensia Street would replace the existing Old Town Ave interchange and provide better access for Barnett Ave to I-5	Airport Connectivity Analysis, Revised (SANDAG) Oct. 1, 2019, and Improving San Diego Airport Mobility Feasibility	- ROW acquisition from residential/commercial properties '- Access to Hancock/Witherby Streets '- slope of roadway '- Impacts to CMH/NAVWAR redevelopment footprint and Old Town depending on interchange configuration	- optimal from a regional traffic perspective (vs at Witherby or Old Town Ave) - access to Hancock/Witherby - also improves access between Point Loma and OB to/from I-5 (North and South)

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Study Report (Caltrans)					
Vehicle access to CMH	Complete Corridors	Direct access ramps providing access to upper level of the CMH	Airport Connectivity Analysis, Revised Oct. 1, 2019.	- ROW acquisition from residential and commercial properties - conflict with managed lanes/through traffic	
Vehicle access to CMH	Complete Corridors	Pac Highway provides multi-level connections to CMH	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Traffic impacts during construction	
Vehicle access to CMH	Complete Corridors	Kettner Blvd provides mid-level access to CMH	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Minimal traffic impacts during construction	

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Passenger connections to the airport	Flexible Fleets	Shuttle service between Old Town and SDIA	2020 SDIA Airport Development Plan Final EIR	The report references sensitivity to Airport passengers parking at the Transit Center, Old Town Historic Park, and Caltrans District 11 offices - Would be redundant with APM at CMH	
Navy only ferry connection between MCRD and North Island	Flexible Fleets	TBD		Need to determine a flexible fleet connection from the MCRD dock to CMH	Possible connection via a short extension depending on where the APM is located at the CMH
Vehicle staging lots	Flexible Fleets	Cell Phone Lot (0.4 acres), Taxi/TNC Staging Area (0.5 acres) [p. 48]	Airport Connectivity Analysis	In addition to footprint requirements for staging lots, need to consider access routes from freeway and to/from CMH curbside	<ul style="list-style-type: none"> - Route all private pick-up traffic past cell-phone lot to encourage use and reduce curbside waiting. - Provide direct return path to TNC lot to encourage drop-off traffic to remain on site to pick up passengers (reducing overall TNC vehicle trips)

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Major economic commercial center	Mobility Hubs	Not specified	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Not optimal	CMH or mobility hub app with amenities feature/section enabling users to pre-order or take care of other tasks as part of their route e.g., ordering coffee
Pedestrian access to Midway Community	Mobility Hubs	Unclear - at-grade across Pacific Highway?	CMH Rendering	- pedestrian concourse at +30' (One Level Up) plus large, landscaped median creates a barrier	- move ped concourse to Ground Level? - add pedestrian bridges across Pacific Highway at key locations?
Pedestrian access to Old Town	Mobility Hubs	Single pedestrian bridge over I-5 along central axis of CMH	CMH Rendering	- is a single access point sufficient? - possible clash with I-5 DAR at same level/location?	- consider multiple bridges and/or at-grade where I-5 is elevated
Pedestrian connections	Mobility Hubs	TBD	2015 City of San Diego Pedestrian Master Plan Volume 1	The master plan shows that north of the site is "Traditional" neighborhoods as well as south of the site. The site splits the two north and south neighborhoods.	The current site physically separates the north and south "Traditional" neighborhoods. There is an opportunity to connect the two to provide a holistic neighborhood for residents.

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Connections	Mobility Hubs	Not Applicable	2018 Downtown-Airport Skyway Feasibility Study Final	Access and connections by 'Skyway'	Interesting concept but does not appear to show connection to the mobility hub.
Passenger connections to the airport	Mobility Hubs	Concepts to connect to the airport	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Any other concept other than concepts 1 and 2 would not benefit the direct connection and functionality of the mobility hub.	Other than concepts 1 and 2, it appears that the airport connection is moved from the NAVWAR site. Losing an important connection to the airport for the NAVWAR site would lessen the connectivity impact that a mobility hub would provide.
Passenger connections to the airport	Mobility Hubs	Concepts to connect to the airport	Airport Connectivity Analysis, Revised Oct. 1, 2019.	The report mentions about functions and interlevel connectivity like the airport. A mobility hub functional program and connections do not necessarily need to follow an airport functionality. For example, Site: some airports have all public and private vehicles merge into one path which constrains vehicle	<ul style="list-style-type: none"> - Separate the requirements of pedestrian/passenger movement from vehicular movement and further refine down to public versus private movement. - Definition of the secured spaces versus non secured spaces. - Define if there are 'shared' spaces between different modes of transit versus independent spaces

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
				movement, some airports have separated Rideshare lots that do not provide convenient connections, some airports have offsite parking and shuttles - at Interior: separation from departures and arrivals due to board/customs etc., separation of secured versus unsecured areas, separation of separate commercial areas due to security. Hence, it's not always best to use airport terminals as comparison to a mobility hub.	
Transfers	Mobility Hubs	One transfer from other transit services to airport via CMH (concepts 1-2)	Airport Connectivity Analysis, Revised Oct. 1, 2019.	COASTER and Amtrak riders would need an additional transfer from Old Town (not ideal, Concept 3). Additional transfers needed in Concept 4.	Clear, step-by-step instructions with traditional wayfinding and potential for augmented reality (AR) assisted wayfinding to help passengers, particularly because many will not be daily passengers who know their way around, perhaps downloadable on their phones

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Ridership Projections	Mobility Hubs	TBD	1982 Point Loma Trolley Extension Technical Memorandum	The ridership indicates projects for year 2000 employment. This is outdated and not applicable.	Provide a new ridership model.
Cruise Ship Ridership	Mobility Hubs	TBD	2003 Airport Transit Access and ITC Study_MTDB	It's interesting that the document makes comparison to 2020 Airport vs Cruise ship ridership demands where its 28.6M versus 37k annual ridership respectively.	The types of passengers for the two different travels are different and the uses would be different due to the time, duration, type of passengers, uses and travels. The mobility hub uses need to cater to these uses based on duration of use in the HUB.
Hotel Shuttle	Mobility Hubs	TBD	Transit Demand and Access Study San Diego International Airport April 2007	Hotel Shuttles	Would the allowance of Airport and Cruise Ship Terminal transfers reduce the requirement for airport shuttles to the mobility hub hotels?
Views and connections to the San Diego Bay	Mobility Hubs	No pedestrian/bike connection to the Bay from mobility hub.	Airport Connectivity Analysis, Revised Oct. 1, 2019.	The NAVWAR mobility hub appears to cut the north (Old Town) and south "Traditional Neighborhoods" (Bay Area).	

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Views (opportunities and constraints)	Mobility Hubs	Tall Obstructions	SANDAG Airport Intermodal Transit Center (ITC)	<p>Although this review is of the site adjacent to the airport, it has some relevant and similar issues/challenges.</p> <p>Opportunities and Constraints - Opportunities views south and ensuring there are connections north/south to break the east/west movement. Constraints- Views from neighborhoods above from south look down on site - tall structures will likely cause concerns.</p>	<p>- Paths and views that allows connections north and south</p> <p>- Ensure tall buildings do not impact views</p> <p>- Integrate views with the surrounding communities</p>
Major economic commercial center	Mobility Hubs	Space for convenience amenities (concepts 1-3)	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Not optimal	Space for convenience activities/amenities e.g., package delivery lockers/pick up,
Applicable Standards	Mobility Hubs	TBD	2011 CCDC Downtown Design Guidelines	The Design Guidelines indicate downtown San Diego and does not contain potential project sites.	The Design Guidelines indicate downtown San Diego and does not contain potential project sites.

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Station Platform Configuration	Mobility Hubs	TBD	1982 Final Report Point Loma-Airport Trolley Extension Study	The report is 1982 and information may be outdated and old. It does mention that some platforms are side loaded and some center and dependent on alignment selected.	Provide review of platform configurations based on new station locations.
APM tracks/ Platforms	Mobility Hubs		Central Mobility Hub Refined Program of Requirements (DRAFT)		
Automated People Mover	Mobility Hubs	TBD	Diagnostic Workshop	FAA has raised concern for the APM tracks running underneath SDIA, must consider other pathways	potential pathways include: around PAC Highway, under the Coronado bay, around the SDIA runway, or above ground
APM Access	Mobility Hubs			Need to go straight under MCRD to the terminal to be effective in taking the load off the airport curbside and address access issues	

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Great Room	Mobility Hubs	Separating arrivals and departures	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Page 23, 24, The great room is an excellent iconic feature of this mobility hub. However, the renderings show spaces that are extremely difficult to maintain and operate as well as very costly to construct.	The iconic features of the Great Room should be viewed in terms of construction, operations and maintenance.
Airport Amenities	Mobility Hubs	Requirement to pass TSA checkpoints before riding APM	Central Mobility Hub Refined Program of Requirements (DRAFT)	<p>This will introduce major security considerations for the entire system (e.g., maintenance and emergency access, badging/training requirements for APM maintenance contractors, etc.)</p> <p>This will introduce significant constraints and where the airport station(S) could be located, and would make serving the rental car center more challenging (e.g., separate "sterile" and "non-sterile" APM cars and station areas)</p>	"security screening checkpoints"

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
				<p>Being required to pass through security to board the APM will be a disincentive for non-flying passengers (e.g., airport employees)</p> <p>If these are TSA checkpoints, back-of-house space will be needed for TSA operations</p>	
Arrivals and Departures	Mobility Hubs	Separating arrivals and departures	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Page 23 indicates separating arrivals and departures like those at the airport terminal 2. It is unclear why there is a separation requirement between the two.	Would the hub be more functionally efficient to have the spatial separation between public versus private transit rather than arrivals/departures? The separation eludes to more space required, circulation required, and additional costs of construction.

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Multimodal access	Mobility Hubs	CMH lower levels curb space (concepts 1-3)	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Not optimal for efficiency	Transportation "lobby" of transit services, including real-time display of all potential transportation services. Designated areas for commercial modes.
Curb access	Mobility Hubs	Separate arrival/departure levels	Airport Connectivity Analysis	Separate levels for arrivals and departures leads to imbalances during arrivals or departure peaks (i.e., one level underutilized, the other overcrowded)	<ul style="list-style-type: none"> - Designating levels by mode (e.g., private vs. commercial) avoids peaking imbalances - TNC drop-offs and pick-ups should be on same level to allow for re-match (drop-off followed by pick-up on same trip past the CMH)
Pick Up Drop Off Areas	Mobility Hubs		Central Mobility Hub Refined Program of Requirements (DRAFT)		Consider providing two parallel pick-up/drop-off lanes at the curb, as is done at the airport terminals
Pick up drop off (PUDO) flow and curb access	Mobility Hubs/Next OS	Space for curb access in plan	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Space may be constrained, Not optimal for efficiency	Dynamic curb management and on-demand access depending on varied demand throughout the day

Plan and Performance Review

Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Access fees	Next OS	No mention of access fees	Airport Connectivity Analysis	Is infrastructure needed to charge access fees to commercial vehicles (like airport trip fees) or to all road users?	<ul style="list-style-type: none"> - May want option of funding source like airport ground transportation fees - May want option to charge all road users to manage demand (e.g., with direct freeway access and a direct APM connection to airport, the CMH may end up being more attractive than dropping off pax at the terminals, and might not have adequate curb space to meet demand)
Vehicle access to CMH	Next OS	Local road serving as primary access roadway to airports may be widened, but dependent on land acquisition	Airport Connectivity Analysis, Revised Oct. 1, 2019.	Not optimal for efficiency	Dynamic/reversible lanes depending on time-of-day demand, perhaps incorporating tolling
Access fees at airport to drive demand at CMH	NextOS	Access fees on commercial shuttles, taxis, TNCs, and private mode shares to	Airport Connectivity Analysis	Potential issues with equity and CMH capacity	Charge based on demand/congestion/capacity at both CMH and airport facilities

