Appendix A:

2030 Fleet Projections and Vehicle Equivalent Analysis

SFMTA Total Fleet Projections to 2030

	Spare Ratio Assumption (from Table 1 in RFP)*	FY 2010 (from Table 1 in RFP)*	Current Fleet (2012) Facility Currently Assigned To									Fleet Growth Projections			FY 2030 Est. Needs (from Table 1 in RFP)* Ultimate	Difference
			Kirkland	Woods	Flynn	Potrero	Presidio	Green	MME	Cameron Beach	Cable Car Barn	2015	2020 Interim	2025		
Motor Coach 30'	30%	30		30								29	28	27	25	-5
Motor Coach 40'	20%	306	135	171								317	328	339	349	43
Motor Coach 60'	20%	124			130							145	166	187	207	83
Trolley Coach 40'	25%	240				75	165					226	212	198	184	-56
Trolley Coach 60'	25%	73				73						85	97	109	121	48
TOTAL RUBBER TIRED REVENUE VEHICLES		773	135	201	130	148	165	0	0	0	0	802	831	860	886	113
LRV	20%	151						76	75			165	179	193	208	57
Historic Streetcar	50%	24								24		32	40	48	56	32
TOTAL RAIL VEHICLES		175	0	0	0	0	0	76	75	24	0	197	219	241	264	89
Cable Car	50%	40									40	40	40	40	40	0

** Similar to Figure 14 in 2010 SFMTA Transit Fleet Management Plan*

SFMTA BUS (Diesel and Electric Trolley) EQUIVALENT ANALYSIS

August 2, 2012

(Presidio Redeveloped Before Potrero and Islais Creek with Maximum 72 Articulated Buses + Standards)

Facility	Current Capacity (40' Equiv.)	Current (2012) 30' Diesel	40' Diesel	60' Diesel	40' ETB	60' ETB	Subtotal ETB 40' Equiv.	Subtotal Diesel 40' Equiv.	Interim (2020) 30' Diesel	40' Diesel	60' Diesel	40' ETB	60' ETB	Subtotal ETB 40' Equiv.	Subtotal Diesel 40' Equiv.	Ultimate (2030) 30' Diesel	40' Diesel	60' Diesel	40' ETB	60' ETB	Subtotal ETB 40' Equiv.	Subtotal Diesel 40' Equiv.
Presidio	**165**				165		**165**	0	0	0	0	0	0	**0**	0				165		**165**	0
Potrero	**185**				75	73	**184.5**	0	0	0	0	185	0	**185**	0				19	99	**167.5**	**0**
Flynn	**195**			130			0	**195**			15	27	97	**172.5**	**22.5**		27	90		22	**33**	**162**
Woods	**212**	30	171				0	**201**	28	85	79			0	**231.5**	25	131	45			0	**223.5**
Islais Creek	**185**						0	0		108	72			0	**216**		77	72			0	**185**
Kirkland	**135**		135				0	**135**		135				0	**135**		114				0	**114**
Subtotal		**30**	**306**	**130**	**240**	**73**	**349.5**	**531**	**28**	**328**	**166**	**212**	**97**	**357.5**	**605**	**25**	**349**	**207**	**184**	**121**	**365.5**	**684.5**
Total ETB 40' Equivalents					240	109.5	349.5					212	145.5	357.5					184	181.5	365.5	
Total Diesel 40' Equivalents		30	306	195				531	28	328	249				605	25	349	310.5				684.5

Interim Required (2020)							
28	**328**	**166**	**212**	**97**	**357.5**	**605**
Total ETB 40' Equivalents				212	145.5	357.5	
Total Diesel 40' Equivalents	28	328	249				605

Ultimate Required (2030)							
25	**349**	**207**	**184**	**121**	**365.5**	**684.5**
Total ETB 40' Equivalents				184	181.5	365.5	
Total Diesel 40' Equivalents	25	349	310.5				684.5

LRV and Historic Streetcars (HSC)		Current (2012)		Interim (2020)		Ultimate (2030)	
		LRV	HSC	LRV	HSC	LRV	HSC
Green	**110**	76	0	109	0	110	0
Upper Yard	**18**	0	0	0	0	0	0
Cameron Beach	**24**	0	24	0	0	24	0
MME	**125**	75	0	70	40	74	56
	Total	**151**	**24**	**179**	**40**	**208**	**56**
Total Required		**151**	**24**	**179**	**40**	**208**	**56**

Appendix B:

List of Documents Reviewed

Appendix B

SFMTA Real Estate and Facilities Vision for the 21st Century
List of Documents Reviewed

1. Analysis of Kirkland site and facility
2. Transit Management Plan
3. Copies of all leases (including cell phones, sites, facilities, etc.)
4. List of ten parking garages included in project
5. Drawing of facilities listed below, site plans and floor plans, civil, architectural, structural, mechanical, electrical, plumbing, piping, fire protection, security, and equipment layout drawings
6. Prior work on TOD site plans and economic analysis
7. Minutes of Executive Committee meetings
8. Muni Metro East Task Force recommendations
9. Chinatown replacement housing mandate language and draft MOU
10. ABAG projections forming basis for fleet growth projections
11. March 2009 TMC Site Assessment Study
12. Fleet Management Plan
13. Leases for facilities land, commercial, telecom
14. Climate Action Plan
15. Short-Range Transit Plan
16. The Upper Yard: Affordable Community Living at Balboa Park: Golden Bear Partners (Submittal to the Bank of America Low Income Housing Challenge), May 16, 2012
17. Community Design Guidelines for the Chinatown Central Subway Station, December, 2008, Asian Neighborhood Design
18. Minutes, Kirkland Yard Development Citizens Advisory Board
19. Land Use Study, Kirkland Yard Property, Douglas Wright Consulting and Bay Area Economics, June 2003
20. *Balboa Park* Station *Area Plan,* April, 2009
21. *Balboa Park Station Capacity Study*, July, 2012
22. Fiscal Year 2013 – Fiscal Year 2018 SFMTA Strategic Plan, adopted on Jan. 3, 2012
23. SFMTA 20-Year Capital Plan, adopted on Jan. 3, 2012
24. SFMTA 5-Year Capital Improvement Program (adopted on April 12, 2012)
    a. Capital Revenue Budget Fiscal Years 2013-2017
    b. Capital Expenditure Budget Fiscal Years 2013-2017
25. Final Report (June 1, 2012), SFMTA 2012 Budget Balancing Panel
26. SFMTA Official Statement relating to $63,795,000 Revenue Bonds, Series 2012A and 2012B (July 2012)

27. Copies of studies related to the facilities included in this project (listed below)

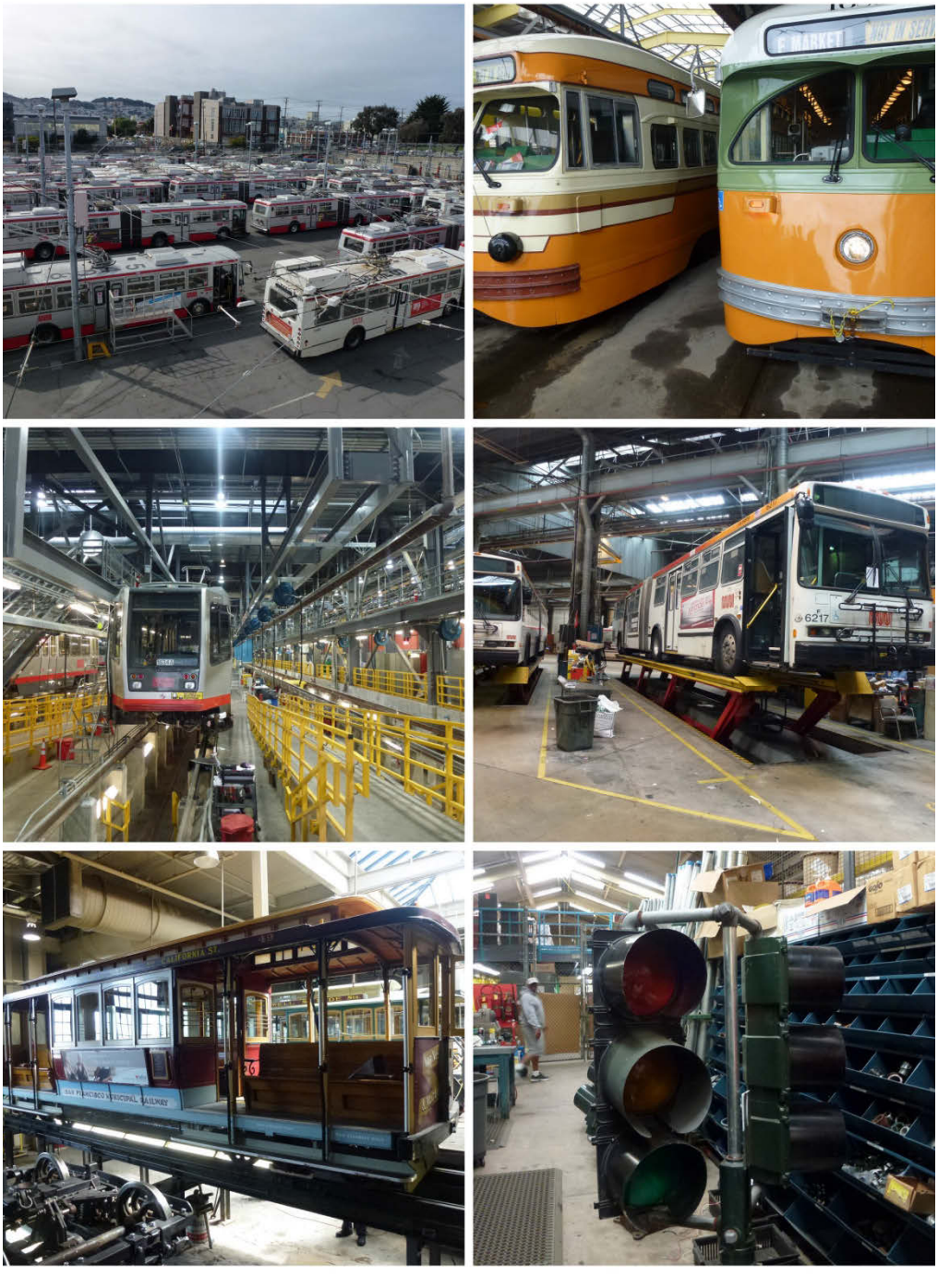
Facility	Mode
Kirkland Division	Buses
Woods Division	Buses
Flynn Division	Articulated Buses
Islais Creek	Buses
Potrero Division	ETB
Presidio Division	ETB
Green Division	LRV
Green Annex	Rail Vehicles
Cameron Beach Yard (Geneva Yard & Shop)	Historic Streetcars & LRV
Cable Car Barn	Cable Cars
Metro East	LRV
Central Control	
Scott Division	NRV
Power Control Center (2502 Alameda St.)	
1399 Marin	General Storage
1570 - 1580 Burke Avenue Facility	Central Warehouse
Enforcement (505 7th Street, 571 10th Street, 6th and Townsend	Enforcement
Ten (10) Parking Garages	
Towed Car Parking (2 sites)	
1 South Van Ness	
Signal Shops	
1455 Market Street (Transportation Mgmt Ctr.)	

Appendix C:

Site Visits and Interviews Documentation

SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY
REAL ESTATE & FACILITIES VISION FOR THE 21ST CENTURY

SFMTA



DRAFT SITE VISITS AND INTERVIEW DOCUMENTATION

Prepared by:

Parsons Brinckerhoff, Inc.

Prowler, Inc.

Gensler Architecture

Vital Environments, Inc.

May 10, 2012

SFMTA Real Estate and Facilities Vision for the 21st Century
Site Visits and Interview Documentation

Table of Contents

SFMTA

APPROACH

INTRODUCTION and APPROACH

The San Francisco Municipal Transportation Agency (SFMTA) is unique among transit systems in the United States due to its mix of transportation modes, the geography of the city, and the wide range of ages and histories of the buildings housing the system's maintenance, operations, and administrative functions. SFMTA has retained the Parsons Brinckerhoff Study Team to develop a Real Estate and Facilities Vision for the 21st Century (referred to as "The Vision") to serve as a facility and land needs guide for many years to come.

To understand this complex system and provide an overarching vision to meet SFMTA's growing needs, the study team conducted on-site visits to observe facility conditions, functions, locations, operational requirements, and areas of opportunity for improvement at each facility. This report contains the findings of the study team as well observations on how each facility fits into the SFMTA system. The team included national and local experts in transportation facilities and operations, architecture, sustainability, real estate development, and economics.

The purpose of this report is to document existing conditions, which will be the foundation on which recommendations can be developed in subsequent deliverables. Transit maintenance and operations facilities are unique building types that cannot be evaluated without understanding the operations. Therefore, some of the observations and opportunities documented herein may be operational in nature rather than strictly real estate and facilities.

Note that opportunities are given herein, not as recommendations, but as items to be considered during development of subsequent deliverables including:

- *Signal Shops Consolidation Plan (Deliverable #2B)*
- *Identification of Facilities Solutions (Deliverable #2C)*
- *Conceptual development of Capacity Improvements to Existing SFMTA facilities (Deliverable #5)*
- *Identify & Assess Appropriateness of New Sites for Future SFMTA Facilities (Deliverable #6A)*
- New Facility Design (Deliverable #6B)
- Evaluation of TOD Potential (Deliverable #7A)

The study team got input from over 60 SFMTA staff during the site visits and interviews. This input was invaluable to the development of the information contained herein. The team would like to thank the following people that have given their input to date on the project.

Note: A complete list of sources will be included in the final report.

Sustainable Streets, Field Operations

Paint Shop
- John Tynan, Supervisor, Traffic Painting

Sign Shop
- Mike Macario, Traffic Sign Manager

Meter Shop
- George Reynolds, Manager
- Walter Potselueff, Machine Maintenance Spervisor

Sustainable Streets, Transportation Engineering

Signal Shop
- Lauren Green, Manager
- Ed Timmer, Traffic Signal Electrician

Woods Division

Bus Maintenance
- Mauro Benedetti, Auto Transit Supervisor

Cable Car Carpentry Shop
- Jane Koski, Carpenter Supervisor
- David Valstead, Carpenter

700 Pennsylvania

Transit Signal
- Terry Fahey, Maintenance of Way Deputy Director
- Khoa Trinh, Signal and Systems Engineer

Custodial
- Pat Loyd, Janitorial Services Assistant Supervisor

Carpentry
- Glen Hunsicker, Carpenter Supervisor

Paint
- Charles Silvera, Painter Supervisor

Garden
- James Rivera, Gardner

Special Machine Shop
- ?

Building and Grounds
- Leo Martinez

Green Division
- Jamie Young, Supervisor

Green Annex

Operations
- Ernesto Del Bario Jr., Acting Superintendant

Electronic Shop
- Tom Sheridan, Supervisor

Radio Shop
- Godfrey Lew, Maint Tech

Metro East
Don Gee, Supervisor

Cameron Beach
Karl Johnson, Supervisor

Burke
?

Marin
Paul Bignardi, Transportation Planner

Scott Division
Richard Fonseca

Flynn Division
David Lee, Supervisor

Potrero Division
Nelson Doon, Assistant Supervisor
Michael Henry, Assistant Supervisor

Power Control
?

Overhead Lines
Tim Lipps, Supervisor

Presidio Division
Woon Wong, Supervisor

Kirkland Division
Paul Williamson, Supervisor

Towed Cars
Short Term and Long Term Storage
Donovan Fuller

Towed Cars Potential Long Term Site
?

Cable Car Barn
Win Hoblitzelle, Supervisor

Golden Gateway Garage:
Semu Habte | Manager (Imperial Parking Corporation)
Joshua Lum | Asst Manager (Imperial Parking Corporation)

Fifth and Mission Garage:
John R. Brown | Corporate Manager (City of San Francisco Downtown Parking Corporation)
Tony Delorio | Facility Manager (Imperial Parking Corporation)

Performing Arts Garage:
Francisco Lira (Pacific Park Management)

Ellis & O'Farrell Garage:
Daphne Handelin | Corporate Manager (Ellis O'Farrell Parking Corporation)

Japan Center Garages:
David H. Lee | Facility Manager

San Francisco General Hospital:

William Bonhorst | Operations Manager (LAZ Parking)

Moscone Center Garage:

Bill Taye | Facility Manager (LAZ Parking)

Lombard:

Onsite Manager –site visit March 29, 2012

Polk and Bush:

Onsite Employee - site visit March 28, 2012

Sutter-Stockton:

Enrico (Onsite Manager) - site visit March 27, 2012

Enforcement Division:

Joy L. Houlihan (former Deputy Director/ SFMTA Security & Enforcement Division)

Debbi Borthne (Assistant Director/ SFMTA Enforcement Division)

James Lee (Assistant Director/SFMTA Enforcement Division)

Other

?

Per the scope of the project, SFMTA grouped facilities into four categories based on the areas of focus for individual sites. These categories provided the framework on which the information for this report was gathered and is organized to present SFMTA with a clear overview of how the system operates as a whole. The categories are:

Category A

Perform analysis of existing sites and functions of operations and maintenance, shops, including TOD potential if applicable.

- Kirkland
- Woods Division
- Flynn Division
- Potrero Division
- Presidio Division
- Green Division
- Green Annex
- Cameron Beach Yard
- Metro East
- 700 Pennsylvania Avenue
- Towed Car Parking
- Power Control Center
- Enforcement Division
- Parking Garages (10 total)

The assessment team performed field observations of these SFMTA facilities and met with appropriate managers and supervisors to gain an understanding of each facility's current operational needs and the relationship of those needs to existing and planned facilities as well as possible future facilities. This included meetings with the SFMTA staff at the facilities in order to understand short-range and long-range objectives; clean air, zero emission, electric and alternative fuel vehicle, climate adaptation and sustainability plans; and other policy and regulatory issues.

The write-up for each facility in Category A includes general information about the facility, observations, opportunities, and Transit Oriented Development (TOD) potential (where appropriate).

Note that information regarding TOD has been eliminated from this document at the direction of SFMTA. All TOD information will be addressed in a subsequent deliverable.

Category B

Review the consolidation plans of the SFMTA:

- 1 South Van Ness
- Central Control
- 1455 Market Street (TMC Space)
- Signal Shop

These facilities are involved in active or possible plans to relocate and consolidate operations and staff. The assessment team performed field observations of these facilities, reviewed the consolidation plans (when available), and provided comments based upon their findings.

Category C

Impacts of functions at site on SFMTA's other operations facilities or impacts of other operations facilities on functions of site:

- Islais Creek Project – Phases 1 and 2
- 1399 Marin
- Woods Division
- Power Control

The assessment team performed field observations of these SFMTA facilities and met with appropriate managers and supervisors to analyze how these facilities are or will be dependent upon each other and/or linked together for operations and maintenance.

Category D

Issue-Specific Analyses:

- Cable Car Barn and Museum
- Burke Avenue Facility
- Scott Division

The assessment team performed field observations of these SFMTA facilities and met with appropriate managers and supervisors to review and address specific issues requested by SFMTA at each site. Based upon the assessment team's analysis, recommendations on the individual issues have been generated and included in this report.

This report is organized by these categories with the final sections of the report addressing outstanding issues/information needed from SFMTA before subsequent deliverables can be completed and a section that outlines the next steps in the study.

Sustainability and Mechanical, Electrical & Plumbing: Assumptions

This page describes the methods and assumptions that inform the diagrams, figures and commentary in the "Sustainability and Mechanical, Electrical & Plumbing" portion of the facilities assessments.

Daily Resource Flows

The analysis assumes that the daily flow of electricity, natural gas, and water is equal to the total resource consumed during the 12-month period from December 2010 through November 2011 divided by 365. The daily staff flow reflects the total maintenance staff from all shifts, including supervisors and technicians, reported by the site supervisor at each facility. The calculation for daily passenger miles travelled by facility draws upon two information sources. We multiply 2011 data for annual passenger miles by vehicle type (bus, LRV, trolley)[1] by the fleet allocation to each facility[2] to calculate total annual passenger miles travelled, then divide by 365.

Monthly Resource Flows

The monthly resource flow figures display electricity, natural gas, and water resource use based upon monthly utility bills from December 2010 through November 2011. Each curve reflects straight line connections between the twelve data points we have for each resource. Annual resource flow is equal to the daily resource flow multiplied by 365 or the average of the monthly resource flow figure multiplied by twelve.

Resource Flow Comparison

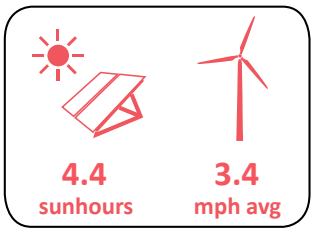
The resource flow comparison figure displays each facility's annual resource use per passenger mile travelled in relation to a benchmark from outside SFMTA. The figure displays resource use as a percentage deviation from the benchmark so that electricity, natural gas, and water can appear in the same graphic. Facilities with more functional complexity (i.e. heavy duty maintenance vs. fuel and wash) appear toward the right of the figure.

We choose AC Transit's average facility resource use per passenger mile travelled in 2009[3] as the benchmark for this analysis for two primary reasons. First, AC Transit's facilities reside in a very similar climate. Since heating is a major energy use for each facility, similar climate is very important for effective comparisons. Second, AC Transit is one of the few transit authorities that publishes detailed utility and ridership information to enable effective comparison.

The blue band indicates the facility being discussed on each specific page. We calculate passenger miles travelled using the same methodology described above in the Daily Resource Flows section. In addition to reporting each facility's resource use, we report the SFMTA average facility use relative to the benchmark. The figure does not include electricity data for the Cable Car Barn because the utility data appears to combine motive power with basic facility power.

Renewable Resource Flows

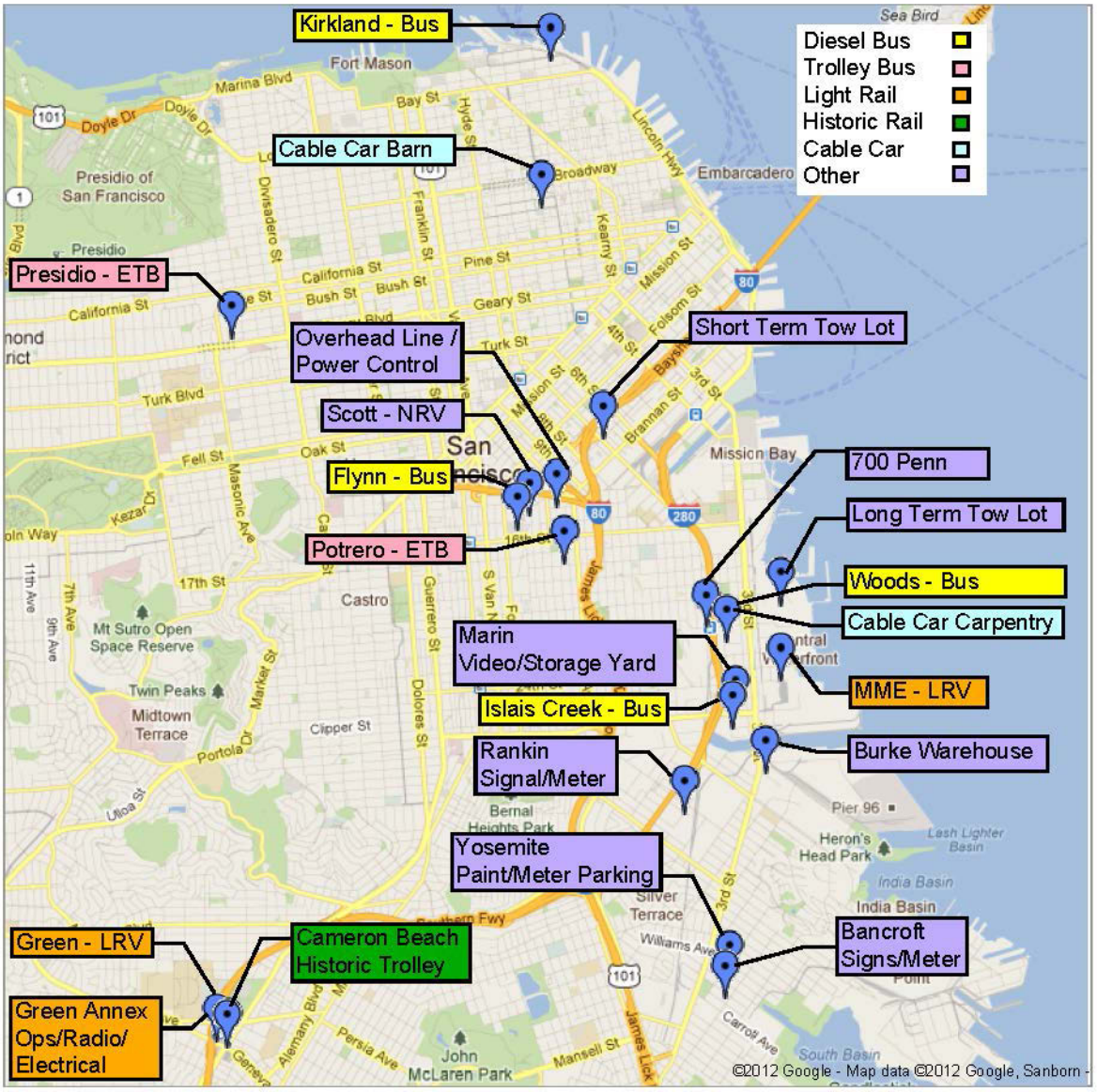
We provide information about the available solar and wind resource for each facility. The solar data is from the nearest of 34 weather stations that collect 5-minute data samples as reported by the San Francisco Public Utilities Commission[4]. The wind speed reflects the simulated average velocity from the 2009 San Francisco Urban Wind Map[5] at each site. "Sunhours" refers to the number of equivalent hours per day on average that the sun shines at the site. Higher numbers are more attractive for harvesting solar energy. "Mph avg" refers to the average wind speed at the site in miles per hour at around 30 ft above the ground. Small wind turbines often make sense at roughly >12 mph average.



[1] Brown, Peter. "SFMTA Energy Use by Vehicle Type: Transit Investments vs Life Cycle Costs." Lake Arrowhead, California. October 17, 2011.
[2] SFMTA-provided data describing fleet composition, "Fleet Composition Summary 010112.xls"
[3] AC Transit. "2009 Environmental Sustainability Report."
[4] http://sfwater.org/cfapps/solar/solarmap1.cfm
[5] http://sf.solarmap.org/

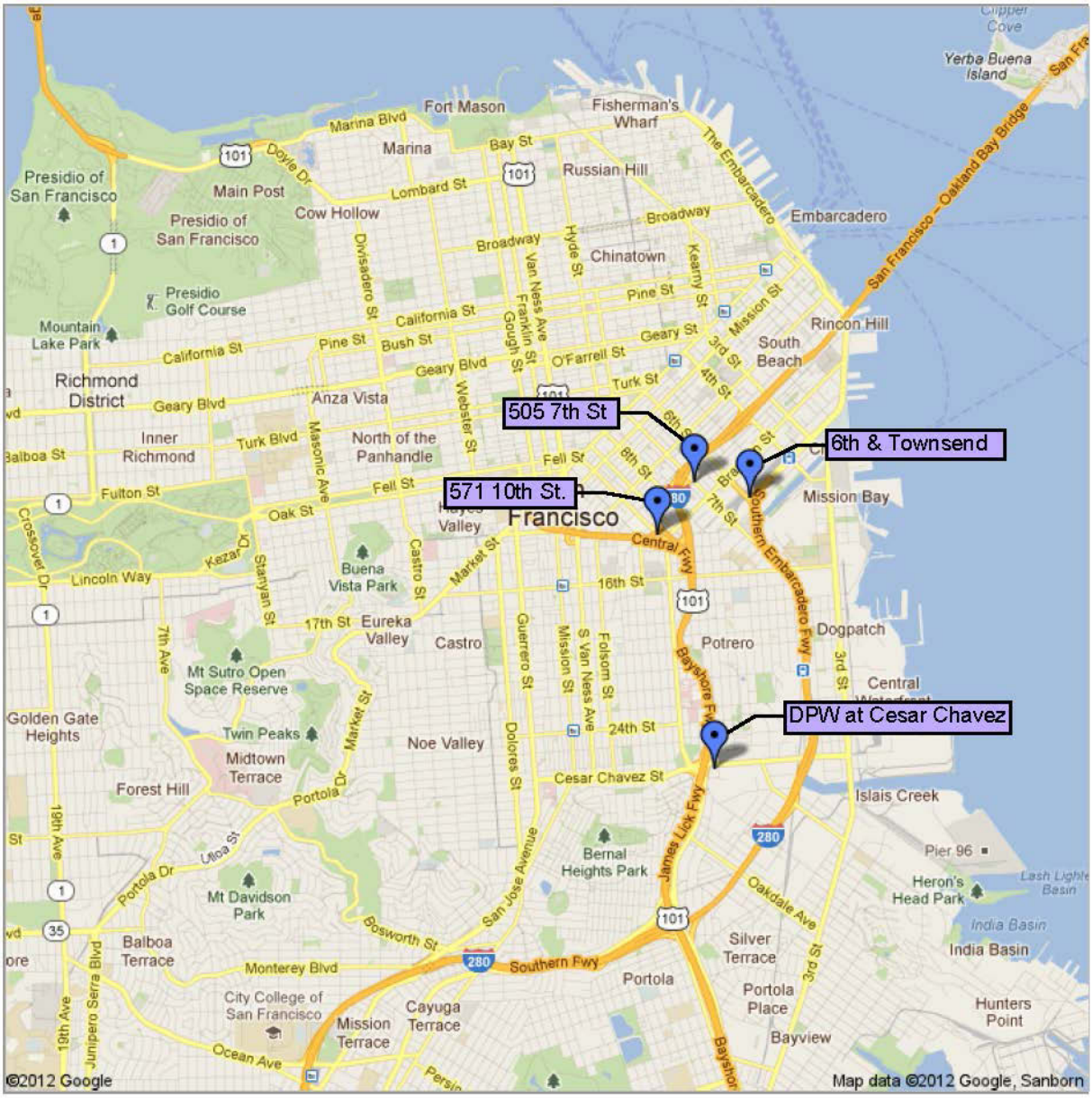
The following maps show the locations of the SFMTA facilities reviewed by the study team:

Transit and Sustainable Streets Facilities



Parking Garages

Enforcement Locations



SFMTA

CATEGORY A

Kirkland Division

Address:	2301 Stockton St.
Lot and Block Number:	0019 / 001
Opening Year:	1950
Last Improvements:	New underground storage tank in 2001
Existing Fleet:	See Appendix A
Site Area:	2.6 acres
Zoning District:	P-Public
Height & Use District:	40-X
Special Use District:	Waterfront - 2
Setback Requirements:	None
Other:	Flood Notification, Seismic Hazard Zone
Total Building Area:	11,640 square feet
Employee Parking:	Limited on-site parking - cars in bus lanes during the day
Site Ownership:	SFMTA

Current Functions:

- Light Maintenance, Fuel and Wash, and Operations for Kirkland Division diesel bus fleet

Observations

1. 135 buses on-site
2. Only light duty repairs are handled at the Kirkland facility – Preventive Maintenance and Running Repair
3. Kirkland operates 24/7 with 47 maintenance employees split over 3 shifts
4. Fuel– Two 20,000 gallon in-ground tanks
5. 2,000 gallon above ground tank for engine oil
6. 2,000 gallon above ground tank for waste oil
7. Supervisors' offices located adjacent to the fuel and maintenance lanes
8. Fuel Lanes
    a. 3 lanes with 1 diesel fuel positions each
    b. Fueling occurs during the evening pull-in
    c. The center lane of the maintenance area has to be used at night to pull buses through to parking from the fuel lanes
9. Fare pull occurs in the area between the fuel lanes and the maintenance bays
10. Approximately half of Kirkland's coaches run the entire day on routes while the other half run "tripper" routes and return early
11. 1k and 6k inspections are handled in maintenance bays 1 and 3
12. Wash Lane
    a. Brush wash system located in the center of the facility's parking areas
    b. Vehicles are washed every other day
    c. No vacuum system on site – buses are swept out by the service workers
    d. Detail cleaning occurs in the bus parking area
13. Maintenance Area
    a. 3 pits in a canopy covered area
    b. 1 designated area in the yard next to the maintenance canopy for lifting vehicles with portable lifts – area also used for pressure washing

Maintenance Bays

Lube Storage Tanks

Portable Lifts and Pressure Wash Area

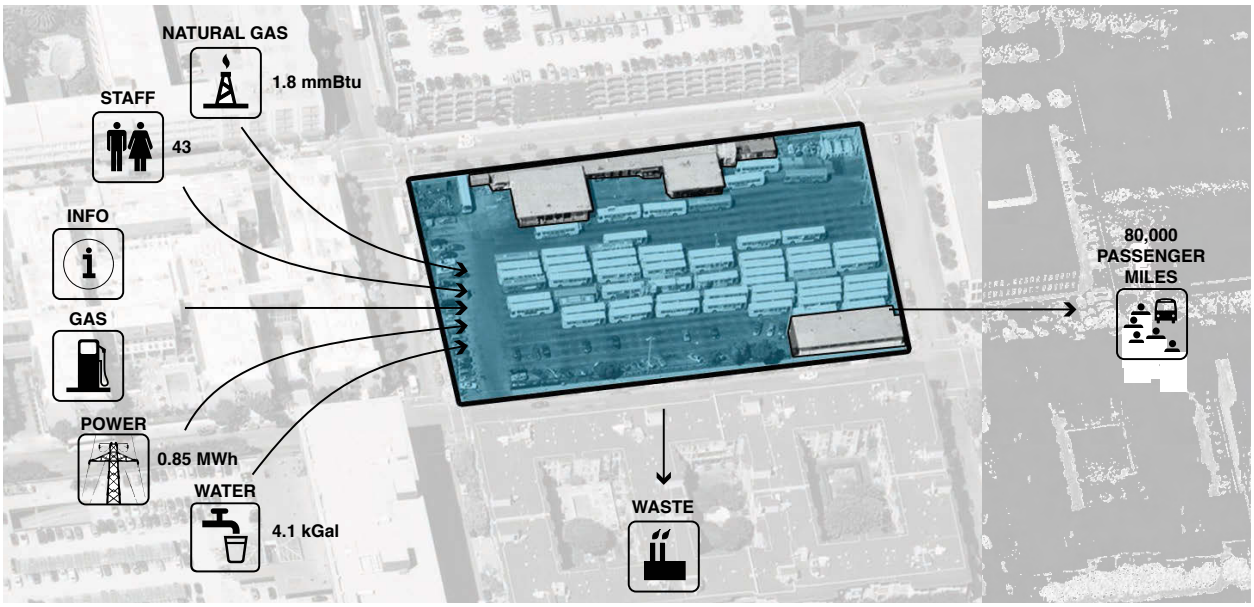
    c. Reels between the bays with 2 types of engine oil, transmission fluid, compressed air, and water
    d. Roof leaks in this area
14. Tire Shop
    a. Situated in the corner of the yard adjacent to the maintenance lanes
    b. No lifts in the area – tires are changed using a bottle jack
15. Employees park along the rear fence and in some bus parking during the day but must move their vehicles by 7:15PM to clear the space for bus parking. Most employees must find parking off-site.
16. A bus parked at the entrance to the facility serves as Kirkland's meet and greet area
    a. Checks returning buses in and takes defect sheets from the operators
17. Buses are turned in the yard when there is enough space, but when the lot is too full buses must circulate out into surrounding streets just to turn around.
18. Current morning pullout is 119 buses and the standard is 115
19. Operations
    a. Small locker room, break room area, restrooms, manager's offices, and dispatch area
    b. No HVAC in this building
20. Parts Storage
    a. Located in a small office area adjacent to the maintenance lanes
    b. 1 storekeeper handles Kirkland's parts needs during the day shift 5 days a week – supervisors can access and sign out parts during off hours and weekends
    c. 21 parts shelves (36"x18"), 4 racks of small screw storage, and 4 drawer units
    d. Receives parts from Woods as well as directly from Burke – usually delivered Friday
    e. There are no leaks in this area's roof
21. Stationary Engineer shared by Kirkland and Presidio facilities

Opportunities

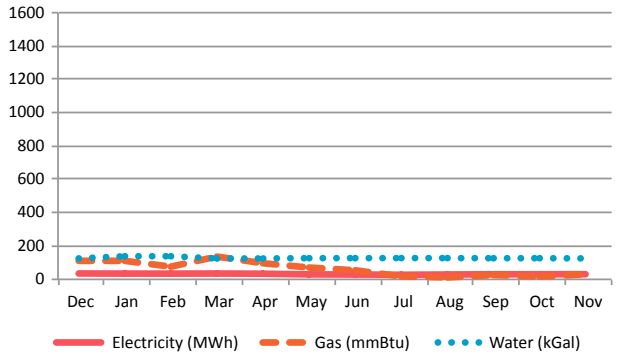
1. Shift a portion of Kirkland's fleet off site to (to Islais Creek possibly) to allow for more efficient maintenance and parking of the remaining fleet. The impact on deadhead should be evaluated.
2. Move the entire operation from the site, allowing for development.
3. Build a permanent Meet and Greet station
4. Update one bay by providing vehicle lifting capability
5. Plumb maintenance bays for centralized waste fluid collection and fluid distribution
6. Reconfigure fueling position to allow buses to bypass the maintenance bays instead of using the middle bay to drive through
7. Add new vehicle wash in a position that is not in the middle of the bus storage area

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

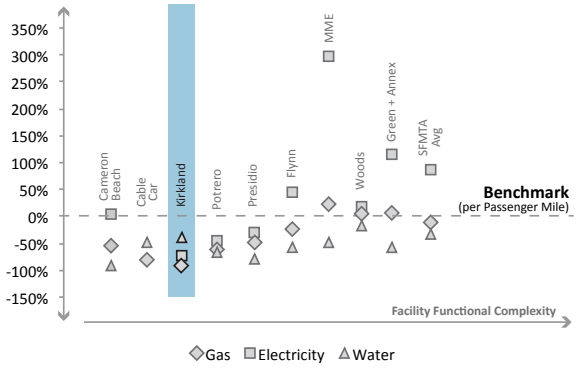
Sustainability and Mechanical, Electrical & Plumbing



Monthly Resource Flows



Resource Flow Comparison

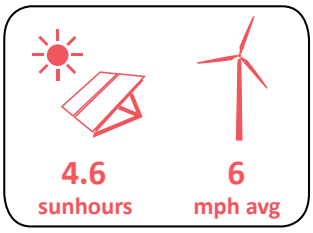


Observations:

- New Laars Pennant hot water boiler for maintenance area
- Baseboard heaters in operations area, boiler said to not be working
- High water use relative to other SFMTA facilities
- Operations ventilation system is window exhaust + infiltration (no makeup air or AC)
- CRT television in parts area typically on
- Lights on in service areas though sunny outside

Opportunities:

- Boiler repair/replacement for operations area
- Central ventilation system for operations area
- Daylight sensing for lights, lighting replacement
- Could be worth exploring solar energy collection
- More effective water reclamation and reuse



Woods Division

Address:	1095 Indiana (22nd and Indiana)
Lot and Block Number:	4170 / 010
Opening Year:	1974 – 1978
Last Improvements:	New Roof (2011)
Existing Fleet:	See Appendix A
Site Area:	8.2 acres
Zoning District:	P-Public
Height & Use District:	55-X
Special Use District:	Life Science and Medical
Setback Requirements:	None
Other:	Seismic Hazard Zone
Total Building Area:	153,000 square feet (in 4 separate structures)
Employee Parking:	Limited on-site parking
Site Ownership:	SFMTA

Current Functions:

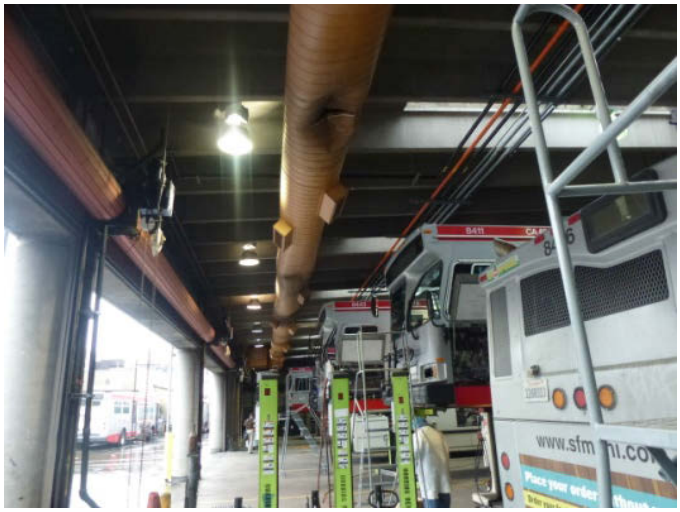
- Operating Maintenance and Operations of Woods Division bus fleet
- Heavy Repair for Woods Division and Kirkland Division bus fleet
- Body Repair and Paint for Woods Division, Kirkland Division, and Flynn Division bus fleet
- Component Rebuild for all rubber tired bus fleet (including trolley buses)

Observations

1. 2 Maintenance Controllers at Woods handle schedules, work orders, reports/analysis
2. Approximate operating fleet:
    a. 152 buses per morning run
    b. 62 buses on weekend run
    c. 40 bus reserve fleet – 1993 Gillig 40' – used by training
    d. Approx. 20 inspections (1k or 6K) per day
3. Offices remotely located on 3rd floor
    a. Offices for: Deputy Director of Maintenance, Body Work Liason, Fleet Appearance, Senior Controller

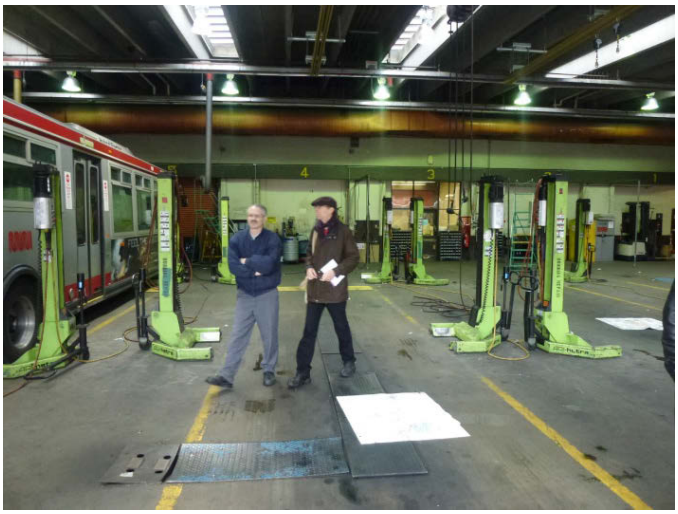
Interior Vacuum System

4. Fuel Lanes
    a. Pits used as running repair during the day
    b. Multiple roof leaks
    c. Pits will flood during rain
    d. Offices will flood during rain
    e. 6 diesel fueling positions across 3 lanes
    f. Lube reels located between bays: Transmission Fluid /Engine Oil/Power Steer/Coolant
    g. Vault-pull handled by Revenue (separate crew): 3 pull positions with crew during fueling. Missed pulls require downing bus and waiting for mobile crew
    h. Farebox, Video, Radio handled off-site
    i. Interior vacuum system has been inoperable for 10 years
    j. Insufficient lighting
    k. No heat – Broken
    l. Fueling crew: 13 fuel between 150 to 200 buses per night
    m. Defect cards pulled in fuel lanes – no contact between mechanics and drivers
    n. Buses must cross Indiana St. between parking and fuel lanes
5. Wash Lanes / Steam Clean
    a. Steam clean is outdoors – environmental concern
    b. Steam clean parallelogram lift is a Rotary model 5048
    c. 2 wash lanes with drive-through 4 brush systems
6. Light Repair
    a. Fuel lane compactor area wall makes entering bays 1 and 2 difficult. Wall has been hit
    b. 12 bays
        i. Bay 1: not in use due to vacuum dumpster area, non-operational lift
        ii. Bays 2/3/4: flat bay with fall protection



Damage to Air Ducts in Maintenance Bays

iii. Bays 5 through12: in-ground lifts non-operational, using portable lifts instead



Portable Lifts in Maintenance Area

c. Using portable lifts due to many in-ground lifts being down, some works still operate, but are unreliable due to leaking hydraulic fluid.
d. Engine coolant barrels and mixing diaphragm pump in caged area near toolbox storage
e. Engine Oil stored in underground tank outside: Shipments of lubrication commodities sometimes are delivered by tanker truck, but other times arrive in barrels and maintenance crew must pump into tanks or use barrel mounted pumps in shop
f. Transmission Fluid has the same situation
g. Gear Oil dispensed from pumps on barrels
h. Chassis grease dispensed via reels
i. Running Repair supervisor has a caged storage area
j. Total of 3 toolbox storage areas in Light Repair
k. Fall Protection in Bays 2,3,4
l. Lighting is inadequate throughout the shop
m. Bay 12 is used for storage – unable to use portable lifts due to wall
n. Crew break room: kitchen, tables, vending
o. Work orders handed out from Maintenance Control Room
p. 18 to 25 buses repaired per shift
q. Operates 24 hours 7 days per week with crew of 3-5 mechanics

7. Heavy Repair
    a. 16 possible bays (numbered as 2 through 17)
        i. 3 flat bays
        ii. 11 bays with in-ground lifts (many non-operational)
        iii. 2 bays with inspection pits
    b. Bay 2 currently used for toolbox and spare part storage
    c. Bay 7 currently used to store jack stands and portable lifts
    d. Hydraulic reservoir and electric motors housed in outside pit with draining running into it – could cause failure of all lifts filled over motor
    e. Currently storing used fluorescent lights along wall and in storage alcove multiple weeks until collected by another group – taking up a great deal of floor space
    f. Staffing: Shift One 11, Shift Two 13
    g. 2 Heavy Repair Supervisors – one office with two desks
    h. Heavy Duty tool storage is left unlocked with full access throughout day
    i. 2 areas for component steam cleaning (Engines and Trans/Wheels/Diff): poor lighting in both areas. Also house parts washers
8. Engine Dyno Room and Engine Dyno Control Room
    a. New dyno in process of being installed, has been down over 3 years

   b. Engine load is in same room as controller – safety issue
9. Transmission Dyno Room
   a. Test all transmission rebuilds
   b. Overhead monorail for loading transmission into dyno
   c. Currently also storing portable welders here
10. Brake Shop
   a. 2 lathes and a bridge crane. Insufficient dust collection.

