SF TDM Framework for Growth:
Summary of Survey Results

Prepared for:
San Francisco Planning Department
San Francisco Municipal Transportation Agency

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FEHR PEERS

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EXECUTIVE SUMMARY

This memorandum summarizes data collected as part of the "TDM Framework for Growth," an interagency effort between the San Francisco Planning Department and the San Francisco Municipal Transportation Agency (SFMTA) in partnership with the San Francisco Office of Economic and Workforce Development (OEWD) and the San Francisco County Transportation Authority (SFCTA).

Data was collected for both retail and residential sites during the summer of 2014 for AM and PM peak periods; these sites were selected in part based on their location to ensure a variety of transportation contexts were surveyed. Retail sites were selected in pairs; each pair had the same type of retail and the same (or similar) background auto mode share (AMS), but differed in that one site provided parking and the other did not.

This memorandum presents the collected data in two principal ways: by mode share, with a focus on auto mode share, and by peak period trip generation. The data is presented separately for retail vs. residential uses. The data is also summarized by place type.[1] These values are compared across sites for a variety of variables, including whether or not off-street parking was provided (retail), and whether or not residents had a dedicated off-street parking space (residential). This memorandum does not include analysis of correlation or causation; more in-depth analysis will be forthcoming in a separate report detailing the statistical analysis methodology and findings.

MODE SHARE

The survey data revealed a few key items:

- Driving and walking were the most common modes of travel by a good margin for almost all sites
- Transit mode share was generally highest in areas with rich transit coverage and fast, reliable rail service, specifically in the Mission district and along Market Street
- Sites that were located close to downtown and near flat bike routes tended to have higher bike mode share
- Observed auto mode share (AMS) for retail sites, as compared to residential sites, was more consistent with the average AMS for the entire Traffic Analysis Zone (TAZ)

[1] Prior to the initiation of data collection, three place types were identified by City Staff based on a range of baseline auto mode share. (San Francisco TDM Quantification Data Collection Strategy memo, May 2015)

INFLUENCE OF PARKING

The survey results were examined to determine the effect of the availability of off-street parking on AMS. For retail sites, auto mode share was higher for sites with parking in all cases but one. The differences in auto mode share for retail site pairs with and without parking did not appear to be affected by the place type. For residential uses, there was also a clear difference in AMS between respondents with reserved (on-site or nearby) parking and respondents without reserved parking, although that difference was more varied between sites.

PERSON-TRIP GENERATION

In order to provide further insight into the collected data, total person trips and person-trip generation rates were computed and analyzed for all sites and compared to San Francisco's standard trip generation rates. A few key observations were noted:

- The average observed PM peak hour person-trip generation rate was about double the *SF Guidelines* values for both general retail and supermarket land uses[2]
- For five of the seven retail pairs, sites without parking saw a markedly higher number of person-trips per square foot in their peak period as compared to their corresponding sites with parking
- The trip generation rate for residential land uses averaged about half of the *SF Guidelines* rate

Overall, the data collection effort reveals that there is a distinct difference in AMS for sites and/or users with dedicated off-street parking compared to those without. Further, the data suggests that the *SF Guidelines* methodology may be underestimating retail trip generation for certain types of retail uses and may be overestimating trip generation for residential uses. It should be noted that this comparison is based on a somewhat limited set of data collected during summer months, when travel behavior is somewhat atypical. This should not be taken to suggest that the *SF Guidelines* rates are not valid; in fact, in most cases our data validate the *SF Guidelines* rates. However, the data do suggest that there may be substantial variation amongst sites, and that the *SF Guidelines* rates, just like rates from any other source, are averages and should be used as such.

[2] Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002)

INTRODUCTION

This memorandum summarizes data collected as part of the TDM Framework for Growth project. This project is an interagency effort between the San Francisco Planning Department and the San Francisco Municipal Transportation Agency (SFMTA) in partnership with the San Francisco Office of Economic and Workforce Development (OEWD) and the San Francisco County Transportation Authority (SFCTA).

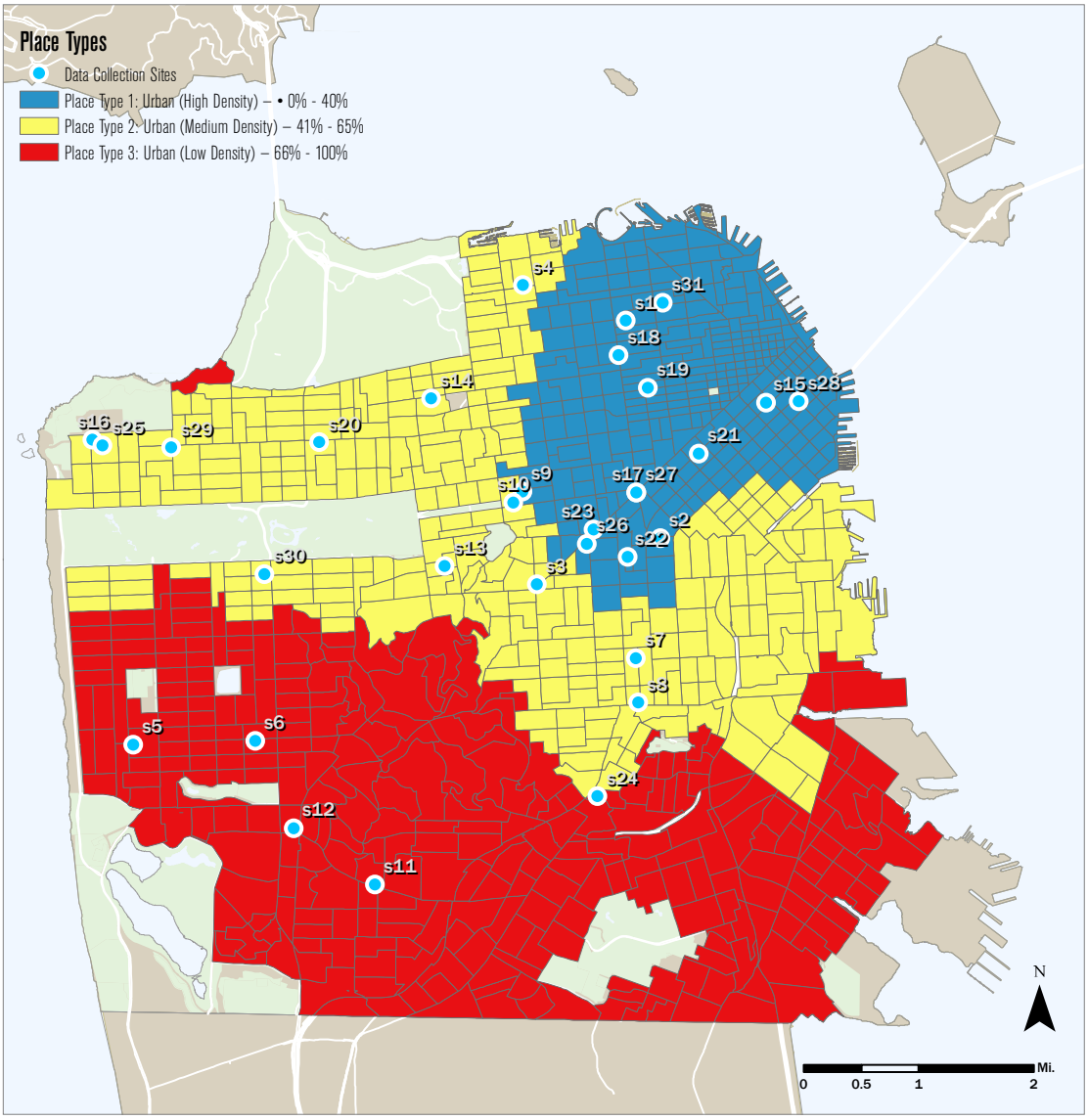
The data collection effort was undertaken as part of the City of San Francisco's effort to develop a Transportation Demand Management (TDM) Program as part of the overall Transportation Sustainability Program (TSP). If implemented, this TDM Program would likely be applicable primarily to new development, but could also apply to major changes of use. The TDM Program would consist of a citywide TDM Toolkit, a quantification tool that expresses the efficacy of various measures identified in the TDM Toolkit, and an implementation strategy for applying components of the toolkit to various projects. The primary goals of the TDM Program would be to reduce citywide single occupancy vehicle (SOV) trips and vehicle miles traveled (VMT) in support of transportation network performance and environmental goals. Reduction of SOV trips is most important during the peak commute hours, as those hours account for a significant portion of the City's overall traffic congestion.

Data was collected for both retail and residential sites during the summer of 2014 for AM and PM peak periods; these sites were selected in part based on their location to ensure a variety of transportation contexts were surveyed. Intercept surveys and cordon counts, both pedestrian and vehicular[3], were performed for all sites and recorded in 15-minute increments. Data from each site were then aggregated to AM and PM peak periods to produce the final database. A map of sites surveyed is provided for reference in **Figure 1**; a comprehensive description of the data collection and site selection process can be found in the data collection memorandum also produced as a part of this effort (San Francisco TDM Quantification Data Collection Strategy memo, May 2015).

This memorandum presents the collected data in two principal ways: by mode share, with a focus on auto mode share, and by peak period trip generation. The data is presented separately for retail vs. residential uses. The data is also summarized by place type.[4] These values are compared across sites for a variety of variables, including whether or not off-street parking was provided (retail), and whether or not residents had a dedicated off-street parking space (residential).

[3] Pedestrian, bicycle, and vehicle counts were conducted at all entrances, including garage doors if they allowed direct entry to the site.
[4] Prior to the initiation of data collection, three place types were identified by City Staff based on a range of baseline auto mode share. (San Francisco TDM Quantification Data Collection Strategy memo, May 2015)

Figure 1 Map of Surveyed Sites



San Francisco Place Types

Using Automobile Mode Split

The values in this map for each traffic analysis zone (TAZ) represent the percentage of trips for an average day are taken by car for residential, office, and retail land use types combined. Each zone is averaged with neighboring zones to ensure smoothness and account for arbitrary zonal boundaries. Zones with less than 40% auto mode split are considered to be Place Type 1: Urban (High Density). Zones with between 41% and 65% are Place Type 2: Urban (Medium Density), and zones over 65% are Place Type 3: Urban (Low Density).

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Source: CHAMP 4.3 2012 "Existing Conditions" Model Run

MODE SHARE

Mode share was calculated for each site including all observed modes of travel. This section examines overall trends in mode share for both residential and retail sites, including a comparison of observed peak period auto mode share (AMS) with the all-purpose average daily AMS[5] for a site's respective traffic analysis zone (TAZ)[6] as provided by SF-CHAMP[7], an examination of the same data aggregated to zones based on all-purpose average daily AMS, and observation of the effect of parking provision on observed AMS.

Assuming that each site's AMS value is comparable to the AMS value for all land uses within its TAZ may not be valid and could result in drawing inaccurate comparisons. However, examination of more specific purpose-based AMS values did not demonstrate more consistent results and could pose other analytical limitations related to statistical accuracy. Overall, we expect individual sites to vary in comparison with a TAZ-wide average, and have provided the TAZ AMS values for reference only. TAZ AMS values by relevant trip purpose (purpose-specific TAZ AMS)[8] for retail and residential sites are provided next to the all-purpose TAZ AMS values in **Table 1** and **Table 2**. Additionally, observed auto mode share is plotted with respect to these values in **Figures 2 - 4**. Observed mode share is based on the sum of AM and PM peak period observations.[9]

OVERVIEW

Upon examination of the observed mode shares for each site, as shown in **Table 1** and **Table 2**, a number of trends emerge:

- Driving and walking were the most common modes of travel by a good margin for almost all sites
- Transit mode share was generally highest in areas with rich transit coverage and fast, reliable rail service: such as in the Mission district and along Market Street

[5] All-purpose AMS is based on all trips taken to, from, or within a TAZ in a 24-hour period.
[6] The traffic analysis zones are a unit of geography used in the SF-CHAMP travel demand model as origins and destinations for modeled trips; these zones generally map to Census block groups and are assigned demographic and travel characteristics for analysis purposes.
[7] SF-CHAMP is a travel demand model developed specifically for the city of San Francisco that estimates both existing and future travel behavior in the City based on a diverse array of inputs.
[8] Purpose-specific for retail trips was calculated from trips with destinations in the TAZ that were for not commute or school, while purpose-specific for residential trips was calculated from all home-based trips originating in the TAZ.
[9] AM peak period is defined as 7AM – 10AM, while PM peak period is defined as 3PM – 7PM.

- Sites that were located close to downtown and near flat bike routes tended to have higher bike mode share
- Observed AMS for retail sites, as compared to residential sites, was more consistent with all-purpose TAZ AMS: sites with higher all-purpose TAZ AMS on average had higher observed AMS, as seen in **Figure 2** and **Figure 3**
- Purpose-specific TAZ AMS values are not consistently more in line with observed AMS values than all-purpose TAZ AMS values, which can be observed in **Table 1** and **Figure 4**
- Purpose-specific TAZ AMS values were relatively similar to all-purpose TAZ AMS values for retail sites, but showed considerable variation for residential sites

TABLE 1 OVERALL MODE SHARE, RETAIL

Site ID	Name	TAZ AMS[1]		Observed AMS[2]			
		All-Purpose	*Purpose-Specific*[3]	*Auto/ Taxi*	*Transit/ Shuttle*	*Walk*	*Bike*
s1	Real Food Co. (2140 Polk St)	39%	35%	24%	9%	9%	4%
s2	Rainbow Grocery (1745 Folsom St)	51%	45%	34%	9%	9%	23%
s3	Pottery Barn 1 (2390 Market St)	52%	49%	56%	26%	18%	0%
s4	Pottery Barn 2 (2100 Chestnut St)	53%	51%	43%	7%	50%	0%
s5	Walgreens 1 (3001 Taraval)	72%	73%	57%	13%	28%	3%
s6	Walgreens 2 (1012 Taraval)	73%	77%	45%	21%	34%	3%
s7	Walgreens 3 (2690 Mission St)	46%	53%	15%	29%	52%	4%
s8	Walgreens 4 (3400 Cesar Chavez St.)	53%	55%	32%	21%	43%	4%
s9	Bi Rite (550 Divisadero)	46%	45%	36%	13%	44%	7%
s10	Falletti Foods (308 Broderick St)	48%	50%	38%	4%	55%	7%
s11	Walgreens 5 (1630 Ocean Ave)	78%	82%	54%	10%	35%	1%
s12	Walgreens 6 (2550 Ocean Ave)	80%	82%	65%	14%	21%	1%
s13	Cole Hardware (956 Cole St)	55%	57%	43%	10%	42%	5%
s14	Standard 5 & 10 Ace (3545 California St)	56%	53%	68%	6%	26%	5%

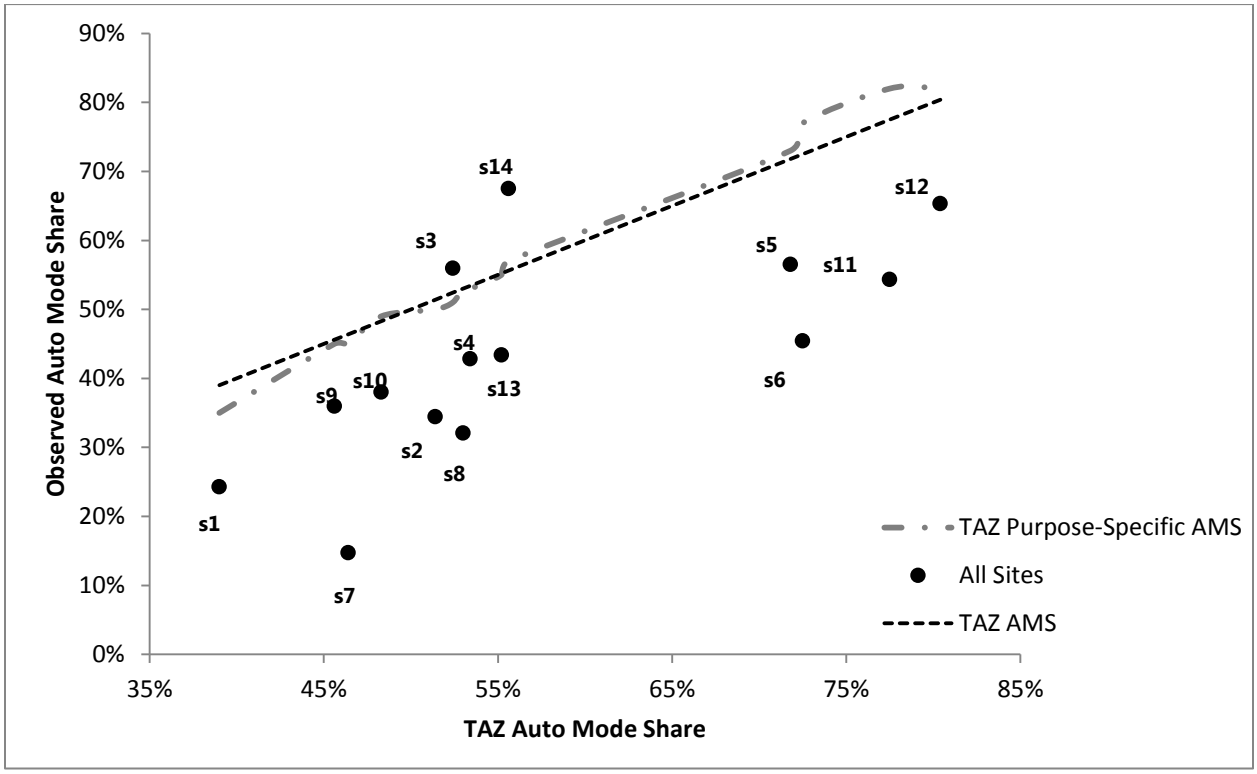
[1] All-purpose TAZ AMS is based on daily trips for a 24-hour period, per CHAMP outputs

[2] Overall observed auto mode share is based on the combination of observed findings for AM and PM peak periods

[3] 'Purpose-specific' for retail trips was calculated from trips with destinations in the TAZ that were for not commute or school, while 'purpose-specific' for residential trips was calculated from all home-based trips originating in the TAZ

Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

Figure 2 All-Purpose TAZ versus Observed AMS, Retail



[1] All-purpose TAZ AMS is based on daily trips for a 24-hour period for all trip purposes, per CHAMP outputs
[2] Retail Purpose-Specific TAZ AMS is based on daily trips for a 24-hour period calculated from trips with destinations in the TAZ that were for not commute or school
[3] Overall observed auto mode share is based on the combination of AM and PM peak periods
Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

