



220 Montgomery Street
Suite 346
San Francisco, CA 94104
(415) 392-9688 P
(415) 392-9788 F
www.chsconsulting.net

Memorandum

Date: January 28, 2019

To: Frank Fung

From: Andrew Kluter, PE
Ben Miller

**Re: 225 Spruce Avenue Medical Offices: Parking and Transportation Demand Management Study -
Draft Memorandum**

The purpose of this technical memorandum is to evaluate the parking effects of the proposed medical office development located at 225 Spruce Avenue in South San Francisco (herein referred to as the "Project") on local parking supply. Additionally, this memorandum provides a preliminary list and evaluation of recommended transportation demand management (TDM) measures that are proposed in order to reduce the potential Project travel demand effects in the study area, as required by the City of South San Francisco and in accordance with the City/County Association of Governments of San Mateo County (C/CAG) requirement to mitigate all new peak-hour trips base on C/CAG trip credit guidelines.

1.0 Project Description

The Project is located at 225 Spruce Avenue in South San Francisco, California. The Project site fronts Grand Avenue to the north, Spruce Avenue to the east, and 3rd Lane to the south. The site is also bounded by existing residential uses to the west. The Project site is currently occupied by an existing (approximately 7,500 gross-square-foot) two-story former medical clinic building and on-site surface parking lot with eight (8) standard parking spaces and one (1) accessible parking space as required by the Americans Disabilities Act (ADA).

The Project consists of the demolition of the existing two-story former medical clinic building and construction of a new four-story medical clinic building. The new 10,716 gross-square-foot (GSF) medical clinic building would provide North East Medical Services (NEMS) with two levels of medical clinical spaces and one level of dental clinical spaces. Pharmacy and wellness education spaces would be also provided. The facility would be open Monday through Saturday between 8:30 a.m. and 5:00 p.m.

The Project would have approximately 30 patients and 12 employees on-site on a daily basis during the first year of operation. At year five, the Project is anticipated to reach the maximum occupancy with up to 75 patients per day and 24 employees. The maximum occupancy for the Project at five years is based on the total number of exam rooms (10 total exam rooms) and dental operatories (8 total dental operatories) that can support each physician, the required support staff to maintain business and facility operations, and the total number of patients that can be seen by each physician in a given day. At year five, the maximum staffing on-site would be comprised of four (4) medical providers, four (4) medical assistants, two (2) medical receptionists, one (1) nurse, three (3) dentists, three (3) dental assistants, two (2) dental receptionists, two (2) pharmacy employees, one (1) membership services employee, one (1) facilities maintenance employee, and one (1) security officer.

The Project would maintain the existing on-site parking supply of nine total parking spaces consisting of seven (7) standard parking spaces, one (1) carpool/vanpool space, and one (1) ADA-accessible parking space in a newly configured surface parking lot. Four (4) short-term (Class II)¹ bicycle parking spaces will be provided in the Project parking lot. The Project would also provide one (1) long-term (Class I) bicycle parking space within the ground level of the Project.

Vehicle Trip Generation Estimate

Project vehicle trips were estimated using the Medical Clinic land use category (630) contained in the *Institution of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition*. For the purpose of trip generation analysis, the maximum number of employees (24 employees) was used to estimate the daily and AM and PM peak hour trip generation. As shown in **Table 1**, the Project is estimated to generate 27 AM peak hour vehicle trips (21 inbound and 6 outbound), 20 PM peak hour vehicle trips (7 inbound and 13 outbound), and 222 daily vehicle trips during an average weekday.

Table 1: Vehicle Trip Generation Estimation

	AM Peak Hour			PM Peak Hour			Daily Total
	Total	Inbound	Outbound	Total	Inbound	Outbound	
ITE Trip Rate for Medical Clinic	1.12 trip per employee	77%	23%	0.85 trip per employee	36%	64%	9.25 trip per employee
Number of Trips	27	21	6	20	7	13	222

Source: ITE Trip Generation Handbook 10th Edition; CHS Consulting Group, 2018.

Project Parking Demand Estimate

Project parking demand was estimated based on the maximum number of employees and visitors and the existing visitor and employee travel survey results provided by NEMS. The Project would have up to 75 patients and 24 employees on a daily basis. Based on the NEMS travel survey, approximately 13 percent of patients and 17 percent of employees arrive via automobile. Therefore, the Project would anticipate approximately 10 patients and four employees who would drive to and from the Project site on a daily basis. The Project would direct staff and employees who drive to use the nearby Miller Parking Garage (329 Miller Avenue, approximately 0.3 miles east of the project site) and thus would not generate any parking demand onsite. It should also be noted that NEMS provides community-based health centers in underserved communities and serve geographically small areas rather than larger regional areas. Therefore, NEMS staff and patients tend to depend on public transit and other non-automotive transportation modes at higher rates than a typical medical clinic.

Assuming the patient parking demand would spread over 8.5-hour period (8:30 a.m. to 5:00 p.m.), the Project would result in an average hour parking demand for approximately one (1) visitor parking space (=10 daily visitor vehicle trips / 8.5 total hours of operation = 1.17 parking spaces per hour) or up to two visitor parking spaces during the peak hour. Based on ITE parking data for Medical Clinics (630)², there is very little fluctuation in parking demand throughout the average weekday with peak parking demand occurring between approximately 9:00 a.m. and 3:00 p.m. Moreover, considering that visitor trips to the Project would be based on

¹ Class II bicycle parking spaces are short-term parking spaces for people leaving their bicycles for two hours or less, with an emphasis on convenience and accessibility. Class II bicycle parking spaces are typically sidewalk mounted bicycle racks within close proximity to the primary entrance of the subject land use.

² Source: ITE Parking Generation, 3rd Edition, 2004.

scheduled appointments, it is anticipated that the Project visitor trips would be regularly spaced out, providing a reasonably consistent distribution of visitor parking demand throughout the day.

Similarly, based on the maximum number of employees and the existing NEMS employee travel mode split, the Project would anticipate approximately four employees commuting via automobiles on a daily basis. **Table 2** presents the summary of parking demand. NEMS employee travel survey results are provided in **Appendix A**.

Table 2: Parking Demand Estimation

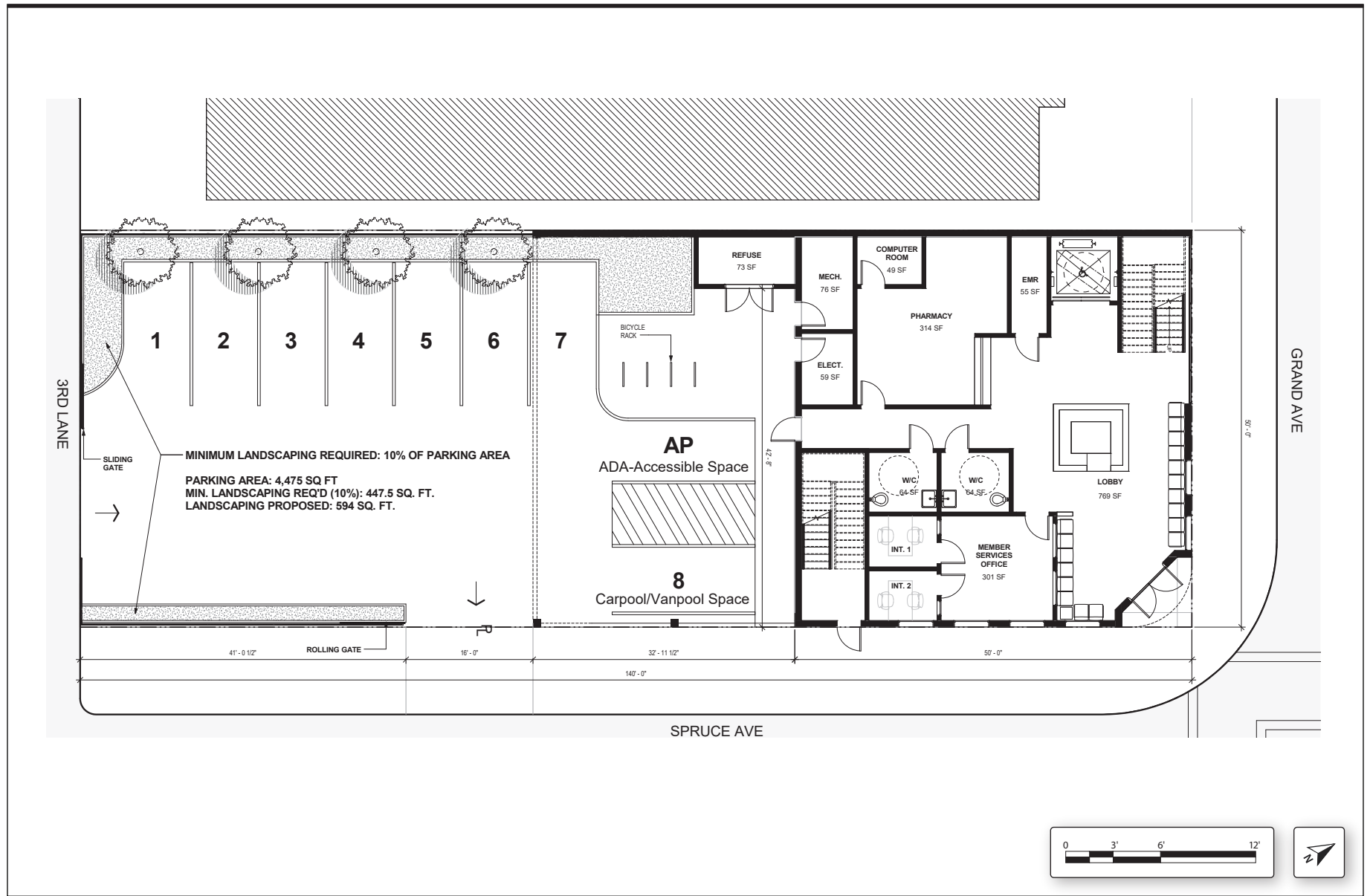
Population Type	Daily Population	Auto Mode Share	Daily Population Using Automobiles	Parking Duration	Peak Hour Parking Demand (spaces)
Employee	24	17%	4	8.5 hours	4
Visitor	75	13%	10	1 hour	2
Total	99		14		6

Source: CHS Consulting Group, 2018.