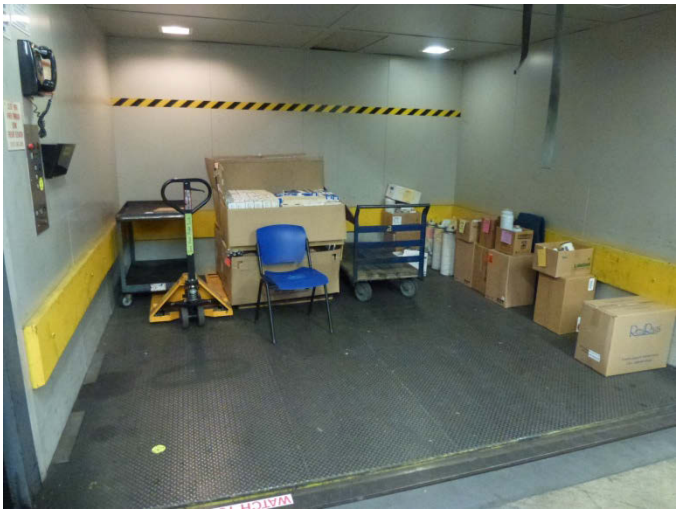
Engine Dyno

11. Machine Shop
   a. Wood block floor floats during heavy rain. Unclear if this is from low water table or ceiling leaks.
   b. Poor lighting
   c. Staffing: Day 8, Swing 2, Graveyard 3
   d. 8 jib cranes on first floor
   e. Store fully assembled motor/trans/cradle here and individual components in store room
   f. Welding are is shielded by curtain and vented with fume extraction arms
   g. 2 engine workstations, 2 differential workstations, 5 transmission workstations
   h. Fabrication materials are stored in a caged area
12. Machine Shop Mezzanine
   a. Same staff as main Machine Shop. Switch as needed
   b. Small component rebuild housed here
   c. Maintenance Control archives stored near stairs
   d. Components brought to mezzanine via dumbwaiter
   e. Roof also leaking in this area
13. Lockers / Showers / Crew Bathrooms
   a. Insufficient lighting
   b. Full lockers for crew
   c. Inadequate shower area

Machine Shop Wood Block Floors

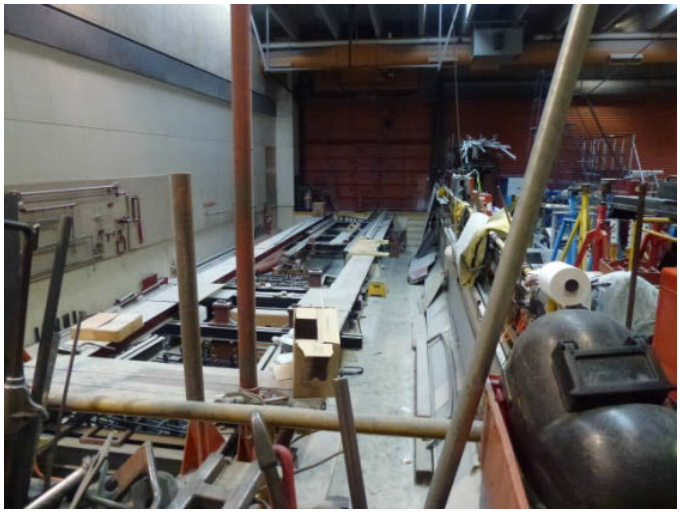
14. Parts Storage
   a. 2 floors. 2 parts counters on first floor open to both sides of shops. Shipping and receiving near parts counter
   b. Second floor has a larger footprint than first
   c. Parts tracked via stock #'s by storekeepers on computer. Barcodes not used
   d. Staffing: Day 5, Swing 2, Graveyard 1
   e. 45 shelving units on first floor
   f. Handles fluid (engine oil, transmission, etc.) orders for facility. Considers dispersed upon arrival and maintenance crews handle storage (barrels or inground)

g. Senior storekeeper offices on second floor (2 workstations)
h. Use freight elevator and dumbwaiter to move parts between floors
i. 2nd floor can handle forklifts storage is set up for pallet jacks
j. Some parts stored in elevator (1k Inspection materials)
k. Remote storage of slow moving inventory is located near the body shop



Parts Storage in Freight Elevator

15. Body Shop
    a. Handles glass and body repair for all rubber wheel vehicles
    b. Large glass storage area and panel fabrication area
    c. 7 bays total (2 with in-ground lifts, 3 flat, 1 pit, 1 frame straightener)
    d. 1 frame straightening bay which is seldom used
    e. 1 bay with pit – not being used and has parts stored around pit
    f. 1 Paint prep area – also used for small spray jobs which may be a safety violation. Bay has compressed air drops and portable dust collection. Poor lighting in area
    g. Paint booth with cross-draft ventilation and water-based filtration serves 40' and 60' buses as well as trolleys: 60' difficult to fit and work around. Roofs accessed via ladders
16. Wheelchair Lift
    a. Currently unstaffed. Mechanics are pulled to work when required
    b. 2 lift workstations with test stands
    c. Completed lifts are stored on racks
    d. Lifts are pulled in heavy repair and brought over on rolling scissor lifts
17. Tire Shop
    a. 2 bays with in-ground 2 post lifts
    b. Contracted out to Firestone – part is still used to house cleaning supplies / graffiti removal
    c. Only using as half bays due to tires being stored in bays – can only lift one axle at a time



Frame Straightening Bay in Body Repair

Opportunities

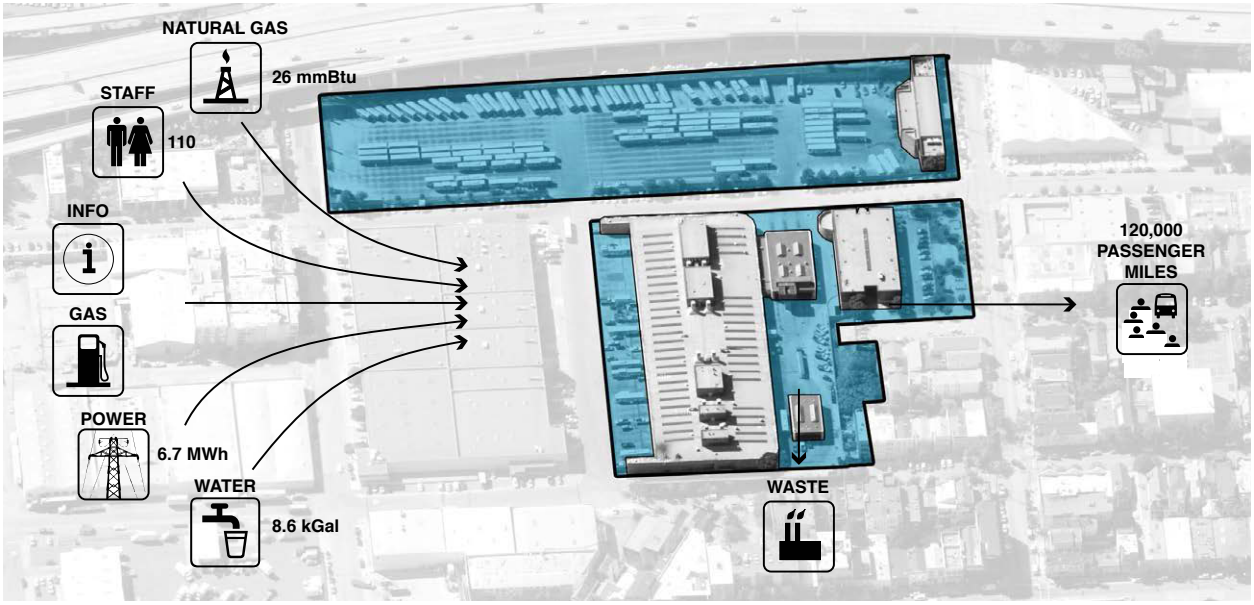
1. Fuel Lanes
    a. Demolish inoperable Vacuum System and compactor/dumpster area allowing the west bay of Light Repair to be used.
    b. Add new centralized vacuum system with 2 hose drops per fueling position, one at each door location.

    c. Add appropriate heat
    d. Add fuel hose gantry at each dispenser to facilitate fueling on 30 and 40 foot buses at the same position.
2. Wash Lanes / Clean
    a. Provide canopy cover for Steam Clean OOPS
    b. Replace Steam Clean lift
    c. Repair or replace heated high pressure washer
    d. Replace existing washers with new washers that will more effectively and efficiently clean the complex shape of the hybrid buses
3. General Clean
    a. Move from current location, adjacent to tire shop, and integrate into the fuel lanes and the nightly fuel and wash process
4. Brake Shop
    a. Add 2 point dust collection with appropriate shrouds to brake lathes
5. Indiana Street
    a. Close between Tubbs and 22nd to public traffic. This will increase safety and efficiency of nightly process of fueling washing entire fleet. Also may lead to further opportunity of developing a deck for public and employee parking or other uses at this location.
6. Outside storage under cable car shop
    a. Convert to interior space
    b. Equip with space efficient storage systems
7. Bulk lubricant deliveries
    a. Have contract or specification modified so that procurement for lubricants requires bulk lubricants to be delivered by tanker truck wherever tanks are to filled. Drums of bulk lubricants should only be for commodities that are not part of a central lubrication system.
8. Relocate Paint and Body Shop to another site, possibly MME.
    a. Use the resulting 9 bays for additional fleet maintenance work increasing overall fleet capacity
9. Relocate Component Rebuild to another site, possibly the Burke Avenue Facility. If Component Rebuild is moved then:
    a. Parts could be moved into the space and be efficiently organized on one floor.
    b. The space between the north and south bays could be used for equipment storage that is currently blocking bays from being used.
10. Replace Vehicle Lifts
    a. In ground lifts are the safest and most efficient method of working on buses. Vehicle Lifts are typically replaced every 15 years. The current in-ground lifts are over 30 years old. A wholesale lift replacement project would greatly improve the facility maintenance capacity.
11. Plan for maintenance implications of diesel exhaust fluid (DEF) in any new fleet acquisitions:
    a. High temperature exhaust hoses for filter regeneration processes
    b. Particulate filter cleaning equipment and area
    c. DEF storage tanks and dispensers

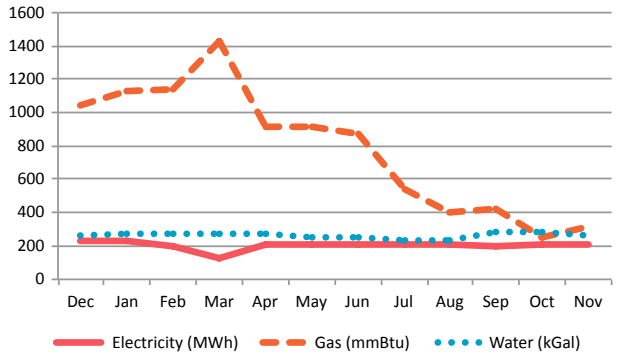
Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

Sustainability and Mechanical, Electrical & Plumbing

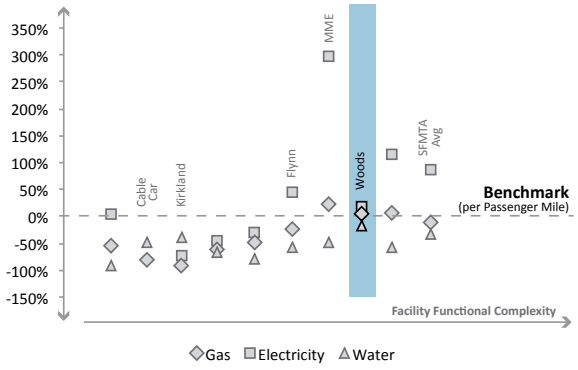
Daily Resource Flows



Monthly Resource Flows



Resource Flow Comparison

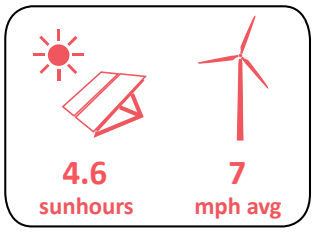


Observations:

- Aging T12 fixtures in fueling station, former classroom, and parts areas
- Damage on ductwork from vehicle collisions
- Two (2) relatively new Laars Pennant forced draft boilers, 1,000 MBH each
- Two (2) constant speed hot water pumps
- Two (2) aging penthouse air handling units presumably serving the upper floor
- Lights left on (manual switch) in the paint booth
- ~25kWdc Rooftop Photovoltaic system (~100 panels)

Opportunities:

- Air-based heating and ventilation systems not operational, so doors must stay open
- Variable flow configuration for heating system
- The fueling station is like a wind tunnel, costly to keep warm
- Lighting energy use, vibration, and color can be improved



Flynn Division

Address:	1940 Harrison St.
Lot and Block Number:	3551 / 001
Opening Year:	1989
Last Improvements:	New Roof (2011)
Existing Fleet:	See Appendix A
Site Area:	6.2 acres
Zoning District:	P-Public
Height & Use District:	58-X
Special Use District:	Transit Oriented Retail and Mission Alcohol Restrict
Setback Requirements:	None
Other:	Flood Notification, Seismic Hazard Zone
Total Building Area:	266,000 square feet
Employee Parking:	Parking available in a metered lot next to the site
Site Ownership:	SFMTA

Current Functions:

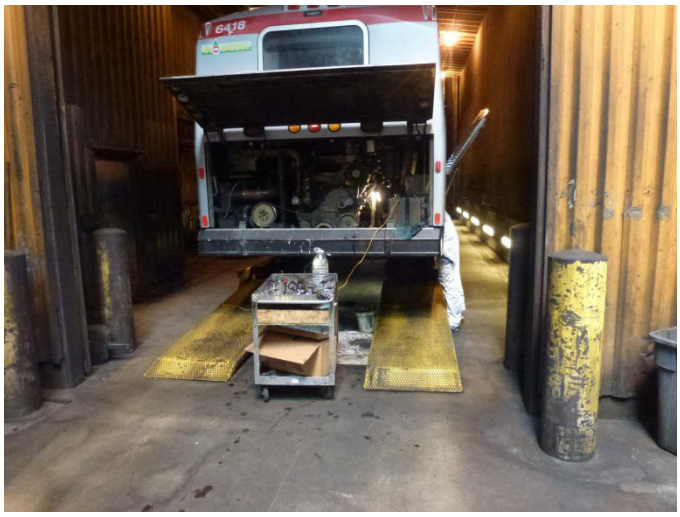
- Operating Maintenance, Fuel and Wash, and Operations of Flynn Division articulated diesel bus fleet
- Light Body Repair for the Flynn Division articulated bus fleet

Observations

1. Facility opened in 1989
2. Includes enclosed maintenance, operations, parking, fuel, and wash
3. Flynn was originally designed for mid engine buses but now serves all rear engine buses
4. Radiant heat in the shop is functional but struggles to heat the facility due to the high ceilings
5. Fleet – 124 Neoplan and 5 New Flyer 60' articulated buses
6. 3 in-ground 20,000 gallon diesel fuel tanks
7. 1 in-ground 2,000 gallon engine oil storage tank, 1 in-ground 2,000 gallon automatic transmission fluid storage tank, 1 in-ground 2,000 gallon waste oil storage tank, 1 in-ground 500 gallon waste coolant storage tank
8. Current facility lighting via high pressure sodium is insufficient
9. Currently only Muni facility that can handle articulated diesel vehicles
10. Fare pull near the entrance to the facility before fueling
11. Track 5 is designated for vehicles with reported defects
12. Track 12/13 is designated for vehicles with automatic passenger counting systems (APC)
13. Fueling occurs between 6:00 PM and 2:30 AM
14. Steam Clean Bay
    a. Only used for steam cleaning during the night shift
    b. Used as an extra bay/lift during the day and swing shifts
15. Recycling bin and compactor are housed in an enclosed space – trash collected from the buses is compacted and stored for recycling pickup
16. Typical evening pull-in: Driver brings the bus in, stages it for service, and hands off the defect sheet. Maintenance service crew takes control of the bus and passes through vault pull, fueling and fluid top off, cyclone vacuum system, bus wash lane, general clean and sweep, and parking or maintenance bays as required
17. Detail cleaning of the buses takes place in space before the bus wash lanes

Flynn Exterior and Bus Entrance

Bus Parking

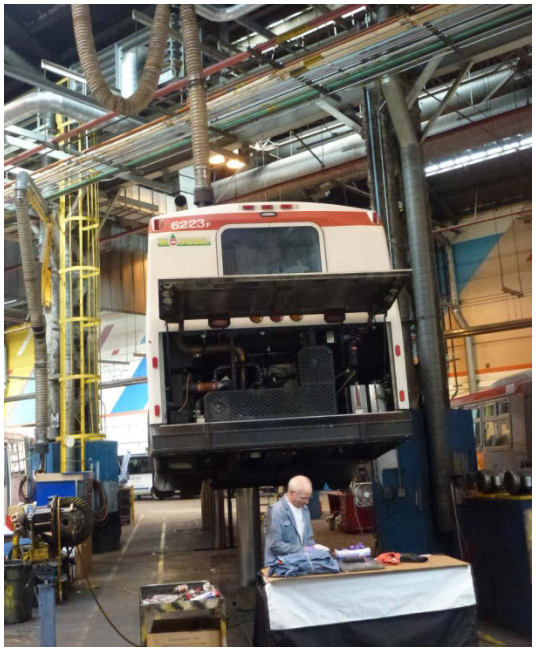


Steam Clean Bay

18. An unused dynamometer system is stored on the wall in the parking area
19. Fuel Lanes
    a. 2 fuel lanes
    b. 4 fuel positions
    c. Only 1 set of reels to replenish fluids on both lanes – unable to track accurately track vehicle fluid using Fleet Watch due to inability of system to tell which lane is receiving fluids
    d. Canopied and exhausted area
    e. Diesel generator to run the fuel lanes in emergencies

Bus Fuel Lane and Vacuum System

20. Bus Wash Lanes
    a. 2 lanes
    b. 4 brush bus washing system with water reclamation for the rinse
    c. Buses are washed every other day
    d. Space for storage of 5 pallets of detergent (4 55 gallon drums per pallet)
21. Approximately 6 to10 buses arrive with defect cards during every pull-in
22. Brake Area
    a. 2 brake lathes
23. Particulate Filter Cleaning Area
    a. Cleaning equipment for the particulate filter systems on the newer buses
24. Hazmat / Pump Room
    a. Enclosed container for lubrication pumping equipment and storage
    b. Houses coolant, grease, and gear oil
25. Machine Shop
    a. 2 ton jib crane
26. Muni's articulated buses average 36,000 miles per year. Half of the fleet is already at 300,000 miles. The industry standard for the life of a bus is 12 years or 500,000 miles.
    a. 27 vehicles have been through a rehabilitation campaign with another 27 to follow soon – hope to begin replacement of vehicles before the third set is scheduled for rehab
27. Maintenance Bays
    a. 11 maintenance bays and 1 inspection line
        i. Bays 1 to 7: 3 post in-ground lifts rated at 25,000 lbs per post
        ii. Bays 8 to 11: drive-on parallelogram lifts
    b. Vehicle exhaust reels at every bay – seldom used due to difficulty of placement
    c. 1K inspections take place on the inspection pit leading into the steam clean room



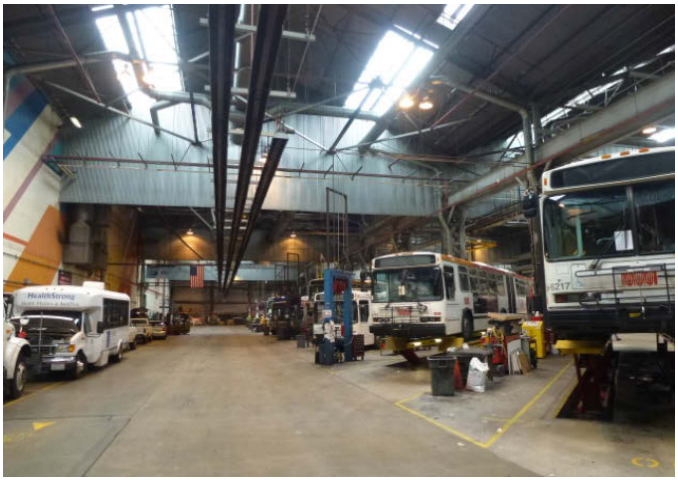
Vehicle Exhaust System Poorly Located

d. Makeup air in the maintenance bays provides positive pressure to keep exhaust from the parking area separate
e. Drains in the parallelogram lifts have been plugged to keep spills and runoff out of the sewer system. The pits must occasionally be pumped out and cleaned
f. In-ground systems generally require far more repairs to the rear post due to the excess weight of the rear engine buses

Parallelogram Lifts

g. Reels for coolant, engine oil, transmission fluid, air, grease, gear oil, and power steering fluid between the rear of repair bays
h. Reels for electricity, light, and air between the front of repair bays
i. 3 sets of waste oil and coolant in-ground collection drains on the facility wall near the inspection pit

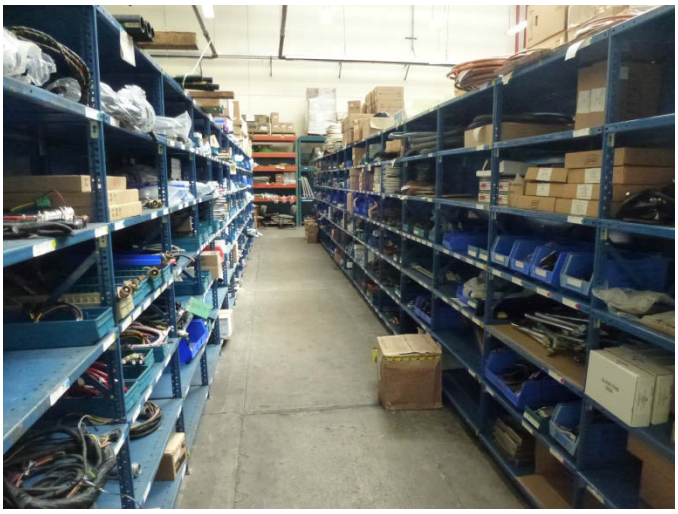
28. Body Shop
    a. No specific area is designated. Repairs occur in a flat bay and the area in front of the other maintenance bays
    b. Only minor repairs are handled at Flynn – heavy duty work is sent to Woods Body Shop
    c. Body Shop items are stored along the walls and in a remote storage room near the wash lanes
    d. Staff: 2 workers during the graveyard shift



Body Shop Area and Repair Bays

29. Tire Shop
    a. Housed in a separate building across the street and managed via Muni's contract with Firestone
30. Battery Room
    a. Storage only with no on-site charging
    b. Batteries are swapped with an outside vendor
31. Parts
    a. Deliveries are received at the receiving door on the interior of the building. Door is currently down so a small 2 door opening in the Battery Room is currently used for receiving
    b. Leaks in the roof in this area
    c. Staffing: 2 storekeepers day shift and 1 on the swing shift 5 days a week – supervisors retrieve and sign out parts during off hours and weekends

   d. Receiving can also be handled by an overhead door to the exterior of the facility but seldom is
   e. A chemical storage room for hazardous materials is segregated from the main parts room
32. Control Room
   a. Office for distributing and scheduling maintenance work and documenting the work performed on vehicles
33. Vehicle Parking
   a. 18 rows of bus parking
   b. Space allows full extension of wheelchair lift



Parts Storeroom

34. Flynn has an average of 4 NRV vehicles on-site at most times
35. Operations Area
   a. Dispatch, break room/kitchen, restrooms, lockers, operations offices
   b. Staffing: 292 total operators

Opportunities

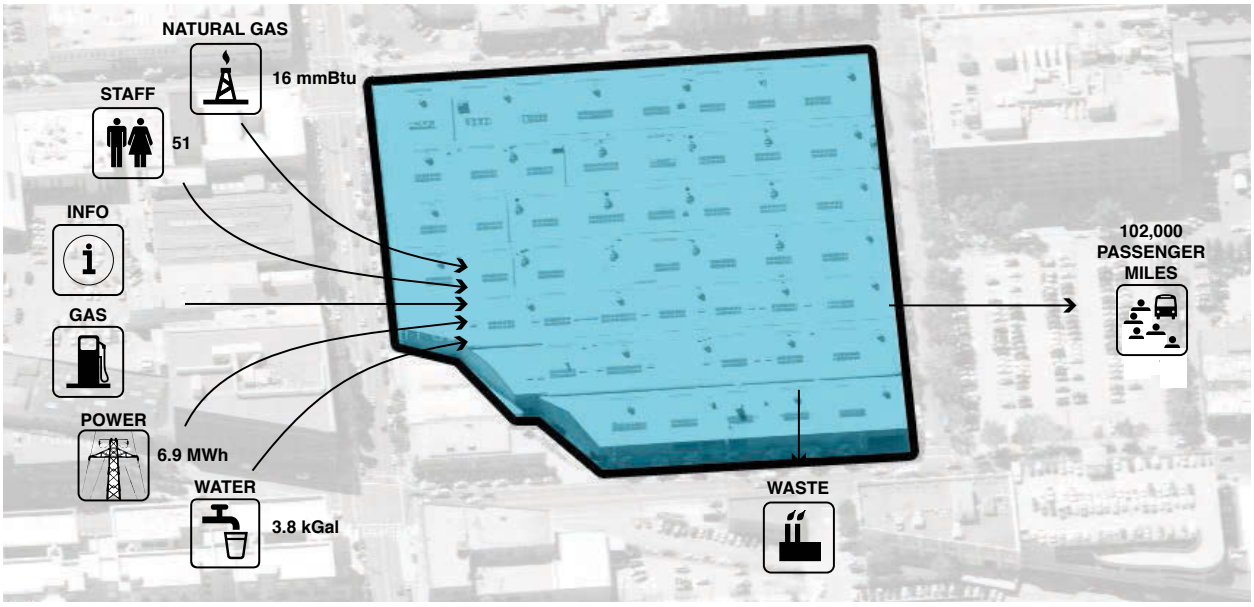
1. Replace the outdated cyclone vacuum system with a standard hose vacuum system to reduce maintenance costs, improve cleanliness of the vehicle, reduce the man hours required, and clear up additional facility space
2. Add a fuel hose gantry to increase efficiency in fueling processes
3. Add a second bank of fluid reels in the fuel lane to allow for faster fluid replacement and accurate fluid tracking by vehicle
4. Replace all of the current high pressure sodium lighting with metal halide or high bay fluorescent lighting to address shop lighting issues
5. Remove dynamometers that are being stored in the bus storage area to create safer bus circulation
6. Verify age of all lifts. Begin a planned replacement program for the lifts as they reach the end of their useful lifecycle.

7. Plan for maintenance implications of diesel exhaust fluid (DEF) in any new fleet acquisitions:
   a. High temperature exhaust hoses for filter regeneration processes
   b. Particulate filter cleaning equipment and area
   c. DEF storage tanks and dispensers

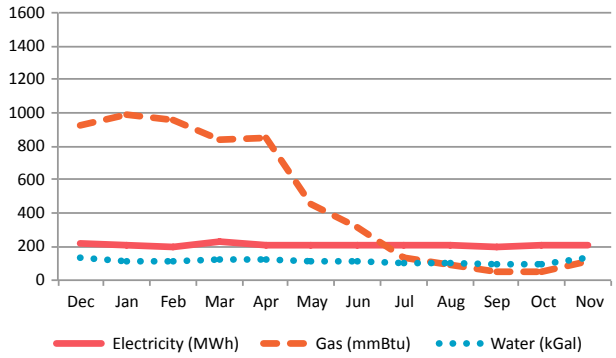
Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

Sustainability and Mechanical, Electrical & Plumbing

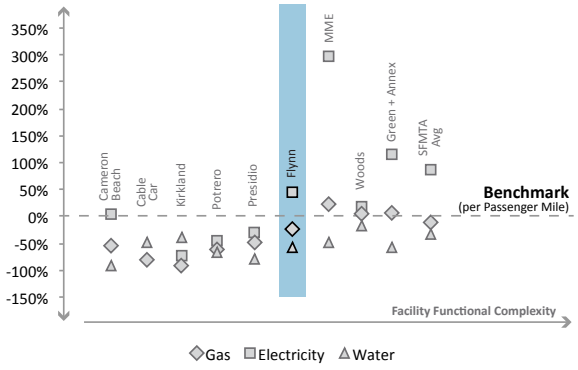
Daily Resource Flows



Monthly Resource Flows



Resource Flow Comparison

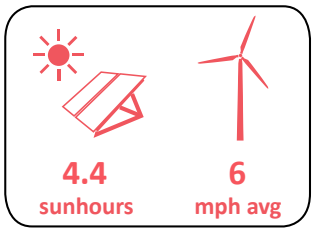


Observations:

- 27 exhaust fans serving the main parking area, ~15 horsepower each
- Control panel for exhaust fans no longer functioning
- Four makeup air fans, 20,000 cubic feet per minute each for pressurization
- Two thermostats for the entire operations and maintenance office areas
- No direct exhaust for coaches at wash and fueling stations
- Inefficient duct heater for office HVAC system

Opportunities:

- Manual exhaust and makeup air controls => 24/7 fans on
- Under-utilized tailpipe exhaust systems
- Dim lighting with poor color rendering
- Limited thermostat zoning leads to office and operations discomfort all year



Potrero Electric Trolley Bus Division

Address:	2500 Mariposa
Lot and Block Number:	3971 / 001
Opening Year:	1914
Last Improvements:	Remodeled in 1990
Existing Fleet:	See Appendix A
Site Area:	4.4 acres
Zoning District:	P-Public
Height & Use District:	65-X
Special Use District:	Mission Alcohol Restrict
Setback Requirements:	None
Other:	Seismic Hazard Zone
Total Building Area:	104,000 square feet
Employee Parking:	Metered parking available on-site on facility deck
Site Ownership:	SFMTA

Current Functions:

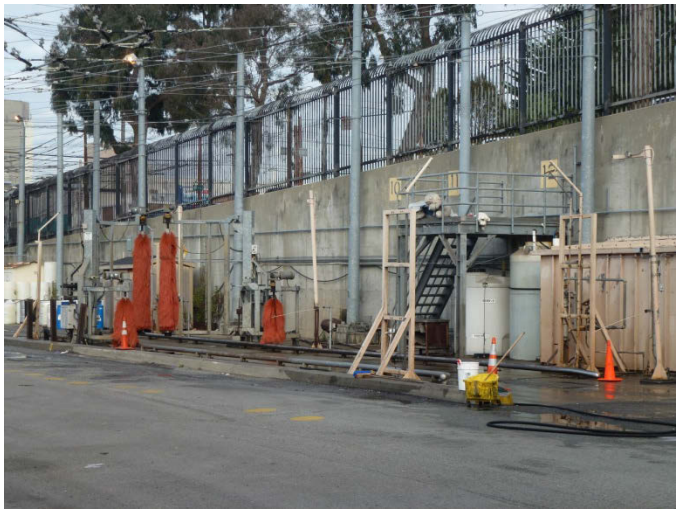
- Operating Maintenance and Operations of Potrero Division standard and articulated electric trolley bus fleet
- Light Body Repair for the Potrero Division standard and articulated electric trolley bus fleet

Observations

1. Meet and Greet is staffed by maintenance and retrieves the defect cards from returning trolleys
    a. During the morning pull-out a maintenance worker acts as a yard starter for the vehicles
2. Currently running 116 trolley buses from this facility
    a. Plan to replace 60 of the current vehicles with articulated trolley buses
    b. All new vehicles will be low floor models
    c. ETI vehicles have run approximately 250,000 miles per vehicle
    d. New Flyer vehicles have run approximately 400,000 to 500,000 miles per vehicle
3. Staffing: total of 65 maintenance workers split across 3 shifts of 24/7 operation
4. Potrero facility does not have enough overhead clearance to lift any vehicles or remove large roof mounted components – large components must be removed from the roof in the yard
5. Only 1 bay has fall protection in the entire facility and many overhead lines cannot be powered down – this will be a huge issue as the fleet transitions to low floor buses with mostly roof based components
6. Remanufacturing of most components is handled at either Green or Woods as required
7. No on-site painting. All paint needs are handled at Woods
8. Shop is heated through gas fired radiant heaters
9. Major roof leaks which have caused damage to the building (spalling) and flood the pits on a regular basis
10. Parking Area
    a. Upper Yard – 40’ trolley bus parking
    b. Lower Yard – 60’ trolley bus parking
    c. Vehicles are parked on the PM and Wash lines inside the facility at night due to a lack of parking

Trolley Parking - Lower Yard

11. Bus Wash Area
    a. Cyclone vacuum system near the wash area – does not work well and crews must wipe down the bus interior after use to clear the displaced dust – system is often down and requires a great deal of maintenance
    b. Vehicle washer is not ideal for electric trolley buses – brushes routinely get tangled in the trolley apparatus and the system has issues with damaging the mirrors on these vehicles
    c. Brushes on the bus washer have not been replace in over 10 years



Bus Washer

12. Spare Parts Storage Area
    a. 3 pallet racks
    b. Multiple parts stacked along the floor
    c. Not inventoried
    d. Mostly storing extra parts from other vehicles for quick use to avoid waiting on deliveries from Burke
13. Heavy Maintenance Repair
    a. 2 tracks with pits
    b. Drop motors and make other heavy duty repairs in this area
    c. No overhead clearance to lift vehicles
    d. No fall protection
    e. Not all overhead lines can be switched off

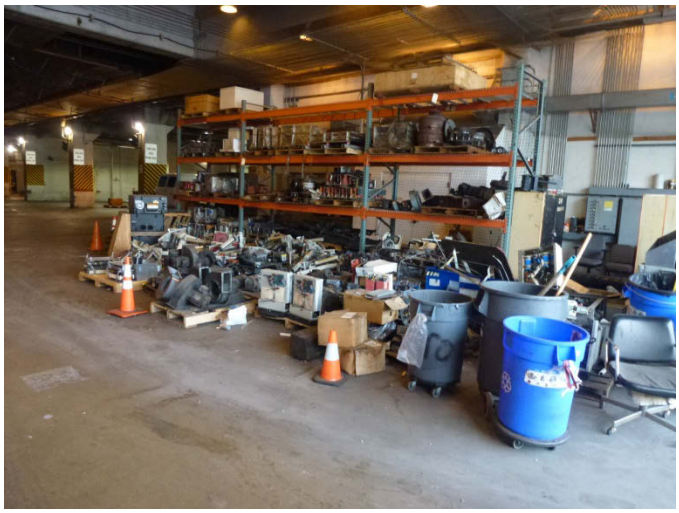
Heavy Maintenance Lanes

14. Running Repair
    a. 4 tracks with pits at front end
    b. No overhead clearance to lift vehicles
    c. No fall protection
    d. Not all overhead lines can be switched off
    e. Preventive Maintenance 2 lanes with pits
    f. The first bus position on lane 27 is the only position that can be de-energized, and it is the only position with fall protection.
    g. Pits in this area routinely flood during rain due to roof leaks
    h. PM supervisor stocks a parts cabinet of daily use items in the PM area – supervisor signs the parts out from Parts Storage
    i. Compressed air drops except for on lane 26
    j. Reels for chassis grease, gear oil, ETI gear oil
15. Battery Charging Area
    a. Space for charging and testing batteries prior to installation

Concrete Spalling above Overhead Lines

16. Lubrication Area
    a. Waste oil pumped in from pit mounted drain pans throughout the facility
    b. 500 gallon waste oil storage tank
    c. Storage and pump systems for chassis grease, gear oil, ETI gear oil
17. Parts Room
    a. Receives parts from Burke Warehouse on Tuesday/Thursday
    b. Potrero also supplies Presidio with supplies – sends them on the truck with Burke supplies

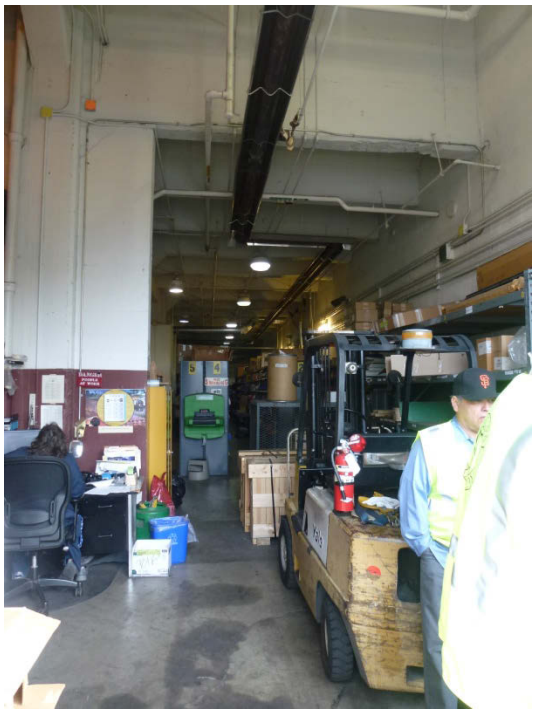
c. Most parts stored at Potrero are fast moving stock with slower inventory remaining at Burke until needed
d. Parts room lacks space to store/stage large parts and uses a cage in the rear of the maintenance area as overflow space
e. 95 (3'x18") shelf units, 15 (3'x3') 7 drawer units, 6 (3'x3') 9 drawer units
f. Due to its specialization it is difficult to keep ETI parts stocked and many parts have extremely long lead times (many parts are coming from the Czech Republic)



Parts Storage on Shop Floor

g. Min/Max levels are used but stock still often runs out before resupply
h. Staffing: 1 shift, 5 days a week, 3 shopkeepers (2 counter with one receiver)
i. Supervisors sign out parts during off hours and weekends
j. Multiple leaks in this area and parts offices

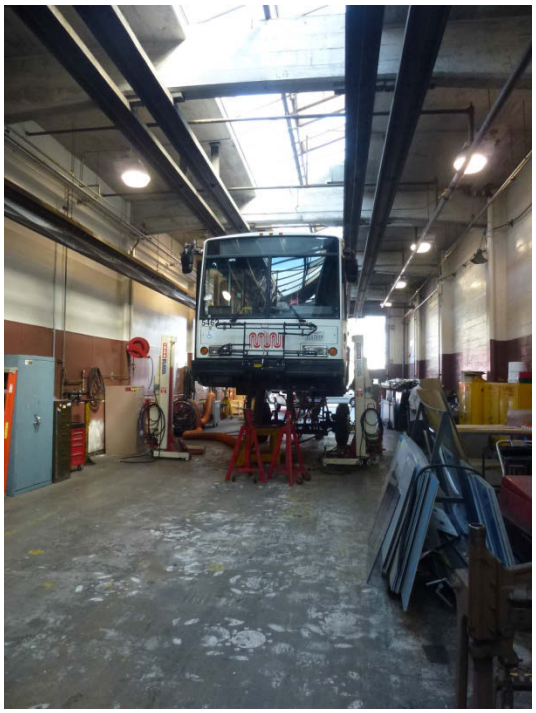
18. Work Coordinator Office handles scheduling and tracking of maintenance work
19. Lockers and restroom (male only) for mechanics
20. Electronics Shop
    a. Repairs the electrical components of the coaches
    b. Large cabinet for simulating loads and vehicle operation on serviced components
    c. Repaired units are stored here until they are required on a vehicle
    d. Staffing: 7 techs
    e. 6 workstations
21. Electronics Storage
    a. Spread throughout 3 extra spaces in the facility which have been picked because they are dry to avoid component damage
22. Operations – 2nd Floor
    a. Lockers, break room, kitchen, rest rooms, dispatch, operations offices, Inspectors Department Streets Office
    b. Staffing: approximately 320 operators
23. Farebox Shop – 2nd Floor
    a. Handles farebox repairs and service for all of Muni
    b. Staffing: approximately 10 techs across 2 shifts
    c. 6 workstations
    d. Farebox cleaning area with a blow down wand and exhaust hood



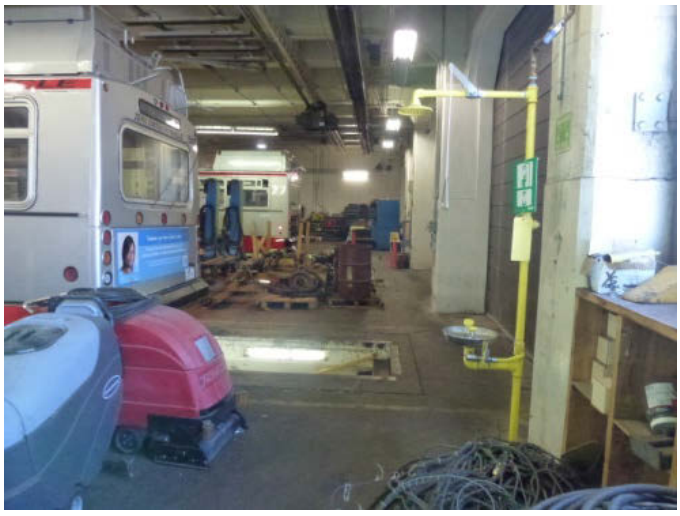
Parts Room

e. Small machine shop
f. Send techs out to the field as required

24. Tire Shop – 2nd Floor
    a. Housed in a separate building with the Body Shop on the 2nd level of the facility
    b. Operated on Muni's contract with Firestone
    c. 40' coaches must pull through the Tire Shop at night to park in the Upper Yard – space is planned during pull-in to accommodate parking vehicles in need of tire service in the Upper Yard
25. Body Shop – 2nd Floor
    a. Handles minor body work (panels, glass, etc,)
    b. Area has sufficient clearance to lift vehicles with portable lifts
    c. Some heavy repairs requiring lifts are done here since it is the only area with enough clearance
    d. Overhead lines in the Body Shop have been permanently de-energized
    e. No fall protection
26. Forty Foot Bus Maintenance Area
    a. Used for campaign work on 40' vehicles
    b. 5 bays
    c. Brake Room seldom used due to lack of maintenance requirements for electric trolley bus brakes
    d. Unused overhead monorail
    e. Tool cage between bays



Body Shop



Forty Foot Bus Maintenance Area

Opportunities

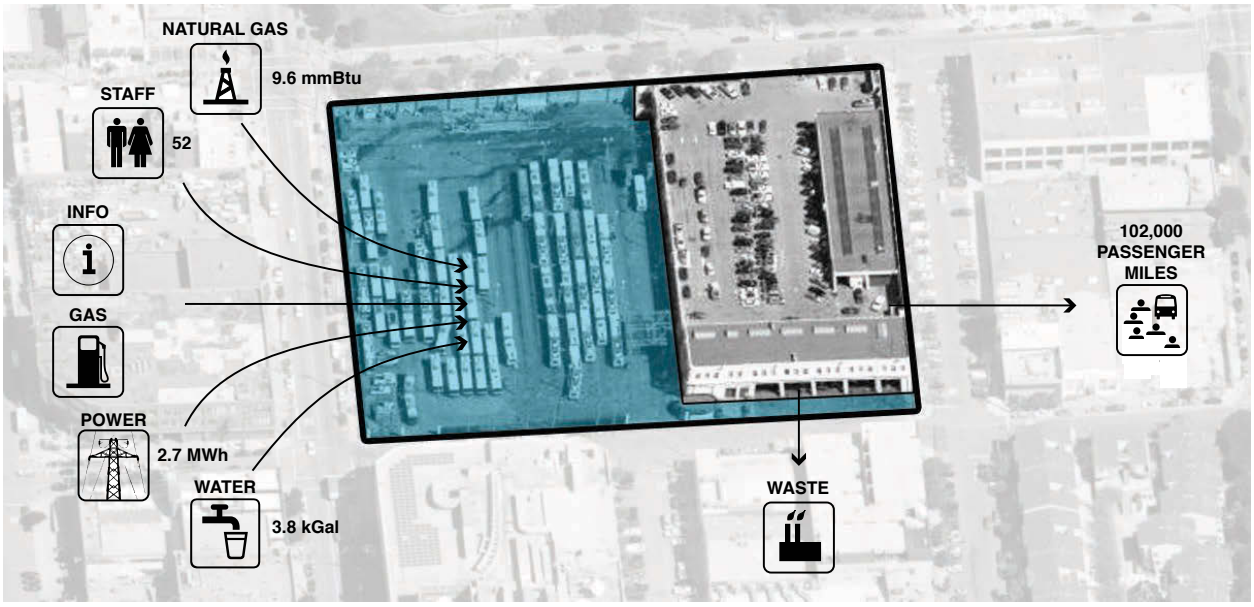
1. This facility is at the end of its useful life expectancy and should be replaced.
    a. The building itself is a century old. It could be developed for another use, but it does not lend itself to rehabilitation of a modern bus maintenance facility for a fleet of over 100 articulated electric trolley buses.
    b. Building clearance is too low to lift vehicles making routine maintenance inefficient
    c. Building is designed for stacked maintenance bay layout which has inherent inefficiencies. A vehicle that is ready to return to service may not be able to because of a bus being in front and blocking its path out of the bay.
    d. Site cannot handle the current fleet. Buses are parked on the street and in the maintenance building.
2. Alternatives should be studied for a replacement facility to accommodate the anticipated expanding fleet of articulated electric trolley buses.
    a. Rebuilding in place may be a feasible solution if a temporary facility can be found to house and maintain the fleet during the construction process. A developer might undertake this replacement in return for any useful development rights above a deck.
    b. A new permanent facility could be developed on a new site. The fleet would then be moved when construction of the new facility was completed. This would free up Potrero for disposition and development. A zoning change from the current PDR designation might be needed to attract developers and investors.

The following short term opportunities (until the facility can be replaced) have been identified to improve safety and efficiency.

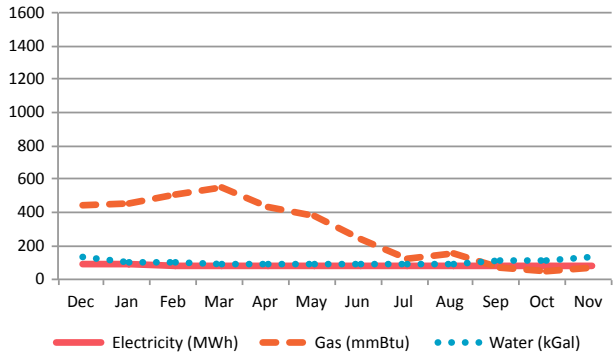
3. Add more racks to the Spare Parts Storage Area to free up floor space in the facility and better organize the parts
4. Update the overhead lines to allow the overhead power to shut off at each vehicle maintenance position. This will improve workplace safety.
5. Provide appropriate fall protection to each vehicle maintenance position where work occurs on the roof of the vehicle. This will improve workplace safety.
6. Address the pit flooding issues

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

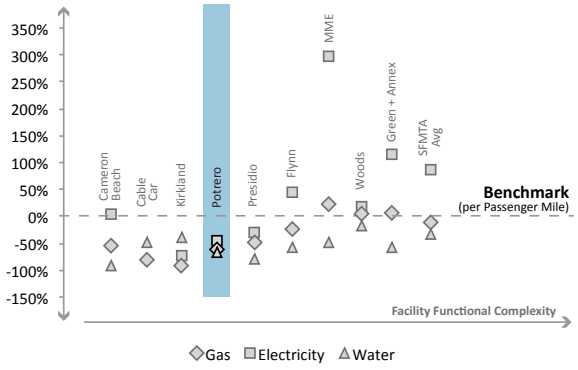
Sustainability and Mechanical, Electrical & Plumbing



Monthly Resource Flows



Resource Flow Comparison

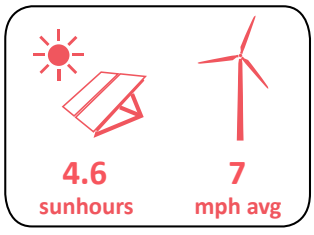


Observations:

- Battery wash in front of the building, untreated runoff
- Several lighting types in maintenance areas - testing new fixtures (i.e. light emitting diode)
- Lighting in parts shop manually controlled, unshielded high-intensity discharge lamps in one area
- T12 lamps in upstairs shops
- Screen to cover skylight in upstairs shop
- Stationary engineer in charge of repairing broken infrared heaters

Opportunities:

- Control skylight heat gain and light diffusion upstairs
- T12 and high-intensity discharge light replacement in shops
- Cyclone vacuum system inefficient and maintenance heavy
- Daylight dimming in upstairs shop and maintenance
- HVAC assessment for the few conditioned areas



Presidio Electric Trolley Bus Division

Address:	949 Presidio
Lot and Block Number:	1072 / 001
Opening Year:	1912
Last Improvements:	N/A
Existing Fleet:	See Appendix A
Site Area:	5.4 acres
Zoning District:	P-Public
Height & Use District:	40-X, 160-E
Special Use District:	Mission Alcohol Restrict
Setback Requirements:	None
Other:	
Total Building Area:	163,000 square feet
Employee Parking:	Metered parking available on 1st floor
Site Ownership:	SFMTA

Current Functions:

- Operating Maintenance and Operations of Flynn Division articulated diesel bus fleet
- Light Body Repair for the Flynn Division articulated bus fleet
- Operations Training (in Geary Street Complex)
- SFMTA Reprographics (in Geary Street Complex)

Observations

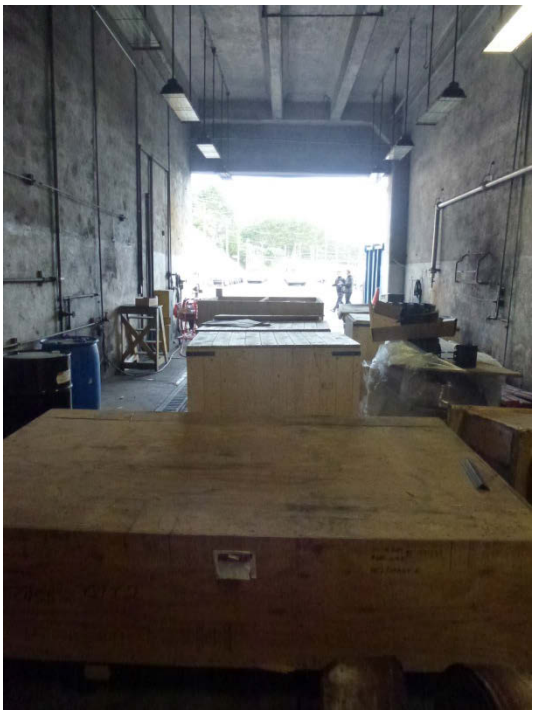
1. Facility is capable of parking 170 40' trolley coaches (includes parking in the inspection area inside the building)
2. Leaks and flooding are not an issue in this facility
3. Wash lane is operated in the morning because the facility is too full to slow down and wash during night pull-in
4. Fare pull is stationed on wall immediately upon entry to the facility before the wash rack
5. No women's facilities in the maintenance areas
6. Wash Lane
    a. Brush system is currently working, but does not getting the vehicles as clean as desired
    b. There is no vacuum system on-site. A cyclone system existed but broke and was removed – Cleaning crews sweep the vehicles instead
    c. Staffing: 11 cleaners split over a day shift and graveyard shift

Bus Wash

7. Presidio operates a mobile crew for performing road service as required
8. Maintenance Staffing: 28 mechanics and 4 technicians across 3 shifts – 7 days a week
9. No motor rebuilds occur at Presidio – shipped to Green
10. Maintenance areas of the facility have functional radiant heating
11. Facility does not have a central waste oil collection system – oil is caught in pans and stored in a waste oil tank
12. Maintenance areas are on the ground floor of the facility
13. Heavy Duty Repair
    a. Ceiling high enough to allow for lift operation
    b. Structural Bay 1: 1 in-ground lift
    c. Structural Bay 2: 2 in-ground lifts
    d. Structural Bay 3: 1 in-ground lift
    e. Structural Bay 4: Flush mount drive-on lift
    f. Handles larger jobs requiring more time than Running Repair (repairs to traction motor, brakes, etc.)
    g. No bays in this area have fall protection
    h. Overhead lines do not run into the facility here. Buses enter using battery power and then connect to electrified plates on the ceiling for power
        i. All bays can have their electrification switched off independently

Lubrication Tanks in Heavy Repair

   i. The bay sizes and clearances are adequate in this area of the shop
   j. Required fluids dispensed via portable dispensers
   k. Tool cage resides between bays in center of the area
   l. Lighting in this area is insufficient
14. Body Shop
   a. Installation of a lift is planned
   b. Light body work only (mirrors, panels, glass) – all heavier repairs are sent to the body shop at Woods
   c. Panels and glass are stored in an area to the side of the Body Shop bay
15. Steam Clean Bay
   a. Not in use – currently using as overflow storage area
   b. Equipment was broken but has recently been repaired
   c. Functional lift in this area



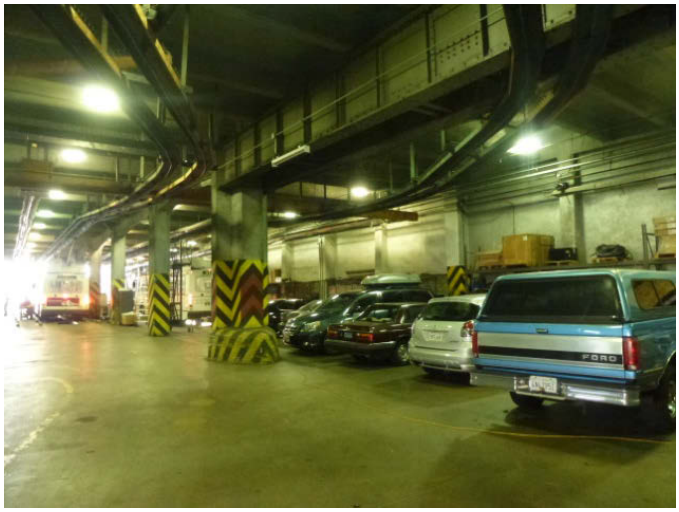
Storage in Steam Clean Bay

16. Tire Shop
   a. Handled by outside contract (Firestone)
   b. No lift in the area – tires changed using bottle jack
17. Battery Room
   a. Not in use – no battery charging occurs on site. All batteries are swapped with an outside source
18. Brake Room
   a. Seldom used due to the regenerative braking systems on the ETB requiring little maintenance
   b. Currently serves mostly as an extra storage area for the shop and parking area for the shop floor cleaner
19. Crew Areas
   a. Locker, restroom, lunchroom for maintenance staff
20. Running Repair
   a. 2 lanes with pits - can service 3 vehicles per lane
   b. Pits do not have drainage and are difficult to clean
   c. New lighting recently installed
   d. Track segments can have power switched off (3 segments) independently

Repair Bay Pit

21. Preventive Maintenance / Inspection
   a. 1 lane with inspection pit – can service 3 vehicles

b. Pits do not have drainage and are difficult to clean
c. Pit does not have drainage and is difficult to clean
d. New lighting recently installed
e. Only line in the facility with fall protection
f. Track segments can have power switched off (3 segments) independently
g. Buses are parked in this lane during the night – In the morning 3 buses are pulled into the lane and then mechanics are allowed to park behind the stacked buses in the shop
h. 1k and 6k inspections occur on this line
i. When defects are found the bus is rerouted to Running Repair or Heavy Duty Repair



Employee Vehicles Parked in Maintenance Areas

22. Parts Storage
    a. 1 shopkeeper operates storeroom 5 days a week during the day shift
    b. Supervisor accesses the room and signs out parts during all other hours
    c. Shipments come from Burke, Green, and Woods as-required
23. Battery compartments must be washed periodically to clear out extra dust and electrolytes overflow to avoid “hot body” situation where the bus panels or frame become electrified
    a. Battery compartment washing occurs in the yard and compartments air dry
24. Control Tower / Meet and Greet
    a. Controls the solenoid switches in the yard
    b. 1 mechanic from maintenance must man this area
    c. Retrieves defect sheets from operators

Ground Floor

25. Electronics Shop
    a. Houses a test cabinet to simulate engine loads on repaired electronic components
    b. Presidio has 4 technicians trained for this area, but due to staffing shortages in maintenance they are almost always in the shop areas. Currently only the technician supervisor is able to work in this area
    c. 3 workstations and 2 offices in the area
    d. The space is adequate for the work required
    e. Area is heated and cooled to meet the requirements of working with electronics in a controlled environment
    f. Battery Closet – storage area for the battery system to power Electronics Shop test cabinet
26. Wellness Area
    a. Outside contract with BackFirst
    b. Houses exercise rooms, trainers’ offices, and a wellness center
    c. Available to all of Muni
27. Stationary Engineer’s Office

1st Floor

28. Operations
    a. Operator's gilley room, restrooms, exercise room, and locker room
    b. Dispatch area and offices
29. Farebox and Payroll
    a. Both have moved to Van Ness and left large vacant spaces on the 1st floor
30. 2 old rail lines between the separate sections of 1st floor now serve as metered employee parking
31. Operations Supervisor Office
    a. 2 offices and a reception area open for the operations supervisor and assistant supervisor
    b. Opens to the street
32. Training Offices
    a. Large space with classrooms, training offices, restrooms, break area, computer training area, and server space
    b. IT used to also be housed here – their space is now mostly vacant
    c. Handles all operations training capacities for Muni
33. Extra Storage Area
    a. Houses 2 more classrooms for Training as well as a training storage area
    b. 3 classic buses are stored in this area
    c. Large open space for excess storage – not currently being utilized
34. MRED Central Documents
    a. Large office and storage area accessed from the employee parking area
    b. Vacant

2nd Floor

35. Mostly vacant
36. Conference room, lunch room, and Schedule Department offices are still used
37. Mezzanine
38. Reprographics / Print Shop
    a. Handles print services for Muni
    b. 2 large copiers
    c. Multiple pieces of legacy print apparatuses which could be moved to storage
    d. Staffing: 1 printer and 1 clerk

Reprographics Shop

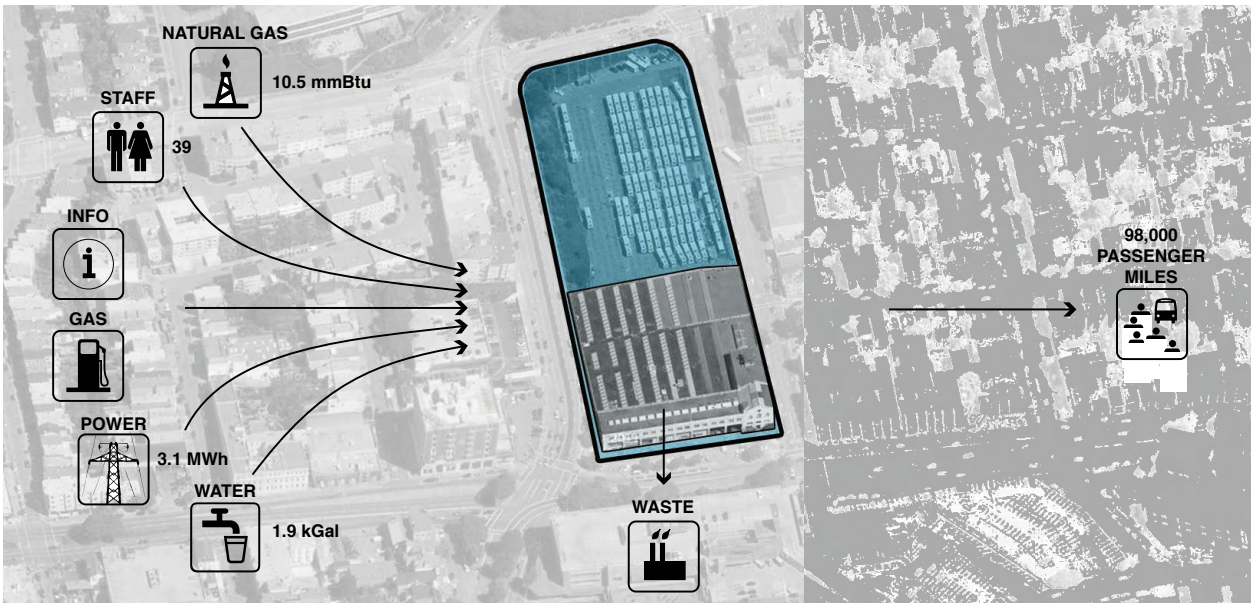
Opportunities

As the past headquarters of Muni, the Presidio facility was divided into a Geary Street Complex and a Presidio Street Complex. The maintenance and operations functions are in the Presidio Street Complex. The Geary Street Complex has large amounts of vacant space.