Plan and Performance Review					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
		manage demand at airport			
Rail access to/from CMH	Transit Leap			Need to separate the tracks, add platforms, determine special trackwork requirements and potentially look at layover tracks	

Table A-3: Key Destinations

Key Destinations					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Coronado	Flexible Fleets	Water taxi from East Basin of Harbor Island Redevelopment	Port Master Plan Update (SC)	- how would it connect to CMH if the APM direct-tunnel option is selected?	- FlexFleet connection to CMH? - Mobility hubs planned at East Basin and Coronado Ferry Landing
Airport via APM (direct)	Transit Leap	Direct tunnel under runways		- Closure of airport runway during construction - Airport is built on fill, geological issues are present - Fault line runs through SDIA - Need to tunnel under MCRD	
Airport via APM (via CONRAC)	Transit Leap	Above grade APM wraps around southern edge of SDIA property along Laurel Street, then Harbor Drive	Harbor Drive Study (Concept Drawings included)	- Runway clearances along Laurel - Access to the SDIAs Northside cargo facilities - Removal of Solar Turbines Parking (along Laurel Street and Pac Hwy) - Access for Solar Turbines on Laurel Street	
Airport via Harbor Drive	Complete Corridors	New WB on-airport roadway connecting at Laurel/Harbor	http://san.org/Portals/0/Documents/Environmental/2019-		

[Draft/RDEIR/
04 SAN AD
P 2019 RD
EIR 2.0 PD
Sept 2019.
pdf](#)

Airport via APM	Transit Leap	No mention of fare collection for APM	Airport Connectivity Analysis	A paid service would impact design (e.g., space allocated to fare vending/queuing, separation of free/paid areas, etc.) and ridership projections.	<ul style="list-style-type: none"> - APM fare would be revenue source, and funding needs may outweigh other needs (e.g., OAK Airport Connector, which launched with a \$6 fare over the objections of transit advocates) - APM fare would provide mechanism to influence demand (e.g., balance traffic between airport and CMH roadways).
Airport via Laurel	Complete Corridors	New two-way roadway connecting Laurel St. to the airport	North Harbor Drive Study	<ul style="list-style-type: none"> -Removal of Solar Turbines Parking (along Laurel Street and Pac Hwy) - Access for Solar Turbines on Laurel Street - Traffic Congestion along Pac Hwy 	-Allows for Transit only ROW along Harbor Drive, creates a direct transit connection from Airport to Downtown
Land Use Integration		Community plan divides area up into districts and villages with different mixed-use profiles that are pedestrian-oriented and connected	Midway-Pacific Highway Community Plan Update	Government-owned parcels may hinder redevelopment that aims to stitch together street network and better integrate the village concepts	

Land Use
Integration

Typologies
envisioned for
properties
immediately
adjacent to the
mobility hub
are: Institutional
(Existing
Community
College), Mixed
Commercial
Residential (0-
73du/ac),
Business Park -
Residential
Permitted (0-44
du/ac),
Community
Commercial -
Residential
Permitted (0-54
du/ac)

Midway-
Pacific
Highway
Community
Plan Update

Land Use
Integration

Complete
Corridors

To support
urban
integration and
walkability, plan
proposes two
new streets
(Charles
Lindbergh Pkwy
and Dutch Flats
Pkwy) running
parallel to
Rosecrans
Street and
Enterprise

Midway-
Pacific
Highway
Community
Plan Update

Smaller blocks would greatly
enhance active transportation

Street. Dutch Flats Pkwy incorporates a linear park/pedestrian path concept.					
Uptown	Complete Corridors	- improved ped/bike connections via Washington, San Diego Ave, Juan St - Washington/Pacific Hwy Rapid Bus	2019 Uptown Community Plan.pdf		
Middletown		Neighborhood across I-5 from CMH is included in the Middletown boundary map but doesn't appear to really be a part of it	Uptown Community Plan	Predominantly single-family neighborhood directly across from CMH, but some multi-family and commercial farther south	Slope allows for scenic views, neighborhood has diverse architecture and some mix of uses, relatively lush natural landscaping that could potentially be featured

Downtown	Flexible Fleets	Gondola from downtown to the airport; potentially expand on-demand shuttle (FRED) to include the airport	North Harbor Drive Mobility and Access Study	Expanding FRED to serve the airport would not contribute to decreasing traffic on Harbor. CMH may not provide a viable transit alternative for downtown users given the added distance	If CMH offered airport terminal services, airport passengers traveling from downtown could use the existing trolley line. The convenience of terminal access at CMH may outweigh the added time/distance
Community Enhancements	Complete Corridors	Lack of sidewalks near project site on Pacific Highway. Washington Street at I-5 challenging for pedestrians.	North Harbor Drive Mobility & Access	Study's Pedestrian Priority model ranks our project area medium.	Pedestrian Priority model identifies area as having high demand for bicycle infrastructure.
Community Enhancements		New parks incorporated throughout district and village concepts	Midway-Pacific Highway Community Plan Update		Think about how these parks relate to the CMH's public amenities
Community Enhancements	Complete Corridors	Multi-Use Urban Paths concept provides connections between villages and districts.	Midway-Pacific Highway Community Plan Update	Does not complete connection to Mobility Hub site at Sports Arena Dr/Enterprise Dr. entrance	

Community Enhancement s - Parks	Complete Corridors	New parks and "park equivalencies" (green paths) are included in plan, in particular the borders of the Dutch Flats village concept	Midway- Pacific Highway Community Plan Update	Unclear how the CMH would integrate into the pathways being planned. No direct bike/ped connection to neighboring community at intersection of Sports Arena Drive/Enterprise and Pacific Highway shown.
Dutch Flats Urban Village		Dutch Flats Urban Village concept is SW of project area between Pacific Highway, Charles Lindbergh Pkwy, Barnett, and Blakely. Envisioned as "an employment and residential- focused urban village" with "office, research and development, innovation, logistics, and technology uses." Calls for a mobility hub concept in the middle of the village and	Midway- Pacific Highway Community Plan Update	NBPL property runs through the middle of the village concept.

		multi-use path on Midway Drive.			
Dutch Flats Urban Village	Flexible Fleets	Shuttle b/w Dutch Flats Urban Village and Old Town Transit Center during peak travel periods prior to BRT service	Midway-Pac Hwy Community Plan		could be eliminated with relocation of rail and bus service to CMH
Kurtz District		Kurtz District encompasses Mobility Hub area and the areas immediately NW and SW.	Midway-Pacific Highway Community Plan Update	Concept is focused on streetscape improvements only due to the predominance of current military uses.	CMH offers an opportunity to rethink the assumptions made in this plan.

Sports Arena	Transit Leap	Sports Arena Development vision for specific area is "to establish a pedestrian- and transit-oriented landmark entertainment destination with a variety of uses. Will either renovate or replace existing Sports Arena.	Sports Arena Development RFP	Fairly long distance from CMH (1+ mile)	Plan calls for either renovation or replacement of Sports Arena. Identify ways of integrating its operations with that of the CMH to maximize value of its redevelopment.
Sports Arena	Flexible Fleets	Shuttle b/w Sports Arena and Old Town Transit Center during special events	Midway-Pac Hwy Community Plan		
Washington Street Gateway	Complete Corridors	Washington Street "gateway" into Middletown neighborhood across I-5 from CMH	Uptown Community Plan	Plan calls to "Identify the community gateway at Washington Street into Middletown from the Midway community. New development in the vicinity of this gateway should incorporate neighborhood identification, distinctive architecture, public art, and right-of-way improvements that signify entry into the neighborhood."	

Naval Base Point Loma	Flexible Fleets	Shuttle b/w Naval Base Point Loma, SPAWAR, and Old Town Transit Center during peak travel periods, with added parking for Naval Base Point Loma provided at SPAWAR	Midway-Pac Hwy Community Plan	
General	Transit Leap	Network of Transit Priority lanes		
Military installations (Midway, Coronado, Point Loma)	Transit Leap		Diagnostic Workshop	34,000 people commute to bases daily

Table A-4: Key Corridors

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
I-5 Direct Access Ramp from Future Managed Lanes	Complete Corridors	Unclear	CMH Rendering	- does not appear to circulate into CMH or NAVWAR site - only provides a pick-up/drop-off area - appears to conflict with ped bridge to Old Town	- integrate with new Old Town Avenue/Witherby interchange? ' - consider concept from Caltrans study of a DAR north of the NAVWAR site tying directly into Pacific Highway?
I-5 Access to/from the South	Complete Corridors	- reconfigured ramps to create a Laurel Interchange			
I-5	Complete Corridors	DAR from Old Town Ave (Managed Lanes)	Caltrans AP	Access to site with existing topography.	Improved geometrics may provide better access for transit on managed lanes (BRT)
I-5 Access to/from the North	Complete Corridors	1. DARs from I-5 and I-8 into PacHwy north of NAVWAR	Caltrans 2019 Improving San Diego Airport Mobility Feasibility Study Report.pdf	- compatibility with PacHwy vision from Midway Plan?	- could combine with a roundabout at PacHwy/Witherby to allow CMH access w/o left turns

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
I-5 Access	Complete Corridors	2 Managed Lanes on I-5	Caltrans Central I-5 Corridor Plan 2003	ROW Constraints along I-5 to the east. May conflict with CMH plans along the west side of freeway if standard freeway cross section is constructed.	May provide managed lanes access to the facility
I-5 Access	Complete Corridors	Future ramp connection from NB Camino del Rio W to I-5 S	Midway-Pac Hwy Community Plan	Merging/weaving with I-8 W to I-5 S movement could be problematic	alternatively, a new ramp from Rosecrans to I-5 S
Pacific Hwy/I-5 connections	Complete Corridors	Connector ramps from NB Pac Hwy to I-5 N and from I-5 S to SB Pac Hwy	Midway-Pac Hwy Community Plan	- geometric and operational constraints	- would be addressed by extension of Barnett and reconstruction of Old Town interchange
Pacific Highway Future Cross-Section	Complete Corridors	- reduction from 8-lane to 6-lane cross-section	Midway Community Plan	- still a very wide cross-section which is a challenge for active transportation and may not be warranted by traffic volumes	- narrow to 4 lanes, shorten crossings and repurpose the land to other modes?
Pacific Highway @ Laurel	Complete Corridors	<ul style="list-style-type: none"> - Include SB Free right-turn movement - Include EB Free right-turn movement - Include NB Dual left-turn lanes - Implement one- 	North Harbor Drive Mobility Study	<ul style="list-style-type: none"> - Access to Solar Turbines Truck Dock - Solar turbine Parking on the northside of Laurel St 	

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
		way EB only Signal at Solar Turbine Truck Dock			
Pacific Highway	Complete Corridors	I-5 Ramps to and from the north south of Washington St	I-5 Ramps Study (PSR)	ROW and geometric challenges for access to ITC.	Similar ramp connections to CMH can be considered north of Washington to Pacific Hwy. Consideration to be given to Midway Community Plan
Pacific Highway	Complete Corridors	reconfigure Sports Arena Blvd to include residential use	Midway community plan	want to focus access points away from Pacific Highway; this corridor has high traffic volumes	create signalized access points between Dutch flats section to station to create traffic calming measure and make this corridor safer for active transportation and