TABLE 2 OVERALL MODE SHARE, RESIDENTIAL

Site ID	Name	TAZ AMS[1]		Observed AMS[2]			
		All-Purpose	***Purpose-Specific[3]***	***Auto/ Taxi***	***Transit/ Shuttle***	***Walk***	***Bike***
s15	199 New Montgomery	42%	13%	20%	13%	63%	4%
s16	250 Point Lobos	68%	70%	62%	18%	17%	2%
s17	2298 Lombard	64%	19%	50%	0%	45%	5%
s18	1800 Van Ness	39%	19%	45%	20%	35%	0%
s19	1080 Sutter	42%	10%	26%	17%	47%	10%
s20	4715 Geary	57%	51%	47%	21%	27%	5%
s21	1045 Mission	38%	17%	41%	11%	42%	7%
s22	1600 15th St	47%	28%	38%	24%	33%	5%
s23	1960 Market	49%	28%	34%	30%	32%	4%
s24	Park Hill Condominiums	64%	65%	63%	16%	19%	1%
s25	101 Point Lobos	66%	68%	34%	28%	39%	0%
s26	38 Dolores	50%	30%	30%	25%	37%	8%
s27	3400 Cesar Chavez	53%	19%	56%	19%	19%	6%
s28	The Metropolitan	35%	15%	43%	7%	49%	1%
s29	1290 20th Ave	65%	63%	42%	18%	36%	4%
s30	1000 Green St	38%	64%	71%	7%	20%	1%

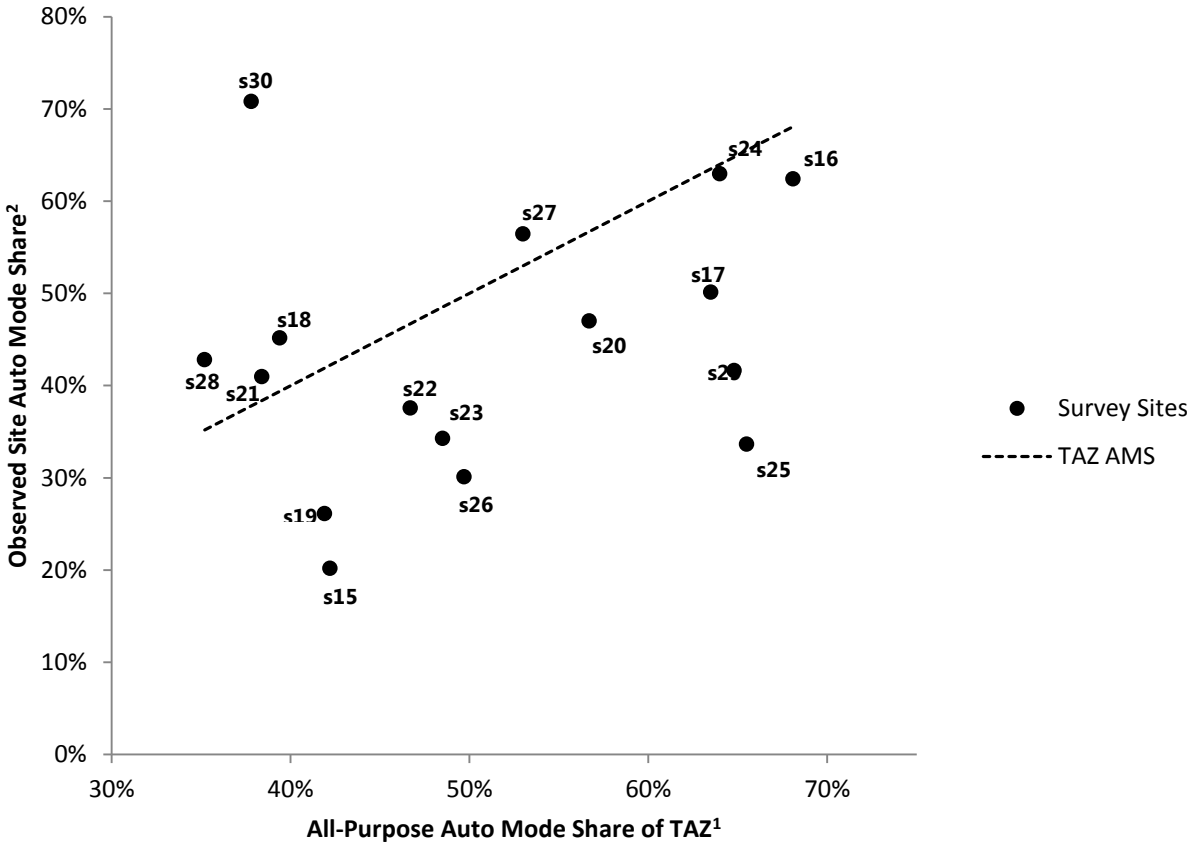
[1] All-purpose TAZ AMS is based on daily trips for a 24-hour period

[2] Overall observed auto mode share is based on the combination of AM and PM peak periods

[3] 'Purpose-specific' for retail trips was calculated from trips with destinations in the TAZ that were for not commute or school, while 'purpose-specific' for residential trips was calculated from all home-based trips originating in the TAZ

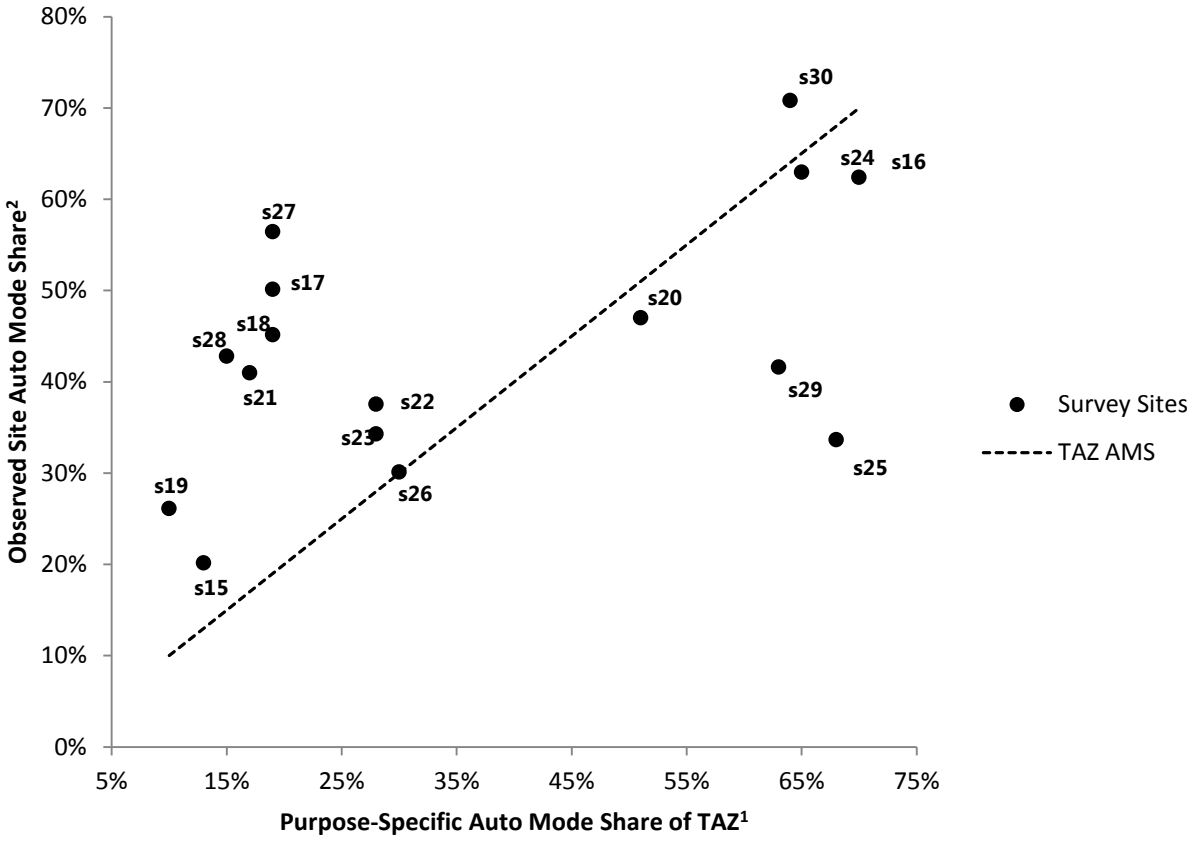
Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

Figure 3 All-Purpose TAZ versus Observed AMS, Residential



[1] All-purpose TAZ AMS is based on daily trips for a 24-hour period for all trip purposes
[2] Overall observed auto mode share is based on the combination of AM and PM peak periods
Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

Figure 4 Purpose-Specific TAZ versus Observed AMS, Residential



[1] Residential Purpose-Specific TAZ AMS is based on daily trips for a 24-hour period calculated from all home-based trips originating in the TAZ

[2] Overall observed auto mode share is based on the combination of AM and PM peak periods

Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

PARKING INFLUENCE ON MODE CHOICE

One of the purposes of this survey was to observe the effect of parking supply on auto mode share. The following section outlines the differences in auto mode share by presence or absence of on-site (off-street) parking, in the case of retail sites, and possession of reserved car parking, in the case of residential sites.

RETAIL PARKING

As seen in **Table 3**, auto mode share was higher for sites with on-site parking for all but one site pair; the sites in this outlying pair (s11 / s12) were located in the TAZs with the highest all-purpose auto mode share and trips to these retail destinations may thus be less sensitive to changes in off-street parking provision. Additionally, the store with parking was located near transit and a local college, while the store without parking was situated near a public parking lot, in an area with more readily available on-street parking.

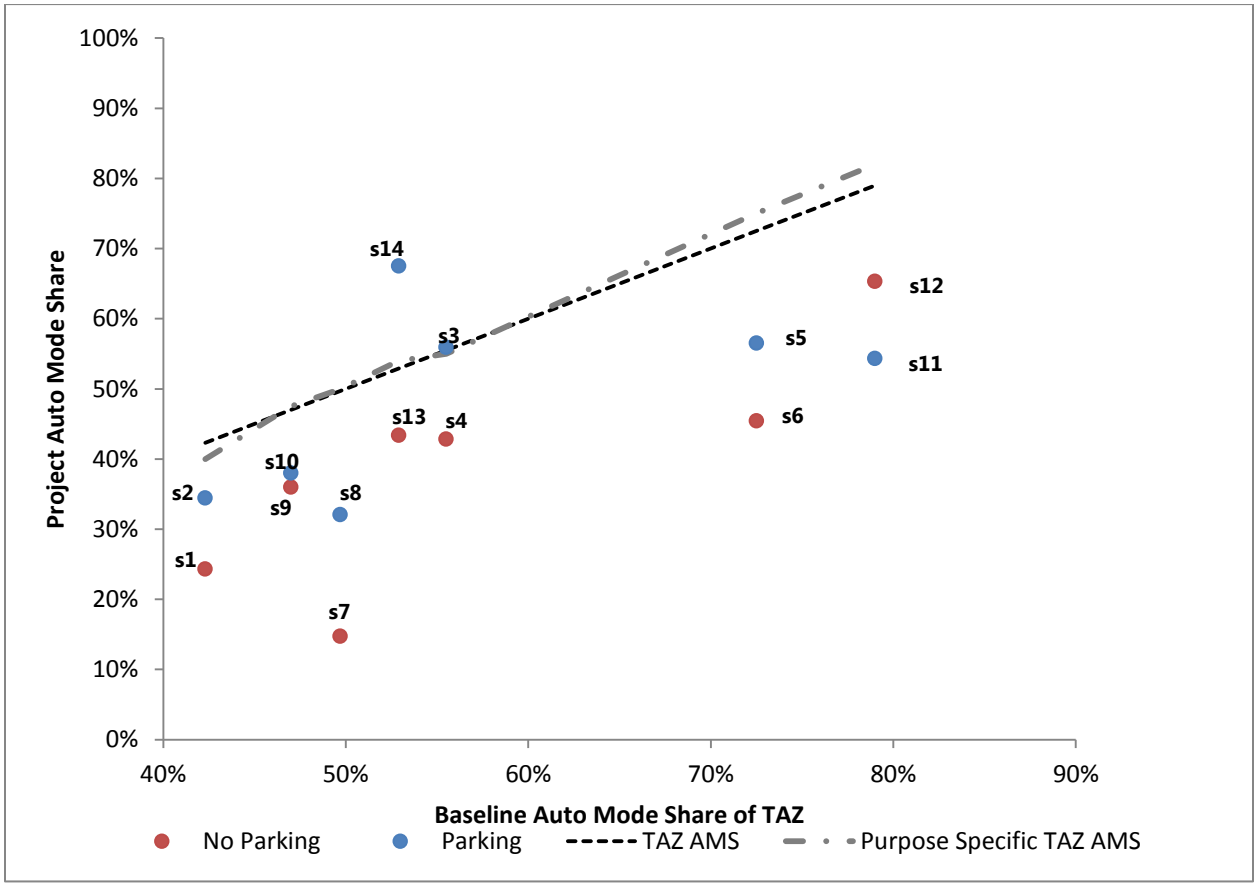
Many of the site pairs were located in TAZs with all-purpose AMS between 45 to 56 percent, and there was no clear relationship between the all-purpose AMS and the differences in auto mode share for site pairs with and without parking. **Figure 5** graphs this relationship.

TABLE 3 INFLUENCE OF ON-SITE PARKING ON AMS, RETAIL

Site ID (Parking/ No Parking)	Name (Parking/ No Parking)	TAZ AMS[1]		Observed AMS[2]		
		All-Purpose	*Purpose-Specific*	*Parking*	*No Parking*	*Difference[3]*
s2/s1	Rainbow Grocery/ Real Food Co.	45%	40%	34%	24%	+10%
s3/s4	Pottery Barn 1/ Pottery Barn 2	56%	50%	56%	43%	+13%
s5/s6	Walgreens 1/ Walgreens 2	73%	75%	57%	45%	+12%
s8/s7	Walgreens 4/ Walgreens 3	50%	54%	32%	15%	+17%
s10/s9	Falletti Foods/ Bi Rite	47%	48%	38%	36%	+2%
s11/s12	Walgreens 5/ Walgreens 6	79%	82%	54%	65%	**-11%**
s14/s13	Standard 5 & 10 Ace/ Cole Hardware	53%	55%	68%	43%	+24%

[1] TAZ AMS is based on daily trips for a 24-hour period, and is calculated as the average AMS for the TAZ's of each site.
[2] Overall observed auto mode share is based on the combination of AM and PM peak periods
[3] Difference is presented as percentage point change from site with no parking to site with parking. Actual percentage change varies; for instance, the change between no parking and parking between s1/s2 is +10 percentage points, but +42% total.
[4] Table is color-coded by each site pair's place type location. Only one site (s1) is located in place type one, and so the pair is presented as place type two.
Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

Figure 5 TAZ AMS Average versus Observed AMS by Parking Presence, Retail



[1] All-purpose TAZ AMS is based on daily trips for a 24-hour period for all trip purposes
[2] Retail Purpose-Specific TAZ AMS is based on daily trips for a 24-hour period calculated from trips with destinations in the TAZ that were for not commute or school
[3] Overall observed auto mode share is based on the combination of AM and PM peak periods
Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

RESIDENTIAL PARKING

Compared to retail sites, the difference in observed AMS between respondents with parking and respondents without parking at residential sites showed more variation among sites. Additionally, findings for all sites are affected by data collection during only the peak AM and peak PM hour, which made the surveys more likely to capture commute trips, which could vary from CHAMP's 24-hour trip mode estimates.

At five residential sites, respondents without parking demonstrated a higher observed AMS than those with parking at the same site. However, those five sites were among the smallest, and therefore had the

lowest sample sizes, which may have played a role, as could neighborhood availability of on-street parking

In addition, observed auto mode share was less consistently below the baseline purpose-specific TAZ auto mode share, when compared to retail; the difference between purpose-specific TAZ AMS values and all-purpose TAZ AMS values varied more for residential sites than for retail sites. These trends are shown in **Figure 6** and **Figure 7**. These variations likely reflect the share of trips in each TAZ associated with residential uses, such that TAZ's with higher portions of non-residential uses are likely to exhibit a larger difference between the all-purpose and purpose-specific AMS values..

Finally, travel surveys were conducted in summer of 2014, when travel patterns vary from the school year due to school vacations. This may particularly affect residences with a larger number of school-age residents, and retail locations more often frequented by families.

TABLE 4 INFLUENCE OF RESERVED CAR PARKING POSSESSION ON AMS, RESIDENTIAL

Site ID	Name	n[1]	TAZ AMS[2]		Observed AMS[3]		
			All-Purpose	*Purpose-Specific*	*Reserved Parking*	*No Reserved Parking*	*Difference*[4]
s15	199 New Montgomery	154	42%	13%	26%	14%	+12%
s16	250 Point Lobos	40	68%	70%	26%	75%	**-49%**
s17	2298 Lombard	17	64%	19%	36%	86%	**-49%**
s18	1800 Van Ness	94	39%	19%	44%	52%	**-9%**
s19	1080 Sutter	47	42%	10%	30%	17%	+13%
s20	4715 Geary	69	57%	51%	41%	56%	**-15%**
s21	1045 Mission	161	38%	17%	69%	11%	+58%
s22	1600 15th St	158	47%	28%	56%	26%	+30%
s23	1960 Market	143	49%	28%	49%	25%	+23%
s24	Park Hill Condominiums	70	64%	65%	65%	50%	+16%
s25	101 Point Lobos	31	66%	68%	53%	21%	+33%
s26	38 Dolores	96	50%	30%	36%	27%	+9%
s27	3400 Cesar Chavez	68	53%	19%	55%	59%	**-4%**
s28	The Metropolitan	94	35%	15%	49%	23%	+26%
s29	1290 20th Ave	66	65%	63%	91%	32%	+59%
s30	1000 Green St	90	38%	64%	83%	31%	+52%

[1] ***n:*** Number of individual survey responses at each location

[2] TAZ AMS is based on daily trips for a 24-hour period

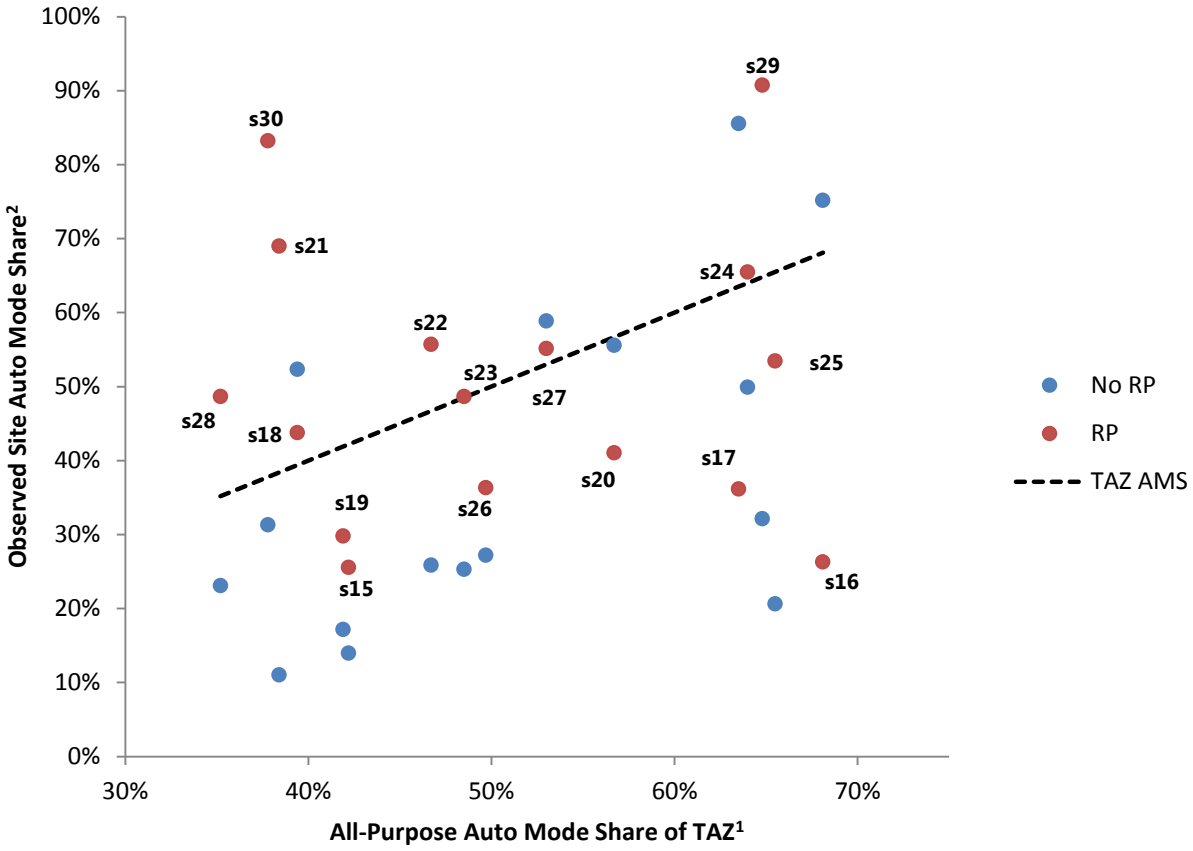
[3] Overall observed auto mode share is based on the combination of AM and PM peak periods

[4] Difference is presented as percentage point change between individuals with reserved parking and those with no reserved parking. Actual percentage change varies; for instance, the change between no parking and parking between s15 is +12 percentage points, but +85% total.