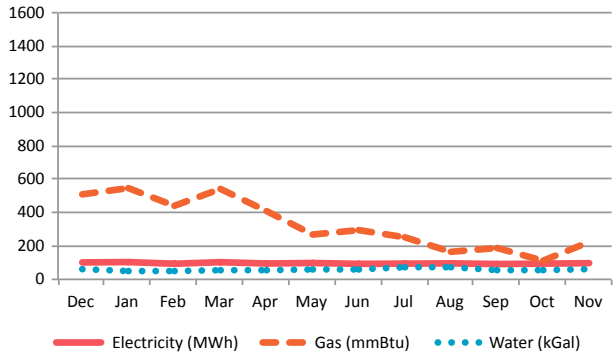
1. Use the vacant space of the Geary Street complex as a TOD site.
2. Repurpose the large amounts of vacant space in the facility for use by other divisions (signal, overhead lines, etc.)
3. Add more racks to the Spare Parts Storage Area to free up floor space in the facility and better organize the parts
4. Provide appropriate fall protection to each vehicle maintenance position where work occurs on the roof of the vehicle. This will improve workplace safety.
5. This facility is at the end of its useful life expectancy.
    a. The building itself is over a century old. It could be developed for another use, but it does not lend itself to rehabilitation for a modern bus maintenance facility for a fleet of close to 200 articulated electric trolley buses.
    b. Building is designed for stacked maintenance bay layout which has inherent inefficiencies. A vehicle that is ready to return to service may not be able to.
    c. Site cannot handle the current fleet. Buses are parked on the street and in the maintenance building. Additional expansion of the fleet will exacerbate the current situation.
6. Alternatives should be studied for a replacement facility to accommodate the anticipated expanding fleet of articulated electric trolley buses.
    a. A rebuild in place could be a feasible solution if a temporary facility could be found to house and maintain the fleet during the construction process.
    b. An alternate site could be developed for the new permanent facility and the fleet could be moved when construction of the new facility is completed.

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

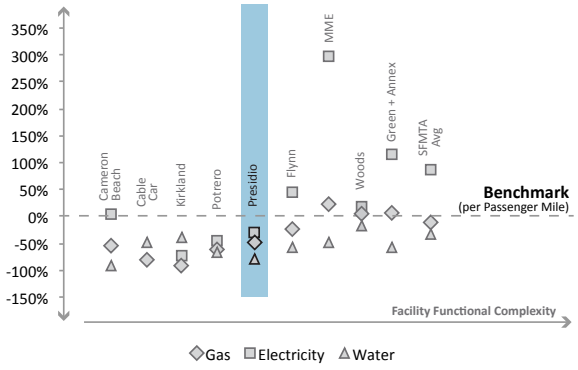
Sustainability and Mechanical, Electrical & Plumbing



Monthly Resource Flows



Resource Flow Comparison

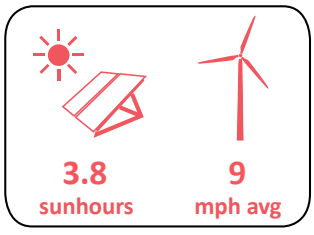


Observations:

- Recent lighting retrofit in running repair (~2years ago) - look like induction lamps
- Gas radiant heat throughout
- Operation schedule varies - training 40 hours/week, maintenance and operations 24/7
- Very old exhaust fans (2) in print shop, window unit serving perimeter office
- Vacant upper floor with heating active
- New HVAC with remote condenser for electronics shop

Opportunities:

- Bike enclosure for employees
- T12 lamp replacement in heavy duty, Gilley, workout rooms
- Improve ventilation for exercise areas
- Avoid heating and lighting vacant areas



Green Division

Address:	425 Geneva
Lot and Block Number:	6949 / 011
Opening Year:	1977
Last Improvements:	
Existing Fleet:	See Appendix A
Site Area:	6.7 acres
Zoning District:	P-Public
Height & Use District:	160-E
Special Use District:	
Setback Requirements:	None
Other:	Within Balboa Park Station Area Plan area
Total Building Area:	156,000 square feet
Employee Parking:	Metered underground parking garage
Site Ownership:	SFMTA

Current Functions:

- Maintenance and Wash for the Green Division light rail fleet.
- Handles heavy duty repairs for the historic rail fleet.

Observations

Green Meet & Greet

1. Maintenance activities performed include:
    a. Heavy repair
    b. Running repair
    c. Preventive maintenance
    d. Wheel truing
    e. Vehicle painting
    f. Fare retrieval
    g. Vehicle exterior wash
    h. Vehicle interior cleaning
    i. Vehicle sanding
    j. Automatic train control systems maintenance
    k. Component rebuilding
2. Rail vehicle service tracks include:
    a. Heavy Repair Tracks (2 car lifts): 2 positions.
    b. Running Repair Tracks: 8 positions.
    c. Wheel True Track: 1 position.
    d. Paint Booth Track: 1 position.
    e. Daily Service Track (fare retrieval, sanding, exterior wash, interior cleaning): 500'.
    f. ATCS Track (also includes sanding, fare retrieval): 500'.
3. Support shops to rebuild and repair LRV, Streetcar and some Trolley Bus vehicle components include:
    a. HVAC Shop.
    b. Glass Shop.
    c. Sheet Metal Shop.
    d. Wheel & Axle Shop.
    e. Truck Shop (includes gearbox and brake repair).
    f. Pantograph Shop.
    g. Hydraulic Shop.
    h. Welding Shop.
    i. Machine Shop.
    j. Motor Shop.
4. General:
    a. Average mileage per LRV: 40,000 miles per year. Note that this applies to all LRV's in the system.
    b. Few vehicle components are outsourced for repair or rebuild.
    c. Many vehicle parts are fabricated in-house due to unavailability in the outside market.
    d. 1k and 3k inspections are done at Green and 10k inspections are done at MME. Inspection times are 1 hour, 1-1/2 hour and 8 hours respectively.
    e. Daily and periodic cleaning is performed in the yard.
    f. No LRV mid-life overhauls have been performed to date.
    g. LRV's are being retrofitted off-site one at a time. Each car takes 8 weeks.
    h. LRV's are operated in consists of two cars or less.
    i. Currently storing 70 to 80 LRV vehicles.
    j. One storage track blocked in the yard due to a vehicle flatbed loading ramp.
    k. Most yard switches are manual.

l. Operators relinquish control at the yard master office (Meet & Greet). Vehicle parking done by yard crew.
m. Employee parking is available in the basement for $80 per month. 128 total spaces available (less parts storage).
n. Maintenance does not have any administration staff.

5. Heavy Repair Tracks:
    a. Heavy repair tracks are not equipped with overhead power.
    b. Heavy repair tracks are equipped with in-ground hoists capable of dropping trucks.
    c. Heavy repair tracks utilize portable car rooftop access platforms to perform vehicle rooftop work.
    d. Heavy repair tracks are covered by two 20-ton bridge cranes.
6. Running Repair Tracks:
    a. A truck drop table is provided at the southeast corner of running repair. Streetcars trucks are serviced from this drop table. Streetcars wait over drop table until truck service is completed. Trucks are not interchangeable within the Streetcar fleet due to uniqueness of vehicles.
    b. All tracks are configured with posted rail.
    c. Running repair car rooftop maintenance platforms are not equipped with mechanic fall protection. Current maintenance policy requires rooftop work to be performed in Heavy Repair.
    d. Auxiliary power is not provided for vehicles.
    e. Running repair shop has several areas with standing water, making floor surface slippery.
    f. Running repair shop does not have cranes to service or change-out vehicle rooftop components.
7. Wheel True Track:
    a. Track long enough to accommodate an entire LRV.
    b. Wheel truer is a mill type machine.
    c. Chip conveyor is not working.
8. Paint Booth Track:
    a. Body work is not being done at Green.
    b. Cross-draft paint booth is not equipped with man lifts.
    c. Paint booth is very tight with vehicle in it, making painting difficult.
9. Daily Service Tracks:
    a. Vehicle washer is unreliable and is in state of constant repair. Vehicles are generally washed daily when washer is operational.
    b. Yard track is fouled on the outbound of the vehicle wash track, forcing vehicles to reverse move after washing.
    c. Fare retrieval, sanding and exterior washing is performed on track.
    d. Due to fouled track, even periodic interior cleaning is being performed in yard.
10. ATCS Track:
    a. Track is isolated for vehicle testing.
    b. Track has sanding and fare retrieval capabilities.

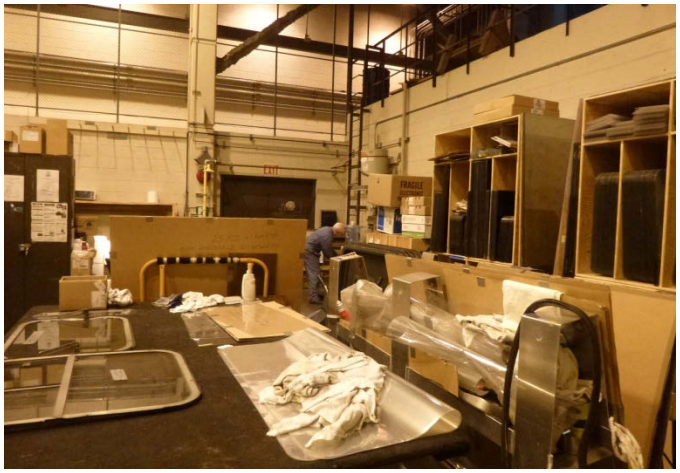
Support Shops:

11. Parts Storeroom:

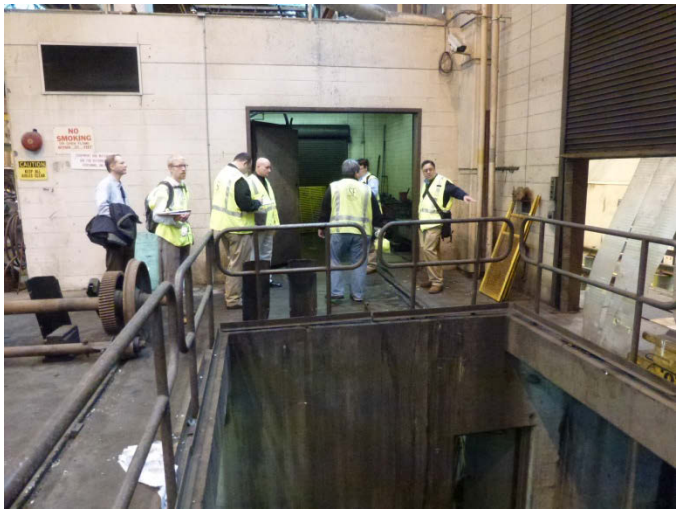
a. Stores smaller and palletized items. 156 shelving units. 250 pallet equivalents.
b. Storeroom operates on 2 shifts Monday through Friday. Deliveries only occur on 1st shift, Tuesday and Thursday.
c. Storeroom does not have a bar code system. Note that this is true throughout the system.
d. Central warehouse does the buying.
e. Storeroom is supplying MME and Geneva.
f. Large quantity of shop rags are being stored, sent from Burke, taking up considerable floor space.
g. Batteries are being stored outside, not protected from the elements.
h. Storeroom is utilizing 36 parking spaces in the basement for the storage.

12. Glass Shop serves LRV's, Streetcars and Cable Cars (all of MUNI's rail). Streetcars have varying sizes of glass.
13. Truck Wash door is too small to accommodate LRV trucks coming from the drop table. LRV trucks must be disassembled before components are washed.
14. Wheel & Axle Shop is not truing axles.
15. Sheet Metal Shop, Wheel & Axle Shop, Truck Shop and Pantograph Shop are covered by two 20-ton bridge cranes.
16. Truck Shop is outfitted with two pits. Both trucks and HVAC units are being serviced from the pits.
17. Trucks are shipped to MME on flatbeds. All LRV truck overhauls are being done at Green.
18. HVAC Shop is an enclosed area with exterior overhead door and Freon monitoring.
19. HVAC storage racks are difficult to access due to material being stored in front of them.

Parts Storeroom



Glass Shop



Truck Wash Door

20. Component staging takes up considerable floor space.
21. Machine Shop and Motor Shop are covered by two 3-ton bridge cranes.
22. Machine Shop has numerous old manual lathes and mills. Fewer modern CNC mills, lathes and water jets could be provided in lieu of older machines to reduce shop area requirements and work setup times.
23. Motor Shop:
    a. Motor Shop has storage racks for 36 pallets of repaired motors.
    b. Motor Shop performs testing, but does not have a dynamometer.
    c. Motor Shop includes two dip tanks for armatures. Two large ovens. Maintain all types of motors, including trolley buses.
24. Underground Parking Area
    a. Underground Parking Area has 118 spaces.
    b. There are overflow storage cages in the area.

Component Storage

Machine Shop Lathes

Motor Shop - Dip Tanks

Storage at Parking Area

Opportunities:

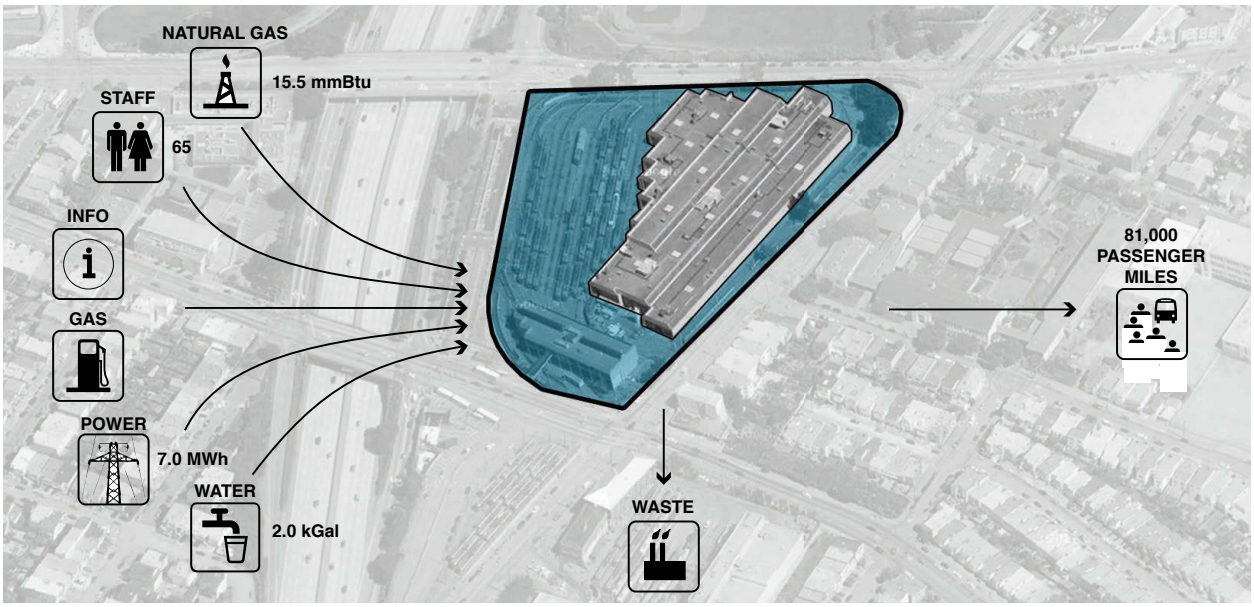
1. The track on outbound end of the automatic wash track needs to be repaired. This will eliminate the need to back up vehicles after daily service and will provide an enclosed track for periodic interior cleaning of vehicles.
2. Investigate outsourcing traction motor rebuilds. Throughout the industry, traction motor rebuilds are commonly outsourced at a more economical rate.
3. Retrofit Truck Wash area to conveniently clean LRV trucks.
4. Correct standing water areas in the running repair shop.
5. Repair or replace wheel truer chip conveyor.
6. Overhaul or replace automatic vehicle washer.
7. Consider condensed storage systems

in the Parts Storeroom to maximize area usage.

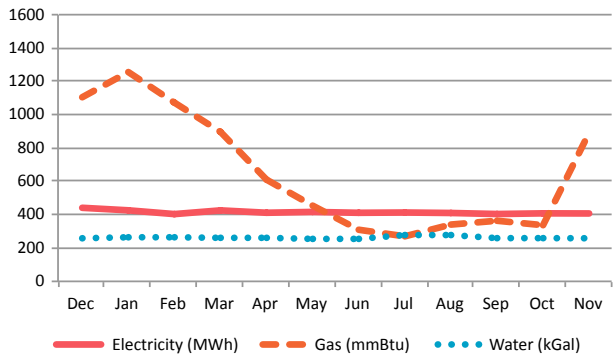
8. Store batteries under cover to avoid environmental issues.
9. Convert yard switches to remote powered type to reduce manpower requirements.
10. Retrofit Running Repair Tracks with vehicle rooftop fall protection. Even though mechanics are not supposed to access vehicle roofs in the running repair shop, they are doing so. Providing safe access to vehicle roofs in this area will reduce car moves to heavy repair and will give mechanics a safer working environment.
11. Retrofit Running Repair Tracks with auxiliary power connections. This will allow for safe rooftop work and allow vehicles to be powered up separately.
12. Retrofit Running Repair Tracks with some overhead monorails. This will reduce car movements to heavy repair.
13. Retrofit Heavy Repair Tracks with car rooftop platforms for convenient and safe maintenance on top of vehicles.
14. Replace wheel truer mill with a lathe type machine. Lathes have greater throughput and less maintenance requirements.
15. Improve vehicle painting facilities, either at Green or Cameron Beach.
16. Provide bar coding system for improved tracking of parts. Note that this applies to the entire system.
17. The need for a Motor Shop should be evaluated. This function is typically contracted out at other agencies. Eliminating the Motor Shop would provide space for other functions like expanding the storeroom. This would allow components/parts currently stored at the lower level (in employee parking area) to be relocated, thus providing for more employee parking on-site.
18. Modernizing some of the Machine Shop equipment would allow some existing equipment (lathes, milling machines, etc.) to be removed, thus providing space for other functions.

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

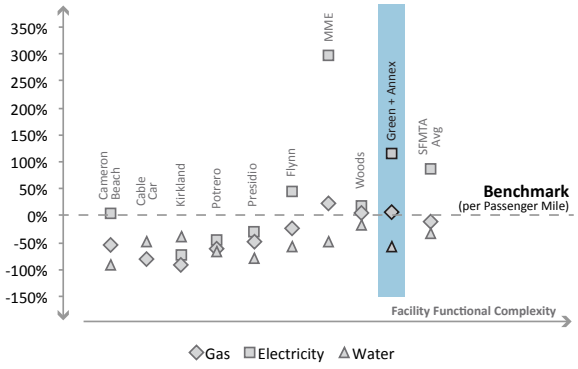
Sustainability and Mechanical, Electrical & Plumbing



Monthly Resource Flows



Resource Flow Comparison

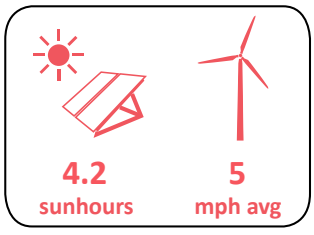


Observations:

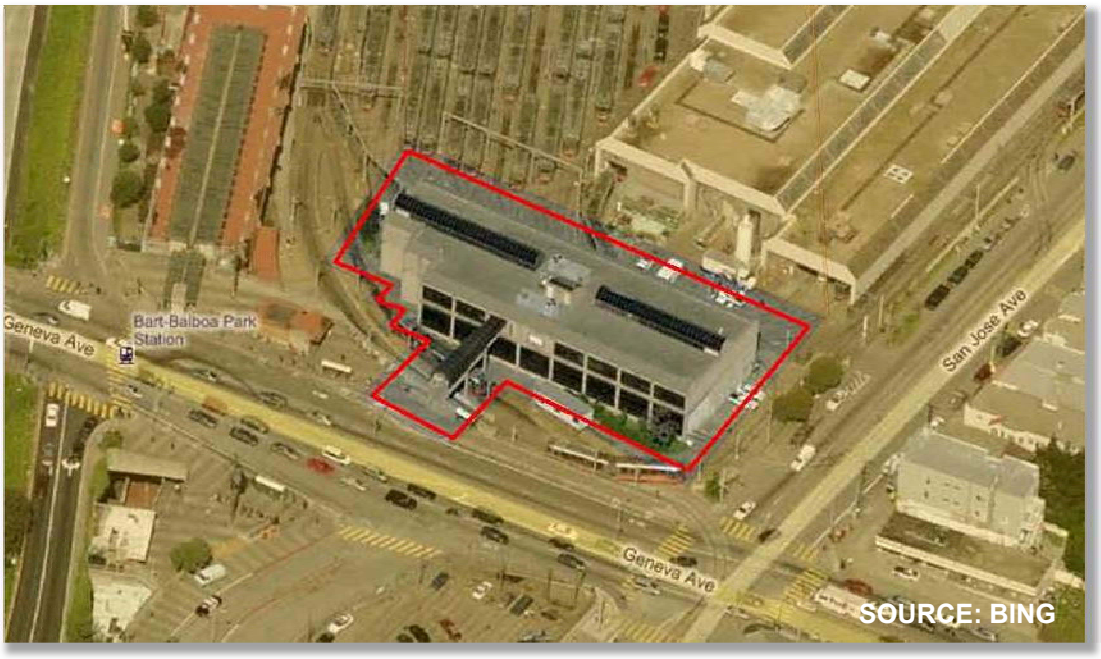
- Diffuser covered with cardboard in office area, clerestory windows covered with paint
- ~240 Low pressure sodium high-intensity discharge lamps create yellow color, use ~840 MWh/yr
- Unit heaters supplementing central heating system
- In contrast to other facilities, very warm inside (perhaps too warm for those working)
- Machine/parts shops operate 5 days per week but the building is always full on
- Open door for ventilation and cooling overheated area in rear

Opportunities:

- Garage fans - repair and control with carbon monoxide sensors
- Avoid heating vents blowing on workers on top of rail cars
- Lighting replacement, control
- Zoned system operation to match union hours
- Repair roof leaks at most rooftop mechanical equipment



Green Annex



Address:	425 Geneva
Lot and Block Number:	6949 / 011
Opening Year:	1987
Last Improvements:	
Existing Fleet:	See Appendix A
Site Area:	Located within the Green Division site
Zoning District:	P-Public
Height & Use District:	160-E
Special Use District:	
Setback Requirements:	None
Other:	
Employee Parking:	Metered parking at Green Division underground garage and upper yard across Geneva Avenue
Site Ownership:	SFMTA
Total Building Area:	35,000 square feet

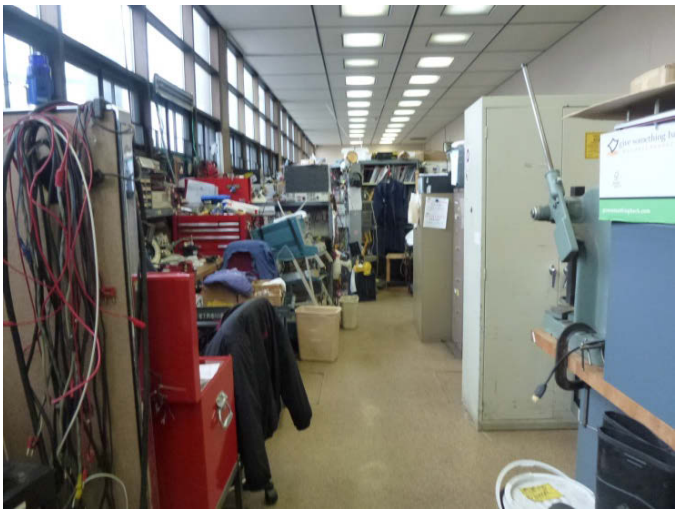
Current Functions:

- Handling Operations of Green Division Light Rail Vehicle fleet
- Housing the Electronics Shop responsible for electronic repairs for all of SFMTA
- Housing the Radio Shop tasked with the installation and maintenance of all SFMTA radio equipment for vehicles and staff

Observations

1. Operations – 2nd Floor
    a. Training
    b. Operator Gilley / break room
    c. Operations offices
    d. Dispatch
2. Historic Vehicle Rebuild – 1st Floor
    a. Raised track over a pit
    b. Served by 1 mechanic
    c. 3 historic cars can be stored on the track in this space
    d. Storage racks and cabinets for electronic components overflow storage for the Electronics Shop
3. Electronics Shop – 1st Floor
    a. Supports all LRV, Historic, and Electric Trolley Bus with electronic component rebuild
    b. Staffing: 2 shifts with 12 techs
    c. Space is heated via central heat, however, the HVAC system is not functioning well.
    d. Area is very warm and humid during the summer – poor environment for electronic equipment
    e. Parts continuously cycling through the shop and then either out to a vehicles or to the Burke Warehouse for storage
    f. Arriving components awaiting repair must often be staged outside due to space
    g. Ready Room - houses items which have been cleaned and are ready for repair
    h. Cleaning Area
        i. Forced air drying cabinet/oven with temperature range up to 150 F
        ii. Air blast hood with HEPA filter for clearing dist from circuit boards
        iii. Ideally this area would be closed off from the rest of the shop to isolate cleaning debris
        iv. Ionized water cleaning station unable to fit in the cleaning area
    i. Building compressed air lines have water in them which has caused issues with using them to clean electrical components
        i. Compressed air system in the facility is also insufficient to operate some equipment which the Electronics Shop needs to use
        ii. Building uses compressed air to manipulate HVAC louvers but they leak badly

Historic Vehicle Rebuild Track



Electronics Shop

iii. New compressed air system is supposed to be installed – air shortages still expected

j. Currently many workstations are dedicated to specific test/repair functions and can be used by any tech

k. Ideally each tech would have their own workstation capable of handling all basic test/repair functions and a few dedicated workstations for specialized equipment that could be shared

l. Workstations should ideally have power supply, light fume extraction, tool storage, magnification, bright lighting, antistatic surface, computer

m. Always a large backlog due to constant demand for electronics repairs

Radio Shop

n. Field work usually focuses on diagnosing a problem and swapping a component as opposed to attempting component repairs in the field
    i. Electronics Shop has 2 vans parked on-site for field work

o. Large testing cabinets are required to simulate component interaction with a vehicle/system

p. Parts are currently stored in multiple locations in the shop and should be moved to a single secure point

4. Radio Shop – 1st Floor
    a. Repair and install all radios for SFMTA vehicles
    b. 6 crewmembers in shop
    c. 8 workstations
    d. Copper shielded test room to isolate radio signals
    e. Equipment is generally repaired/calibrated in the Radio Shop and then installed in the field
    f. Large storage area in mezzanine between floors 1 and 2 -15 shelving racks
    g. Expect a large surge in work from the eventual FCC mandate to switch radios to the digital spectrum
5. Operations (for Green Facility) – 2nd Floor
    a. Dispatch, operations offices, and operators' areas on the 2nd floor

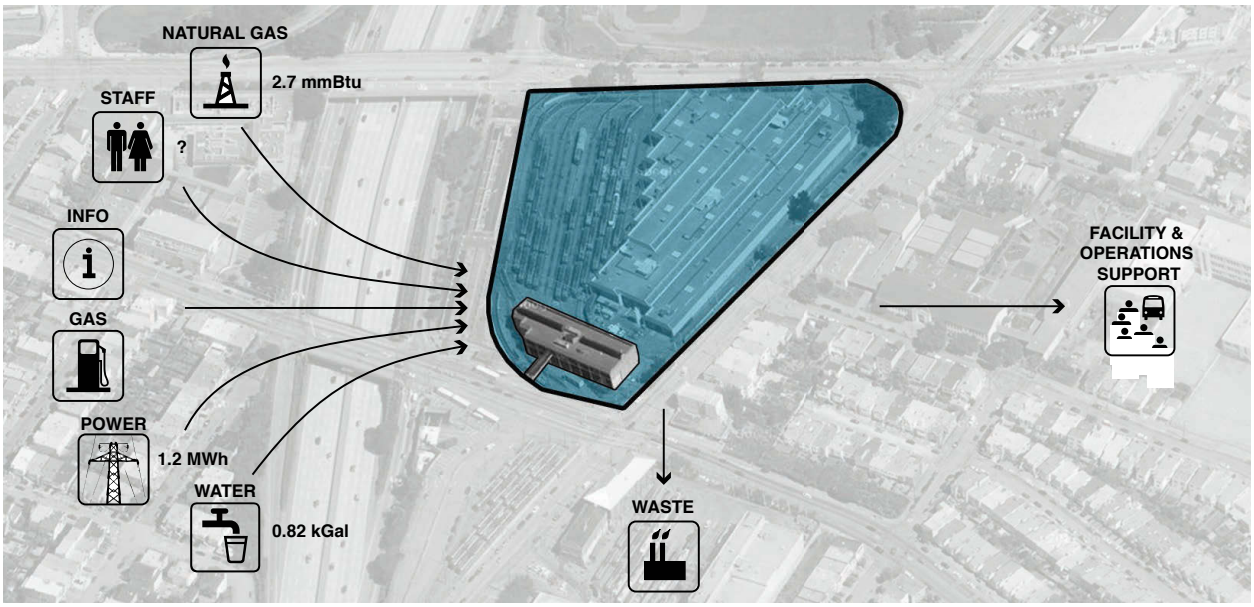
Administrative Offices - Skylight

Opportunities

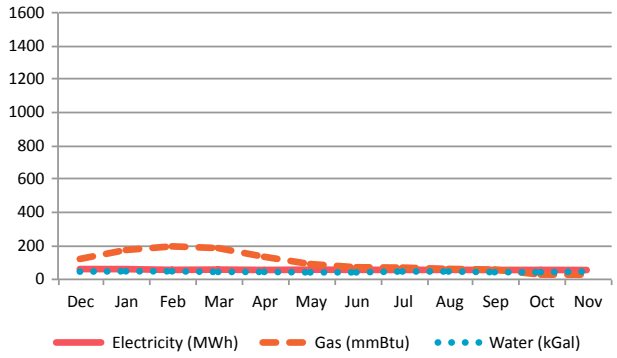
1. The layout of the Electronic Shop space could be rearranged to provide for more efficient use of space and better circulation.
2. The ground floor rail bays could be better utilized. The items that are stored here could be relocated to more appropriate spaces (location to be determined) and the bays could be used as maintenance bays for the overcrowded Cameron Beach Facility.
3. The storage mezzanine could benefit from being re-organized and the contents re-evaluated to make the most of the storage areas.

Note: Site report may contain observations and note opportunities which are operatidonal in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

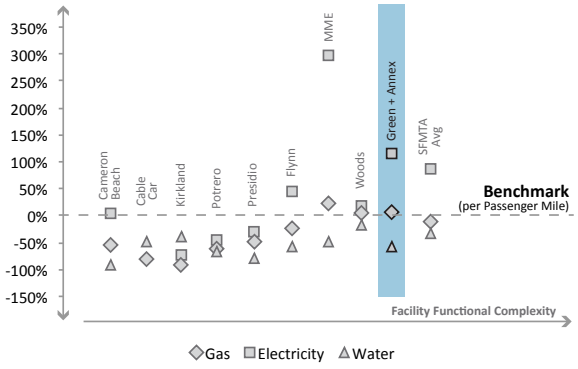
Sustainability and Mechanical, Electrical & Plumbing



Monthly Resource Flows



Resource Flow Comparison

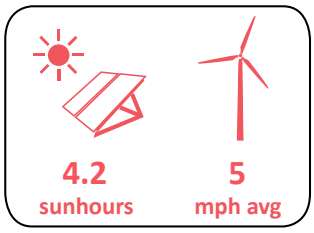


Observations:

- Skylight covered with paint and a screen along top floor
- HVAC system in electrical shop fails to ventilate, cool, and dehumidify
- One office on the upper floor is incredibly loud
- T12 lighting in many areas
- Heating hot water system serving air systems

Opportunities:

- Lighting ballast upgrade to higher efficiency T8
- HVAC system inspection and size validation for electrical room
- Investigation into upstairs HVAC system serving the loud office - potentially an obstructed main duct
- Hot water boiler upgrade or variable speed pumping



Cameron Beach Yard

Address:	500 Geneva
Lot and Block Number:	6949 / 015
Opening Year:	
Last Improvements:	Canopy built in yard
Existing Fleet:	See Appendix A
Site Area:	2.8 acres
Zoning District:	P-Public
Height & Use District:	40-X
Special Use District:	Within Balboa Park Station Area Plan area
Setback Requirements:	None
Other:	
Total Building Area:	51,000 square feet
Employee Parking:	Limited on-site parking
Site Ownership:	SFMTA

Current Functions:

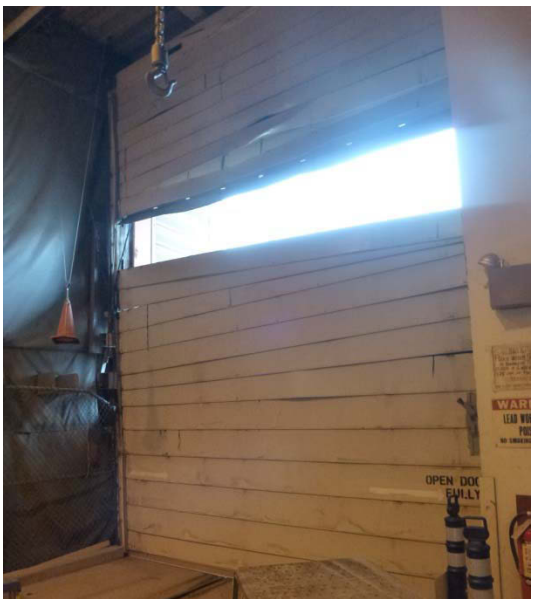
- Operating Maintenance and Operations for all SFMTA historic rail vehicles.
- Body Repair Shop for all historic rail vehicles and all light rail vehicles.
- Paint Shop which serves both historic rail and light rail vehicles. Note that the Green Division has a paint booth, but the same painters use the booth at Green and Cameron Beach Yard.

Note that the historic building at the corner of San Jose Avenue and Geneva Avenue is not included in this study.

Observations

1. Parking Area
    a. 6 tracks capable of holding 4 cars each under a canopy
    b. Majority of the cars under the canopy are currently out of service
2. Muni currently runs 24 historic cars per day
3. Historic rail service began in 1995
4. More out of service cars are currently stored at Marin in various states – hope to eventually refurbish these cars
5. All historic cars run on the same gauge as Muni's LRV's
6. Green facility handles the heavy duty repairs and any maintenance requiring lifts
7. None of the security gates at the facility function
8. Lighting is inadequate throughout the facility
9. Facility is heated by radiant heaters
10. Many overhead doors in the facility are not functional
11. Historic rail vehicle inspections occur every 2500 miles with 4 inspection types (A, B, C, D).
12. The switch for the upper Geneva yard was removed – this area used to be used for extra historic car parking
13. Heavy Repair Area
    a. Raised line above a pit for long-term repairs to historic vehicles
    b. No lifting capabilities so all repairs requiring truck or heavy component removal are handled at Green or the Special Machine Shop at 700 Penn
14. Body Shop
    a. Only body shop for all of Muni's historic vehicles and LRV
    b. LRV's take precedence for repairs
    c. Staffing: 1 shift
        i. Body Shop: 7
        ii. Carpentry Shop 1
    d. Ceiling leaks in this area and has started to rust out the side of the paint booth

Vehicle Parking Canopy

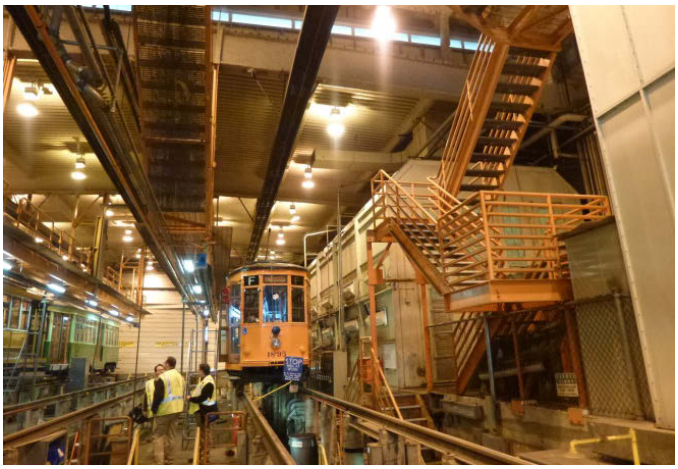


Damaged Overhead Door

Body Repair

e. Carpentry Shop is insufficiently sized – most carpentry work is done in the machine shop area or on the line with portable tools
f. Machining area
g. Overhead monorail
h. Fiberglass Room –this area was originally designed for fiberglass repair, but is now used for farebox. Any fiberglass repair is now done in the Body Shop area.
i. Overhead fall protection
j. No overhead line in this area so vehicles must be pushed in

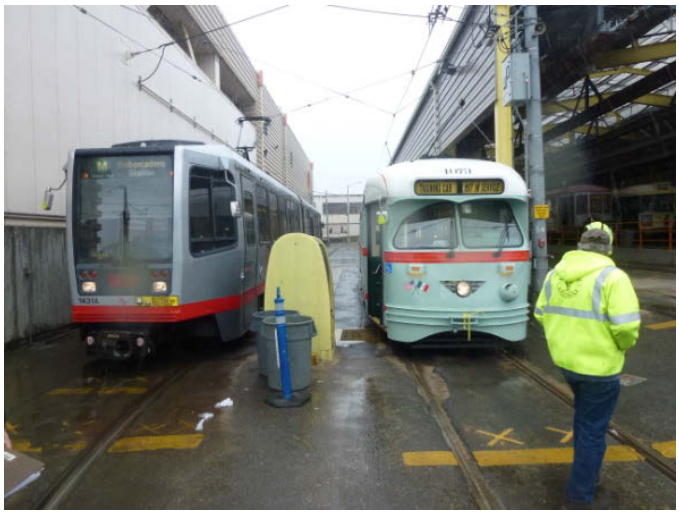
15. Paint Booth
    a. Staffing: 9 painters total – 4 at Cameron and 4 at Green with 1 supervisor
    b. 2 paint booths at Cameron Beach – only 1 is long enough for LRV's
    c. Roofs are accessed via ladder for painting
16. Preventive Maintenance / Running Repair Bays
    a. Overhead lines can be switched off for entire lines but not for line segments
    b. Roof access is via catwalks above the cars
        i. Fall protection reels are on the columns but are insufficient / unsafe
    c. Wheel truing is handled at MME – trip takes up to 120 minutes each way
        i. Sometimes attempt to repair flats here with a grinder



Running Repair Tracks

    d. Heavy repair and repairs requiring lifts are handled at Green
        i. Since there are not standard extra trucks to swap out on the historic cars, vehicles must stay in the bay at Green until truck components can be repaired and reattached
    e. Staffing: Preventive Maintenance – 2 mechanics, Running Repair – 20 mechanics split over 3 shifts with 24/7 operation
17. Operations
    a. Lockers, break room, restrooms, kitchen area, conference room located on 2nd floor
18. Pulling historic vehicles into and out of the facility is sometimes extremely difficult because LRV's run through the yard and often layover here
19. Fare retrieval used to occur in the yard after the vehicles were parked which greatly reduced the amount of time mechanics had to stay in the yard to move and park vehicles on pull-in. Currently vehicles are stopped on the 14 track to have their fares pulled
20. 3 mechanics must work in the yard during the pull-in (driver, sander, carbon)
21. Sand is stored in 30 lb bags and poured into vehicle hoppers as needed during pull-in

22. Carbons are checked twice a week. (daily during rainy conditions)
    a. Mechanic must climb a portable ladder in the yard to check the carbons
23. M Line (LRV) and F Line (historic rail) use track 14 in the Cameron Beach Yard to pull through and layover
24. Using track 13 instead of 14 would avoid slowdowns caused by the shared use, but LRV operators have been instructed not to use track 13 because the turn is too sharp and can derail the vehicle
25. Approximately 4 vehicles can fit on track 13 at a time



Tracks 13 & 14

Opportunities

1. Modifications to track 13 may resolve the current circulation issue between historic vehicles and LRV's.
2. Install fall protection throughout the facility where needed for safer vehicle roof access
3. Install breakers to allow for de-energizing individual line segments in the repair area

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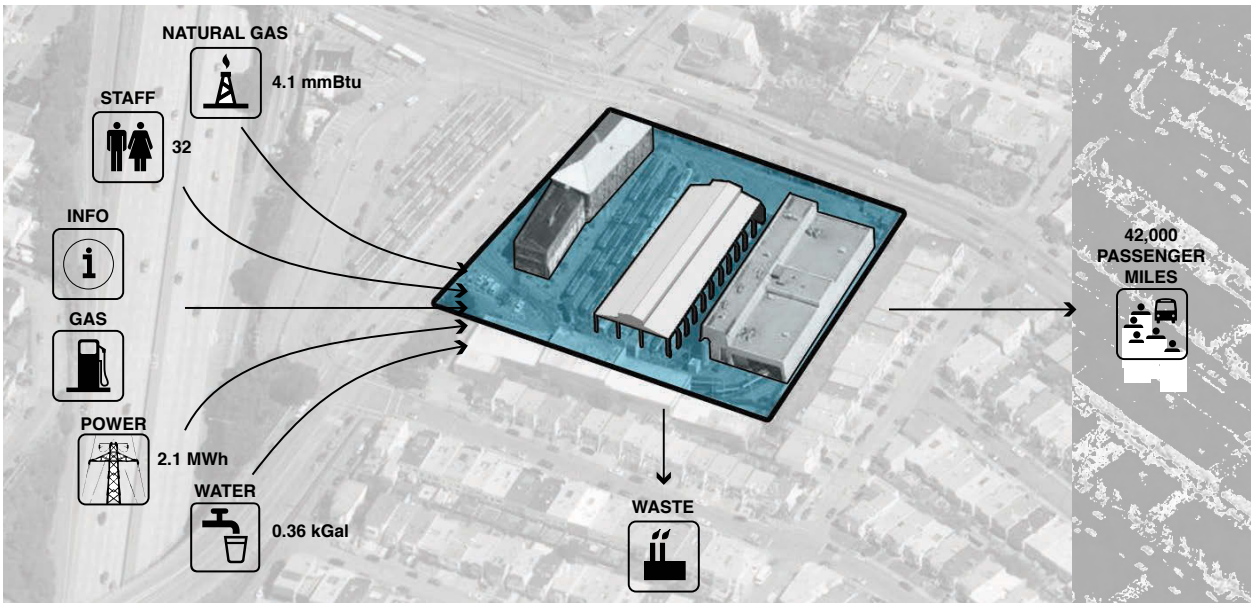
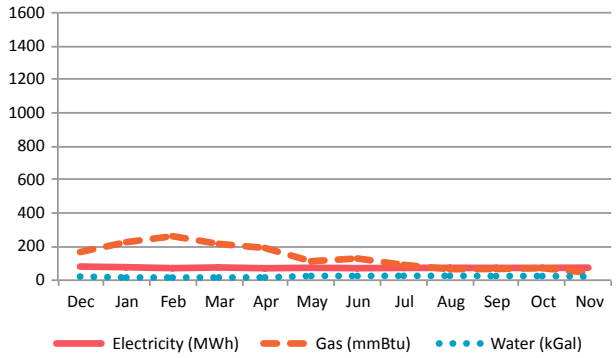
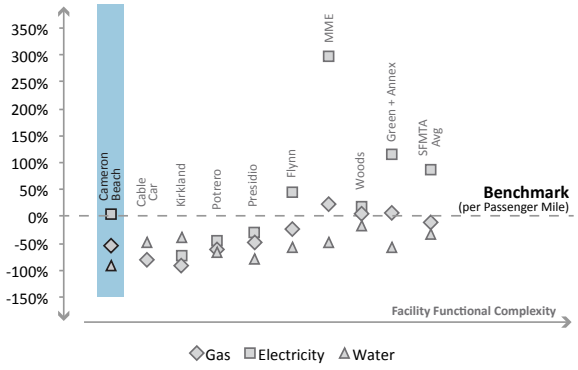
Sustainability and Mechanical, Electrical & Plumbing



Monthly Resource Flows



Resource Flow Comparison

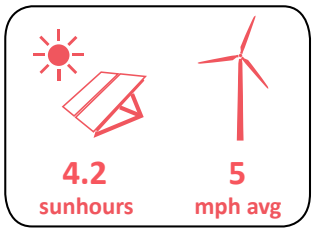


Observations:

- High-intensity discharge low pressure sodium lamps in the body shop - very poor color rendering
- Multiple roll-up doors are damaged and not operable
- Canopy lights off during day hours - indicating effective control
- Two rooftop packaged units serving paint booth
- Eight rooftop fans providing general exhaust
- Gas infrared heaters to warm work areas

Opportunities:

- Light replacement for lower energy and better color rendering in body shop
- Repair of exterior doors to moderate outdoor air flow
- Repair/replacement of existing exhaust and makeup air systems as needed to provide ventilation in lieu of broken doors



Metro Muni East (MME)

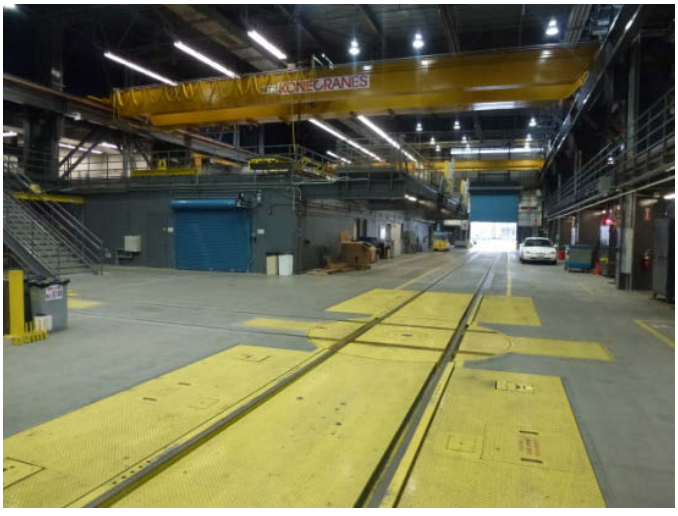
Address:	601 25th Street
Lot and Block Number:	4298 / 001
Opening Year:	2008
Last Improvements:	N/A
Existing Fleet:	See Appendix A
Site Area:	16.2 acres
Zoning District:	M2 – Heavy Industrial
Height & Use District:	40-X
Special Use District:	
Setback Requirements:	None
Other:	Under Port Jurisdiction, Flood Notification
Total Building Area:	163,000 square feet
Employee Parking:	Metered parking available on-site
Site Ownership:	SFMTA

Current Functions:

- Operating Maintenance, Wash, and Operations for the MME light rail vehicle fleet

Observations

1. Maintenance activities performed include:
    a. Heavy repair (capable, but not currently performing)
    b. Running repair
    c. Preventive maintenance
    d. Wheel truing
    e. Fare retrieval
    f. Vehicle exterior wash
    g. Vehicle interior cleaning
    h. Vehicle sanding
2. Rail vehicle service tracks include:
    a. Heavy Repair Track (2 car lifts): 3 positions.
    b. Running Repair Tracks: 12 positions.
    c. Wheel True Track: 1 position.
    d. Detail Cleaning Track: 2 positions.
    e. Blowdown Track: 1 position.
    f. Daily Service Track (fare retrieval, sanding, exterior wash): 400' long.
3. Support shops to rebuild and repair LRV components include:
    a. Wheel & Axle Shop.
    b. Truck Shop (includes gearbox and brake repair).
    c. Pantograph Shop.
    d. HVAC Shop.
    e. Hydraulic Shop.
    f. Welding Shop.
4. The facility is nicely designed but lacks staff and necessary shop equipment to support several maintenance activities in-house.
5. Average mileage per LRV: 40,000 miles per year.
6. Vehicle components are not being repaired or rebuilt onsite. Component repairs and rebuilds are being performed at Green.
7. Currently, only major inspections are done at MME. Other inspections are occurring at Green.
8. Daily and periodic cleaning is being performed inside the facility.
9. No LRV mid-life overhauls have been performed to date.
10. LRV's operate in consists of two cars or less.
11. Currently storing 55 LRV vehicles; capable of storing 125 LRV's.
12. Maintenance does not have any administration staff.
13. Approx 20 cars are being rotated between facilities daily due to limited maintenance capability at MME.
14. Each mechanic has a tool locker on the shop floor.
15. Yard has good lighting.



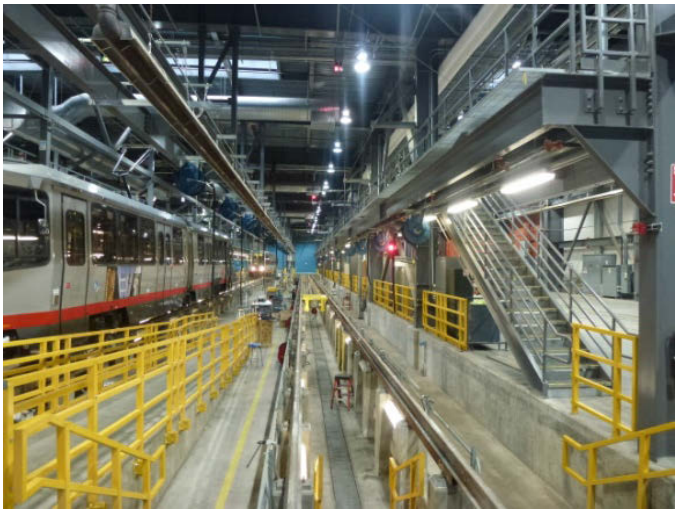
Heavy Repair Track

Service Tracks:

16. Heavy Repair Track:
    a. Heavy repair track is not equipped with overhead power.

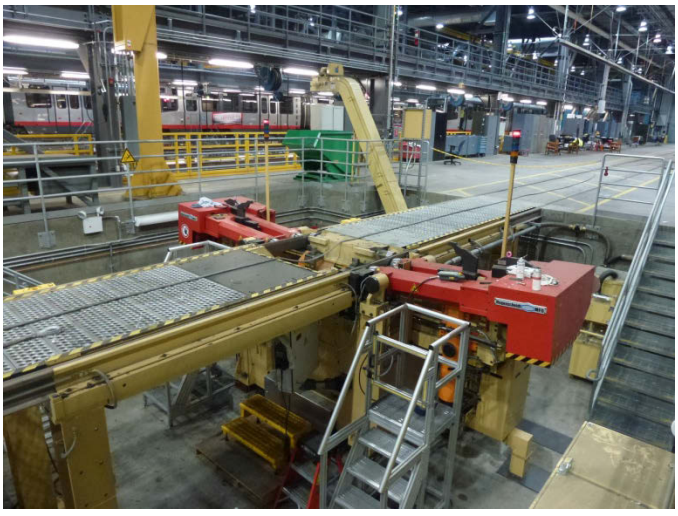
b. Heavy repair track is equipped with two in-ground hoists capable of dropping trucks.
c. Heavy repair track is partially outfitted with a car rooftop access platform that is adjacent to the mezzanine located HVAC and pantograph shops.
d. Heavy repair tracks are covered by two 25-ton bridge cranes.
e. Occasional component change-outs are being performed by staff from Green.
f. The fall protection tie-off cable for the heavy repair track car rooftop access platform is too low for adequate clearance of personnel getting onto the tops of cars. The height of the cable may also be too low to allow for proper usage of fall protection system.
g. One set of portable lifts is provided.
h. Auxiliary power with notification systems is provided for vehicles at every position.

17. Running Repair Tracks:
    a. Running repair tracks are being used for PM's. PM cycles are at 10, 20 and 40 thousand miles. Each PM takes 8, 12 and 16 hours respectively using a staff of 5 mechanics. Each track has 3 repair positions. Area is configured with posted rail and car rooftop access platforms. Fall protection is provided on each running repair track.
    b. Auxiliary power with notification systems is provided for vehicles at every position.
    c. Overhead power is divided into three sections per track.
    d. Vacuum reels are provided on the running repair tracks.
    e. Roof access platforms have locked gates keyed to power supply.
    f. Half of the running repair tracks are covered by 3-ton monorails to service or change-out vehicle rooftop components.



Running Repair Tracks

18. Wheel True Track:
    a. Track long enough to accommodate an entire LRV.
    b. Wheel truer is a lathe type machine.
    c. An in-ground car progression system is provided.
    d. Pit is covered by 1/2-ton bridge crane for machine maintenance.
    e. Both LRV's and Streetcars are being trued at MME.
    f. A 40k wheel truing program has been started.

