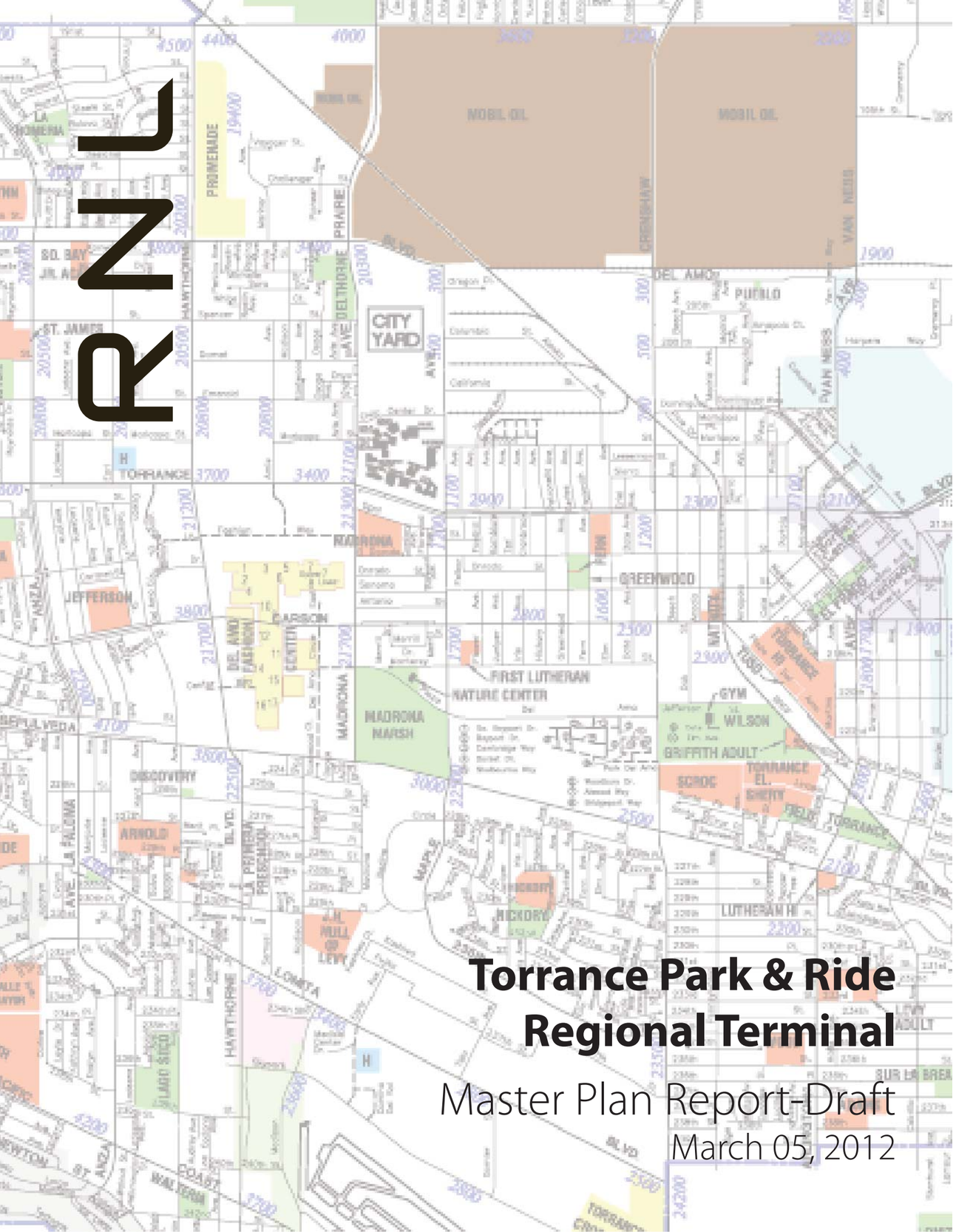


Torrance Park & Ride Regional Terminal

Master Plan Report-Draft

March 05, 2012

Table of Contents

Chapter 1: Executive Summary

Introduction

The City of Torrance, CA currently operates eight bus routes running through the City and reaching into neighboring Los Angeles communities in all directions. The City had identified the need to provide a centralized transfer location where patrons may access Torrance Transit as well as other neighboring transit services. A 15-acre property was purchased at 465 Crenshaw Boulevard for this purpose.

The Torrance Transit Park & Ride Regional Terminal is expected to be a state of the art, regional intermodal transit hub serving the South Bay/Los Angeles region opening in summer 2014. It shall improve transit operations at this location as well as to provide comfort, convenience and safety for transit patrons. Additionally this is an economic development project, designed to encourage transit oriented development and additional amenities for the ridership and community.

LOS ANGELES COMPILATION TRANSIT MAP - BUS AND RAIL

Scope of Services

The City of Torrance commissioned RNL and it's consultants to develop Site Planning and 30% Design - Bridging Documents for the Measure R Project P4 - Torrance Park and Ride Regional Terminal Project - FEAP 764. This project includes master planning of the entire 15-acre site to determine the most appropriate location of the Transit Center to balance all of the required uses, potential uses, circulation, expandability. The 30% Design-Bridging documents include the development of Advanced Conceptual Engineering (ACE) documents that are inclusive enough to be the solicitation documents for a "Design-Build" sealed bid contract.

The scope of master planning work, organized into four phases, allowed a methodical approach to establish future space requirements, develop a site master plan, determine the transit building architecture, space arrangement and engineered systems, incorporate sustainable building and site design, and provide cost estimate services for project budgeting. A description of the major work elements of each phase follows.

Phase I - Information Gathering
This phase initiates the information gathering necessary to allow the project to embody the goals of the City of Torrance with the planning and overall development of the site. Sub-tasks involve collection, receipt and acknowledgement of electronic media and data; review boundary, topographic, underground utility surveys, and geotechnical reports,; perform soil borings of areas of excavation for structure or infrastructure; engage key staff members from the City in Programming interviews to determine function and size allocation for site and building elements. The Information Gathering stage set the stage for the development of initial site affinity diagrams that were used to kick-off Phase II.

Phase II - Design Charrette
Over three days, a single design charrette was conducted between RNL, the Civil engineer (Psomas), sustainability consultant (Ambient Energy) and the City. The purpose of the charrette was to focus on arranging the physical layout of the site in an interactive atmosphere where the design team could react to and address the City's comments and concerns. Additionally, the charrette involved an Eco-Charrette to set Project sustainability goals and review the LEED checklist. The result of the design charrette was a series of nine conceptual design sketches that were later developed into one focus site layout. This single site concept diagram became the source of the further developed Transit Center ACE documents and master plan.

Phase III - Master Planning
The purpose and objective of the Master Planning Phase was to develop a conceptual layout of the transit center and transit site and to address the programmatic and facility needs developed during phases I and II. The Master Planning concentrated on developing a conceptual site plan that addressed the functional, operational and expansion requirements of the Transit Center site and to provide usable TOD (Transit Oriented Development) parcels.

Phase IV - Budgeting
In response to the Master Plan, the RNL consultant team developed order-of-magnitude cost estimates for the proposed improvements, new construction and TOD parceling. Additionally, a total project budget was prepared that delineates both hard and soft costs, the costs for construction and design.

VICINITY MAP - TORRANCE TRANSIT PARK & RIDE REGIONAL CENTER

Report Overview:

This Master Plan Study consists of eight chapters. Below is a brief description of each chapter.

Chapter 1: Executive Summary - describes the background of the project, defines the scope of work within each of the phases, and gives an overview of the report.

Chapter 2: Basis for Planning - provides a summary of the more qualitative planning issues that were noted during Programming interviews with the client. Each summary includes a description of the categories responsibilities, space needs, planning issues, general staffing information, and important adjacencies to other program elements. All of this is compiled for consideration during future planning and design efforts.

Chapter 3: Space Needs Program - presents general list of space requirements for the proposed section in the master plan. They will become further developed into detailed assessments based on current and future needs and identified by their quantity, area, and significance to design.

Chapter 4: Planning Parameters - identifies the conditions of the overall site and context while analyzing current zoning and code restrictions.

Chapter 5: Sustainable Goals - is a guideline of possible LEED points that may be achieved for this project.

Chapter 6: Design Approach - is an exhibit of the results of the charrette week during which nine possible concepts were explored.

Chapter 7: Master Plan - presents the Final Plan developed during the planning process. The Final Master Plan develop by the RNL Design Team was created from multiple schemes prepared during the original on-site charrette and subsequent working sessions with the City.

Chapter 8: Cost Estimating and Project Budgeting - provides an order-of-magnitude cost estimate for the proposed improvements and new construction of the Transit Center, transit site and Transit Oriented Development parcels. The estimate includes total Project Budget that delineates the costs for construction and design.

Appendix: Includes copies of supporting documentation developed through the planning process.

