FEHR PEERS

June 1, 2022

Rendell Bustos
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City of San Mateo | Community Development Department
Submitted to: rbustos@cityofsanmateo.org

Subject: San Mateo Block 21 and 435 E. 3rd Avenue Parking Requirements – Addendum

This letter serves as an addendum to the "San Mateo Block 21 and 435 E. 3rd Avenue Parking Requirements" memorandum prepared by Fehr & Peers for the City of San Mateo on April 20, 2022. On May 16, 2022, the applicant's transportation consultant, Hexagon Transportation Consultants, Inc., provided a letter of response detailing reasoning for a lower parking ratio. Fehr & Peers finds Hexagon's lower parking ratio reasonable and methodology approach appropriate. The remainder of this letter recaps Fehr & Peers' and Hexagon's methodology and assumptions as context for why a lower parking ratio is justifiable.

Summary of Fehr & Peers' Methodology

This study used the Environmental Protection Agency's (EPA's) Mixed-Use Development (MXD) travel demand methodology to determine the automobile mode share and the correlated reduction in parking demand compared to industry standard rates. The results are compared to available local parking and mode share data and vehicle trip counts. Based on this approach, the office parking requirement would be calculated on a rate of 2.06 stalls per 1,000 gross square feet. This rate includes 0.14 spaces per 1,000 gross square feet for visitor parking and 1.92 spaces per 1,000 gross square feet for employee parking. Due to the COVID-19 pandemic, Fehr & Peers was unable to collect current parking counts and thus used the MXD approach, which relies on built environment variables to measure the degree of interactivity within the site and the accessibility of the site location for non-automobile trips, then adjusts the conventional Institute of Transportation Engineers (ITE) data outputs to produce more accurate trip generation forecast.

Summary of Hexagon's Methodology

This applicant's study estimated parking demand based on parking count data collected in 2016 at three different office buildings in San Mateo, comparable in size and location to Block 21 and 435 E. 3rd Avenue. The parking demand ratios ranged from 1.56 to 2.28 occupied spaces per 1,000 square feet of building area, with an average of 1.82 occupied spaces. These demand surveys included both employees and visitors.

Conclusion

The two studies produced similar estimates of parking demand within 10 percent of each other. The Hexagon study relies on actual 2016 parking counts from comparable project sites, while the Fehr & Peers study relies on the MXD methodology along with parking and mode share data along the Peninsula. Both studies are ultimately estimates with different assumptions and appropriate, data-driven methodologies; their differences are within a typical range of outcomes that are seen on a project-by-project basis. Given the trend of reduced office commuting due to remote and hybrid work schedules and the expectations for more frequent Caltrain service after its electrification project, a lower parking ratio appears reasonable for Block 21 and 435 E. 3rd Avenue. Thus, given that the parking ratio acceptably ranges between 1.82 and 2.06 spaces per 1,000 square feet, we recommend taking an average of the two for a parking ratio of 1.94 spaces per 1,000 square feet.

Sincerely,

FEHR & PEERS

Ashley Hong
Transportation Planner

SF21-1188.00

Attachment:

Attachment A: Fehr & Peers' "San Mateo Block 21 and 435 E. 3rd Avenue Parking Requirements" Memorandum

Attachment B: Hexagon Transportation Consultant's Inc., "San Mateo Office Parking Counts" Memorandum

Attachment A
Fehr & Peers' "San Mateo Block 21 and 435 E. 3rd Avenue Parking Requirements" Memorandum