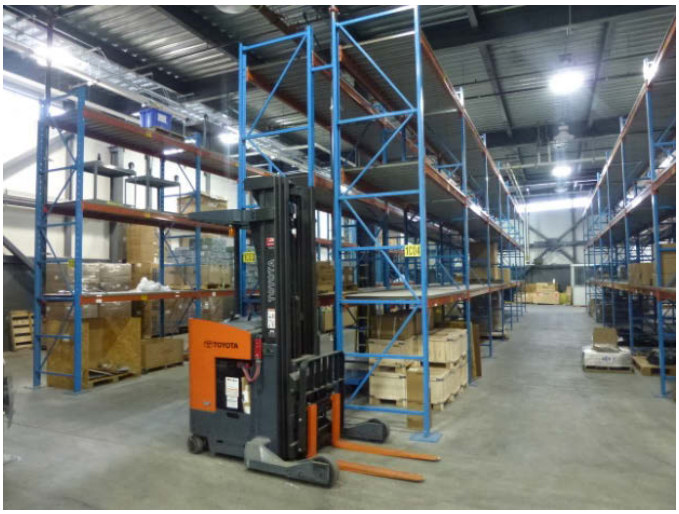


Wheel True Track

19. Detail Cleaning Track:
    a. Large enough to accommodate 2 LRV's.
    b. Equipped with a central vacuum system.
20. Blowdown Track:
    a. Blowdown track is outfitted with posted rail, car access platforms and car rooftop level platforms.
    b. Area includes high-pressure spray wands and compressed air connections.
    c. The blowdown area is currently not being used. Area is being used to store Streetcars.
21. Daily Service Tracks:
    a. Vehicles are generally washed daily.
    b. Fare retrieval, sanding and exterior washing is performed on track.
    c. Automatic car wash is a drive-thru type with water stripper and water reclaim.
    d. Equipped with a central vacuum system.

Support Shops:

22. Parts Storeroom:
    a. The Material Management department runs the MME storeroom.
    b. MME storeroom has good vertical clearance for the storage of palletized loads. The room is only being partially utilized. Burke provides consumables. Car parts are provided directly by vendor or Green. Only ready stock items are being stored. 79, 3-beam pallet racks with in-rack fire suppression. 28, 9-drawer storage units. 175 (3'x2') shelving units.



Parts Storeroom

    c. Storeroom is supplied through Green twice weekly.
    d. Two hazmat buildings are provided outside.
23. Truck Shop:
    a. Trucks are shipped to MME on flatbeds. All LRV truck overhauls are being done at Green. Extra trucks are being stored at MME.
    b. Shop outfitted with two repair lifts and is covered by bridge cranes.
    c. A shop support area is provided next to the Truck Shop but is not adequately equipped with necessary machinery for rebuild work.
24. Truck Wash is operational but is not being used.
25. Wheel & Axle Shop: Not equipped or operational.
26. Pneumatic Shop: Not equipped or operational.
27. Welding Shop: Not equipped or operational.

Opportunities

1. Outfit shop areas with necessary equipment to allow for truck overhauls.
2. Outfit shop areas with necessary equipment to allow for wheel and axle work.
3. Outfit shop areas with necessary equipment to allow for gearbox and brake work.
4. Modify fall protection tie-off cable for the heavy repair track car rooftop access platform to allow for adequate clearance of personnel getting onto the tops of cars and too provide for its safe usage.
5. Provide bar coding system for improved tracking of parts.

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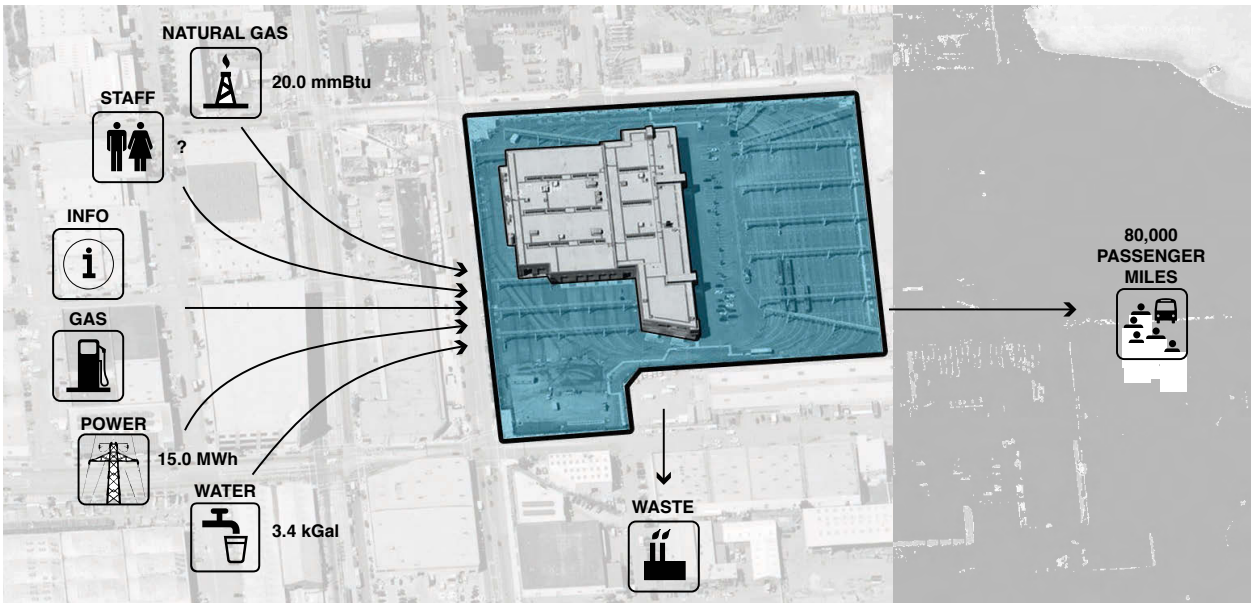
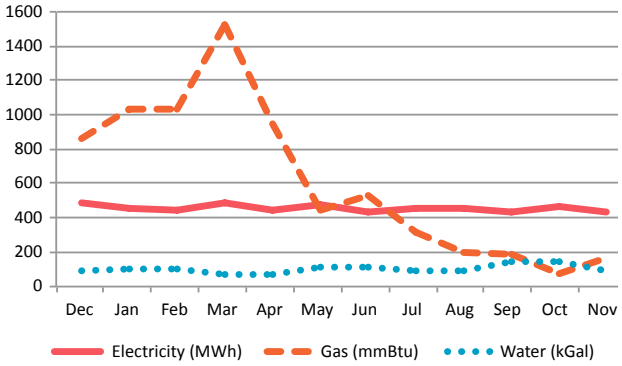
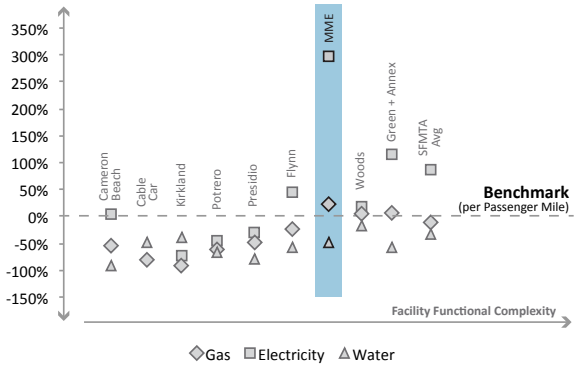
Sustainability and Mechanical, Electrical & Plumbing



Monthly Resource Flows



Resource Flow Comparison

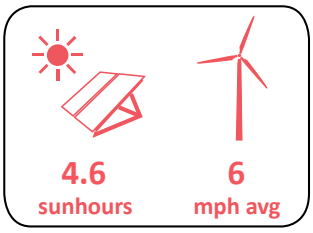


Observations:

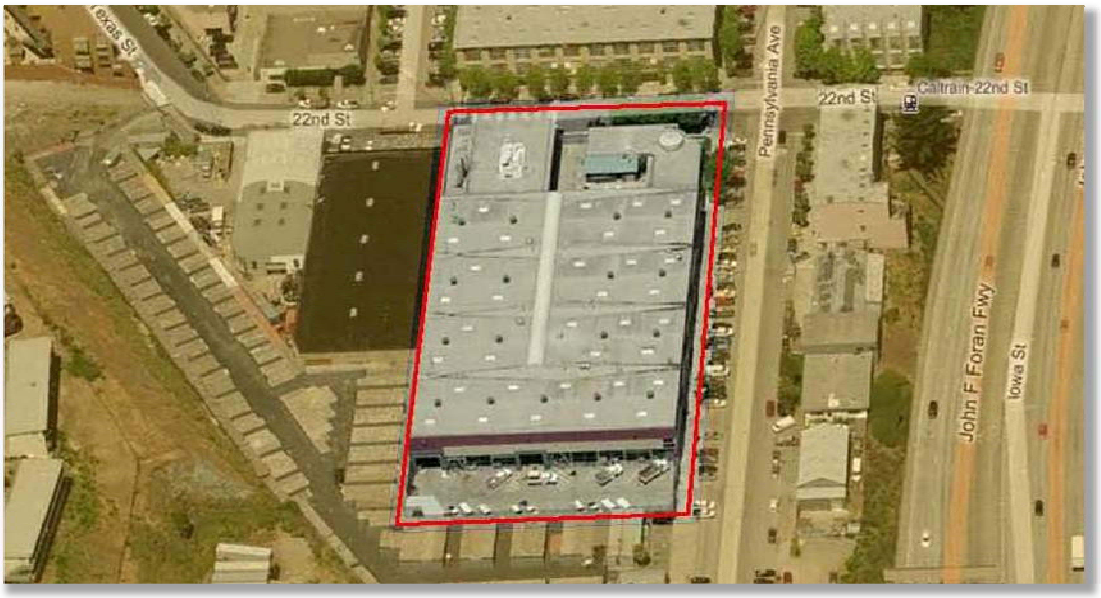
- High electricity use relative to other facilities - all systems operational
- No daylight dimming though clerestories provide natural light
- Building all on in spite of only portions being used
- New high-intensity discharge lamps in high bay, likely pulse-start, difficult to dim effectively
- Door kept open for ventilation in spite of central systems
- Gilley room unusually warm though unoccupied

Opportunities:

- Zoned facility operation during partial use
- Daylight dimming and occupancy sensors
- Occupant education about keeping doors closed
- Confirm proper commissioning of economizer dampers
- Air quality sensors to vary outdoor air intake and exhaust



700 Penn Facility



Address:	700 Pennsylvania Avenue
Lot and Block Number:	4167 / 010
Opening Year:	1947
Last Improvements:	Retrofit for SFMTA early 2000's
Existing Fleet:	See Appendix A
Site Area:	2 acres
Zoning District:	P-Public
Height & Use District:	40-X
Special Use District:	
Setback Requirements:	None
Other:	
Total Building Area:	88,000 square feet
Employee Parking:	Limited on-site parking
Site Ownership:	SFMTA

Current Functions:

- Outgoing location of the Transit Signal Shop before it completes its move to Metro Muni East
- Main facility for Building & Grounds offices and dispatch
- Carpentry Shop supporting SFMTA facilities, buildings, stops, and stations
- Electrical Shop supporting SFMTA facilities, buildings, stops, and stations
- Paint Shop supporting SFMTA facilities, buildings, stops, and stations
- Landscaping office supporting SFMTA facilities, buildings, stops, and stations
- Transit Signal Shop for all rail and subway signals – shared with SFMTA Engineers
- Special Machine shop fabricating and repairing cable car and historic rail trucks and components.

Observations

1. Transit Signal
    a. Currently housed on the 2nd floor of the 700 Penn facility and is moving to Metro Muni East in April/May
    b. Transit Signal is currently within Muni. Traffic Signal, currently located at 401 Rankin, is within Sustainable Streets.
    c. Computer systems are monitored and controlled by SFMTA Central Control while Transit Signal handles the actual equipment on the streets

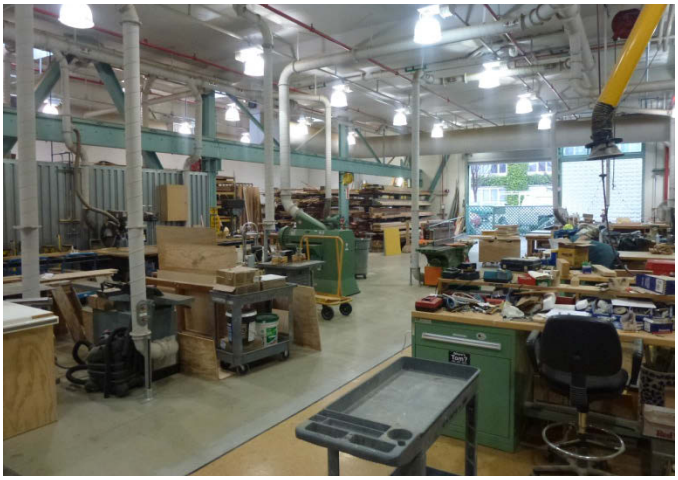
Transit Signal Crew Area

    d. Staffing: 18 total including 3 supervisors split across 3 shifts 7 days a week
    e. Operates 5 vans – 2 out with 3 man crews per vehicle each shift
    f. Handles all train control systems and signs – installation, maintenance, and programming
    g. Transit Signal takes precedence at intersections over Traffic Signal – coordination is required
    h. Train sensors can communicate to upcoming traffic signals where a vehicle is located to prompt changes
    i. All work orders are still being tracked manually in log books/binders – Does not allow for quick reference to check for recurring problems / signal maintenance histories
    j. Central Control detects issues or receives complaints, generates work orders, and passes them on to Transit Signal to dispatch work crews and make repairs
    k. One crew generally stays near the subway for quick response during commuter hours

Transit Signal Shop and Parts Storage Cabinets

    l. Has overflow storage cage of slower moving used parts/equipment at Marin – mainly storing approximately 25 spools of cable
    m. Most parts used are small components and stored in one of the 13 parts cabinets in the current space – drawer units could store these parts more efficiently and allow easier access
2. Infrastructure Maintenance / Building and Grounds / Work Control
    a. Handles documentation of work and dispatch of work crews for standard maintenance and work requests at SFMTA facilities

   b. Stationary Engineers responsible for specific facilities observe facility conditions and then generate a work order to send to Infrastructure Maintenance. Once received the order is recorded and placed into a work queue to await dispatch of an appropriate work crew.
   c. Crews are sent out to a job by discipline. Often multiple crews must be coordinated so all disciplines can handle their portion of a job in order
   d. SFMTA does not have any general/interdisciplinary crews
3. Carpentry Shop
   a. Serves as a support shop for all SFMTA facility carpentry needs
   b. Main functions: cabinets, doors, bulletin boards
   c. Handles small-scale wall/partition jobs but no load bearing walls
   d. 3 carpenters and 1 supervisor
4. Electrical Shop
   a. Responsible for electrical work at all SFMTA facilities, stations, stops, underground/subway areas, and tunnels
   b. Electrical crew changes lamps at facilities – Not stationary engineer
   c. 4 electricians and 2 fixture workers

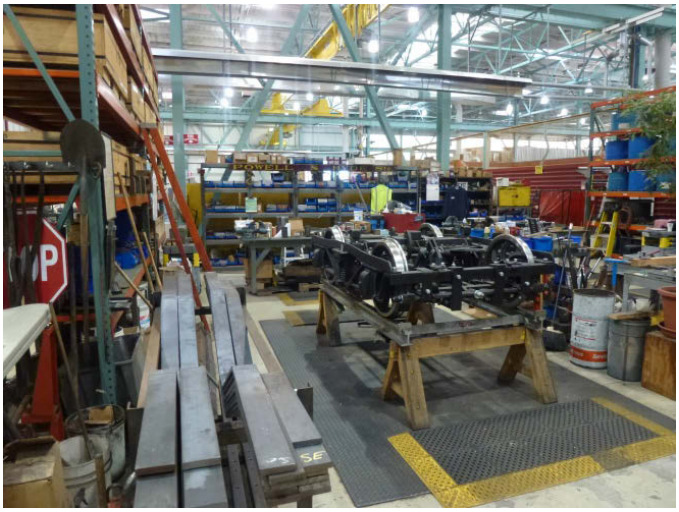


Carpentry Shop

5. Store Room
   a. No staffing in the Store Room – groups manage their own caged areas
6. Track Department
   a. Responsible for SFMTA track repairs
   b. Supervisor office area on mezzanine above storage
   c. Welding shop
   d. Sectioned off tool room for track work
7. Stationary Engineers Office
8. Gardeners Office
   a. Handles all landscaping, mowing, and most tree trimming for SFMTA
   b. 3 gardeners
   c. 2 containers of storage housed at MME
   d. Tree topping over SFMTA restricted heights is contracted out
9. Paint Shop
   a. Responsible for all SFMTA facilities, stops, stations, and painted cabinetry/furniture
   b. Staff of 5 painters – 5 days a week
   c. Handle graffiti for SFMTA – crew scheduled for every Monday

Paint Shop

   d. Office and crew room HVAC does not work
   e. 1 paint spray booth, paint storage, stencil racks
10. Lock Shop
   a. 1 locksmith for all of SFMTA
11. Custodial
   a. Clean facilities for all of SFMTA (does not include shop spaces)
   b. 3 shifts 7 days a week – crew of 43 with 2 supervisors
   c. Each facility houses its own cleaning supplies in a janitor closet
   d. Custodial items are stored at Burke and inventoried, handled, and delivered by their own shopkeeper separate from Material Management
12. Cable Car Special Machine Shop
   a. Builds cable car trucks and other metal components
   b. Assists other machine shops as required
   c. Crew of 5 – 3 machinists, 1 fabricator, 1 welder
   d. Wheels are purchased from an outside vendor
   e. Very large space with multiple duplicate machines
   f. 3 large overhead cranes



Special Machine Shop – Cable Car Trucks

Special Machine Shop

Opportunities

1. Possibly combine Transit Signal and Traffic Signal to allow for better cooperation between the two groups. Note that this will be addressed under Deliverable #2B
2. Possibly consolidate some machine shop functions across SFMTA facilities. For example, centralize all machine shop functions for rail and cable car at 700 Penn to allow for better utilization of specialized tools, equipment, and staff.

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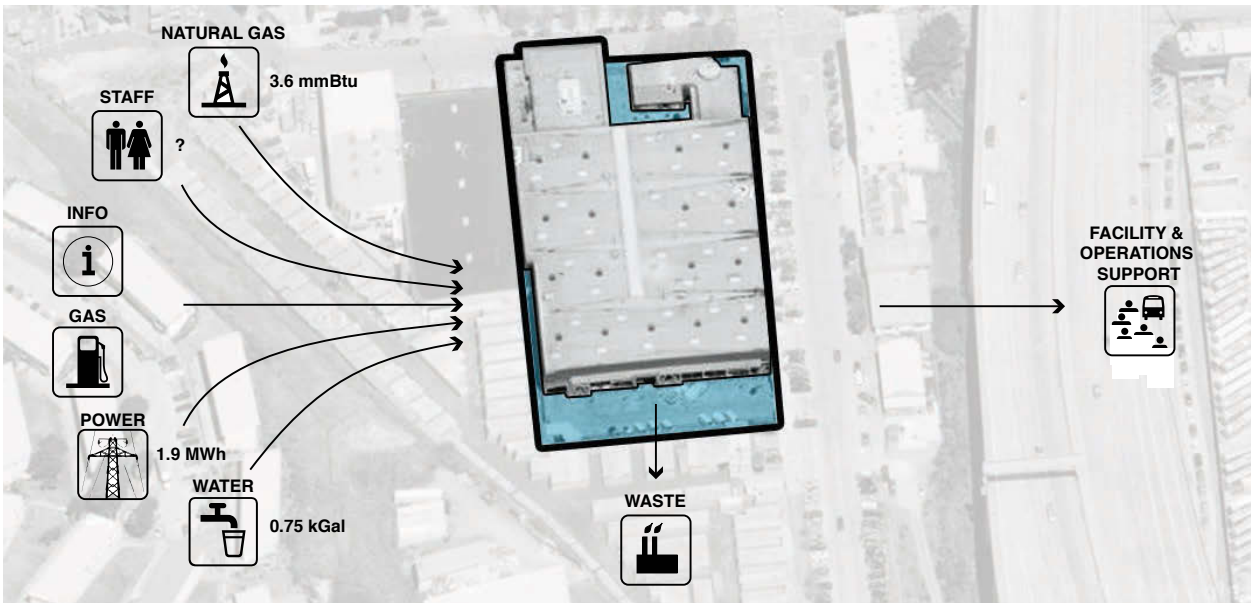
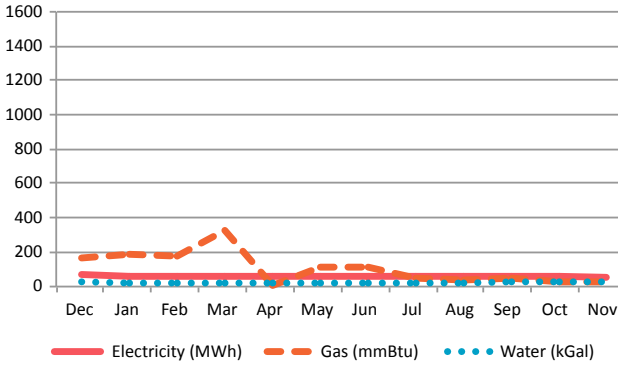
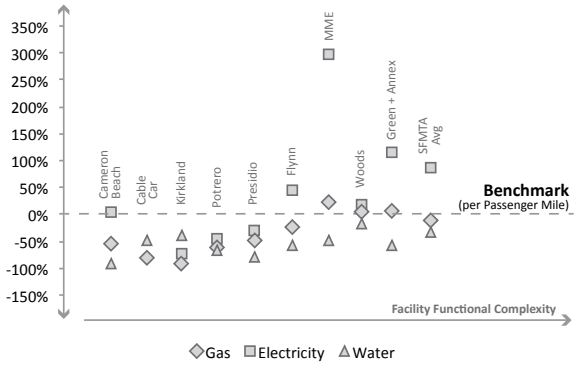
Sustainability and Mechanical, Electrical & Plumbing



Monthly Resource Flows



Resource Flow Comparison

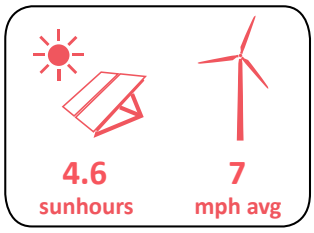


Observations:

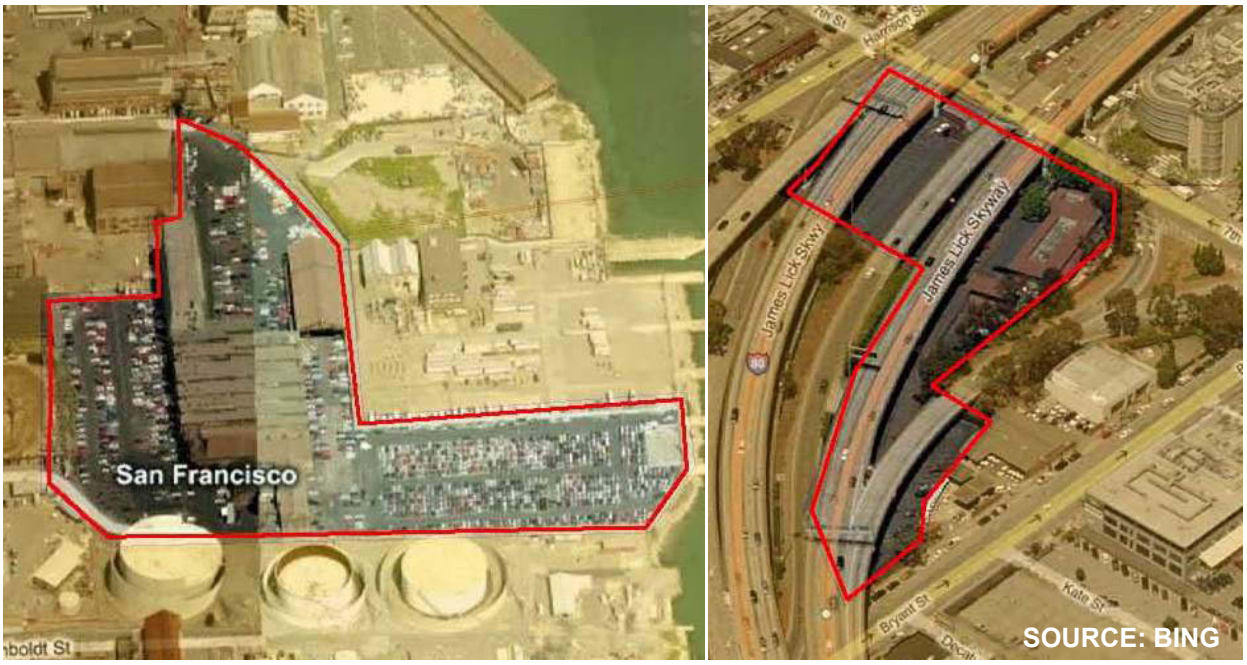
- Gas unit heaters supplementing main ventilation system
- Cardboard and blue painting tape covering diffusers in office areas
- Electric heaters indicate insufficient central heating
- High-intensity discharge lamps in high bay
- Gas infrared heaters manage much of the heating in high bay area

Opportunities:

- Zone HVAC systems in office area appropriately to control temperature
- Daylight dimming to take advantage of skylights
- Abundant roof area for collecting solar energy
- Improve/resource maintenance request system for all facilities



Towed Car Lots



Address:	Short Term Yard at 7th and Bryant
	Long Term Yard at Pier 70
Lot and Block Number:	Short Term – CALTRANS / Long Term - Port
Site Area:	Short Term 85,375 square foot lot
	Long Term 33.3 acre lot
Zoning District:	P-Public
Height & Use District:	Short Term 30-X
	Long Term 40-X
Special Use District:	Life Science and Medical
Setback Requirements:	None
Other:	Under Port Jurisdiction (Long Term), Flood notification
Employee Parking:	Available on-site at both yards
Site Ownership:	Short Term: AutoReturn holds transferrable lease
	Long Term: MOU with Port
Vehicle Parking Capacity:	Short Term Yard – Approximately 160 spaces
	Long Term Yard – Up to 3,000 spaces

Current Functions:

- Short Term Yard functions as the first holding area for towed Vehicles
- Long Term Yard holds vehicles which are not claimed by owners within allotted time limit
- Vehicle auctions take place at the Long Term Yard

Observations

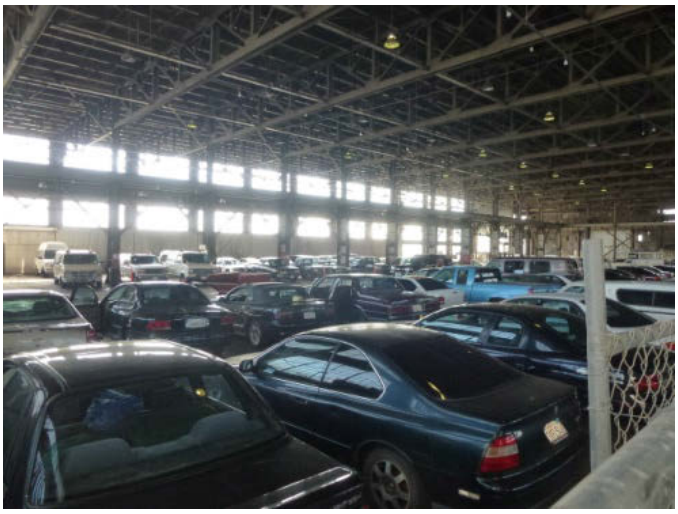
1. SFMTA's towing services are contracted out to AutoReturn which manages the lots and oversees the dispersal of tow jobs
2. AutoReturn uses 12 separate towing vendors to meet towing needs
3. Dispatch Tows – a call is placed to towing dispatch to have a tow truck sent to retrieve a vehicle parked in a violating area, blocking a road/entry, or for an arrest
    a. Dispatch is aware of these tows immediately
    b. Tows initiated by arrests must be handled through the Hall of Justice
4. Sweep Tows – Tow trucks are assigned to specified areas to check for violators and tow all vehicles found to be illegally parked
    a. Dispatch is not aware of these tows until they arrive at the lot and are checked in
    b. Cars can be retrieved directly from the tow lot immediately upon payment (Hall of Justice not required)
5. During special events (festivals, parades, concerts, etc.) the City will provide notice of towing needs 72 hours in advance to allow AutoReturn to schedule special coverage with the tow providers
6. Owners are allowed to retrieve their possessions from inside the car as that property is considered separate from the vehicle
7. Short Term Yard – 7th and Bryant St.
    a. Located across the street from the Hall of Justice which allows easy access for those going through legal system
    b. Last year approximately 52,000 cars were towed – in the past the number has usually been closer to 70,000 but enforcement changes have lowered it
    c. Tows come to the Short Term Yard initially unless specified otherwise
    d. Vehicles stay at the lot for 2 days before being transferred to the long term lot on either Tuesday or Friday – transfer fee added on to vehicle tow cost
    e. Police Department has a fenced off section for forensics on-site. AutoReturn has no access to this area
    f. Police can request that cars stay at the Short Term Yard if they are being held as evidence or actively investigated. Generally, vehicles that have been involved in ussues larger than a parking violation are taken directly to the Long Term Yard.

Vehicle Forklift at Short Term Yard

    g. About 85% of towed vehicles are retrieved within 48 hours
    h. Staffing: 13 in the office and 4 in the yard split across 3 shifts and operating 24/7
    i. 2 electronically controlled gates into the yard with security camera coverage
    j. Video of vehicles entering the facility are used when disputing claims of damage from towing – plan to document car with photos on arrival once software is upgraded
    k. High value cars are generally not moved to the Long Term Yard for security reasons
    l. Approximately 100 spaces in front lot and 60 in rear lot

m. Towed vehicles are brought in the rear entrance, dropped off in the yard, and then tow trucks exit via the front entrance onto 7th. This avoids backing up a line of trucks onto 7th street
n. Towed vehicles are assigned a tracking number which is marked on their windshield and input into the system upon entering the yard

8. Long Term Yard – Pier 70
   a. Yard spans approximately 10 acres in an odd shape
   b. Armed security guards at the entrances
   c. Vehicles are brought in through security by tow drivers and then left in the staging area at the front of the yard
   d. Forklifts are used to move the vehicles throughout the yard
   e. Required to maintain 300 spaces for Police tows (100 must be covered/indoors)
   f. Motorcycles are stored in the front of the yard because they are easier to lose /damage when in the general population
   g. Vehicle lien process begins within 72 hours of impound
      i. Average vehicle disposal rate is 45 days
   h. Public auctions are held on-site on Wednesdays.
      i. Between 200 to 300 people usually show up for an auction to bid on between 75 and 175 cars
   i. Up to 3000 vehicles before – 2200 is the maximum amount to store with easy access
   j. Vehicles are parked and tracked via a grid system
   k. Cars that run are staged in an area to show they drive for auctions – brings in higher prices
   l. Vehicles cannot be repaired as they are still property of the owner until they are abandoned or sold
   m. Average age of vehicles is 15 years
   n. Most vehicles fall in the range of $500 to $4,000
   o. Heavy vehicles (panel trucks, RV, small buses) are stored near the back gate to avoid towing them down the hill near the front entrance
   p. Cars to be auctioned are staged indoors
   q. Outside locksmith handles vehicle keys – fee is added on as part of vehicle purchase price
   r. 5 security cameras monitor vehicles entering the facility – captures car, plates, and driver in video



Indoor Storage at Long Term Yard

Long Term Yard at Pier 70

Opportunities

Under development pending lease agreement for final long term towed car facility (2650 Bayshore)

1. The Short Term Yard is convenient for customers and serves its purpose.
2. SFMTA is considering a lease of a facility (2650 Bayshore) for the Long Term Yard and other functions. The study team will review the layout of this lease space when SFMTA makes the information on the facility available.

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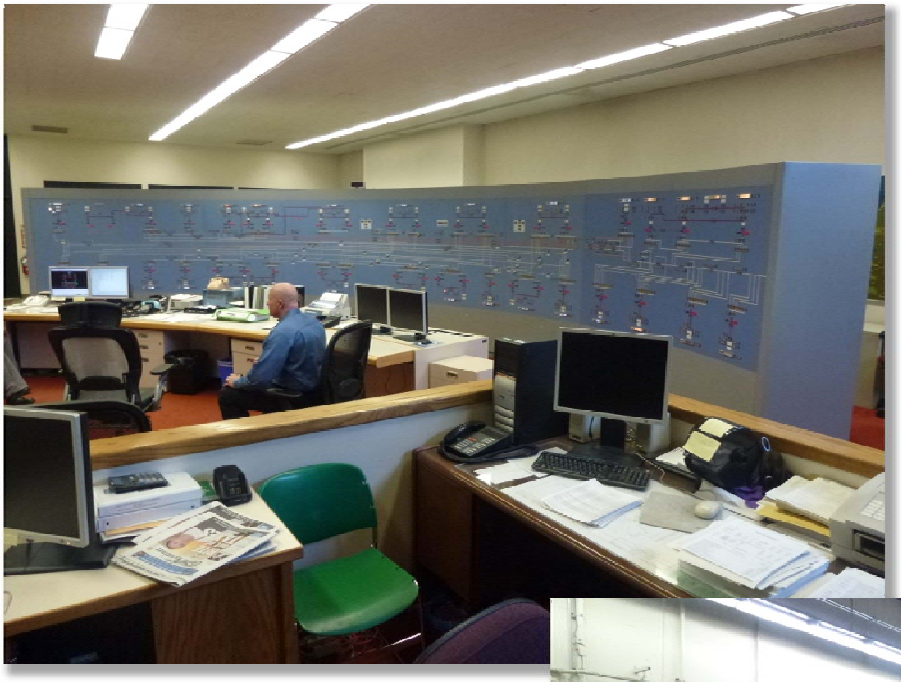
Power Control Center



Power Control Room

(on upper level)

Power Control Machine Shop

(on ground level)

Address: 2502 Alameda St.

Lot and Block Number: N/A

Employee Parking: Shared with Overhead Line

Site Ownership: SFMTA

Current Functions:

- Control of the entire overhead power system for trolley buses, historic trolleys, and light rail.
- Machine shop support for the Power Control Center

Observations:

1. The Power Control Room is located on the second floor.
2. The Power Control Room operates 24/7, year round.
3. Significant investment has been made in the power control system.
4. Power Control Room is adjacent to the overhead power system. This is ideal to minimize cost.
5. The Power Control Room is in a facility adjacent to the older facility that accommodates the Overhead Line crew (vehicle parking, crew facilities, offices, shops, and storage.
6. The Power Control Shop is located on the first floor below the control room.
7. The Power Control Shop includes a significant amount of machine shop equipment. The frequency of use and need for most of the machine shop equipment should be evaluated.
8. Some parts storage for the Power Control Shop is located on the Overhead Line Shop in the adjacent building.
9. The Power Control Shop operates on a single shift, 5 days a week.

Opportunities:

1. Evaluate the need for all the machine shop equipment in the Shop and remove the equipment that is not needed. This will provide space for relocating the parts stored being stored for the shop in the facility next door
2. The Power Control Room and Shop could remain in its current location.

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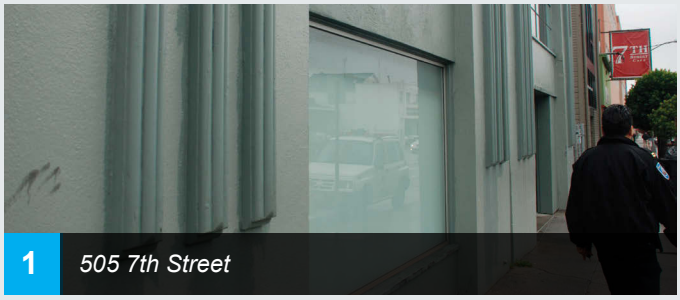
Enforcement Division

Division Mission and Objectives

The Enforcement Division at SFMTA ensures compliance with parking and traffic regulations for the streets of San Francisco by managing street cleaning, parking violations, and coordinating traffic for city-wide events, such as parades, construction, and street closures. The Enforcement Division is housed in three separate facilities (505 7th Street, 571 10th street, and at the Department of Works at Cesar Chavez), and utilizes a parking lot at 6th and Townsend for storage of their department vehicles.

Current Facilities Information



1 *505 7th Street*

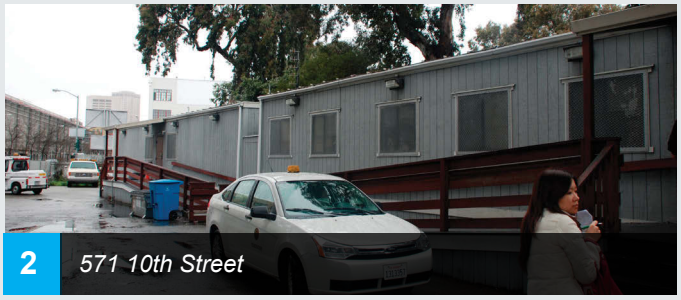
What it is:
A 1 1/2 story building with an entry on 7th street

Use:
General Towing detail & Events

Bldg Area:
8,000 sf

Lease Area:
9,680 sf (building)
3,200 sf (parking)

Employee Parking/Transportation:
- An alley behind the building with limited vehicle parking
- On-street parking
- Scott Lot at 15th and Harrison
- Public transportation
- Employees pick up their dep't vehicle at the nearby parking lot at 6th and Townsend



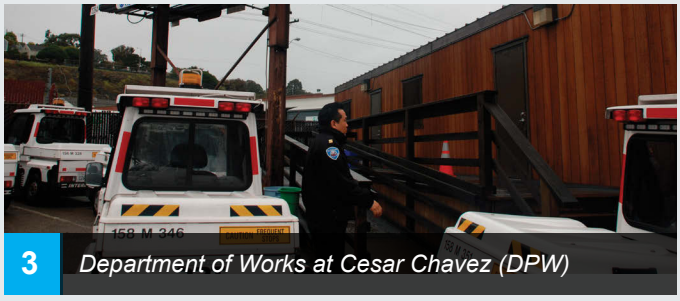
2 *571 10th Street*

What it is:
Two trailers on a CalTrans site

Use:
Boot and Yellow Zone detail and housing for abandoned vehicles

Bldg Area:
~2,000 sf

Employee Parking/Transportation:
- Parking onsite for both employee and dep't vehicles
- Employees swap out their vehicle for the dep't vehicle onsite



3 *Department of Works at Cesar Chavez (DPW)*

What it is:
One trailer on the DPW site with parking onsite

Use:
Street-sweeping detail

Bldg Area:
~1,000 sf

Employee Parking/Transportation:
- Parking onsite for both employee and dep't vehicles/on-street parking
- Employees swap out their vehicle for the dep't vehicle onsite

4 *6th and Townsend Parking Lot*

What it is:
Gated parking lot underneath the freeway

Use:
Parking for the gopher flee

Bldg Area:
x,xxx sf

Parking/Transportation:
- 275 gopher vehicles and 25 balancer cars

Enforcement Division

Key Users

1. Parking Control Officer (PCO

Who they are/What they do:

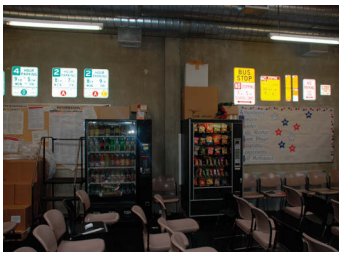
PCO's are employees who enforce motor vehicle parking regulations by patrolling an assigned neighborhood in shifts. They spend the majority of their time on the field, only touc - ing base at the workplace at the beginning and end of their shift. The PCO's patrol neighborhoods by using multiple modes of transportation, the most common being a 3-wheel vehicle called a gopher, but can also use a vehicle or a bicycle.

Key statistics:

- 263 PCO's in total (includes all three facilities)
- The majority of the PCO's report to the main facility at 505 7th St.

Key spaces:

- Gathering space at the beginning of the shift
- Area for changing into/out of uniform
- Drop-in workstation/computer for paperwork



Assembly space at 505 7th St.

Drop-in workstation/computer for paperwork

2. Supervisors/Directors

Who they are/What they do:

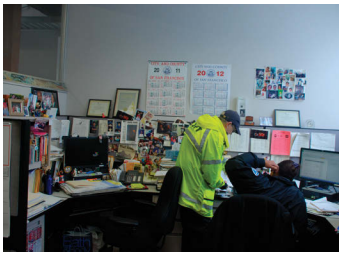
Supervisors oversee the PCO's work, and are divided equally into AM and PM shifts. They prepare for and perform roll-call at the beginning of the shift, monitor the air (the police & SFMTA channel), check on the PCO's work, plan for special events, as well as do some paperwork. After the admin duties, if there is an accident, they will go to the area; if not, they will embark to the neighborhood on the shift schedule. They spend about 50% of their time at the workplace, and 50% out on the field

Key statistics:

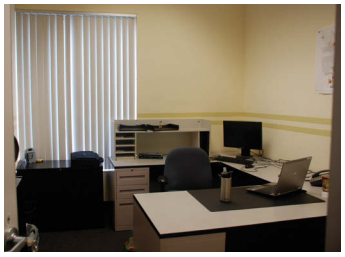
- approx. 32 supervisors in total (includes all three facilities)
- approx. 5 directors in total (includes all three facilities)
- 18-20 supervisors onsite at any given time
- The majority of the supervisors report to 505 7th St

Key spaces:

- Space for equipment and supplies pickup
- Workstation/computer to conduct paperwork
- Areas for private discussions with employees
- Drop-in workstation/computer for paperwork



Shared office at 505 7th St



Private office at 505 7th St

Enforcement Division

Key Users

3. Administration/Operational Staff

Who they are/What they do:

Employees who oversee all the administrative and operational needs of the facilities. They spend the majority of their time at the workplace in or around their workstation area.

Key statistics:

• N/A

Key spaces:

• Workstation/computer
• Storage area for files (i.e. employee information, towed vehicle license plate information) – there is no known program underway to digitize documents
• Storage area for supplies (i.e. parking tickets, paperwork) and equipment

Filing area at 505 7th St.

Administrative workstation area at 505 7th St.

4. Dispatchers

Who they are/What they do:

The dispatcher area is a call center and tow desk. They spend the majority of their time at their workstation on the phone.

Key statistics:

• There are two dispatch groups: one at 505 7th St., and another at 571 10th St.
• The dispatch area at 505 7th St. is slated to move to 1455 Market Street in the spring of 2013, and should not be included in any future planning for the Enforcement Group.

Key spaces:

• Workstation with acoustic separation

Dispatch area at 571 10th St.

Dispatch area at 505 7th St.

Enforcement Division

A Day-in-the-Life

Overview
Each one of the Enforcement Division's facilities serves a different purpose for the group, and while the growth has been organic over time, it is the 505 7th St. location that serves as its primary location where the majority of the personnel are housed. The 505 7th St. location is also unique in two other ways; it is the only facility that requires 24/7 access, and one of the rooms serves as the command center for the Enforcement Division during times of emergency (with seating for 6-8 people).

On average, the majority of the people are on staff during the 9-5 business hours from Monday through Friday, where the shifts overlap. Saturday shifts start at a later time, and the crew goes down to an even smaller group on Sunday, although that may change if the city starts enforcing parking meters on Sundays.

A Typical Day's Activities
In each facility, each day is divided into several 8 ½ hour shifts, ranging from 2 shifts at the DPW site to approximately 5-6 shifts at 505 7th St. Each shift has similar tasks that can be described in four key stages: (1) **the assembly**, (2) **preparation for going out on the fiel** , (3) **out on the field tim** , and (4) **returning at the end of the watch**.

The assembly is where the PCO's gather in one room, and where the supervisors perform roll-call, and get briefed on any new items. On average, there are up to a maximum of 30 PCO's on each shift, and can surpass 50 people during an overtime or holiday event.

After the assembly, the PCO's prepare for **going out on the fiel** , and gather the necessary equipment and supplies, such as keys to the vehicle, tickets, and chalk. Currently, the equipment is housed in a secure room with an individual, whereas the supplies are open for individuals to take in the assembly room. After changing in the locker room to their uniforms, the PCO's then embark on their shift. This process from assembly to being ready to go out on the field can take anywhere from 15-20 minutes. Supervisors spend additional time at the workplace to attend to administrative duties before heading out.

During the **out on the field tim** , PCO's often spend their lunch time away from the workplace; in some cases where the shifts are close to the facilities location, some do return to have lunch. It has been noted that Enforcement Division staff, while in uniform, are somewhat wary of eating lunch out in restaurants, as they sometimes get asked questions by the general public. The Conference Room serves triple duty as the lunchroom, meeting area, and the emergency command center.

The PCO's **return at the end of the watch** for the last 45 minutes to take care of any paperwork, return their equipment/ supplies, and change back from their uniform to their street clothes.

Differences between Facilities
Overall, the facilities provide for the personnel and their day-to-day activities at each location. Not all facilities house all the user types noted, although all of them have some number of PCO's and supervisors. For example, the 505 7th St. facility includes all groups, from PCO's, supervisors/directors, administrative staff, to the dispatch, while the 571 10th street facility includes a dispatch, but no administrative staff, and the facility at the Department of Works at Cesar Chavez has only PCO's and supervisors.

Other Locations Commonly Visited
The only other location that is commonly visited is 1 South Van Ness (SVN). Supervisors and directors go for meetings multiple times/week and currently carpool there with other co-workers. The Muni Metro East (MME), on a site near Pier 80, is another location that Enforcement Division employees use for training, although it is visited less frequently.

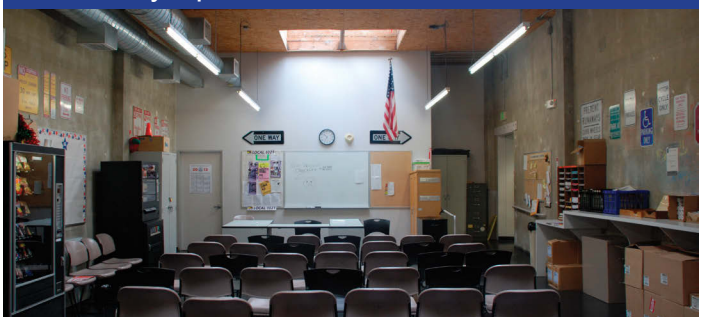
Additional Criteria
There are few external visitors to the facilities, although there is still a need for a secure customer service window and wait area, as is currently supported at 505 7th St. In addition, there are deliveries every couple of months (i.e. parking tickets in bulk) that require a loading dock, but the needs are minimal.

View into temporary gopher parking at 505 7th St.

Enforcement Division

Spaces that Work

Assembly Space



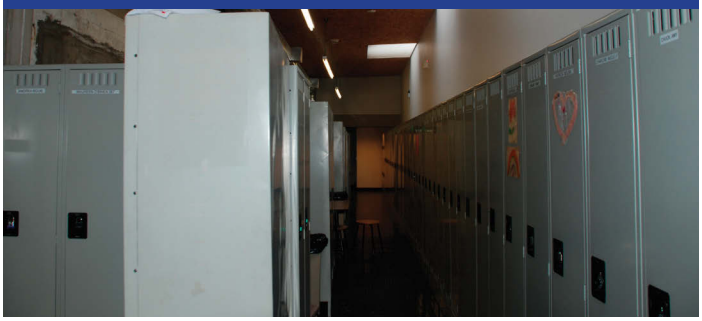
Main view of the assembly space at 505 7th St.

Open supply area at 505 7th St.

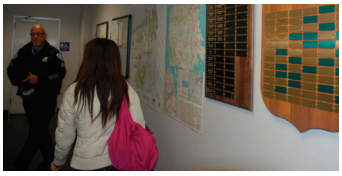
Equipment room at 505 7th St.

- *Sufficient space for assembly activitie*
- *Well-lit, high-ceilings good for accommodating larger groups*
- *Flexible furniture for sit-down or stand-up meetings*
- *Easy to access from lockers*
- *Close to equipment room/supplies*

Lockers



Locker area at 505 7th St.



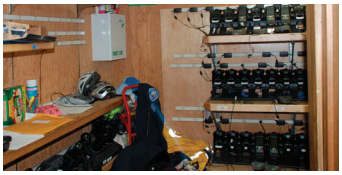
Adjacent hallway at 505 7th St.

Locker area at 571 10th St.

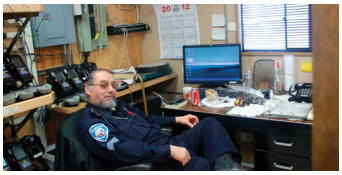
- *Enough room to have individual locker assignment*
- *Proximity to restrooms/showers*
- *Has its own secure entry/exit from the street*

Equipment Room

Interior of equipment room at 505 7th St.



Equipment area at 571 10th St.



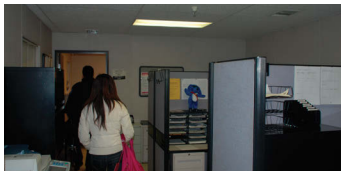
Equipment area at DPW

- *Secure roll-up door provides easy access from assembly space*
- *Sufficient storage for existing equipment, but could use flexibility if expansion is neede*

Dispatch Area

Dispatch employees at 571 10th St.

Work area at 505 7th St.



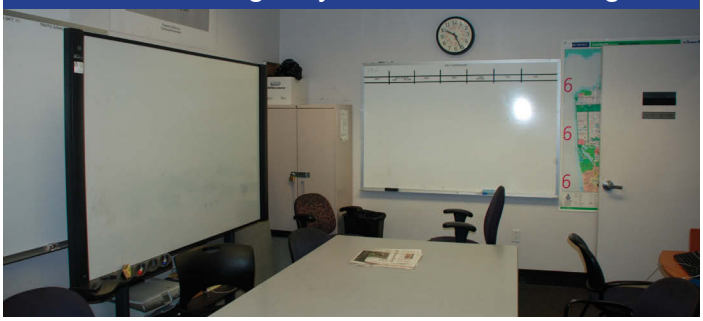
Entry to dispatch at 571 10th St.

- *Separated from other functioning groups for noise isolation*
- *Sufficient desk surface and storage for their work need*
- *Has its own kitchenette/pantry area*

Enforcement Division

Spaces that Don't Work

Conf Rm./Emergency Command/ Training



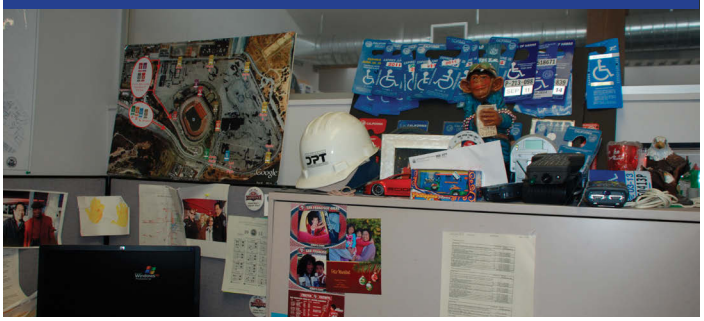
Main view of conference room at 505 7th St.

Technology in conference room

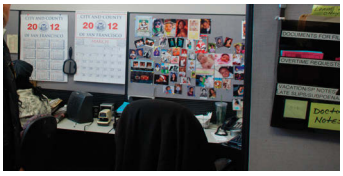
Door signage

- *Only accommodates medium sized meetings*
- *Serves multiple functions: main meeting space, lunchroom, and emergency command center*

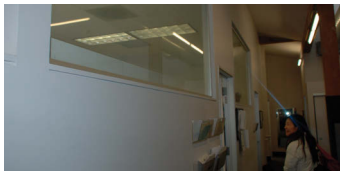
Director's Shared Office



Workstation in Director's shared offices at 505 7th St



Typical workstation

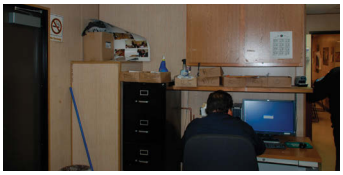


Light well from shared office

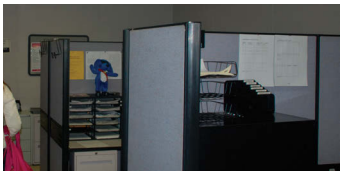
- *Shared office space is cramped for the amount of items stored*
- *No spaces for private conversations with other supervisors or employees*

Workstations

Typical drop-in workstation



Workstation at DPW

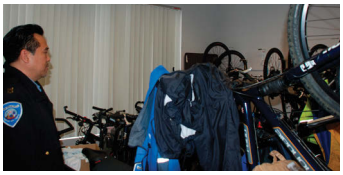


Workstation at 571 10th St.

- *Workstation is small as compared to conventional standards*
- *No consistent computer equipment in workstations*
- *High panel height does not promote communication/increase of light penetration*

Storage

View into one of the storage rooms at 505 7th St.