Chapter 2: Basis for Planning

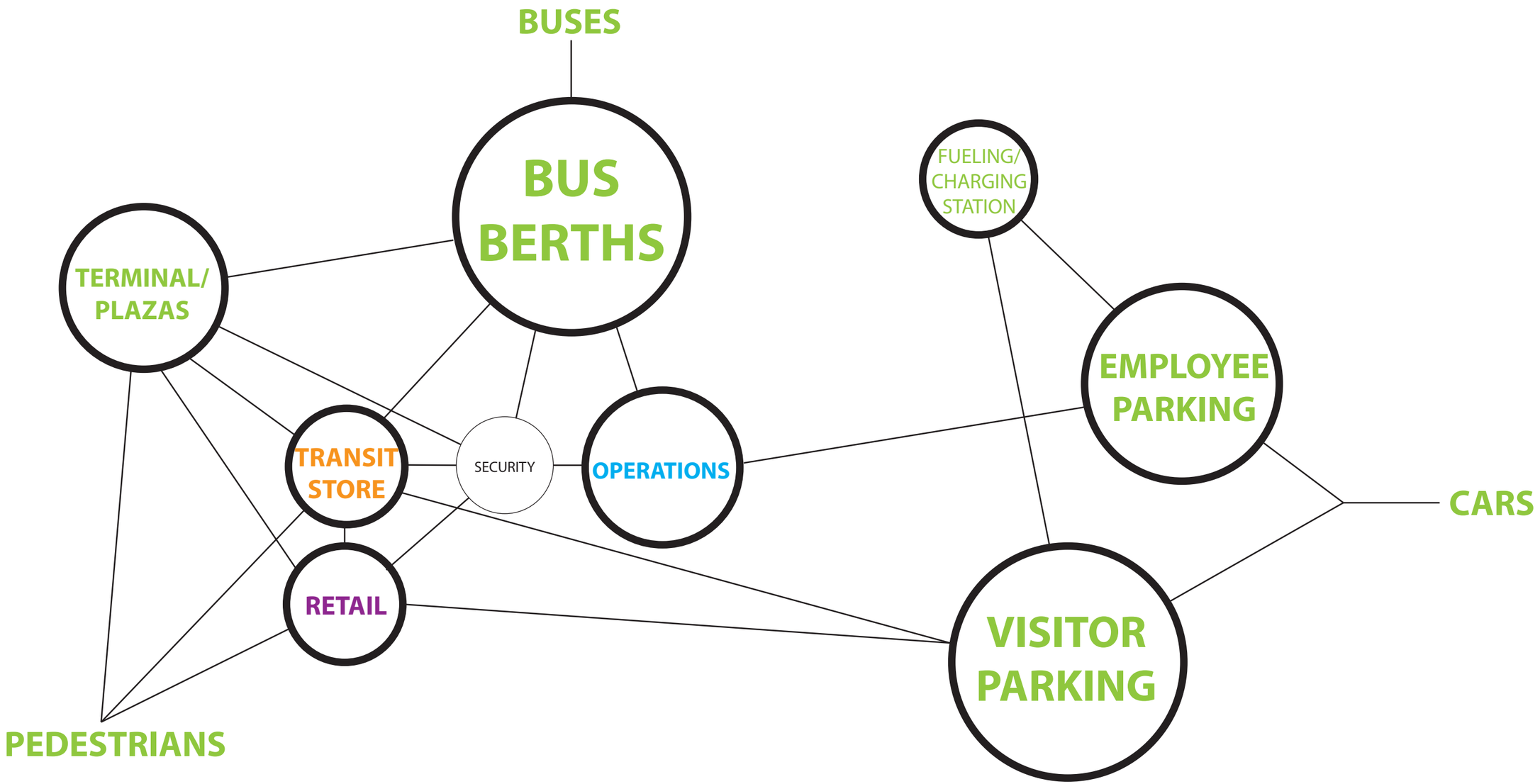
BASIS FOR PLANNING

This chapter provides a breakdown of each category in the facility and site. This chapter is used as a basis for planning spacial and operational needs. Generally, each category is summarized through characteristics such as function, adjacencies, hours of operation, staff organization, etc.

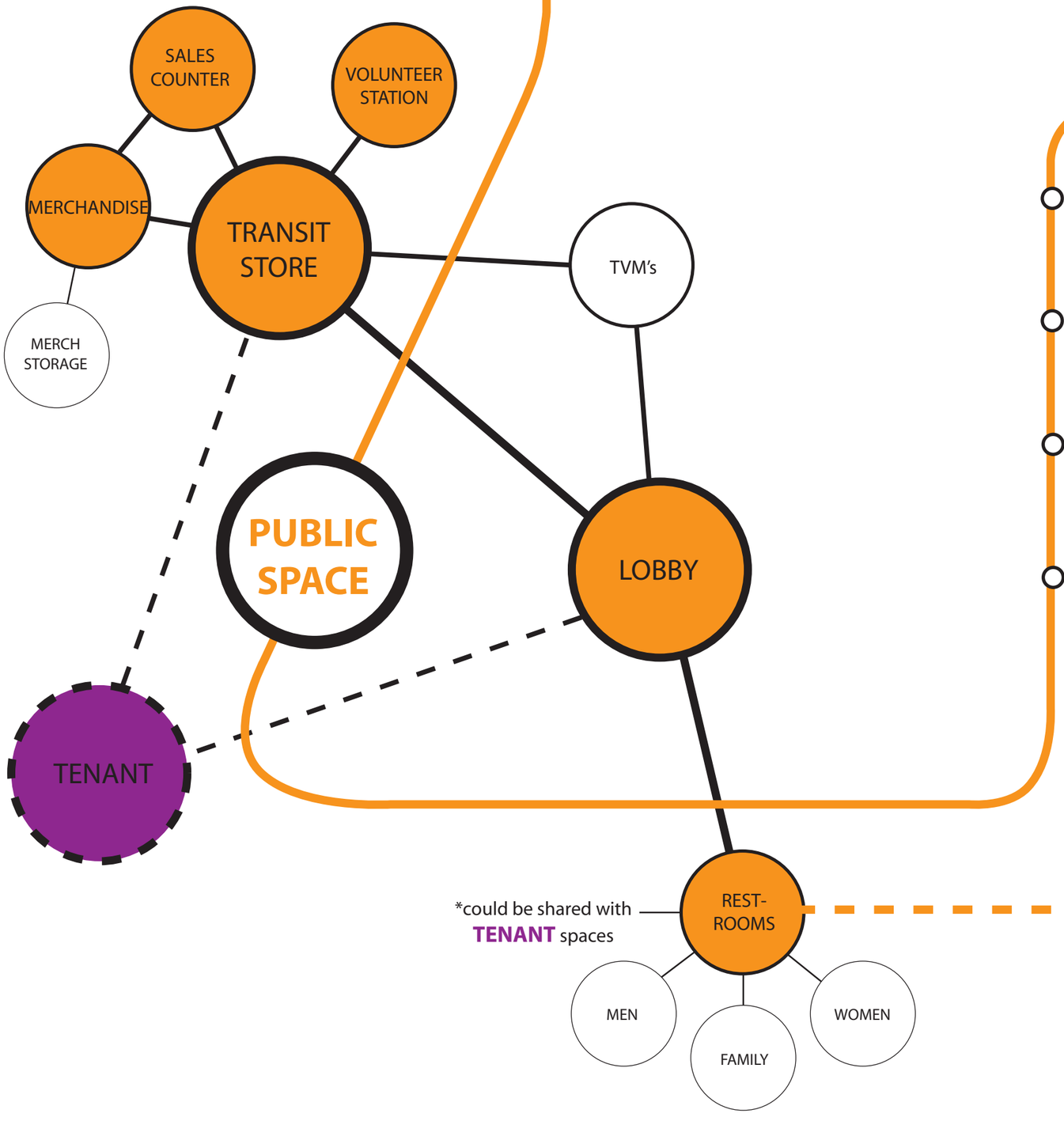
The category organization is as follows:

- PUBLIC SPACE
- TENANT SPACE
- OPERATIONAL SPACE
- TRANSIT ORIENTED DEVELOPMENT

TRANSIT SITE AFFINITY DIAGRAM



PUBLIC SPACE AFFINITY DIAGRAM



PUBLIC SPACE

FUNCTION OF CATEGORY

This category serves as the public space for transit related information and purchases and represents the gateway between the transit and tenant spaces.

HOURS OF OPERATION

The operation hours of the Transit Store will be tailored to the needs of the customers. After hour Ticket Vending Machines (TVM's) are available during standard terminal operating hours. The Lobby will be open during standard terminal operating hours.