[5] Table is color-coded by each site pair's place type location. Only one site (s1) is located in place type one, and so the pair is presented as place type two.

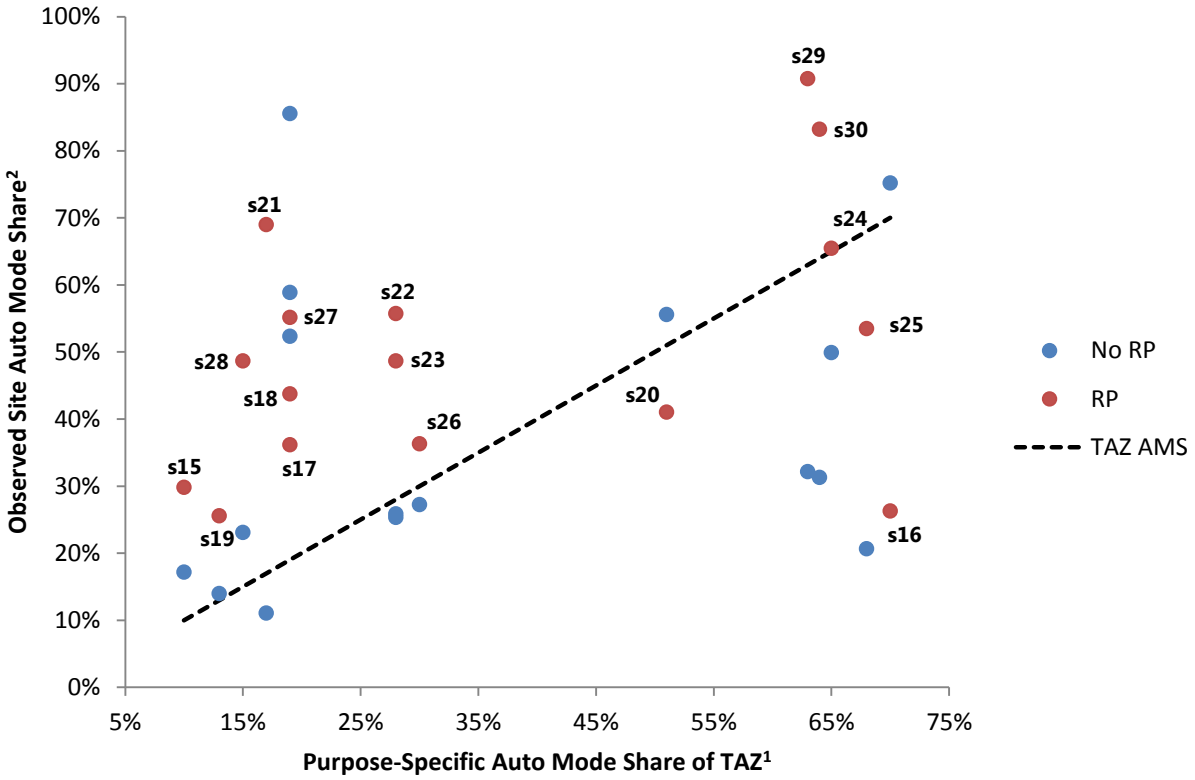
Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

Figure 6 All-Purpose TAZ versus Observed AMS by Parking Possession, Residential



[1] All-purpose TAZ AMS is based on daily trips for a 24-hour period for all trip purposes
[2] Overall observed auto mode share is based on the combination of AM and PM peak periods
Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

Figure 7 Purpose-Specific TAZ versus Observed AMS by Parking Possession, Residential



[1] Residential Purpose-Specific TAZ AMS is based on daily trips for a 24-hour period calculated from all home-based trips originating in the TAZ

[2] Overall observed auto mode share is based on the combination of AM and PM peak periods

Sources: SF-CHAMP 4.3; Fehr & Peers, 2015

AUTO MODE SHARE PLACE TYPES

The city was divided into three place types for the purpose of site selection and analysis, established based on ranges of daily mode share values as predicted by the SF CHAMP model.

The place types were defined as the following:

- Place Type 1: 0% - 40% AMS
- Place Type 2: 41% - 60% AMS
- Place Type 3: 61% - 100% AMS

Figure 1 (presented earlier) shows a map of these place types according to the SF-CHAMP model, along with the locations of the survey sites.

Table 5 and **Table 6** present the aggregated AMS for retail and residential sites, respectively, for each proposed place type. For retail, **Table 5** also presents disaggregated AMS for individuals shopping at sites with reserved off-street parking and for sites without off-street parking. Similarly, for residential sites, **Table 6** presents disaggregated AMS information for individuals with reserved off-street parking and individuals without parking.

In Place Type 2 the AMS range from SF CHAMP is 40% to 65% and the observed AMS ranged from 15 to 68%, The average observed AMS across all nine sites within the place type is 35% with the average AMS for sites with parking being 40% and the average AMS for sites with no parking being 27%. In Place Type 2 the difference between average AMS at sites with off-street parking versus sites without parking is about 13 percentage points. In Place Type 3, the difference is about 3 percentage points.

TABLE 5 AVERAGE OBSERVED AMS BY PLACE TYPE, RETAIL

Place Type	Number of Sites	Number of Surveys	AMS Range	AMS, All	AMS, Parking	AMS, No Parking	Variation in AMS w/ and w/out parking
1	1	283	24%	24%	-	24%	-
2	9	2,323	15 – 68%	35%	40%	27%	13%
3	4	932	45 – 65%	55%	56%	53%	3%

Note: Individual responses were used as data points for these calculations. No sites with parking were surveyed in Place Type 1.
Source: Fehr & Peers, 2015

TABLE 6 AVERAGE OBSERVED AMS BY PLACE TYPE, RESIDENTIAL

Place Type	Number of Sites	Number of Surveys	AMS Range	AMS, All	AMS, Reserved Parking	AMS, No Reserved Parking	Variation between AMS w/ and w/out parking
1	4	439	41 – 71%	44%	57%	19%	38%
2	9	822	20 – 63%	37%	45%	28%	17%
3	3	137	34 – 62%	43%	57%	38%	19%

Note: Individual responses were used as data points for these calculations.
Source: Fehr & Peers, 2015

The overall observed auto mode share for retail sites was higher in place types with higher background all-purpose auto mode shares; this did not hold for residential sites, which did not exhibit much variation in AMS between the place types, and in fact, saw a higher observed auto mode share in Place Type 1 than in Place Type 2 or Place Type 3. For all sites in all place types, the aggregate observed auto mode share for all sites and users with parking was higher than for those without parking.

PERSON-TRIP GENERATION

In order to provide further insight into the collected data, total person trips and person-trip generation rates were computed and analyzed for all sites and compared to San Francisco's standard trip generation rates[10].

Trip generation rates, represented as person trips, were calculated for both AM and PM peak periods for each site by counting all persons walking in and out of all entrances to each site in 15-minute increments. This section discusses the person-trip generation rates for the surveyed sites, examining the rates of trip generation in relation to square footage and number of dwelling units for retail and residential sites, respectively. A comparison to San Francisco's typical person-trip generation rates is also made[11].

OVERVIEW

The San Francisco Planning Department has published *Transportation Guidelines for Environmental Review* (SF Guidelines) which include standard person-trip generation rates used in transportation impact analyses for a variety of land uses. A summary of the relevant retail and residential rates is included in **Table 7**. To calculate the PM peak hour person-trip generation, the daily trip generation rate for the land use type is multiplied by the percent of daily person trips expected to occur in the PM peak hour.

Table 8 gives the calculated values for the relevant land uses (based on the SF Guidelines) and the ranges for the observed values for sites of each type. The observed data showed a wide range of trip generation rates within each land use. More detailed discussion of the data collected for both retail and residential land uses, which are summarized in **Table 7** and **Table 8**, is provided in the following pages. In assessing these trip generation results, it should be noted that survey sites were selected to have above-average trip generation rates in order to maximize the number of completed surveys. Additionally, the data was collected during summer months, when trip-making characteristics may be atypical due to vacations and children being out of school; unfortunately, there is limited data on how summer months compare to non-summer months in terms of San Francisco-specific trip generation.

[10] Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002)
[11] Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002)

TABLE 7 SAN FRANCISCO PERSON-TRIP GENERATION RATES FOR TYPICAL LAND USES

Land Use Type	Trip Rates		
	Rate per Land Use (Daily)	***PM Peak Hour (% Daily)***	***PM Peak Hour Rate***
General Retail	150 trips / ksf[1]	9.0%	14 trips / ksf
Supermarket	297 trips / ksf	7.3%	22 / ksf
Residential (all types)			1.3 / DU[3]
2+ bedrooms	10 trips / DU[2]	17.3%	
1 bedroom/studio	7.5 trips / DU	17.3%	
Senior housing	5 trips / DU	6.0%	

[1] ksf = 1,000 square feet

[2] DU = dwelling unit

[3] The person-trip rate from the SF Guidelines was calculated from the value for studio/one-bedroom units. This methodology was chosen in the absence of complete data regarding unit mix for all sites. Using the studio/one-bedroom value was deemed the most logical, given that newer developments in San Francisco have tended toward higher numbers of studio and one-bedroom units, as do many of the selected sites.

Source: Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002)

TABLE 8 PM PEAK HOUR PERSON-TRIP GENERATION RATES, SF GUIDELINES AND OBSERVED

Land Use Type	Unit of Measure	SF Guidelines	Range of Observed Values
General Retail	1,000 square feet (ksf)	14 trips / ksf	5 – 33 trips / ksf *(Pottery Barn, Cole Hardware, Standard 5 & 10)*
Supermarket	1,000 square feet (ksf)	22 trips / ksf	35 – 52 trips / ksf *(Real Food Co., Bi Rite, Falletti)* 22 – 100 trips / ksf *(Walgreens)*
Residential	Dwelling Unit (DU)	1.3 trips / DU[1]	0.3 - 1.7 trips / ksf *(All Sites)*

[1] The person-trip rate from the SF Guidelines was calculated from the value for studio/one-bedroom units. This methodology was chosen in the absence of complete data regarding unit mix for all sites. Using the studio/one-bedroom value was deemed the most logical, given that newer developments in San Francisco have tended toward higher numbers of studio and one-bedroom units, as do many of the selected sites.

Sources: Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002); Fehr & Peers, 2015

PEAK HOUR PERSON-TRIP GENERATION

This section presents peak hour person-trip generation rates for both the AM and PM peak periods. While the *SF Guidelines* only provides information to calculate PM peak hour rates, observed AM rates are given to fully document the collected data. Peak hours for each site were determined by calculating the one hour period in which the largest number of *people* entered the site / cordon area.

Peak hours for retail were clustered fairly closely around the same time, beginning around 8:45 to 9:00 in the AM; the PM peak hours were more varied, as shown in **Table 9**. For residential sites, peak hours were clustered fairly closely around the same time, beginning around 7:45 to 8:00 in the AM; the PM peak hours were also more varied, though less so than for retail, which can be seen in **Table 10**.

Peak hour trips for retail were generally higher in the PM, with the median and average values for the PM approximately 125 percent larger than the AM; the residential peak hour trips were more balanced, with little variation between AM and PM values.

TABLE 9 PEAK HOUR PERSON-TRIP GENERATION, RETAIL

Site ID	Name	AM		PM	
		Observed Peak Hour	***Peak Hour Person Trips***	***Observed Peak Hour***	***Peak Hour Person Trips***
s1	Real Food Co.	9:00am - 10:00am	97	5:15pm - 6:15pm	263
s2	Rainbow Grocery	9:00am - 10:00am	323	4:30pm - 5:30pm	693
s3	Pottery Barn 1[1]			3:45pm - 4:45pm	61
s4	Pottery Barn 2[1]			3:45pm - 4:45pm	122
s5	Walgreens 1	9:00am - 10:00am	150	4:45pm - 5:45pm	291
s6	Walgreens 2	8:45am - 9:45am	91	5:15pm - 6:15pm	234
s7	Walgreens 3	8:45am - 9:45am	182	5:15pm - 6:15pm	507
s8	Walgreens 4	9:00am - 10:00am	102	4:45pm - 5:45pm	276
s9	Bi Rite	9:00am - 10:00am	132	4:15pm - 5:15pm	388
s10	Falletti Foods	8:45am - 9:45am	184	5:45pm - 6:45pm	352
s11	Walgreens 5	9:00am - 10:00am	98	3:30pm - 4:30pm	230
s12	Walgreens 6	8:15am - 9:15am	67	4:45pm - 5:45pm	139
s13	Cole Hardware	9:00am - 10:00am	123	5:30pm - 6:30pm	152
s14	Standard 5 & 10 Ace	9:00am - 10:00am	162	3:00pm - 4:00pm	233

[1] Some retail sites opened as late as 9AM; a minimum 2-hour survey window was maintained; sites 3 and 4 did not open until 10AM and were thus not surveyed for the AM peak. All stores were surveyed for the full PM peak period.

Source: Fehr & Peers, 2015

TABLE 10 PEAK HOUR PERSON-TRIP GENERATION, RESIDENTIAL

Site ID	Name	AM		PM	
		Observed Peak Hour	***Peak Hour Person Trips***	***Observed Peak Hour***	***Peak Hour Person Trips***
s15	199 New Montgomery	7:15am - 8:15am	97	5:15pm - 6:15pm	98
s16	250 Point Lobos	8:00am - 9:00am	9	5:45pm - 6:45pm	11
s17	2298 Lombard	7:45am - 8:45am	20	4:15pm - 5:15pm	16
s18	1800 Van Ness	8:30am - 9:30am	59	6:00pm - 7:00pm	55
s19	1080 Sutter	7:45am - 8:45am	29	5:30pm - 6:30pm	29
s20	4715 Geary	7:45am - 8:45am	20	5:15pm - 6:15pm	29
s21	1045 Mission	8:15am - 9:15am	121	5:00pm - 6:00pm	151
s22	1600 15th St	8:00am - 9:00am	106	6:00pm - 7:00pm	134
s23	1960 Market	7:15am - 8:15am	62	6:00pm - 7:00pm	61
s24	Park Hill Condominiums	7:15am - 8:15am	41	5:15pm - 6:15pm	42
s25	101 Point Lobos	8:15am - 9:15am	16	4:15pm - 5:15pm	19
s26	38 Dolores	8:30am - 9:30am	63	4:45pm - 5:45pm	38
s27	3400 Cesar Chavez	7:45am - 8:45am	79	6:00pm - 7:00pm	104
s28	The Metropolitan	8:15am - 9:15am	169	5:15pm - 6:15pm	136
s29	1290 20th Ave	7:30am - 8:30am	20	6:00pm - 7:00pm	17
s30	1000 Green St	7:30am - 8:30am	20	4:45pm - 5:45pm	31

Source: Fehr & Peers, 2015

Table 11 shows retail peak hour rates per thousand square feet, while

Table 13 shows residential peak hour person-trip rates per dwelling unit (DU); **Table 12** and **Table 14** present a comparison of these peak hour trip rate values to the SF Guidelines' values for retail and residential sites, respectively, and **Figure 8** and **Figure 9** provide a graphic representation of these relationships. The average observed PM peak hour person-trip generation rate by square footage was about double the *SF Guidelines* values for both general retail (26.3 trips per ksf) and supermarket (33.53 trips per ksf) land uses, while the rate for residential land uses averaged about half of the *SF Guidelines* numbers at 0.56 person-trips per DU.

Additionally, for five of the seven retail pairs, sites without parking saw a markedly higher number of person trips per square foot in their peak period. The fact that observed person-trip generation rates for retail sites were on average significantly higher than the *SF Guidelines* may be related to the economic

boom taking place in San Francisco during the data collection period as well as the site selection methodology discussed above.