Memorandum

Date: April 25, 2022

To: Rendell Bustos, City of San Mateo

From: Ashley Hong & Matt Goyne, Fehr & Peers

Subject: San Mateo Block 21 and 435 E. 3rd Avenue Parking Requirements

SF21-1188

This memorandum summarizes the locally appropriate parking requirements for the two mixed-use office/residential projects in downtown San Mateo's Central Parking and Improvement District (CPID): Block 21 (500 E 3rd Avenue) and 435 E. 3rd Avenue, herein referred to as the "projects." The City of San Mateo Municipal Code (Section 27.64.100) currently requires general offices in the CPID to provide a minimum of 2.4 stalls per 1,000 gross square feet of floor area. An additional 0.2 stalls per 1,000 gross square feet is required for visitor parking. This memo serves to inform the City on locally appropriate parking requirements in lieu of these standard CPID ratios based on a review of national parking research and local parking data. Project applicants may request to pay parking in-lieu fees for any parking not provided on site in the CPID per City of San Mateo Municipal Code Section 27.64.100(3)(A). The developer for Block 21 and 435 E. 3rd Avenue is proposing on-site parking on Block 21 and has proposed to pay fees in-lieu of providing on-site parking at 435 E 3rd Avenue.

As previously established with City staff, the residential parking ratios match the parking requirements of 0.5 spaces per unit as required by project's that comply with the State density bonus law. Therefore, no in-lieu fee will be required for the residential component of the Block 21 development and the in-lieu fee for the 435 E. 3rd Avenue project will be based on the 0.5 spaces per unit parking ratio unless reduced further via a State Density Bonus law incentive/concession or waiver. The remainder of the memorandum presents a review of expected office parking demand to inform the requirements.

Summary

Trip generation and parking demand are primarily determined based on two factors for employment uses: employee density and automobile mode share. The proposed projects are both assumed to be traditional office spaces and therefore the employee density match industry

standard rates for trip generation and parking demand. Unlike residential land uses, where people may store parked vehicles for occasional use, the vehicle trip generation, automobile mode share, and the demand for parking spaces are all correlated for employment land uses.[1] This study uses the Mixed-Use Development (MXD) travel demand methodology to determine the automobile mode share and the correlated reduction in parking demand compared to industry standard rates. The results are compared to available local parking and mode share data and vehicle trip counts. Based on this approach, the office parking requirement should be calculated on a rate of 2.06 stalls per 1,000 gross square feet. This rate includes 0.14 spaces for visitor parking per 1,000 gross square feet.

Parking Research

National Parking Trends

Most cities in the United States require new developments or buildings undergoing land use changes to provide a certain number of off-street parking spaces. These requirements are known as "parking minimums" and are calculated according to a building's zoning district, land use, and size. In the City of San Mateo, projects within the CPID are allowed to request payment of an in-lieu fee.

Parking minimums often require developers to provide more parking than would be utilized, especially in transit-oriented locations.[2] Effectively, the minimum amount of parking required is often set high enough to provide at least the maximum amount of parking that could conservatively be used. This may result in excess parking supply and underutilized parking lots and garages, which then increases costs as owners and consumers subsidize the unused space. Additionally, unconstrained or abundant parking influences people's transportation choices by encouraging driving; the belief that parking will be available and free at one's origin and destination makes driving a more attractive, convenient transportation option.

The two primary national data sources, the Institute of Transportation Engineers (ITE) *Parking Generation* and the Urban Land Institute (ULI) *Shared Parking Manual,* estimate an office parking demand rate of 2.8 spaces per 1,000 square feet, including 0.2 spaces per 1,000 square feet for visitors and the remaining for employees. However, these sources are primarily based on data collected at auto-oriented suburban sites prior to 2008 with near unlimited, abundant free parking and do not capture the effect of high-quality transit service nor robust transportation

[1] Parking demand decreases faster in locations with higher-than-average use of taxis or transportation network companies (i.e., Uber and Lyft), such as San Francisco. Taxis or TNCs continue to make up a very small percentage of commute trips in San Mateo County as indicated in the County's latest commute data from 2017: https://sustainablesanmateo.org/home/indicators/transportation/

[2] Shoup, Donald. 2005. *The High Cost of Free Parking*. American Planning Association. Available at: https://www.researchgate.net/publication/235359727_The_High_Cost_of_Free_Parking

demand management (TDM) programs.[3] In these settings, greater than 75 percent of employees commute by single occupancy vehicle. [4] In situations where parking supply is lower (i.e. provided at lower rates) or there is high-quality transit available, people are likely to change how they travel and parking demand could be lower.[5] Given the proximity of the projects to the San Mateo Caltrain station, Downtown San Mateo, and the presence of TDM requirements, local parking data is desired to support more accurate parking ratios for the projects.