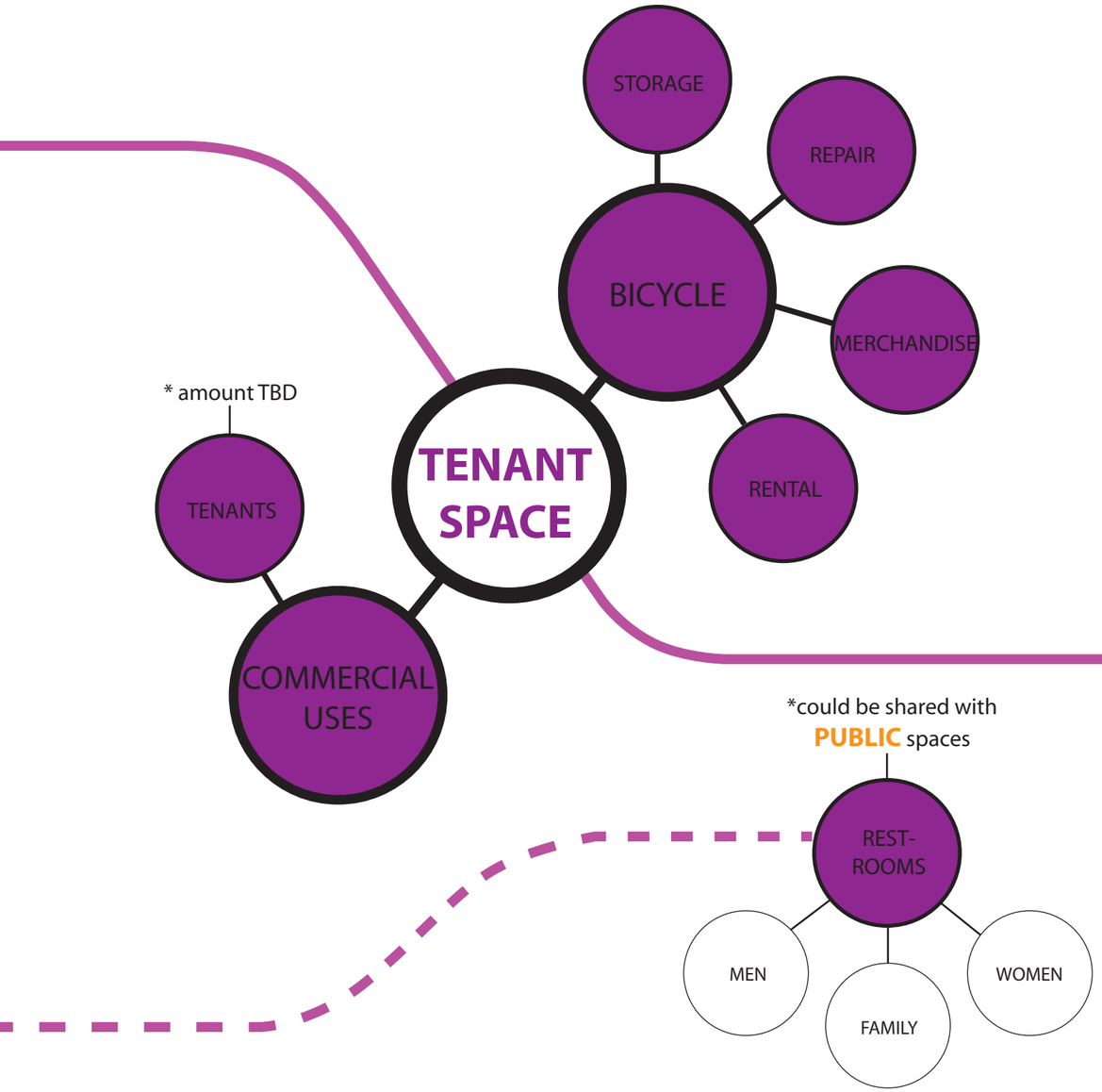
IMPORTANT ADJACENCIES

The Transit Store is located in close proximity to the bus terminal circulation route. Future build-out for extra service lines at the transit store (Volunteer Station) and extra waiting space in the Lobby are planned.

STAFFING

Up to two full time workers in the transit store. The Volunteer Station will be reserved as a counter for future expansion.

TENANT SPACE AFFINITY DIAGRAM



TENANT SPACE

FUNCTION OF CATEGORY

This category will be filled with privately operated tenant spaces that are possible retail, food and beverage operations that are available to both transit riders and the general public. The tenant spaces shall have subdivided based on market demand.

HOURS OF OPERATION

The hours of operation will be based on each tenant however if opened after standard terminal operating hours, the space should be secure to not provide access into the closed lobby or terminal.

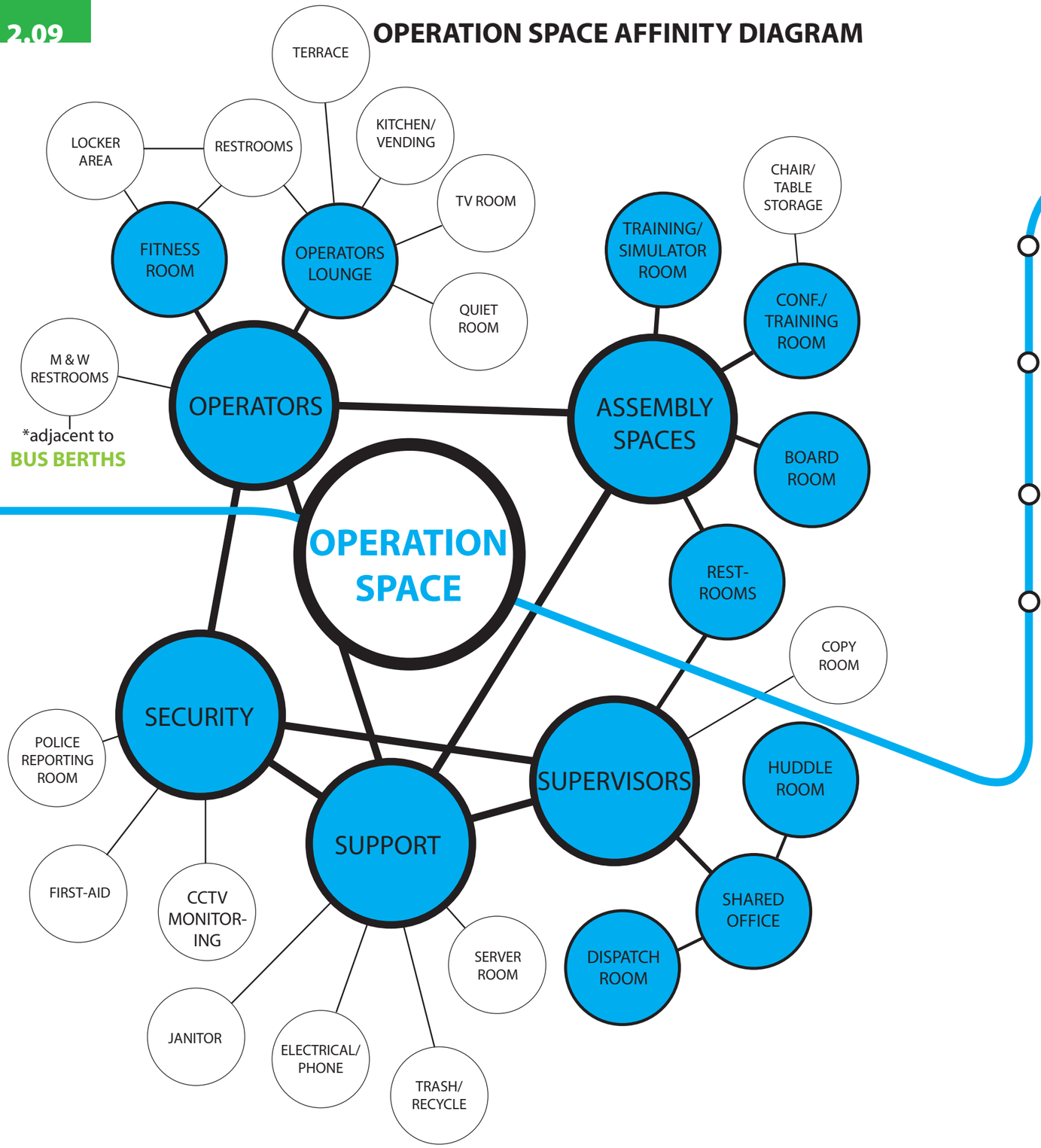
IMPORTANT ADJACENCIES

To encourage use, the Tenant spaces could be accessible from both the street and the Transit Center Lobby, but may signed appropriately to be visible from the outside. The Tenant spaces could be located as an appendage to the main center. The location of the spaces should be designed to consider possible empty space if retail spaces are not occupied.

STAFFING

Based on tenant. For planning purposes, two staff for the Bicycle Station and six staff for the Retail spaces were estimated.

OPERATION SPACE AFFINITY DIAGRAM



OPERATION SPACE

FUNCTION OF CATEGORY

This category serves as the administrative, support and meeting facility for many transit operations including lounge and training spaces for operators as well as community and city oriented gathering spaces.

HOURS OF OPERATION

As any typical administrative area, this category must be lockable while remaining open for security and emergency purposes. The Conference/Training Room that is also used as a rentable Community Room, may be available after hours on a reservation basis. In this case, a set of Men's and Women's Restrooms should also be available.