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Downgrade Pac Hwy	Complete Corridors	Downgrade Pac Hwy to 6-lane arterial and evaluate removing grade-separations at Barnett Ave, Witherby St, and Washington St	Midway-Pac Hwy Community Plan		Consider removing the grade-separation at Pac Highway/Barnett Ave at the same time Barnett Ave is extended to Old Town Ave/I-5 interchange.
New signal at Pac Hwy/G Street	Complete Corridors	Install a signal at Pac Hwy/G Street	North Harbor Drive Mobility and Access Study		
I-8/I-5 interchange	Complete Corridors	Connector ramps from I-8 E to I-5 N and I-5 S to I-8 W	Midway-Pac Hwy Community Plan	<ul style="list-style-type: none"> - cost/benefit - geometric constraints/feasibility - environmental constraints 	<ul style="list-style-type: none"> - new left-off loop ramp from Rosecrans off-ramp to NB I-5 to WB I-8 ramp (would be a left on-ramp to I-8 W)
Caltrans relinquish I-8 to City	Complete Corridors	Convert I-8 to an expressway or primary arterial and create at-grade intersections between Sports Arena and I-5		<ul style="list-style-type: none"> - cost/political constraints 	<ul style="list-style-type: none"> -increases connectivity and distributes traffic - reduces demand on Camino del Rio W - enhances access between Sports Arena area and SD River trail - alternatively consider ped/bike bridge over I-8 per Midway Pac Hwy Community Plan

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Close I-8 on- and off-ramps at Taylor Street	Complete Corridors	Consider closing the I-8 on and off ramps at Taylor Street to reduce cut-through traffic	Old Town Community Plan		
I-8 EB On-ramp from NWB Sports Arena Blvd	Complete Corridors	Square up the I-8 EB on-ramp to remove the free right-turn	Midway-Pacific Highway and Old Town Communities Mobility Report		The I-8 Corridor Study also looked at squaring up the SB W Mission Bay Drive to I-8 EB loop to improve bike/ped safety ("Alt A" for this interchange). Was this screened out during the Midway-Pac Highway CPU? If not, we should consider including it.
Sports Arena Boulevard	Complete Corridors	<ul style="list-style-type: none"> - Implement a multi-use path on the eastside of the roadway - Widen Roadway from 5-lanes to six lanes (north of Rosecrans Street) 	Midway Community Plan	ROW	

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Sports Arena Boulevard	Complete Corridors	<ul style="list-style-type: none"> -Widen Sports Arena Blvd, south of Rosecrans Street from a 2-lane sub collector to a 2-lane collector with CLTL - Implement sidewalks south of Rosecrans Street 	Midway Community Plan	ROW Removal of on-street parking	<ul style="list-style-type: none"> - The land uses along this corridor are planned on being redeveloped to more residential and commercial uses - Could be used as an opportunity for a main street like feature leading into the CMH
Sports Arena Boulevard	Complete Corridors	<ul style="list-style-type: none"> - Re-align Sports Arena Boulevard to better intersect with Pac Hwy - Create more distance from signalized intersection at Enterprise Street 	Midway Community Plan	Would require redevelopment of the Walter Andersen Nursery	<ul style="list-style-type: none"> - Could make a better connection point (at-grade) between the Midway Community and the CMH - Traffic on Pac Hwy at this point is low so there is an opportunity to make this a more ped/bike friendly crossing / Signal
Sports Arena Blvd/W Mission Bay Dr upgrades	Complete Corridors	Upgrade Sports Arena Blvd from Rosecrans St to I-8 from a 5-lane Major Arterial to a 6-Lane Major Arterial. Upgrade W Mission Bay Dr	Midway-Pacific Highway and Old Town Communities Mobility Report		

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
		between the I-8 ramps from a 5-lane Prime Arterial to a 6-Lane Prime Arterial			
Sports Arena Blvd/W Point Loma Blvd/Midway Dr	Complete Corridors	Remove the NB free right-turn movement from Midway onto Sports Arena Blvd. Remove the free right-turn movement from WB Sports Arena Blvd onto NB Sports Arena Blvd. Square up the right-turn.	Midway-Pacific Highway and Old Town Communities Mobility Report		enhances ped safety and reduces weaving prior to I-8 interchange
Sports Arena Blvd/Pac Hwy	Complete Corridors	Realign intersection to the north to make right-angle and signalized.	Midway-Pacific Highway and Old Town Communities Mobility Report		could align with CMH entrance

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Rosecrans St/Sports Arena Blvd/Camino del Rio W	Complete Corridors	Remove the SB free right-turn from Cam del Rio W onto Sports Arena Blvd. Allow SB movements to continue Sports Arena Blvd	Midway-Pacific Highway and Old Town Communities Mobility Report		signalize movement to enhance pedestrian safety - candidate for a roundabout?
Rosecrans	Complete Corridors	Build a multi-use path along the southside of the roadway	Midway Community Plan	Would require ROW take	
Rosecrans	Complete Corridors	Improvements to the Rosecrans / Sports Arena / Camino Del Rio intersection	Midway Community Plan	- Does not improve intersection operations to standard levels (i.e., LOS D or Better)	- Better Organizes traffic and Ped/Bike conflicts at the intersection
Midway	Complete Corridors	Multi-use path on the westside of the roadway	Midway Community Plan		
Midway grade crossing improvements	Transit Leap	Safety improvements including elevated tracks/platforms at rail crossings with Noell St, Washington St, Sassafras St, and Palm St	Midway-Pac Hwy Community Plan	- cost/benefit - geometric constraints/feasibility	- enhanced safety - only at highest volume crossings

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Midway connections to reduce block size and expand access	Complete Corridors	Construct new roadway connections between Midway Dr and Kurtz St and between Sports Area Blvd and Barnett Ave	Midway-Pac Hwy Community Plan	- need to wait for redevelopment	
Midway Dr upgrades	Complete Corridors	Upgrade Midway Dr from Rosecrans St to Barnett Ave from a 4-Ln Collector w/CLTL to a 4-Lane Major Arterial	Midway-Pacific Highway and Old Town Communities Mobility Report		
Barnett	Complete Corridors	Bring the Barnett Avenue / Pac Hwy intersection to grade	Midway Community Plan	- Needs to be designed and planned out - only included as a policy within the Midway Community Plan	- If brought to grade, the intersection could serve as another access point to the CMH
Barnett	Complete Corridors	Multi-use path along the southside of Barnett	Midway Community Plan		- Ped / Bike Access between the CMH and Liberty Station - Connects to higher density residential planned within the Dutch Flats area (Old post office site)

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Barnett Ave upgrades	Complete Corridors	Upgrade Barnett Ave from Midway Dr and Pac Hwy from a 6-Lane Major to a 6-Lane Prime Arterial	Midway-Pacific Highway and Old Town Communities Mobility Report		
Laurel	Complete Corridors	- Dedicate Laurel Street west of Pac Hwy as direct access to SDIA	North Harbor Drive Study PMPU SDIA Master Plan		
Laurel	Complete Corridors	- Build a New interchange at Laurel Street / I-5	SANDAG Concepts	Tight Geometric Constraints - Existing overpass is narrow - Trolley Bridge is narrow - Laurel Street would most likely need to be widened to six lanes	
Laurel Street re-timing signal coordination	Complete Corridors	Re-coordinate signals along Laurel Street along with intersection improvements at Laurel/Pac Hwy	Airport Development Plan EIR		

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Harbor Drive	Complete Corridors	<ul style="list-style-type: none"> -Reduce Harbor Drive from six lanes to four lanes (North of Grape Street) - Use additional ROW for Transit service (connection from Airport to SDCC) - Implement a Class I path connection from Shelter Island to the current Esplanade 	<ul style="list-style-type: none"> - Port Master Plan Update (PMPU) - North Harbor Drive Mobility Study 	<ul style="list-style-type: none"> - SDIA Traffic on Harbor Drive 	Cut off SDIA access on Harbor Drive and move to Laurel Street
N Harbor Drive	Complete Corridors		Diagnostic Workshop	limited access in and out of Point Loma	potential connection to N Harbor Drive via Rosecrans/ Nimitz
N Harbor Drive re-timing signal coordination	Complete Corridors	Re-coordinate signals along N Harbor Dr from Harbor Island Dr to Grape St	Airport Development Plan EIR		
Harbor Drive road diet	Complete Corridors	Reconfigure Harbor Dr from Grape Street to Pac Hwy as a two-lane facility	North Harbor Drive Mobility and Access Study		Reassign ROW to dedicated transit facilities

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Harbor Dr downtown road diet	Complete Corridors	Preferred alternative: Reconfigure Harbor Dr from Pac Hwy to Park Blvd to a 4-lane facility with a Class I bike path and a ped scramble at Kettner Blvd	North Harbor Drive Mobility and Access Study	Requires coordination with PUC	
New Park Blvd/Harbor Dr connection	Complete Corridors	Extend Park Blvd over the trolley tracks to Harbor Dr	North Harbor Drive Mobility and Access Study		
Roadway connection to west side of airport	Complete Corridors	New airport access road from Washington Street to the west side of the airport. Road is not intended as a shortcut or bypass between Point Loma and Hillcrest	Port Master Plan	Location/design/ownership of the road is subject to negotiation with the Navy	

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
On-Airport Roadway and Laurel/Harbor closure	Complete Corridors	Preferred alternative: Provide a new on-airport roadway (as a continuation of Laurel St) and eliminate the Laurel St/Harbor Dr intersection	North Harbor Drive Mobility and Access Study	- only addresses westbound traffic on Harbor Dr west of Laurel	Allows for a Harbor Dr road diet by reassigning airport traffic origination from I-5 and downtown to Pac Hwy
Relocate TNC for airport to economy lot	Flexible Fleets	With APM, relocate TNC drop-off to Pac Hwy economy lot instead of traveling along Harbor Dr	North Harbor Drive Mobility and Access Study		
Private Street from Airport					
Reduce demand on Camino del Rio W and Harbor Boulevard	Complete Corridors	A new I-5 Interchange at Hortensia Street would replace the existing Old Town Ave interchange and provide better access for Barnett Ave to I-5	Airport Connectivity Analysis, Revised (SANDAG) Oct. 1, 2019, and Improving San Diego Airport Mobility Feasibility	<ul style="list-style-type: none"> - ROW acquisition from residential/commercial properties - slope of roadway - Impacts to CMH/NAVWAR redevelopment footprint and Old Town depending on interchange configuration - Access to Hancock/Witherby Streets 	<ul style="list-style-type: none"> - optimal from a regional traffic perspective (vs at Witherby or Old Town Ave) - access to Hancock/Witherby - consider innovative interchange design options (single point, diverging diamond, etc.) - improves access between Point Loma and OB to/from I-5 (North and South)

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Study Report (Caltrans)					
Camino del Rio W upgrades	Complete Corridors	Grade separate Camino del Rio W from Rosecrans to I-5/I-8	Midway-Pac Hwy Community Plan	<ul style="list-style-type: none"> - creates a vertical barrier and is inconsistent with current urban planning practice - cost/benefit -access restrictions (especially to Sports Arena area) and potential operations issues 	<ul style="list-style-type: none"> - would have to be evaluated/considered with other improvements and land use changes

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Grape/Hawthorne	Mobility Hubs	-Port is Planning to build a Regional Mobility Hub on the block bound by Grape Street, Hawthorne Street, Pac Hwy, Harbor Drive	PMPU		<ul style="list-style-type: none"> - Using the transit ROW on Harbor Drive this could be a connection point between downtown and SDIA - Location is directly west of freeway ramps so it could capture vehicle traffic from the ramps before going onto the system
Washington					
Other Transit Enhancements	Transit Leap	Transit priority measures along Sports Area Blvd, Midway Dr, Rosecrans St, and Pac Hwy	Midway-Pac Hwy Community Plan	- existing limited ridership	- traffic signal priority, exclusive bus lanes
California High-Speed Rail	Transit Leap	Terminus station at SDIA (ITC)	2015 Preliminary Alternatives Analysis	ROW constraints along I-5 and near Old Town historic district. Geometric challenges for access to the CMH site. Space for long CHSR platforms at CMH.	CaHSR may provide access to proposed station in Escondido, Temecula and other locations along the alignment to LAUS
Roundabouts	Complete Corridors	Consider roundabouts for all new intersections and retrofit where feasible	Midway-Pac Hwy Community Plan	Would be more challenging to implement at intersections with high-volume or multi-lane roadways.	<ul style="list-style-type: none"> - reduces overall delays outside peak hours - improves safety for all modes