Local Data

Existing parking demand studies for general office space in similar transit-oriented locations is limited. One study conducted in 2018 indicated that the average parking rate for three office buildings in Downtown San Mateo was 1.82 parking spaces per 1,000 square feet.[6] However, this study does not account for visitor parking demand as the sites include separate employee and public parking garages that provide parking for nearby retail uses. Therefore, additional parking counts are desired to establish an office parking ratio that incorporates visitors and employees for required parking as described in the following section. Given the COVID-19 pandemic's effect on reducing office parking demand for the foreseeable future, Fehr & Peers prepared estimates of parking demand based on factors that influence parking demand and single occupancy vehicle share (SOV), such as the location of the project and TDM measures.

Given the location of the projects adjacent to the San Mateo Caltrain station, Downtown San Mateo, and the presence of TDM requirements, more people would commute by non-automobile modes than a traditional suburban office. Mixed-use development (MXD) in transit-oriented locations is widely considered an effective means of reducing traffic impacts by incentivizing the use of non-automobile modes and reducing single-occupancy vehicles. The MXD trip generation approach relies on built environment variables to measure the degree of interactivity within the

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[3] Shoup, Donald. 2003. *Truth in Transportation Planning*. Journal of Transportation and Statistics. Available at: http://shoup.bol.ucla.edu/TruthInTransportationPlanning.pdf

[4] The average US drive alone rate was 76.4 percent in 2013, with higher rates for people who live and work outside of each metro's principal cities. https://www.census.gov/content/dam/Census/library/publications/2015/acs/acs-32.pdf

[5] Willson, Richard. 2005. *Parking Policy for Transit-Oriented Development: Lessons for Cities, Transit Agencies, and Developers*. Journal of Public Transportation, 8 (5): 79-94. DOI: http://doi.org/10.5038/2375-0901.8.5.5. Available at: https://digitalcommons.usf.edu/jpt/vol8/iss5/5

[6] Hexagon Transportation Consultants, Inc. 2018. *Parking Study for Bay Meadows II SPAR #1 STA 1 & 5 Modification*. Available at: https://www.cityofsanmateo.org/DocumentCenter/View/65941/Hexagon-Memorandums

site and the accessibility of the site location for non-automobile trips, then adjusts the conventional ITE outputs accordingly to produce more accurate trip generation forecast.[7]

Parking demand for employment uses are primarily associated with employees who drive to work, with approximately five to 10 percent of demand due to visitors. Therefore, parking demand decreases as employees shift to non-automobile modes. Accounting for the mix of nearby land uses (e.g., employees who live within walking distance or shopping/restaurant trips that are made by walking) and the access to transit including Caltrain and SamTrans, the MXD method estimates a 28% reduction in drive alone[8] mode share and parking demand compared to a traditional suburban office. This results in a 55% drive alone mode share compared to the 76% U.S. average mode share. MXD results include the number of visitor trips, and therefore this reduction can be applied to both employee and visitor trips. This analysis does not account for a robust transportation demand management (TDM) program for conservative purposes because the TDM plan and monitoring measures are not yet defined. This program could further reduce the automobile mode share, vehicle trips, and parking demand.