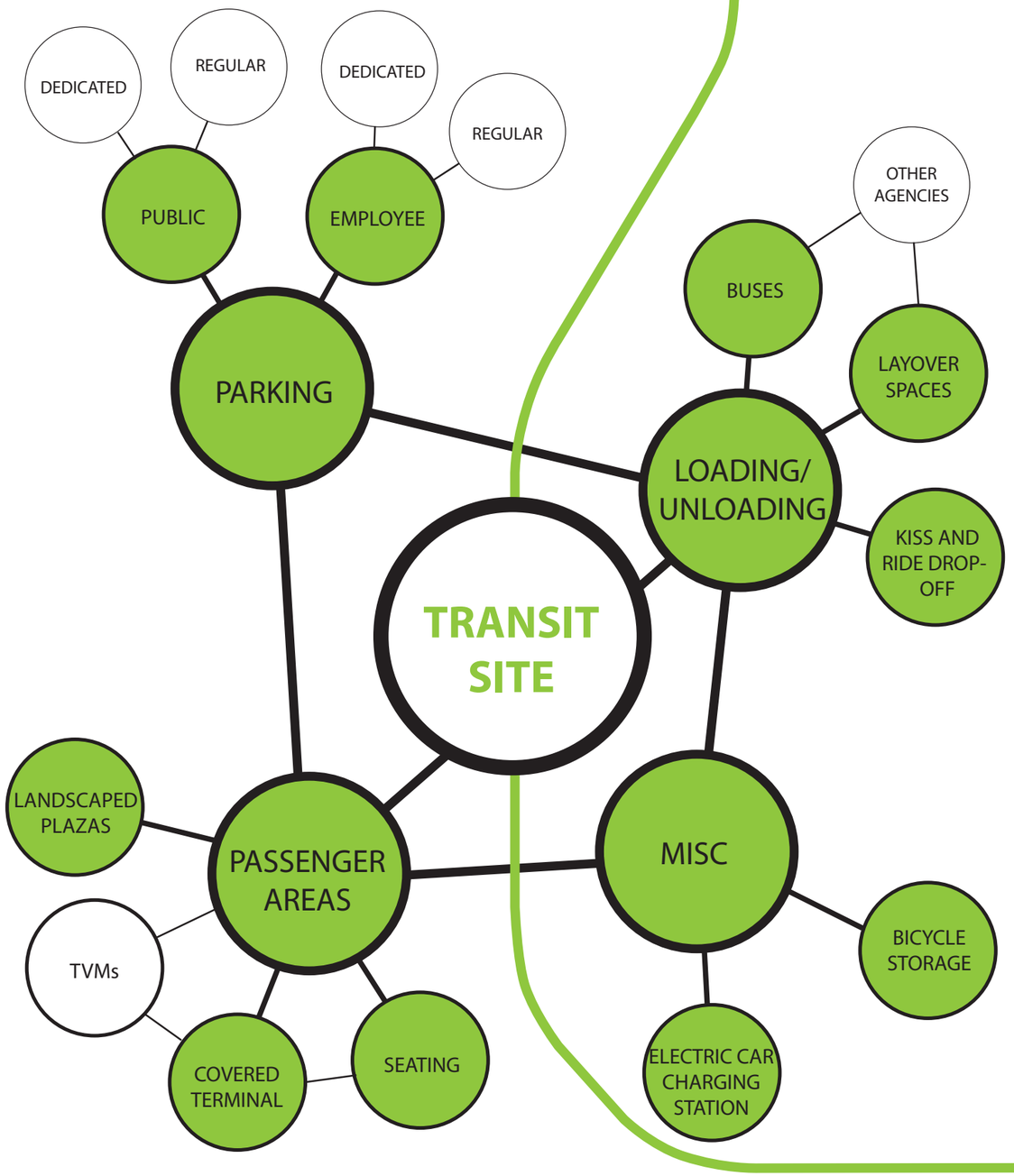
IMPORTANT ADJACENCIES

Security should be visually connected to public areas and have easy access to the bus terminal, parking, and transit store. If operator's area is too far from the bus berths, a Men's and Women's Restroom shall be provided in or adjacent to the terminal for easy access.

STAFFING

While administrative staff is relatively light, sufficient space must be planned for groups of operators, conferences, and training sessions. There are five Supervisors who will work in the Shared Office space on an intermittent schedule. The Dispatch room will be unmanned except in the event of an emergency where it will serve as the back-up Department Emergency Operations Center. The Dispatch room should be connected to the Supervisors space. There will be one 24-hour Security person and one Janitorial staff.

TRANSIT SITE AFFINITY DIAGRAM



TRANSIT SITE

FUNCTION OF CATEGORY

This category represents any function and space related to the Transit Center portion of the site.

HOURS OF OPERATION

The Passenger Areas are open during standard terminal operating hours. Transit Center parking shall remain open 24-hours.

IMPORTANT ADJACENCIES

The Transit Terminal and Kiss-and-Ride Drop-Off should be easily accessed from the Transit Store, Transit Center Lobby and TVM areas. A restroom shall be provided in close proximity to the berths for the operators on short breaks. Each parking area should include regular and dedicated spaces. Dedicated spaces within the Public lot include spaces for: ADA accessible, LEV, & electric vehicle charging. Dedicated spaces within the Employee lot include spaces for: ADA accessible, transit relief vehicle and Police & Sheriff, transit security vehicles, and supervisors vehicles.

STAFFING

No full time staff are necessary in this category.

Chapter 3: Space Needs Program

Staff Summary

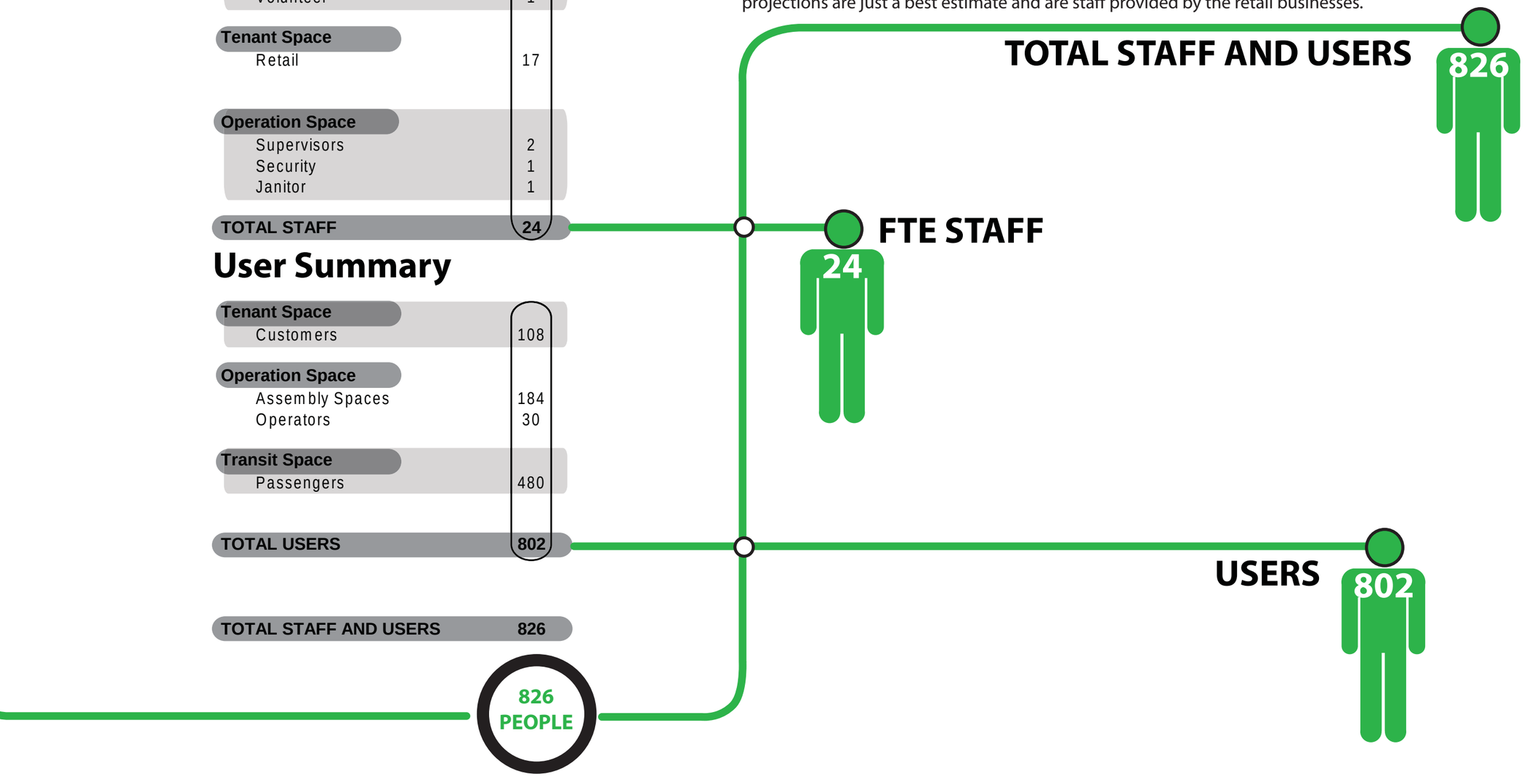
Category	Qty. Staff
Public Space	
Transit Store	2
Volunteer	1
Tenant Space	
Retail	17
Operation Space	
Supervisors	2
Security	1
Janitor	1
TOTAL STAFF	**24**

User Summary

Tenant Space	
Customers	108
Operation Space	
Assembly Spaces	184
Operators	30
Transit Space	
Passengers	480
TOTAL USERS	**802**
TOTAL STAFF AND USERS	**826**

826 PEOPLE

Facility staffing levels are crucial to the planning team when determining number of parking spaces, size of support areas, and developing occupancy levels. The following chart is a summary of the **projected full time equivalent (FTE)** staffing number for each category in addition to a projected number of users of the entire Transit site. The Tenant Space Retail staff projections are just a best estimate and are staff provided by the retail businesses.



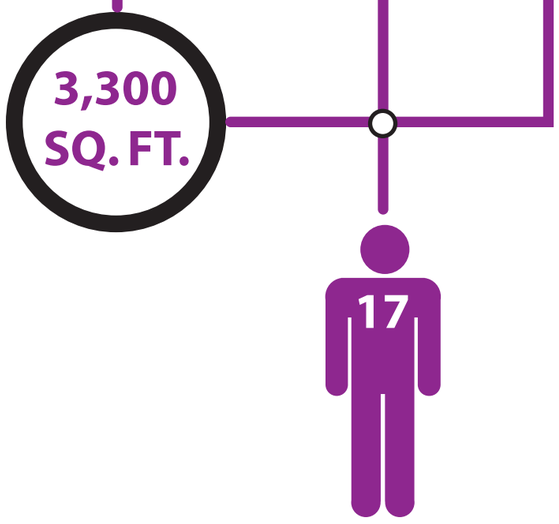
PUBLIC SPACE PROGRAM

3,490 SQ. FT.