TABLE 11 PEAK HOUR PERSON-TRIP GENERATION RATES, RETAIL

Site ID	Name	Retail Square Footage	Provides Off-Street Parking?	Peak Hour Person Trips		Observed Peak Hour Person-Trip Generation Rate (trips per ksf)	
				AM	PM	AM	PM
s1	Real Food Co.	5,500	N	97	263	17.6	47.8
s2	Rainbow Grocery	33,225	Y	323	693	9.7	20.9
s3	Pottery Barn 1	11,500	Y		61		5.3
s4	Pottery Barn 2	6,000	N		122		20.3
s5	Walgreens 1	10,750	Y	150	291	14.0	27.1
s6	Walgreens 2	5,760	Y	91	234	15.8	40.6
s7	Walgreens 3	9,500	N	182	507	19.2	53.4
s8	Walgreens 4	12,000	Y	102	276	8.5	23.0
s9	Bi Rite	7,350	N	132	388	18.0	52.8
s10	Falletti Foods	15,030	Y	184	352	12.2	23.4
s11	Walgreens 5	7,900	Y	98	230	12.4	29.1
s12	Walgreens 6	8,100	N	67	139	8.3	17.2
s13	Cole Hardware	4,600	N	123	152	26.7	33.0
s14	Standard 5 & 10 Ace	5,000	Y	162	233	32.4	46.6
					Average:	*16.2*	*30.3*
					Weighted (by square footage) Average:	*12.0*	*27.7*

Sources: Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002); San Francisco Planning Department, 2015; Fehr & Peers, 2015

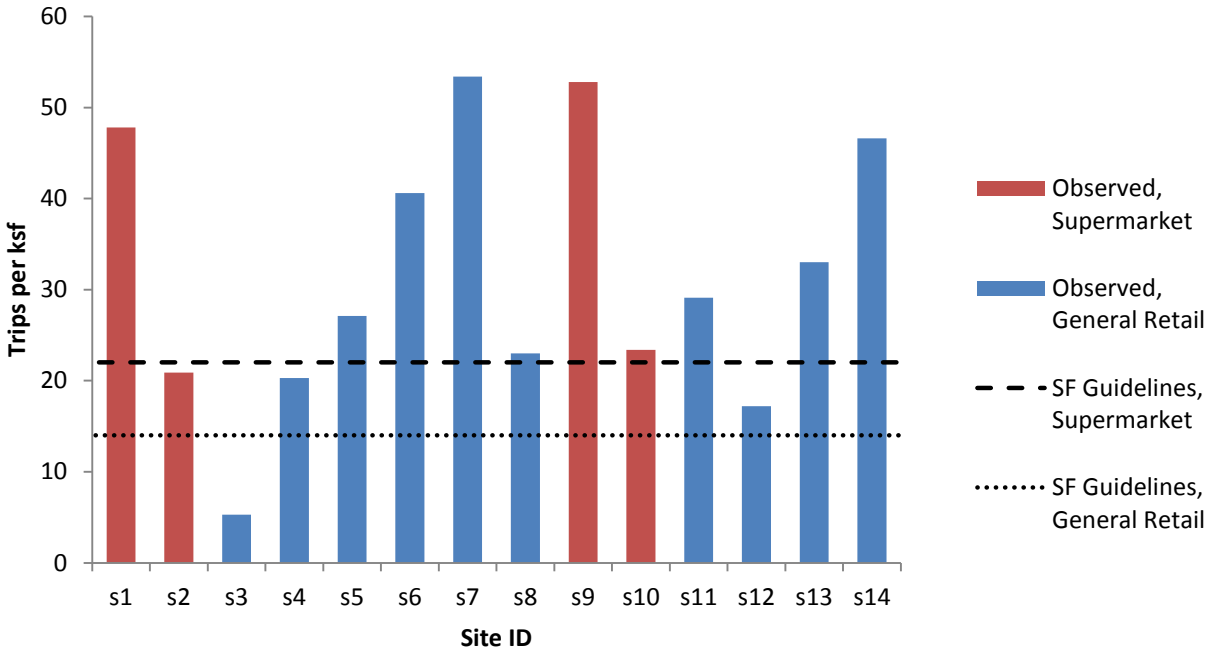
TABLE 12 PM PEAK HOUR TRIP GENERATION, SF GUIDELINES VERSUS OBSERVED, RETAIL

Site ID	Name	PM Peak Hour Person Trip Generation Rates (trips per ksf)		
		SF Guidelines	***Observed***	***% Difference[1]***
s1	Real Food Co.	22	47.8	+117%
s2	Rainbow Grocery	22	20.9	**-5%**
s3	Pottery Barn 1	14	5.3	**-62%**
s4	Pottery Barn 2	14	20.3	+45%
s5	Walgreens 1	14	27.1	+94%
s6	Walgreens 2	14	40.6	+190%
s7	Walgreens 3	14	53.4	+281%
s8	Walgreens 4	14	23.0	+64%
s9	Bi Rite	22	52.8	+140%
s10	Falletti Foods	22	23.4	+6%
s11	Walgreens 5	14	29.1	+108%
s12	Walgreens 6	14	17.2	+23%
s13	Cole Hardware	14	33.0	+136%
s14	Standard 5 & 10 Ace	14	46.6	+233%

[1] Percent change from SF Guidelines to observed rates, where % Difference = (Observed – Guideline Value) / Guideline Value

Sources: Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002); San Francisco Planning Department, 2015; Fehr & Peers 2015

Figure 8 PM Peak Hour Trip Generation, SF Guidelines versus Observed, Retail



Sources: Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002); San Francisco Planning Department, 2015; Fehr & Peers 2015

TABLE 13 PEAK HOUR PERSON-TRIP GENERATION RATES, RESIDENTIAL

Site ID	Name	Dwelling Units	Peak Hour Person-Trips		Peak Hour Person-Trip Generation Rates (trips per DU)	
			AM	PM	AM	PM
s15	199 New Montgomery	166	97	98	0.58	0.59
s16	250 Point Lobos	20	9	11	0.45	0.55
s17	2298 Lombard	14	20	16	1.40	1.16
s18	1800 Van Ness	98	59	55	0.60	0.57
s19	1080 Sutter	35	29	29	0.81	0.83
s20	4715 Geary	60	20	29	0.33	0.48
s21	1045 Mission	278	121	151	0.43	0.54
s22	1600 15th St	202	106	134	0.52	0.66
s23	1960 Market	115	62	61	0.54	0.53
s24	Park Hill Condominiums	137	41	42	0.30	0.30
s25	101 Point Lobos	32	16	19	0.49	0.58
s26	38 Dolores	81	63	38	0.77	0.46
s27	3400 Cesar Chavez	60	79	104	1.32	1.73
s28	The Metropolitan	342	169	136	0.49	0.40
s29	1290 20th Ave	39	20	17	0.51	0.44
s30	1000 Green St	62	20	31	0.32	0.50
Average:					*0.62*	*0.65*
Weighted (by dwelling unit) Average:					*0.53*	*0.56*

Sources: Fehr & Peers, 2015; San Francisco Planning Department, 2015

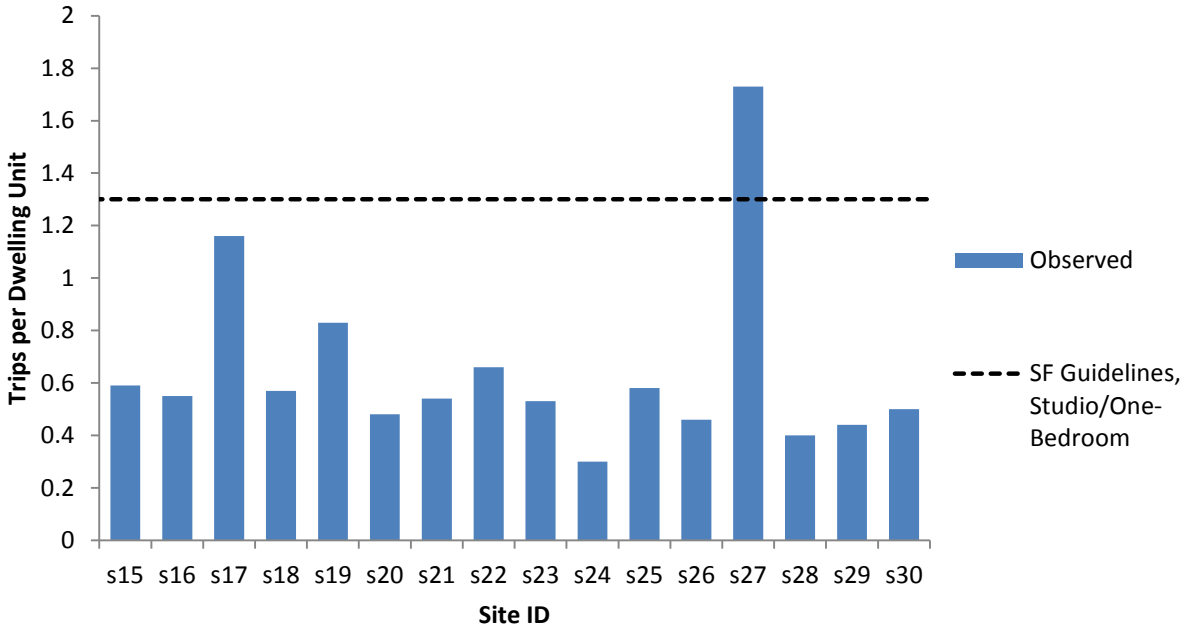
TABLE 14 PM PEAK HOUR TRIP GENERATION, SF GUIDELINES VERSUS OBSERVED, RESIDENTIAL

Site ID	Name	PM Peak Hour Person Trip Generation Rates (trips per DU)		
		SF Guidelines	*Observed*	*% Difference*[1]
s15	199 New Montgomery	1.3	0.59	-55%
s16	250 Point Lobos	1.3	0.55	-58%
s17	2298 Lombard	1.3	1.16	-11%
s18	1800 Van Ness	1.3	0.57	-56%
s19	1080 Sutter	1.3	0.83	-36%
s20	4715 Geary	1.3	0.48	-63%
s21	1045 Mission	1.3	0.54	-58%
s22	1600 15th St	1.3	0.66	-49%
s23	1960 Market	1.3	0.53	-59%
s24	Park Hill Condominiums	1.3	0.30	-77%
s25	101 Point Lobos	1.3	0.58	-55%
s26	38 Dolores	1.3	0.46	-65%
s27	3400 Cesar Chavez	1.3	1.73	**+33%**
s28	The Metropolitan	1.3	0.40	-69%
s29	1290 20th Ave	1.3	0.44	-66%
s30	1000 Green St	1.3	0.50	-62%

[1] Percent change from SF Guidelines to observed rates, where % Difference = (Observed – Guideline Value) / Guideline Value

Sources: Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002); San Francisco Planning Department, 2015; Fehr & Peers, 2015

Figure 9 PM Peak Hour Trip Generation, SF Guidelines versus Observed, Residential



Sources: Transportation Impact Analysis Guidelines for Environmental Review, San Francisco Planning Department (October 2002); San Francisco Planning Department, 2015; Fehr & Peers, 2015

PERSON-TRIP GENERATION RATES BY PLACE TYPE

Table 15 and **Table 16** show the average trip generation rates by place type for sites in **Table 11** and

Table 13, respectively. For retail land uses, sites in place types with lower all-purpose AMS show a higher number of trips per square foot. The number of trips per dwelling unit, in the case of residential sites, does not show a similar pattern: the average number of trips per dwelling unit is highest in Place Type 2, while values for Place Type 1 and Place Type 3 are similar.

TABLE 15 PEAK HOUR PERSON-TRIP GENERATION RATES BY PLACE TYPE, RETAIL

Place Type	Number of Sites	AM Peak/ksf	PM Peak/ksf
1	1	17.6	47.8
2	9	14.1	31.0
3	4	12.6	28.5

Sources: San Francisco Planning Department 2015; Fehr & Peers, 2015

TABLE 16 PEAK HOUR PERSON-TRIP GENERATION RATES BY PLACE TYPE, RESIDENTIAL

Place Type	Number of Sites	AM Peak Hour Person-Trips/DU	PM Peak Hour Person-Trips/DU
1	4	0.46	0.50
2	9	0.73	0.75
3	3	0.48	0.52

Sources: San Francisco Planning Department, 2015; Fehr & Peers, 2015

APPENDIX A: MODE SHARE BY PEAK PERIOD, RETAIL

Site ID	Name	Peak Period	Observed AMS			
			Auto/ Taxi	***Transit/ Shuttle***	***Walk***	***Bike***
s1	Real Food Co.	AM	28%	9%	59%	4%
		PM	24%	9%	63%	4%
s2	Rainbow Grocery	AM	27%	11%	43%	19%
		PM	37%	8%	31%	25%
s3	Pottery Barn 1					
		PM	56%	26%	18%	0%
s4	Pottery Barn 2					
		PM	43%	7%	50%	0%
s5	Walgreens 1	AM	46%	10%	42%	2%
		PM	59%	14%	24%	3%
s6	Walgreens 2	AM	49%	13%	38%	0%
		PM	45%	22%	33%	0%
s7	Walgreens 3	AM	24%	28%	45%	3%
		PM	13%	29%	54%	4%
s8	Walgreens 4	AM	33%	32%	30%	5%
		PM	32%	18%	47%	3%
s9	Bi Rite	AM	37%	8%	39%	16%
		PM	36%	14%	45%	6%
s10	Falletti Foods	AM	46%	4%	47%	3%
		PM	35%	5%	58%	2%
s11	Walgreens 5	AM	67%	13%	20%	0%
		PM	52%	9%	38%	1%
s12	Walgreens 6	AM	68%	15%	17%	0%
		PM	65%	13%	22%	1%
s13	Cole Hardware	AM	67%	9%	20%	4%
		PM	33%	10%	52%	5%
s14	Standard 5 & 10 Ace	AM	74%	2%	23%	1%
		PM	65%	8%	27%	0%

Source: Fehr & Peers, 2014

APPENDIX B: MODE SHARE BY PEAK PERIOD, RESIDENTIAL

Site ID	Name	Peak Period	Observed AMS			
			Auto/ Taxi	***Transit/ Shuttle***	***Walk***	***Bike***
s15	199 New Montgomery	AM	21%	19%	56%	5%
		PM	20%	10%	68%	3%
s16	250 Point Lobos	AM	75%	17%	8%	0%
		PM	54%	19%	23%	4%
s17	2298 Lombard	AM	42%	0%	58%	0%
		PM	57%	0%	34%	9%
s18	1800 Van Ness	AM	47%	19%	33%	0%
		PM	43%	21%	36%	0%
s19	1080 Sutter	AM	37%	23%	33%	7%
		PM	16%	11%	60%	14%
s20	4715 Geary	AM	58%	17%	13%	13%
		PM	40%	24%	36%	0%
s21	1045 Mission	AM	43%	9%	38%	10%
		PM	40%	11%	44%	5%
s22	1600 15th St	AM	30%	29%	35%	6%
		PM	43%	20%	32%	4%
s23	1960 Market	AM	31%	34%	33%	2%
		PM	38%	25%	32%	5%
s24	Park Hill Condominiums	AM	58%	15%	25%	1%
		PM	66%	17%	15%	2%
s25	101 Point Lobos	AM	30%	21%	49%	0%
		PM	36%	32%	32%	0%
s26	38 Dolores	AM	36%	25%	27%	11%
		PM	24%	25%	47%	4%
s27	3400 Cesar Chavez	AM	58%	18%	14%	9%
		PM	55%	20%	22%	3%
s28	The Metropolitan	AM	45%	7%	48%	0%
		PM	41%	7%	50%	2%
s29	1290 20th Ave	AM	51%	18%	27%	3%
		PM	32%	18%	44%	6%
s30	1000 Green St	AM	73%	10%	17%	0%
		PM	69%	6%	22%	2%

Source: Fehr & Peers, 2014

APPENDIX C: DIFFERENCE IN AUTO MODE SHARE BY PRESENCE OF ON-SITE PARKING, RETAIL

Site ID (Parking/ No Parking)	Name (Parking/ No Parking)	Observed AMS[1]							
		Parking				No Parking			
		Auto/ Taxi	*Transit/ Shuttle*	*Walk*	*Bike*	*Auto/ Taxi*	*Transit/ Shuttle*	*Walk*	*Bike*
s2/s1	Rainbow Grocery/ Real Food Co.	34%	9%	9%	23%	24%	9%	9%	4%
s3/s4	Pottery Barn 1/ Pottery Barn 2	56%	26%	18%	0%	43%	7%	50%	0%
s5/s6	Walgreens 1/ Walgreens 2	57%	13%	28%	3%	45%	21%	34%	3%
s8/s7	Walgreens 4/ Walgreens 3	32%	21%	43%	4%	15%	29%	52%	4%
s10/s9	Falletti Foods/ Bi Rite	38%	4%	55%	7%	36%	13%	44%	7%
s11/s12	Walgreens 5/ Walgreens 6	54%	10%	35%	1%	65%	14%	21%	1%
s14/s13	Standard 5 & 10 Ace/ Cole Hardware	68%	6%	26%	5%	43%	10%	42%	5%

[1] Overall observed auto mode share is based on the combination of AM and PM peak periods
Source: Fehr & Peers, 2014

APPENDIX D: DIFFERENCE IN AUTO MODE SHARE BY POSSESSION OF RESERVED CAR PARKING, RESIDENTIAL

Site ID	Name	Observed AMS[1]							
		Reserved Parking				No Reserved Parking			
		Auto/ Taxi	***Transit/ Shuttle***	***Walk***	***Bike***	***Auto/ Taxi***	***Transit/ Shuttle***	***Walk***	***Bike***
s15	199 New Montgomery	26%	6%	65%	4%	14%	22%	60%	4%
s16	250 Point Lobos	26%	43%	30%	0%	75%	9%	12%	3%
s17	2298 Lombard	36%	0%	57%	7%	86%	0%	14%	1%
s18	1800 Van Ness	44%	18%	39%	0%	52%	33%	15%	0%
s19	1080 Sutter	30%	21%	41%	8%	17%	5%	60%	17%
s20	4715 Geary	41%	26%	33%	0%	56%	15%	18%	11%
s21	1045 Mission	69%	5%	23%	3%	11%	17%	61%	11%
s22	1600 15th St	56%	19%	23%	2%	26%	27%	40%	7%
s23	1960 Market	49%	18%	28%	5%	25%	37%	35%	3%
s24	Park Hill Condominiums	65%	11%	23%	0%	50%	44%	0%	6%
s25	101 Point Lobos	53%	24%	22%	0%	21%	30%	50%	0%
s26	38 Dolores	36%	19%	44%	0%	27%	28%	33%	12%
s27	3400 Cesar Chavez	55%	18%	20%	7%	59%	21%	16%	4%
s28	The Metropolitan	49%	6%	44%	1%	23%	10%	65%	2%
s29	1290 20th Ave	91%	0%	9%	0%	32%	21%	41%	5%
s30	1000 Green St	83%	5%	10%	2%	31%	15%	53%	0%

[1] Overall observed auto mode share is based on the combination of AM and PM peak periods
Source: Fehr & Peers, 2014

APPENDIX E: SURVEYING INSIGHTS/SITE INFORMATION

The following lists all sites surveyed thus far with notes about any peculiarities or features that may be useful to know for the meeting. The site diagrams for each are also provided at the end for reference.