The MXD results can be compared to available mode share data and vehicle trip counts in nearby communities to assess how reasonable these results are. Recent studies of travel behavior in Downtown Redwood City and Downtown Palo Alto found that approximately 45 percent and 52 percent of employees drive alone in the two cities, respectively.[9] These mode shares are 30 to 40 percent lower than the average U.S. drive alone rate. The Palo Alto study segmented the mode share by type of employment use, with the two uses most likely to have robust TDM programs (technology and government) achieving an approximately 40 percent drive alone mode share. Other comparable data sources indicate similar mode shares in transit oriented locations, including automobile trip generation rates in San Francisco for offices outside of Downtown SF[10]

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[7] For more information, visit https://www.fehrandpeers.com/mxd/. MXD methodologies were developed in tandem with the EPA as documented in the American Planning Association PAS Memo "Getting Trip Generation Right: Eliminating the Bias Against Mixed Use Development" by Jerry Walters, Brian Bochner, and Reid Ewing (May 2013). This paper can be accessed here: https://www.fehrandpeers.com/wp-content/uploads/2019/11/APA_PAS_May2013_GettingTripGenRight-2.pdf. These methodologies were revalidated as documented in the November/December 2020 issue of the APA's PAS Memo, entitled "Still Getting Trip Generation Right: Revalidating MXD+".

[8] Fehr & Peers. Block 21 Transportation Impact Assessment. 2022. .

[9] City of Redwood City. July 2018. Redwood City Moves. Page 8 presents a summary of the existing mode share for downtown Redwood City compared to suburban neighborhoods: http://rwcmoves.com/wp-content/uploads/2018/07/RWCmoves-Transportation-Plan_July16.pdf
City of Palo Alto, 2019 Palo Alto TMA Annual Report, May 2020. Appendix A presents the survey results by year and by sector: https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2020/id-11307-tma-annual-report.pdf

[10] SF Planning Department. October 2019. Transportation Impact Analysis Guidelines. See Appendix F, Travel Demand for Urban-Medium Density neighborhoods, such as Mission Bay. Accessed at https://sfplanning.org/project/transportation-impact-analysis-guidelines-environmental-review-update#impact-analysis-guidelines.

and recent vehicle counts collected at office buildings in the San Mateo Rail Corridor Transportation Management Agency (TMA)[11]. Therefore, the MXD results may in fact be overestimating the amount of vehicle trips and parking demand; however, they are presented below for conservative purposes.

Table 1 compares the U.S. average mode share and parking demand ratio to the mode share results using the MXD method and estimates the parking demand rate based on the mode shares.[12] This indicates that the parking ratio of 2.06 spaces per 1,000 gross square feet, including 1.92 spaces for employees and 0.14 spaces for visitors,[13] is appropriate for the Block 21 and 435 E. 3rd Avenue projects. This ratio is comparable to the employee parking demand of 1.82 spaces per 1,000 square feet calculated in the *Parking Study for Bay Meadows II SPAR #1 STA 1 & 5 Modification* study (Hexagon, 2018) presented above, indicating that this ratio adequately represents a reasonable conservative estimate for this TOD location.

Table 1: Drive Alone and Parking Demand Rates

	U.S.	MXD Method
Employee Commute Mode Share	76%	55% [2]
Parking Demand Rate per 1,000 square feet	2.84 [1]	2.06 [2]

Notes:
1. Office parking demand rate per Institute of Transportation Engineers (ITE) *Parking Generation*.
2. Based on 28% reduction in daily and PM peak hour vehicle trips based on MXD methodology as presented in Block 21 TIA prepared by Fehr & Peers, February 2022

Source: ITE Trip Generation Manual, US Census

Recommendation

The parking requirement for both the Block 21 and 435 E. 3rd Avenue projects should be calculated based on a rate of 2.06 stalls per 1,000 gross square feet. The applicant may request to pay parking in-lieu fees for any parking not provided on site in keeping with the City's Zoning Code provisions.

[11] San Mateo Rail Corridor Transportation Management Agency. January 2018. 2017 Annual Report. This study included recently completed office buildings in Bay Meadows, which 40 to 50 percent lower than traditional suburban buildings.