Bike storage at 505 7th St.

Temporary storage at assembly space

- *Storage systems are ad-hoc, yet highly used*
- *The supply storage is out in the open, and the desire is to have more control over the distribution*

Enforcement Division

Special Considerations Checklist

Interior Layout, Materials & Finishes

- Storage for files, equipment, and supplie
- Separation of main meeting room from lunchroom function

Building Criteria

- 24/7 access (primarily at 505 7th St.)
- Generator during times of emergency (505 7th St.)

Site Criteria

- Short-term parking for a small number of gopher vehicles at facility location
- Easy access to gopher vehicle parking lot (estimated at 250 gopher vehicles)
- Ideas to understand feasibility for an onsite employee parking/swap system with gopher vehicle parking
- Centrally located city facility and close to public transportation for employee commute and easy accessibility to the neighborhood shifts
- Many of the early morning shift employees drive, so easy access to freeway access and parking is desirable
- Proximity/easy access to 1 SVN

Operational/Security Criteria

- For work building: all doors keypadded, camera, customer service window to be bullet proof, not much drop in need, potential bullet proof glass (or similar protection) at some exterior windows, and better control over equipment and supplies.
- For fleet parking: razor wire security and/or higher fence; graffiti and vandalism are potential issu

Future Vision

Consolidation of Facilities

In the future, there is a preference to consolidate 2 facilities (505 7th St. and 571 10th street) with nearby parking (if not onsite parking) for the gopher fleet. The facility at the Cesar Chavez works closely with the DPW, and therefore the intention is to keep them at their current location.

Ways of Working

In regards to ways of working, there is no perceived change in how and when the work gets accomplished now versus the future, and the methods in which the Enforcement Division maintains its day-to-day operations is a good indication on how they plan to continue. However, there was discussion on how to maintain flexibility if and when they need to create spaces for new programs, such as the street sweeping camera pilot, described as a monitoring system attached to the street sweeper machines.

Other Future Considerations

Additional enhancements recommended were to increase the level of security in/out of the facilities, as well as the security for the gopher parking lot. In addition, the workstations and computer equipment for the supervisors were noted to be in need of an enhancement in size and function.

Projected Growth

The growth projection is minimal, with a potential increase in PCO positions, and no change in supervisor positions. There are currently 263 PCO's, and with 375 PCO positions available, it would mean a 30% increase overall. However, 50-52 positions are yet to be funded by the city, so the more accurate prediction is to be more modest at 270-300 PCO's. As stated, the supervisors would stay at 32 positions.

Overall, the projected needs and square footage were calculated for the Enforcement Division, during recent design feasibility projects for a possible move to 651 Brannan. The future usable square feet was projected at 16,000, which includes the dispatch group.

Interviewees:

- Joy L. Houlihan (former Deputy Director/ SFMTA Security & Enforcement Division)
- Debbi Borthne (Assistant Director/ SFMTA Enforcement Division)
- James Lee (Assistant Director/SFMTA Enforcement Division)

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SFMTA Parking Garage Assessment

Background

This study reviews parking garages under the control of the SFMTA in order to understand short and long range opportunities for each garage. There are two goals:

1 *Identify garages that could be candidates for restructuring or improvements that could provide revenue streams.*

2 *Review these facilities with regard to their ability to meet SFMTA objectives: clean air, zero emissions, electric and alternate fuel vehicle support, climate adaptation and sustainability, and other policy and regulatory issues.*

A companion study examines lease terms at the garages and recommends improvements.

Site and Garage Evaluation

Gensler conducted visual surveys and on-site interviews to determine the conditions of 10 parking garages. Further city planning and site context analyses were undertaken to confirm the influencing adjacencies o each garage.

Sustainability

VITAL Environments provided a sustainability questions as part of the site visits, and have generated a series of overall opportunities to increase the facility-wide sustainability of the parking garages. These recommendations generally fall into two categories;

1. **Operations:** in which systems amendments, changes in fixtures and other operational improvements could be made to increase performance from a sustainability standpoint, and,

2. **Systems:** in which broader opportunities such as Photo Voltaic Power Generation installation be used to off-set the cost of power at each site.

Parking Garages

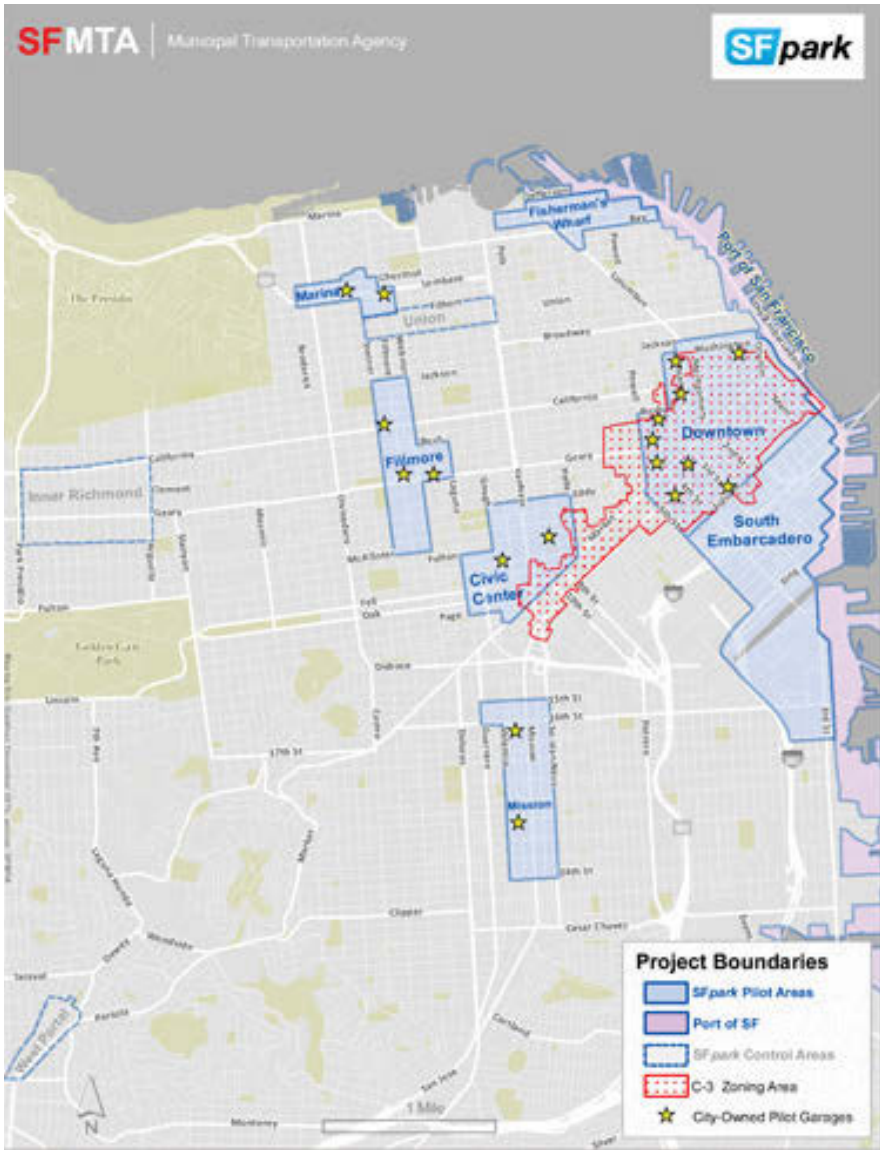
The SFMTA administers 20 Parking Garages that provide 14,456 stalls. Approximately 61% of these stalls (8,879 spaces) are concentrated in 8 garages that support the downtown C3 zone of San Francisco, which is reflected in the SF Park Pilot Area. SFMTA selected 10 garages for specific site visits and evaluation as identified belo

	Address	SF Park Pilot Area	Spaces
	EXTRA LARGE (> 2,000 Spaces)		
Y	Fifth & Mission	Downtown	**2,585**
	LARGE (840 to 2,000 Spaces)		
Y	Sutter & Stockton	Downtown	**1,865**
Y	SF General Hospital		**1,657** *
Y	Golden Gateway / Embarcadero	Downtown	**1,095**
	Union Square	Downtown	985
Y	Ellis & O'Farrell	Downtown	**950**
Y	Japan Center	Fillmore	**920**
	Civic Center	Civic Center	843
	MEDIUM (300 to 840 Spaces)		
Y	Moscone Center	Downtown	**732**
Y	Performing Arts	Civic Center	**598**
	Portsmouth Square	Downtown	504
	St. Mary's Square		414
	Mission / Bartett	Mission / Valencia	350
	SMALL (95 to 300 Spaces)		
Y	Lombard Street	The Marina	**205**
	North Beach		203
	Vallejo	Downtown	163
Y	Polk & Bush		**129**
	7th & Harrison		101
	16th & Hoff	Mission / Valencia	98
	Mission & Otis Street		59
			14,456

* *Note: The 1,637 spaces shown for the SF General Hospital Parking Garage include both surface spaces within the Hospital site, and the 824 stalls constructed in 1995 to address a parking deficit identified in the 1987 Institutional Maste Plan (refer to . 2008 IMP pp. 3-121).*

Parking Garage Visits

The Gensler team visited parking garages during March 2012 to conduct a visual survey of the garages and meet with on-site management to identify any additional opportunities and constraints regarding the garage operations, conditions and context. Each garage is reported on separately in the following visit summaries.



Source: http://www.upa.dot.gov/docs/fhwajpo11042/index.htm

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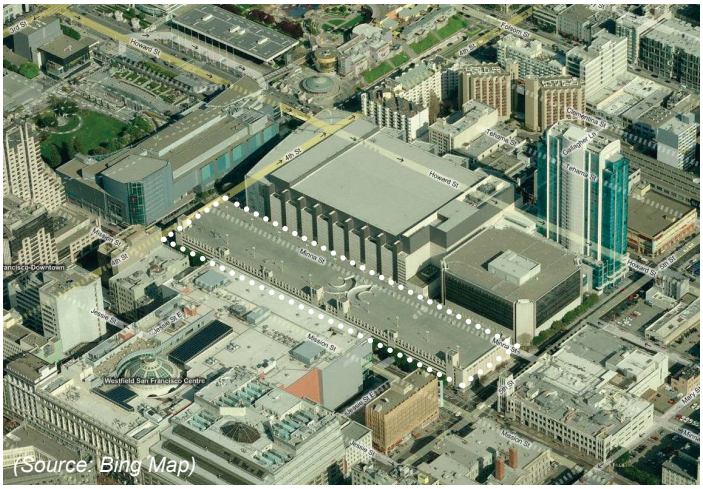
Fifth and Mission Garage



(Source: Bing Map)

Site Zoning

Parcel Number:	3724/067
address:	833 Mission Street
lot area:	120,600 Sf (est. based on the Assessor's Block information)
Zone:	P-PUBLIC
Height & bulk:	160-F; 340-I; 90-X [1]
Far :	N/A

abag "Priority development Area S":
Downtown Neighborhoods and Transit Infill Areas

[1] F- Maximum Plan Length 110'and Diagonal 140' applies to massing above 80'
I- Maximum Plan Length 150'and Diagonal 170' applies to massing above 80'
(Source: San Francisco Planning Department)

Survey data

Parking capacity *

Number of Floors:	8 (B+6 Levels+Roof)
total Parking capacity :	2,585 (992,600 sf)**
Full Size Stalls:	All
compact Stalls:	None
Handicapped Stalls:	36
ev Stalls:	4
ev charge Stations	4
car Share Stalls:	5 (City Car Share) 1 (Getaround)
motorcycle Stalls:	47
bicycle Parking:	Caged

Services *

valet :	No[2]	
retail oPerations:	Yes	
	Area:	24,000 sf
	Uses:	Retail
carwash:	No	

[2] They used to provide valet, but it never worked out due to low use and profit. It has been 10 years since they last provided valet services.

circulation *

entries / exits:

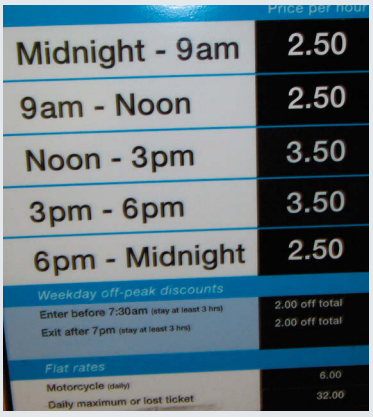
Mission:	3 Entry Lanes, 3 Exit Lanes
Minna:	2 Entry Lanes, 3 Exit Lanes
Fifth:	2 Exit Lanes

Structure *

Floor clearance:	6' 8" (main garage) 7' 2" (Mission Street entry)
mechanized unit s:	No
Stacker s:	No

operation

Monthly
Carpool & Carshare



* *Information provided by on-site parking managers.*
** *http://www.sfmta.com/cms/cmta/documents/12-6-11item14parkinggarageleaseform.pdf*

Systems & Sustainability

exHau St F aNS:	Yes
FaN co Ntrol:	CO Monitoring
Natural ve Ntila tio N:	Yes
l ig Hti Ng:	Metal Halide
lig Hti Ng co Ntrol: [4]	Always On (1-5 Floors)
doe S t He Facility trea t ru No FF?	No
rai Nwater collectio N:	No

ca N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?
Needs further study

r oo F Parki Ng:	Yes
exi Sti Ng SHade Structure S:	No
Need For Hot w ater:	No

ca N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?
Needs further study

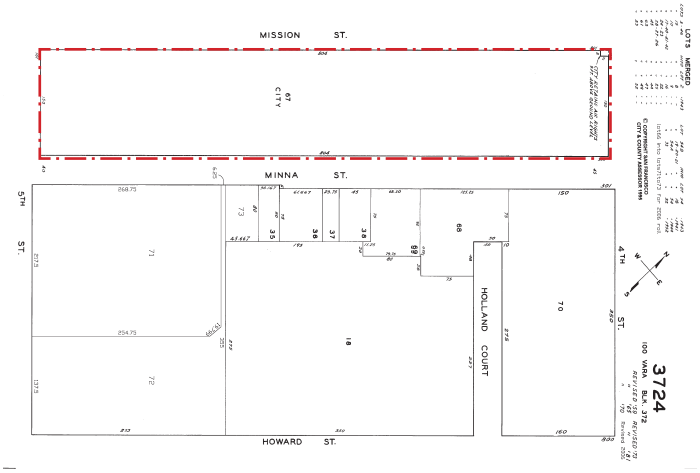
They think it would be a good idea to provide solar technology, and/or even shading on the roof to provide coverage for parked cars.

o wnership

SFmta (Leased to Downtown Parking Corporation)[3]

[3] "a nonprofit corporation whose board is made up of volunteer business leaders from the local community" (Source: http://www.fifthandmission.com/home.htm

a SSeSSor' S block



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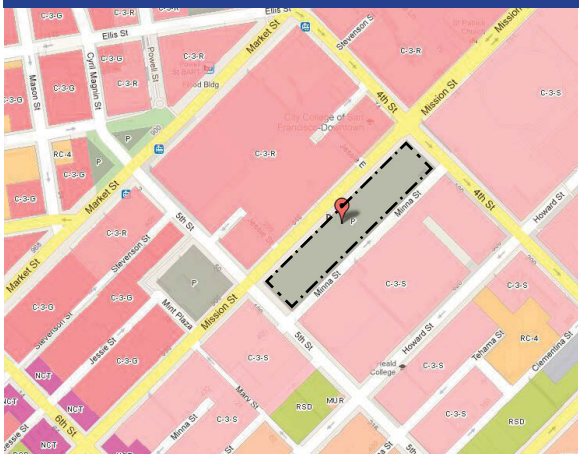
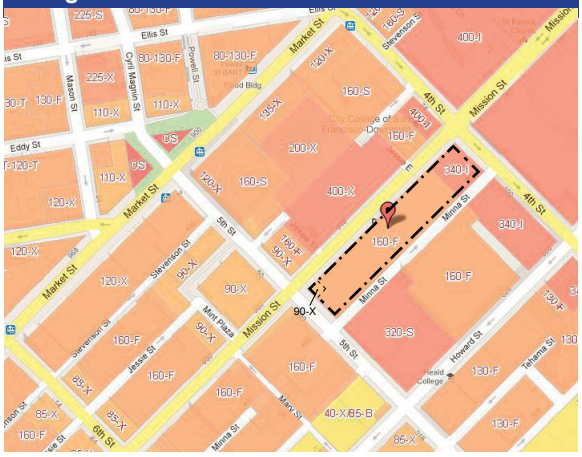


Heig Ht a Nd bulk



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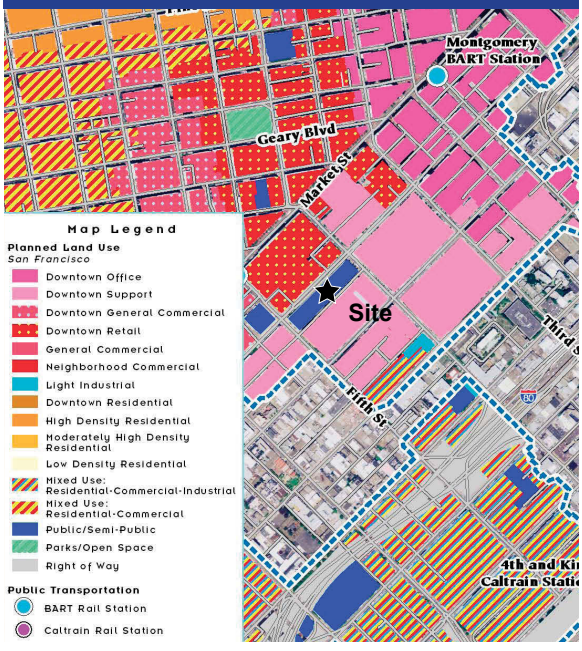


observations

Site context

- The garage is ideally located in proximity to the Powell Street Station and the intersection of many downtown neighborhoods, i.e. Downtown Retail, Financial District, Yerba Buena, Mid-Market, and SOMA. This garage serves the cultural center of SFMOMA and YBC and the retail centers at Metreon and the San Francisco Center (Westfield). As the 5M project is built out and Target moves to Metreon, demand will grow.
- Buildings immediately adjacent to the garage are generally mid- to high-rise.

garage Structure

In 1999, the Department of Parking and Traffic (DPT) proposed potential expansion of the garage to accommodate anticipated growth and demand. The design and engineering effort for the expansion project was undertaken by Patri. Merker. Architects and Degenkolb Engineers. Two additional levels of vertical expansion were studied. Although the design can be achieved “with some innovative but relatively minor strengthening for gravity loading”, “the proposed new addition and the current earthquake code requirements would result in the need for a substantial seismic strengthening effort.”[4] The additional engineering work will also require a special analysis (“non-linear static analysis”) that would “require review of the design by an independent structural engineering (“peer”) reviewer to confirm the viabilit .”[5] The schematic design was stopped due to insufficient fu ds. With full occupancy only a reported 20 days a year, it is unclear that the demand exists.

Source:

[4] Fifth & Mission Garage: Proposed Vertical Expansion -Status of Schematic Structural Design [Degenkolb Job Number A00252.02]

[5] Final Report -Yerba Buena / 5th and Mission Garage: Archiving of Transportation Improvement Plan; Prepared by Charles Gill; Dated June 19, 2004.

- The on-site manager believes that even if the garage can accommodate additional vehicles, the existing street infrastructure may not have enough capacity to handle the additional amount of vehicles during the garage peak hours/season.*

user demographic*

- There are two main users: shoppers and theater go-ers. During conventions, there are also convention parkers. Nearby hotels contribute to average 120-150 customers overnight. The number doubles on weekends.
- The garage also rents out the roof space for photo shoots as an additional revenue source.

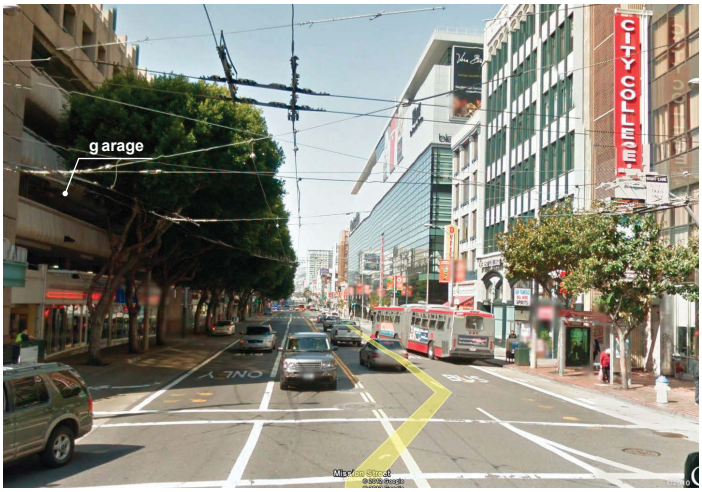
existing utilization*

- Average utilization is cited at 55%. This provides a weekday and non-holiday excess capacity of approximately 1,000 spaces.
- The average stay is around 3 - 3.5 hours. About 20 days a year, they are 100% full.

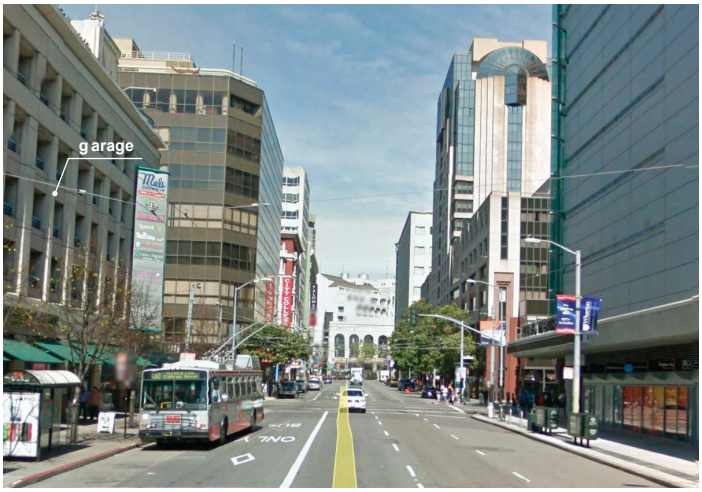
Future vision*

- They are a public-private partnership, and have cited its many benefits. Howeve , the one item they have mentioned is that they have not been able to spend the money on capital improvement projects in the last couple of years.
- There have been improvements on the facility, such as a new transformer, upgrades to the lobby, cashier booths, stairwells, and the addition of stainless steel wheel stops. The garage would like to do the following continual improvement projects:
  - Refurbishing the floo
  - Repairing locations where the rebar needs replacement

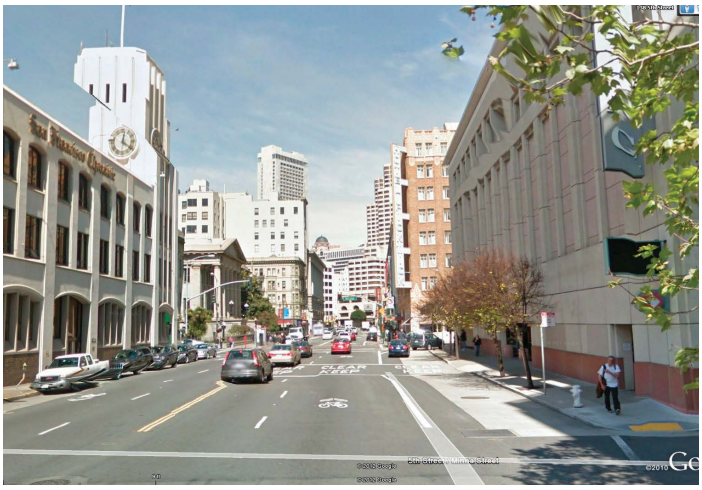
* *Comments provided by on-site parking managers.*



View from Mission Street -looking West



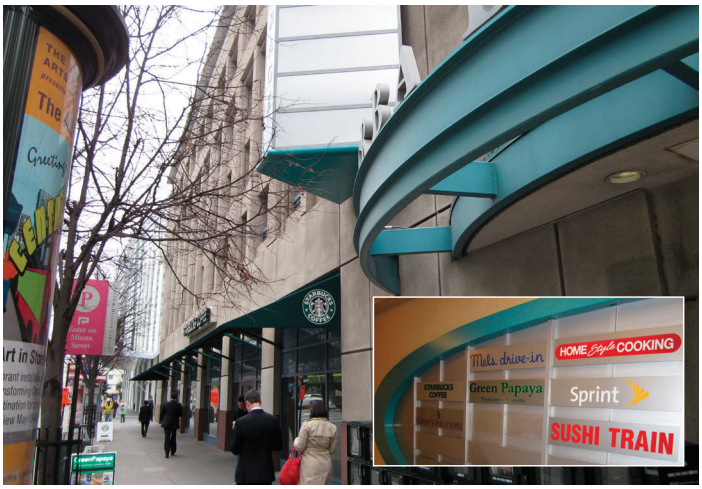
View from 4th Street -looking North



View from Fifth Street -looking North

View from Minna Street

View on the Roof Level



Ground Floor Retail

evaluation

opportunities:

The Fifth & Mission Garage is the largest garage operated by the SFMTA, and has, since its initial construction in 1957, been enlarged twice. Each enlargement included the construction of two additional floors, first in 1961, and second i 1993.

The Fifth & Mission Parking Garage provides a parking reserve for downtown, the Moscone Center, Metreon, and the San Francisco Center operated by Westfield. In addition, as part of planning for jobs in the Cit , the Planning Department is developing planning alternatives for Fourth Street as part of the Central Corridor Study, the Moscone Center has released an RFP for architectural services for the development and enlargement of the Moscone Center, and Forest City / Hearst Corporation have filed an Environmental Evaluation Application (EEA) for the 4-acre Chronicle site across Fifth Street from the garage.

The Fifth & Mission Garage has been included in the study area of the Request for Proposals (RFP) issued by the San Francisco Tourism Improvement District Management Corporation (April 6, 2012) for the Moscone Convention Center Facilities Expansion. A component of this RFP is the development of a 25-year master plan for the Moscone Center campus, including potentially 4 phases of expansion, and significant improvements to the public realm of the district. The master plan is envisioned to present a comprehensive and unifying vision that enhances connections, addresses public domain improvements, and secures the future of the Moscone Center for the next generation. This important planning and design effort will review the potential of the garage to be better integrated into the fabric of the Moscone center campus. As such, a significant opportunity is provided for the garage site, subject to the findings of the Moscon Expansion Master Plan.

constraints:

The Fifth & Mission Parking Garage is anecdotally encumbered by a street infrastructure that is nearing capacity, and additional parking would require alteration in lane capacities to and from the garage.

recommendations:

General Recommendations:

1. Consider changes that increase utilization of under-used parking stalls through a Downtown parking strategy.
2. Consider price and early-bird hour adjustments to increase utilization.

Recommendations for Sustainable Systems:

1. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
2. Consider installation of Photo Voltaic cells on roof to provide energy off-set potential.
3. Installing solar hot water collectors may be useful (and roughly three times as efficient as PV) if PV cannot be installed in an efficient manner onsite

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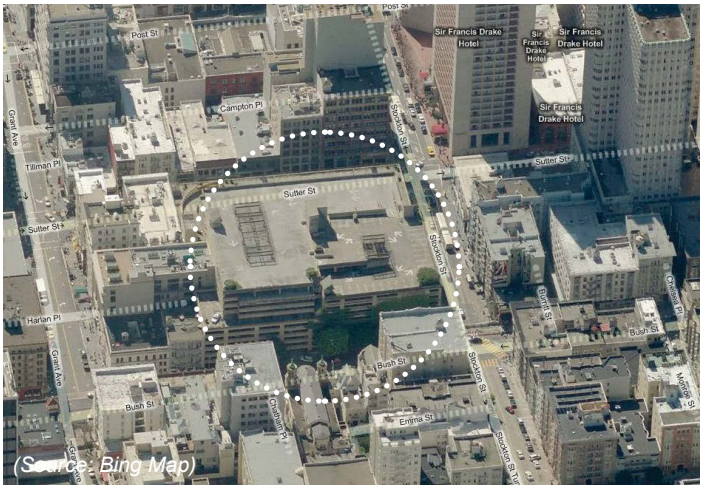
Sutter-Stockton Garage



(Source: Bing Map)

Site Zoning

Parcel Number:	0286/017
address:	444 Stockton Street
lot area:	18,905 Sf
Zone:	P-PUBLIC
Height & bulk:	240-H[1]
Far :	N/A

abag "Priority development Area":
Downtown Neighborhoods and Transit Infill Areas

[1] Maximum Plan Length 170'and Diagonal 200' applies to massing above 100'. (Source: San Francisco Planning Department)

Survey data

Parking capacity *

Number of Floors:	12 (B+10+Roof)
total Parking capacity :	1,865 (745,000 sf)**
Full Size Stall s:	Estimated at 50%
compact Stall s:	Estimated at 50%
Handicapped Stall s:	29
ev Stall s:	12 (in progress)
ev charge Stations	7 (in progress)
car share Stall s:	2 (City Car Share) 4 (Getaround) 6 (Carpool)
motorcycle Stall s:	77
bicycle Parking:	Racks (est. at about 40)

circulation *

entries / exits:	4 Entry Lanes, 6 Exit Lanes Bush: 2 Entries, 4 Exits Stockton: 2 Entries, 2 Exits

Structure *

Floor clearance:	6'5" or 6'6" (needs to be confirmed
mechaNized unit s:	No
Stacker s:	No

Services *

valet :	No[2]
retail oPerations:	Yes Use: Salon, Retail Stores Servicing: Curbside on Sutter St.
carwash:	No[3]

[2] They have a subcontractor that provides valet service for the Hyatt Hotel guests across the street, as well as providing overflo parking from other hotels on an as-need basis.

[3] They used to provide gas and washing stations, but over time, discontinued it due to lack of use.

operation

Early Bird Rate
(In by 7:30 AM,
Out after 7:00 PM)
Monthly
Carpool & Carshare

* *Information provided by on-site parking managers.*
** *http://www.sfmta.com/cms/cmta/documents/12-6-11item14parkinggarageleaseform.pdf*

Systems & Sustainability

exHau St F aNS: Yes
Fa N co Ntrol: CO Monitoring
Natural ve Ntila tio N: Yes
l ig Hti Ng: T8/T5
lig Hti Ng co Ntrol: Manual On/Off (Always on for the Main floors [4]
doe S t He Facility trea t ru No FF? No
rai Nwater collectio N: No

c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)? Needs further study
r oo F Parki Ng: Yes
exi Sti Ng SHade Structure S: Yes (Roof Level)
Need For Hot w ater: No (but can be beneficial

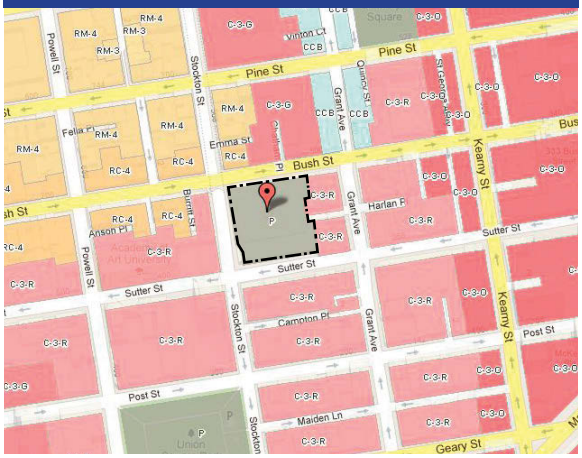
c a N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?
Needs further study

[4] They keep the main floo on for 24 hours, and then they turn on other floor as needed. The perimeter lighting system is connected to photocells.

o wnership

SFmt a (Leasee: Uptown Parking Corporation)

Zo NiNg



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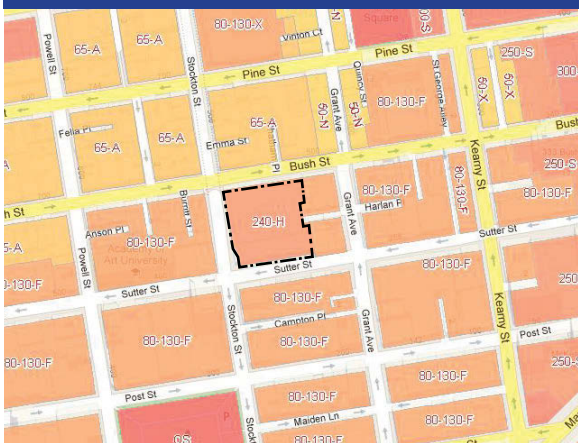

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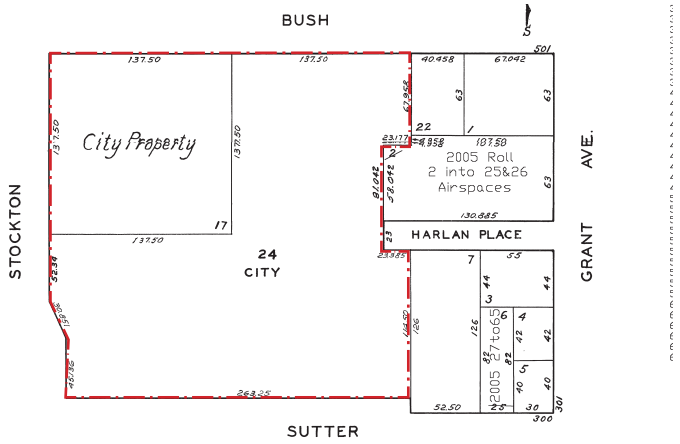

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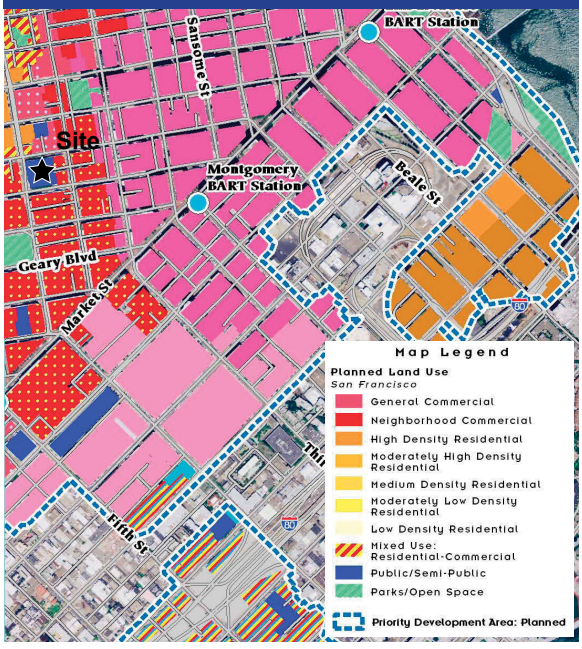


observations

Site context

- The garage is located in close proximity to Union Square retails, one block away from the Chinatown Gate, and at the periphery of the Downtown Financial District.
- There are smaller-scale multi-family residential and religious use buildings to its north above the Stockton Tunnel.
- Height: Surrounding buildings that are immediately adjacent to the garage are similar in height. However, there are 20+ floo hotel and offic towers 1-2 blocks away from the garage.

expansion History

The original structure had 8 levels of parking (include roof parking). Permit for "exceptions to bulk limits to construct a 365 space addition to an existing 1,475 space public parking garage in a P district & 240-H Height & Bulk District" was approved in 1984. 4 floor of parking were added to the existing 8-story portion of the garage. The addition cost about $5.5 million.[5]

user demographic*

- There are three main users: shoppers, neighborhood offic workers, and neighborhood residents. The typical user is the shopper, who usually stays for less than four hours.

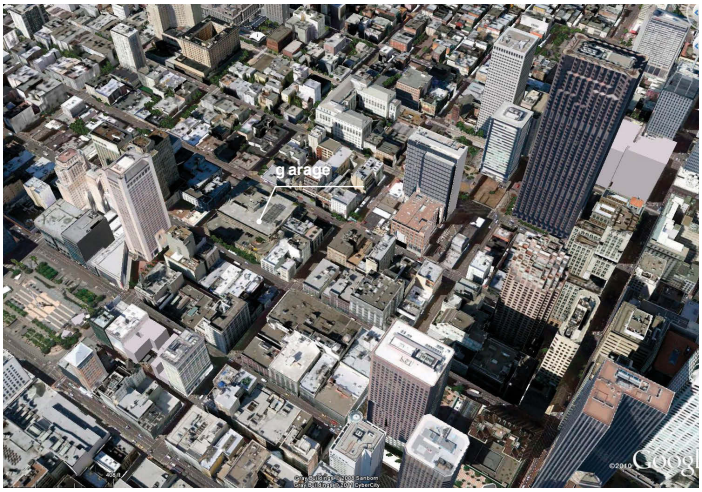
existing utilization*

- As a shopping garage, the main times of the week are Thursday-Saturday. Sunday-Mondays are cited as slower days.
- On average, they are about 58% occupied.
- Holiday months are also cited as peak times, due to the increase in holiday shopping.

View from Sutter Street

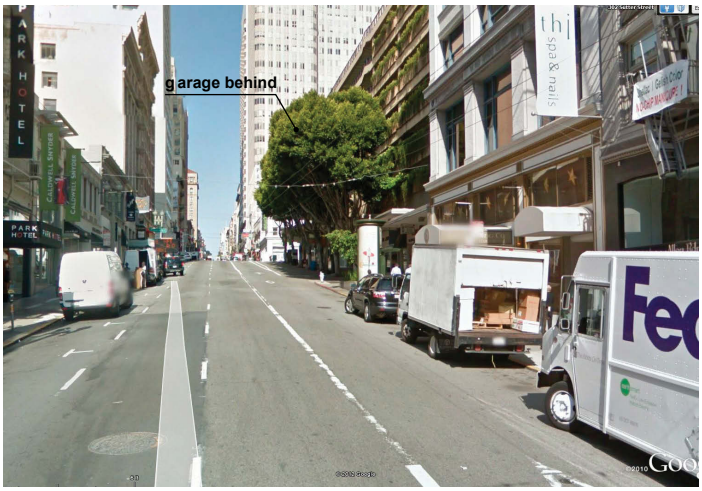
Historic Photo of the Garage before Addition

* *Comments provided by on-site parking managers.*
[5] *Source: San Francisco Property Information Map by SF Planning Department*



Aerial View Showing Adjacent Highrise Towers

View from Stockton Street



View from Sutter Street -looking West (Source: Google)

View from Bush Street -looking West (Source: Google)

View on the Roof Level

View on the Roof Level

evaluation

opportunities:

The Sutter-Stockton Garage provides a valuable parking reserve for Downtown, Union Square Shopping District and Chinatown. The current structure is approximately 120-feet in height, however, is zoned for up to 240-feet as part of the existing zoning for the site. There are several opportunities:

1. Consider extended SF Park controls of on-street parking to prioritize retail, residents and local businesses, and reinforce the use of the garage,
2. Consider a Union Square / Chinatown Parking District to manage supply and occupancy of parking garages,
3. Consider onsite reconfiguratio of parking stalls to achieve higher parking capacity.

constraints:

The Sutter-Stockton Garage is located at a pivotal site between Chinatown, Union Square and Nob Hill. Reduction or interruption of parking supply, particularly during holiday shopping season, would be an issue for retailers in the Union Square Business Improvement District, Nob Hill Residents and Chinatown residents and retailers / business owners. Any significan height increase would require significan view and shadow review.

Discussions with the Union Square Business Improvement District identifie a general drop off in retail throughout Union Square as part of the recent economic recession. The provision of parking is perceived as a valuable asset in attracting retail shoppers.

recommendations:

General Recommendations:

1. Consider changes that increase utilization of under-used parking stalls through a Union Square / Chinatown parking management strategy.
2. Consider greater provision of alternate vehicle technologies that support the tourist experience.
3. Investigate the re-striping of the garage in order to increase the capacity of vehicles.

Recommendations for Sustainable Systems:

1. Rainwater could be stored for reuse, such as irrigation.
2. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
3. Consider installation of Photo Voltaic cells on roof to provide energy off-set potential.

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SF General Hospital Garage

Site Zoning

Parcel Number:	4213/001
address:	2501 23rd Street
lot area:	79,997 Sf
Zone:	P-PUBLIC
Height & bulk:	40-X
Far :	N/A

abag "Priority development Area":
Eastern Neighborhoods -Showplace/Potrero

Survey data

Parking capacity *

Number of Floors:	6 (5 Floors + Roof)
total Parking capacity :	817 (no Motorcycle)
Full Size Stall S:	All
compact Stall S:	None
Handicapped Stall S:	17
ev Stall S:	6
ev charge Stations	3
car share Stall S:	None
motorcycle Stall S:	7
bicycle Parking:	Rack (est. 39 bikes)

circulation *

entrie S / exit S:	3 Entry Lanes, 3 Exit Lanes
24th St.: 2 entries, 2 exits	(1 for monthly and 1 for transient customer, open from 6 AM to 7 PM)
25th St.: 1 entry, 1 exit	(open from 6 PM onwards)

Structure *

Floor clearance:	8'3" (needs to be confirmed
mechanized unit S:	No
Stacker S:	No

Services *

valet :	Yes (on 6th Floor)[1]
retail operations:	No
car wash:	No[2]

[1] Valet is offered from 8:30 AM -6:00 PM as a complimentary service to increase capacity of the garage. They double park the roof and the 1st floo . There are roughly 24 additional spots in the garage when the valet spaces are full.

[2] They don't have the drainage system capacity to offer car wash detailing.

operation

Carpool/Carshare
Campus Permit (monthly)
Overnight

* *Information provided by on-site parking managers.*

Systems & Sustainability

exHau St F aNS:	Yes (23rd St. booth only) No (rest of the garage)
Fa N co Ntrol:	Manual On/Off
Natural ve Ntila tio N:	Yes
I ig Hti Ng:	T8 / T5
	(needs to be confirmed
lig Hti Ng co Ntrol:	Manual on/off
doe S t He Facility trea t ru No FF?	No
rai Nwater collectio N:	No

c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?
Needs further study

r oo F Parki Ng:	Yes
exi Sti Ng SHade Structure S:	No
Need For Hot w ater:	No (Bathroom only)

c a N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?
Needs further study

o wnership

SFmt a

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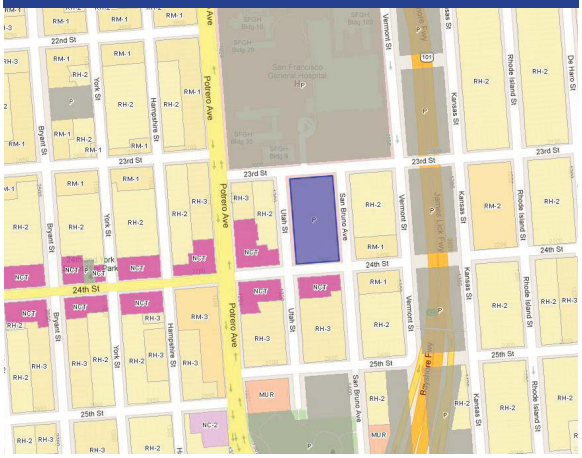

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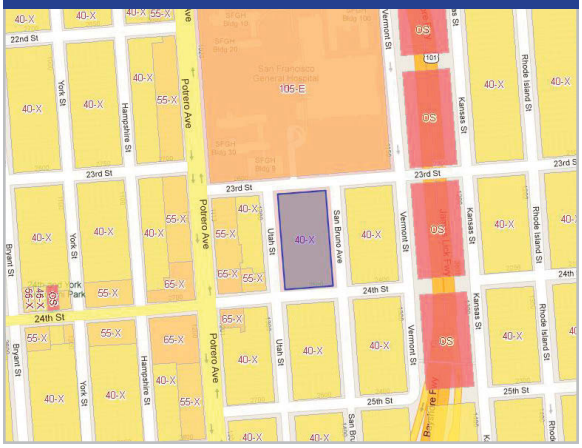

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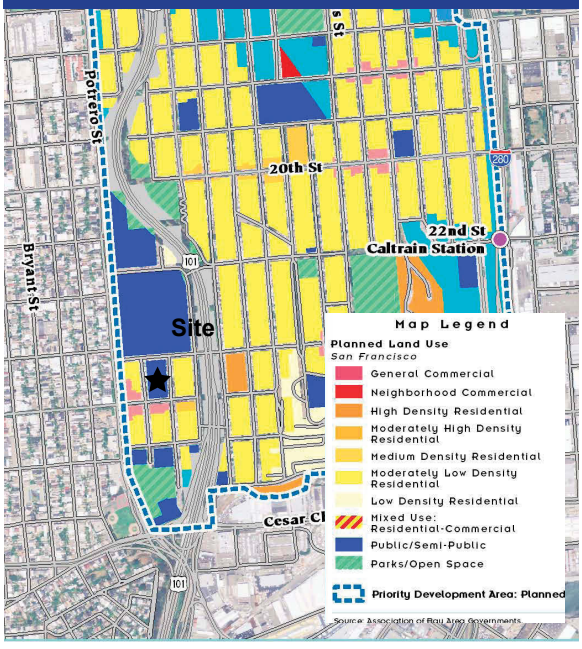

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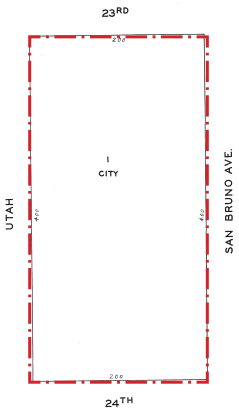


observations

Site context

- The garage is located at the southern edge of the campus. Surrounding uses are mostly 2-3 floors of single multi-family residential and small local commercial/retail stores.
- It's at the eastern end of the 24th Street -Mission Neighborhood Commercial Transit District.
- On-site manager stated that there had been a concern on the garage height and size from the neighborhood groups. Current garage dimension and height is a result of a negotiation effort with the community, which had supported the construction of the garage.

user demographic*

- There are two main users: employees (who typically have monthly passes) and patients/transient users. Neighborhood residents are cited as a small percentage of the overall user population.

existing utilization*

- SF General Hospital offers 3 types of parking: garage, surface lot, and campus on street parking.
- Additional parking spaces on campus are much needed as the demand for employee monthly parking pass is high. There are usually a few months of waiting period for new monthly parking passes.
- The garage is parked at 100% + capacity every weekday. There are two peak times, which occur at the beginning and end of the day. Most of the cars come in by 9:30 AM, and exit around 3:30-5:30 PM.
- During after hours and weekends, the utilization rate drops dramatically. Overnight (6 PM - 8 AM) utilization rates are documented at 3-4%, while weekends are at 12-13%.
- The high surge times cause problems with exiting, due to the requirement to pay at the exit booth, and the traffic flow into the surrounding streets. LAZ Parking, the management compa , is working on solutions to make the payment system more efficient, either through new machines or a prepay system. The traffic issue is more difficult to resolve, as they are currently unable to open up the 25th Street exit, due to the fact that the exit is across the street with the emergency entrance for the hospital. Solutions have been offered, such as providing a right-turn only lane, or working with the city to time the traffic lights, but it requires negotiation and approval with other stakeholders, namely the hospital.
- Expansion of the garage capacity would be extremely difficult with the current street infrastructure. Traffic light should be synchronized and street widened to accommodate the amount of cars coming in/out of garage during peak hours.

Safety and Security*

- Since the parking management transition in February 2012, there have been no major incidents on site; however, the neighborhood has been known to have incidents.
- There were some cases of vandalism and graffiti
- They utilize a service for one security guard to take shifts. While they have security cameras, they are not currently using them due to the fact that the equipment is outdated.

Future vision*

The on-site garage managers would like to improve many aspects of the garage experience, from the facility, the function, to the services provided.

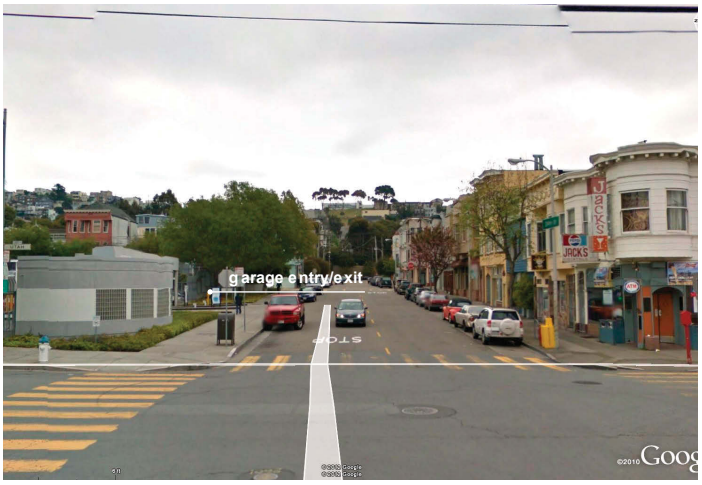
- Provide a valet booth
- Updating the existing booths
- Create a better alternative to the exiting issues (i.e. prepay, update the credit card machines, allow exiting from 25th Street)
- Sustainable gardening for the surrounding landscape
- Launch an online payment system

* *Comments provided by on-site parking managers.*

24th Street Entry/Exit (Source: Google)

View to 24th Street -Mission Neighborhood Commercial Transit District. (Source: Google)

23rd Street



View from 24th Street -looking East. (Source: Google)

San Francisco General Hospital Garage					
Floor	Regular spot	Handicap	Motorcycle	EV	Total
1st Floor	133	17			150
2nd Floor	142				142
3rd Floor	110		7	6	123
4th Floor	127				127
5th Floor	132				132
6th Floor	150				150
Total	794	17	7	6	824

Garage Capacity Break Down -provided by on-site managers

View on the Roof Level

evaluation

opportunities:

Owing to high peak period demands from both staff and visitors, the parking garage is at capacity.
Opportunities exist to;

- Reduce neighborhood congestion on adjacent streets by increasing parking supply,
- Ease access to the garage through developing better wayfinding and implementing payment improvements,
- Increase employee parking on site through higher density parking (valet / stackers / other), and,
- Facilitate alternate modes of transport to and from San Francisco General Hospital and Trauma Center (SFGH&TC).
- The garage site currently fully occupies its allowable build volume; however, some increase in parking may be achieved by expanding the garage to the south.

constraints:

The relationship between SFGH&TC and its neighborhood remains a concern, and adequate provision of parking enhances neighborhood relationships.

recommendations:

General Recommendations:

1. Consider development of a Transportation Demand Management (TDM) Program during the next update of the Institutional Master Plan.
2. Review opportunities to expand the capacity of the garage in response to use changes at SFGH&TC through changes, re-striping of parking stalls, or expansion as part of a TDM program.

Recommendations for Sustainable Systems:

1. Rainwater could be stored for reuse -such as irrigation.
2. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
3. Consider installation of Photo Voltaic cells on roof to provide energy off-set potential.

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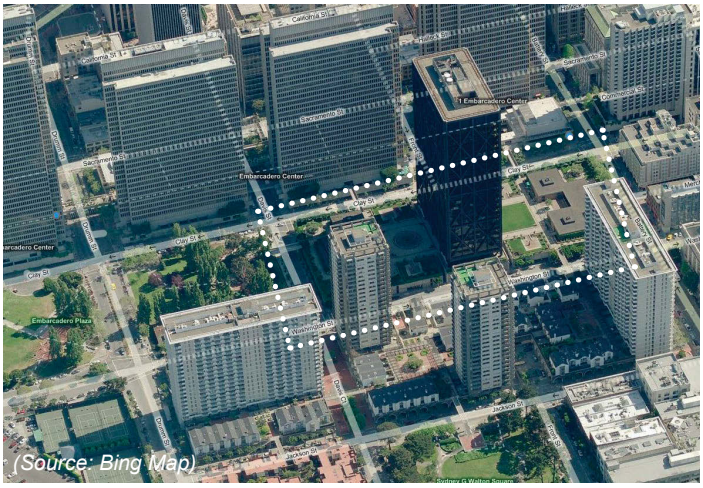
Golden Gateway Garage



(Source: Bing Map)

Site Zoning

Parcel Number:	0204/023
address:	250 Clay Street
lot area:	146,760 Sf (est. based on the Assessor's Block information)
Zone:	C-3-O - DOWNTOWN- OFFICE
Height & bulk:	300-S and 200-S
Far :	9.0 : 1

abag "Priority development Area S":
Downtown Neighborhoods and Transit Infill Areas (Zoning: Open Space)

Survey data

Parking capacity *

Number of Floors:	3 (B+2 Levels)
total Parking capacity :	1,096 Self Parking (about 1350-1450 including Government Restricted Use)
Full Size Stall S:	Don't Know
compact Stall S:	Don't Know
Handicapped Stall S:	20
ev Stall S:	2
ev charge Stations	2
car share Stall S:	2 (City Car Share)
motorcycle Stall S:	Yes
bicycle Parking:	Caged

circulation *

entrie s / exit s:

Public:	4 Entry Lanes, 4 Exit Lanes
Gov't Use:	1 Entry Lane, 1 Exit Lane

Structure *

Floor clearance:	6'6"
mechanized unit s:	No
Stacker S:	No

Services *

valet :	Yes
retail operations:	No[1]
carwash:	No[2]

[1] There is small amount of retail (such as, a salon and cafe) inside the Maritime Building.