Qty. Staff	Qty. Space	Area (SQ. FT.)	Public Space- Area Description	Remarks
			TRANSIT STORE	
2		150	Sales Counter	Two counters for Torrance Transit Sales: Operation hours tailored to the needs of the customers.
1		50	Volunteer Station	Reserved for Future Expansion
		100	Merchandise	Transit Merchandise, approx 100 sq. ft.; possible kiosk/alcove setup with counters
		50	Merchandise Storage	Could be separate room or closet/cabinet space.
		50	TVM's	Ticket Vending Machines- hard wired. Need for machines in two locations: 2 outside of Transit Store, 2 on bus platform; future loading of TAP cards. Provide future conduit for expansion machines; universal fare system expandable
3		**400**	**TOTAL TRANSIT STORE**	
			LOBBY	
		2400	Lobby/Waiting area	Real time schedule displays, emergency phone (no public phones), must be able to close during off hours
		220	Men's Public Restroom	3 Water Closet/3 Urinals/2 Lav--share with RETAIL, baby changing station; low flow fixtures, vandal proof
		350	Women's Public Restroom	11 Water Closet/2 Lav--share with RETAIL, baby changing station; low flow fixtures, vandal proof
		120	Family Public Restroom	1 Water Closet/1 Lav--share with RETAIL, baby changing station; low flow fixtures, vandal proof
		3090	**TOTAL LOBBY**	
3		**3490**	**TOTAL PUBLIC SPACE**	

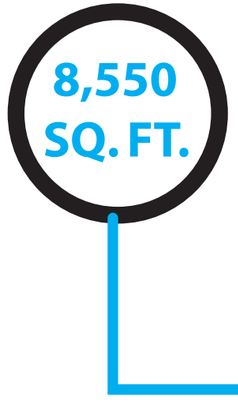
TENANT SPACE PROGRAM

Qty. Staff	Qty. Space	Area (SQ. FT.)	Tenant Space- Area Description	Remarks
			COMMERCIAL USES	
15	TBD	3000	Tenant spaces	Possible retail, food & beverage uses. Amount of each subdivided area to be determined by market analysis. Quantity of staff estimated for retail & coffee shop type use. Open to All: Transit riders and outside public access from both inside the center and outside, or signed appropriately to be visible from the outside. Design to consider possible empty space if retail spaces are not occupied.
2		300	Bicycle Shop	Privately operated. Merchandise, Repair, Rental, & Storage
17		**3300**	**TOTAL TENANT SPACE**	



OPERATIONS SPACE PROGRAM

Qty. Staff	Qty. Space	Area (SQ. FT.)	Operations Space- Area Description	Remarks
			OPERATORS	
		450	Operators Lounge	Account for 30+ operators; seating
		350	TV Room	Glass door, Seating
		200	Quiet Room	Glass door, Seating
		500	Pantry	Multiple microwaves (1 per 20 people), sink w/ disposal, refrigerator
		100	Vending	Snacks, Coffee, Drinks, Ice Machine
		300	Exercise Room	
		200	Lounge Men's Restroom	2 WCs/1 Urinal/1 Lav. Includes separate shower and changing area
		200	Lounge Women's Restroom	3 WCs/1 Lav. Includes separate shower and changing area
		80	Men's Room (Adjacent to Bus Terminal)	1 WC, 1 Lav. Necessary if Lounge Men's Restrooms are not directly adjacent to Bus Terminal)
		80	Women's Room (Adjancent to Bus Terminal)	1 WC, 1 Lav. Necessary if Lounge Women's Restrooms are not directly adjacent to Bus Terminal)
0		**2460**	**TOTAL OPERATORS**	
			ASSSEMBLY	
		2250	Conference/Training Room	150 person capacity, dividable; used by City & Public; separated circulation from operations areas; dropdown screens, A/V, White boards, projectors, public address system connector, Lighting Control, TV.
		150	Chair/Table Storage	Direct or indirect access to Conference/Training Room
		450	Board Room	25-30 person capacity; 1 large conference table, A/V, TV, White Boards
		200	Training/Simulator Room	1 simulator machine, 1 fare box trainer, 1 radio trainer, 1 W/C lift trainer
0		**3050**	**TOTAL ASSEMBLY**	
			SUPERVISORS	
2		600	Shared Open Office	4 workstations; DVR station w/ lockable cabinet; Printer Area; operable windows to outside, under-floor air distribution possible, daylighting.
		65	Huddle Room	Glass door, white boards
		150	Dispatch Room	Dept. Back-up Emergency Op. Center, Phone Lines, Record CCTV, Computer eqp. extensions. Extension of Supervisor's office. Unmanned except during an emergency.
		200	Men's Restrooms	1 WC/1 Urinal/1 Lav. Possible share with Assembly space if secured; low flow fixtures.
		300	Women's Restroom	4 WCs/1 Lav. Possible share with Assembly space if secured; low flow fixtures.
2		**1315**	**TOTAL SUPERVISORS**	
			SUPPORT	
		100	Copy Room	DVR, Paper, and File Storage
		150	Trash/Recycling	Locate inside or outside. Separate path of travel from public and transit areas.
1	2	100	Janitor	Cleaning Supplies, Restroom supplies, Janitor's sink, Storage for: floor buffers, pressure washers, water broom storage.
		200	Server Room	Need final size from COT IT Dept; design to allow for expansion
		775	Electrical/Phone	
1		**1425**	**TOTAL SUPPORT**	
			SECURITY	
1		300	Security Office	Ground Floor; Visually and physically connect to terminal, parking, and Transit Store. Monitoring of CCTV shared space for police to write reports; first-aid station.
1		**300**	**TOTAL SECURITY**	
4		**8550**	**TOTAL OPERATIONS SPACE**	



TRANSIT SITE PROGRAM

Qty. Space	Area (Sq. Ft.)	Transit Site- Area Desciption	Remarks
		BERTHS	
8	7800	Buses	8 bus berths with 2 articulated (6x45ft = 2430 sq. ft, 2x60ft = 1080 sq. ft.); Other agency buses & large shuttles to use these berths and layover spaces; design to allow for future expansion to 12 total berths.
2	1080	Layover spaces	Possible berth expansion in future. Allow 2 articulated (2x60ft = 1080 sq. ft.)
1	200	Operator Terrace/ Patio	Location possibly 2nd transit station level.
	9080	**TOTAL BERTHS**	
		PASSENGER AREAS	
	4680	Covered Terminal	Shelter berths and waiting areas; incorporate: PV panels, real time displays, natural progression, information and
	200	Seating	Vandal Proof, skateboard proof, sleeping proof
	50	TVM	2 machines near platform
	TBD	Landscaped plazas	low water use, water harvest
2	600	Kiss and Ride Drop-off	Allow for small shuttles and taxis; minimizes deceleration lane queuing.
	5530	**TOTAL PASSENGER AREAS**	
		PARKING	
263	72205	Public vehicle spots	300 total spots, 8.5' x 19' Standard
7	2940	Public Accessible Parking	13' x 19' Standard (7 spots required per ADA)
30	8235	Public dedicated spots	Low EV, carpool spots, CNG Vehicles, Electric Vehicles (10%)
14	3845	Employee spots	14 non-dedicated spots, 8.5' x 19' Standard
2	840	Employee Accessible Parking	13' x 19' Standard (2 spots required per ADA)
28	7685	Employee dedicated spots	5 Relief Cars, 3 Security, 3 Police, 5 Supervisors, 8 Other Agency Vehicles, 10% Low EV/carpool/cng/EV
	200	Bicylcle parking	TBD
	95950	**TOTAL PARKING**	
		MISC.	
	TBD	Electric Car Charging Station	TBD
	TBD	Access to Site/Circulation	Plan for roadway capacity internal to site for future expansion. Dedicated bus access into site- Transit Center employee Lot access acceptable.
		TOTAL MISC.	
	110560	**TOTAL TRANSIT SITE PROGRAM AREA**	Not including internal roadways & landscaped areas, etc.
	2.54	**Acres**	

2.54 Acres

Chapter 7: Master Plan

Introduction

The Final Master Plan was developed from the nine schemes prepared during the on-site design charrette and subsequent working sessions with the City. The Plan responds to the Transit Center operational and environmental needs as well as the planning required to provide usable and marketable Transit Oriented Development (TOD) parcels. In addition, the plan addresses buildable areas used for future expansion.

As noted earlier, the Master Plan for the Transit Center & site was developed through an interactive process with representatives from the user groups and senior management from the City Departments. This input resulted in a layout diagram that satisfies the functional and operational needs of the different uses that comprise the Transit Center and site, while taking into consideration a number of other planning issues.

The following parameters have influenced the final site plan:

- Optimizing visibility from Crenshaw Blvd. to the Transit Center.
- Separation of transportation modes within the site.
- Providing area for expansion for the bus terminal and Transit Center Parking.
- Providing areas for fire truck access.
- Creating visible outdoor pedestrian spaces for transit customers.
- Creating a flexible outdoor spaces for transit customers and outdoor events.
- Create viable Transit Oriented Development parcels.
- Developing an extension of W 208th St. into the site to allow for site access and possible future access for the neighboring property to the north.
- Optimizing a balance of building orientation and outdoor areas for environmental considerations (natural lighting & ventilation).