[12] The only location with available mode share and parking demand data on the peninsula is from a mixed-use office and retail building in Redwood City. VTA cites a parking demand ratio of 1.22 spaces per 1,000 square feet for this Redwood City building; however, this parking ratio includes retail and office employee demand. This parking demand rate is from page 2 of the memorandum "Place Types, Ridership Potential Development Scenarios, and Parking/TDM Recommendations – Draft" by Nelson/Nygaard, June 2019. This study can be accessed at: https://www.vta.org/sites/default/files/2019-09/K%20-%20TOC%20Parking%20and%20TDM%20Strategies.pdf

[13] 28 percent reduction to 0.2 spaces per 1,000 gross square feet for suburban office space is 0.14 spaces.

Future Office Parking Data Collection

Additional data collection of office parking would provide more site-specific context and data to support parking in-lieu fees for future projects. Fehr & Peers consulted a traffic count vendor whether there was historical parking demand count data that identifies employee and visitor parking available for TOD office developments along the West Coast and were informed that most parking studies conducted for public agencies are limited to on-street and public parking garages while studies conducted for private developments are generally confidential. This presents an opportunity to collect future data to fill this industry gap. Three potential sites within one half mile of the projects and the three San Mateo Caltrain stations are listed in **Table 2.** These sites are a similar size to the proposed projects and have parking areas solely for their use and parking in open areas. Information on occupancy levels and types of TDM incentives will need to be requested from property owners or managers. Additional study sites could include other Bay Meadows office buildings or offices to the east of the Hayward Park Caltrain station, pending further review with the City of San Mateo and property managers to confirm occupancy levels.

Table 2: Potential Parking Data Collection Sites

Proposed Data Collection Site	Sq. Ft.	Parking Ratio
405 E. 4th Avenue[14]	62,338	1.28
406 E. 3rd Avenue[15]	103,731	2.6
Bay Meadows Office Station 3[16]	174,445	2.5

[14] https://images1.loopnet.com/d2/-0jta_0Ztwr2lO4TwBfLEMyXHKVbyu8uVnyckpz3Go/4th%20Avenue%20405Sublease%20070319.pdf

[15] https://www.cityofsanmateo.org/3875/406-E-3rd-Avenue

[16] https://baymeadows.com/station3/mobile/features.html. This building has 22ksf listed as available. Other Bay Meadows office locations may be appropriate as well, pending further review with the city of the proposed sites.

Attachment B
Hexagon Transportation Consultant's Inc., "San Mateo Office Parking Counts" Memorandum

Hexagon Transportation Consultants, Inc.

Memorandum

Date: May 16, 2022

To: Ms. Lisa Ring, LOR Planning

From: Gary Black

Subject: San Mateo Office Parking Counts

In conjunction with analyzing a proposed office building at 405 E. 4th Avenue in San Mateo, Hexagon Transportation Consultants, Inc. conducted parking counts at three office buildings in downtown San Mateo in October 2016. The purpose of the counts was to determine an appropriate parking ratio for buildings that are in downtown San Mateo and a reasonable walking distance from the Caltrain station. It was believed that buildings in this setting would have lower parking demand than the typical ratios elsewhere in San Mateo.

The three buildings were chosen for the parking counts because they all have their own parking garages, so they don't need to rely on the public parking lots and garages in downtown San Mateo. Each building has a garage that allows visitor parking. Therefore, the counts can be assumed to include both employees of the buildings and visitors although the visitor parking was not counted separately. The employee and visitor parking areas were lumped together for the counts.

Table 1 shows the addresses of the three office buildings that were counted and the resulting parking demand ratios. The ratios ranged from 1.56 to 2.28 occupied spaces per 1,000 square feet of building area, with an average of 1.82 occupied spaces. This is including employees and visitors. The detailed parking count results are attached.

Table 1
Office Parking Counts

Building	Size	Unit	Parking Supply [2]	Parking Demand	Parking Demand Ratio
101 S Ellsworth	98.3	ksf	219	181	1.84
181 2nd Ave [1]	76.3	ksf	299	174	2.28
400 S. El Camino Real	141.4	ksf	253	221	1.56
Average					1.82

Notes:
1. The building size for 181 2nd Avenue is estimated based on Google Earth.
2. Parking supply at all three buildings counted all parking spaces on-site.