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Old Town Ave improvements	Complete Corridors	Traffic control improvements at Hancock/Old Town Ave and Old Town Ave/Moore, including reconfiguration or alternative traffic control (e.g., roundabouts)	Midway-Pac Hwy Community Plan	- Needs to be evaluated in conjunction with rebuilding of Old Town Ave interchange/extension of Barnett Ave.	
Close Market St at-grade crossing	Complete Corridors	Close the Market St at-grade trolley crossing	North Harbor Drive Mobility and Access Study		Potentially expand Seaport Village Trolley Stop as a new mobility hub

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Grade separate rail and Taylor Street	Complete Corridors	Evaluate possibility of grade separation to enhance the rail crossing at Taylor Street	Old Town Community Plan	Ensure grade separation does not affect the Historic Park, or negatively affect Congress St and Juan St, or result in elevating or widening Taylor St.	
India Street upgrade	Complete Corridors	Widen India from Glenwood Dr to Redwood St to a 4-lane one-way collector	KHA Harbor Dr Mobility Study summary of Uptown Community Plan		
ITS	Next OS	Communication upgrades at: India/Palm, Kettner/Palm, Pac Hwy/Sassafras, N Harbor Dr/Laurel and along Grape St, Harbor Dr, Hawthorn St,	KHA Harbor Dr Mobility Study summary of City SD Traffic Signal Communications Master Plan		

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
		Kettner Blvd, Laurel St, N Harbor Dr, Pac Hwy, Rosecrans St, and Sassafras St			
Glorietta Blvd	Complete Corridors	Provide a local connection between Glorietta Blvd north and south of Route 75/Coronado Bridge via a "loop road" frontage road along the highway that crosses under the bridge at the waterfront	Port Master Plan		

Key Corridors					
Component	5 Big Moves Category	Current Concept	Source Document	Issues/Challenges	Ideas/Opportunities
Coronado Signals	Complete Corridors	Various new traffic signals recommended at key Coronado intersections. See Figure 6.1 for a summary.	Coronado 2005 City-Wide Major Traffic Study (http://cityofcoronado.hosted.civiclive.com/UserFiles/Servers/Server_746006/File/government/boards/transportation/1339087295_705596.pdf)		

A.3 Considered Concepts

The following section outlines the existing conditions of the study area as well as two prior concepts that were considered for CMH development. Note that the literature review of past planning documents and an analysis of existing mobility issues outlined in sections A.1 and A.2 are inclusive of the entire study area and pertain to all formerly considered and future potential CMH sites, including the PTC. The development of the concepts included in this section for NAVWAR and ITC are provided to provide context for this process, but neither represent the entirety of sites analyzed, nor do they represent a selected CMH site. A similar analysis for the PTC site is underway and will be incorporated into the EIR for the CMH project itself and therefore is not included here.

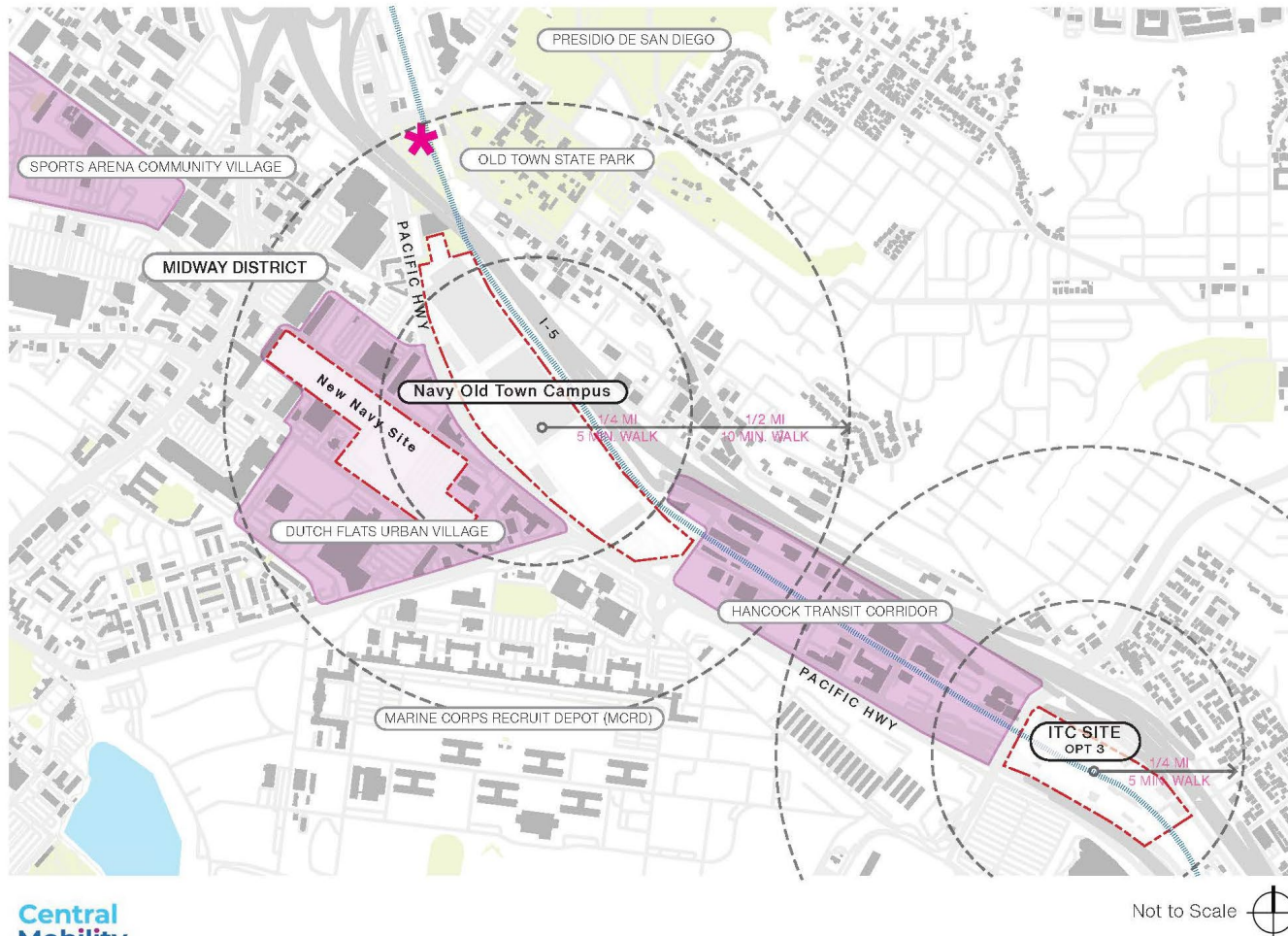
Existing Conditions

The following images show the current footprint and site characteristics of two sites initially under consideration.

The OTC site, or NAVWAR, is owned by the U.S. Navy and is in the process of revitalization. It was initially proposed that the CMH project would be part of a larger redevelopment effort which would provide updated military facilities, and a new mixed-use urban development featuring housing, offices, hotels and retail space. The CMH portion of the project would be located across the street from the new military facility, on Pacific Highway, adjacent to I-5. The site is also located amidst pockets of residential development envisioned as part of the Midway Community Plan.

The ITC site, located further south on Pacific Highway is across the street from the Consolidated Rental Car Facility and some economy parking lots, and is directly abutting the I-5 on/off ramp. Light industrial buildings are currently located on the site. A historical building is located on the northern edge of the site, on Washington Street.

Figure A-2: Existing Conditions



Context:

Concepts 1 & 2 - Navy Old Town Campus

Located on the current (or former) Navy Old Town Campus in San Diego, the site is approximately 48 acres for the primary property abutting the 5 fwy and 24 acres for the future NAVWAR facilities site located across PCH to the SE.

The Central Mobility Hub (CMH) has the potential to become a key connector between existing and future planned urban villages. The Midway Community Plan identifies three new urban villages within a 1/2 mile, or a ten minute walk to the CMH. The CMH site also is just 3 miles, or a six minute drive to the San Diego International Airport. The NE of the site touches the edge of the historic Old Town State Park and neighborhood.

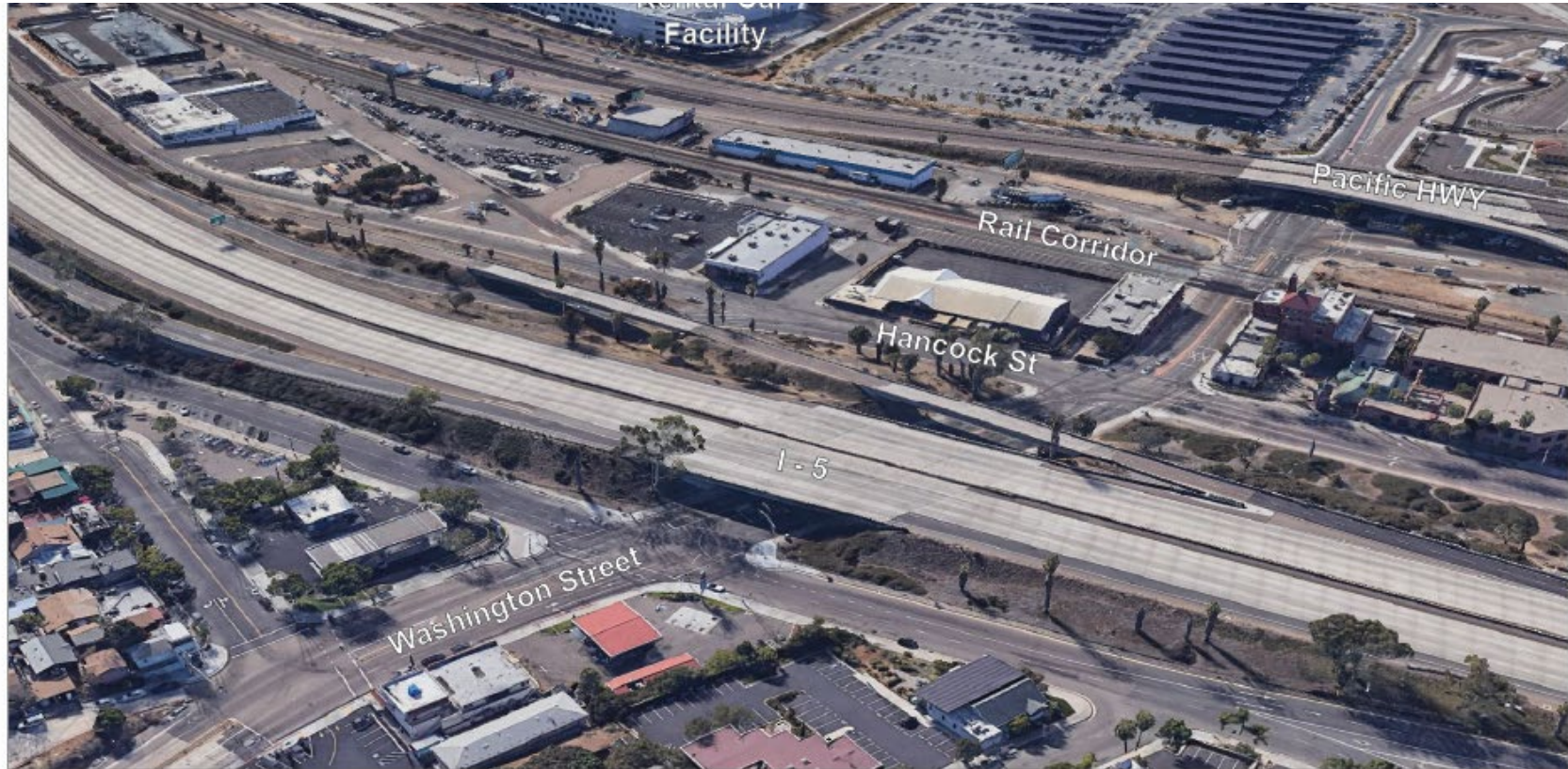
Legend:

- Project Sites
- * Old Town Transportation Center
- Rail Corridor
- Buildings
- Parks & Open Space
- Midway Community Plan Urban Villages

Figure A-3: Current OTC Facility Condition

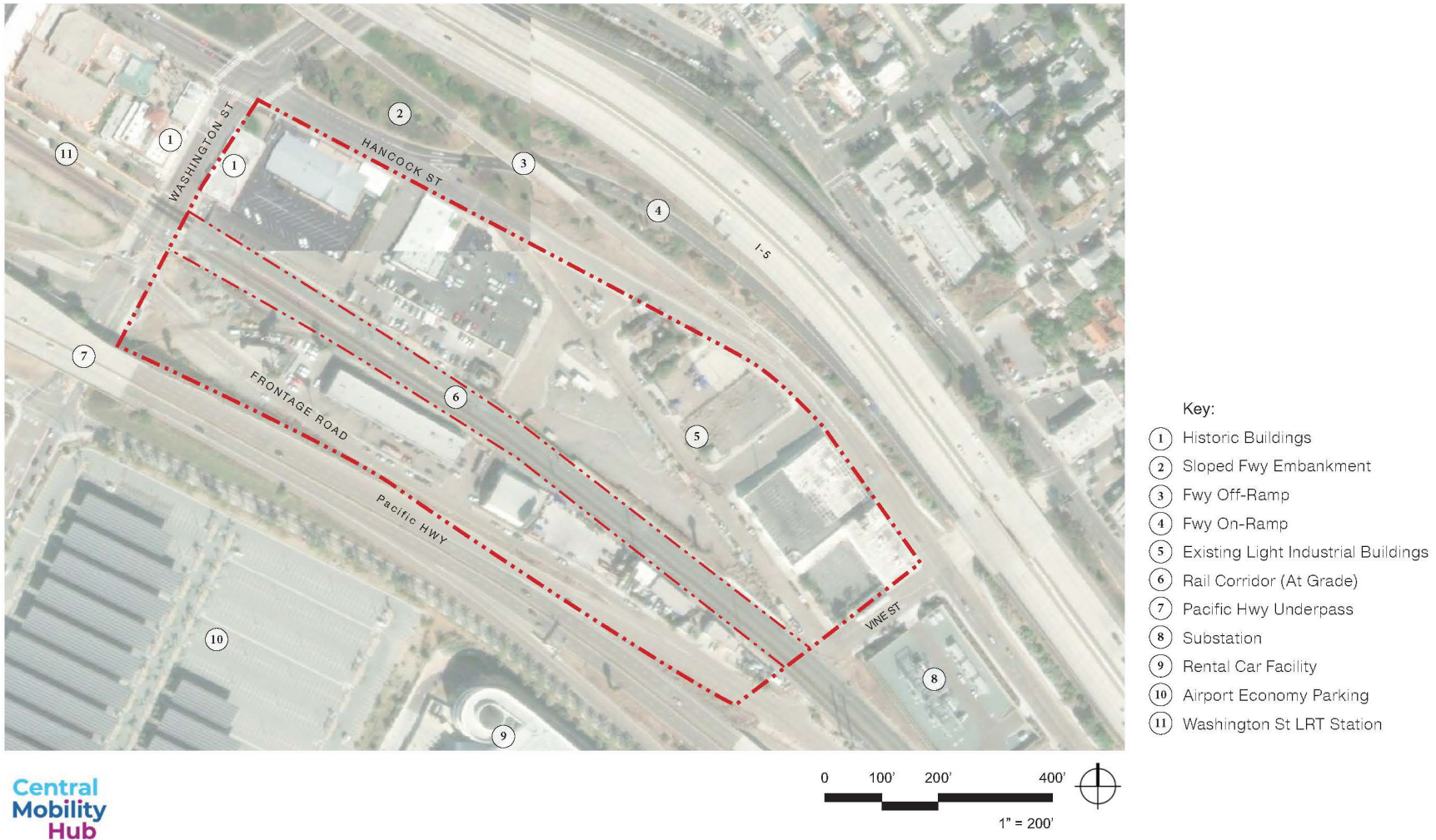


Figure A-4: ITC Site - Current Conditions



Central
Mobility
Hub

Figure A-5: ITC Site - Existing Conditions



Concept Alternatives

Main Inspiration – Denver Union Station

As part of a best practices review, the project team examined ten world-class multimodal facilities in the United States, Canada, Brazil, the United Kingdom, Spain, Saudi Arabia, Hong Kong, Singapore and Australia. While all contributed inspiration and good ideas to the conceptual design, one station stood out as having features that would benefit the CMH. Denver Union Station is the central transportation hub in Denver, Colorado. The station itself houses a historic terminal building, a train shed, an underground bus terminal and a light rail station. The station underwent major renovations which completed in 2014 to improve existing transit facilities, and to introduce new mixed-use facilities including a hotel, retail, and dining spaces. Denver Union Station was used as the main inspiration for the design of the CMH, as its planning and design strikes a harmonious balance between several key factors.

Denver Union Station is, like the CMH, integrated on a site near physical barriers dividing communities. Both sites face similar space constraints and include a similar wide range of transportation services to be accommodate in limited space. To mitigate this challenge, the design of the CMH drew inspiration from

Figure A-6: Underground Bus Bay



Source: Armando Martinez

Figure A-7: Pedestrian Activity Entering the Station



Source: Medium

Denver Union Station, such as the use of underground space to accommodate transportation services otherwise confined in urban settings. Similar to the underground bus depot at Denver Union Station, one of the CMH concept alternatives proposes to locate bus bays below grade, integrating the use of natural light similar to Denver Union Station, to provide a high quality, pedestrian-friendly facility. Denver Union Station also features attractive and easy-to-navigate pedestrian connections to the surrounding communities, a human-scaled design that is not overwhelming to patrons and is well-integrated into its surrounding urban fabric – all features that have been incorporated in the three CMH concepts.

Additionally, the design for the CMH will integrate new mixed-use development adjacent to the site, similar to the Denver Union Station case study. This will foster the CMH identity as a community space by providing commercial, retail, and dining mixed uses as well as public plazas that draw people to them for enjoyment, regardless of transit needs. Moreover, given the CMH's geographic proximity to historic Old Town San Diego, preserving a connection to the past will be vital to ensuring that its design blends seamlessly into the context of surrounding communities. This will play a key role in solidifying CMH's role as a community landmark and gathering place.

Figure A-8: Rail Platform



Source: JC Buck

Figure A-9: Denver Union Station



Source: Railway – Technology.com

Concept 1

The first concept proposes that the Automated People Mover (APM) connection to the Airport is located on the south-west side of the site. The APM would be located adjacent to new buildings that would face Pacific Highway and would overlook a public plaza where bus bays (to the north of the plaza), active transportation, flexible fleets and mobility hubs would interact. Speeds on the plaza would be very slow, with priority given to pedestrians. The plaza would be designed following the concept of a woonerf (see sidebar below). On the other side of the plaza would be the Concourse building, hosting ticketing, travel information, retail and a food court. Rail service would be located on the eastern end of the site. Bus bays would be located below grade, under the plaza.

Figure A-10: Example of Woonerf



A woonerf concept uses street space as a social space rather than a place dedicated solely to vehicles. Woonerfs create

- Reduced driving speeds
- More efficient use of space
- Increased socialization and street activities
- Use of traffic calming measures

Source: Chicago Tribune

Users could either get picked up or dropped off to/from the site on Pacific Highway or via a direct access ramp off the I-5. Overall walking distance from one end to the other would be about a quarter mile, or three minutes. An underground tunnel would also allow direct connection for pedestrians and cyclists to Old Town.

Figure A-11: Concept 1 - Aerial View



Figure A-12: Concept 1 - Site Plan

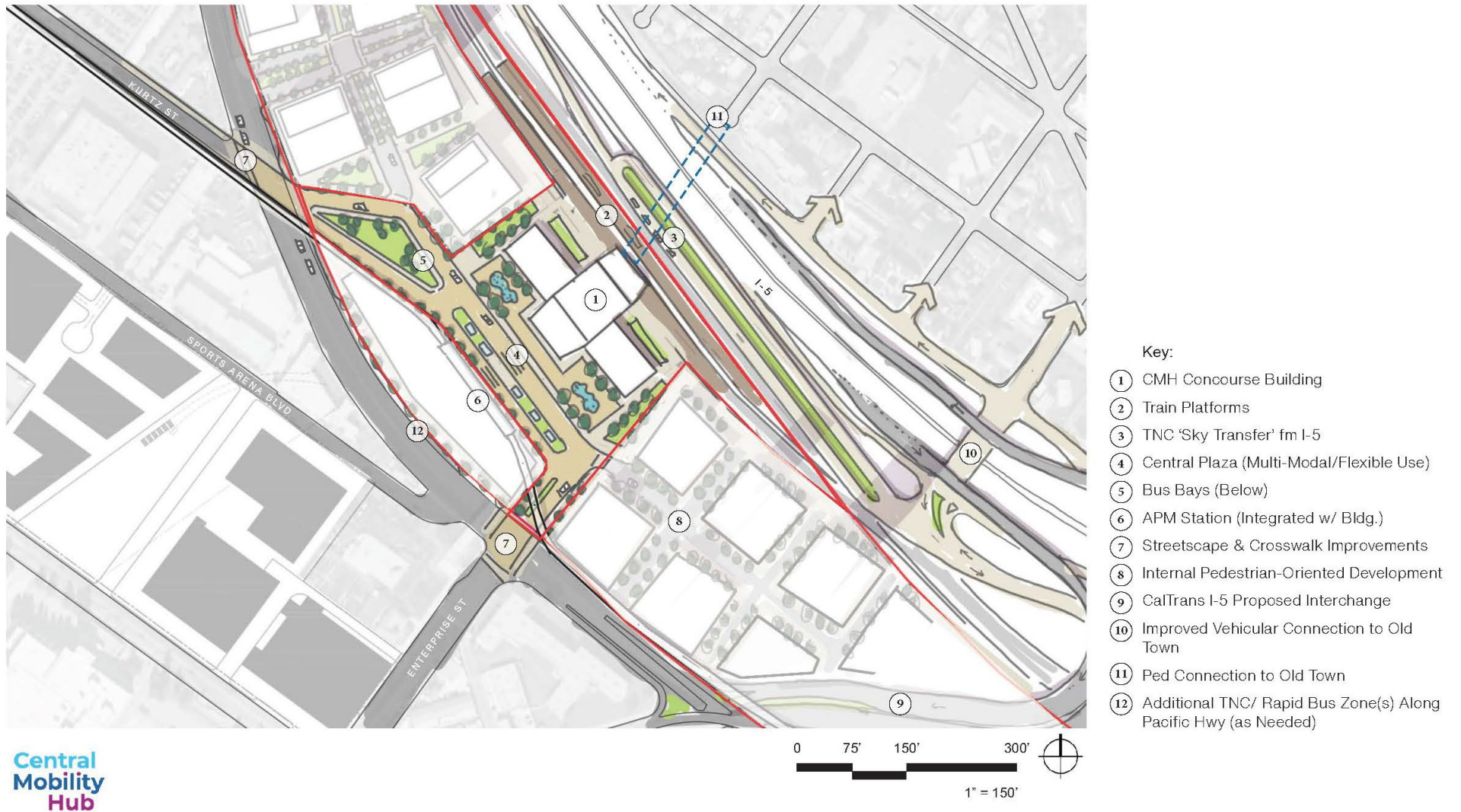
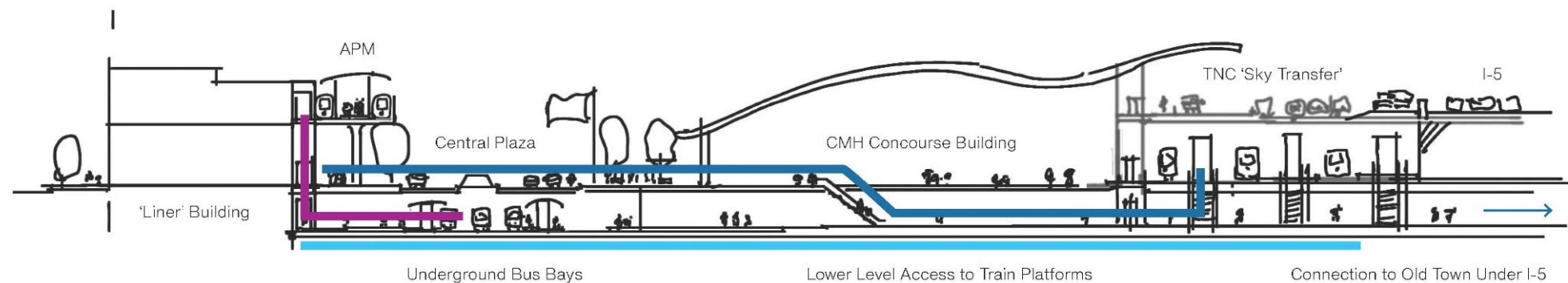
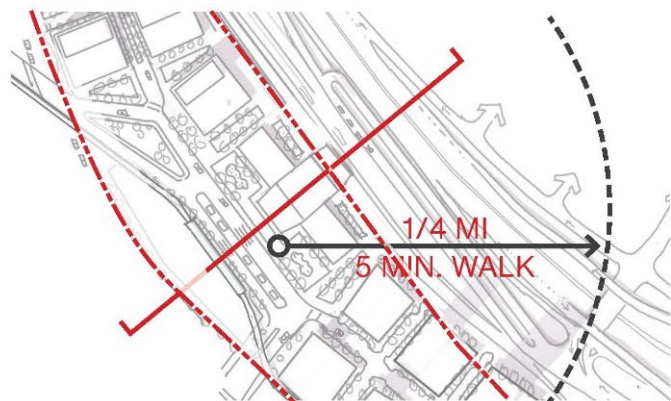