Site Plan

In this plan, and in all of the scenarios studied, W 208th Street has been extended west of its intersection with Crenshaw Blvd. It was determined that this is the optimal site access for busses and heavier vehicles, such as delivery trucks that may be accessing the Transit Oriented Development parcels. A cul-de-sac is provided at the west end of the street where access to the western TOD parcel and to the Transit Center bus loop is located.

As mentioned, one of the key parameters for safety is the separation of transportation modes within the site. The site is organized with two vehicle access points with modal separation. The northern access point from the extension of W 208th St. is reserved for busses only and connects to the bus terminal loop located to the west of the Transit Center building.

The second access point is reserved for Transit Center employee and user vehicles and also to access the kiss-n-ride drop-off located in-front of the Transit Center plaza. This second access point is located mid-block on Crenshaw Blvd. between the signalized intersection at W 208th St. and the existing rail overpass. The intersection with Crenshaw Blvd. is a three-way signalized intersection with possible extension to the property along the east (as it is currently being re-developed). Both intersections are located to allow proper distance between traffic signals to allow for vehicle queuing on Crenshaw Blvd. and to allow for full acceleration/deceleration lanes along the Crenshaw site frontage.

The Transit Center building is located middle of the property in the north-south direction, positioned with the entry plaza facing the Crenshaw Blvd. entry. The bulk of the building is oriented somewhat in the east-west direction to optimized environmental factors for internal day-lighting. The plaza and building arrangement creates and entry focal point into the plaza towards the bus terminal bridge and vertical circulation core. This arrangement allows us to architecturally express the main purpose of the Transit Center, quick and safe access to the bus terminal and possible future rail platform beyond.

A Transit Plaza is created above grade that allows users to access the Transit Center building and bridges to the Transit Terminal and the Transit Parking garage. The plaza is located above grade for the following reasons:

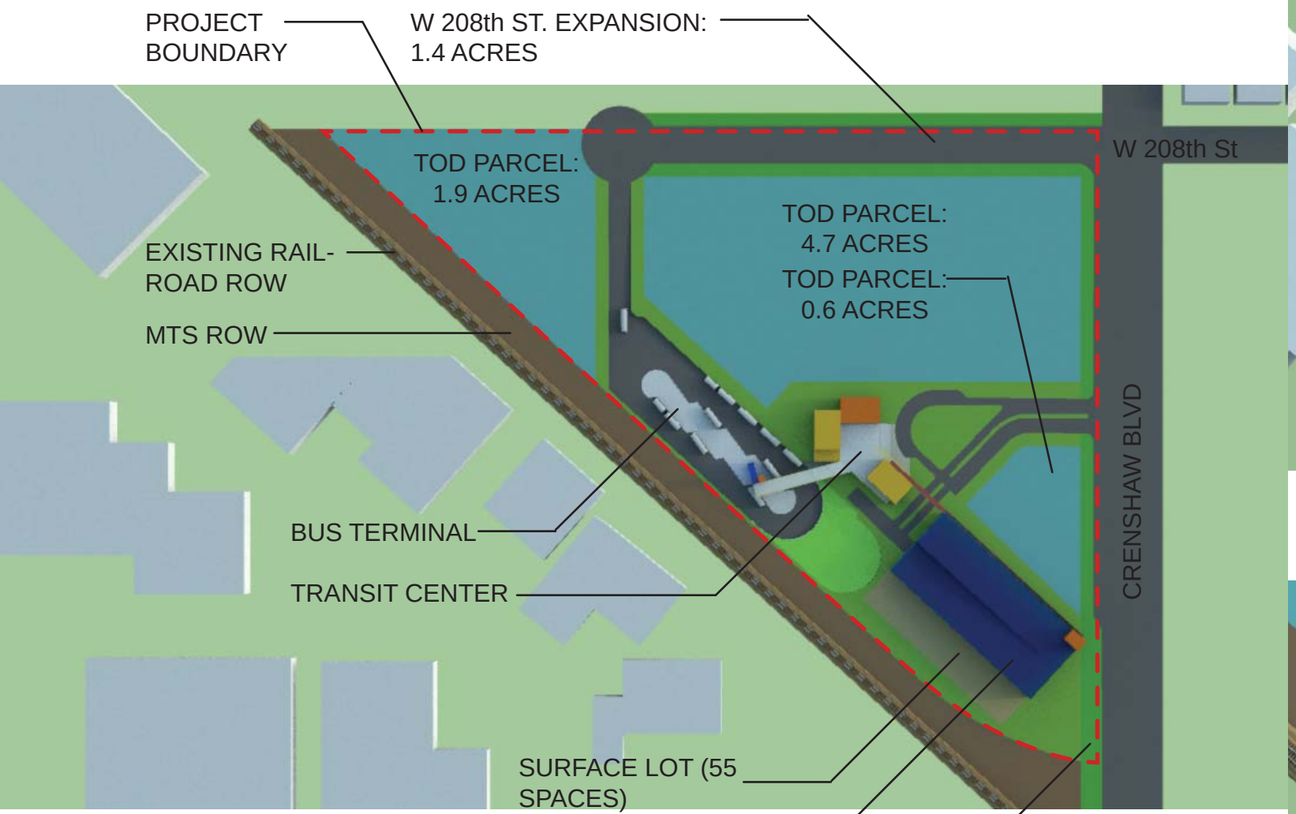
- Maximizes visibility of the plaza from Crenshaw Blvd.
- Creates a safe platform above the transit site that allows users and security to view the entry road, bus terminal, and overall campus.
- Allows for pedestrian and bus separation at the bus terminal. The bridge from the transit plaza to the terminal is accessed without the need for interior vertical circulation and is created through ramps and stairs in the plaza entry. A vertical circulation core is located in the middle of the bus platform and initially provides stair and elevator access to the terminal below.
- Allows for future direct connection to the terminal bridge from the proposed Metro rail extension platform.
- Creates a direct connection through a bridge to the Transit Garage. This bridge allows for safe separation of pedestrians from the garage and service entry driveway. This bridge will also allow for an architectural expression along the length of the Transit Garage.
- Allows for the possibility for operations space located below the plaza and accessed from the bus terminal or exterior of the building (I.E. operator's access, security access, service access).

The Transit Garage is located at the extreme south end of the property and is oriented parallel to the existing rail ROW and west property line. This portion of the property was deemed ideal for the garage location for the following reasons:

- Provides visibility from Crenshaw Blvd. to the garage which shows off the parking as an accessible site amenity.
- Allows for a direct pedestrian connection along the garage to the Transit Center plaza which also serves as a view corridor from Crenshaw.
- Reserves more northern part of the site for TOD uses.

The bus terminal loop is located south west of the Transit Center building and plaza between the building and the property boundary. The loop is also located north west of the Transit Garage. Access to the bus loop is from the W 208th St. extension to the north through an access driveway. This driveway is two-way and connects to the north end of the bus loop. Busses circulate clockwise around the center island and load and unload in the provided bus berths on the island. The initial project will include eight active bus berths, two of which allow for 60-foot articulating busses. Parallel bus layover spaces are located adjacent to the transit building. Future expansion is allowed by extending the bus loop and island to the south towards the Transit Garage. Enough room remains from the initial project to allow the terminal to expand to 12-total bus berths, three of which allow for 60-foot articulating busses.