Figure 1 shows the Project study area, and **Figure 2** illustrates the ground-floor Project site layout that includes the on-site parking and medical clinic space.



225 Spruce Avenue Transportation Demand Management and Parking Study



225 Spruce Avenue Transportation Demand Management and Parking Study

2.0 Existing Transportation System

This Section describes the existing transportation system in the vicinity of the Project site, including transit service, and bicycle and pedestrian facilities.

2.1 Transit Service

The study area for transit generally covers a quarter-mile radius from the Project site. The Project site is served by local public transit service provided by San Mateo County Transit District (SamTrans), as well as by Bay Area Rapid Transit (BART) and CalTrain regional rail service.

2.1.1 San Mateo County Transit District (SamTrans)

SamTrans operates bus lines within San Mateo County, as well as to and from locations in San Francisco and Palo Alto. There are three bus routes located within the project study area. SamTrans Routes 37, 130, and 141 make stops at the intersection of Grand Avenue and Spruce Street, directly adjacent to the Project site.

Route 37 provides school day bus service to and from Alta Loma Middle School. Route 37 operates one-way service to Alta Loma Middle School in the morning (between 8 a.m. and 8:20 a.m.) and operates one-way from Alta Loma Middle School in the afternoon (between 3:30 p.m. and 4:00 p.m.).

Route 130 provides service connecting major destinations in South San Francisco, Daly City, and Colma. Route 130 operates with 15-minute headways between 5:02 a.m. and 9:34 p.m. Major destinations served by Route 130 include the Daly City BART station, John F. Kennedy Elementary School, Colma BART station, Serramonte Center, Alma Loma Middle School, and the South San Francisco BART station.

Route 141 provides service connecting major destinations in South San Francisco and San Bruno. Route 141 operates with approximately 35-minute headway between 6:10 a.m. and 8:00 p.m. Major destinations served by Route 141 include South San Francisco City Hall, the San Bruno BART Station, the Shops at Tanforan, the San Bruno Senior Center, and Peninsula High School.

2.1.2 Bay Area Rapid Transit (BART)

BART provides regional commuter rail service between the East Bay (from Pittsburg/Bay Point, Richmond, Dublin/Pleasanton and Fremont), San Mateo County (from San Francisco International Airport and Millbrae), and San Francisco, between 4:00 a.m. and midnight on weekdays, and from 7:30 a.m. to 1:00 a.m. on weekends. During the weekday AM and PM peak periods, headways are generally 5 to 15 minutes for each line. The San Bruno BART Station is accessible from the Project site (approximately 1.26 miles south of the Project Site) via transfer from SamTrans Route 141. The South San Francisco BART Station is accessible from the Project site (approximately 1.62 miles west of the Project site) via transfer from SamTrans Route 130 and the Free South City Shuttle operated by the City of South San Francisco.

2.1.3 Caltrain

Caltrain provides passenger rail service on the Peninsula between San Francisco and Downtown San Jose with stops in San Mateo County and Santa Clara County. Limited service is available south of San Jose. Within South San Francisco, Caltrain makes stops at the South San Francisco Caltrain Station near the intersection of Grand Avenue and Dubuque Avenue. The South San Francisco Caltrain Station is accessible from the Project site (approximately 0.7 miles east of the Project site) via walking (approximately 15 minutes) or a transfer from SamTrans Routes 141 and 130. Caltrain service headways at the South San Francisco Caltrain Station during the

AM and PM peak periods are approximately 60 minutes. The South San Francisco Caltrain Station is served by local trains.

2.1.4 Free South City Shuttle

The City of South San Francisco provides a free shuttle service around the city connecting local retail centers, senior centers, libraries, city hall, and public parks. The Free South City Shuttle also provides connections with SamTrans and BART. The service is free and open to the public. The service operates a two-way loop service with two routes: Route Blue in the clockwise direction and Route Green in the counterclockwise direction. The shuttle service generally operates daily with approximately 60 minute headways between 7:15 a.m. and 7:00 p.m. The Free South City Shuttle makes stops at the intersection of Grand Avenue and Spruce Avenue, directly adjacent to the Project site.

2.2 Bicycle Facilities

Bicycle facilities include bicycle lanes, trails, and paths, as well as bicycle parking, bicycle lockers, and showers for cyclists. On-street bicycle facilities include Class I bikeways (trails or shared-use paths with exclusive right-of-way for use by bicyclists or pedestrians); Class II bikeways (bicycle lanes striped within the paved areas of roadways and established for the preferential use of bicycles); Class III bikeways (signed bicycle routes that allow bicycles to share travel lanes with vehicles); and Class IV separated bikeways (on-street bike facilities that are physically separated from traffic by curbs, plant boxes, bollards, grade separation, or parked cars for exclusive right-of-way for use by bicyclists).

In proximity to the Project site, there is a Class I bike facility that runs east-west along the Colma Creek Canal (approximately 0.37 miles south of the Project site) and currently terminates at Spruce Avenue. An extension of the Colma Creek Canal Trail is currently planned that would improve east-west connectivity by extending the bikeway east from Spruce Avenue and providing a new connection to the San Francisco Bay Trail³. Class II bike facilities currently run directly adjacent to the Project site along Grand Avenue providing east-west bicycle access to the Project site. The Grand Avenue Class II bike lanes provide access to the planned U.S. 101 undercrossing at the South San Francisco Caltrain Station, which would improve access to the eastern neighborhoods. Class III bike facilities currently run directly adjacent to the Project site along Spruce Avenue and provide north-south bicycle access to the Project site and the Colma Creek Canal Trail.

2.3 Pedestrian Facilities

Pedestrian amenities generally include sidewalks, crosswalks, curb ramps, pedestrian signals, and streetscape and landscape amenities (i.e., benches, tree-lined buffers, planters, bulb-outs, street lighting, etc.). The Project site is located in an urban setting with an extensive and contiguous sidewalk network. The sidewalks along both sides of Grand Avenue are generally 10 feet wide. The sidewalks along both sides of Spruce are generally between four (4) and 10 feet wide. The intersection of Grand Avenue and Spruce Avenue provides crosswalk markings at all four legs and curb ramps at all four corners. However, all four corners of the intersection currently lack ADA-compliant yellow truncated domes. The intersection is 4-way signal controlled with pedestrian signal heads. The contiguous sidewalk network provides safe and convenient access to area transit stops and parking.

³ The San Francisco Bay Trail is a regional hiking and bicycling trail that runs around the perimeter of the San Francisco and San Pablo bays. The trail is being completed in stages, with the goal of connecting 47 cities via a 500-mile regional trail across a broad spectrum of landscapes.

3.0 Vehicle and Bicycle Parking Requirements

The Project is located in the Grand Avenue Core (GAC)⁴ sub-district of the *Downtown Station Area Specific Plan*⁵, which generally extends along Grand Avenue between Airport Boulevard and Spruce Avenue. The Project's vehicle parking and bicycle parking requirements are stipulated in Sections 20.330.007 and 008 of the Municipal Code as described below.

As per Section 20.330.007 of the *South San Francisco Municipal Code*, medical and dental land uses are required to provide a minimum of one (1) vehicular parking space per 300 GSF of floor area. Therefore, the Project would be required to provide a minimum of 36 vehicle parking spaces (=10,716 GSF/300 GSF). The Project would not meet this requirement because it would only provide nine vehicle parking spaces on-site. **Table 4** provides a summary of the Project's compliance to the Municipal Codes.

Table 4: Project Municipal Code Compliance on Vehicle Parking Spaces

Code	Requirement	Required Spaces	Proposed Spaces	Compliance
20.330.007	1 vehicle parking space per 300 GSF medical clinic space	36	9	Incompliant

Source: South San Francisco Municipal Code, 2018; CHS Consulting Group, 2018.

The Project would be deficient by 27 vehicle parking spaces (=36 required spaces minus nine proposed spaces) per Municipal Code; however, it would provide multiple TDM measures (see *Section 4.0*), which are expected to reduce Project-generated vehicular trips and parking demand, such that the Project would not need to provide more vehicle parking spaces.

Section 20.330.008 stipulates that long-term (Class I) bicycle parking shall be provided by any establishment with 25 or more employees at a ratio of one space per 25 required automobile parking spaces as stipulated in Section 20.330.007. Short-term (Class II) bicycle parking spaces shall be provided at a rate of 10 percent of the number of required automobile parking spaces, with a minimum of four parking spaces provided per establishment. Since the Project would have less than 25 employees, it would not be required to provide any Class 1 bicycle parking space. The Project would be required to provide four (4) short-term (Class II) bicycle parking spaces (=36 vehicle spaces*10%). The Project would meet the requirements because it would provide one Class 1 and four Class 2 bicycle parking spaces. **Table 5** provides a summary of the Project's compliance to the Municipal Codes.