[2] They used to provide the service and are intending to do it again due to high customer demand.

operation

Hours of operation

Early Bird Rate
Monthly
Carpool & Carshare
Private Governmental Use
Park & Ride (Chinatown)

* *Information provided by on-site parking managers.*

Systems & Sustainability

exHau St F aNS:	Yes (8 total)
Fa N co Ntrol:	Manual
Natural ve Ntila tio N:	Approx. 20%
I ig Hti Ng:	Metal Halide @ Entry Will upgrade to T8
lig Hti Ng co Ntrol: [4]	Always On
doe S t He Facility trea t ru No FF?	No
rai Nwater collectio N:	No

c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?

There is open space/planting on the roof level

r oo F Parki Ng:	No
exi Sti Ng SHade Structure S:	Yes
Need For Hot w ater:	No

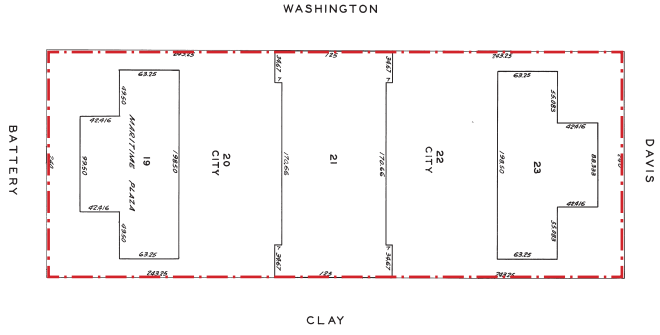
c a N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?

Needs further study

o wnership

SFmt a

a SSe SSor' S block



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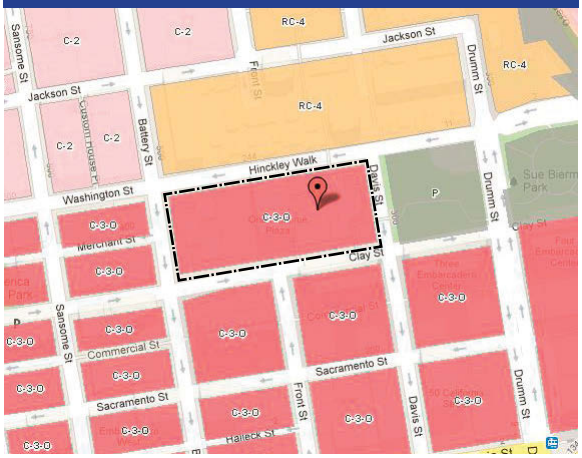

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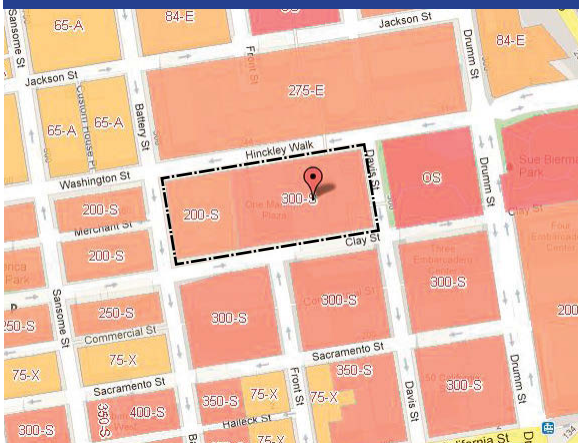

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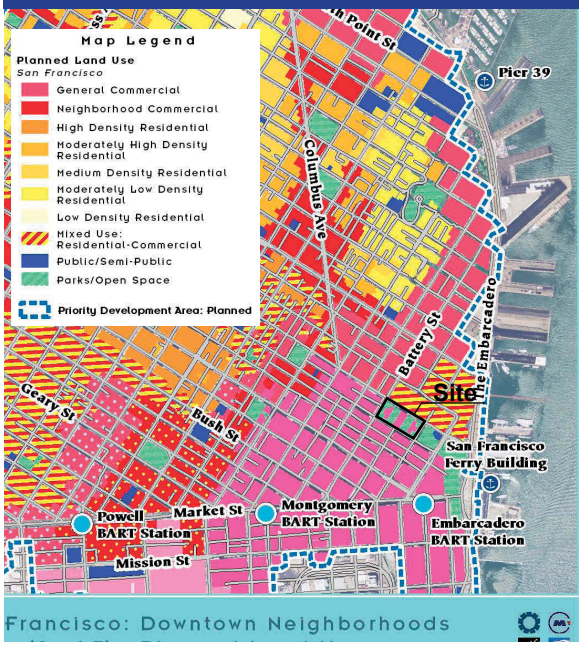
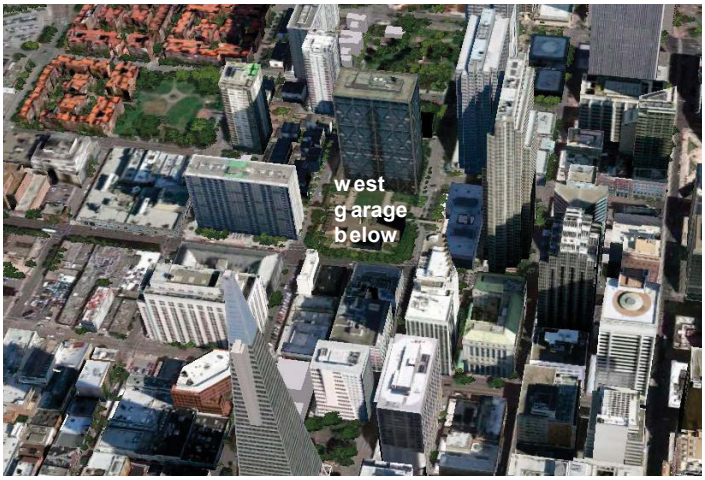


observations

Site context

- The garage is located in the C-3-O district. “This district, playing a leading national role in finance, corporate headquarters and service industries, and serving as an employment center for the region, consists primarily of high-quality office development. The intensity of building development is the greatest in the City, resulting in a notable skyline symbolizing the area’s strength and vitality.”[3]
- The garage is surrounded by high rise buildings. The plaza above the east garage allows some breathing rooms and sunlight for the Embarcadero offices and residential towers to the north. The buildings surrounding the west garage are in general lower and smaller in scale.
- There is no street facing retail for the entire block of the garage. There are 3 small retail stores (i.e. salon and cafe) inside the Maritime Building, not visible from the lobby.
- At the pedestrian level, the garage is a 600’ long concrete wall.



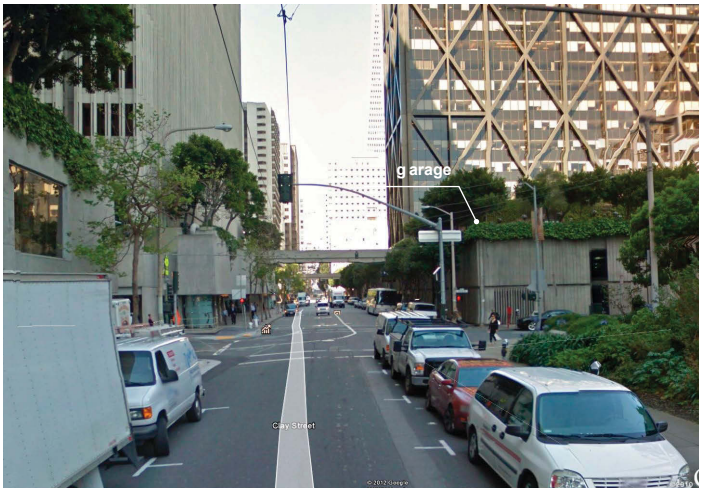
user demographic*

- There are three main users: neighborhood office workers, government employees, and some shoppers. The typical user is the office worke , who usually stays for the entire business hours.

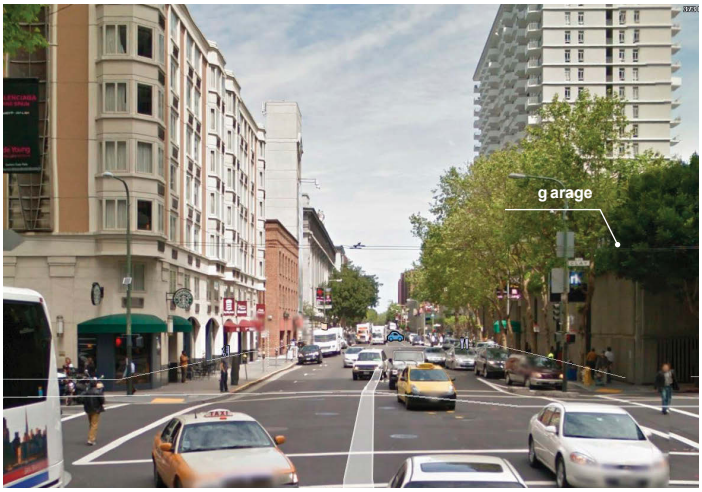
existing utilization*

- On Monday-Friday (normal business hours), the garage is 100% + occupied due to the office workers in the area. Peak hours for entering and exiting are 8-9 AM and 4-7 PM.
- Government employees use the private entry on Battery Street.
- During Saturday and Sundays, the garage provides *Park and Ride* service for Chinatown visitors. The garage is also fully used during special events, such as North Beach Festival and Chinese New Year.
- The Embarcadero Center provides parking for the shoppers; however, their daily rate is higher than the daily rate at the Golden Gateway Garage.

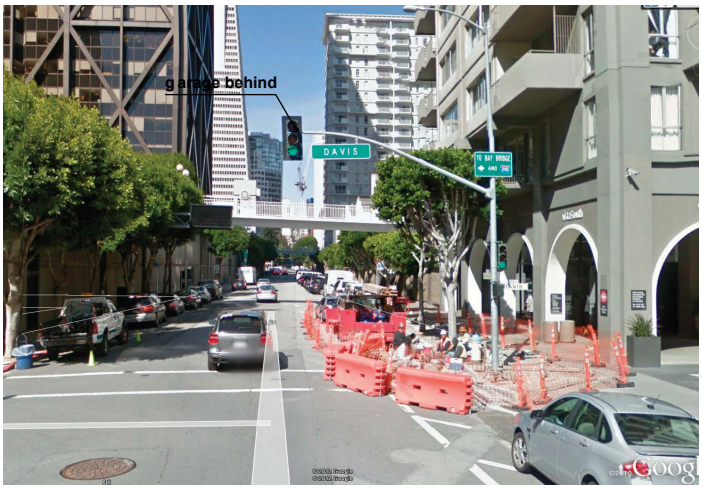
* *Comments provided by on-site parking managers.*
[3]*Source: San Francisco Planning Department*



View from Clay Street -looking West (Source: Google)

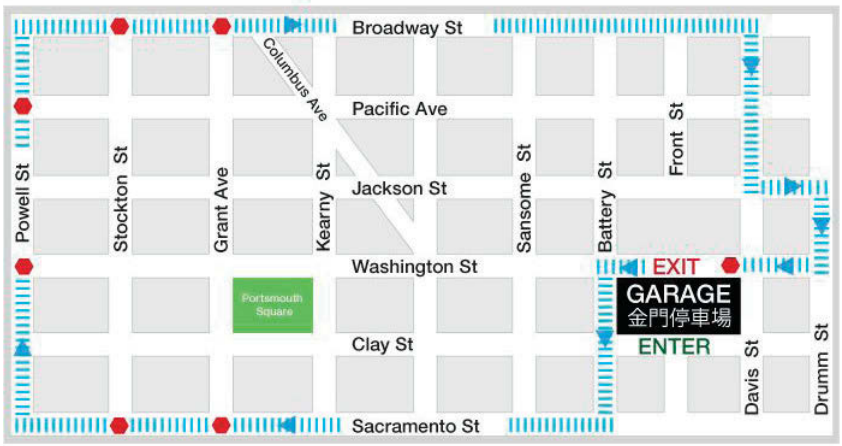


View from Battery Street -looking North (Source: Google)



View from Washington Street -looking West (Source: Google)

View on the Roof Level -Roof Plaza



Garage opens at 7am on Saturdays, 9am on Sundays. Shuttle service 9am -10pm on weekends

$3 validated rate
(minimum $3 purchase)

Free Chinatown Shuttle Shuttle Map

Shuttle Runs
Saturday, Sunday
Every 15 min from 9am-5pm
Every 20 min until 8pm
Every 30 min until 10pm

Shuttle Stops
Golden Gateway Garage
Sacramento/Grant
Sacramento/Stockton
Powell/Washington
Powell/Pacific
Broadway/Stockton
Broadway/Grant

Sponsored by

- Chinatown Community Development Center
- Chinatown TRIP
- Chinese Chamber of Commerce
- SFMTA
- Five Star Parking

Chinatown Park and Ride (Free Shuttle Service)
(Source: http://www.chinatownparkandride.com/)

evaluation

opportunities:

The Golden Gateway Parking Garage provides a parking reserve for downtown and the Embarcadero Center. The garage is heavily used during business hours, and has developed a supporting role on weekends for Chinatown by providing close access to The Embarcadero and a shuttle between the garage and Chinatown. The parking occupies the base of One Maritime Plaza, a commercial office building that has maintained high occupancy levels during the recent economic recession.

The entire development, while architecturally significant, is typical of its time in producing a long and uninterrupted street wall that has limited penetrations and few opportunities for street fronting retail and others uses that would add activity to the surrounding streets. A modest opportunity exists to potentially replace perimeter street level parking with limited retail and other commercial spaces to support a more vibrant ground plane.

Additionally, the upper level rooftop plaza over the parking structure forms a ground plane to the commercial tower above. Access to this plaza is limited, and there exists the opportunity to increase pedestrian access to the available open space and views.

constraints:

The Golden Gateway Parking Garage is highly utilized during business hours, largely by tenants of the commercial tower above. This occupancy is a significant driver to leases in the towe , and any work to add street level retail would need to be done without losing stalls, and at a minimum of disturbance to the existing tenant base.

recommendations:

General Recommendations:

1. Consider changes that increase utilization of under-used parking stalls through a Downtown parking strategy.
2. Consider extension of partnership with the Chinatown BID to expand the hours of high utilization.
3. Consider a phased replacement of street facades with additional retail / commercial spaces that add to the activity that surrounds the site.
4. Investigate the re-striping of the garage in order to increase the capacity of vehicles.

Recommendations for Sustainable Systems:

1. Rainwater could be stored for reuse -such as irrigation for the landscape area on the roof.
2. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
3. Installing solar hot water collectors may be useful (and roughly three times as efficient as PV) if PV cannot be installed in an efficient manner onsite
4. Consider substituting current lighting with linear florescences (T8/T5)

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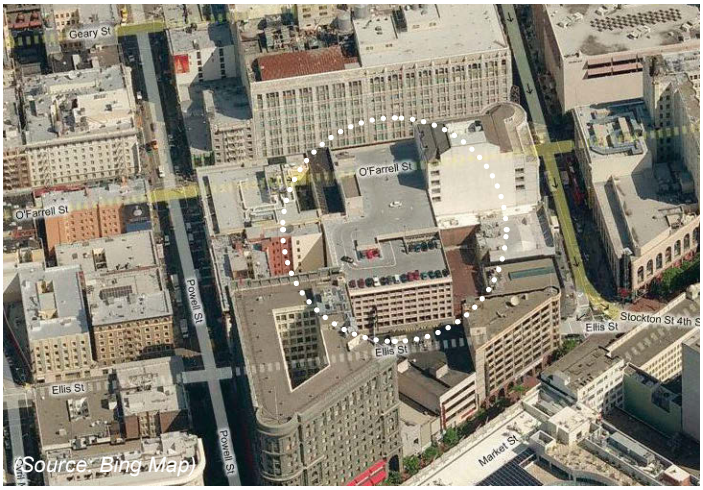
Ellis - O'Farrell Garage



Site Zoning

Parcel Number:	0327/021
address:	123 O'Farrell Street
lot area:	33,684 Sf
Zone:	P-PUBLIC
Height & bulk:	80-130-F[1]
Far :	N/A

abag "Priority development Area":
Downtown Neighborhoods and Transit Infill Areas

[1] "The purpose of allowing additional height above 80 feet only as an exception is to ensure that height above 80 feet will not adversely affect the scale of the affected area or block sunlight access to public sidewalks and parks." Maximum Plan Length 110'and Diagonal 140' applies to massing above 80'. (Source: San Francisco Planning Department)

Survey data

Parking capacity *

Number of Floors:	10 (2B+ 7 Floors + Roof)
total Parking capacity :	950 (314,549 sf)**
Full Size Stall S:	All
compact Stall S:	None
Handicapped Stall S:	30 (Minimum)
ev Stall S:	4
ev charge Stations	2
car Share Stall S:	1 (City Car Share)
motorcycle Stall S:	27
bicycle Parking:	Racks (B & G Level)

Services *

valet :	Yes (2D & 3D; Total 710 cars)[2]
retail operations:	Yes (3 spaces) Area: approx. 10,800 sf Use: Retail Servicing: Street Parking
car wash:	No[3]

[2] They have to provide valet to maximize parking stalls, due to the layout of the garage. There are 2 valets per floo . On Saturdays, they have 2 additional valets onsite as floaters or additional help

[3] They have provided it in the past, but discontinued it due to the chemicals that were used that made walking a hazard.

circulation *

entries / exits:	3 Entries, 4 Exits Evenly distributed between Ellis and O'Farrell Streets

operation

Early Bird Rate
(In by 7:30 AM,
Out after 7:00 PM)
Monthly
Large Group Rates

Structure *

Floor clearance:	6'9"
mechanized units:	No
Stacker S:	No

* *Information provided by on-site parking managers.*
** *http://www.sfmta.com/cms/cmta/documents/12-6-11item14parkinggarageleaseform.pdf*

Systems & Sustainability

exHau St F aNS: Yes
Fa N co Ntrol: CO Monitoring
Natural ve Ntila tio N: Yes
l ig Hti Ng: T8/T5
lig Hti Ng co Ntrol: Manual On/Off
doe S t He Facility trea t ru No FF? No
rai Nwater collectio N: No

c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?
Needs further study

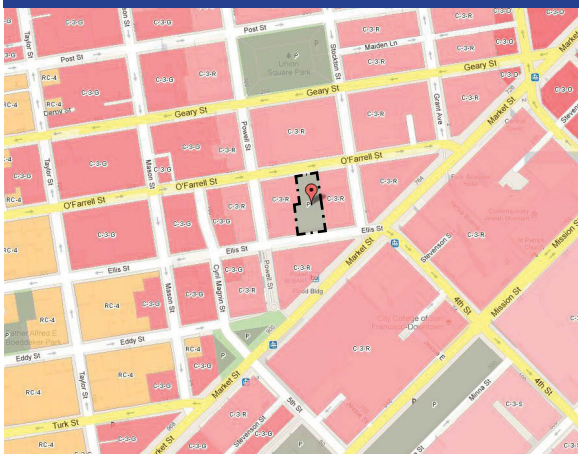
r oo F Parki Ng: Yes
exi Sti Ng SHade Structure S: No
Need For Hot w ater: No (Bathroom only)

c a N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?
Needs further study

o wnership

SFmt a

Zo NiNg



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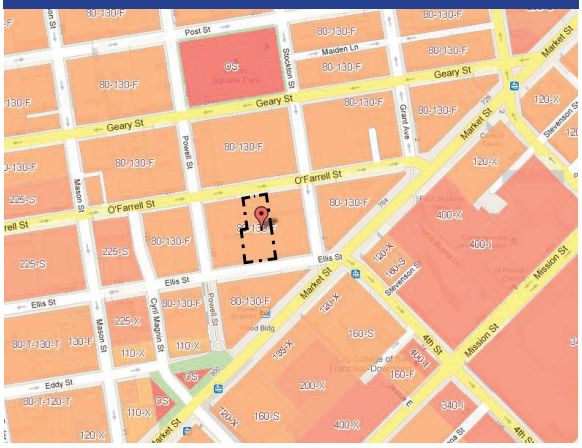

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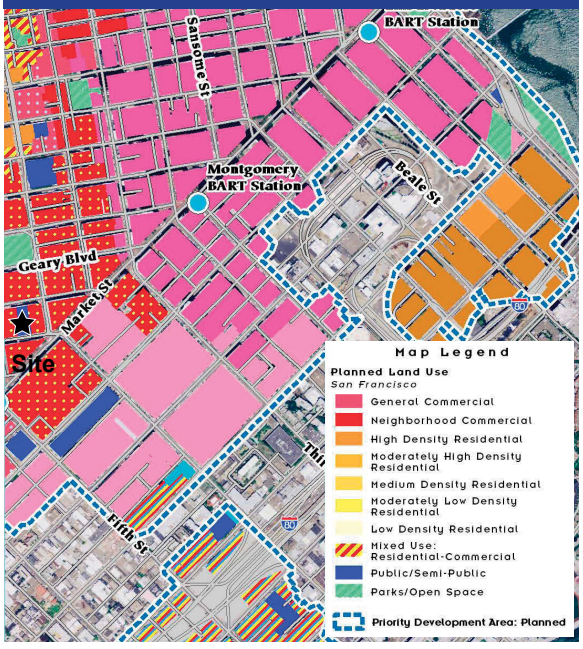
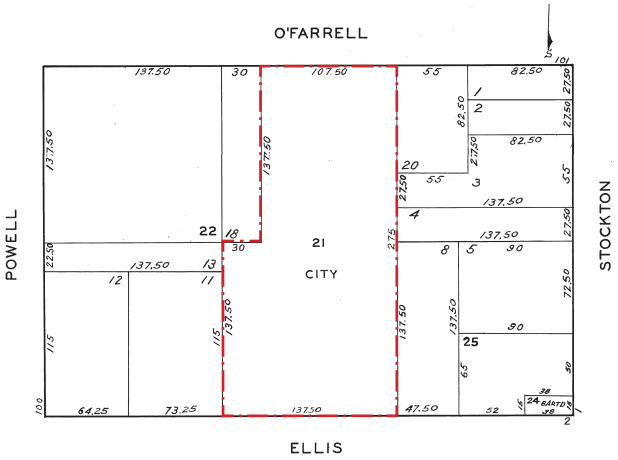


a SSe SSor' S block



observations

Site context

- Visibility: The garage sits in the busy Union Square shopping district. It is located right across from an anchor department store -Macy's.
- Height: The structure is at similar height as the surrounding mid-scale office and retail buildings.
- Infrastructure: Both O'Farrell and Ellis Streets are narrow and one-way streets.

expansion History

- The garage originally had 5 levels of parking (include roof parking) above ground. In 1991, 2&1/2 floors were added to existing parking garage, expanding the garage capacity from 760 to 1,090 spaces. The construction and interior improvement cost 6 million dollars.[4]

user demographic*

- Shoppers are the primary users as well as neighborhood office workers (who are typically monthly parkers)

existing utilization*

- As a shopping garage, the weekends and Thursday-Friday are busy times of the week. On average, the garage is 50% utilized.
- During the weekends, the users spend 3-4 hours parking, while during the weekdays, the users spend less time (1-2 hours) parking.
- During holiday times, they are mostly at 100% utilization.
- The utilization rate is much lower right now due to the fact that there is construction occurring on the nearby streets. The construction is expected to go on for the next 4 years.
- Employees onsite cite that nearby parking garages offer an all-day rate of $11, and believe that they lose market share to deals such as those.

Future vision*

- Employees onsite mention that they have not been able to spend the money on capital improvement projects in the last couple of years. All these items are on the garage's 'wish list' – there is no indication that they are able to provide these upgrades at this moment.
  - Replacement of all the elevators, with specific emphasis on the shuttle elevator to the basemen
  - Fix the spalling on the ramps and the drainage system
  - Upgrade the lobby floor tile, parking equipment, camera system, server
  - Renovate the public restrooms and one of the employee restrooms
  - Get rid of waterproofing membran
  - Go solar
  - Provide earthquake-proof storage racks
  - Convert rooms to use as a maintenance room

* *Comments provided by on-site parking managers.*
[4] *Source: San Francisco Property Information Map by SF Planning Department*

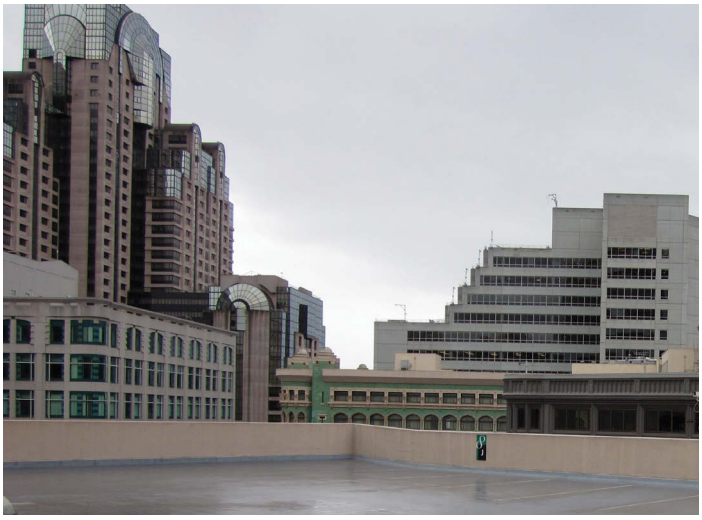
View from O'Farrell Street

View from Ellis Street (Source: Google)

Clear Separation of Vehicular and Pedestrian Entries

Garage Interior

Garage Interior



View on the Roof Level

evaluation

opportunities:

The Ellis-O'Farrell Parking Garage provides a parking reserve for downtown, yet is under-utilized at present. The operator contends this is due to the construction activities of the Central Subway project, and suggests the garage was highly successful owing to its location prior to construction activities beginning.

The structure is designed to facilitate easy increase in valet parking opportunities, and upon completion of construction activities, is anticipated to regain former utilization levels, which, according to on-site management were higher than currently achieved.

constraints:

The Ellis-O'Farrell Parking Garage is encumbered by restricted vehicular access during peak traffic periods. The ongoing construction of the central subway will potentially preclude full utilization of the garage for the duration of construction. The length of time required to recover prior utilization rates undetermined.

recommendations:

General Recommendations:

1. Consider changes that increase utilization of under-used parking stalls through a Downtown parking strategy.
2. Reduce parking cost to increase competitiveness.
3. Consider greater provision of alternate vehicle technologies that support the tourist and convention experience, potentially in association with area hotels.
4. Consider price and early-bird hour adjustments to increase utilization.

Recommendations for Sustainable Systems:

1. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
2. Consider installation of Photo Voltaic cells on roof to provide energy off-set potential.
3. Installing solar hot water collectors may be useful (and roughly three times as efficient as PV) if PV cannot be installed in an efficient manner onsite due to the building s electrical infrastructure.

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Japan Center Garage


(Source: Bing Map)

Site Zoning

Parcel Number:	0700/035; 0701/partial 001-007 (Subsurface Rights)
address:	1610 Geary Blvd.
lot area:	**east** approx. 130,000 Sf **west** approx. 63,000 Sf
zone:	NC-3 (Neighborhood Commercial, Moderate Scale)
height & bulk:	50-X
far :	3.6 : 1
special use district :	Japantown
abag "priority development area":	*Downtown Neighborhoods and Transit Infill Areas (Zoning: Neighborhood Commercial)*

Survey data

Parking capacity *

number of floors:	2 (East) 1 (West)
total parking capacity :	745 (East) 175 (West) (Total 352,100 sf) **
full size stall:	None
compact stall:	All
handicapped stall:	approx. 14
ev stall:	2
ev charge stations	2
car share stall:	1 (City Car Share)
motorcycle stall:	Yes
bicycle parking:	20 Secured & 28 Rack **

Services *

valet :	No
retail operations:	Yes Use: Restaurant & Retail Servicing: 2 Loading dock entries on Geary Blvd. and 1 on Webster St. for Hotel, Retail, and Commercial use
car wash:	No Car wash is offered outside of the garage

circulation *

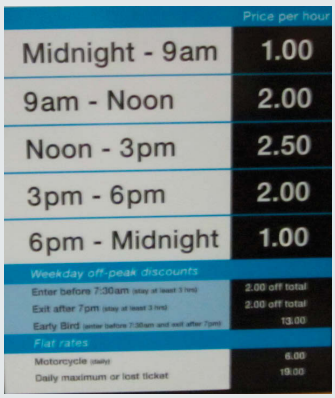
entries / exits:	4 Entry Lanes, 5 Exit Lanes Geary Blvd: 2 entries, 3 exits Fillmore St: 1 entry, 1 exit Post St: 1 entry, 1 exit

Structure *

floor clearance:	6'6" - 6'8" (needs to be confirmed
mechanized units:	No
stacker:	No

operation

Early Bird Rate
(Enter before 7:30 AM, Exit after 7:00 PM)
Monthly
Carpool/Carshare
Shuttle to CPMC
(monthly shuttle)



* *Information provided by on-site parking managers.*
** *http://www.sfmta.com/cms/cmta/documents/12-6-11item14parkinggarageleaseform.pdf*

Systems & Sustainability

exHau St F aNS:	Yes
Fa N co Ntrol:	CO Monitoring
Natural ve Ntila tio N:	Not much
l ig Hti Ng:	T8/T5
lig Hti Ng co Ntrol:	Always On
doe S t He Facility trea t ru No FF?	No
rai Nwater collectio N:	No

c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?

There is open space/planting on the roof level.

r oo F Parki Ng:	No
exi Sti Ng SHade Structure S:	No
Need For Hot w ater:	No (Bathroom only)

o wnership

Joi Nt develo PmeNt

SFMTA has jurisdiction up to the ceiling of the upper floor garage.

Owners of the development above the garage include:[1]

- Kinokuniya: Kinokuniya Building ("a two-level shopping/ dining mall, and the shop-lined Webster Street Bridge connecting the Kinokuniya Building with the Kintetsu Mall")
- Kinokuniya Book Stores of America
- American Multi-Cinema, Inc. (AMC)
- Union Bank of California

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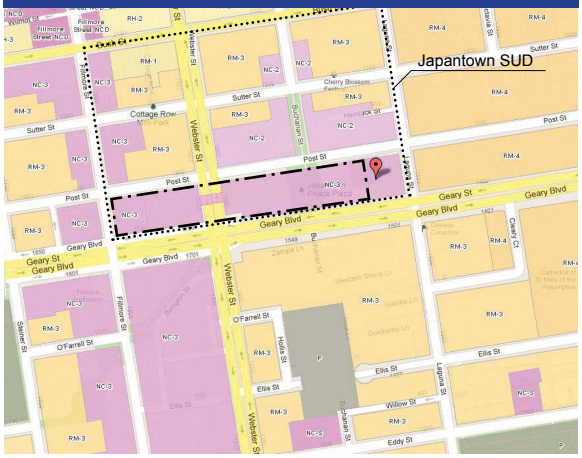

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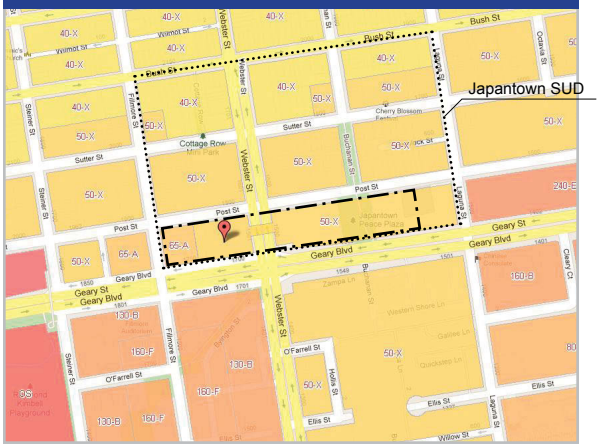
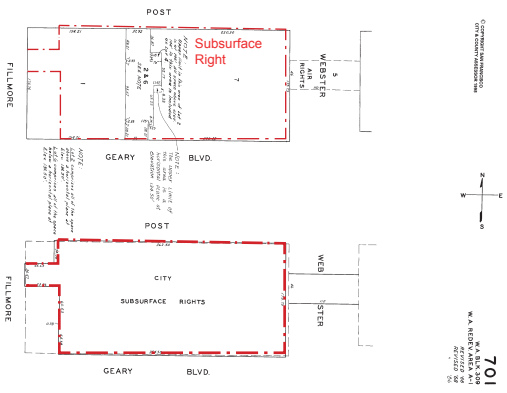
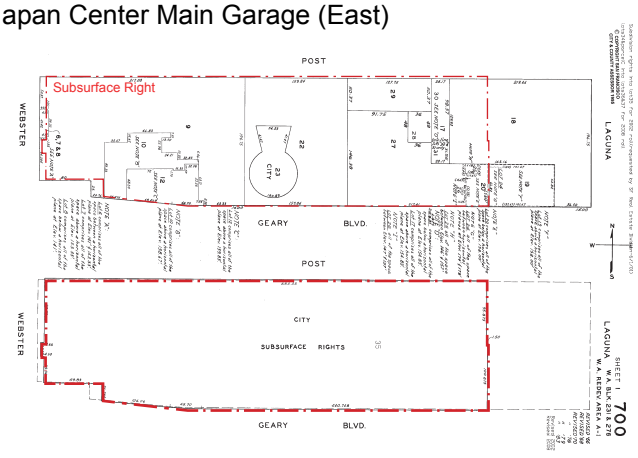


a SSe SSor' S block

Fillmore street annex garage (west)



Japan Center Main Garage (East)



[1] *http://www.sfjapantown.org/About/history.cfm*

observations

Site context

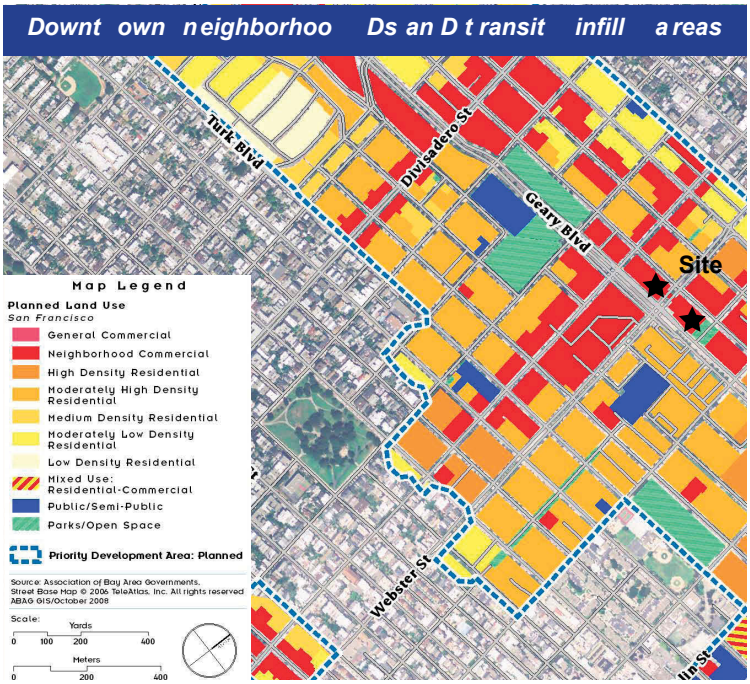
- The Japan Center is a 1-2-floor structure across the entire site, allowing maximum sun exposure on Post St.
- Most of the stores are inward facing, accessible only from the limited mall entries.
- Fillmore Street Neighborhood Commercial District is in close proximity.
- Most of the surrounding multi-family residential and retail use buildings are 2 to 3 floors in height.
- New commercial development on Post Street present a much different architectural character with metal frame and glassy facades. The buildings are 4-5 floors.
- Hotel Kabuki and the multi-family residential development at the intersection of Laguna St. and Polk St. demarcate the skyline in the neighborhood.

user demographic*

- The main users are theater go-ers and shoppers. 400 stalls are leased to service the nearby CPMC Hospital.
- The hotel also hosts conventions and special events, whose users park in the garage.
- About 150 cars park overnight, with one-third being hotel visitors and one-third residents.

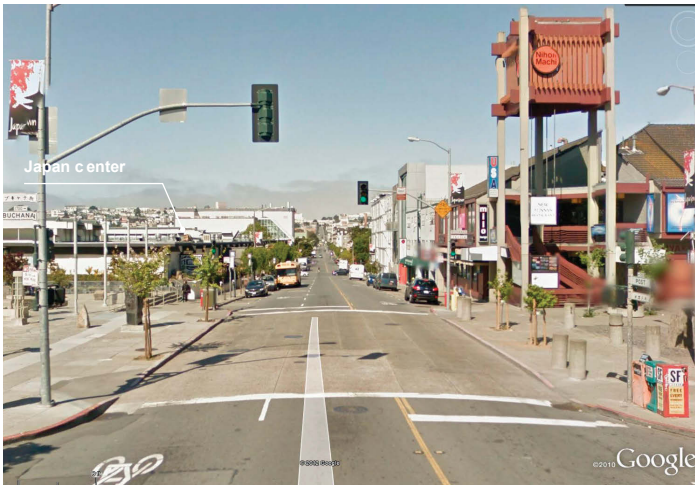
existing utilization*

- The garage is very much used daily, with peak uses during lunch time, bad weather days, holidays, and April Festivals.
- The parking garage has already been re-striped to achieve higher parking efficienc .
- The existing manager believes that valet parking is not a profitable option. He also believes that the current *Pay Before Exit* allows efficient exiting for customers, better security for cashiers, and less car emission.



View from Geary Blvd. (Source: Google)

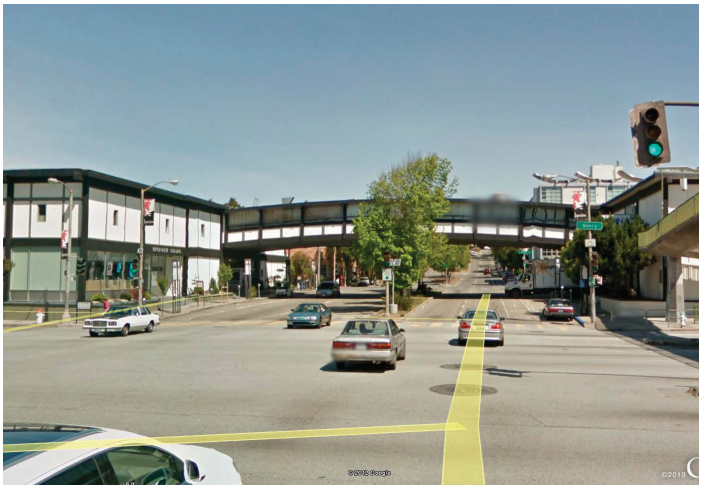
* *Comments provided by on-site parking managers.*



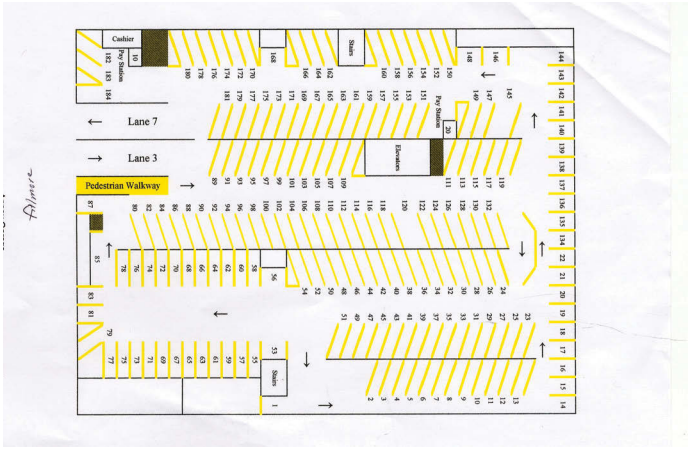
View from Post Street (Source: Google)

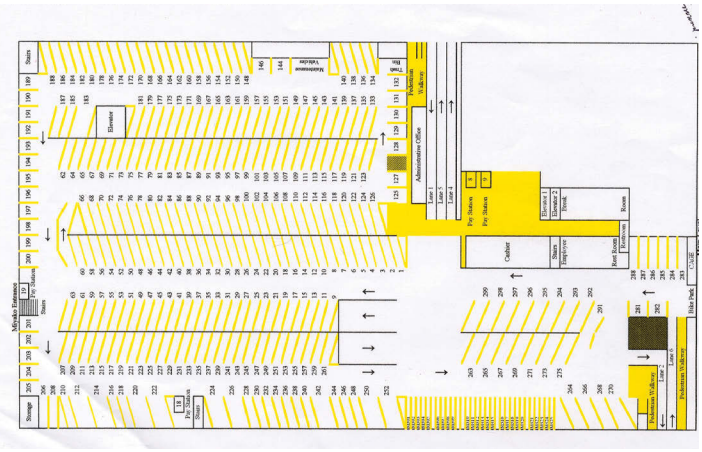
New Commercial Development on Post Street (Source: http://www.newpeopleworld.com)

New Commercial Development on Post Street (Source: http://v6.cache2.c.bigcache.googleapis.com/static.panoramio.com/photos/original/7080472.jpg?redirect_counter=1 *)*



Pedestrian Bridge -Bridging across Webster Street



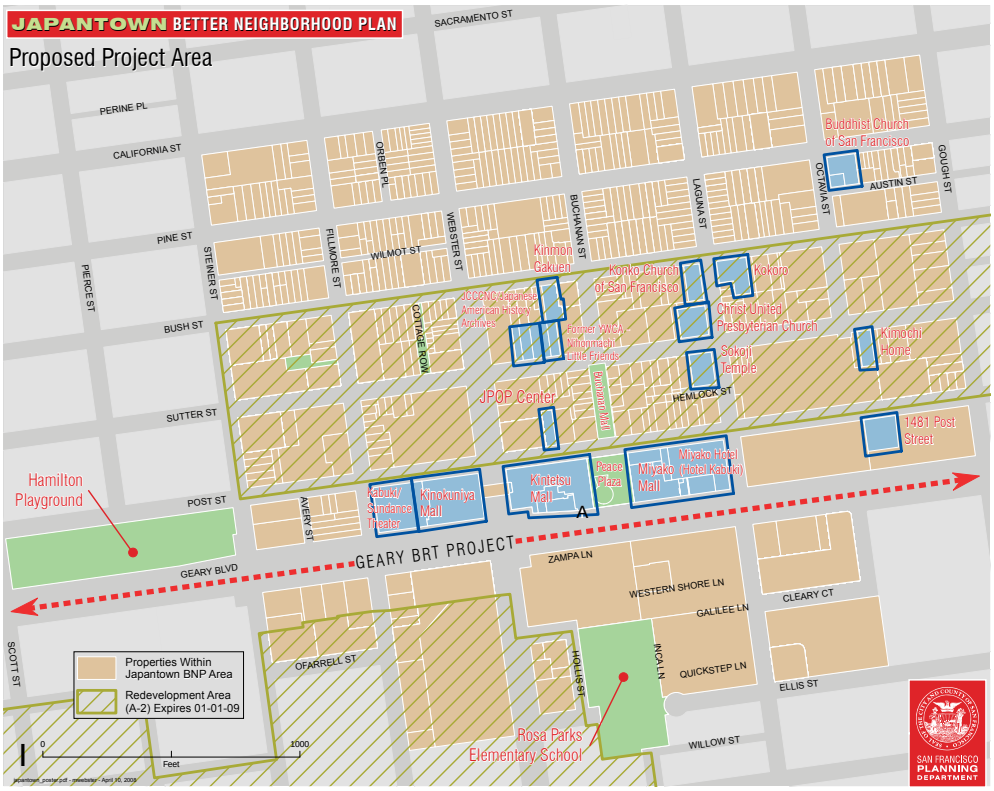


Garage Plan -provided by the manager on site

evaluation

opportunities:

The Japan Center Garage is a critical resource for the success of the Japan Center, and will be fundamental to efforts by City Planning in developing the Better Neighborhood Plan for Japantown. The site is currently a joint development. A prior owner of the Japan Center is understood to have contemplated additional development of the site in a mixed-use manner.



recommendations:

General Recommendations:

1. Consider changes that increase utilization of under-used parking stalls through a neighborhood parking management strategy, and more active management.
2. Review potential enhancements that may support the Geary Street BRT project.

Recommendations for Sustainable Systems:

1. Rainwater could be stored for reuse -such as irrigation for the landscape area on the plaza level.
2. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
3. Installing solar hot water collectors may be useful (and roughly three times as efficient as PV) if PV cannot be installed in an efficient manner onsite

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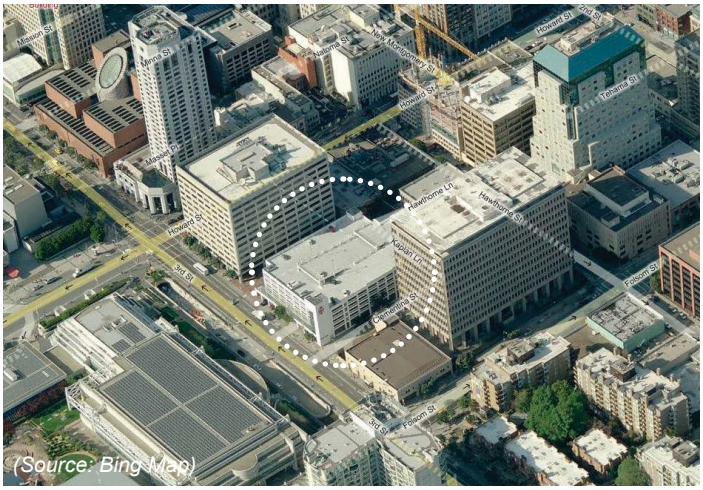
Moscone Garage



Site Zoning

Parcel Number:	3735/060
address:	255 Third Street
lot area:	40,655 Sf
Zone:	C-3-S DOWNTOWN SUPPORT
Height & bulk:	320-I [1]
Far :	5.0 : 1 (Max. 7.5 : 1 if Hotel use)[2]

abag "Priority development area":
Downtown Neighborhoods and Transit Infill Areas

[1] Maximum Plan Length 170'and Diagonal 200' applies to massing above 150'.
[2] "In order to provide that a certain area within the C-3-S District be able to be developed for hotel use with an increased basic floor area ratio of 7.5 to 1, there shall be a "Downtown Support Special Use District". (Source: San Francisco Planning Department)

Survey data

Parking capacity *

Number of Floors:	7 (B+5+Roof)
total Parking capacity :	752
Full Size Stall s:	-
compact Stall s:	-
Handicapped Stall s:	17
ev Stall s:	6
ev charge Stations	3
car share Stall s:	2 (City Car Share) 2 (Getaround) 6 (Carpool)
motorcycle Stall s:	- (Outside of the Garage)
bicycle Parking:	Racks

circulation *

entries / exits:	2 Entry Lanes, 3 Exit Lanes Howard: 1 Entries, 1 Exits Third: 1 Entries, 2 Exits

Structure *

Floor clearance:	Unknown
mechanized units:	No
Stacker s:	No

Services *

valet :	No
retail operations:	Yes Use: Retail Stores Servicing: Loading Dock on Howard
carwash:	No

operation **

Early Bird Rate
(In by 7:30 AM,
Out after 7:00 PM)
Monthly
Carpool & Carshare

CATEGORY	RATE THROUGH APRIL 15, 2012	RATE EFFECTIVE APRIL 16, 2012
PRICE PER HOUR		
Midnight to 9 a.m.	$1.50	$1
9 a.m. to noon	$2.50	$2.50
Noon to 3 p.m.	$2.50	$2.50
3 p.m. to 6 p.m.	$1.50	$2
6 p.m. to midnight	$1.50	$1
WEEKDAY DISCOUNTS		
AM Off-Peak* (enter before 7:30 a.m.)	$2 off total	$2 off total
PM Off-Peak* (exit after 7 p.m.)	$2 off total	$2 off total
FLAT RATES		
Early Bird (Mon-Fri) (enter before 7:30 a.m. and exit after 7 p.m.)	$12	$12
Daily Maximum / Lost Ticket	$27	$27
MONTHLY		
Reserved	$400	$400
Regular	$275	$275
Carpool/Carshare	$140	$140

* *Information provided by on-site parking managers.*
** *http://www.sfmta.com/cms/pgar/MosconeCenterGarageRates.htm*

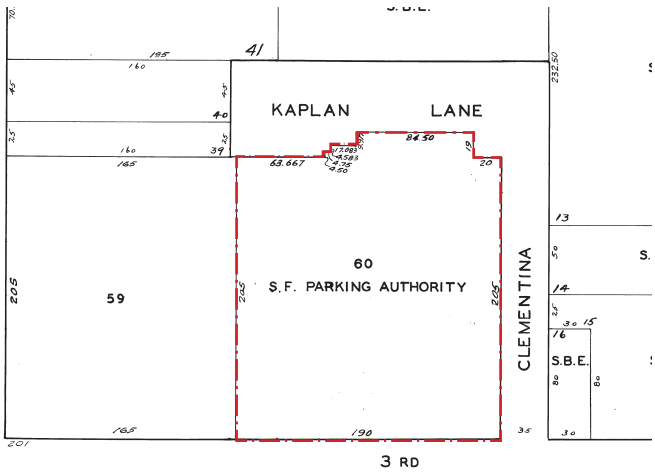
Systems & Sustainability

exHau St F aNS:	Yes (but not working)
Fa N co Ntrol:	Never Used
Natural ve Ntila tio N:	Yes
l ig Hti Ng:	T8; LED @ Entries
lig Hti Ng co Ntrol: [4]	Manual On/Off (Always on for first five floo
doe S t He Facility trea t ru No FF?	No
rai Nwater collectio N:	No
c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?	Needs further study
r oo F Parki Ng:	Yes
exi Sti Ng SHade Structure S:	No
Need For Hot w ater:	No (but can be beneficial
c a N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?	Yes

o wnership

SFmt a

a SSeSSor' S block



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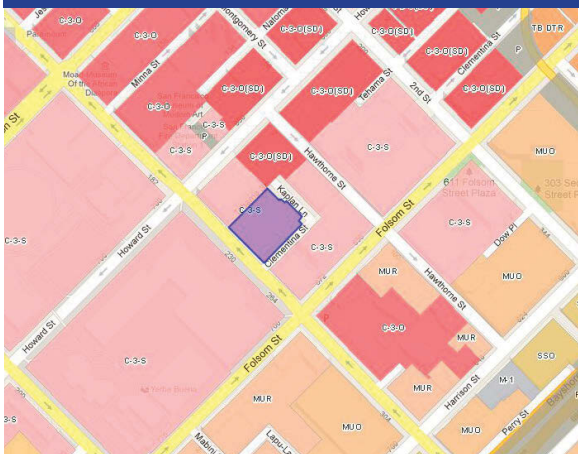

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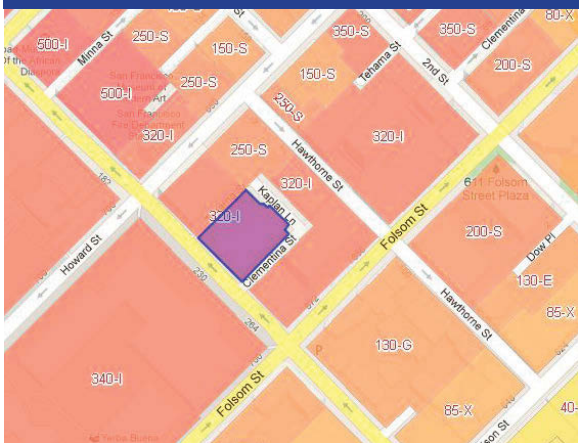

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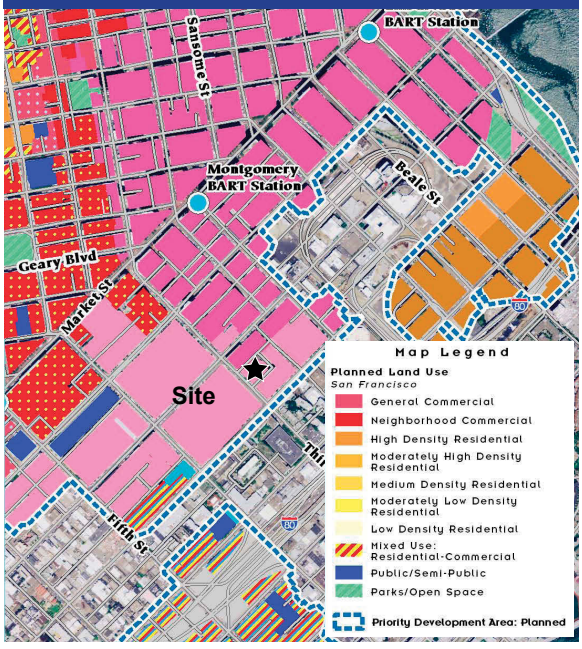


observations

Site context

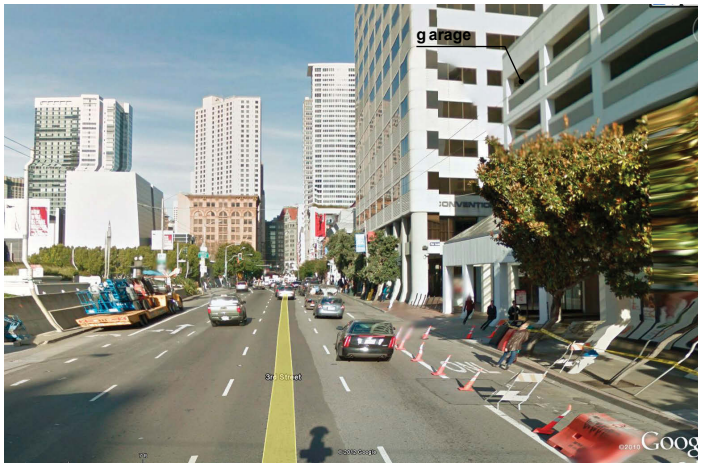
- The garage is zoned C-3-S. “This district encompasses Yerba Buena Gardens, which includes San Francisco’s Convention Center, hotels, museums and cultural facilities, housing, retail, and offices arranged around public gardens and plazas.”[3]
- It is located right across from the Moscone Center’s loading/garage entry.
- There are two office towers (about 10-15 floors) on the same block- one (under renovation) is separated by small driving alley and the other is separated from the garage by a pedestrian friendly retail alley.
- Other surrounding uses include hotels and multi-family residential.
- The Moscone Garage is situated in close proximity of towers on adjacent parcels.

user demographic*

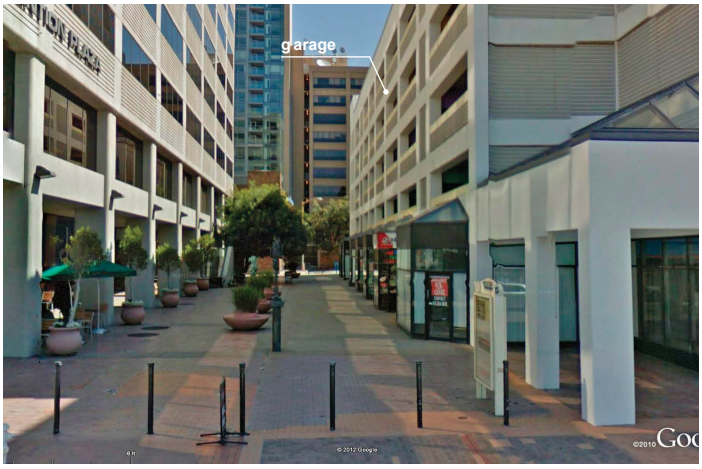
- There are two main users: neighborhood office workers and convention go-ers.

existing utilization*

- The garage is mainly used as an ‘event garage’ -it is best used during major conventions.
- On average, they are about 50-60% occupied.
- The manager on-site believes that valet service is not cost-effective at this garage -there is too much liability and labor required.
- The manager on-site believes that the other nearby private garages offers better early bird rate (enter before 9 AM) and lower daily rate. The garage estimates that they lost about 300 customers per day, or $50,000 / month, due to the change of a early-bird rate requirement.