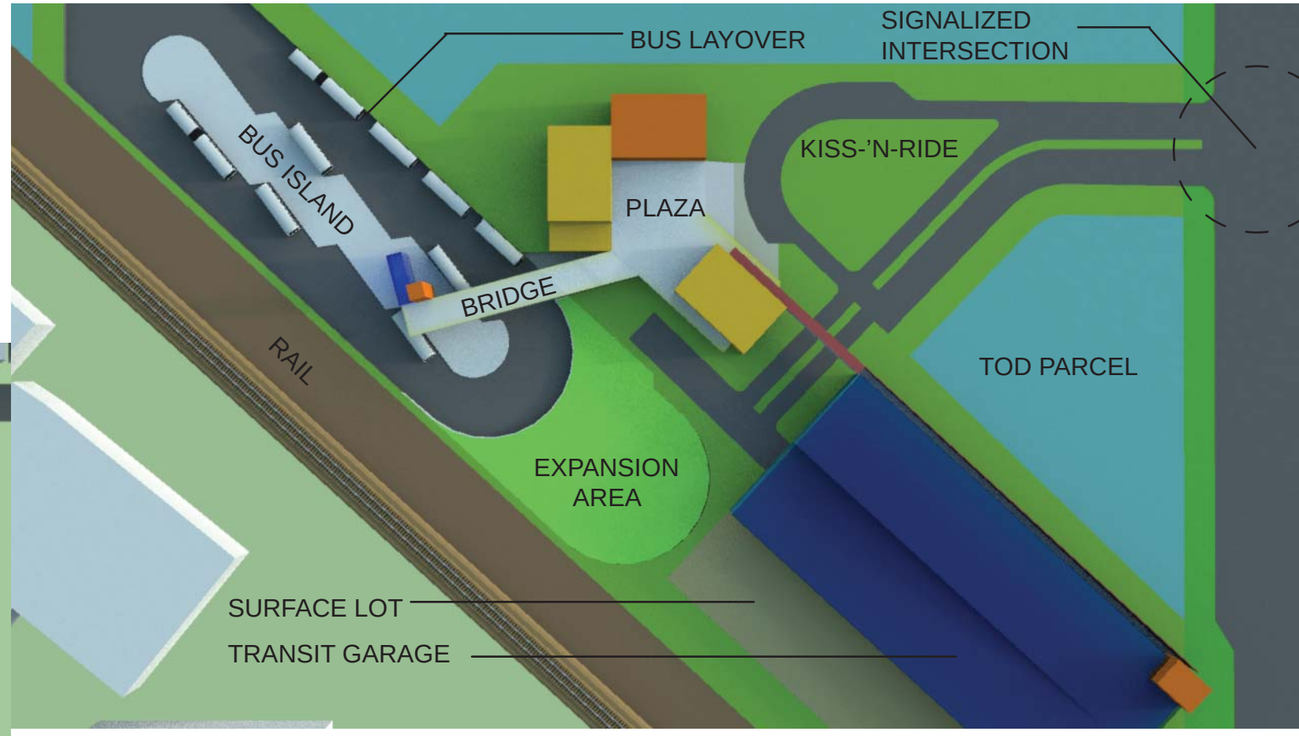
Overall Site



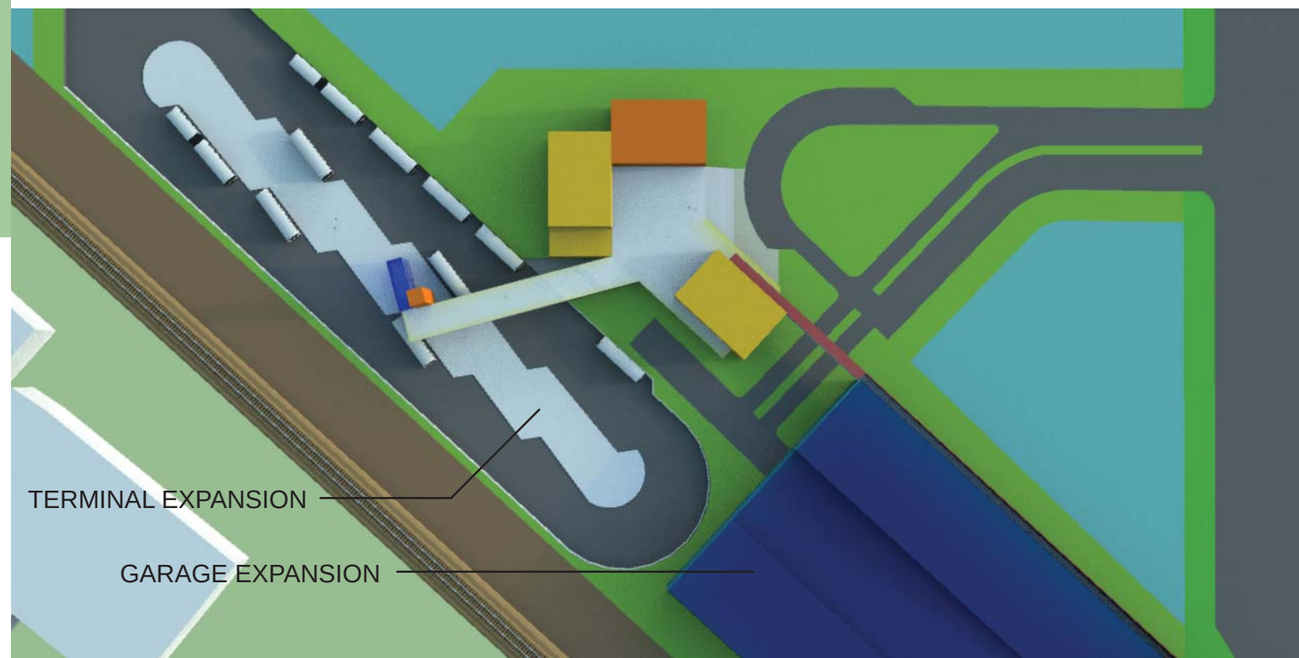
AREAS:
TRANSIT SITE: = 5.8 ACRES
PUBLIC ROADWAY IMPROVEMENTS = 2 ACRES
TOD PARCELS = 7.2 ACRES

TRANSIT PARKING:
SURFACE LOT IS INITIAL PHASE. PARKING LOT EXPANSION BUILDS A 3-LEVEL GARAGE WHERE THE LOT SITS. TOTAL BUILD-OUT SPACES IS 440.

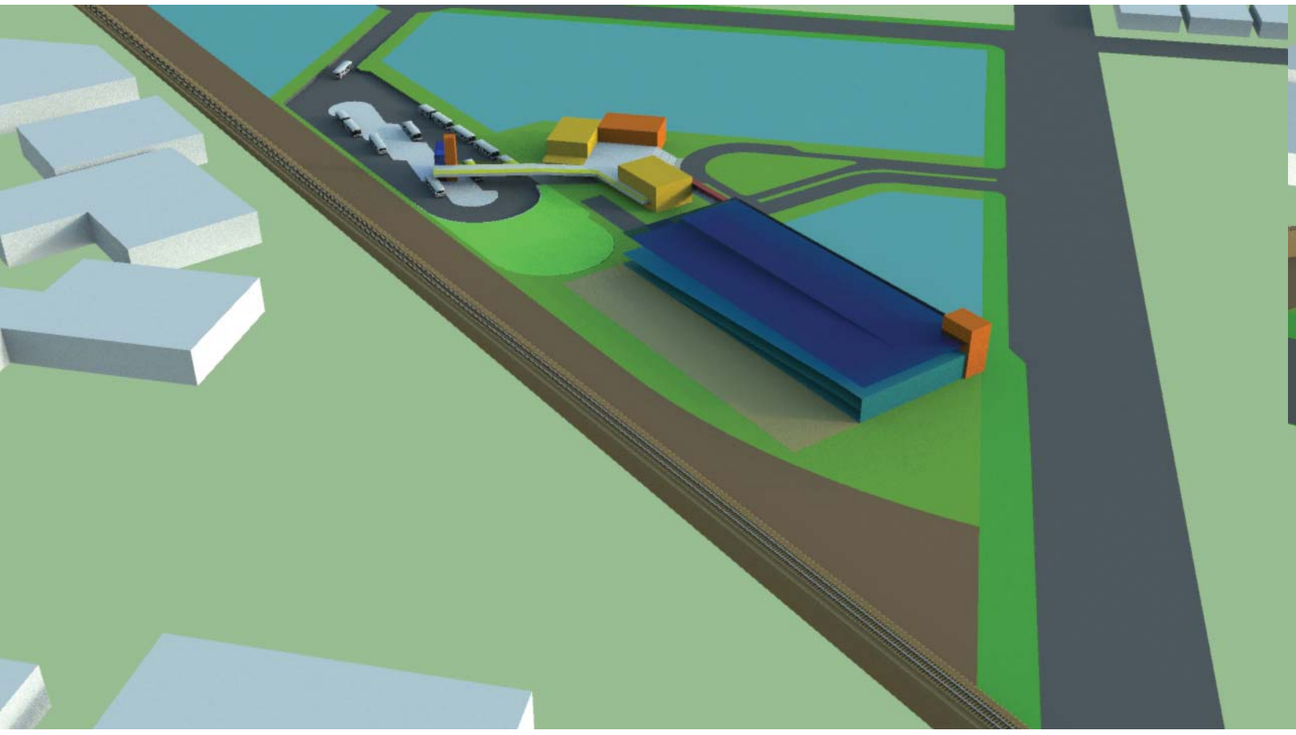
Close-Up Plan - Initial (8 Berths)



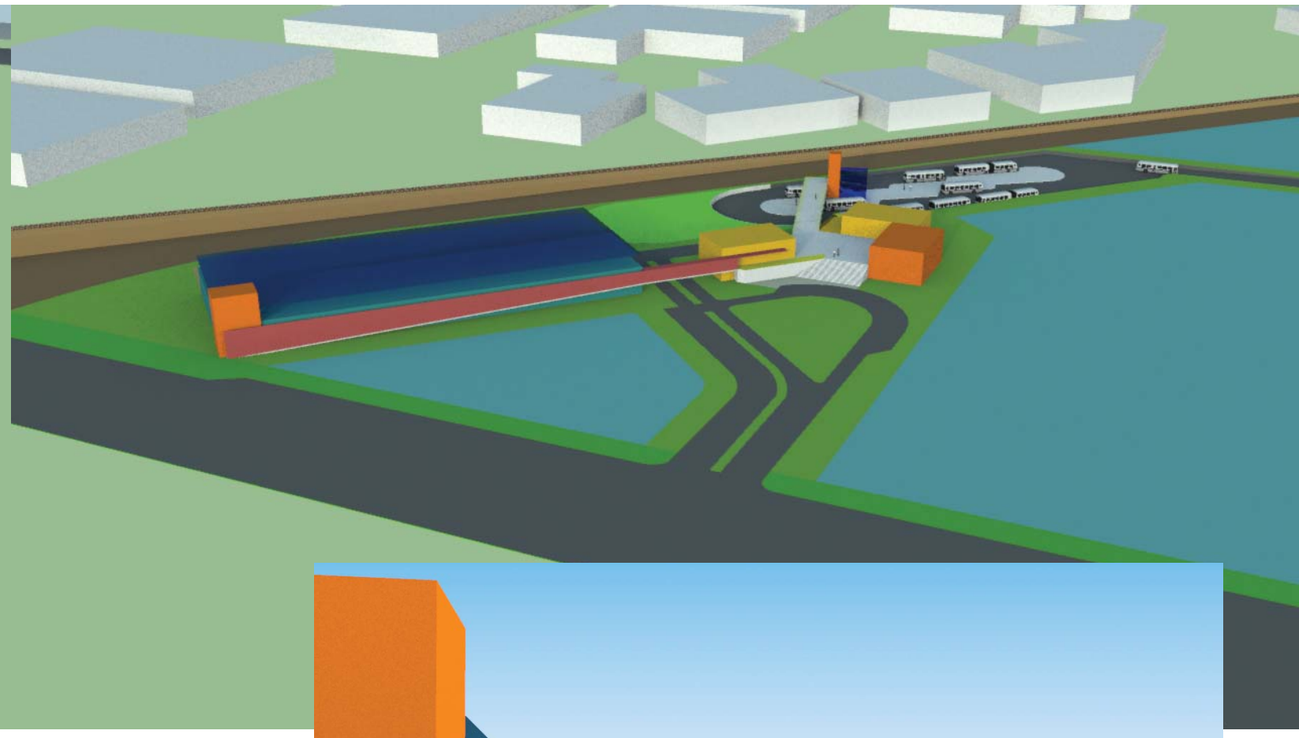
Close-Up Plan - Build-Out (12-Berths)