Table 5: Project Municipal Code Compliance on Bicycle Parking Spaces

Code	Requirement	Required Spaces	Proposed Spaces	Compliance
20.330.008	1 Class I bicycle parking space per 25 vehicle parking spaces provided, if 25 or more employees	0	1	Compliant
	Class 2 bicycle parking spaces in the amount of 10% of vehicle parking spaces	4	4	Compliant

Source: South San Francisco Municipal Code, 2018; CHS Consulting Group, 2018.

⁴ The Grand Avenue Core (GAC) sub-district is the pedestrian oriented historic retail center of the city, extending from Airport Boulevard on the east to Spruce Avenue on the West.

⁵ The Downtown Station Area Specific Plan is document that defines the principals and framework for future development in Downtown South San Francisco and adjoining areas within a one-half mile radius of the South San Francisco Caltrain Station.

4.0 Transportation Demand Management (TDM) Measures

Transportation Demand Management (TDM) is an initiative with the goal of reducing the impacts of single-occupant vehicular trips on a transportation network. The initiative is designed to emphasize a mode shift towards alternative transportation options such as public transit, biking, walking, and carshare services. As per Section 220.400.002 of the *South San Francisco Municipal Code* requires that all nonresidential projects that generate 100 or more average daily trips, based on the ITE trip generates rates, achieve a minimum alternative mode share goal of 28 percent, by providing trip reduction measures. The Project shall be monitored via annual employee travel habit surveys to ensure minimum alternative travel mode goals are being met. Additionally, C/CAG guidelines require developments adding net new peak hour vehicle trips on the Congestion Management Program (CMP) roadway network to implement TDM measures that mitigate all new peak hour trips, based on C/CAG trip credits. C/CAG guidelines for implementing the land use component of the Congestion Management Program are provided in **Appendix B**.

4.1 Required Measures

The Project Sponsor shall implement the following measures as determined appropriate by the City of South San Francisco Planning Department.

Designated Employer Contact

Each applicant shall designate or require tenants to designate an employee as the official contact for the trip reduction program. The City shall be provided with a current name and phone number of the designated employer contact. The designated employer contact shall administer carpool and vanpool ridematching services, the promotional programs, update information on the information boards/kiosks, and be the official contact for the administration of the annual survey.

Carpool and Vanpool Ridematching Services

A designated employer contact shall be responsible for providing the necessary application/questionnaire to potential carpoolers and vanpoolers, matching employees who may be able to carpool or vanpool. The City of South San Francisco has partnered with the carpooling service Scoop⁶ to provide discounts for riders and incentives for drivers. The County of San Mateo has partnered with Waze⁷ to offer discounted carpool matching for anyone living or working in the county. Other incentives and carpool ride-matching services are also available from My Commute.org and the 511 Regional Rideshare Program.

Direct Route to Transit

A well-lighted path or sidewalk shall be provided utilizing the most direct route to the nearest transit or shuttle stop from the building.

Guaranteed Ride Home

Carpool, vanpool and transit riders shall be provided with guaranteed rides home in emergency situations. Rides shall be provided either by a transportation service provider (taxi or rental car) or an informal policy using company vehicles/and or designated employees. The TDM coordinator shall provide all employees with the

⁶Scoop is an application based service providing ride-matching and scheduling for carpools and vanpools with other nearby commuters on similar routes. (Source: <https://www.takescoop.com/#how-it-works-section>, accessed October 2018)

⁷Waze is an application based service providing ride-matching services for carpools based on detailed rider/driver profiles, a star rating system, and filters for categories like same-gender or coworkers only. (Source: <https://www.waze.com/carpool>, accessed October 2018)

proper resources to sign up for the San Mateo County Guaranteed Ride Home (GRH) Program, which provides commuters who use a qualifying alternative mode of transportation, a free emergency ride home via any form of transportation such as transit, ride-hailing (e.g. Uber or Lyft), car-share, or taxi. The San Mateo County GRH Program will reimburse riders up to \$60 per trip up to four (4) times per year.

Information Boards/Kiosks

The designated employer contact shall display in a permanent location the following information: transit routes and schedules; carpooling and vanpooling information; bicycle lanes, routes and paths and facility information; and alternative commute subsidy information.

Passenger Loading Zones

Passenger loading zones for carpool and vanpool drop-off shall be located near the main building entrance.

Pedestrian Connections

Safe, convenient pedestrian connections shall be provided from the project to surrounding external streets and, if applicable, trails. Lighting, landscaping and building orientation should be designed to enhance pedestrian safety. The Project is located in an urban area with an extensive contiguous sidewalk network.

Promotional Programs

The following promotional programs shall be promoted and organized by the designated employer contact: new tenant and employee orientation packets on transportation alternatives; flyers, posters, brochures, and emails on commute alternatives; transportation fairs; Spare the Air (June — October); Rideshare Week (October); trip planning assistance-routes and maps. The TDM Coordinator will provide all tenants and employees with orientation packets, which will include information on all available alternative transportation commuter program options within the City of South San Francisco and San Mateo County.

Showers/Clothes Lockers

Shower and clothes locker facilities shall be provided free of charge.

Shuttle Program

Establish a shuttle program or participate in an existing program approved by the Chief Planner and subject to any fees for the existing program. The TDM Coordinator will provide all tenants and employees with orientation packets on available alternative transportation options, which will include any regional rideshare programs that offer shuttle program services within the City of South San Francisco and San Mateo County.

Transportation Management Association (TMA)

The applicant shall participate or require tenant to participate in a local TMA, the Peninsula Congestion Relief Alliance (Alliance) or a similar organization approved by the Chief Planner that provides ongoing support for alternative commute programs.

Bicycle Parking, Long-Term

The applicant shall install long-term bicycle parking in compliance with the requirements of the Grand Avenue Core (GAC) sub-district of the *Downtown Station Area Specific Plan*. Bicycle parking shall be located within 75 feet of a main entrance to the building and all long-term spaces must be covered. Long-term bicycle parking shall be achieved by providing one or more of the following measures:

1. Parking in a locked, controlled access room or area enclosed by a fence with a locked gate;
2. Lockers;
3. Parking within view or within 100 feet of an attendant or security guard;
4. Parking in an area that is monitored by a security camera;
5. Providing fixed stationary objects that allow the bicycle frame and both wheels to be locked with a bicycle-locking device or the bicyclist supplying only a lock and six-foot cable;
6. Additional measures may be approved by the Chief Planner.

Bicycle Parking, Short-Term

The applicant shall install short-term bicycle parking in compliance with the requirements of the Grand Avenue Core (GAC) sub-district of the *Downtown Station Area Specific Plan*. Bicycle parking shall be located within 100 feet of a main building entrance to the building. Security shall be achieved by using one or more of the same methods used for securing long-term bicycle parking.

Free Parking for Carpools and Vanpools

Ten percent of vehicle spaces shall be reserved for carpools or vanpools, with a minimum of one space required. Such spaces shall be provided in premium and convenient locations. These spaces shall be provided free of charge. The Project shall provide at least one reserved parking space for carpools or vanpools free of charge, on an as-needed basis.

4.2 Additional Measures

The Project Sponsor shall provide the following additional TDM measures as deemed appropriate by the City of South San Francisco Planning Department.

Alternative Commute Subsidies/Parking Cash Out

Employees shall be provided with a subsidy, determined by the applicant and subject to review by the Chief Planner if they use transit or commute by other alternative modes. The Project Sponsor shall provide all employees who commute via qualifying alternative modes of transportation a subsidy or cash payout equal to or exceeding a value of \$20 per month for one year. These payments may be prorated, so employees who drive 30 percent of the time would receive 70 percent of the cash-out payment. With an anticipated total of 24 onsite employees by year five of operation,

Bicycle Connections

If a site is abutting a bicycle path, lane or route, a bicycle connection shall be provided close to an entrance to the building on the site. The Project will provide adequate on-site amenities that provide safe and convenient access to the bicycle facilities on Grand and Spruce Avenues.

Compressed Work Week

If applicable, the Project Sponsor shall allow employees or require their tenants to allow employees to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite.

Flextime

If applicable, the Project Sponsor shall provide or require their tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours.

Land Dedication for Transit/Bus Shelter

Where appropriate, land shall be dedicated for transit or a bus shelter shall be provided based on the proximity to a transit route.

Onsite Amenities

If applicable, one or more of the following amenities shall be implemented: ATM, day care, cafeteria, limited food service establishment, dry cleaners, exercise facilities, convenience retail, post office, on-site transit pass sales.

Reduced Parking

In accordance with General Plan Policies related to Transportation Demand Management, reduced parking, consistent with projected trip reduction identified in the preliminary TDM plan, may be permitted subject to approval of the Planning Commission. TDM programs both support and are supported by parking reduction strategies. TDM programs often reduce parking demand, and many parking reduction strategies help reduce vehicle trip generation.

4.3 TDM Measure Compliance and Effectiveness

As stated above, the Project would be required to achieve a minimum alternative mode share goal of 28 percent per Section 220.400.002 of the *South San Francisco Municipal Code*. Additionally, the C/CAG guidelines require the Project to offset the demand for new peak hour vehicle trips via select TDM measures. Based on ITE trip generation rates, the Project is anticipated to generate 27 AM peak hour vehicle trips, 20 PM peak hour vehicle trips, and 222 daily vehicle trips. Therefore, the Project would be required to reduce these vehicle trips by 27 AM peak hour trips and 62 daily trips ($=222 \text{ daily trips} \times 28\%$) by converting them to an alternative mode of transportation.