S1, Real Food Co. (2140 Polk St.) – Russian Hill

- Fairly urban, small store that's midblock with tight on-street parking that's all parallel

S2, Rainbow Grocery (1745 Folsom St) – Inner Mission/Western SoMa

- A number of parking lots, as well as a large supply of bike parking (including a bike corral)

S3, Pottery Barn 1 (2390 Market St) – Castro

- Faces Market St with a very small parking lot in the back (about7 stalls) which was never totally full and was used primarily by employees. Individuals occasionally used it to do other shopping

S4, Pottery Barn 2 (2100 Chestnut St) – Marina

- Fairly typical urban store (one entrance facing street, no parking)

S5, Walgreens 1 (3001 Taraval) – Parkside (near 40th Ave)

- Far out, inner suburb; right near the L-Taraval
- Parking lot of about 12 stalls, but underused at most hours: there is a lot of unrestricted parking nearby, including angled parking right next to the store

S6, Walgreens 2 (1201 Taraval) – Parkside (near 22nd Ave)

- Typical urban store in a single-story commercial cluster near a fairly busy L-Taraval stop; surrounding buildings are mostly single-family homes

S7, Walgreens 3 (2690 Mission) – Inner Mission

- By far the busiest site we surveyed; heavily Spanish-speaking
- Very dense environment

S8, Walgreens 4 (3400 Cesar Chavez) – Southern Mission (at Mission St)

- At the corner with Mission St
- Available parking is a garage with no direct entrance to store
- Very dense urban area (though not quite as dense as the area around Walgreens 3)

S9, Bi Rite (550 Divisadero) – NoPa/Alamo Square

- In NoPa neighborhood near Alamo Square; fairly typical small urban grocery store with no parking lots nearby and tight tight supply
- Has an ice cream stand in it, but these trips weren't counted

S10, Falletti Foods (308 Broderick) – NoPa/Alamo Square

- In the same neighborhood as Bi Rite, but not on a main street; has a slightly unusual/complex parking layout (half garage, half parking lot) with many other uses clustered in the same complex nearby
- Has a Peet's built into its front that provides access to the store, but this wasn't counted/surveyed
- Many carshare spaces in parking lot/garage

S11, Walgreens 5 (1630 Ocean Ave) – Ingleside/CCSF

- Corresponding site with parking for Walgreens 6, but this location is denser/more urban and the parking lot is small. The parking lot did fill up occasionally
- Density/feel of the neighborhood was similar to Walgreens 2

S12, Walgreens 6 (2550 Ocean Ave) – SF State/Lake Merced

- Though it didn't have a parking lot, it had plenty of nearly unrestricted parking nearby (there were meters, however.) That meant that there wasn't a problem with parking near the store
- Fairly far west on Ocean Ave in a small commercial strip south of SF State

S13, Cole Hardware (956 Cole St) – Cole Valley/Upper Haight

- Typical urban location (mid-block, one entrance facing commercial street)

S14, Standard 5&10 Ace (3545 California St) – Laurel Heights/Presidio Heights

- Unusual layout, with a rear entrance to a large shared parking lot and a front entrance onto a busy thoroughfare with a number of contiguous shops
- Individuals would occasionally walk through the store from the parking lot or chain trips and walk back through the store, rendering the site fairly complicated

S15, 199 New Montgomery St – Eastern SoMa

- Fairly typical mid/highrise condominium tower. Reasonably high number of units (among the highest we surveyed)

S16, 250 Point Lobos Ave – Ocean Beach (near 44th Ave)

- Very small number of units (about 20)
- Had parking garage, but with no access directly into building. Parking garage went nearly unused
- There was sufficient parking around that individuals parked on the street. The parking garage also appeared difficult to park in
- There were numerous data recording errors at this site

S17, 2298 Lombard St – Marina

- Very small number of units (14 or so); the low sample size may affect the quality of the data
- Located on a busy part of Lombard without much retail
- There was also a family moving out of the building at the time of surveying

S18, 1800 Van Ness Ave (Marlow) – Russian Hill/Nob Hill

- Don't have any insights about this, but it does face a very busy part of Van Ness near Russian Hill/Nob Hill without much pedestrian activity. Retail isn't leased yet

S19, 1080 Sutter St (Blanc) – Lower Nob Hill

- Fairly low volume and sandwiched between two other buildings with a fairly narrow and flat façade. Small retail not yet leased

S20, 4715 Geary Blvd

- On major thoroughfare; urban but relatively auto-oriented
- Older building, surrounded on either side by other multi-story residential buildings with no rear car access

S21, 1045 Mission St (SoMa Residences) – between Powell and Civic Center

- Long set of buildings, lots of doors, a few garage entrances

S22, 1600 15th St (Vara) – Inner Mission

- Unusual layout (the main pedestrian entrance was oddly placed)
- A surprising number of the interviewees were visitors
- Has City Carshare spaces in parking garage

S23, 1960 Market St (Linea) – Castro (near SF Mint)

- On a fairly loud/windy part of Market near Safeway with low pedestrian traffic. No real insights
- Commercial space on bottom not yet leased

S24, 355 Buena Vista East (Park Hill Condos) – Corona Heights

- On top of a large hill
- Many 90 degree (and parallel) parking nearby, much of which was RPP-restricted
- Many individuals who lived there had 2 cars and parked one on the street or would park on the street in front of the building to run and grab things because it was easier to park there in general
- Every unit in this building has one space deeded to it

S25, 101 Point Lobos Ave (El Prado) – Ocean Beach/Outer Richmond (near 43rd Ave)

- No real insights; small number of units

S26, 2001 Market St (38 Dolores) – Castro (near Church St)

- Across the street from Safeway; this side of the street is more engaging and has more foot traffic than where Linea is
- There's a really busy Whole Foods under it which has its own parking garage
    - Aforementioned garage has City Carshare spaces in it and traffic attendants

S27, 3400 Cesar Chavez – Southern Mission (near Mission St)

- Has Walgreens and Walgreens-only parking lot attached; residents have separate garage entrance
- Very dense urban area (though not quite as dense as the area around Walgreens 3)

S28, 333-335 First St (The Metropolitan) – Castro (near Church St)

- Large, two-tower development connected by parking podium close to heavy freeway traffic/on-ramps
- Residents must walk through garage to get to elevators to units

S29, 1290 20th Ave – Sunset (near Irving St)

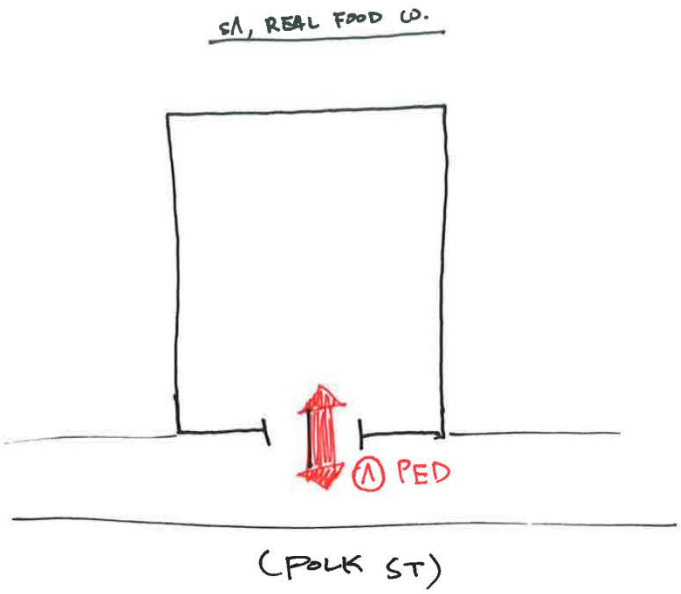
- Mid-rise older building at corner with Irving St; moderately dense urban setting near LRT
- Zipcar pod in parking garage

S30, 1000 Green St – Russian Hill

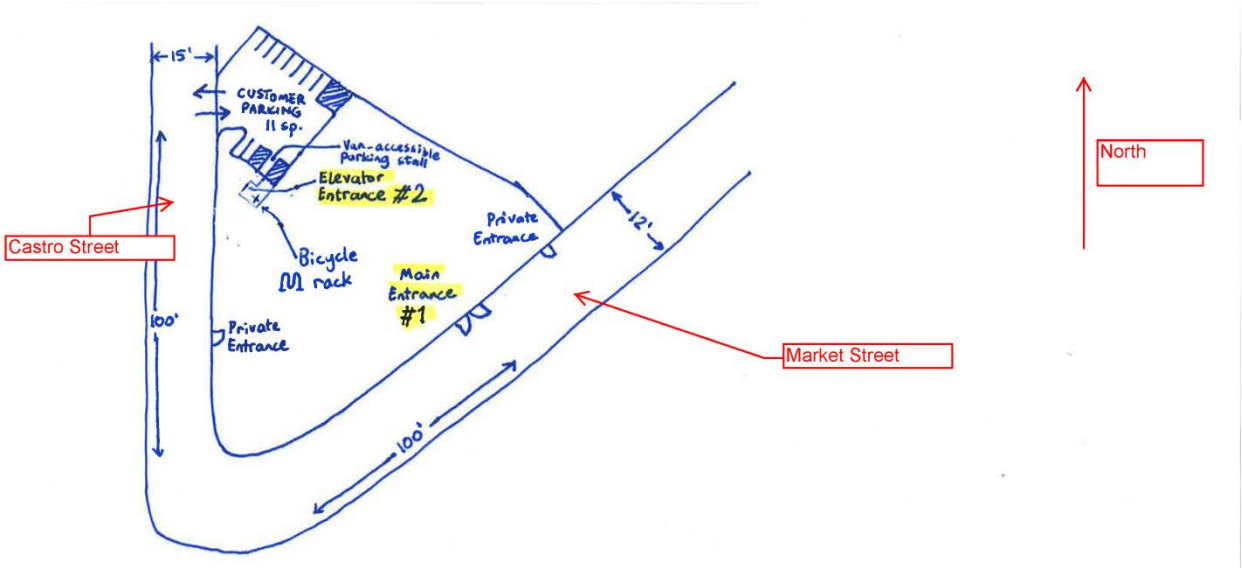
- High-rise tower on top of a steep hill in a largely residential, high-income area
- Residents cannot park their own car, instead giving keys to a valet in front

SITE DIAGRAMS

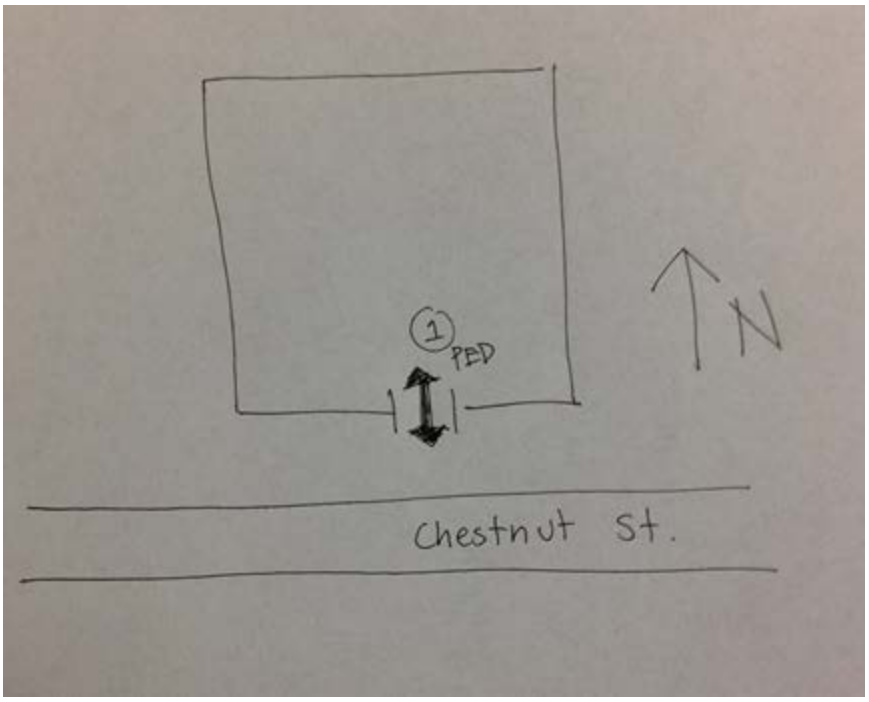
S1, Real Food Co. (2140 Polk St.) – Russian Hill



S3, Pottery Barn 1 (2390 Market St) – Castro



S4, Pottern Barn 2 (2100 Chestnut St) – Marina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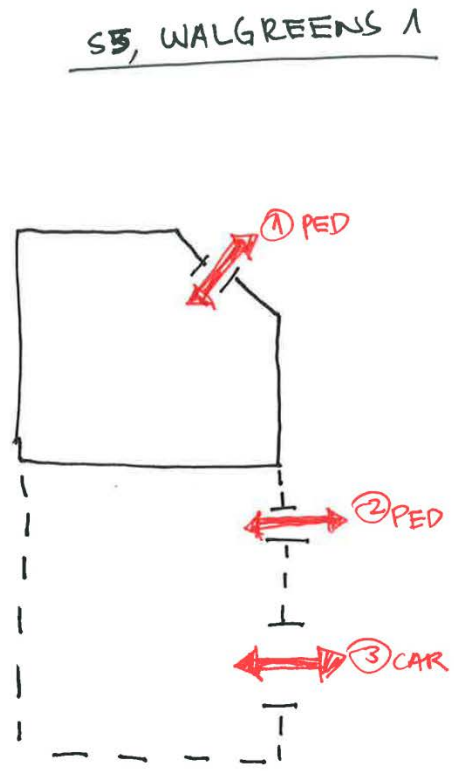
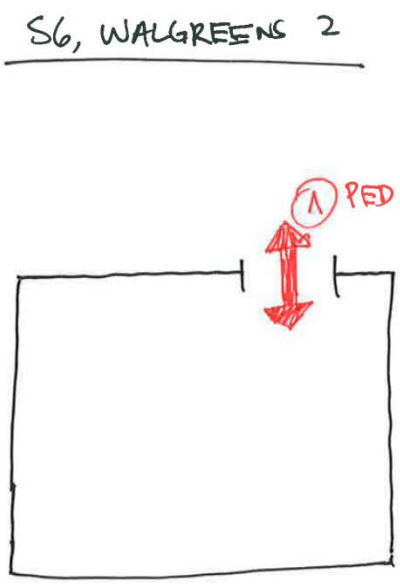
Chestnut St.

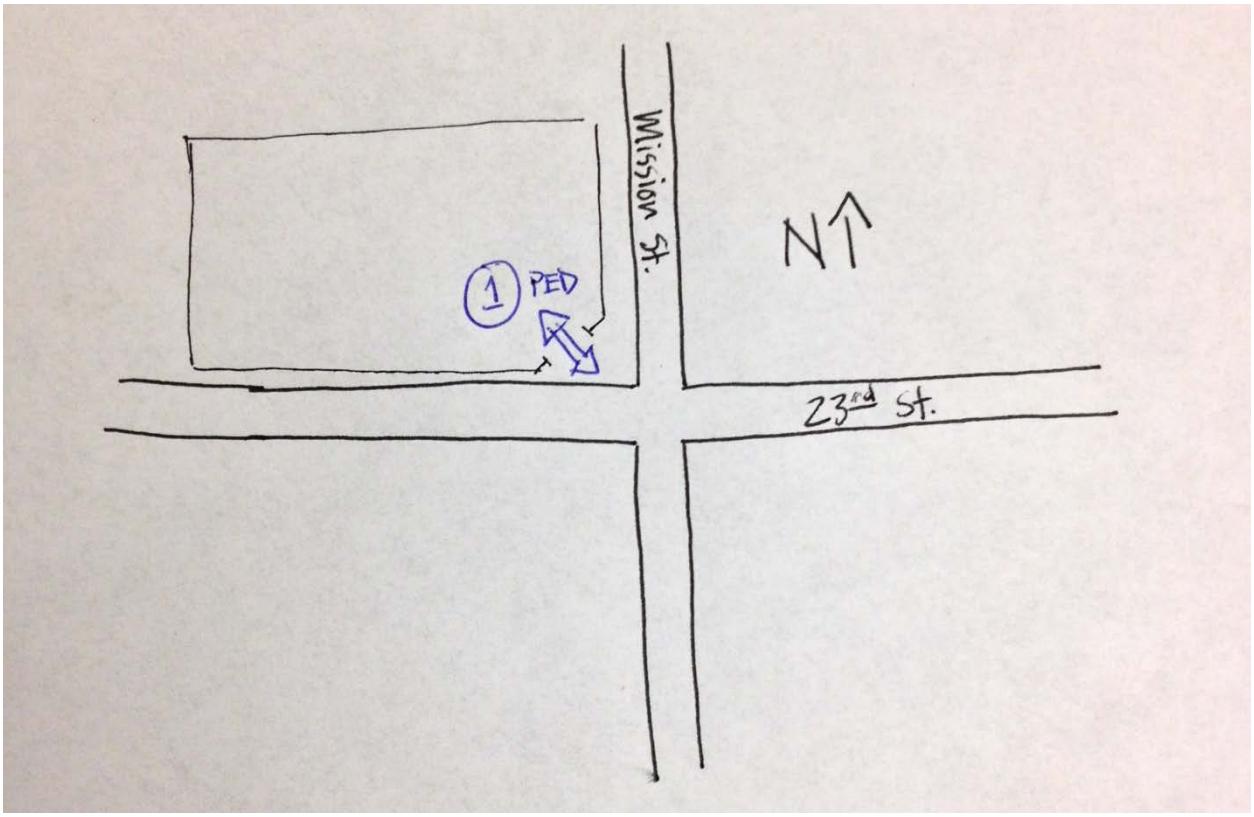
S5, Walgreens 1 (3001 Taraval) – Parkside (near 40th Ave)



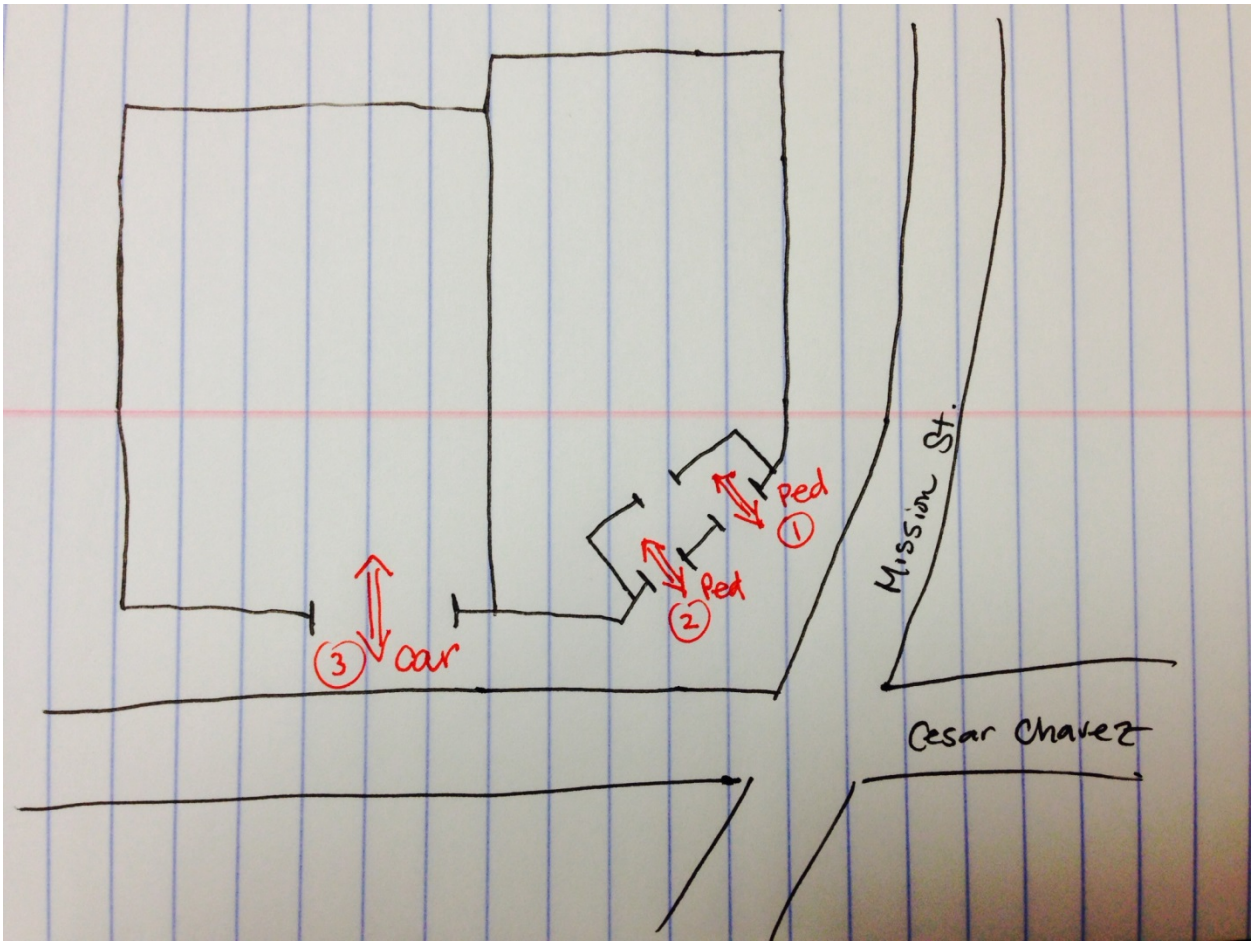
S6, Walgreens 2 (1201 Taraval) – Parkside (near 22nd Ave)