Bird’s Eye View - Looking North



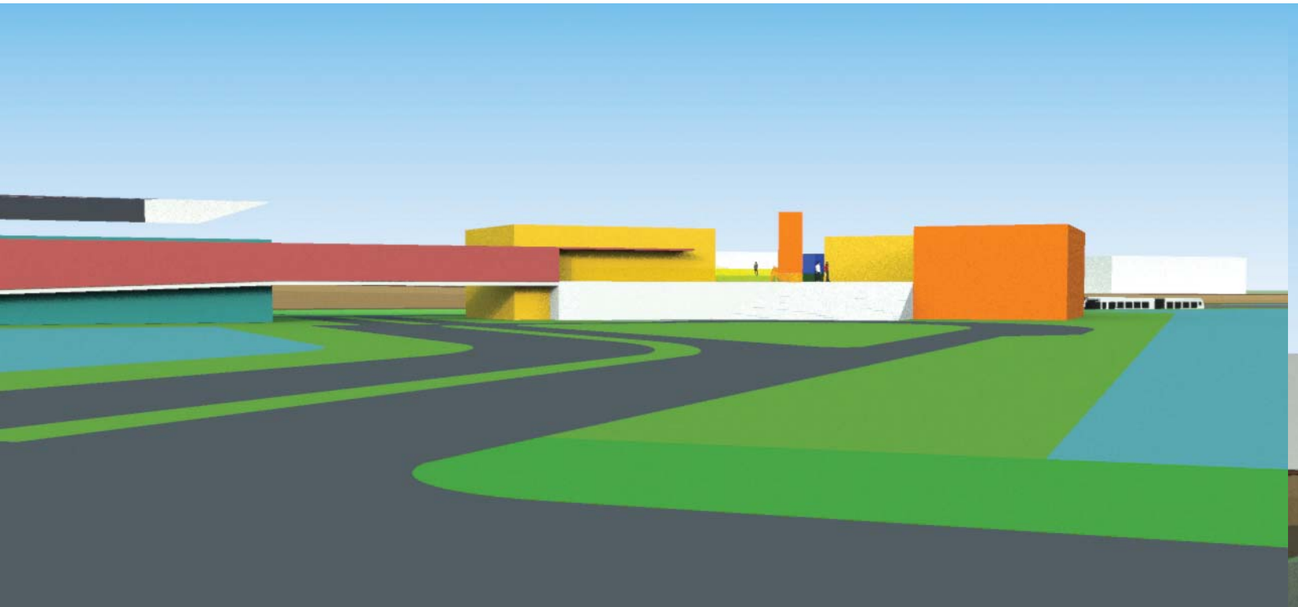
Bird’s Eye View - Looking South



Looking Along the Southern Crenshaw Entry

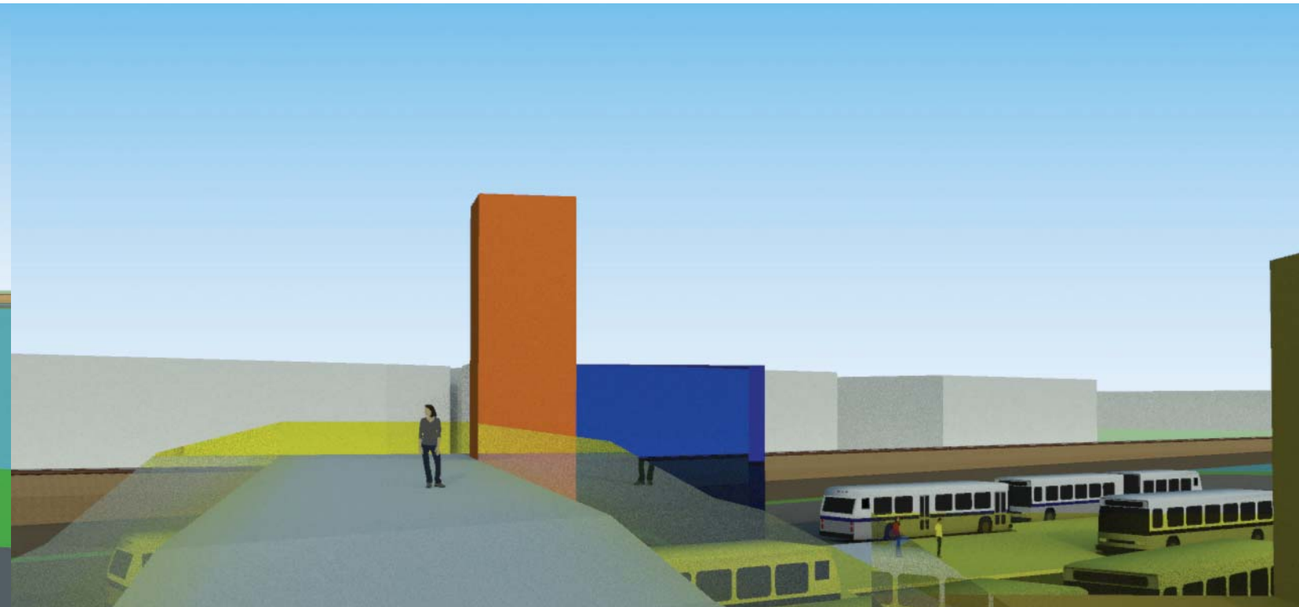
7.09

Crenshaw Blvd. Entry

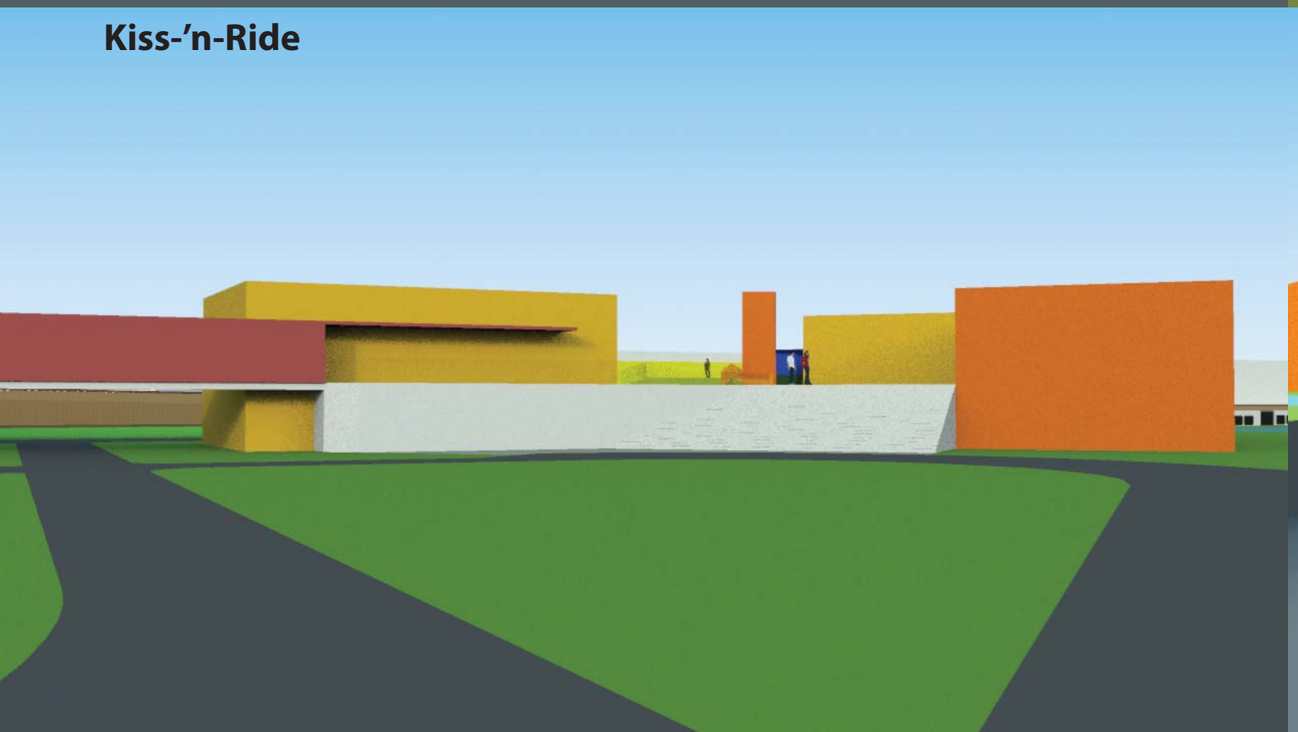


7.10

Bridge



Kiss-’n-Ride



Bus Entry