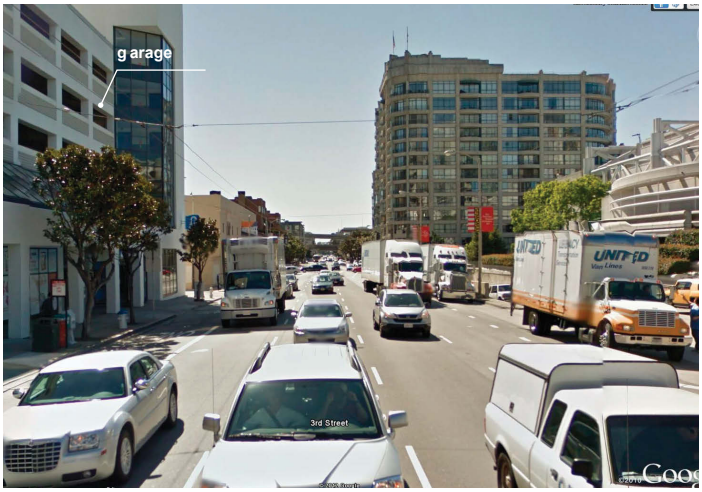


View from Third Street -looking North (Source: Google)

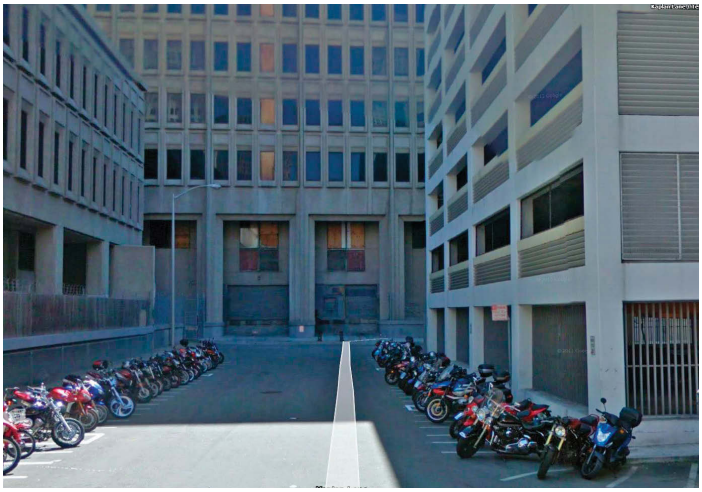


Retail Alley (Source: Google)

* *Comments provided by on-site parking managers.*
[3] *Source: San Francisco Planning Department*

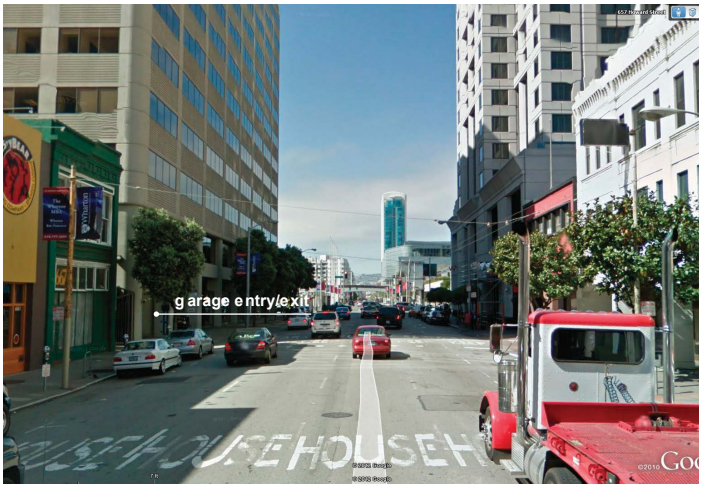


View from Third St. -looking South (Source: Google)



View from Kaplan Lane -motorcycle parking (Source: Google)

View on the Roof Level



Entry and Exit on Howard St. (Source: Google)

MOSCONE CENTER PARKING GARAGE COUNT BY FLOOR

BASEMENT	(PINK CEILINGS)	
Regular		93
Handicapped		3
Electric Vehicle		2
FIRST FLOOR	(ORANGE CEILINGS)	
Regular		35
Handicapped		4
SECOND FLOOR	(GREEN CEILINGS)	
Regular		116
Handicapped		2
THIRD FLOOR	(PURPLE CEILINGS)	
Regular		116
Handicapped		2
FOURTH FLOOR	(YELLOW CEILINGS)	
Regular		117
Handicapped		2
FIFTH FLOOR	(RED CEILINGS)	
Regular		125
Handicapped		2
SIXTH FLOOR	(BLUE ROOFTOP)	
Regular		131
Handicapped		2
TOTAL		**752**

Parking Capacity Break Down (provided by manager on-site)

evaluation

opportunities:

The Moscone Garage provides a parking reserve for downtown, yet is predominantly used by visitors to the Moscone Center, Yerba Buena Gardens and the SF Museum of Modern Art.

There are several opportunities:

1. Consider extended SF Park controls of on-street parking to prioritize retail, residents and local businesses, and reinforce the use of the garage,
2. Consider a Yerba Buena Gardens Parking District to manage supply and occupancy of parking garages and increase market penetration for downtown shoppers and commuters.

The Moscone Garage is located at a pivotal site between downtown, the Yerba Buena Redevelopment Area, and the Transbay Area, which will receive significant additional residential and retail development over the next 20-years as part of that plan.

The Moscone Garage has been included in the Request for Proposals (RFP) issued by the San Francisco Tourism Improvement District Management Corporation (April 6, 2012) for the Moscone Convention Center Facilities Expansion. A component of this RFP is the development of a 25-year master plan for the Moscone Center campus, including potentially 4 phases of expansion, and significant improvements to the public realm of the district. The master plan is envisioned to present a comprehensive and unifying vision that enhances connections, addresses public domain improvements, and secures the future of the Moscone Center for the next generation. This important planning and design effort will review the potential of the garage to be better integrated into the fabric of the Moscone center campus. As such, a significant opportunity is provided for the garage site, subject to the findings of the Moscone Expansio Master Plan. Specificall , the potential development of the garage site is included in the plan, including potential tunnel connections under Third Street, and replacement of the existing parking garage with convention and hotel facilities.

recommendations:

General Recommendations:

1. Discuss with the SF Travel Association the possibility of purchasing of the garage site for inclusion in future expansion.
2. Consider changes that increase utilization of under-used parking stalls through a Yerba Buena / Downtown parking strategy or by amending the early bird rate.
3. Consider a greater provision of alternate vehicle technologies that support the tourist and convention experience, potentially in association with hotels in close proximity to the garage.
4. Investigate the re-striping of the garage in order to increase the capacity of vehicles.
5. Consider price and early-bird hour adjustments to increase utilization.

Recommendations for Sustainable Systems:

1. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
2. If there is a potential use for rainwater (i.e. irrigation), rainwater could be stored for reuse.
3. Consider installation of Photo Voltaic cells on roof to provide energy off-set potential.

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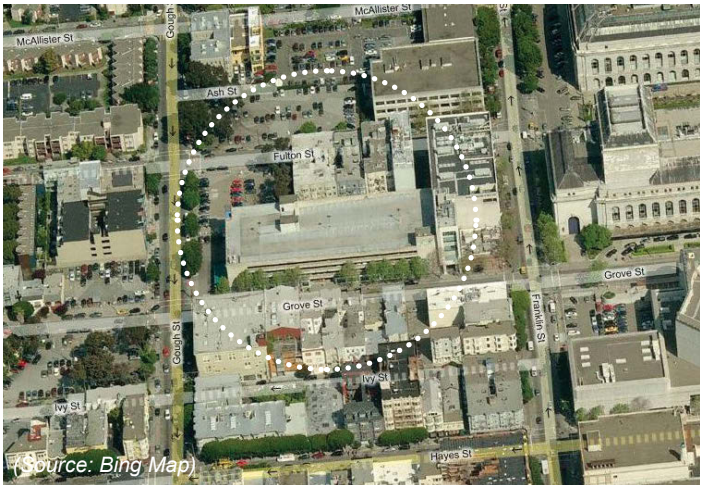
Performing Arts Parking Garage



(Source: Bing Map)

Site Zoning

Parcel Number: 0792/029
address: 360 Grove Street
lot area: 43,950 Sf
Zone: P-PUBLIC
Height & bulk: 65-X
Far : N/A
abag "Priority development Area":
Better Neighborhoods: Market & Octavia
(Zoning: Neighborhood Commercial)

Survey data

Parking capacity *

Number of Floors:	6 (B+ 4 Floors + Roof)
total Parking capacity :	600
Full Size Stall:	All
compact Stall:	None
Handicapped Stall:	10
ev Stall:	8
ev charge Station	4
car Share Stall:	5 (City Car Share) 5 (Car Pool)
motorcycle Stall:	15
bicycle Parking:	Racks (B & G Level)

circulation *

entrie s / exit s:	2 Entry Lanes, 3 Exit Lanes Gough: 1 entry, 1 exit Grove: 1 entry, 1 exit Fulton: 1 exit

Structure *

Floor clearance:	6'9"
mechanized unit s:	No
Stacker s:	No

Services *

valet :	No
retail operations:	Yes Use: Restaurant & Coffee shop Servicing: Street Parking
carwash:	No

operation

Hours of operation 7 days a week, 6 AM - 12 PM

Early Bird Rate
Monthly

* *Information provided by on-site parking managers.*

Systems & Sustainability

exHau St F aNS: Yes
Fa N co Ntrol: CO Monitoring
Natural ve Ntila tio N: Yes
l ig Hti Ng: T8/T5
lig Hti Ng co Ntrol: Manual On/Off
doe S t He Facility trea t ru No FF? No
rai Nwater collectio N: No

c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?
Needs further study

r oo F Parki Ng: Yes
exi Sti Ng SHade Structure S: No
Need For Hot w ater: No (Bathroom only)

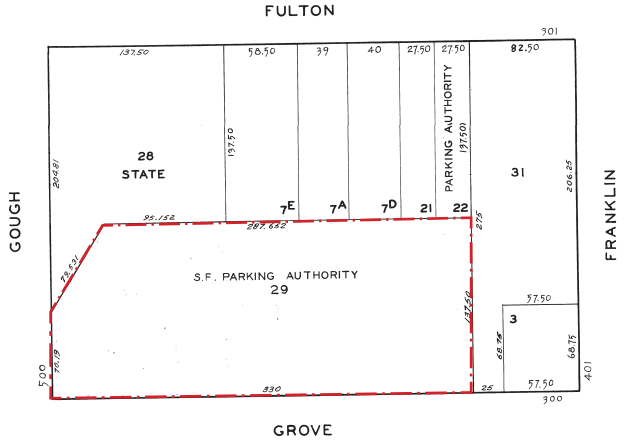
c a N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?
Needs further study

- There is belief that the SFMTA had already investigated the use of solar technology at this site
- Pay stations use solar technology

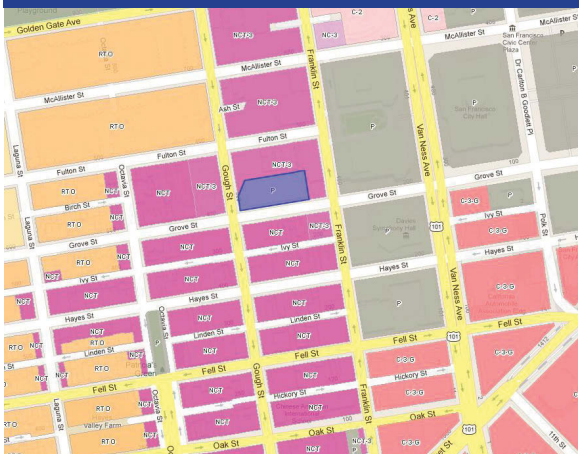
o wnership

SFmt a

a SSe SSor' S block



Zo NiNg



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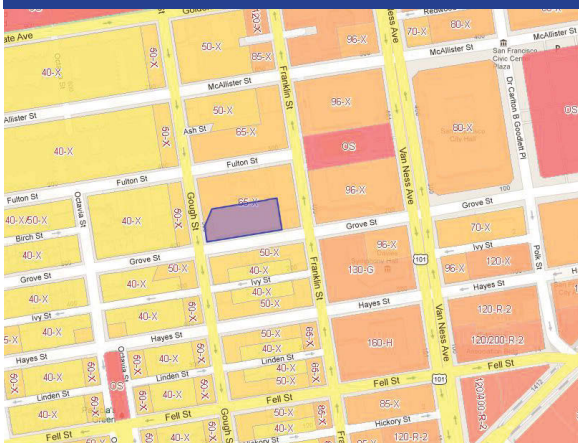
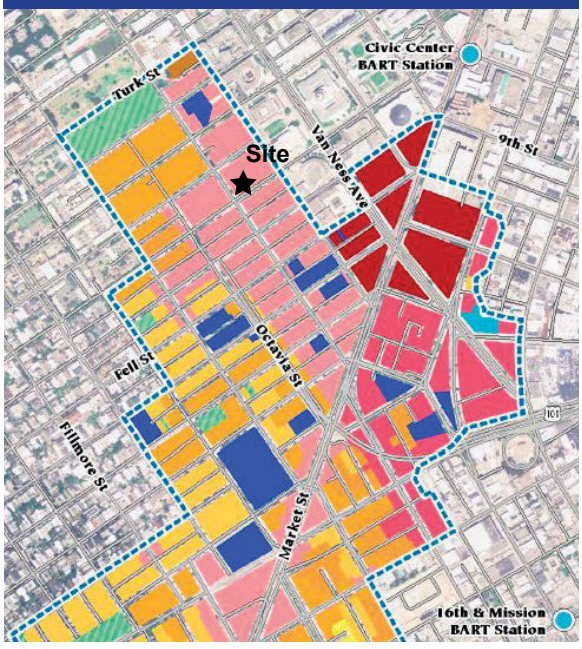


Better Ne Igh BOrh OOd S: market & oct avia



observations

Site context

- Generally, the surrounding buildings are low (average 3 floors) in massing. There are some residential, some offices, and a small amount of neighborhood retails.
- There is a good amount of surface parking lots and street parking in close proximity to the garage.
- The garage is not built to the lot line. The set back area (measured approximately 125' by 30') is used for carshare parking.
- The roof level provides an extensive view to the south west (Twin Peaks).

user demographic*

- Because of this garage's location, the main users are theater go-ers. Secondary users are neighborhood office workers and neighborhood residents (estimated at 70 cars/day on average).

existing utilization*

- As a theater garage, the main times of the week are Wednesday-Sunday
- With shows going on in the morning, afternoon, and night, the garages has two peak times: during the day, they are about 10-20% occupied, and at night they rise to about 50-100% occupied.
- Valet parking is not practical for event parking/peak hour uses.
- Holiday months are also cited as peak times, due to the increase in holiday-themed shows.
- Long early bird hour requirement discourages usage for business users.
- With large peaks of cars entering and exiting the facility, there have been issues cited around the speed of exiting (sometimes as long as 45 minutes). For example, because theatergoers pay before entering the garage, and there is no need for the exit barrier to open with every car exiting.
- The management at this garage feels that the other nearby garages are small, and therefore they remain competitive.

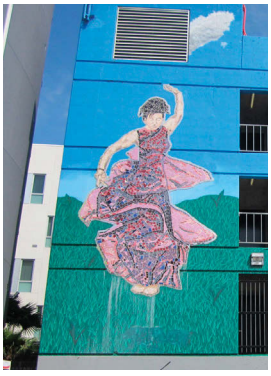
Future vision*

The onsite managers would like to do the following improvement projects:

- Making the exterior signage more visible.
- Improving the speed of exiting, either by keeping the exit barrier open while people leave or synchronizing with the traffic lights
- Improvement of the signage leading people of the garage.

View from the garage entry at gough St.

existing building set back on gough St.



Art on the garage

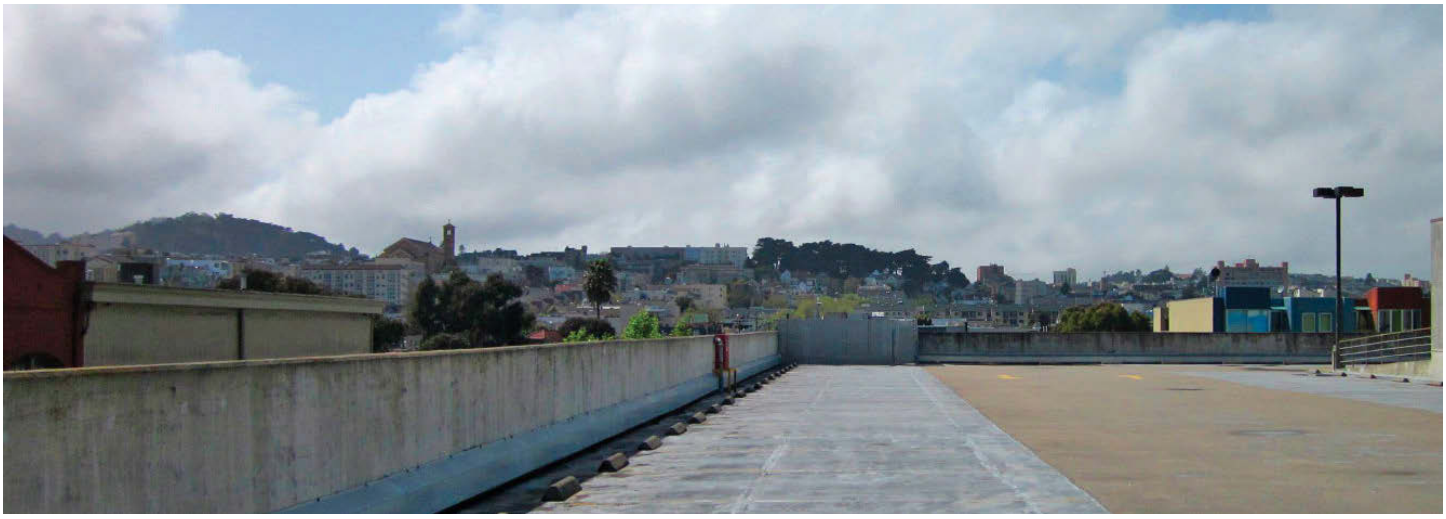
* *Comments provided on-site parking managers.*

View from the roof, looking toward Civic Center

Neighborhood r etail on the g round Floor

View from the roof to adjacent residential development

Surface parking lots in proximity to the garage



View from the roof to t win Peaks

evaluation

opportunities:

The Performing Arts Parking Garage supports theater go-ers but is under-utilized throughout the remainder of the week. In order to increase usage and / or returns from garage operations, there are several opportunities:

1. Consider extended SF Park controls of on-street parking to prioritize residents and local businesses, and reinforced the use of the garage by theater patrons,
2. Consider a Civic Center Parking District to manage supply and occupancy of parking garages, and in particular, potentially investigate increases in usage that may be realized with implementation of the Van Ness Bus Rapid Transit (BRT) project,
3. Consider parking partnerships with existing and incoming food and beverage establishments that are beginning to locate near the Performing Arts Garage to increase patronage,
4. Consider discounted parking rate for SFMTA employees at 1 Sourth Van Ness and 1455 Market to increase day-time utilization.

recommendations:

general recommendations:

1. Consider changes that increase utilization of under-used parking stalls through a district parking strategy.

recommendations for Sustainable Systems:

1. Rainwater could be stored for reuse, such as irrigation.
2. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
3. Consider installation of Photo Voltaic cells on roof to provide energy off-set potential.

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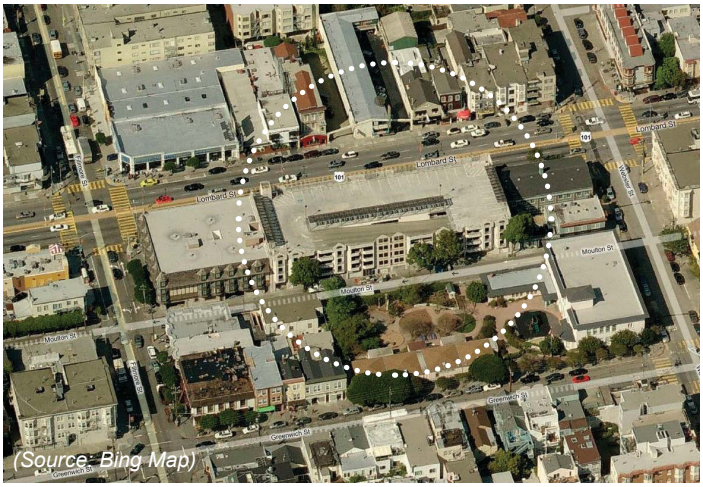
Lombard Parking Garage



Site Zoning

Parcel Number:	0509/009
address:	2055 Lombard Street
lot area:	19,968.75 Sf
Zone:	P-PUBLIC
Height & bulk:	40-X
Far :	N/A
abag "Priority development Area":	N/A

Survey data

Parking capacity *

Number of Floors:	4 (3 Floors + Roof)
total Parking capacity :	205
Full Size Stall s:	All
compact Stall s:	None
Handicapped Stall s:	8
ev Stall s:	2
ev charge Stations	1
car share Stall s:	2 (City Car Share) 3 (Getaround)
motorcycle Stall s:	6
bicycle Parking:	Racks

circulation *

entries / exits:	1 Entry Lane, 1 Exit Lane Moulton St.: 1 entry, 1 exit

Structure *

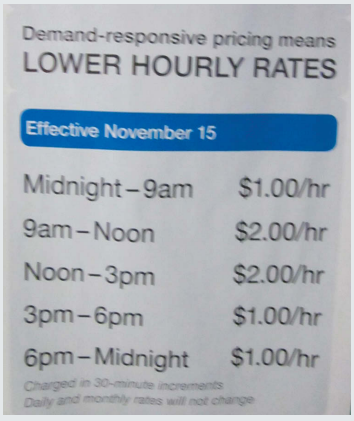
Floor clearance:	6'9"
mechanized units:	No
Stacker s:	No

Services *

valet :	No (Valet during event parking only)
retail operations:	Yes Use: Post Offic Servicing: Direct Entrance to the Post Offic on Moulton St.
carwash:	No

operation

Early Bird Rate
(In by 7:30 AM,
Out after 7:30 PM)
Monthly
Carpool/Carshare



* *Information provided by on-site parking managers.*

Systems & Sustainability

exHau St F aNS: No
Fa N co Ntrol: N/A
Natural ve Ntila tio N: Yes
l ig Hti Ng: T8/T5
lig Hti Ng co Ntrol: Manual On/Off
doe S t He Facility trea t ru No FF? No
rai Nwater collectio N: No

c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?
Needs further study

r oo F Parki Ng: Yes
exi Sti Ng SHade Structure S: On the Roof
Need For Hot w ater: No (Bathroom only)

c a N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?
Needs further study

o wnership

SFmt a

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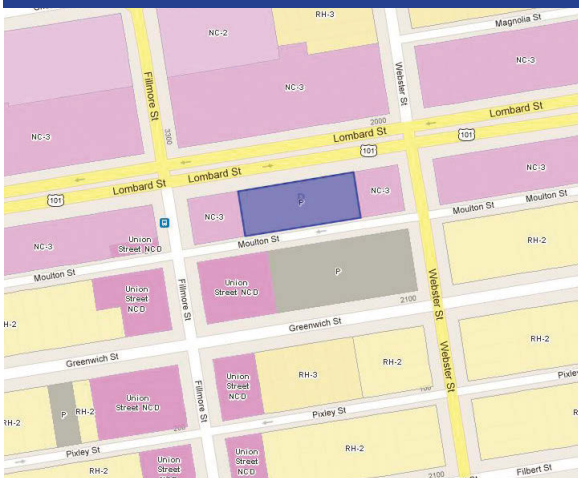

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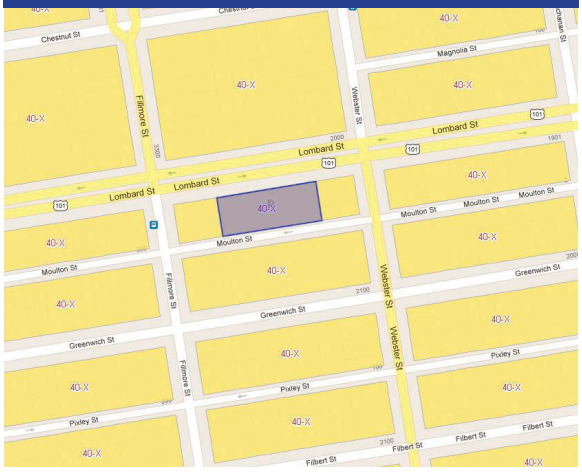
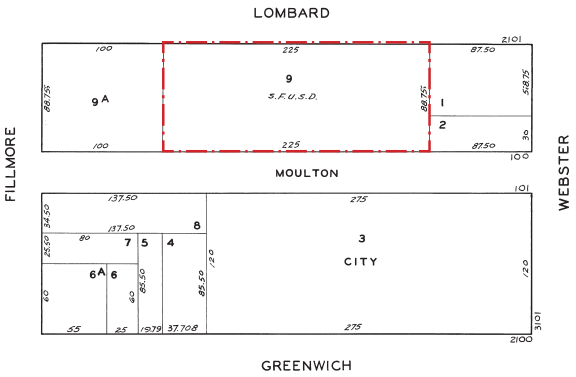


aSS e SSor' S block



observations

Site context

- The site is surrounded by 2-4 stories of multi-family residential and neighborhood commercial development. There are a number of motel uses in proximity to the site, with one at 4 floor in height adjacent to the garage.
- The Lombard Parking Garage is located within a richly diverse residential neighborhood. The Parking Garage is the largest structure on the block (4-floors) and is significantl different from the more intimate scale of the surrounding developments.
- At the roof level, the garage provides some views to the Bay and Golden Gate Bridge, as well as unobstructed views back to the Pacifi Heights neighborhood and Twin Peaks.

user demographic*

- There are three main users: shoppers, neighborhood offic workers, and neighborhood residents.

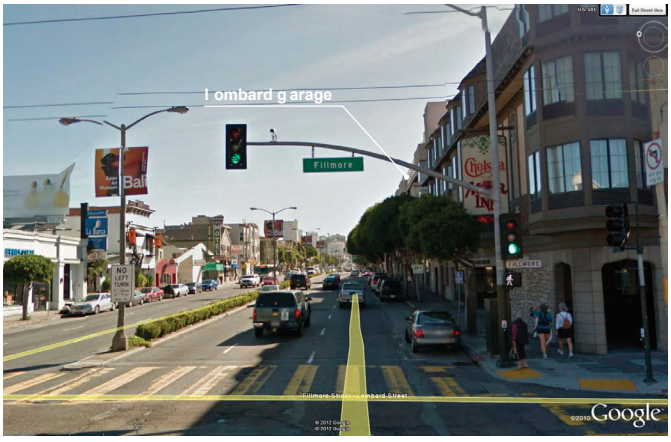
existing utilization*

- The garage is parked at 50-60% capacity on average.
- The existing manager believes that most people aren't aware that there is a garage there, and choose to look for on-street parking.
- The garage is rarely parked at its full capacity. The only time that it is fully used is during the annual Union Street Fair. Valet service is provided only during event parking.
- Peak usage: Friday and Saturday.

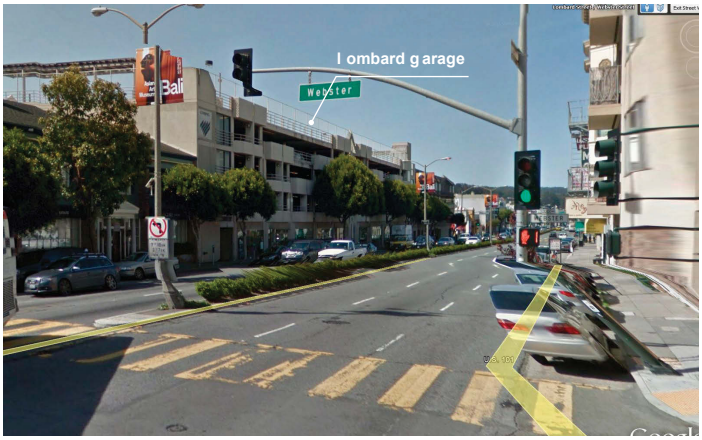
Future vision*

The manager onsite would like to do the following improvement projects:

- Repairs for the building façade.
- Improvement of the signage leading people to the garage.



View from Lombard St. (Source: Google)



View from Lombard St. (Source: Google)

* *Comments provided by on-site parking managers.*

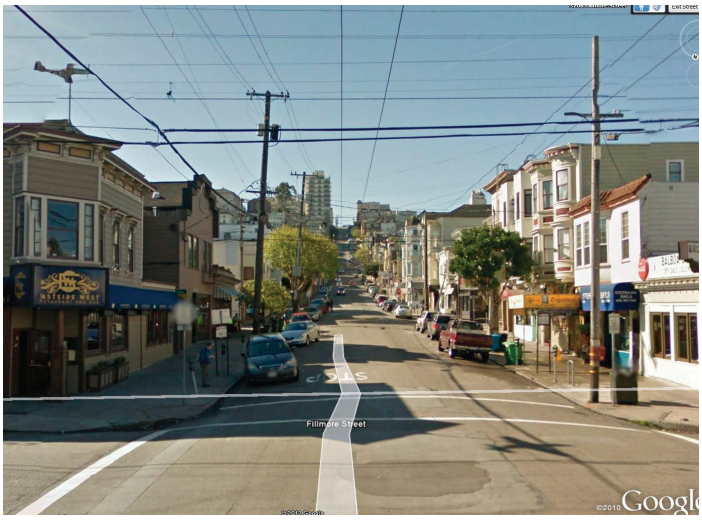
View to the Pacific Heights Neighborhoo

View to the Golden Gate Bridge

View to the Bay

Post Office on the Ground Floor along Lombard St.

View on the Roof Level



Union Street Neighborhood Commercial on Fillmore St.(Source: Google)

evaluation

opportunities:

The Lombard Parking Garage is located with a 5-minute walk of both the Union Street Commercial, and the Chestnut Street Financial neighborhoods. At the roof level, it affords views of both the Bay and Golden Gate Bridges, as well as unobstructed views of the Pacifi Heights and Twin Peaks neighborhoods. The strong neighborhood, and close access to summer festivals in San Francisco, provide the garage with a unique setting in a good location. There are several opportunities:

1. Consider extended SF Park controls of on-street parking to prioritize residents and local businesses, and reinforce the use of the garage,
2. Consider a Neighborhood Parking District to manage supply and occupancy of parking garages,
3. Consider partial reconstruction of the site, including potential conversion of firs floo to retail and other community serving uses.

recommendations:

General Recommendations:

1. Consider changes that increase utilization of under-used parking stalls through a neighborhood parking management strategy, such as prioritizing residents and local businesses.
2. Consider improvements of the signage and to increase visibility of the garage.

Recommendations for Sustainable Systems:

1. Rainwater could be stored for reuse, such as irrigation.
2. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.
3. Consider installation of Photo Voltaic cells on roof to provide energy off-set potential.

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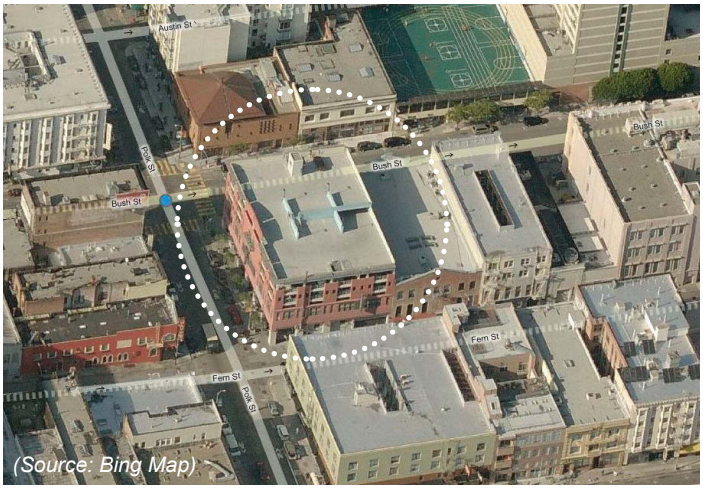
Polk & Bush Parking Garage



(Source: Bing Map)

Site Zoning

Parcel Number:	0669/012
address:	1399 Bush Street
lot area:	10,380 Sf
Zone:	NCD (POLK STREET NEIGHBORHOOD COMMERCIAL)
Height & bulk:	65-A [1]
Far :	2.5 to 1

abag "Priority development Area":
Downtown Neighborhoods and Transit Infill Areas (Zoning: Neighborhood Commercial)

[1] Maximum Plan Length 110'and Diagonal 125' applies to massing above 40'.

Survey data

Parking capacity *

Number of Floors:	7 (B+ 5 Floors + Roof)
total Parking capacity :	131
Full Size Stall:	-
compact Stall:	-
Handicapped Stall:	4
ev Stall:	2
ev charge Station	1
car Share Stall:	2 (City Car Share)
motorcycle Stall:	None
bicycle Parking:	Rack (est. 40)

Services *

valet :	No
retail operations:	Yes Area: N/A sf Use: Restaurant & Coffee shop Servicing: Street Parking
carwash:	No

circulation *

entries / exits:	2 Entry Lanes, 2 Exit Lanes Bush: 1 entry, 1 exit Fern: 1 entry, 1 exit

Structure *

Floor clearance:	8'2" (needs to be confirmed
mechanized unit:	No
Stacker:	No

operation

Hours of operation

Early Bird Rate (In before 9:00 AM, Out after 7:00 PM)
Monthly
Special Night Rate (In after 9:00 PM, Out before 9:00 AM)

* *Information provided by on-site parking employee.*

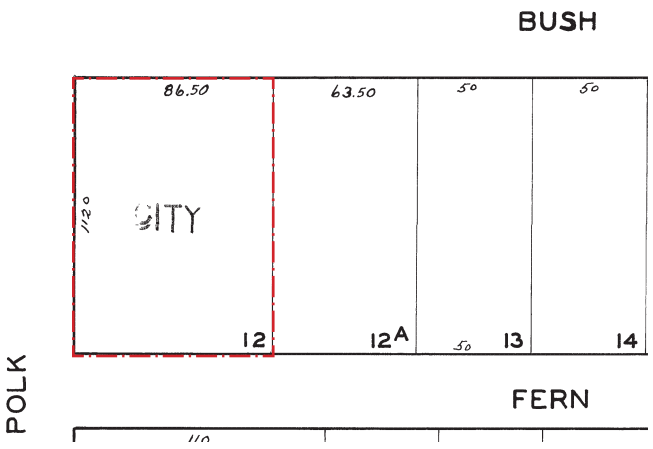
Systems & Sustainability

exHau St F aNS:	Yes
Fa N co Ntrol:	Manual On/Off
Natural ve Ntila tio N:	Yes
l ig Hti Ng:	T8/T5 (Needs to be confirmed
lig Hti Ng co Ntrol:	Manual On/Off
doe S t He Facility trea t ru No FF?	No
rai Nwater collectio N:	No
c a N t He Structure Su PPort t He weig Ht o F Pla Nted w ater trea tme Nt (i.e. gree N roo F)?	Needs further study
r oo F Parki Ng:	Yes
exi Sti Ng SHade Structure S:	No
Need For Hot w ater:	No (Bathroom only)
c a N t He electrical iNFra Structure Su PPort a Nd make u Se o F Pv tec HNology?	Needs further study

o wnership

SFmt a

a SSe SSor' S block



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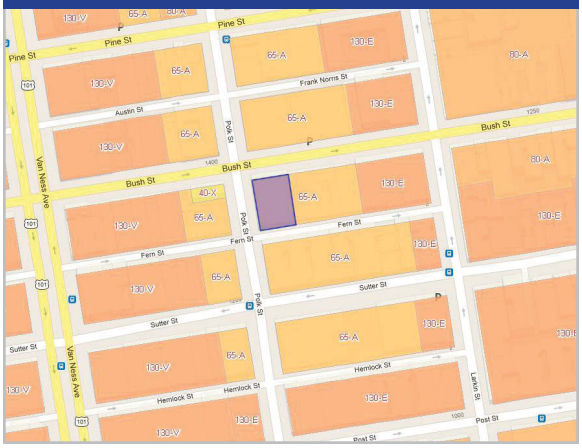

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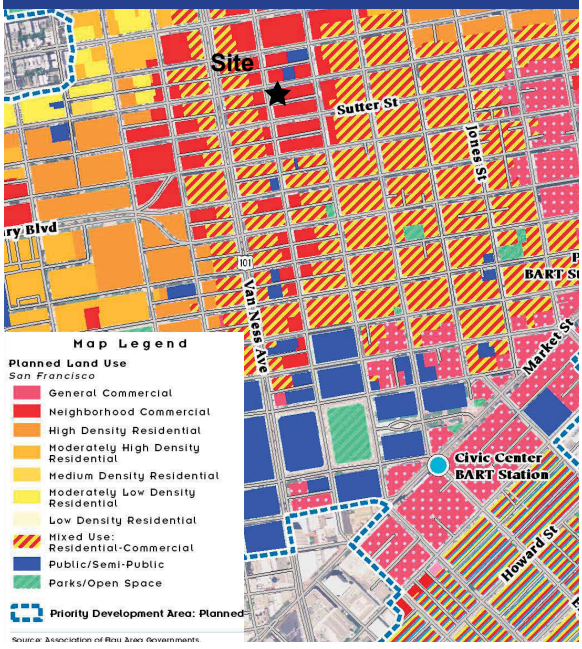


observations

Site context

- The garage is located in the Polk Street Neighborhood Commercial District. Surrounding buildings are mostly 2-4 floors in height. ibrant neighborhood shops occupy most of the ground floor along Polk Street
- This is a highly mixed-use community. Uses within a 5 minutes walk include multi-family residential, retail, commercial, government offices, religious cente , schools, and a health care center.

building character

- The garage is very small (approximately 85' x 120' -minimal functional dimension for a garage).
- The design of the garage (i.e. facade character -color and punctures) is well integrated with the neighborhood architectural character. Each railing on the facade is different in design.
- The retail shops along the Polk St. have an extended sidewalk for dinning and hanging out.
- There are a lot of residential users at night as well.

user demographic*

- The main users are neighborhood office workers, government office employees, neighborhood residents, an shoppers/gym-goers. There are also visitors/users of a nearby senior health center.
- There are also significant overnight users from the residents in the neighborhood

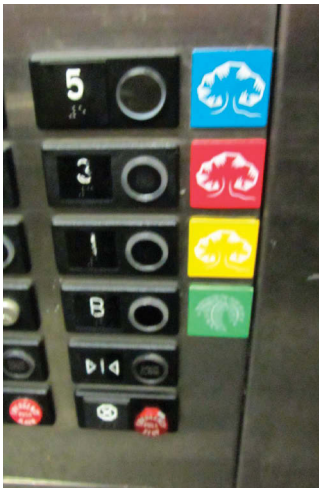
existing utilization*

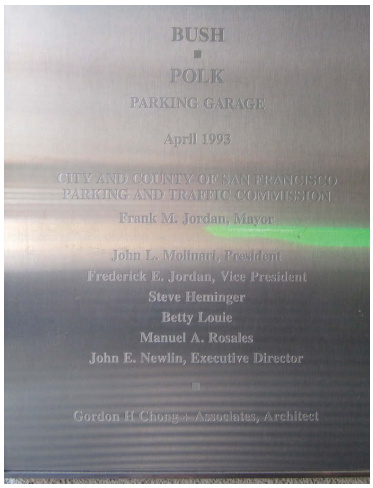
- During Monday-Friday, the garage is 80% utilized on average.
- On Saturdays, a lot of gym-goers use the garage.
- 3-4 days a week, they reach 100% utilization, typically from 12:00-3:00 PM.
- Employees noted that two nearby garages closed, and since then, they have been very busy.

The Garage Facade

Ground Floor Retail & Extended Site Walk on Polk St.

* *Comments provided by on-site parking employee.*





Art and Architecture

Neighborhood Retail on the Ground Floor

View from Bush Street

Facade Character

View on the Roof Level

View on the Roof Level

evaluation

opportunities:

The Polk & Bush Garage provides a significant neighborhood amenity and is reasonably well used as a result. Opportunities to enhance the existing neighborhood retail may be available through engaging in local partnerships in a manner similar to the Hayes Valley Tenants association.

The Floor to ceiling dimensions of parking levels appear to be higher than typical for parking structures (8'2" as opposed to 6'9"), and as such, potential increase in parking capacity may be built into the structure by potential provision of mechanical stackers in the future.

constraints:

The Polk & Bush Garage is a small parking structure in footprint area. The dimensional characteristics of the garage preclude capacity increases through tandem or valet parking.

recommendations:

General recommendations:

1. Consider development of a Neighborhood Transportation Demand Program as a parallel to changes in on-street parking management.
2. Review opportunities to expand the capacity of the garage through changes or expansion.
3. Consider integrating the parking garage into the Park SF program as a pilot neighborhood project through provision of parking availability signage.

Recommendations for Sustainable Systems:

1. Consider installation of Photo Voltaic cells on roof to provide energy off-set potential.
2. Rainwater could be stored for reuse -such as irrigation for the landscape area on the roof.
3. Consider installing bi-level lighting with motion sensors to yield substantial energy savings without compromising safety.

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Surface Lots

Surface lots have not been studied as part of this review. The following data was provided by SFMTA, which is responsible for 582 surface spaces across 20 lots that are scattered throughout the city.

	Predominant Users								
Address	shoppers	merchants	food / beverage	theaters / evening uses	professional services	residents	**Primary Users**	**Other Users**	**Spaces**
3251 Pierce Street (at Lombard)	**Y**	**Y**		**Y**		**Y**			116
2450 California Street (at Steiner)	**Y**	**Y**	**Y**	**Y**			**CPMC**	Fillmore Street	48
457 Castro Street (at 18th Street)	**Y**	**Y**	**Y**	**Y**				Castro District	20
4116 18th Street (at Collingwood)	**Y**	**Y**	**Y**	**Y**			**Walgreen's**	Castro District	20
324 8th Avenue (at Clement)	**Y**	**Y**	**Y**		**Y**		**Walgreens**	**Note 1.**	26
330 9th Avenue (at Clement)	**Y**	**Y**	**Y**		**Y**			**Note 1.**	21
421 18th Street (at Geary)	**Y**	**Y**	**Y**		**Y**				34
5732 Geary Boulevard (at 21st Avenue)	**Y**	**Y**	**Y**						21
1340 7th Street (at Irving)	**Y**	**Y**	**Y**					**Note 2.**	36
1325 9th Avenue (at Irving)	**Y**	**Y**	**Y**						41
1275 20th Street (at Irving)	**Y**	**Y**	**Y**		**Y**				24
2500 Ocean Avenue (at Junipero Serra)	**Y**	**Y**	**Y**		**Y**				20
3000 19th Avenue (at Ocean Avenue)	**Y**	**Y**	**Y**		**Y**			**Note 3.**	20
807 Ulloa Street (at Claremont)	**Y**	**Y**	**Y**		**Y**				23
174 West portal (at 14th Avenue)	**Y**	**Y**	**Y**		**Y**				19
4061 24th Street (at Noe)	**Y**	**Y**	**Y**		**Y**			**Note 4.**	16
1 Lilac Street (at 24th Street)	**Y**	**Y**	**Y**		**Y**				18
20 Norton Street (at Mission Street)	**Y**	**Y**	**Y**		**Y**		**Bank**		28
25 Felton Street (at San Bruno Avenue)	**Y**	**Y**	**Y**		**Y**		**Walgreen's**		10
Phelan Loop - Ocean Avenue (at Harold)	**Y**	**Y**	**Y**		**Y**	**Y**		**Note 5.**	21
									582

1 *Walgreen's / Richmond Branch Library / Student pick-ups / local merchant deliveries*
2 *School employees / local trades workers*
3 *Church Patrons on Sundays*
4 *Occassional overflow parkong from lot across street*
5 *Ovean Avenue Vet / students / residents and merchants / low usage*

The majority of the surface parking lots serve the local communities by providing additional parking reserves in addition to on-street options for local businesses (retail & professional services), theaters and the food and beverage industry. With the exception of 3251 Pierce Street, lots range in capacity from 10 spaces to 48 (or under ½ acre in size).

SFMTA

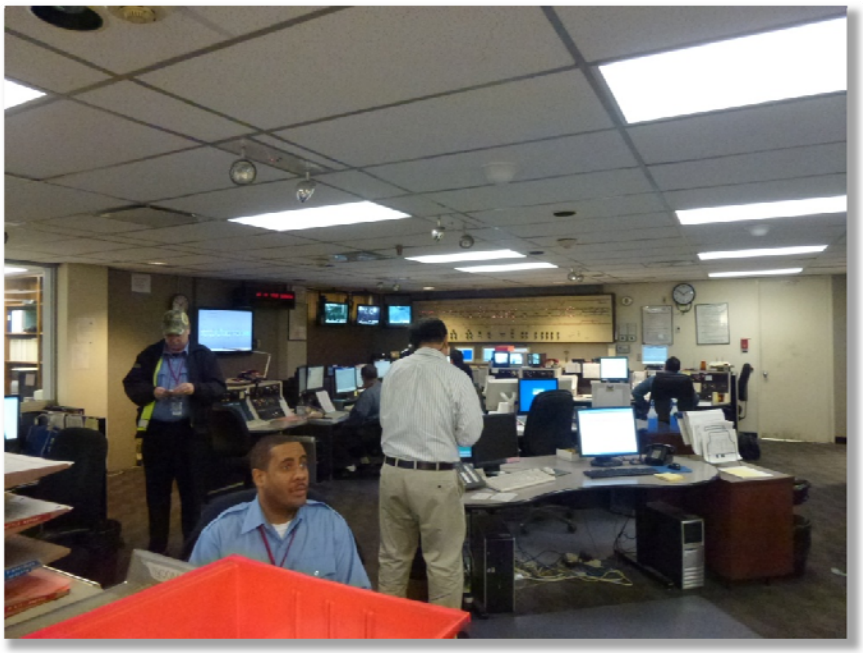
CATEGORY B

South Van Ness

Consolidation Plans for South Van Ness have not been provided by SFMTA for review

Central Control (Operations Control Center)

(Also see 1455 Market Street - TMC space on next page)



Current Functions:

- Central Control houses the operations control equipment and staff for all rail, bus, and cable cars

Observations

1. Control Room
    a. Houses the equipment for monitoring and communicating with SFMTA's fleets
    b. Approximately 10 functional workstations/consoles – others exist but are not used/operational
        i. Each workstation occupies approximately 8'x8'
    c. Staffing - operates 24/7 across 3 shifts
        i. Subway: Day 3, Swing 3, Graveyard 2
        ii. Rubber Tire: Day 2, Swing 2, Graveyard 1
        iii. Historic/Cable: Day 2, Swing 2, Graveyard 1
2. Conference Room and offices for Control Center staff
3. Lockers, restrooms, and break area/kitchen for the Control Center staff
4. Server Room / Digital Systems
    a. Approximately 40'x20' room
    b. Houses server equipment and workstations for technicians
5. Digital Systems offices
6. Small storage area
7. Halon Room – houses server room fire suppression equipment and chemicals

1455 Market Street (Transit Management Center)

As part of SFMTA's C3 (Central Control and Communications) Program, a Transit Management Center (TMC) is being designed and will be located at 1455 Market St. to serve all of SFMTA's communication and control process needs at a single facility. The current Operational Control Center located at 131 Lenox Way as well as the SFgo Operations Center, the MUNI Operations Line Management Center, the Parking Control and Tow Dispatch, and Real Time Security Monitoring will relocate to the new TMC.

SFMTA's goal is to increase efficiency and allow greater flexibility for future upgrades to all of the operations moving to the new TMC while also increasing system redundancies to ensure continuous operations. With this in mind, the Operational Control Center will remain functional and be fully connected to the TMC to provide auxiliary and backup services to SFMTA operations as required.

Review of SFMTA Plans for Central Control and 1455 Market Street

1. Control Center operations are moving to the new Transit Management Center facility at 1455 Market Street
2. The existing facility, workstations, equipment, and servers will be staying in place to serve in a backup/auxiliary control center role
    a. Renovations to the current facility are planned once the move to the TMC is complete as part of the C3 program
3. The proposed plans outlined above seem to be appropriate. Note that floor plans were not available for review. The study team will review these plans when they are made available and make recommendations as appropriate.

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

Traffic Signal Shop (Rankin Facility)

Address:	901 Rankin St.
Lot and Block Number:	5281 / 003
Opening Year:	
Last Improvements:	
Existing Fleet:	See Appendix A
Site Area:	3.4 acres
Zoning District:	PDR Production Distribution and Repair
Height & Use District:	65-J
Special Use District:	Industrial Protection Zone
Setback Requirements:	None
Other:	Flood Notification
Total Building Area:	48,000 square feet (shared with other groups)
Employee Parking:	Limited on-site parking
Site Ownership:	This is a leased site

Current Functions:

- Traffic Signal Shop handles training, apparatus fabrication, apparatus repair, and signal programming from this facility.
- Meter Shop also currently occupies this building, but is in-progress on a move to the Bancroft Facility.