The Project TDM plan would implement all of the required and additional TDM measures outlined above that are applicable to the Project, and as shown in **Table 5**, p.13, would have the capacity to reduce the demand for peak hour vehicle trips by up to 81 trips based on C/CAG peak hour trip credit guidelines. This reduction of up to 81 peak hour vehicle trips would exceed the 27 peak hour trip credits required by C/CAG and would represent 36 percent of the Project's estimated 222 daily vehicle trips, exceeding the required 28 percent alternative mode share goal prescribed in the City of South San Francisco Municipal Code.

In sum, the proposed TDM measures can potentially reduce Project-generated vehicle trips by 36 percent. The variation in percentage trip reduction is dependent on the density of the Project's setting, proximity to public transit services, frequency and quality of transit services, quality of and access to alternative transportation modes (bicycle lanes, carshare services, etc.), demographics of the community, and the value of subsidies being offered. The Project is well situated within proximity to a number of significant transit corridors, including access to regional BART and Caltrain services, four blocks from the Colma Creek Canal Trail, and in an area that is currently planned to accommodate medium intensity development densities. Based on these factors, it is expected that the Project would accrue significant levels of vehicle trip reduction.

Table 5: TDM Measure Compliance and C/CAG Trip Credit Analysis

TDM Measure	SSF ¹ Municipal Code	Amount Provided	C/CAG Trip Credit Rate	Trip Credits Earned
TDM Measures Required by Municipal Code				
Carpool and Vanpool Ridematching Services	20.400.004.A1	1	10	10
Designated Employer Contact (TDM Coordinator)	20.400.004.A2	8	1	8
Direct Route to Transit	20.400.004.A3	✓	-	-
Guaranteed Ride Home ⁴	20.400.004.A4	20	1	20
Information Boards/Kiosks	20.400.004.A5	4	1	4
Passenger Loading Zones	20.400.004.A6	NA	-	-
Pedestrian Connections	20.400.004.A7	1	5	5
Promotional Programs (Quarterly)	20.400.004.A8	1	3	3
Showers/Clothes Lockers	20.400.004.A9	0	10	0
Shuttle Program	20.400.004.A10	2	2	4
Transportation Management Association (TMA)	20.400.004.A11	1	5	5
Bicycle Parking, Long-Term (Class I)	20.400.004.A12	1	0.33	0
Bicycle Parking, Short-Term (Class II)	20.400.004.A13	4	0.33	1
Free Parking for Carpools and Vanpools	20.400.004.A14	1	1	1
Required Measures Sub-Total				61
Additional TDM Measures				
Alternative Commute Subsidies/Parking Cash Out ⁴	20.400.004.B1	20	1	20
Bicycle Connections	20.400.004.B2	✓	-	-
Compressed Work Week	20.400.004.B3	0	0.20	0
Flextime	20.400.004.B4	0	1	0
Land Dedication for Transit/Bus Shelter	20.400.004.B5	NA	-	-
Onsite Amenities	20.400.004.B6	0	5	0
Paid Parking at Prevalent Market Rates	20.400.004.B7	0	2	0
Reduced Parking	20.400.004.B8	✓	-	-
Telecommuting	20.400.004.B9	0	0.33	0
Additional Measures Sub-Total				20
Project TDM Measures Total				81
Project TDM Trip Credit Goal				62
Trip Credit Surplus				19

Source: CHS Consulting Group, 2018

Notes:

1. SSF = City of South San Francisco
2. ✓ = indicates the Project would meet City of South San Francisco Municipal Code TDM requirement, but no C/CAG trip credit was associated with the measure.
3. NA = TDM measure not applicable to Project
4. Based on maximum number of employees anticipated at year 5 of operation minus four (4) employees anticipated to drive and park at the Miller Parking Garage, who would be eligible for commute subsidy/cash-payout and guaranteed ride home.
5. Point total based on total number of employees eligible to receive subsidy

5.0 Parking Occupancy

This section evaluates the Project effects on local parking supply. As was discussed in Section 1.1, were the Project to provide parking spaces at a rate of one per 300 GSF of floor area, as required by Municipal Code, the Project would need to provide another 27 spaces (36 required spaces less the supplied 9 parking spaces). Therefore, as a conservative “worst-case” approach, CHS analyzed the local parking supply for its ability to absorb parking demand for up to 27 parking spaces during the Project’s peak parking period.

5.1 Existing Parking Conditions

In the vicinity of the Project site, two-hour time limits are enforced seven (7) days per week along portions of Spruce Avenue (between Baden Avenue and 4th Lane) and Grand Avenue (between Spruce Avenue and Maple Avenue). Grand Avenue and Spruce Avenue also prohibit parking along various sides of the roadway on Mondays and Tuesdays between 8:00 a.m. and 11:00 a.m. for street cleaning. In order to establish a base condition of existing parking availability, CHS conducted a detailed field inventory and occupancy count of parking space supply within a quarter-mile of the Project site. The parking survey was conducted between 1:00 p.m. and 3:00 p.m. on Wednesday, October 17, 2018. The day and time of observation represents what would be considered typical peak parking periods specific to patrons and staff of the proposed medical clinic.

As shown in **Table 6**, a total of 218 spaces were inventoried within one block of the Project site. During the peak parking period (1:00 p.m. to 3:00 p.m.), 140 spaces were observed to be occupied (approximately 64 percent occupancy rate) and the remaining 78 parking spaces were available.

Table 6: Summary of Study Area On-Street Parking Inventory and Occupancy

Road Segment	Between		Parking Supply	Occupied Spaces	Available Spaces
	From	To			
Grand Avenue	Magnolia Avenue	Spruce Avenue	57	43	14
Spruce Avenue	3rd Lane	Grand Avenue	7	1	6
Spruce Avenue	3rd Lane	Baden Avenue	8	1	7
Spruce Avenue	4th Lane	Grand Avenue	6	6	0
Spruce Avenue	4th Lane	Miller Avenue	8	8	0
Walnut Avenue	Grand Avenue	Miller Avenue	36	21	15
Walnut Avenue	Miller Avenue	Lux Avenue	22	15	7
Grand Avenue	Spruce Avenue	Walnut Avenue	34	20	14
Grand Avenue	Maple Avenue	Walnut Avenue	40	25	15
Total			218	140	78

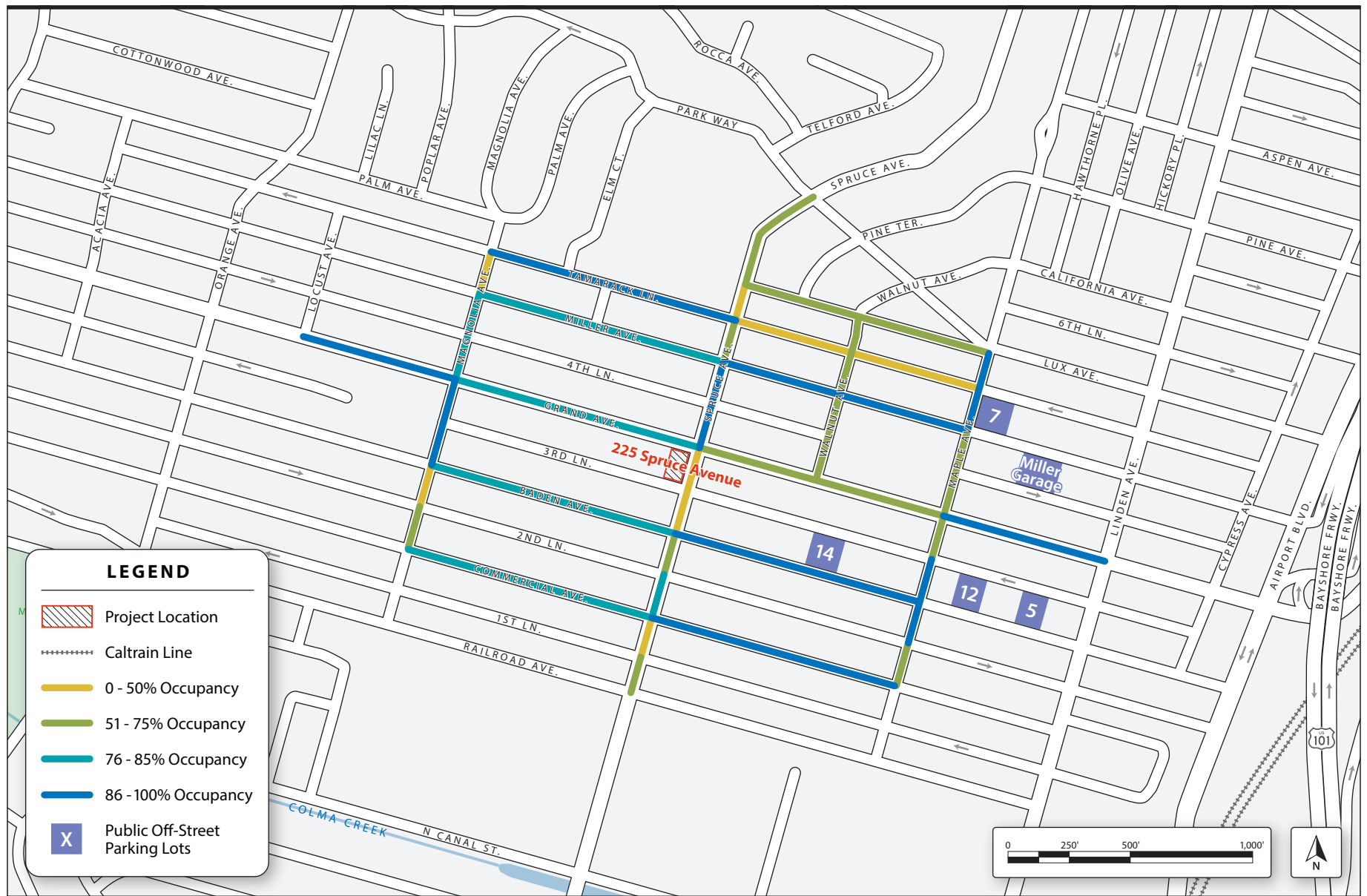
Source: CHS Consulting Group, 2018.