S7, Walgreens 3 (2690 Mission) – Inner Mission



S8, Walgreens 4 (3400 Cesar Chavez) – Southern Mission (at Mission St)



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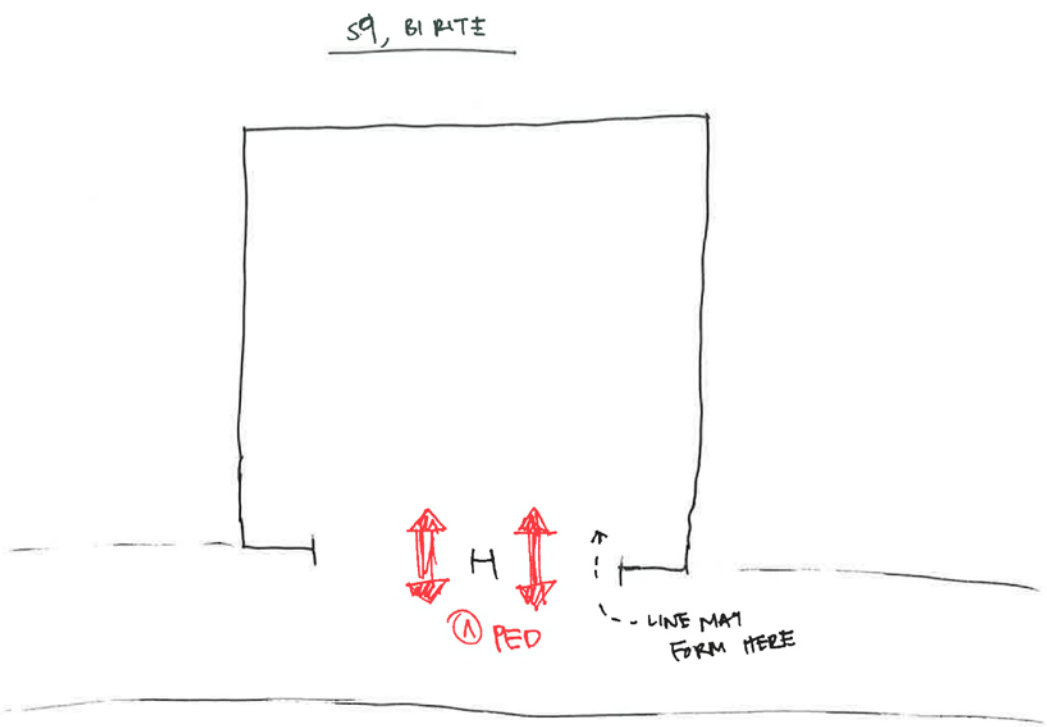

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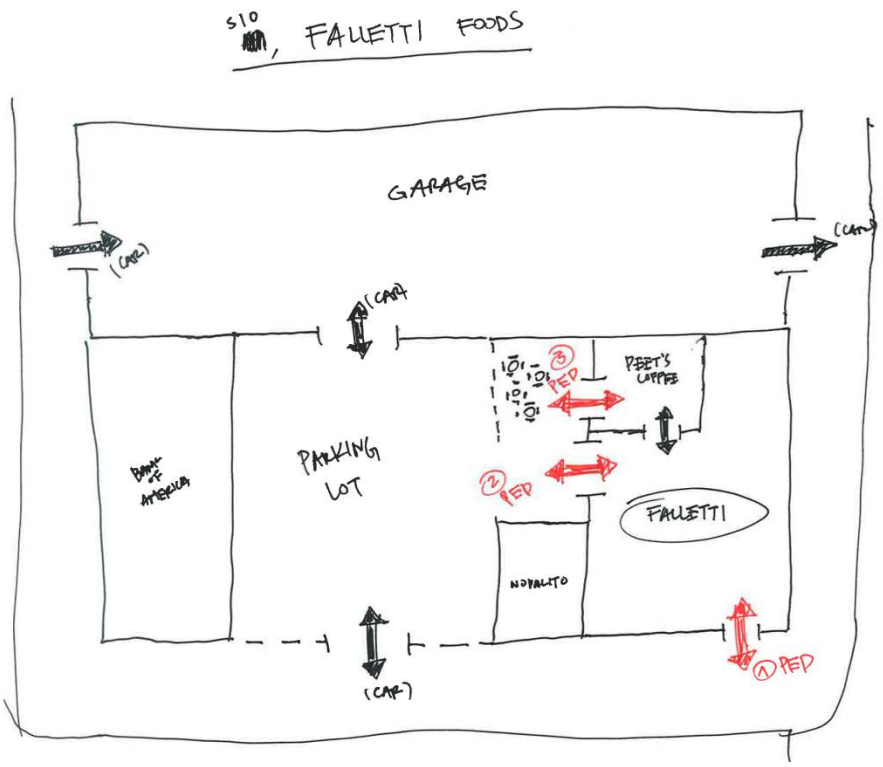

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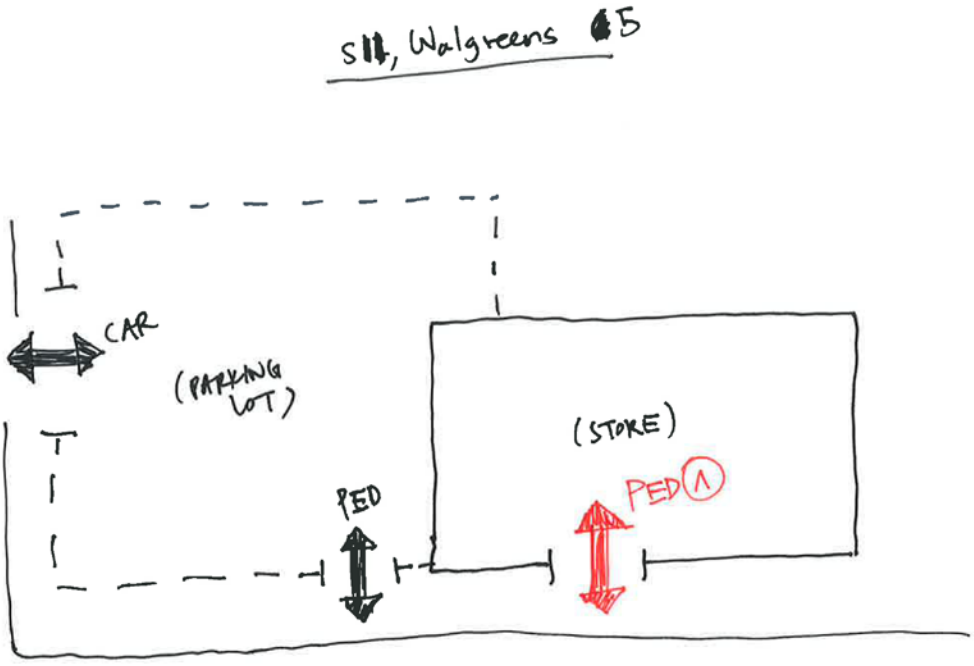

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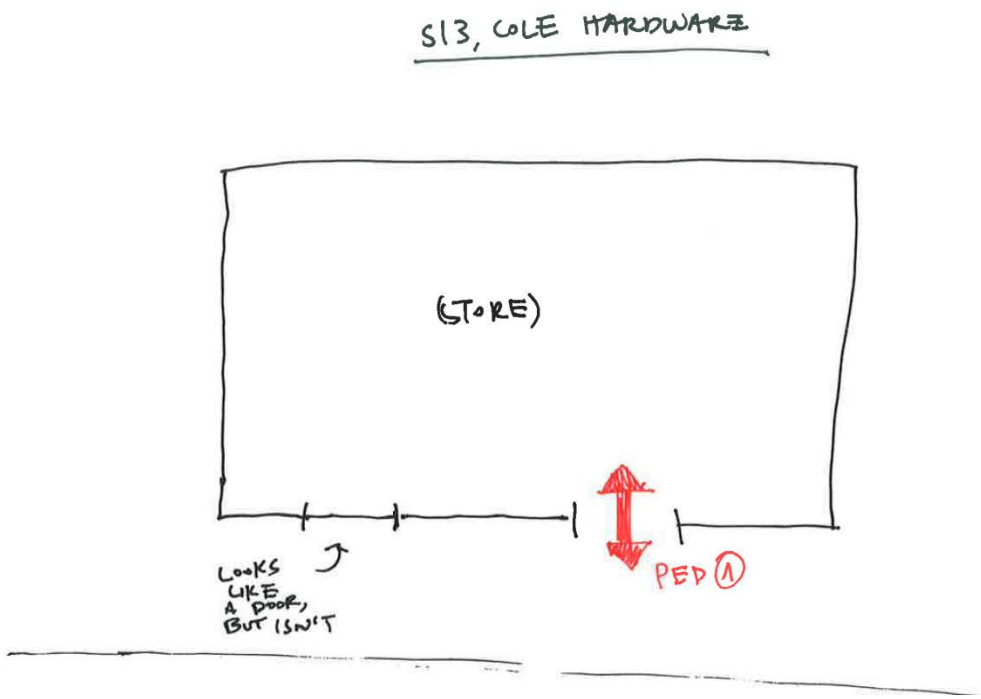
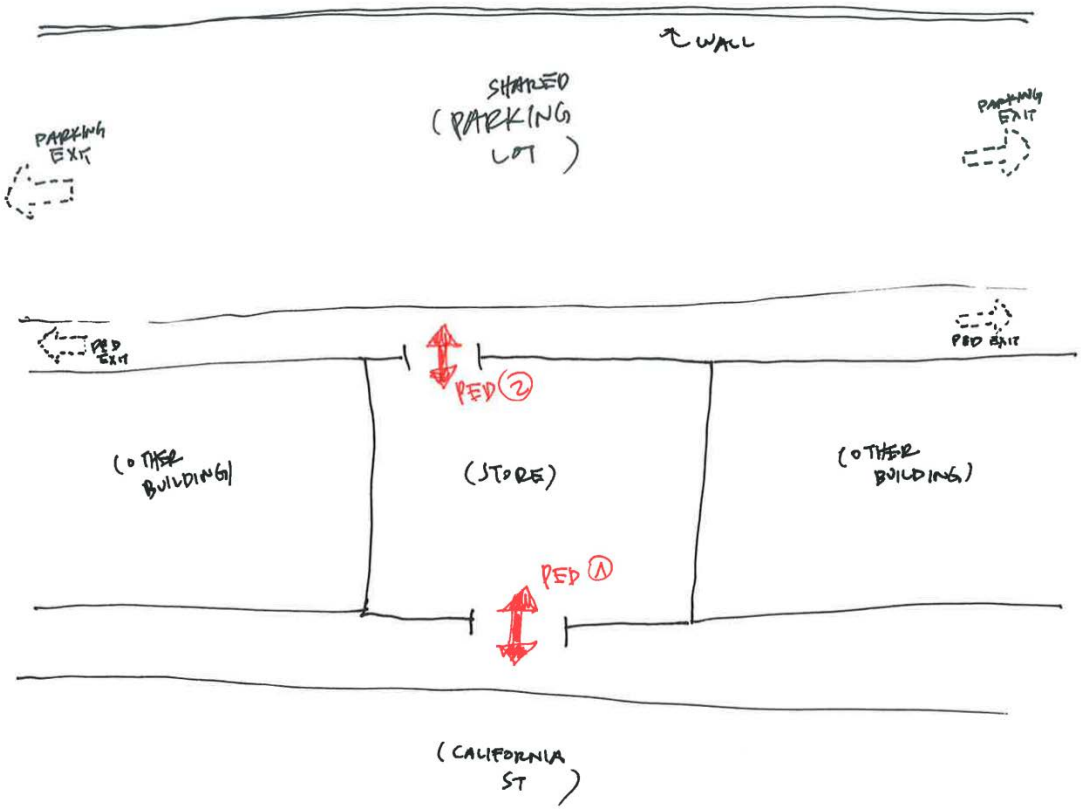


S14, Standard 5&10 Ace (3545 California St) – Laurel Heights/Presidio Heights



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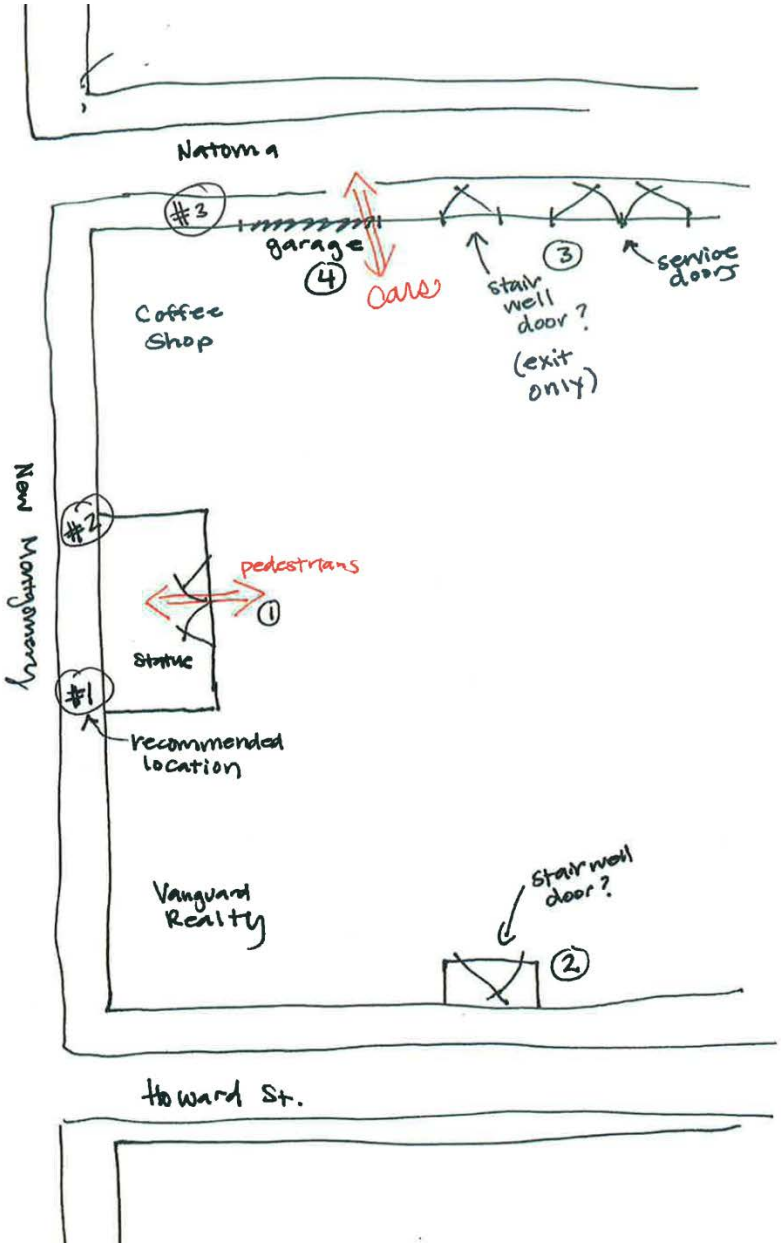

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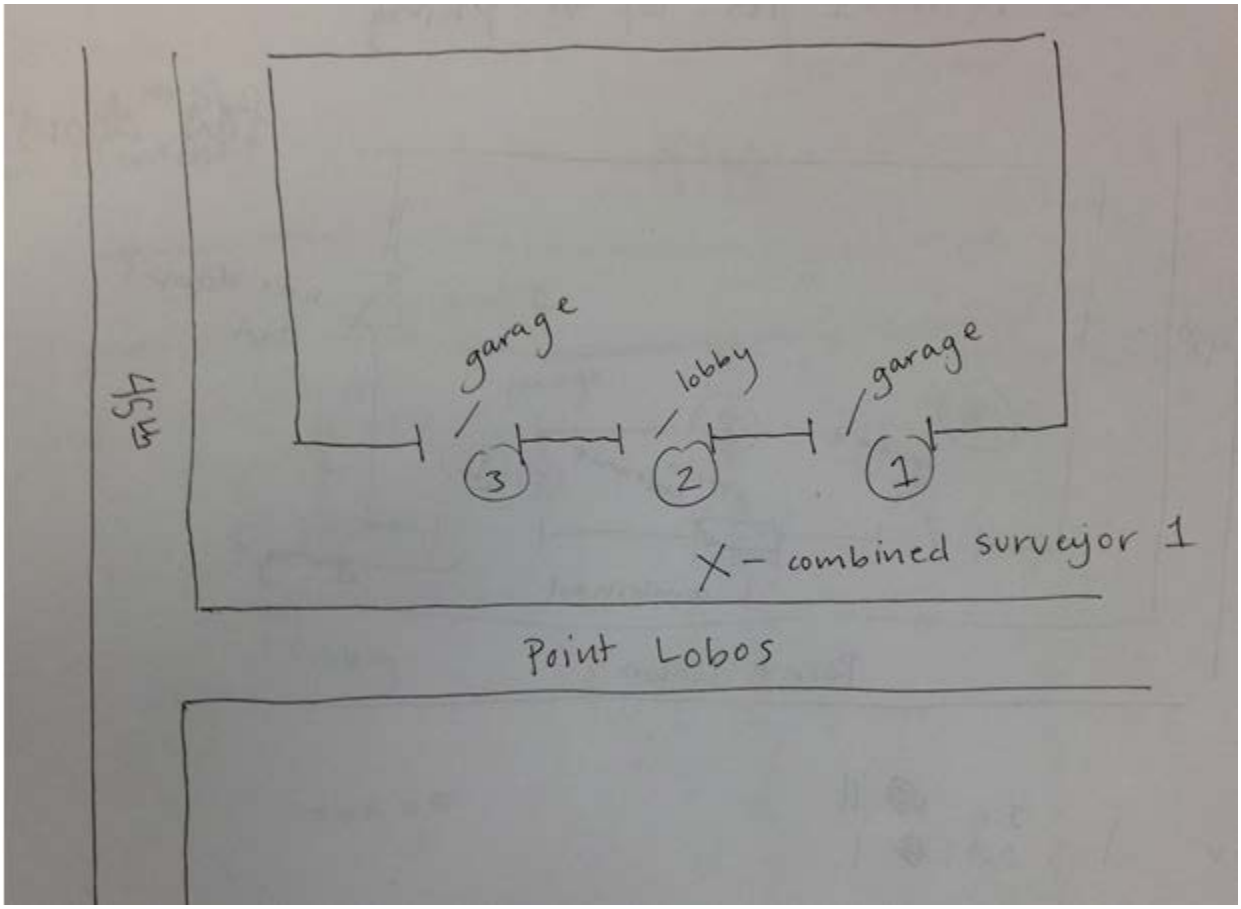