Figure A-13: Concept 1 - Cross Section



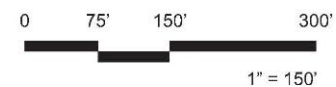
Section Cut Key Map:



Central
Mobility
Hub

Walk Times:

- 1/4 mi. = 3 mins.
- Less than 1/4 mi. = 2.5 mins.
- Less than 1/8 mi. = 1 min.



Concept 2

The second concept proposes to locate the APM access near I-5, above the rail corridor, with a potential northwest extension to the Sports Arena District. The APM would be located adjacent to a second-level concourse building which would house ticketing, travel information and access to local and regional transit service. It would overlook a pedestrian plaza located in the center of the site that would be ringed by the bus plaza. Bike amenities would connect directly to the plaza, and amenities such as bike lockers would be offered for cyclists who want to leave their bike behind as they jump on another connection. The plaza would be a central space for pedestrians to socialize and rest, or simply cross over to amenities located in the Pacific Highway buildings. Local buses and flexible fleets would be accessible from the plaza along the internal road underneath and perpendicular to the concourse building.

In this concept, both the bus bays and rail infrastructure would be at-grade. Access to the bus bays would be provided through the plaza, and through a connection between the Pacific Highway Building and the concourse, and down an escalator. The bus bays would also be accessible via adjacent local streets and through a pick-up and drop-off area directly off the I-5

On the other side of the site, adjacent to Pacific Highway, would be administrative buildings, local and regional travel information, booking and trip planning services, a food court as well as other amenities.

Figure A-14: Concept 2 – Aerial View



Figure A-15: Concept 2 –View from I-5 looking northwest, with AP<M station above the rail corridor in the foreground and the central plaza in the middle ground.