1. Parking inventory survey was conducted on Wednesday, October 17, 2018 between 1:00 and 3:00 p.m.
2. Table 6 only presents on-street parking within one-block of the Project site, additional parking inventory and occupancy data for the greater study area is provided in **Appendix B**.

As a result, the Project’s parking deficit of 27 spaces would easily be accommodated within the 78 available on-street parking spaces within a one-block radius of the Project site. Additionally, CHS inventoried a total of 925 on-street parking spaces within walking distance (approximately one-quarter mile) from the Project site (see **Appendix C**). Of these spaces, 689 spaces were occupied and 236 spaces were available during the peak period (1:00 p.m. to 3:00 p.m.). Therefore, any parking deficit from the Project would be sufficiently accommodated in the study area.

In addition to the standard on-street parking spaces, publically accessible off-street parking lots are also located within walking distance from the Project site that offer hourly, daily, and monthly parking rates (see **Figure 3**). Lot #5, located at 319 Baden Avenue (approximately 0.3 miles east of the project site), provides 20 metered spaces at a rate of \$1 per hour and 20 permit parking spaces at a rate of \$40 per month. Lot #7, located at 371 Miller Avenue (approximately 0.3 miles east of the project site), provides 40 parking spaces and offers daily parking permits at a rate of \$3 per day and monthly parking permits at a rate of \$40 per month. Lot #12, located at 337 Baden Avenue (approximately 0.3 miles east of the project site), provides 10 metered parking spaces at a rate of \$1 per hour and 26 permit spaces at a rate of \$40 per month. Lot #14, located at 432 Baden Avenue (approximately 0.2 miles east of the project site), provides 16 permit spaces at a rate of \$40 per month. The Miller Avenue Garage, located at 329 Miller Avenue (approximately 0.3 miles east of the project site), provides 37 hourly parking spaces at a rate of \$0.50 per hour and 207 permit spaces at a rate of \$30 per hour.

Figure 3 presents the observed on-street parking occupancy and location of publicly accessible off-street parking lots within walking distance from the Project site.



225 Spruce Avenue Transportation Demand Management and Parking Study

5.2 TDM Parking Reduction Estimate

This section analyzes the effectiveness of the Project TDM measures in reducing parking demand. Studies compiled by the Victoria Transport Policy Institute (VTPI)⁸ have been used to estimate the effectiveness in terms of percent parking demand reduction attributed to specific TDM measures.⁹

Parking Regulations

Parking regulations control who, when, and for how long vehicles may use a particular parking space in order to prioritize the use of limited parking availability. Parking regulations may be used to restrict the type of vehicle (e.g., service vehicle, taxis, customers, rideshare, disabled users, etc.). The use of parking regulations can increase parking efficiency, preventing parking problems, and thus can reduce parking demand by 10 to 30 percent.

The Project Sponsor shall provide one (1) ADA-accessible parking space, one (1) carpool/vanpool parking space, and seven (7) standard parking spaces restricted to customer/patient parking only.

Marketing and Promotion

Many parking problems result from poor user information and a perceived lack of access. Providing convenient and accurate information on parking availability and price, transit routes and schedules, carpool and vanpool services, alternative commute subsidy information, and other alternative travel modes using maps, signs, brochures and electronic communication can reduce parking demand by five (5) to 15 percent.

The Project Sponsor shall provide marketing and promotional information at an on-site informational kiosk/desk and appoint a designated employer contact to administer carpool and vanpool ridematching services, promotional programs, update information on the information boards/kiosks, and administer any other TDM related tasks.

Bicycle Facilities

If a site is abutting a bicycle path, lane or route, a bicycle connection shall be provided close to an entrance to the building on the site. Providing adequate bicycle storage and changing facilities can reduce parking demand by five (5) to 15 percent.

The Project is located adjacent to Class II bike lanes on Grand Avenue and Class III bicycle facilities along Spruce Avenue, and would provide bicycle parking at or above the amount required by the *City of South San Francisco Municipal Code* within close proximity to building entrances and adjacent bicycle facilities.

Pedestrian and Cycling Improvements

The Project will provide safe and convenient pedestrian connections to surrounding external streets including pedestrian scale lighting, landscaping, building design/orientation. Improved walkability expands the range of parking facilities that may serve the Project site and increases the feasibility of sharing parking facilities or potential use of remote parking facilities. Improved walkability increases a person's ability to park in one location and walk to multiple destinations rather than driving, which reduces the amount of parking required at each destination. Walking and cycling improvements also increase the mode shift towards alternative modes by

⁸ The Victoria Transport Policy Institute (VTPI) is an independent research organization dedicated to developing innovative and practical solutions to transportation problems.

⁹ The TDM measures described in Section 4.2 are based on parking demand reduction estimates compiled in the Victoria Transport Policy Institute (VTPI), *Parking Management Strategies, Evaluation and Planning*, September 2016.

allowing people to substitute walking/bicycling for some automobile trips, further reducing parking demand. Improved walkability also encourages greater transit use, as most transit trips involve walking or bicycling links. Improving pedestrian and bicycling conditions can reduce parking demand by five (5) to 15 percent.

The Project is located within an urban environment with an extensive contiguous sidewalk network that provides safe and adequate pedestrian access to a range of other nearby land uses, transit stops, and publically accessible parking facilities. The Project Sponsor shall provide safe, convenient pedestrian and bicycle connections to surrounding external streets via a pedestrian oriented urban design, the installation of new sidewalks with ADA-compliant pedestrian curb ramps, new bicycle parking spaces, new pedestrian scale street lighting, and new street trees along the Project frontages on Spruce and Grand avenues.

Unbundled Parking

Unbundling refers to on-site parking that is leased or sold independently, rather than included with the building space. A number of on-site parking spaces would be available for lease on a monthly or yearly basis to employees separately from the building lease. This allows tenants to identify and understand the full cost of parking and only pay for the parking they need, which is more equitable and efficient. Unbundling the cost of parking from the building space can reduce parking demand by 10 to 30 percent.

The Project Sponsor would not provide any on-site employee parking spaces for all building tenants, requiring employees to purchase optional monthly parking at nearby publically accessible off-street parking lots such as the Miller Avenue Parking Garage located at 329 Miller Avenue (approximately 0.3 miles [approximately 1,500 feet] east of the project site).

Smart Growth (Encourage Infill Development)

Smart Growth refers to the general policies that result in more efficient transportation and land use patterns, by encouraging higher-density development in proximity to multi-modal transportation systems. Smart Growth allows for greater sharing of public infrastructure and increases the shift to alternative transportation modes leading to decreased automobile usage and decreased parking demand. Smart Growth that encourages more compact, multi-modal development can reduce parking demand by 10 to 30 percent.

The Project is an infill redevelopment project that is well situated within proximity to a number of significant transit corridors, including access to regional BART and Caltrain services, four blocks from the Colma Creek Canal Trail, and in an area that is currently planned to accommodate medium intensity development densities. Based on these factors, it is expected that the Project would accrue significant levels of parking demand reduction.

Mobility Management

Mobility Management refers to Transportation Demand Management (TDM) strategies that increase transportation system efficiencies by modifying travel behavior. The implementation of various TDM strategies can have significant impacts on parking demand through shifting the travel mode away from automobile use and towards alternative modes of transportation. The Project will implement a TDM program that includes a number of TDM strategies designed to reduce the overall number of vehicle trips generated by the Project and thus reduce the demand for parking. Mobility Management that encourages more efficient travel patterns can reduce parking demand by 10 to 30 percent.

The Project Sponsor shall implement a TDM Plan and assign a TDM Coordinator that encourages a mode shift towards alternative modes of transportation and away from automobile use, achieving a minimum alternative mode share goal of 28 percent.

Financial Incentives

Financial incentives refer to various types of financial benefits for reducing automobile trips and parking demand. Such incentives include parking cash-out, transit pass subsidies, discounted rideshare services (carpool and vanpool), and free guaranteed ride home program participation. Financial incentives are very successful as they provide positive rewards to those who reduce vehicle trips and parking demand. Depending on the total value of the incentives being offered and setting of the development, financial incentives such as subsidized transit passes and parking cash-out can reduce parking demand 10 to 30 percent. Urban areas tend to see a shift towards walking and transit, while suburban areas tend to see a shift towards bicycling and ridesharing.

The Project Sponsor shall offer each employee financial incentives equal to or greater than \$20 per month for one year in the form of a parking cash-out in return for not using parking at the employment site or a subsidized transit pass. The potential subsidy totals an estimated \$5,760 annually (\$20 per month * maximum of 24 employees * 12 months).