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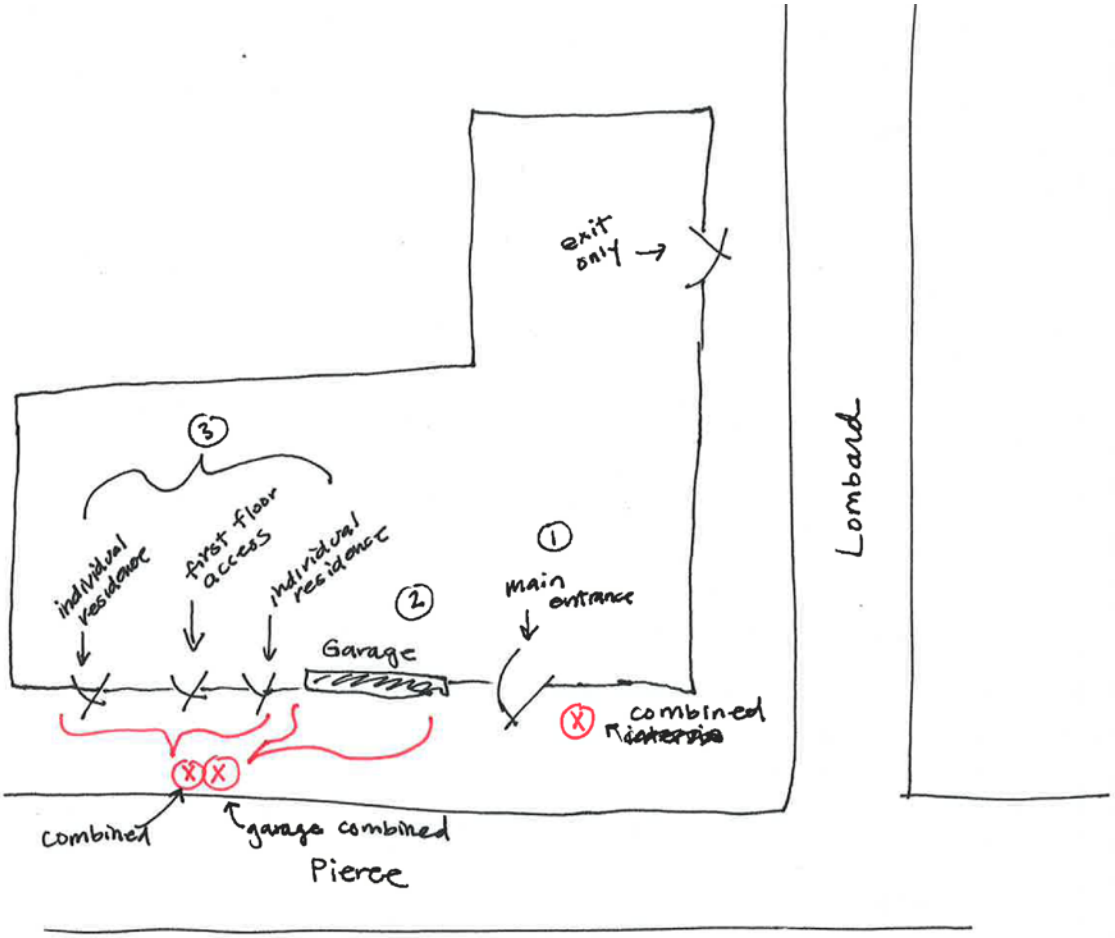
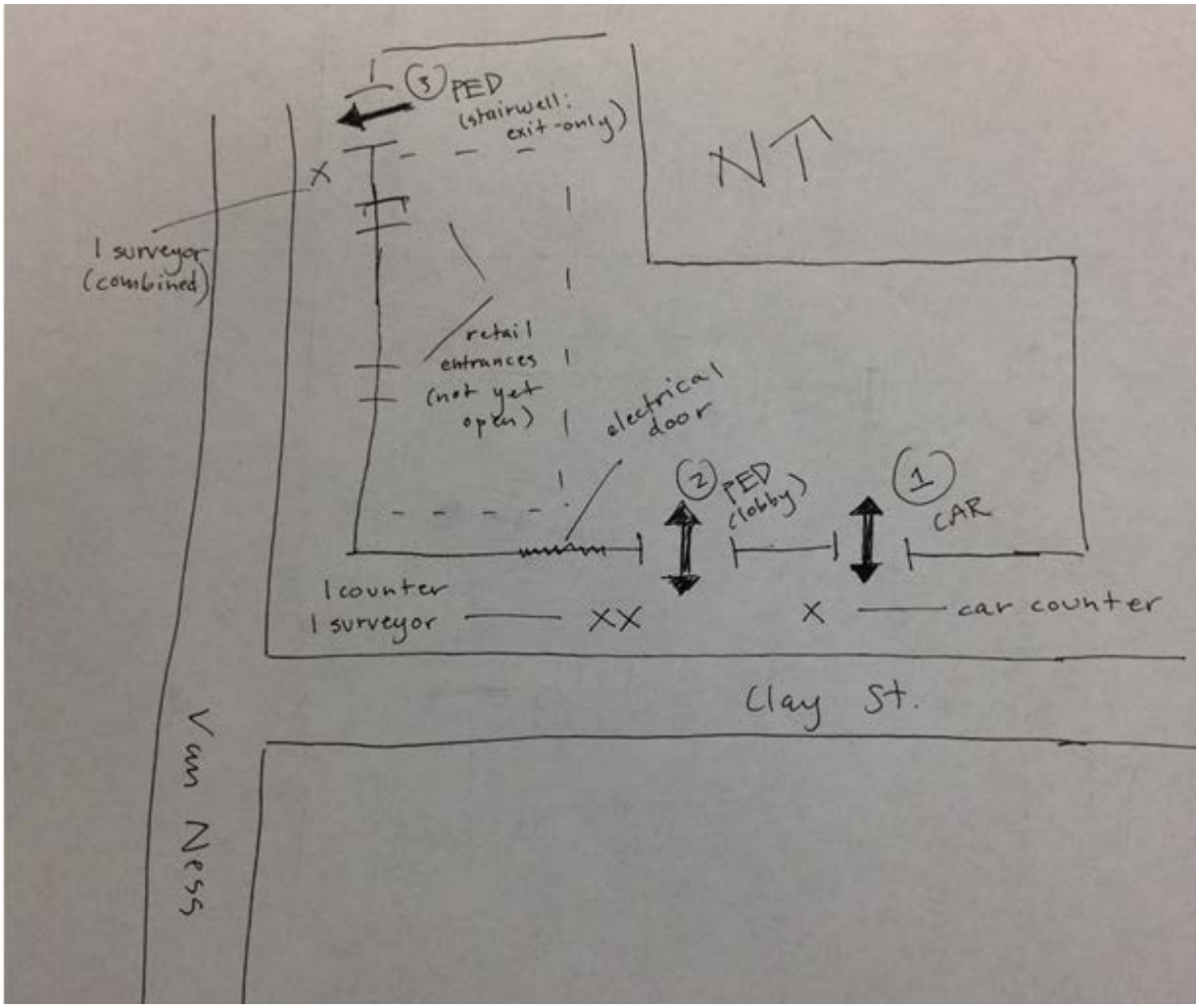


S18, 1800 Van Ness Ave (Marlow) – Russian Hill/Nob Hill



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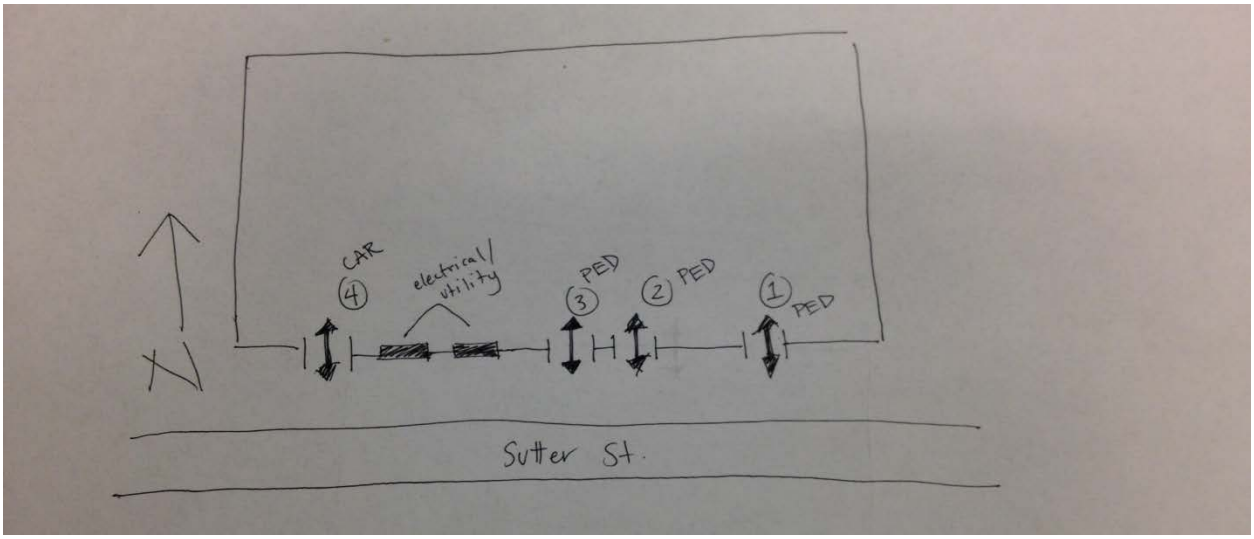
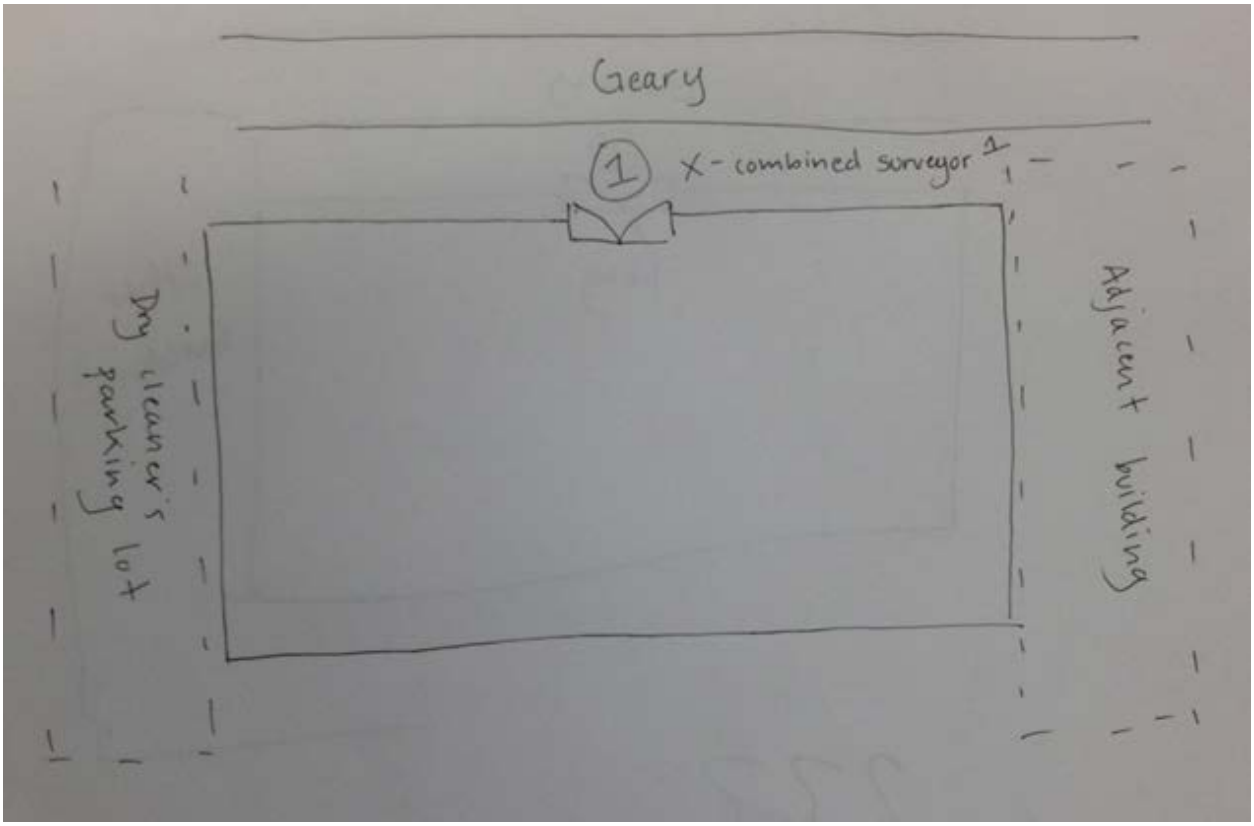


S20, 4715 Geary Blvd – Richmond (near 11th Ave)



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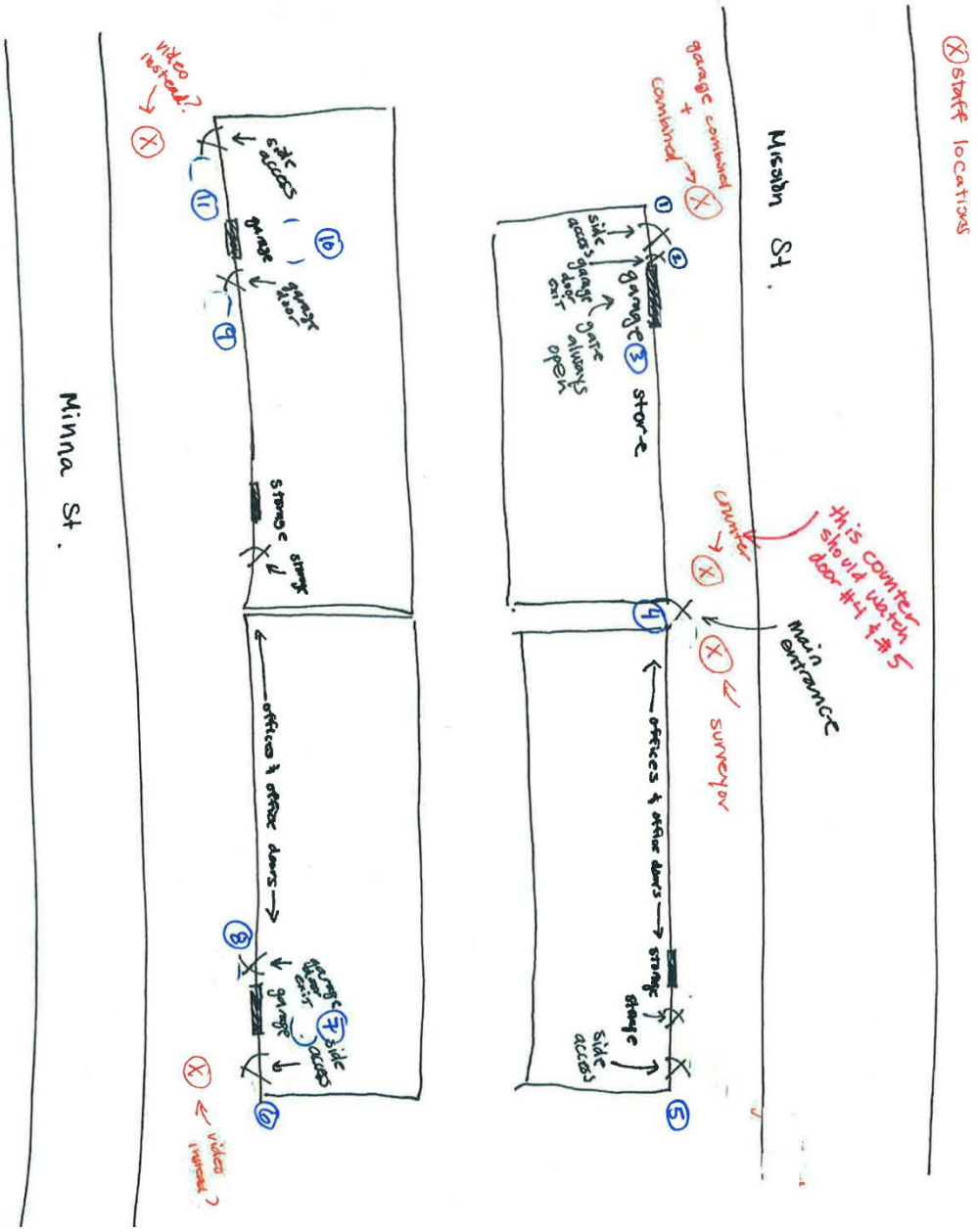

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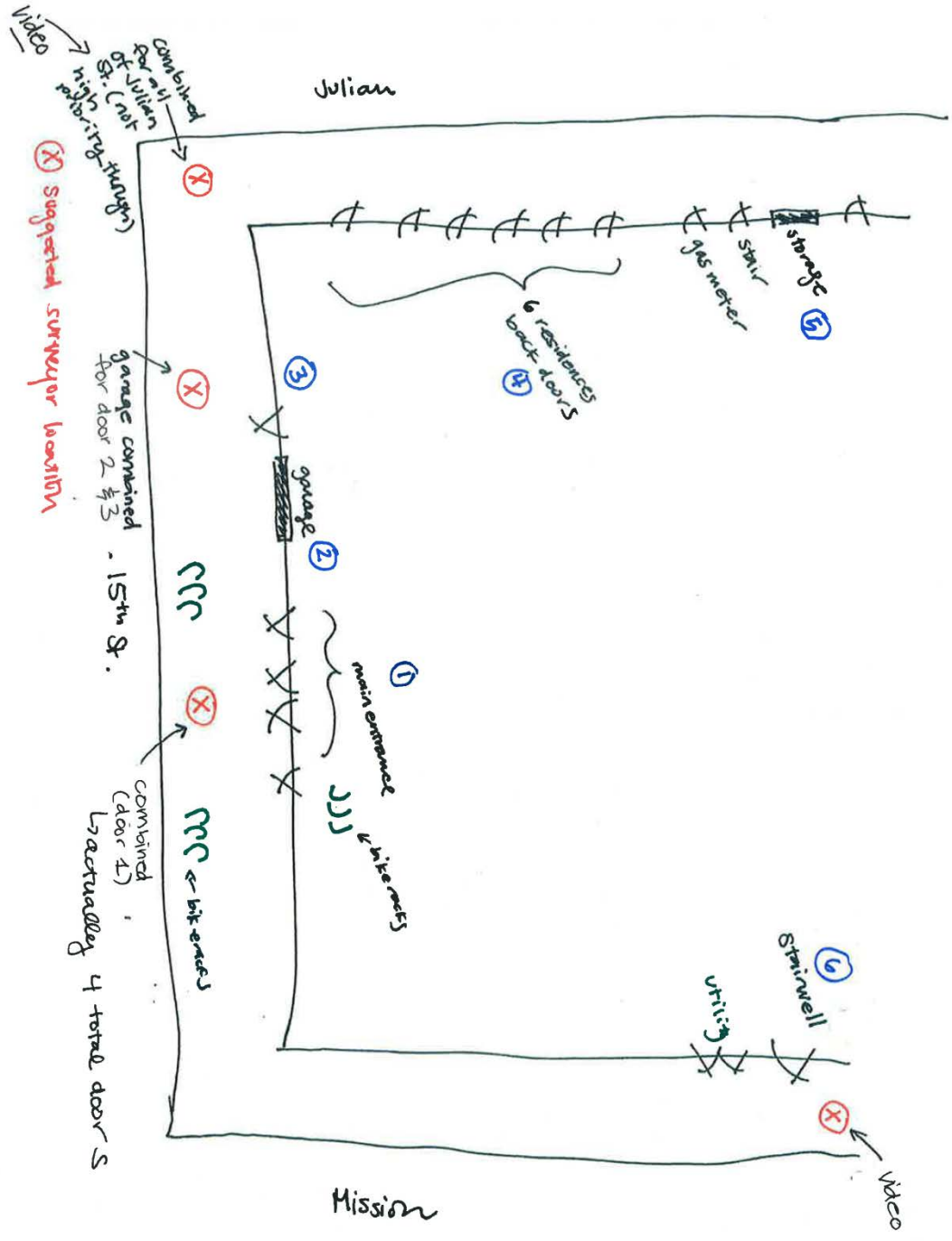