Observations

1. Must respond to signal emergencies rapidly due to safety and liability: The stated goal is to be at the emergency site within 2 hours of being notified.
2. Approximately 5-6 signals are knocked down per week
3. 1/3 of the signal staff is in the shop programming cabinets on standard days
4. Certain signal poles have a 2-3 month lead time – must keep sufficient stock on-site
5. 10 to 13' poles are used most often
6. Approximately 1 acre outdoor storage is required
7. Also handle VMS signs (large storage issue) and radar signs
8. Operate 7:00-3:30 Monday-Friday, 7:00 to 3:00 Saturday/Sunday
9. Department of Technology Services (DTS) assists with response after hours
10. One technician is always accessible via pager for after hours needs
11. Responsible for replacing lamps in approximately 15% of city at any given time
    a. Higher during campaigns – currently in-progress on city-wide LED lighting campaign with increased workload and storage needs
12. 1157 intersections with signal requirements in the city
    a. Minimum of 8 lights per intersection
13. Each tech has their own cubicle/workstation with a laptop (approximately 50 sf) – 16 total currently wish plan to expand to 24 then 36
14. All signal framework is custom and made in the shop
15. Cabinets are tested for 3 days straight after programming to ensure proper operation
16. Cabinets are networked with fiber optics when available
17. GPS is used to keep the clock systems properly set
18. Must integrate emergency vehicle systems
19. LED's currently stored in bulk at Burke and partially at Rankin along storage lane for daily loading
20. 2 crewmembers stay in the shop to handle complaints/calls during operating hours
    a. Department of Technology Services handles calls during night hours and pages one on-call signal tech as required to handle issues
21. Working stock is all stored in the Rankin storage lane and replenished from Burke warehouse
    a. Could reduce on-site storage of lesser used components
    b. Inventory is currently tracked by stock numbers with no barcode system
    c. Desire to switch to a barcode system (attached descriptions) with lead times and max/min ordering built-in
22. All training is handled on-site in the training room and in the shop / at the cabinets
    a. Train 4 techs at a time
    b. 4 training levels exist and each module takes 2 weeks / 80 hours (basic, intermediate, advanced, expert)
    c. A larger training area to house training equipment would be ideal
23. Wrote their own reporting software to track incidents
    a. Able to check the work orders of all signals and check for repeat issues

Traffic Signal Cabinet in the Programming Area

   b. Allows for techs to identify underlying issues and track intermittent problems accurately
   c. All of Signal's computers are networked and the signal histories are updated and pushed to each computer every day.
24. Programming Room / Info Storage
   a. The bulk of information is stored electronically when possible, but some paper documentation is still required
   b. All signal programs are stored on a central system
   c. Legacy computer systems must be stored to service the older signal systems which have not been upgraded
25. Electronic equipment and safety items are stored in an upstairs mezzanine
26. Full size lockers are supplied for the crew
27. Storage / Frame Building Area
   a. Build as many standard frames as possible for storage to reduce response times
      i. Ideally 2 to 3 prebuilt frames of 10 varieties would be stored (20-30 frames palletized)
      ii. Individual frames do not exceed 300 lbs.
   b. Many intersections require custom frames to meet specific needs
   c. 2 workstations for frame fabrication
   d. The area needs a 1 ton overhead crane to move materials
   e. Storage for approximately 35 to 40 pallets containing parts, lights, materials are stored in the parts area of Rankin (fair representation of standard storage needs)

Signal Fabrication Area

   f. Shelving racks store legacy equipment (eventually clearing these out)
   g. Large wire spools are stored haphazardly due to space limitations – Space needs to be designed to properly store and organize this area
28. Yard Storage
   a. Parking the hydraulic vehicles outside causes maintenance issues with the equipment – Space for interior parking or a canopy is needed to protect the equipment
   b. Poles and signal adapter plates are stored outside in bulk to avoid long lead times on orders
   c. 1 area holds older style poles for signals that have not been upgraded
   d. Signal feels they could store their yard materials in 10,000 to 15,000 sf and need a total of 1 acre for site circulation and vehicles
   e. 5 containers are housed in the yard to handle overflow storage (safety equipment, old cabinets, old heads)

Review of SFMTA Consolidation Plan

1. No formal consolidation plans were provided showing the Traffic Signal Shop being relocated. The Traffic Signal Shop did provide the study team with a detailed report that they had prepared describing their own thoughts on the impact of moving to the Bancroft, Burke or Yosemite facilities.
    a. The Current Space Usage of the Traffic Signal Shop is approximately 43,000 square feet. Any plan to move the Traffic Signal Shop should include this much space or a detailed program identifying space saving measures that will allow the Shop to function with less space. The current space usage is as follows:
        i. Exterior Storage – 12,000 square feet
        ii. Interior Space- 23,000 square feet
        iii. Vehicle Parking- 8,000 square feet
    b. Yosemite
        i. The total of this lease space is approximately 35,000 square feet. The available space for the Traffic Signal Shop was approximately 16,500 square foot. This is too small for the Traffic Signal Shop. In addition, the majority of the Yosemite facility has been occupied by the Paint Shop. The area that is not occupied by the Paint Shop will be used for Vehicle Parking for the shops in Bancroft. There is no possibility of relocating the Traffic Signal Shop to the Yosemite facility due to lack of space.
    c. Bancroft
        i. The Bancroft facility is a 90,000 square foot, two story warehouse. The current approximate space usage is as follows:
            1. The Sign Shop occupies approximately 40,000 square feet
            2. 11,000 square feet is taken up by shared rest rooms, elevators, stairs and the loading dock
            3. 10,000 square feet is dedicated office space
            4. 29,000 square feet is currently vacant but is planned for the Meter Shop in the future
        ii. This does not leave any available space for the Traffic Signal Shop, particularly for agency vehicle parking.
        iii. The Traffic Signal Shop believes they would lose 35% efficiency if they moved to Bancroft. This is primarily due to inefficiencies with Bancroft's freight elevator, the lack of on-site parking for Traffic Signal's vehicles, and the fact that Bancroft has no outdoor storage area.
            1. Bancroft's freight elevator for the second floor is only rated for 2,500 pounds and requires two operators (one on each floor) due to a lack of controls inside the cage.
            2. Vehicles would have to be parked at the Yosemite facility which is 1 ½ blocks away. The Traffic Signal Shop often has to respond to emergencies, so this added time would be detrimental to response time as well as reducing general efficiency.
            3. Traffic Signal currently has about 7,000 sf of outdoor storage at Rankin, but Bancroft does not have an available external space. All stored items would have to be staged at Metro Muni East, which is located over 2 miles away.
    d. Burke
        i. See Burke facility write-up in Category D.
        ii. Burke may be a viable option
            1. Could provide drive through for truck loading
            2. Would allow hydraulic trucks to be stored indoors. These trucks are currently parked outdoors, which creates ongoing maintenance issues.
2. Note that a separate Consolidation Plan for Signal Shops (Traffic Signal and Transit Signal) is being developed as a separate deliverable (Deliverable #2B).

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

SFMTA

CATEGORY C

Islais Creek Project

Address: 1301 Cesar Chavez

Lot and Block Number: 4352 / 001

Description

1. Islais Creek Phase 1 is under construction and scheduled to be completed by summer 2012. Phase 1 consists of:
    a. Parking for 160 40 foot motor coaches, all individually accessible
    b. 3 Diesel Fuel Lanes, with 2 underground storage tanks
    c. 3 four-brush bus washers, with water reclaim system
    d. 2 tire shop bays
    e. Space for CNG fueling equipment
    f. Offices, break room, rest rooms, and lockers for maintenance employees
2. Phase 2 is being redesigned to accommodate articulated coaches. Plans for Phase 2 have not been provided, however, the plans are currently being modified to accommodate articulated coaches.

Opportunities

1. Employee parking is not part of the Islais Creek project. A parking deck could be designed that sits above the bus parking or as part of Phase 2. This could be metered parking that would improve the available parking for the surrounding neighborhoods.
2. Bus parking is currently designed providing individual access to each motor coach. While this is an ideal method of parking buses, stacked parking (buses nose to tail) is used at every SFMTA rubber tire facility. Switching to a stacked parking design would improve the efficiency of the site and help store a larger fleet.

Impacts on Other Operations Facilities

1. When Phase 1 is complete, a fleet of 160 buses can be stored, fueled and washed at the facility. Maintenance will need to be supported by another facility. Maintenance could be handled by Woods Division, but not without facility improvements to Woods. See Woods Division in Category A.

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

1399 Marin Street

Address:	1399 Marin St.
Lot and Block Number:	4380 / 010
Opening Year:	
Last Improvements:	Recently used as a temporary maintenance facility
Existing Fleet:	See Appendix A
Site Area:	3.8 acres
Zoning District:	P-Public
Height & Use District:	40-X
Special Use District:	M-2 Heavy Industrial
Setback Requirements:	None
Other:	Under Port jurisdiction, Flood Notification
Total Building Area:	50,000 square feet
Employee Parking:	Employees park inside the facility or in the yard
Ownership:	Leased from the Port of San Francisco

Current Functions:

- Yard is being used for storage of old and unused vehicles with the majority past the state of feasible repairs.
- SFMTA Video Shop is operating out of temporary buildings inside of the facility.
- Multiple overflow storage areas for various SFMTA are housed in cages inside the facility.

Observations

1. Yard
    a. Temporary fueling facility remains on-site but is not in use
        i. 2 lanes (can only serve 40') with two above ground 2 tanks and fueling positions
        ii. Was temporarily used as bus parking and fueling facility
    b. Vehicles in various states of disrepair are now stored in the yard – includes vehicles of all types including historic trolleys and 1 cable car
    c. Many of the vehicles appear to be beyond feasible repair
2. Facility
    a. A restroom and office area is built along the northern interior wall of the facility
    b. 5 cable cars are stored inside the facility
    c. Video Shop
        i. Consists of 3 temporary buildings inside the Marin facility
        ii. Buildings measure approximately 50'x12', 50'x24', and 50'x36'
    d. Exhaust reels and other equipment remains from past use as a vehicle service facility
    e. 1 storage container housed indoors
    f. Multiple locked storage cages holding random and unidentified items

Interior Storage and Video Shop Buildings

Opportunities and Impacts on Other SFMTA Operations Facilities

1. Vehicles stored at Marin should be assessed for feasibility of rehabilitation and use in active fleets. If vehicles will be rehabilitated, a strategy for storing appropriately should be devised and implemented. If the vehicle is not going to be rehabilitated, but used for parts, then parts should be taken and stored appropriately. And lastly, if the vehicle is not going to be rehabilitated it should be auctioned off or disposed of accordingly.
2. The storage cages and other items stored at Marin should be assessed. Parts and items that will be used should be put into the material management system and be placed in the proper facility. Parts and items that are not going to be used should be auctioned off or disposed of accordingly.
3. The Video Shop ultimately needs a permanent location.
4. If the interior and yard space at Marin is freed up, there are a variety of potential uses that could be considered as listed below. Note, however, that the site is owned by and under the jurisdiction of the State Lands Commission and that long term use of the site for non-maritime use would be difficult.
    a. The Reserve fleet could be housed at Marin to relieve overcrowding at Woods.
    b. Marin could be a temporary maintenance facility for Islais Creek prior to Phase 2 being completed.
    c. The Traffic Signal Shop could be located here
    d. The Overhead Lines Shop could be located here
    e. A new Component Re-build could be located here
    f. It could be used as a temporary fleet location during a construction project at another division

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

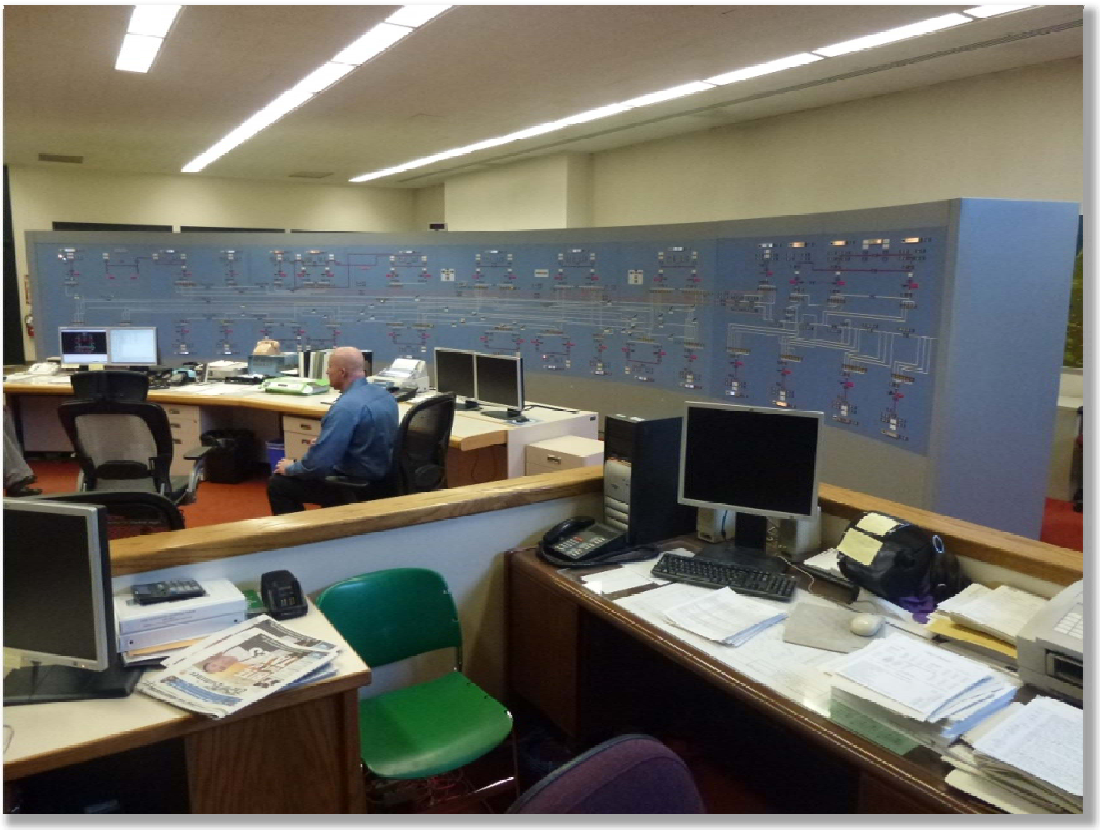
Woods Division

Impacts on Other SFMTA Operations Facilities

1. See Woods write-up in Category A
2. In addition to performing maintenance and storing its own fleet, the Woods Division provides the following services:
    a. Paint and Body work for the entire rubber tire fleet
    b. Component Rebuild for the entire diesel fleet
    c. Wheelchair Ramp repair for the entire rubber tire fleet
    d. Heavy Repair for the Kirkland bus fleet
    e. Fuel, wash, storage and maintenance for the Reserve Fleet
    f. Parts storage for the Kirkland Division
3. The Woods division is critical to the entire rubber tire fleet. It is currently in need of modifications.

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

Power Control Center



Impacts on Other SFMTA Operations Facilities

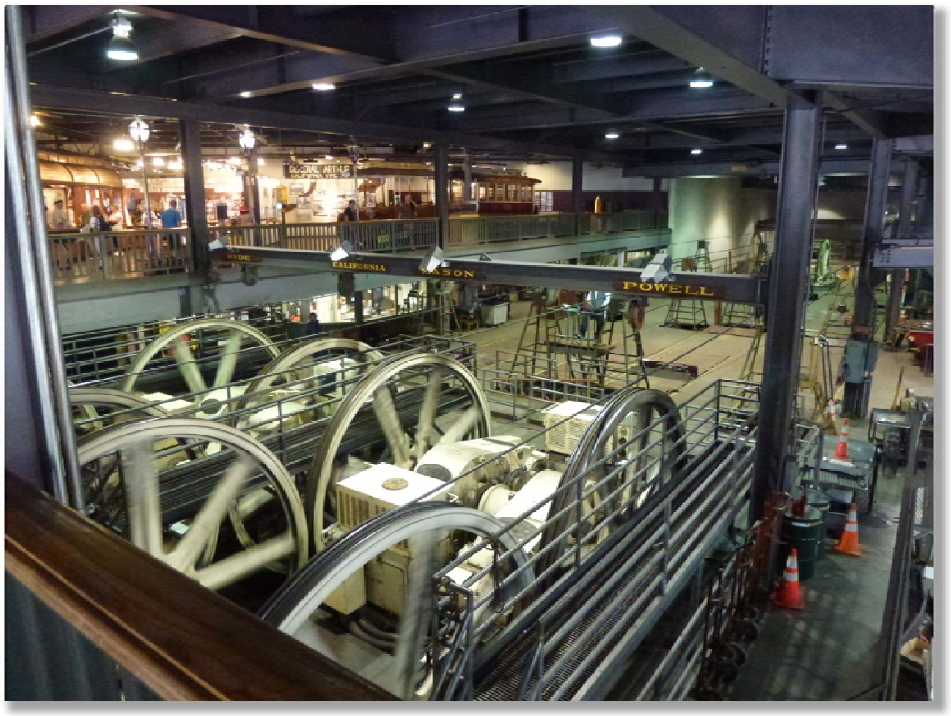
1. See Power Control Center write-up in Category A
2. There are no operational requirements for physically locating the Power Control Center adjacent to the Overhead Line Shop and Crew Facility. Communications between the Power Control Center and the Overhead Line Shop and crew can happen via phone or radio. It is more important that the Overhead Line crew be located near the overhead line system to allow for quicker response time.
3. The Power Control Center is a major investment that should remain at its current location.

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

SFMTA

CATEGORY D

Cable Car Barn and Museum



Address: 1201 Mason St.

Lot and Block Number: 0190 / 005

Observations

1. Cable Car has 40 cars and currently operates 27
    a. All vehicles are stored inside the facility – employees use the parking area for personal vehicles while the cable cars are operating
2. Each line runs on its own motor at 9.5 miles per hour
3. Operations and Maintenance is housed in the same building as the museum open to the public
4. The cable car motors driving the lines are directly below the open balcony of the museum
    a. Noise from the motors and maintenance on the cable car floor does not seem intrusive
    b. Attempting to place a glass barrier would take away from the museum experience of actually being in the heart of the cable car system. It would also be extremely difficult to manage/clean as the large viewing window would be directly above the cable wheels and would gather dust continually brought in on the cables
5. Operations
    a. Dispatch, crew areas, admin offices, stretching exercise equipment (helps with driver injuries)
    b. 150 to 160 operators
    c. Lines run 5:30 AM to 1:30 AM
    d. Cable Car operations handles its own fares/ticketing on-site
6. Maintenance Floor
    a. Car is brought from parking to preparation pit before leaving for a run. Operators take control of the car and adjust the brakes to fit their driving style before leaving
    b. Cable cars carry a battery on board to run their lights

   c. Painters and carpenters are part of the on-site maintenance crew
   d. All truck changes for cable cars occur in this shop – trucks are brought in from Special Machine Shop and attached to a car body
   e. Currently 13 mechanics operate across 3 shifts 7 days a week
   f. A Inspection: performed after 15 days of service, checks 26 points, and takes approximately 6 hours
   g. B Inspection: performed after 60 days of service, checks 56 points, and takes approximately 8-9 hours
   h. Maintenance area has pits to work below the cable cars
7. Store Room
   a. Cable car parts as well as cable motor, and street cable apparatuses stored
      i. 100 depression beams and 1200 hatch covers and pulleys are deployed throughout the system
   b. Parts are purchased from foundries and machined for cable car use
   c. Store Room is covered by Material Management
   d. 1 storekeeper on-site
8. Welding shop is an alcove off the maintenance floor
9. The cables are between 2 to 4 miles long depending on the line
10. Cable splices take 104' to blend into the wire to ensure strength of the splice while keeping it at the proper gauge to operate in the system
    a. Splices occur 12 to 20 times per year
    b. System is shutdown at midnight when splicing is required. Splice is complete by 5:30 AM to begin operations
    c. Splicer crewmember watches the line as it passes through the motor to see if repairs need to be made
11. Grip Repair
    a. Caged machine shop on the shop floor for rebuilding the grip apparatus
    b. 1 ton jib crane
12. Control Room
    a. Enclosed area looking out onto the cable motors
    b. 1 panel per line to monitor and control the system
    c. Strand alarms in the system are switched if the line comes off its guides
13. Track Maintenance
    a. 8 vehicles for making track/equipment repairs in the field
    b. 1 track crew is kept on call at all times
    c. Current vehicles are overtaxed by the weight of their equipment and the average age of the repair vehicles is 21 years
    d. Ideally 4 trucks each capable of holding 6 workers and an air compressor, generator, and boom to lift equipment

Cable Car Maintenance Tracks

    e. Vehicles are pulled into the shop space to park
14. Large bridge crane on the shop floor is used to bring in and move spooled cable in the facility
    a. An extra spool cut to the size of each line is kept on hand. If necessary, the longer line cable is cut to use as a replacement for shorter lines
    b. Some spools are stored in a floor compartment and the others sit on the shop floor
15. Employee/Visitor Parking
    a. There is no dedicated space on-site for employee or visitors. Employees park on tracks in the cable car storage area when the cable cars are in service. Visitors must find parking on neighborhood streets.

Issue Specific Analysis

Scope: Analyze whether noise from the cable car machinery can be effectively isolated in the Cable Car Barn so as not to unduly interfere with visitors to the Museum, and provide any recommendations on control of noise issues at the facility.

1. The Cable Car Barn and Museum is a truly unique facility. It offers museum patrons an inside view of the only active cable car system in the country. The viewing deck of the cable car barn overlooks the electric motors and sheaves that move the four cable lines. All four motors and cables are clearly in view while operating.
2. The noise of the electric motors and cable against sheaves could potentially be reduced by installing a glazing system along the entire mezzanine. This noise reduction would be minimal and should be weighed against the following consequences:
    a. The space is large and it would take a significant investment to install a glazing system.
    b. If installed the glazing would require constant cleaning. The public side would become dirty as viewers watch the machinery. The cable car drive machinery room side would become dirty from the dust that the cables are constantly picking up while running through the streets. This would be especially difficult to clean as the space is a double height with operating machinery that would need to be avoided on the ground floor.
    c. The overall experience of seeing and hearing the system would be minimized by the glazing detracting from the museum experience.
3. The noise levels present in the Cable Car Barn are within industry standards.

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

Burke Avenue Facility

Address:	1570 Burke Avenue
Lot and Block Number:	5203 / 066
Opening Year:	Built for USPS 1969 and occupied by SFMTA in 2005
Last Improvements:	
Existing Fleet:	N/A
Site Area:	2.4 acres
Zoning District:	P-Public
Height & Use District:	65-J
Special Use District:	India Basin Industrial Park
Setback Requirements:	None
Other:	
Total Building Area:	103,000 square feet
Employee Parking:	Limited on-site parking
Site Ownership:	SFMTA

Current Functions:

- Central Storage warehouse for all SFMTA operations and maintenance facilities
- Operates daily parts distribution service to each SFMTA facility
- Maintains SFMTA's inventory levels
- Provides overflow storage space for multiple SFMTA departments

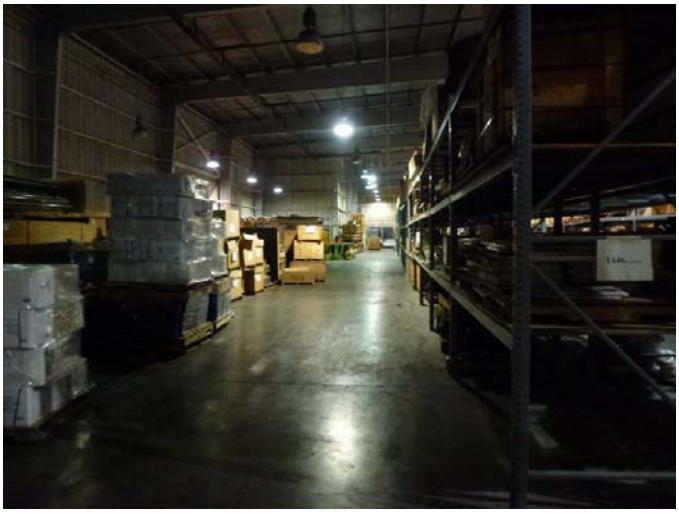
Observations

1. The facility has no HVAC or insulation
2. New lighting is being installed in the facility in batches – When approximately 10 lights need replacement the electric crew will come in and do a round of new light installations (must rent a scissor lift each time to install the fixtures)
3. An overhead sprinkler fire suppression system is installed
4. Roof has leaks in multiple areas
5. During heavy rain the drain near the loading dock on the west end of the facility can back up and flood the area
6. There is no access from the rear of the facility. A new bike lane on Cargo Way will not allow access.
7. Far west loading dock door is not fully functional
8. Site security – facility has security cameras, automatically locking doors (3:30), automatically switched lights (4:30)
9. Serves as storage for all of Muni maintenance facilities and Sustainable Streets
10. Moving Overhead Lines into the facility has been discussed/planned in the past – still a possibility
11. Inventory is tracked via stock numbers – currently no barcode system is in place
12. Fast moving items are kept in the west section of the facility

Burke Exterior and Employee Parking

13. Groups with auxiliary storage in the facility manage their own stock, which is not tracked by Material Management – Burke does not inventory or monitor these areas/items
14. Burke operates 5 days a week on 8 hour shift (6:30-3:30)
15. Staffing: 3 total – 2 storekeepers and 1 driver (includes supervisor)
16. Vehicles: 2 trucks – 1 is in daily use with a staffed driver and the other is used on an as-needed basis and driven by a storekeeper
17. Orders arrive at night. In the morning when shift begins parts are loaded onto a flatbed truck to head out to SFMTA facilities
    a. Monday/Wednesday/Friday – the truck serves the diesel rubber tire facilities
    b. Tuesday/Thursday – truck serves rail, electric trolley bus, overhead lines, and cable
    c. Example Tuesday/Thursday run order Burke-Green-MME-Burke-Presidio-Potrero-OH Lines
    d. Generally stop at Woods and Green first during distribution runs
18. Burke interfaces with facilities and their store rooms via central computer system
    a. 90% of orders are triggered by the automatic min/max system
    b. 10% requested specifically by facilities outside of the system
19. Burke generally stores many of the larger parts and the individual parts rooms at facilities handle the storage of the smaller day to day parts
    a. The larger facility store rooms also send parts to other facilities. For example Woods distributes parts to Kirkland. (Truck leaves Burke with supplies for Woods and leaves Woods with supplies for Kirkland)

   b. Burke truck will receive cores from the maintenance facilities and return them to Burke for storage and processing
20. Burke stores large rebuild components and Green and Wood also store some of these items in their shop space due to a lack of space in the facility parts rooms
21. West Wing Storage Area
    a. Stores fast-moving and rapidly overturned inventory
    b. Approximately 80% of Burkes daily operations occur in this area
    c. Current inventory is slightly low
    d. Operations example: brake parts are stored in this area and sent out to facilities with brake shops, assembled into brake packages there, and sent out to other maintenance facilities for installation

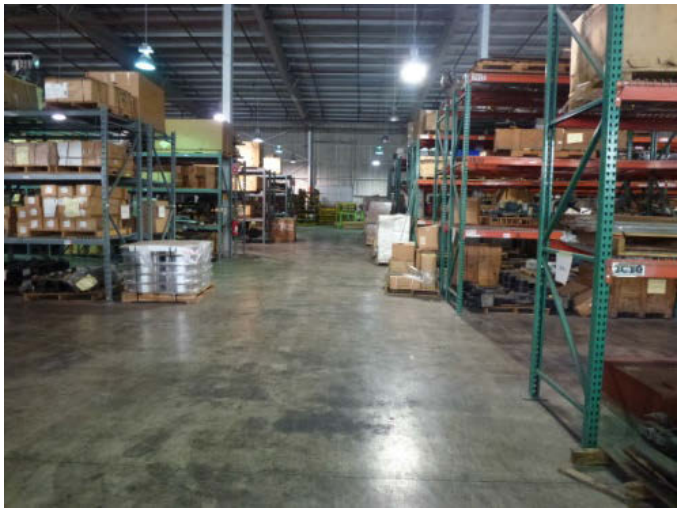


Pallet Storage along Exterior Walls

22. Center Storage Area
    a. Fast moving items partially overflow into this area, but it is mostly slow moving PCC/Historical parts storage
    b. A great deal of these items are quite large and much older – many can no longer be purchased
    c. Fast moving items in this area are inventoried – slow moving parts for PCC/Historic are not inventoried
        i. When someone comes to retrieve the non-inventory items the supervisor must accompany them and approve the retrieval
    d. Old patterns and large items for cable cars are stored here due to lack of space in any of the cable car facilities – items are not inventoried
    e. Old parts/assemblies stored here must be properly drained of all fluids prior to storage but no exterior cleaning occurs for most parts – issues have been raised by health/safety in the past
    f. Slower moving bus/rail items are also stored in this area
23. Custodial Area
    a. Not inventoried/controlled by Burke staff
    b. Fast moving items for custodial are stored here
    c. Custodial sends a driver here to manage and load inventory onto a delivery truck for distribution (approximately 4 hours per day)
24. Hazardous Materials Storage Area
    a. Not inventoried/controlled by Burke staff
    b. Holds fluorescent lights and other hazardous items until they are retrieved by an outside company for proper disposal
25. Electrical Area
    a. 1 office space
    b. Building electrical controls
    c. Security camera recording system and monitor in this area
26. Police Office Area

a. Houses storage for Canine Unit – mostly dog food in a locked office area
b. Not inventoried/controlled by Burke staff

27. Restroom
28. Mezzanine above the restroom and Police Area is capable of storage and currently unused
29. Facilities Storage
    a. Large items are stored in this area for the facilities group
    b. Not inventoried/controlled by Burke staff
30. East Wing Storage Area
    a. No vehicle access in this area
    b. Was considered for overhead lines working shop
    c. Area is now used as storage for obsolete items and items to be auctioned off
        i. Auctions are handled off-site by a 3rd party and occur 1-2 times per year
        ii. Maximum of 44 pallets can be offloaded per auction shipment (88 total per year)
    d. Groups are using this area for overflow storage space (Not controlled or inventoried by Burke)
        i. Signs
        ii. Signal
        iii. T-Line
        iv. Overhead Line
        v. Custodial (slow moving inventory)
    e. Secure Storage Area
        i. Locked area in the East Area's office space
        ii. Currently storing security cameras to be installed at SFMTA facilities and other high dollar equipment
    f. IT Office
        i. Currently storing multiple antiquated computers
31. Overall Storage Breakdown
    a. West Wing Area
        i. Drums – 60 pallets (16 drums per pallet stacked 2 high)
        ii. 55 Gallon Drums – 4 pallets (stacked 3 high)
        iii. Aluminum Wheels – 3 pallets (loaded 5' high)
        iv. Axles – 16 axles (equivalent of 2 pallets each – 32 pallet space)
        v. Glass – 11 pallets
        vi. Front Ends – 6 crates at 2'x8'x8'
        vii. Rags – 25 pallets (8' high load)
        viii. 123 pallet racks (4'x9' 3-beam) storing approx 638 single pallets,120 double pallets,1 box each of 10' and 21' poles
    b. West Loading Area
        i. 2 boxes of 21' poles



Central Storage Racks

ii. 2 shipping containers in area – storing 46 single pallets, 2 double pallets, 1 box of 21' poles
iii. Disposable gloves – 5 pallets
iv. Catalytic converter cores – 21 pallets
v. Battery cores – 18 pallets (picked up every 40,000 lbs which is approx 36 pallets)
vi. Staging Area (loads approximately 8 pallets to truck per day) 70'x40' space able to stage 10-16 pallets for future loading

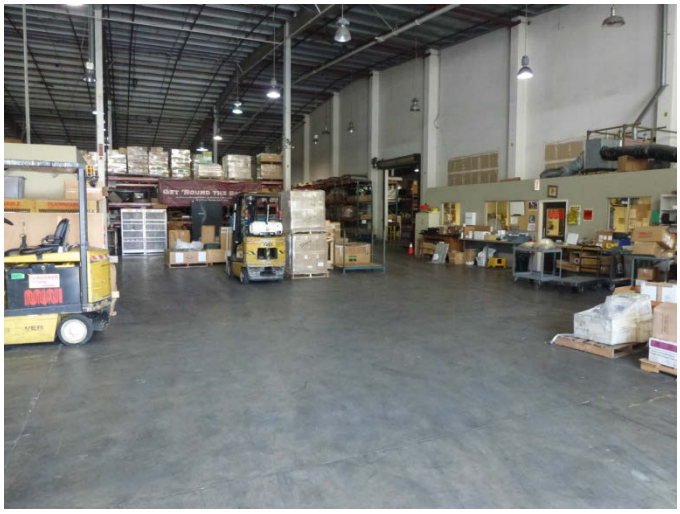
c. Central Storage Area - Active Racks
   i. Glass– 60 single crates, 37 double crates
   ii. 78 pallet racks (4'x9' 3-beam) storing approx 297 single pallets and 93 double pallets
d. Central Storage – Active Overflow Storage
   i. Wheelchair lift assemblies – 13 double pallet
   ii. Miscellaneous – 18 double pallets and 6 double/double pallets
   iii. Doors – 20 double pallets
   iv. Streetcar wheels – 12 pallets (3 stacked 4 high)
   v. Forms and Patterns – 15 sf area
   vi. 1 6' spool
e. Central Storage Area – PCC/Historic Racks
   i. 45 pallet racks (4'x9' 3-beam) storing approx 86single pallets,47 double pallets,1 box each of 15' poles,
   ii. in addition there were 11 single pallets of active overflow storage
   iii. and on the floor were 13 single pallets and 31 double pallets
   iv. an additional 250 sf were occupied by large items cable car and historic streetcars
f. Central Custodial Storage
   i. The equivalent of 58 pallets stored on ground
g. Central Overflow behind fence by east wing
   i. Equivalent of 6 pallet racks of suitcases
   ii. 6 battery compartments, equivalent of 4 pallets each
   iii. 35 single pallets stored on floor
   iv. 4 stacks of decks for pallets racks
   v. 70 single pallets and 20 double pallets on 13 pallet racks (4'x9' 3 beam)
   vi. 3 double stacked truck racks

East Wing Group Storage Area

h. Central Overflow behind fence by custodial
   i. 188 single pallets stored on the ground with 98 pallets double stacked, plus 10 double stacked axles on palletized blocks, this is approximately 50% of normal
i. Central Facilities Storage

i. 40’ cargo container
ii. 3 sign trailers and one 18’ gooseneck trailer
iii. 6 racks (12’x3’x6’)
iv. 52 single pallets and 25 double pallets stored on floor
v. 4 quadruple pallets of escalator equipment
vi. 20 single pallets of escalator equipment

j. Central Hazardous materials Storage
   i. 10 pallets and 8 double pallets stored on the ground



View from West Loading Dock Entrance

k. East Storage Area, all stored on ground
   i. T Line Construction staging area, 11 single pallets, 6 double pallets and 8 triple pallets
   ii. Custodial, 43 single pallets
   iii. Signal, 87 single pallets, all double stacked
   iv. Overflow
      1. 11 axles double stacked axles on palletized blocks
      2. 140 single pallets
      3. 35 double pallets
   v. Sign, 72 single pallets and 11’ sign pole storage
   vi. Overhead, 30 single pallets, 12 double pallets, 35 large spools
   vii. Obsolete, 140 single pallets, 51 double pallets (auctioneer only takes away 44 pallets a time and comes twice a year at most)

Issue Specific Analysis

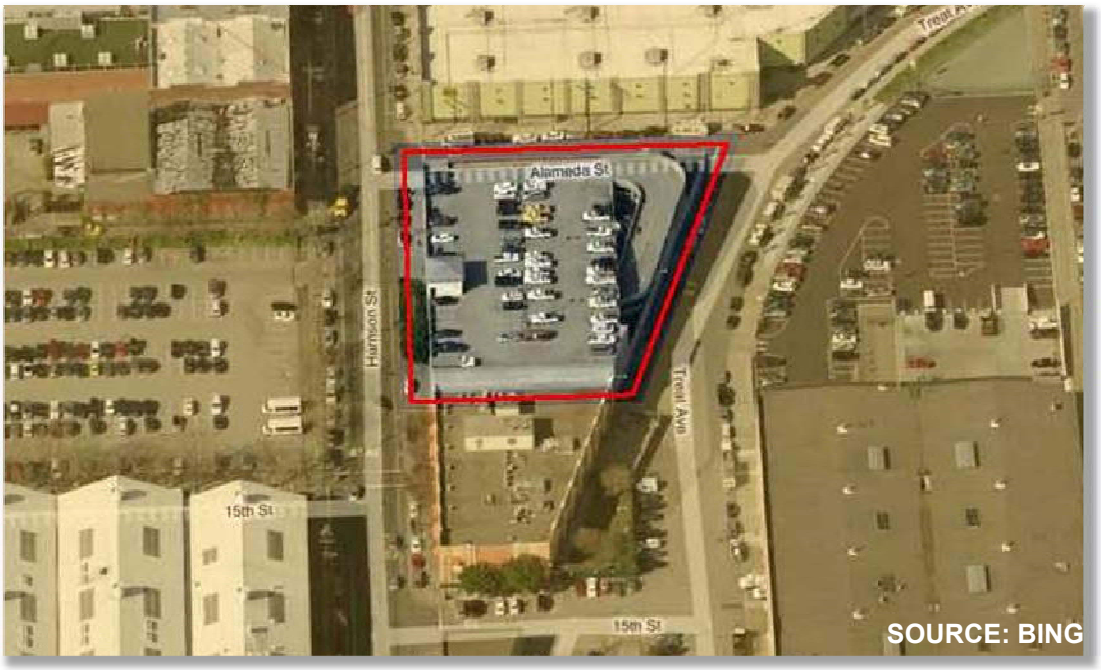
Scope: Analyze and recommend how to efficiently utilize the SFMTA's warehouse in half of this 100,000+ square foot facility, recommend whether this facility should have tenant improvements built so that the Muni Overhead Lines can be relocated from 1401 Bryant St. to 1570-80 Burke Ave., and/or propose alternatives for relocation of Muni Overhead Lines.

After analyzing the existing facility, the study team identified the following opportunities. Note that specific recommendations will follow as part of Deliverable #2C.

1. Move Historic Streetcar components and other slow moving items to MME to be cleaned and inventoried
2. Create a designated staging area for ongoing projects. This will utilize the equivalent three full bays. Move component rebuild into the space
3. Put custodial items into inventory control and under the material management responsibility
4. Use space saving pallet storage and retrieval systems to maximize the inventory that can be stored in this space and minimize retrieval times.
5. Overhead Lines Shop
    a. The Overhead Lines Shop could be moved into this facility. The current Overhead Lines Shop facility totals approximately 48,000 square feet. The Central Warehouse function could be made more efficient to make room for the Overhead Lines Shop. Any plan to move the Overhead Lines Shop should include this much space or a detailed program identifying space saving measures that will allow the Shop to function with less space. The current space usage is as follows:
        i. Warehouse 13,000 square feet
        ii. Offices/Crew Areas 3,000 square feet
        iii. Indoor Vehicle Parking 23,000 square feet
        iv. Exterior Parking 9,000 square feet
    b. Note that the RFP made reference to a 2010 MTA study which recommended that Overhead Lines be moved to the Burke Avenue Facility at an estimated cost of $18 million.

Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

Scott Facility



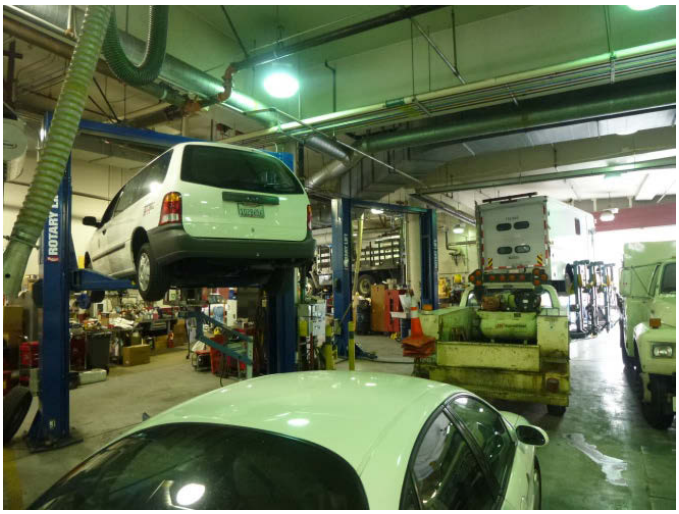
Address:	1849 Harrison St.
Lot and Block Number:	3925 / 002
Opening Year:	
Last Improvements:	
Existing Fleet:	See Appendix A
Site Area:	1.1 acres
Zoning District:	P-Public
Height & Use District:	65-X
Special Use District:	Mission Alcohol District
Setback Requirements:	None
Other:	Flood Notification
Total Building Area:	Maintenance Area - 30,000 square feet Parking Garage - 88,000 square feet
Employee Parking:	Metered parking in the facility parking garage
Site Ownership:	SFMTA

Current Functions:

- Maintenance facility for all SFMTA non-revenue vehicles

Observations

1. Currently the facility mostly handles Muni vehicles
2. In July, 2012 (approximately), the vehicles for Sustainable Streets will start to be maintained at this facility
3. Facility has no heavy machine shop on-site and ships out items to Green's machine shop as needed
4. No on-site fueling at Scott – vehicles are fueled at various other fuel positions throughout the system (Bryant, Flynn, etc.)
5. Scott operates 5 days a week with 6 mechanics on 8 hour shifts and some overtime (will likely go to 2 shifts in July as vehicles are added)
6. Scott's mechanics are cross-trained on all shop equipment to maintain flexibility for different vehicle types and maintenance processes
7. Woodwork items (truck boxes and etc.) are sent to 700 Penn carpentry shop
8. Steam Room – houses water heating equipment, vehicle lift, and an abrasive blast glove box
9. Scott would like to fence in part of the area on the rear of the facility to provide exterior parking of vehicles directly from shop floor
10. Portable lifts are used on the floor to create extra bays in the shop
11. Shop Area
    a. Reels between the bays distribute engine oil, automatic transmission fluid, compressed air, chassis lube, gear oil, coolant
    b. Non-standard coolants and oils are pumped from portable units as needed (5 types of coolant and 4 types oil used in vehicles serviced at Scott)
    c. Urea is distributed from drums as needed
    d. All bays have vehicle exhaust hoses
    e. Waste fluids are dumped into in-floor collection points and stored in in-ground tanks (1 for petroleum based fluids and 1 for coolant)
        i. Waste fluid levels are monitored via a column mounted panel and pumped out via connections on the floor below the panel by an outside company
    f. Scott is servicing vehicles fueled by diesel, gasoline, compressed natural gas, propane, and hybrid systems
        i. No modifications to the facility have been made to handle CNG – no methane sensors in the facility
    g. Brake Area: 2 lathes and a workbench
    h. Bay with one post lift for light vehicles and scooters – Scott will be servicing 259 scooters soon. Machine shop fabricated adapters to use with lifts throughout the facility
    i. Hydraulic workstation shares space with the single post lift bay – repairs/rebuilds hydraulic systems for the vehicles serviced by Scott
    j. In-ground dynamometer bay is used for Smog Check system



1: Vehicle Maintenance Bays

12. Tire Room
    a. New tire storage on three 20' racks with 3 beams each
    b. 1 balancer and 2 mounting machines
    c. Old tires are stored in the hall due to overflow
13. Extra Tool Storage Room
14. Server Room
    a. Each bay has a computer terminal networked to the shop server room to access shop manuals and software
15. Mechanical Room
    a. Stores oil and transmission fluid to supply reels
    b. Houses the air compressor for shop air drops
16. Portable Equipment Storage Area
    a. Rolling shop equipment
    b. Battery storage cabinet – no charging on-site. Store and swap out with battery vendor
17. Store Room
    a. Run by Materials Management
    b. Responsible for monitoring the fluid levels in the shop
    c. Only common use parts are kept on hand
    d. Work with 3 outside parts dealers to source any other required parts
    e. Staffing: 1 storekeeper
    f. Receiving – loading bay opens to street but is seldom used. Most deliveries enter through the shop
    g. 2nd floor is used to store non-inventoried parts: obsolete items and vehicle parts that can no longer be purchased
    h. Air conditioning units located in this area
18. Telecom closet
19. Custodial Room
20. Library Area adjacent to the Manager's Office stores manuals and software packages
    a. Plotter for vehicle numbers
21. Manager's Office (also has key cutting equipment)
22. Assistant Manager's Office
23. 2nd Floor: File Room, mechanic restroom/lockers, lunchroom, break room
24. Parking Deck
    a. Accessed from street by card key
    b. 3 levels
    c. 1st Level: employee parking and city vehicles. (73 spaces total)
    d. 2nd Level: employee parking and section for Scott vehicles awaiting repair. (71 spaces total)
    e. Top Floor (3rd Level): old vehicles are stored here to harvest parts from, some employee parking. (83 spaces total)
    f. City vehicles do not pay for parking
    g. Employees pay for parking

2: Scooter / Small Equipment Maintenance Area

25. Scott Facility mechanics must occasionally go out into the field to service a vehicle – mostly subway support vehicles
26. Digital message boards are currently stored at Burke Warehouse
27. Existing Bays:
    a. 5@ 20'x35', 15 K lift
    b. 3@ 20'x35', 18 K lift
    c. 1@ dynamometer and smog
    d. 1@ 20'x50', 50 K lift
    e. 7@ 20'x35', 8 K lift
    f. 1@ 20'x50', flat with portables
    g. 1@ 20'x20', 2 K lift

3: Parking Garage

Issue Specific Analysis

Scope: Determine if Scott Division for the SFMTA's non-revenue, service-support vehicles can be shared with some portion of the City's non-revenue vehicle fleet in the short term and/or long term, given the projected growth of the SFMTA's fleet, and/or propose alternatives to such consolidation.

After analyzing the existing facility, the study team indentified the following opportunities. Note that specific recommendation will follow as part of Deliverable #2C.

1. Claim a portion of the parking garage area on the 1st level of the parking deck for conversion into a scooter/cart repair facility
2. Reconfigure ground floor to provide more repair bay space and better access to the parts storeroom
3. The following chart shows the number of repair bays required to accommodate the current SFMTA non-revenue vehicle fleet. The existing facility needs an additional 8 repair bays in order to properly accommodate all of SFMTA's non-revenue vehicles. Accommodating additional City NRV's is not feasible within the existing facility.

Facility Capacity Needs, based on NRV fleet

SFMTA Non-Revenue Vehicle (NRV) Maintenance Repair Bay Capacity Analysis
VE = Vehicle Equivalent

NRV Type	Qty.	VE Factor	VE Quantity	# Bays Required	# Bays Available	Diff.
20' x 35' Bays						
Sedans / Minivans / SUVs	241	1	241	4		
Trucks / Vans (under 1 ton)	198	1	198	3		
Subtotal	**439**		**439**	**7**	**15**	**8**
20' x 50' Bays						
Trucks / Vans (over 1 ton)	133	2	266	4		
Heavy Trucks / Paratransit	152	4	608	9		
Subtotal	**285**		**874**	**13**	**2**	**-11**
20' x 20' Bays						
Scooters / Carts	255	1	255	4		
Trailers / Equipment / Misc.	239	0.5	120	2		
Subtotal	**494**		**375**	**6**	**1**	**-5**
TOTAL	**1,218**		**1,688**	**26**	**18**	**-8**

Facility Deficits

1. Need 11@ 20'x50' Bays
2. Need 5@ 20'x20' Bays

(Note: Site report may contain observations and note opportunities which are operational in nature. Though not within the scope of the Real Estate Vision effort, they are included for consideration by SFMTA.

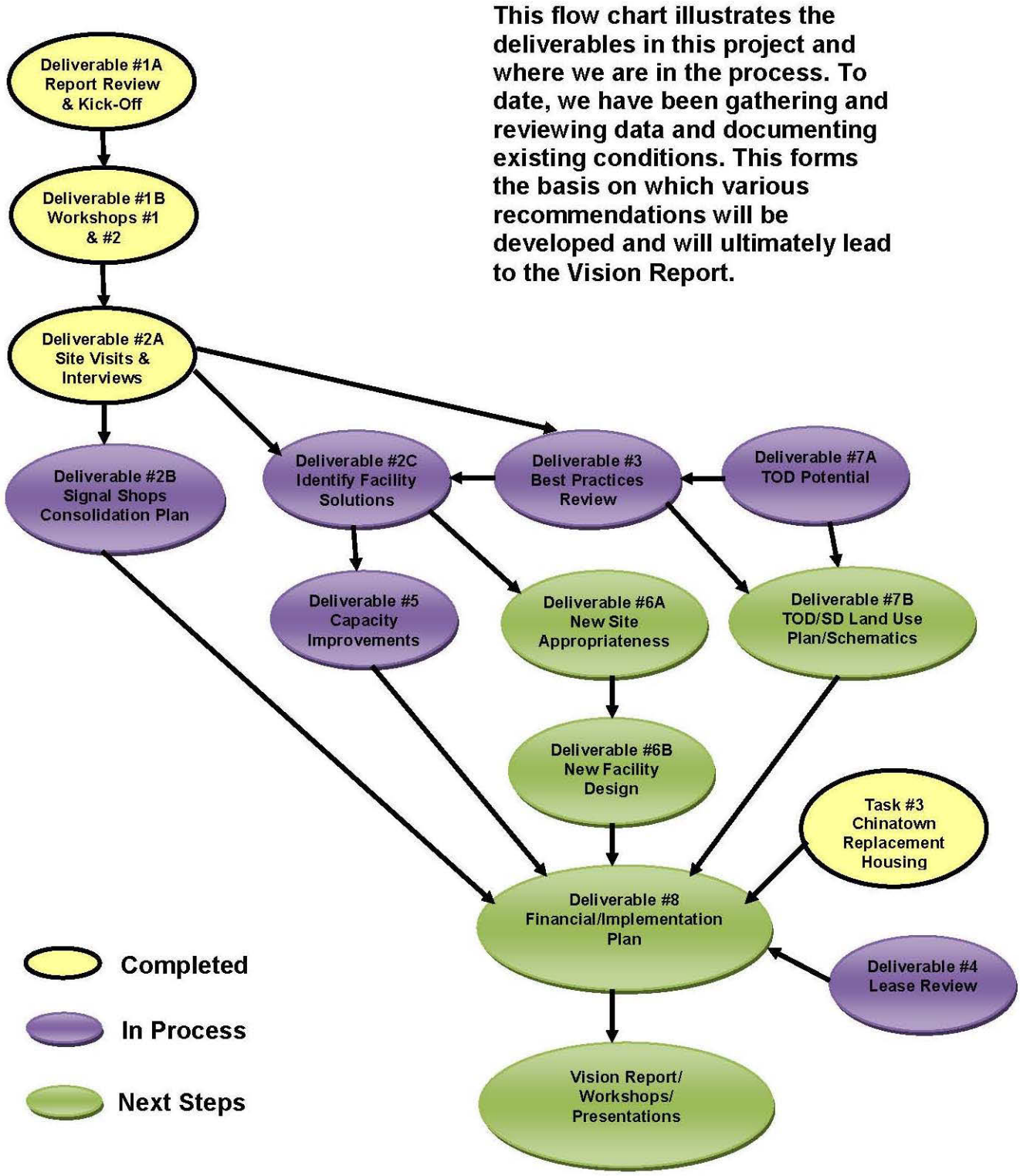
SFMTA

OUTSTANDING ISSUES

Outstanding Issues

1. Need written consolidation plan for One South Van Ness for review
2. Need direction from SFMTA regarding the facility in Daly City that may be under consideration for long term towing
3. Need Islais Creek Phase 2 Plans

Next Steps


This flow chart illustrates the deliverables in this project and where we are in the process. To date, we have been gathering and reviewing data and documenting existing conditions. This forms the basis on which various recommendations will be developed and will ultimately lead to the Vision Report.
Deliverable #1A Report Review & Kick-Off
Deliverable #1B Workshops #1 & #2
Deliverable #2A Site Visits & Interviews
Deliverable #2B Signal Shops Consolidation Plan
Deliverable #2C Identify Facility Solutions
Deliverable #3 Best Practices Review
Deliverable #7A TOD Potential
Deliverable #5 Capacity Improvements
Deliverable #6A New Site Appropriateness
Deliverable #7B TOD/SD Land Use Plan/Schematics
Deliverable #6B New Facility Design
Task #3 Chinatown Replacement Housing
Deliverable #8 Financial/Implementation Plan
Deliverable #4 Lease Review
Vision Report/ Workshops/ Presentations
Completed
In Process
Next Steps

SFMTA

APPENDIX A: EXISTING FLEET

SFMTA Total Fleet Requirements

	Spare Ratio Assumption (from Table 1 in RFP)	Current Fleet											FY 2030 Est. Needs (from Table 1 in RFP)	Difference
		FY 2010 (from Table 1 in RFP)	Facility Currently Assigned To											
			Kirkland	Woods*	Flynn	Potrero	Presidio	Green	MME	Geneva Yard	Cable Car Barn	Scott	Other	
Motor Coach 30'	30%	30		30										25	-5
Motor Coach 40'	20%	306	135	171										349	43
Motor Coach 60'	20%	124			130									207	83
Vans/Cutaways	30%	0	Currently SFMTA contracts out paratransit services											18	18
Trolley Coach 40'	25%	240				75	165							184	-56
Trolley Coach 60'	25%	73				73								121	48
LRV	20%	151						76	75					208	57
Cable Car	50%	40									40			40	0
Historic Streetcar	50%	24								24				56	32
NRV	NA	NA	5	32	16	15	9	10	0	0	38	0		NA	NA
TOTAL*		988	140	233	146	163	174	86	75	24	78	0	0	1208	220

* Not Including Reserve Fleet at Woods: Forty 40 foot coaches (1993 Gilligs)