Table 7, p.20, presents the overall expected effectiveness of each of the previously discussed TDM measures proposed for the Project in terms of potential percent vehicular parking demand reduction for the Project. In sum, each individual measure can potentially reduce Project-generated parking demand by between 5 and 30 percent. The variation in percentage trip reduction is dependent on the density of the Project's setting, proximity to public transit services, frequency and quality of transit services, quality of and access to alternative transportation modes (bicycle lanes, carshare services, etc.), demographics of the community, and the value of subsidies being offered.

TDM measure impacts generally increase over time as programs mature. Therefore, a low reduction estimate may be appropriate for the first year, but increases to moderate after a few years, and may reach the highest parking reductions after five or ten years. Furthermore, the impacts are multiplicative, not additive. Unbundled parking may reduce the parking demand by 10 percent to 90 percent of the original demand level. The 10 percent reduction from parking pricing would further reduce demand to 81 percent of the original level, and transit pass subsidies another 10 percent reduction resulting in 73 percent of the original level, a 27 percent reduction rather than a 30 percent reduction that would be calculated by adding three 10 percent reductions. Therefore, the Project would expect a reduction between 49 and 90 percent of the original parking demand when implementing all of the proposed TDM measures.

Table 7 – Summary of TDM Parking Reduction Strategies

Strategy	Description	Typical Reduction
Required Strategies		
Improve User Information and Marketing	Providing information on parking availability and price, transit routes and schedules, and other alternative travel modes using maps, signs, brochures and electronic communications.	5-15%
Transportation Management Associations	Establish or join a member-controlled organization(s) that provide transport and parking management services in a particular area.	Varies
Bicycle Facilities	Provide bicycle storage and changing facilities.	5-15%
Walking and Cycling Improvements	Improve walking and cycling conditions to expand the range of destinations serviced by a parking facility.	5-15%
Additional Strategies		
Unbundle Parking	Rent or sell parking facilities separately from building space.	10-30%
Smart Growth (Infill Development)	Encourage more compact, mixed, multi-modal development to allow more parking sharing and use of alternative modes.	10-30%
Mobility Management (TDM Program)	Encourage more efficient travel patterns, including changes in mode, timing, destination and vehicle trip frequency.	10-30%
Parking Regulations	Regulations favor high-value uses such as carpool/vanpool parking, customers, and people with special needs.	10-30%
Financial Incentives	Provide financial incentives to shift mode, such as parking cash-out.	10-30%
A) Total Parking Space Reduction		-18 to -32
B) Recommended Parking Supply ²		36
C) Proposed Parking Supply		9
D) Parking Deficit Before TDM Strategies (B-C)		-27
E) Total Parking Demand with TDM Strategies (A-B)		4 to 18
Parking Surplus (E-C)		5 to -9

Source: http://www.vtpi.org/park_man.pdf, (accessed October 2018); CHS Consulting Group, 2018.

As shown in **Table 7**, implementation of all of the above TDM measures would decrease parking demand by 18 to 32 parking spaces. This would result in a total parking demand of 4 to 18 spaces. Considering the Project's location (access to alternative modes of transportation) and demographic factors (underserved communities), it is anticipated that the Project would accrue parking reductions that closely align with the amount of parking being supplied by the Project, as financial incentives and other complementary TDM measures tend to have greater impact on lower-income consumers.

Furthermore, parking reduction impacts from TDM programs tend to increase over time as programs mature. The Project isn't anticipated to experience peak parking demand until year five of operation, at which point the TDM program will have matured and will produce parking reductions towards the higher end of the parking reduction estimates. Therefore, the nine (9) on-site parking spaces would accommodate the Project parking demand with TDM measures and would not substantially contribute to parking spillover onto neighborhood streets.

6.0 Conclusion

The demand for on-site Project parking would be offset by a menu of Project-proposed TDM measures. These TDM measures include carpool/vanpool ridematching services, TDM Coordinator, guaranteed ride home membership, information kiosk, pedestrian improvements, promotional programs, shuttle program membership, transportation management association membership, bicycle parking facilities, free carpool/vanpool parking, transit pass subsidies, and parking cash-out. Collectively, the proposed Project TDM measures are expected to reduce Project-generated vehicle trips by 36 percent, exceeding the requirements defined in the City of South San Francisco Municipal Code and C/CAG congestion management guidelines.

The Project-proposed TDM measures are also expected to reduce Project-generated parking demand by 49 to 90 percent, when compared to an identical baseline project that does not offer these TDM measures. These reductions in parking demand would offset the Project's on-site parking supply deficit of 27 spaces, when compared to Municipal Code requirements. These reductions may be further enhanced by the Project's proximity to multi-modal transportation facilities such as SamTrans bus service, BART, Caltrain, and the Colma Creek Canal Trail.

The Project site has a minimum of 78 available on-street parking spaces within one-block and an additional 158 available on-street parking spaces within walking distance for a total of 236 available on-street parking spaces, which demonstrates an abundance of available on-street parking in the study area. In combination with the selected TDM program parking demand reductions, the Project would provide an adequate supply of on-site parking to meet demand and would further be accommodated by a significant supply of available on-street and off-street public parking options.

Furthermore, NEMS provides community-based health centers in underserved communities that tend to depend on public transit and other alternative modes of transportation, and serve geographically small areas. Based on in-house travel surveys conducted by NEMS staff, only 13 percent of patients and 17 percent of staff arrive via automobile. Additionally, all staff arriving via automobile would be required to purchase their own off-site parking at the Miller Avenue Parking Garage or other off-street public parking options. This mode share split applied to the Project's person trip generation would result in a total of six (6) AM peak hour vehicle trips, six (6) PM peak hour vehicle trips, and a total of 28 daily vehicle trips generated by the Project; far fewer than is estimated using standard ITE trip generation rates. Consequently, parking demand is also anticipated to be considerably lower than Municipal Code requirements would suggest.

The preceding analysis shows that implementation of the recommended TDM measures would result in parking demand that is closely aligned with the amount of on-site parking being offered by the Project Sponsor. When viewed overall, the Project-proposed TDM measures are aligned with the transportation and parking goals prescribed in the City of South San Francisco Municipal Code and C/CAG congestion management guidelines.

Appendices

- Appendix A NEMS Travel Survey Results
- Appendix B C/CAG Guidelines
- Appendix C On-Street Parking Survey Data

APPENDIX A – NEMS TRAVEL SURVEY RESULTS

Location	Public Transportation	Private Transportation	Walking	Total
Stockton	217	71	84	372
San Bruno	59	78	30	167
Noreiga	31	83	9	123
Eastmoor	9	78	0	87
Leland	4	16	8	28
Taraval	0	8	1	9
Clement	19	15	20	54
Ellis	1	5	7	13
	340	354	159	853

Location	Public Transportation	Private Transportation	Walking
Stockton	58.33%	19.09%	22.58%
San Bruno	35.33%	46.71%	17.96%
Noreiga	25.20%	67.48%	7.32%
Eastmoor	10.34%	89.66%	0.00%
Leland	14.29%	57.14%	28.57%
Taraval	0.00%	88.89%	11.11%
Clement	35.19%	27.78%	37.04%
Ellis	7.69%	38.46%	53.85%