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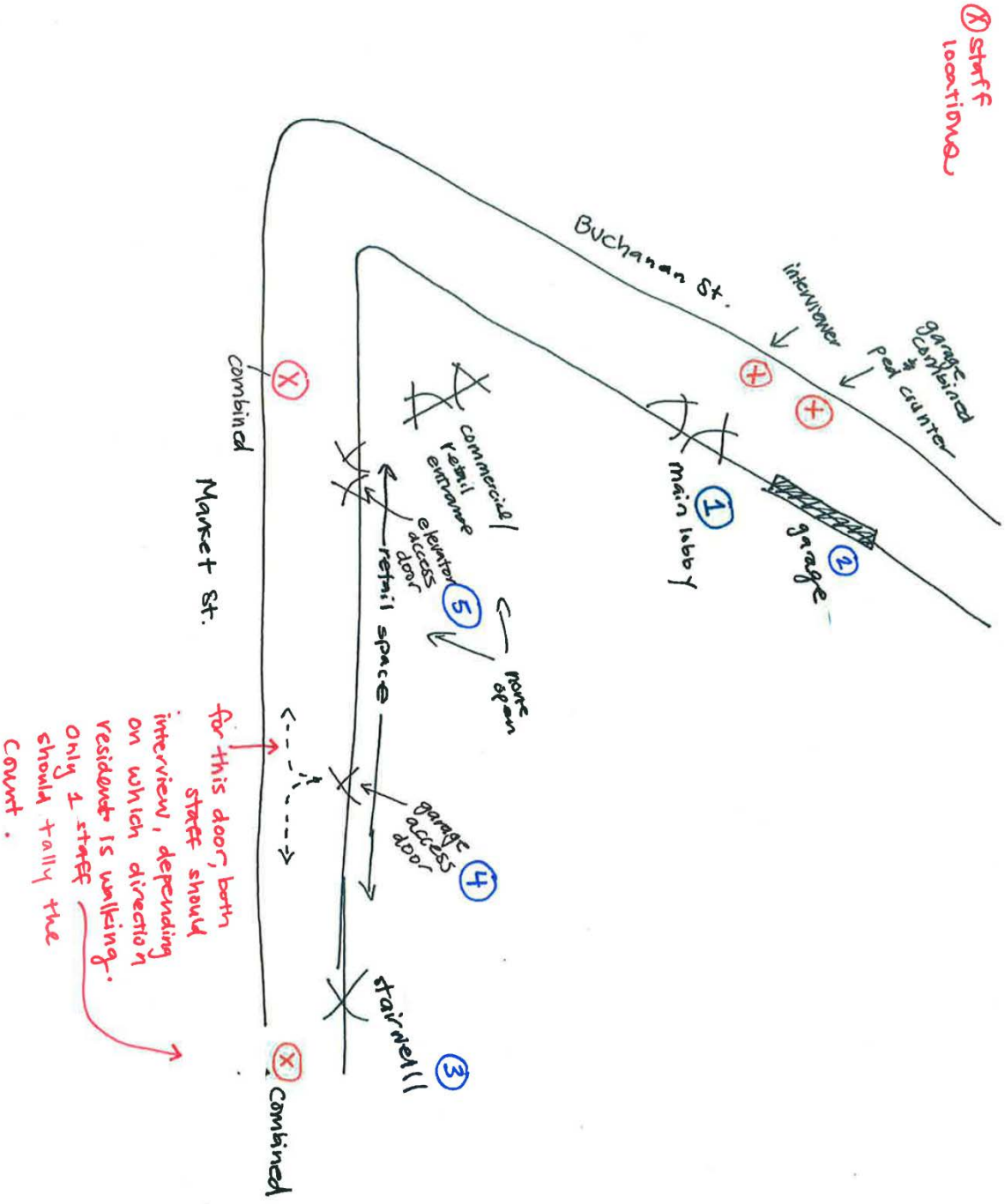

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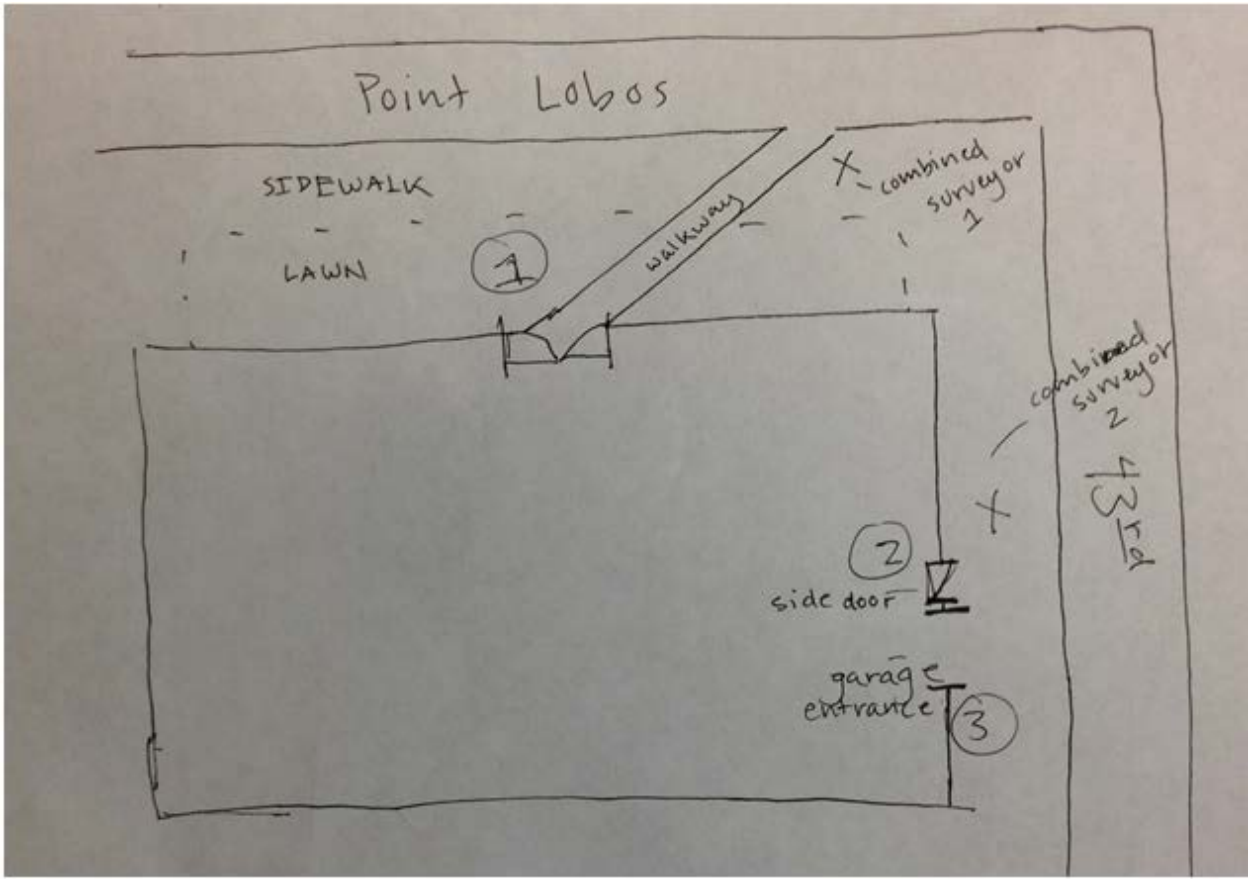

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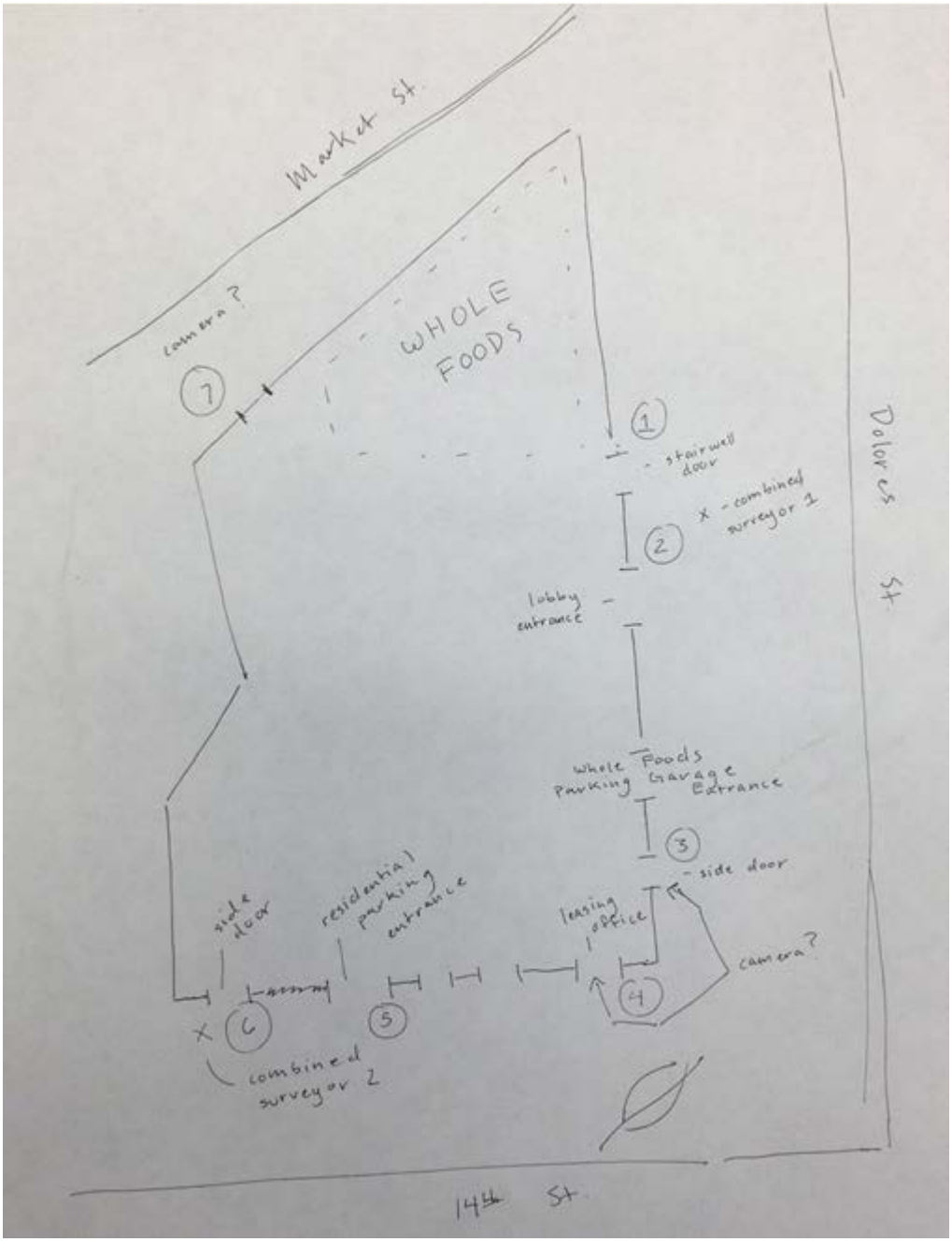

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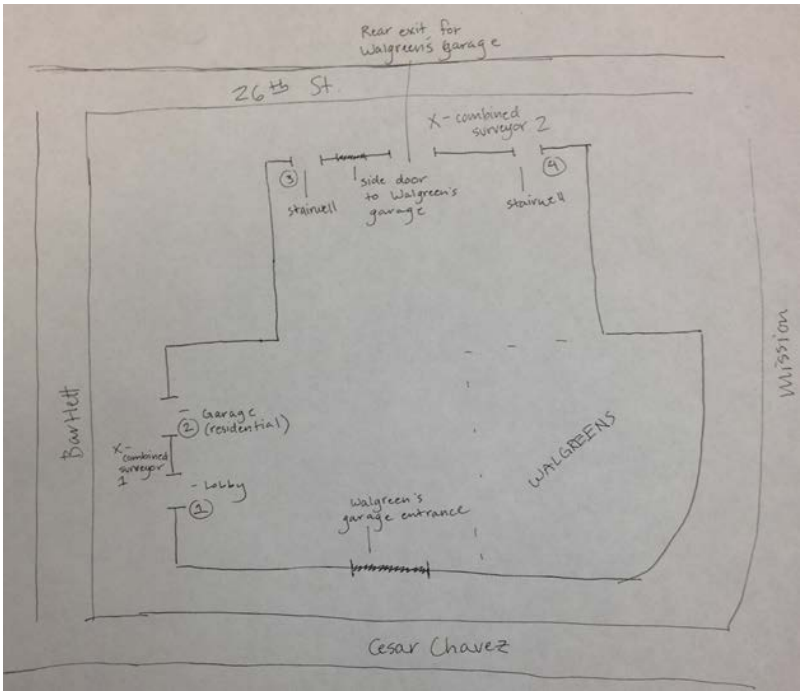

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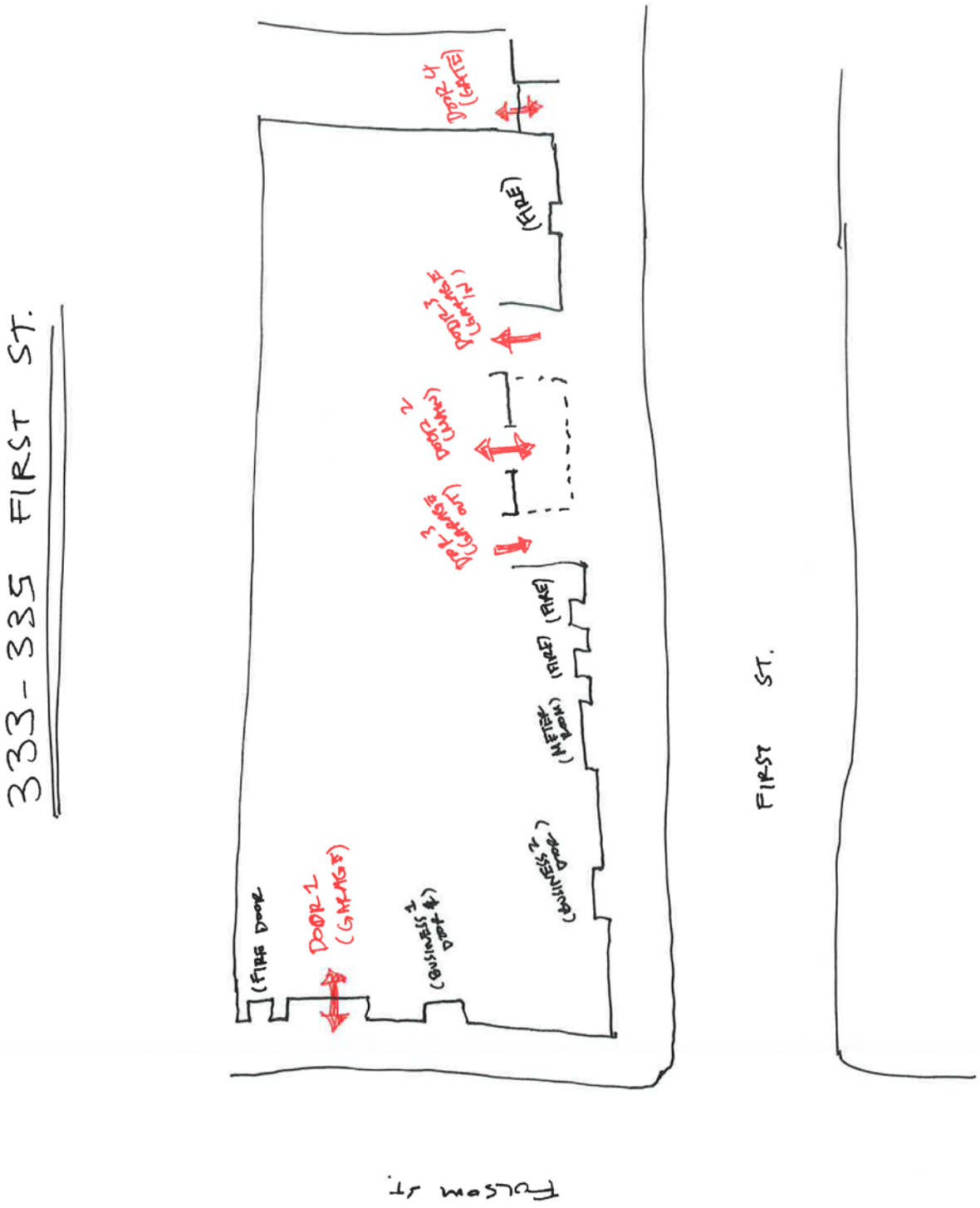
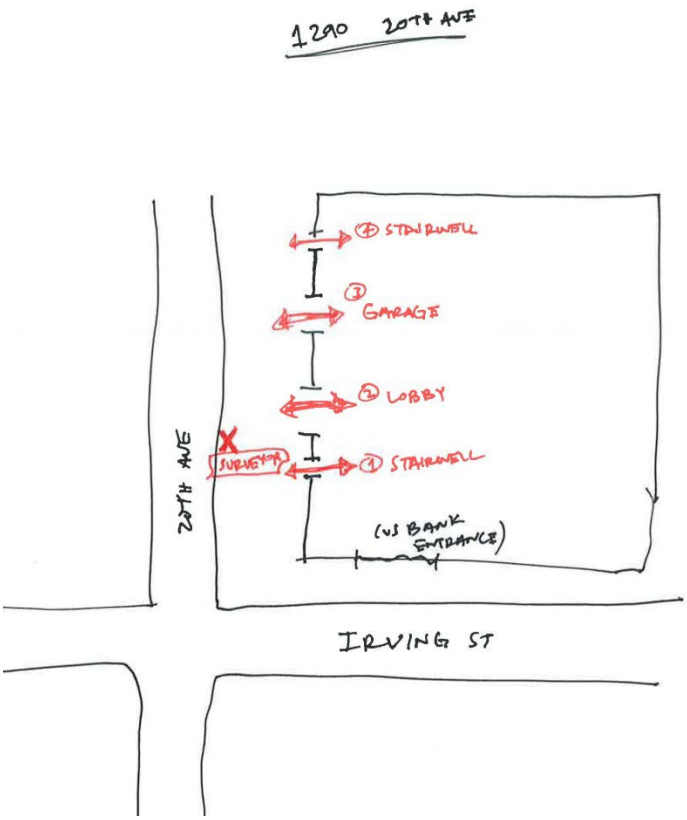


S29, 1290 20th Ave – Sunset (near Irving St)



S30, 1000 Green St – Russian Hill