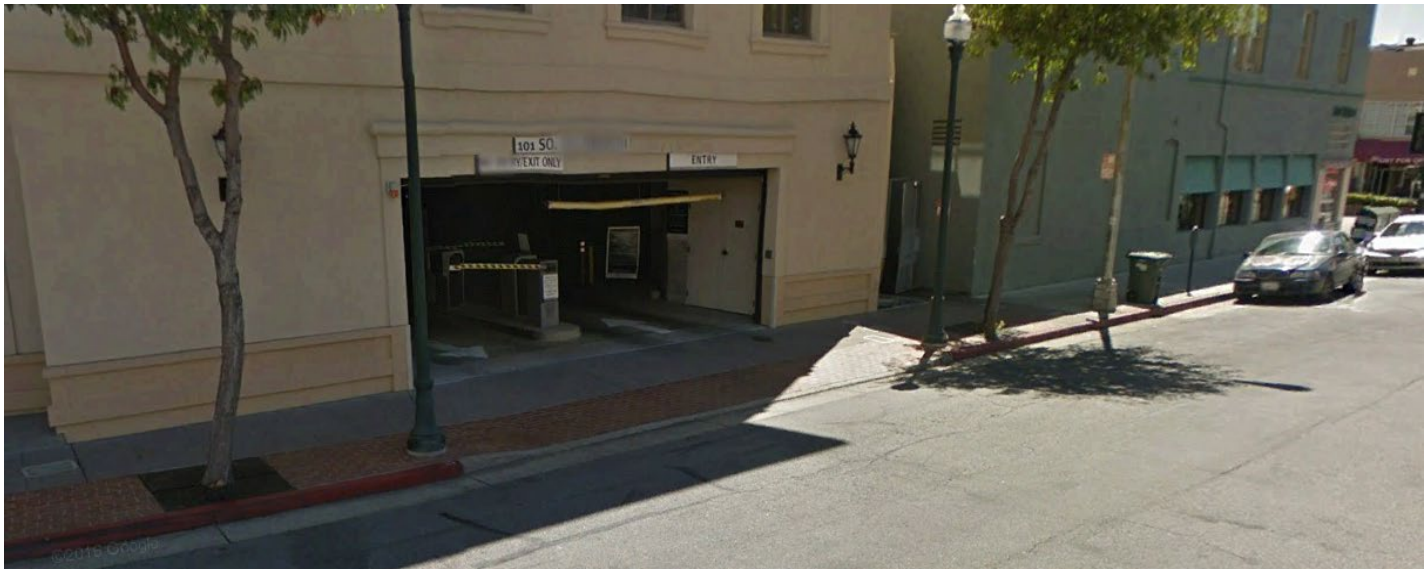
Attachments

Red Building 101 S Ellsworth Ave

Garage - Entrance on Ellsworth Ave

Classification	ADA	General	EV	Carshare	Reserved	20 min parking	Motorcycle	United American Bank	Compact	Total
Supply : Ground level	8	0	2	0	0	8	2	5	0	25
Supply : Underground 1	0	40	0	0	0	0	0	0	22	62
Supply : Underground 2	0	45	0	0	0	0	0	0	21	66
Supply : Underground 3	0	45	0	0	0	0	0	0	21	66
									Total	**219**
Occupancy :										
Ground level: 10:00 AM	0	0	1	0	0	2	1	1	0	5
Underground 1: 10:00 AM	0	39	0	0	0	0	0	0	20	59
Underground 2: 10:00 AM	0	45	0	0	0	0	0	0	21	66
Underground 3: 10:00 AM	0	29	0	0	0	0	0	0	7	36
									Total	**166**
Ground level: 11:15 AM	0	0	1	0	0	1	0	1	0	3
Underground 1: 11:15 AM	0	40	0	0	0	0	0	0	22	62
Underground 2: 11:15 AM	0	44	0	0	0	0	0	0	19	63
Underground 3: 11:15 AM	0	40	0	0	0	0	0	0	13	53
									Total	**181**
Ground level: 12:30 PM	0	0	1	0	0	3	0	0	0	4
Underground 1: 12:30 PM	0	39	0	0	0	0	0	0	21	60
Underground 2: 12:30 PM	0	43	0	0	0	0	0	0	20	63
Underground 3: 12:30 PM	0	39	0	0	0	0	0	0	6	45
									Total	**172**