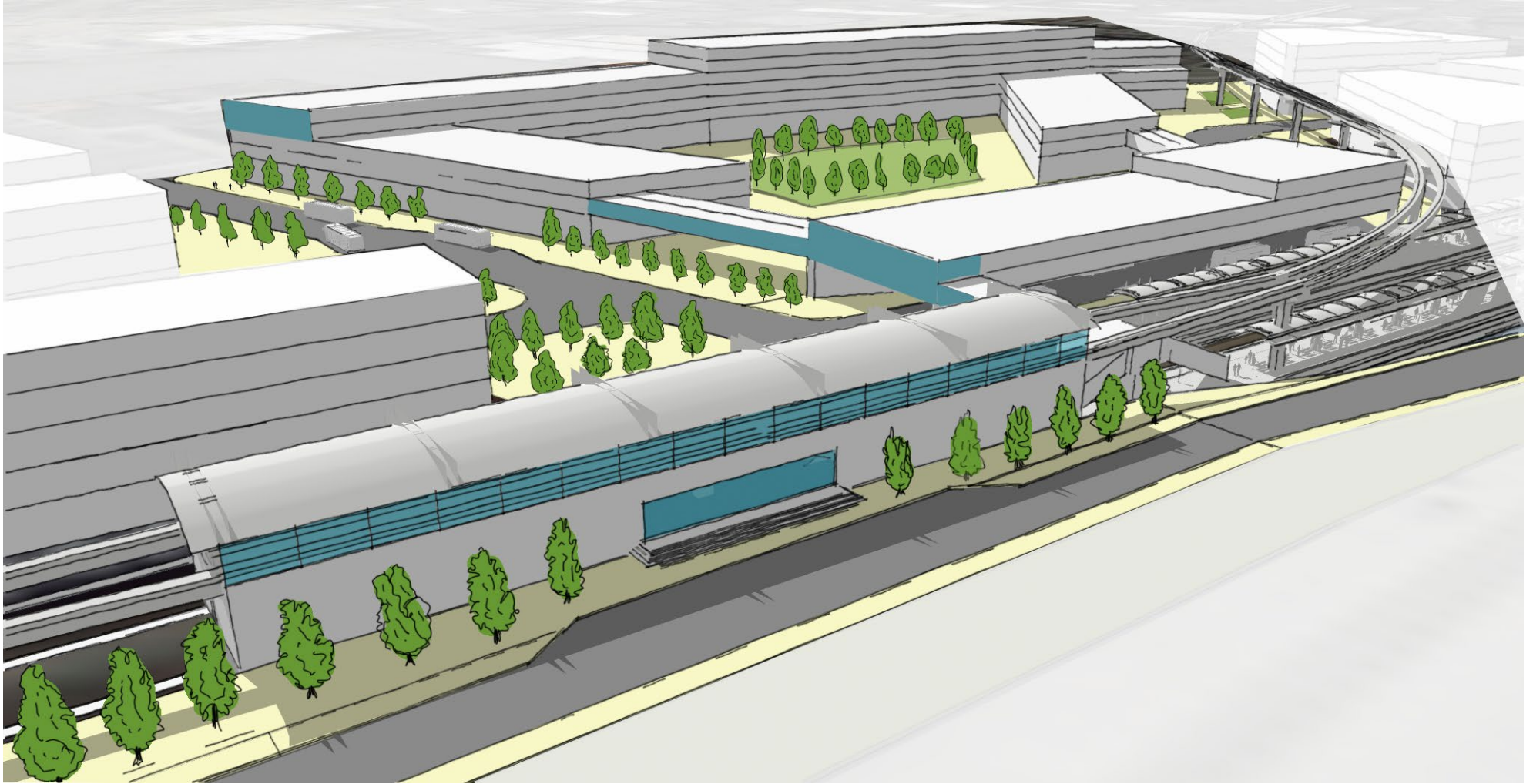


Figure A-16: Concept 2 – Bus Bay & Central Plaza

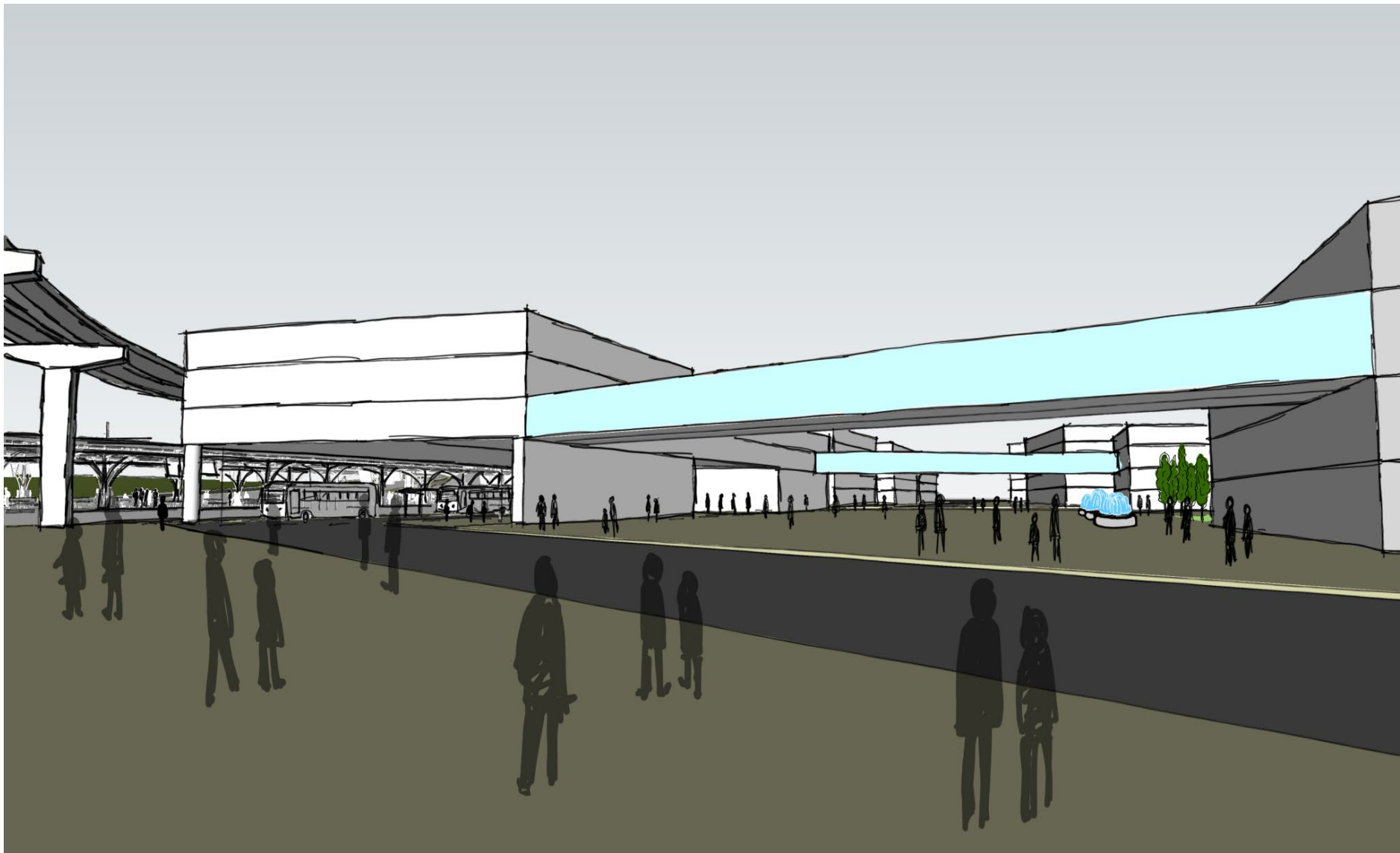


Figure A-17: Concept 2 – Transit Access View

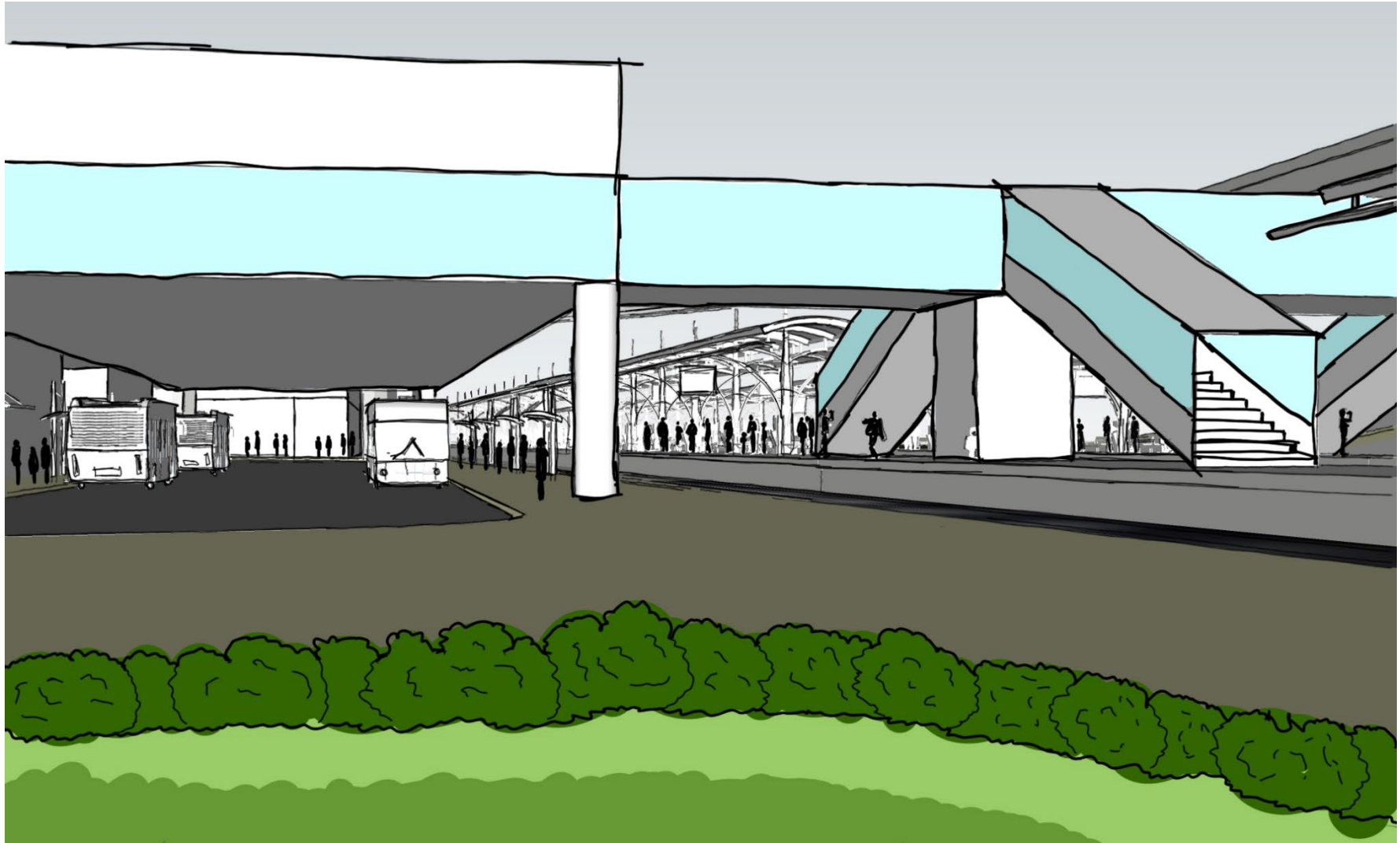


Figure A-18: Concept 2 – Pick Up Drop Off Area from dedicated I-5 ramps.



Figure A-19: Concept 2 – Site Plan

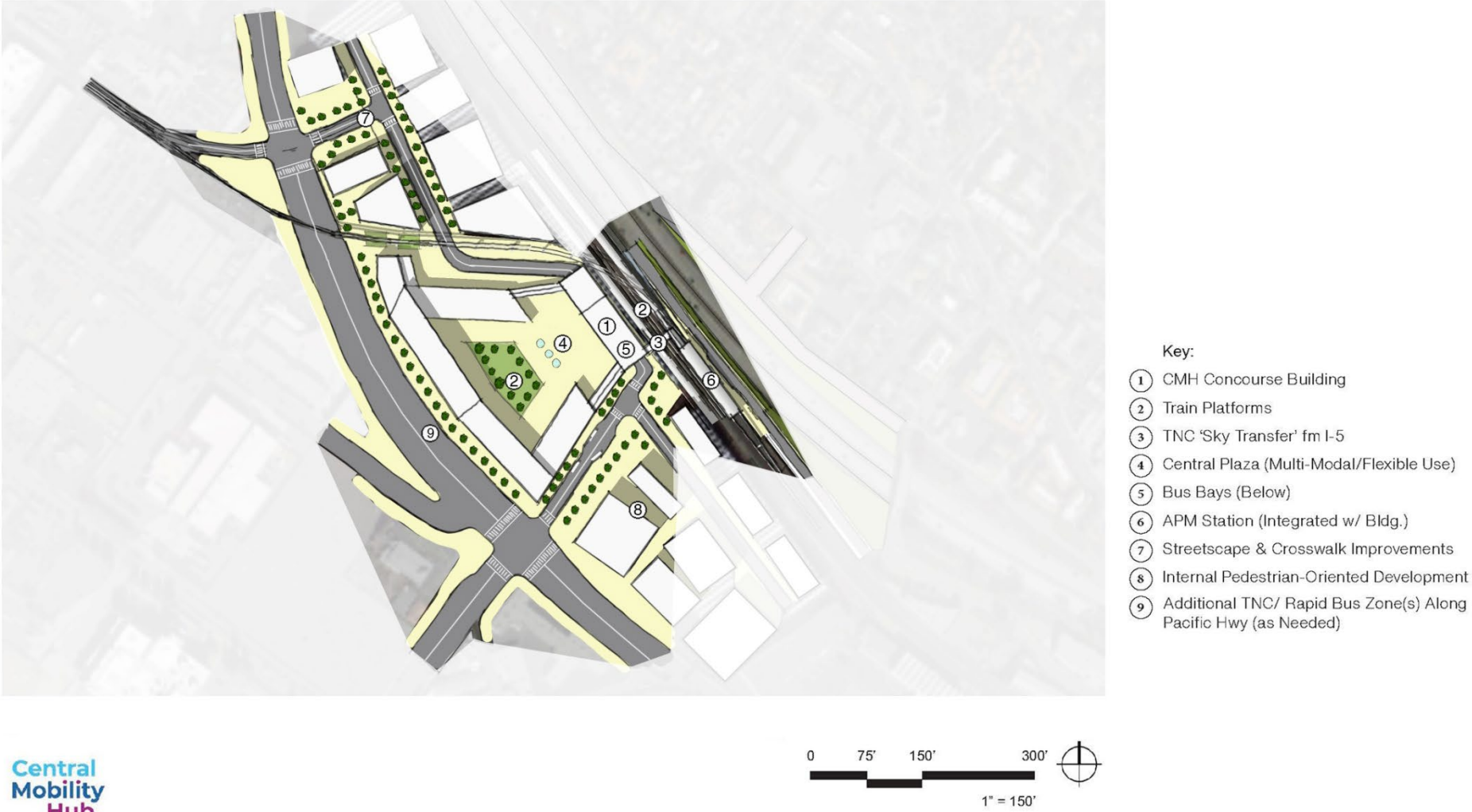
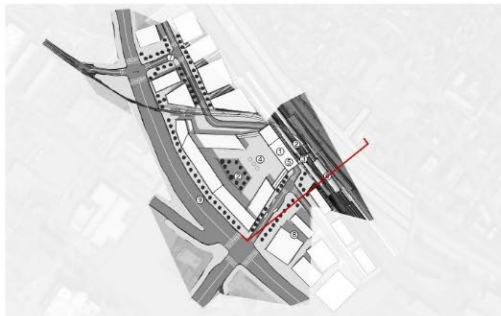


Figure A-20: Concept 2 – Cross Section



Section Cut Key Map:



**Central
Mobility
Hub**

Walk Times:

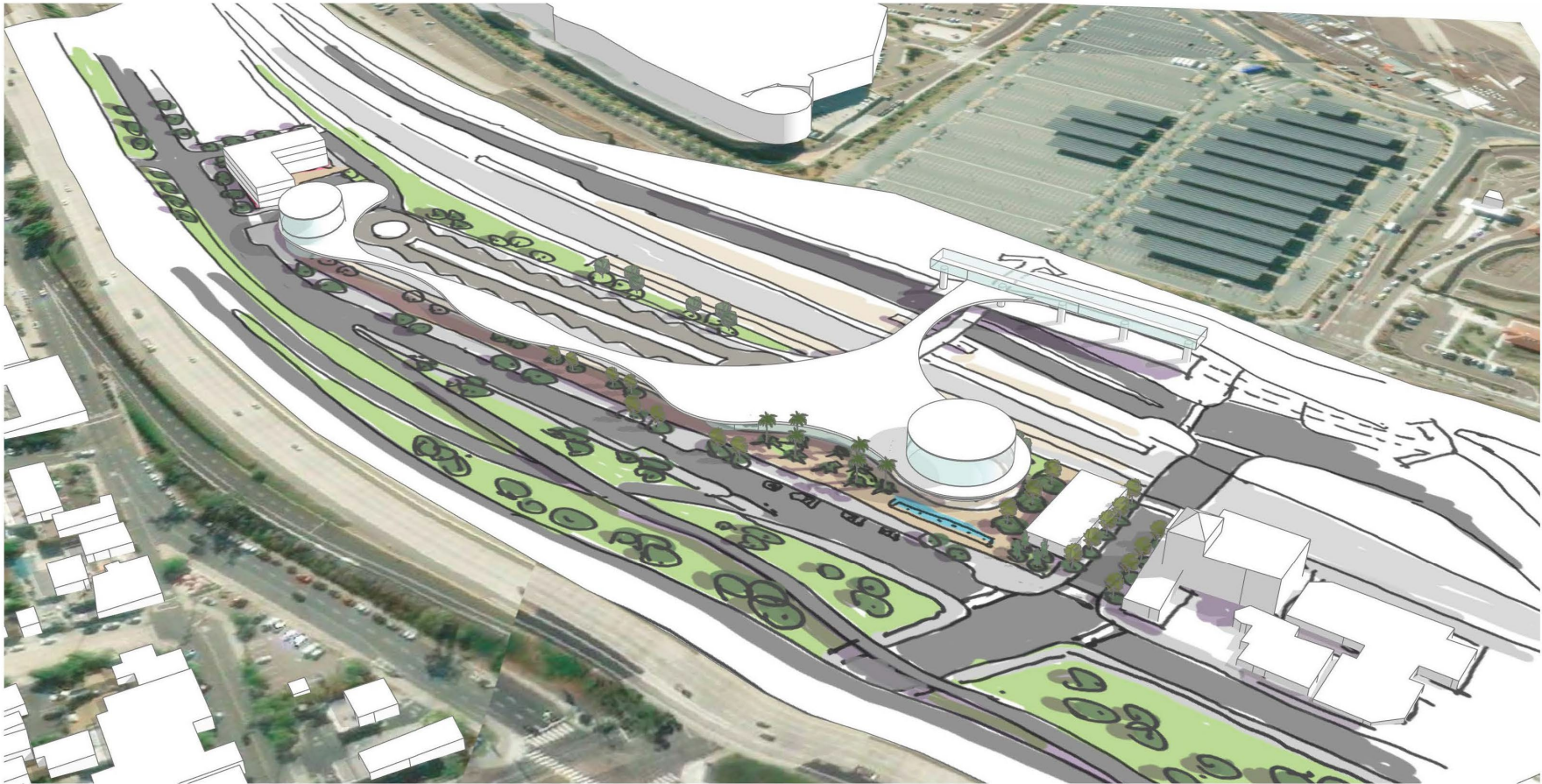
- 1/4 mi. = 5 mins.
- Less than 1/4 mi. = 4 mins.
- Less than 1/8 mi = 2 min.
- *Elevator wait time not included