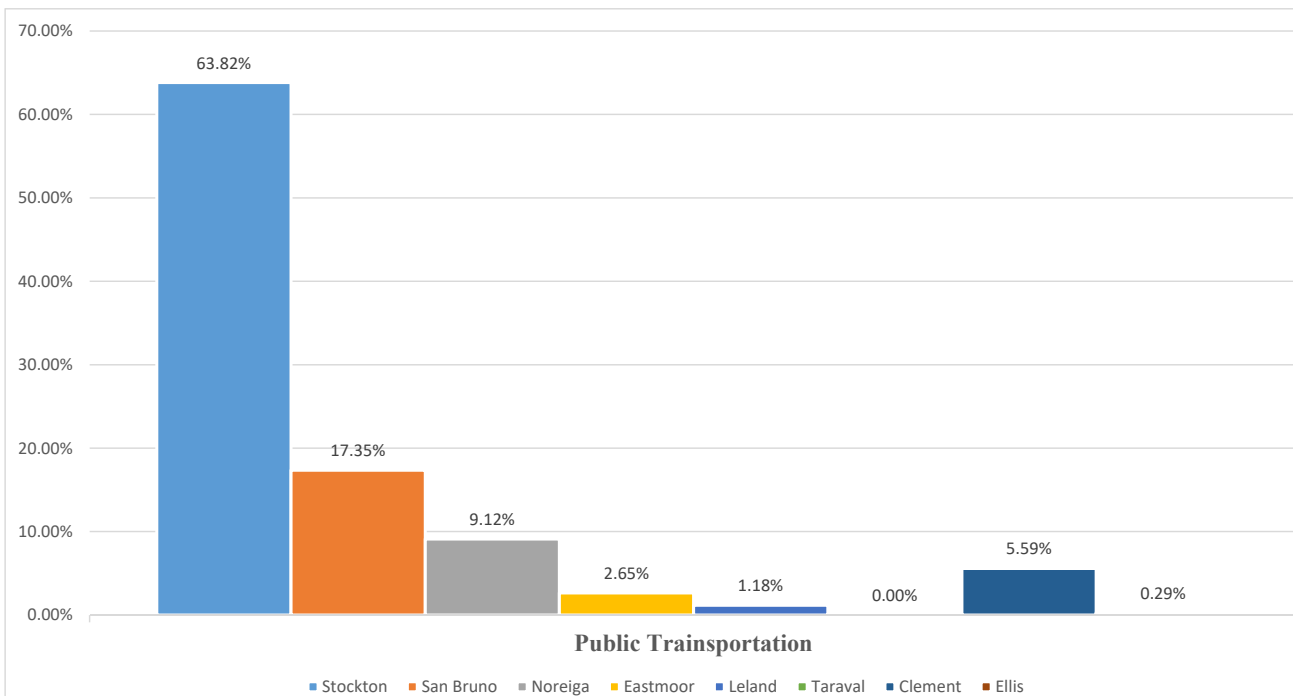
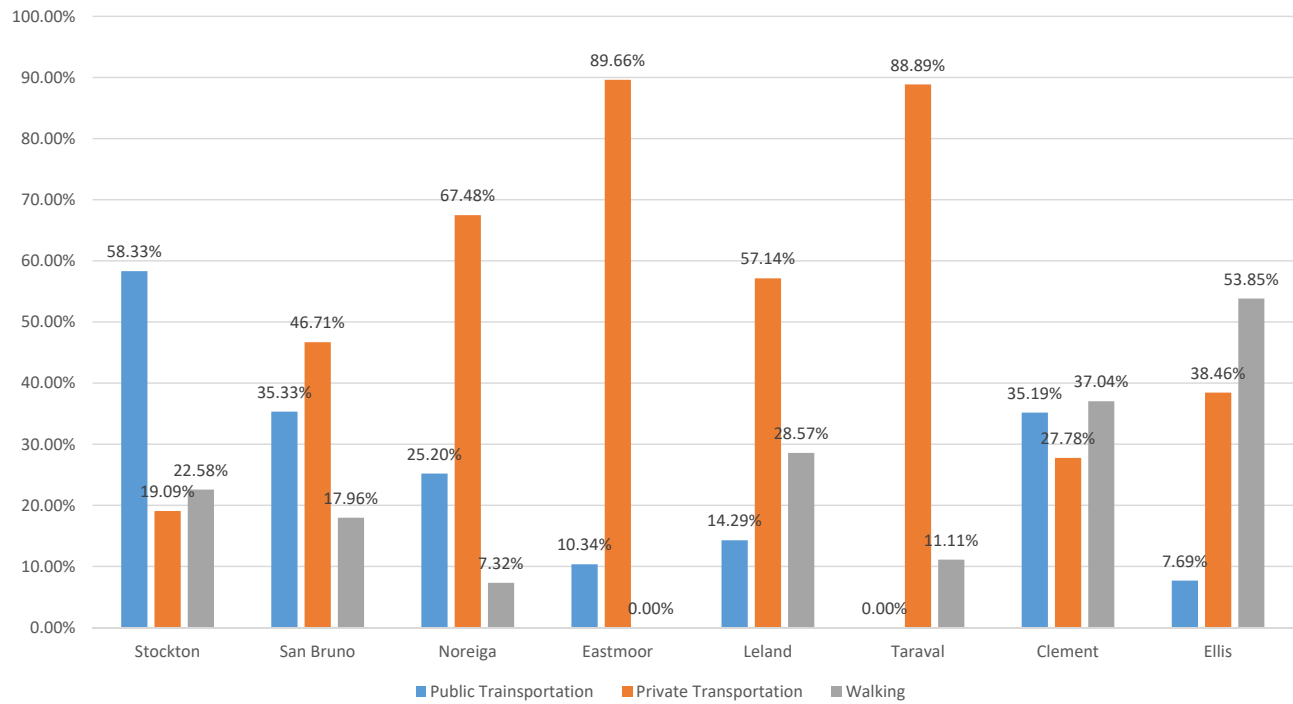
Location	Public Transportation	Private Transportation	Walking
Stockton 2nd Floor	58	13	30
Stockton 3rd Floor	114	26	35
Stockton 5th Floor	45	32	19

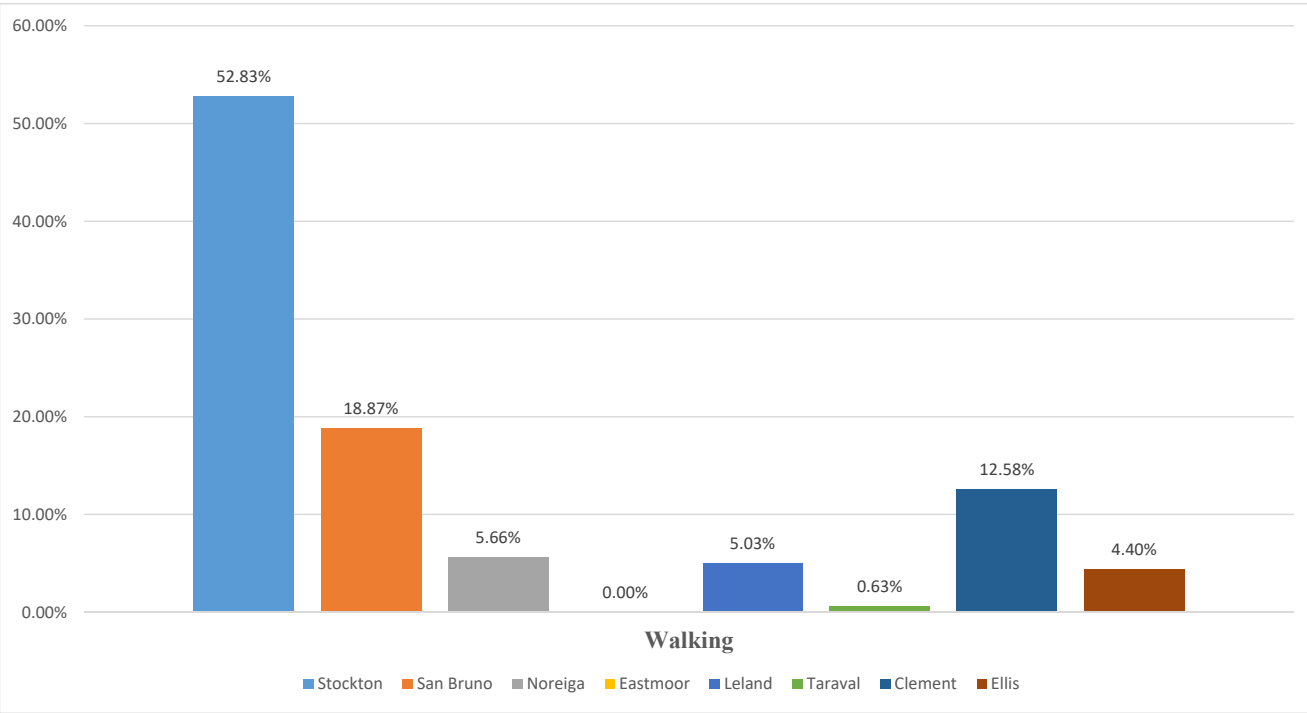
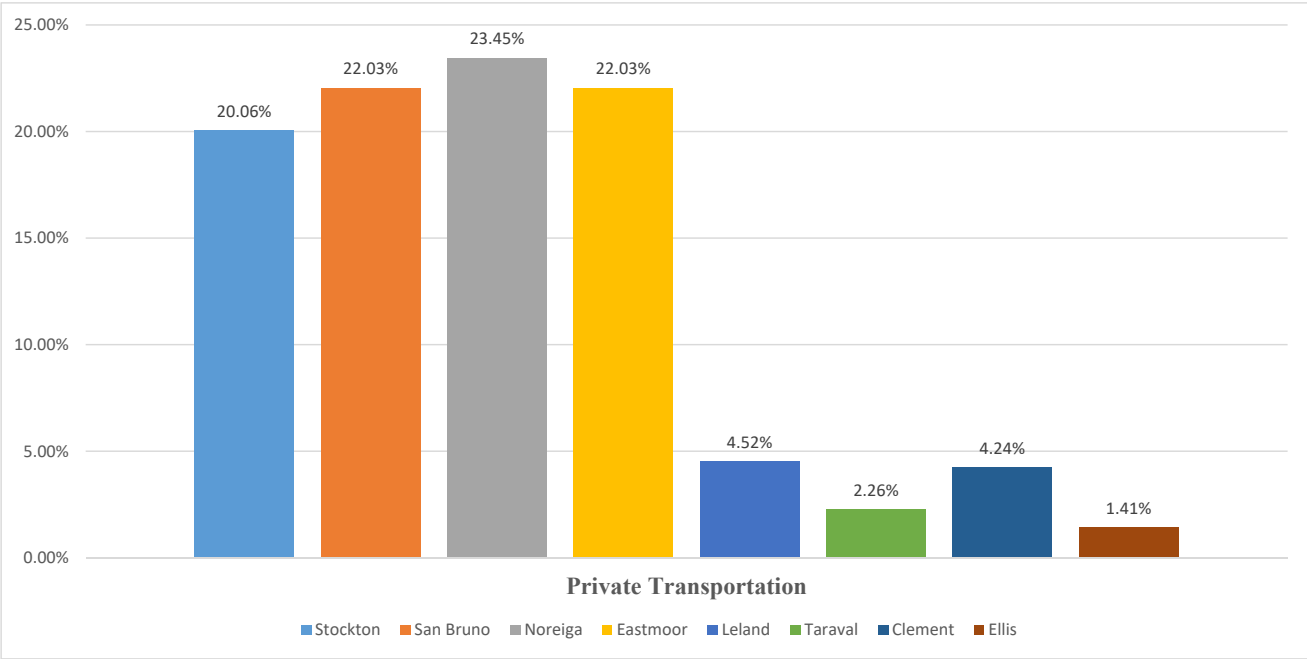
Location	Public Transportation
Stockton	63.82%
San Bruno	17.35%
Noreiga	9.12%
Eastmoor	2.65%
Leland	1.18%
Taraval	0.00%
Clement	5.59%
Ellis	0.29%