*There are three levels underground. "Underground 1" is directly under the Ground level,"Underground 2" is below "Underground 1", and "Underground 3" is below "Underground 2"



Green Building 123 San Mateo Dr

Ground Lot - **Access on San Mateo Dr**

Classification	ADA	General	EV	Carshare	Reserved	Reserved GO ANIMATE	Reserved COLDWELL	Reserved Medical	Reserved CHINZILLA	Small cars/compact		Total
Supply :	2	0	0	0	0	3	3	7	0	0	0	**15**
Occupancy : 10:15 AM	0	0	0	0	0	3	1	3	0	0	0	**7**
Occupancy : 11:30 AM	0	0	0	0	0	3	2	3	0	0	0	**8**
Occupancy : 12:45 PM	0	0	0	0	0	3	2	3	0	0	0	**8**

Green Building 123 San Mateo Dr

Above Grade Lot - Access on San Mateo Dr

Classification	ADA	General	EV	Carshare	Reserved	Reserved GO ANIMATE	Reserved COLDWELL	Reserved Medical	Reserved CHINZILLA	Small cars/compact	Illegal Motorcycle	Total
Supply :	5	0	0	0	18	2	15	0	3	20	0	**63**
Occupancy : 10:15 AM	0	0	0	0	10	0	6	0	0	6	0	**22**
Occupancy : 11:30 AM	0	0	0	0	10	0	9	0	3	6	0	**28**
Occupancy : 12:45 PM	0	0	0	0	10	0	9	0	3	9	0	**31**

Green Building 123 San Mateo Dr

Underground Garage - Access on San Mateo Dr and on Ellsworth Ave

Classification	ADA	General	EV	Carshare	Reserved	Reserved GO	Reserved COLDWELL	Reserved Medical	Reserved CHINZILLA	Small cars/compact	Customer	Total
Supply : Underground 1	0	2	0	0	85	0	0	0	0	0	16	103
Supply : Underground 2	0	0	0	0	118	0	0	0	0	0	0	118
											Total	**221**
Occupancy :												
Underground 1 - 10:15 AM	0	1	0	0	42	0	0	0	0	0	7	50
Underground 2 - 10:15 AM	0	0	0	0	71	0	0	0	0	0	0	71
											Total	**121**

Underground 1 - 11:30 AM	0	1	0	0	48	0	0	0	0	0	7	56
Underground 2 - 11:30 AM	0	0	0	0	79	0	0	0	0	0	0	79
											Total	**135**

Underground 1 - 12:45 PM	0	1	0	0	45	0	0	0	0	0	6	52
Underground 2 - 12:45 PM	0	0	0	0	77	0	0	0	0	0	0	77
											Total	**129**

*There are two levels underground. "Underground 1" is directly under the Ground lot and "Underground 2" is under "Underground

Yellow Building

Garage - Entrance on 4th Ave

Classification	ADA	General	EV	Carshare	Reserved	Small cars/compact	Motorcycle	Total
Supply : Above Ground	2	162	1	0	9	48	1	223
Supply : Below Ground	2	23	1	0	4	0	0	30
							Total	**253**
Occupancy :								
Above Ground: 10:45 AM	0	144	1	0	1	47	1	194
Below Ground: 10:45 AM	1	23	0	0	0	0	0	24
							Total	**218**

Above Ground: 12:00 PM	0	151	1	0	1	47	1	201
Below Ground: 12:00 PM	1	18	1	0	0	0	0	20
							Total	**221**

Above Ground: 1:15 PM	0	145	0	0	1	45	1	192
Below Ground: 1:15 PM	1	14	0	0	0	0	0	15
							Total	**207**