0 75' 150' 300'
1" = 150'

Concept 3 – ITC Site

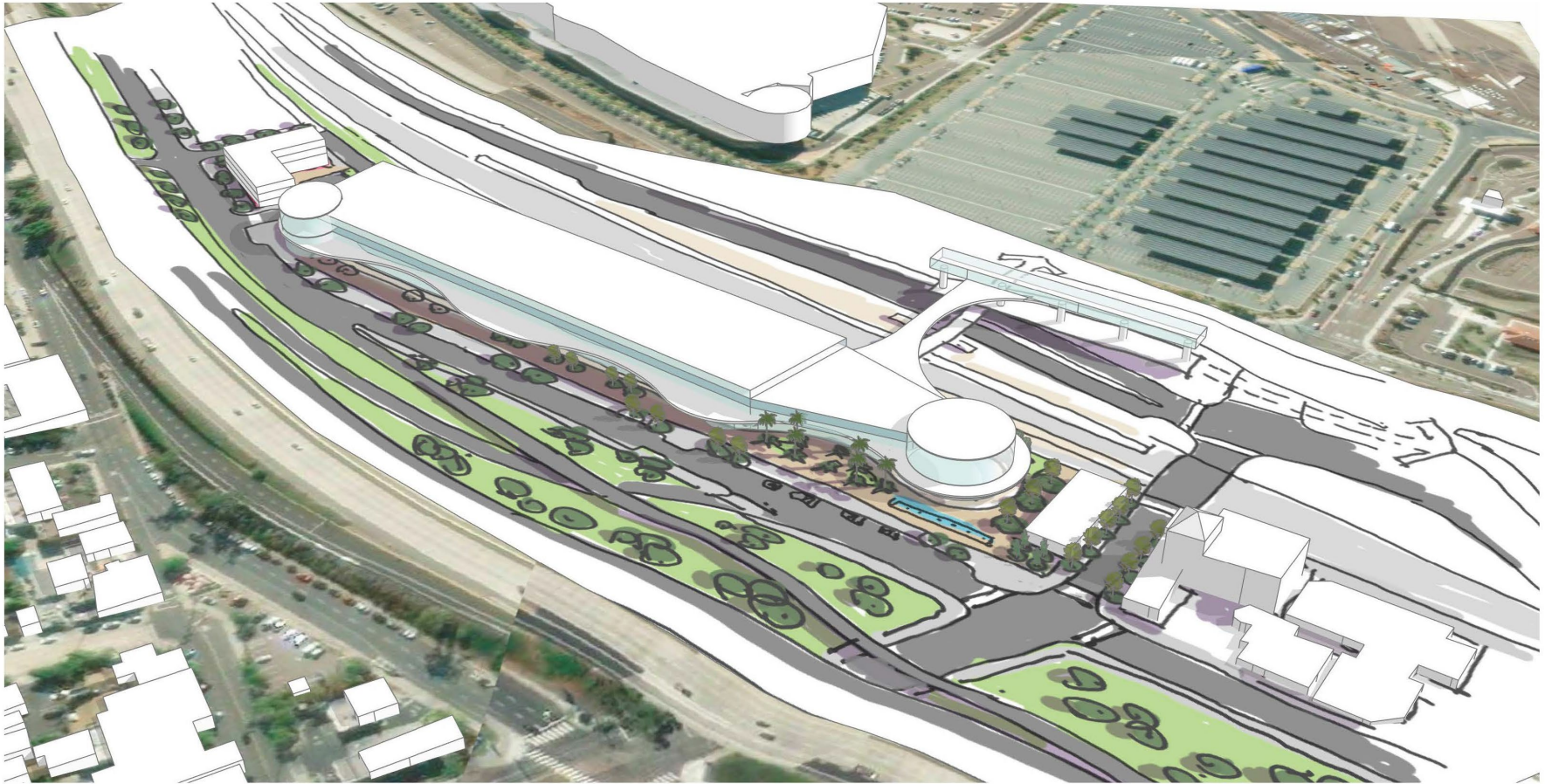
The ITC site concept proposes a main CMH building located on the north-east end of the site, with a transit plaza and TNC drop-off located directly along Hancock Street. The APM station would be located across the street on Pacific Highway, and accessible from the CMH via a Sky Bridge going over Frontage Street and Pacific Highway. Bus bays and train platforms would be located at grade along Frontage Street; a variation of this design would put the rail corridor into an open trench below Washington Street, lowering the rail platforms one level below-grade. A canopy would float over the station site and bus bays to provide shelter and host placemaking amenities. Additional mixed-use on a second level could also be considered. The historic building along Washington would be preserved and potentially re-used with supportive activities such as retail or food accommodations.

Figure A-21: Concept 3 - Proposed Aerial View



Central
Mobility
Hub

Figure A-22: Concept 3 - Mixed Use Bus Facility Alternative



Central
Mobility
Hub

Figure A-23: Concept 3 - Site Plan

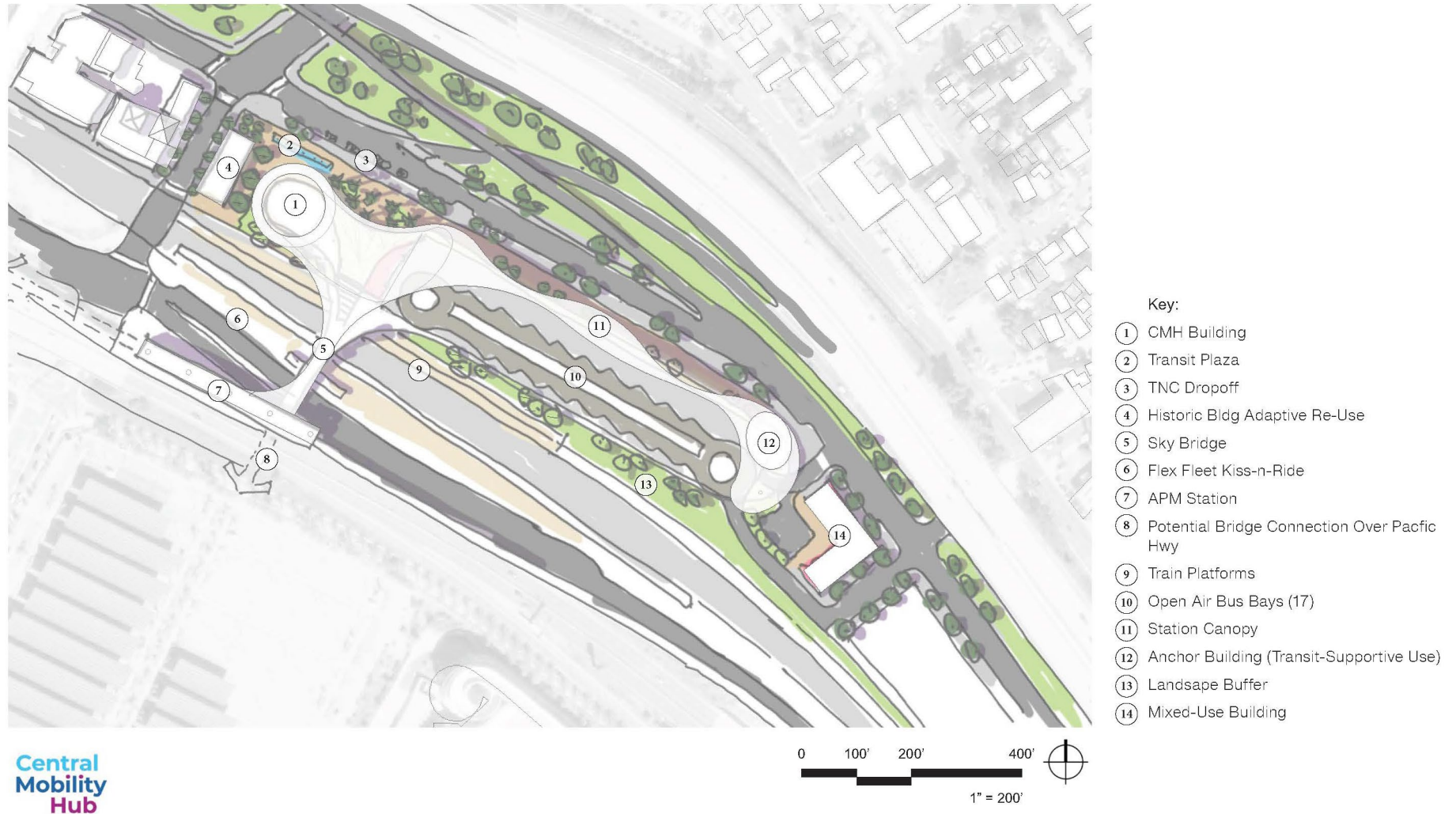
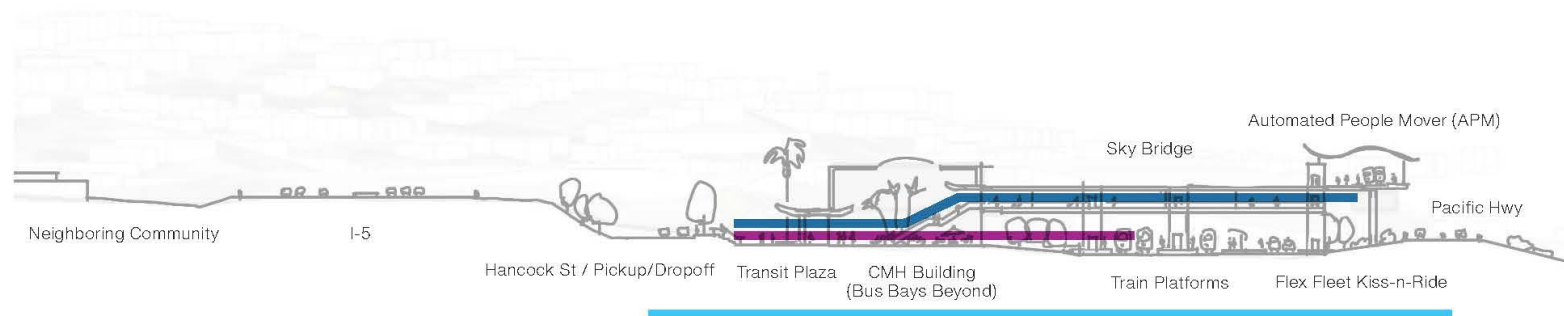
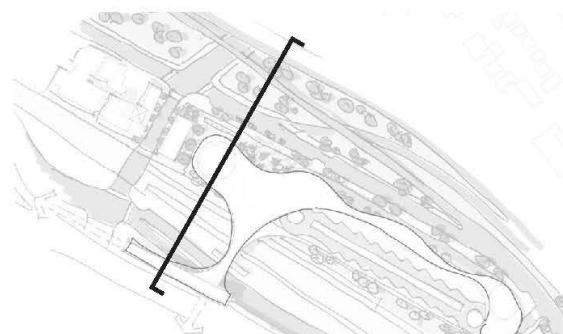


Figure A-24: Concept 3 - Cross Section

ITC SITE CONCEPT - CROSS SECTION



Section Cut Key Map:



**Central
Mobility
Hub**

Walk Times:

- 1/4 mi. = 5 mins.
- Less than 1/4 mi. = 4 mins.
- 1/8 mi. = 2.5 min.

*Elevator wait time not included