Location	Private Transportation
Stockton	20.06%
San Bruno	22.03%
Noreiga	23.45%
Eastmoor	22.03%
Leland	4.52%
Taraval	2.26%
Clement	4.24%
Ellis	1.41%

Location	Walking
Stockton	52.83%
San Bruno	18.87%
Noreiga	5.66%
Eastmoor	0.00%
Leland	5.03%
Taraval	0.63%
Clement	12.58%
Ellis	4.40%

Transportation Survey (All Clinic)





APPENDIX B – C/CAG GUIDELINES

GUIDELINES FOR IMPLEMENTING THE LAND USE COMPONENT OF THE CONGESTION MANAGEMENT PROGRAM

All land use changes or new developments that require a negative declaration or an Environmental Impact Report (EIR) and that are projected to generate a net (subtracting existing uses that are currently active) 100 or more trips per hour at any time during the a.m. or p.m. peak hour period, must be reported to C/CAG within ten days of completion of the initial study prepared under the California Environmental Quality Act (CEQA). Peak period includes 6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. **Peak hour is defined as the hour when heaviest daily traffic volume occurs and generally occurs during morning and afternoon commute times. Traffic counts are obtained during AM and PM peak periods and the volume from the heaviest hour of AM or PM traffic is used to define peak hour for those time periods. The highest number of net trips resulting from AM or PM peak hour will be used. Net trips are calculated by subtracting trips for existing uses from those generated by the new project.** Although projects that generate less than 100 peak hour trips are not subject to these guidelines, local jurisdictions are strongly encouraged to apply them to all projects, particularly where the jurisdiction has determined that the impacts of the project will have an adverse effect on traffic in that jurisdiction.

These guidelines are not intended to establish a Countywide **threshold** of significance of 100 peak hour trips for CEQA purposes. The determination of what level of traffic results in a significant impact is left in the first instance to the local jurisdiction. These guidelines do contemplate, however, that all trips resulting from projects that are reviewed by C/CAG and fall under these guidelines will be mitigated, whether or not it rises to a level of significance under CEQA.

Local jurisdictions must ensure that the developer and/or tenants will reduce the demand for all new peak hour trips (including the first 100 trips) projected to be generated by the development. The local jurisdiction can select one or more of the options that follow or may propose other methods for mitigating the trips. It is up to the local jurisdiction working together with the project sponsor to choose the method(s) that will be compatible with the intended purpose of the project and the community that it will serve. The options identified in these guidelines are not intended to limit choices. Local jurisdictions are encouraged to be creative in developing options that meet local needs while accomplishing the goal of mitigating new peak hour trips. The additional measures that are not specifically included in these guidelines should be offered for review by C/CAG staff in advance of approving the project. Appeals to the decisions by C/CAG staff will be taken to the full C/CAG Board for consideration.

The Congestion Management Program roadway network includes all state highways and selected principal arterials. When considering land use projects, local jurisdictions may either require that mitigation for impacts to the Congestion Management Program roadway network be finally determined and imposed as a condition of approval of the project, or may conditionally approve such project, conditioned on compliance with the requirements to mitigate the impacts to the Congestion Management Program roadway network. In those instances where conditional approval is given, a building permit may not be issued for the project until the required mitigation is determined and subsequently imposed on the project.

Some of the choices for local jurisdictions include:

1. Reduce the scope of the project so that it will generate less than 100 net peak hour trips.
2. Build adequate roadway and/or transit improvements so that the added peak hour trips will have no measurable impact on the Congestion Management Program roadway network.
3. If a local jurisdiction currently collects traffic mitigation fees, any portion of the fees that are used to mitigate the impacts of the project's traffic on the Congestion Management Program roadway network will count as a credit toward the reduction in the demand for trips required under the Congestion Management Program. The developer may also contribute a one-time only payment of \$20,000 per peak hour trip (including the first 100 trips) to a special fund for the implementation of appropriate transportation demand management system measures at that development. These funds will be used to implement transportation demand management programs that serve the development making the contribution.
4. Require the developer and all subsequent tenants to implement Transportation Demand Management programs that have the capacity to fully reduce the demand for new peak hour trips. The developer/tenants will not be held responsible for the extent to which these programs are actually used. **The developer shall pay for a monitoring program for the first three years of the development. The purpose of the monitoring program is to assess the compliance of the project with the final TDM plan.** The following is a list of acceptable programs and the equivalent number of trips that will be credited as reduced. Programs can be mixed and matched so long as the total mitigated trips is equal to or greater than the new peak hour trips generated by the project. These programs, once implemented, must be on going for the occupied life of the development. Programs may be substituted with prior approval of C/CAG, so long as the number of **mitigated trips** is not **reduced**. Additional measures may be proposed to C/CAG for consideration. Also there may be special circumstances that warrant a different amount of credit for certain measures. For example, a developer may elect to contract with the Alliance or another provider of TDM services to meet this requirement. These situations can also be submitted to C/CAG in advance for consideration. It is up to each local jurisdiction to use its best judgment to determine the extent to which certain measures are "reasonable and effective." For example, there will be a point where additional showers will not result in more people riding bicycles or walking to work.
5. Adopt Congestion Management Program guidelines for projects within its jurisdiction and submit those guidelines for approval by C/CAG. The local jurisdiction would then apply these guidelines to the appropriate level of project and provide an annual report describing affected projects and guidelines applied. C/CAG would review the jurisdiction's efforts on an annual basis and could require amendments to the jurisdiction's guidelines if the jurisdiction's guidelines were not meeting Congestion Management Program goals.

6. Adopt the C/CAG guidelines for application to the appropriate level of project in the jurisdiction, and submit an annual report describing affected projects and guidelines applied. C/CAG would review the jurisdiction's efforts on an annual basis and could require amendments to the jurisdiction's guidelines if the jurisdiction's guidelines were not meeting Congestion Management Program goals.
7. Negotiate with C/CAG staff for other acceptable ways to mitigate the trips for specific developments on a case-by-case basis.
8. **C/CAG recognizes that for retail or special uses appropriate TDM measures may be difficult to implement. Please contact C/CAG to develop appropriate measures for these types of projects.**

Transportation

<u>Demand Management Measure</u>	<u>Number of Trips Credited</u>	<u>Rationale</u>
Secure bicycle storage	One peak hour trip will be credited for every 3 new bike lockers/racks installed and maintained. Lockers/racks must be installed within 100 feet of the building.	Experience has shown that bicycle commuters will average using this mode one-third of the time, especially during warmer summer months.
Showers and changing rooms.	Ten peak hour trips will be credited for each new combination shower and changing room installed. An additional 5 peak hour trips will be credited when installed in combination with at least 5 bike lockers	10 to 1 ratio based on cost to build and the likelihood that bicycle utilization will increase.
Operation of a dedicated shuttle service during the peak period to a rail station or an urban residential area. Alternatively the development could buy into a shuttle consortium.	One peak hour trip will be credited for each peak-hour round trip seat on the shuttle. Increases to two trips if a Guaranteed Ride Home Program is also in place. Five additional trips will be credited if the shuttle stops at a child-care facility enroute to/from the worksite.	Yields a one-to-one ratio (one seat in a shuttle equals one auto trip reduced); utilization increases when a guaranteed ride home program is also made available.

Charging employees for parking.	Two peak hour trips will be credited for each parking spot charged out at \$20 per month for one year. Money shall be used for TDM measures such as shuttles or subsidized transit tickets.	Yields a two -to-one ratio
Subsidizing transit tickets for employees.	One peak hour trip will be credited for each transit pass that is subsidized at least \$20 per month for one year. One additional trip will be credited if the subsidy is increased to \$75 for parents using transit to take a child to childcare enroute to work.	Yields a one-to-one ratio (one transit pass equals one auto trip reduced).
Subsidizing pedestrians/bicyclists who commute to work.	One peak hour trip will be credited for each employee that is subsidized at least \$20 per month for one year.	Yields a one-to-one ratio (One pedestrian/bicyclist equals one auto trip reduced).
Creation of preferential parking for carpoolers.	Two peak hour trips will be credited for each parking spot reserved.	Yields a two-to-one ratio (one reserved parking spot equals a minimum of two auto trips reduced).
Creation of preferential parking for vanpoolers.	Seven peak hour trips will be credited for each parking spot reserved.	Yields a seven-to-one ratio (one reserved parking spot equals a minimum of seven auto trips reduced).
Implementation of a vanpool program.	Seven peak hour trips will be credited for each vanpool arranged by a specific program operated at the site of the development. Increases to ten trips if a Guaranteed Ride Home Program is also in place.	The average van capacity is seven.

Operation of a commute assistance center, offering on site, one stop shopping for transit and commute alternatives information, preferably staffed with a live person to assist building tenants with trip planning.

One peak hour trip will be credited for each feature added to the information center; and an additional one peak hour trip will be credited for each hour the center is staffed with a live person, up to 20 trips per each 200 tenants. Possible features may include:

- Transit information brochure rack
- Computer kiosk connected to Internet
- Telephone (with commute and transit information numbers)
- Desk and chairs (for personalized trip planning)
- On-site transit ticket sales
- Implementation of flexible work hour schedules that allow transit riders to be 15-30 minutes late or early (due to problems with transit or vanpool).
- Quarterly educational programs to support commute alternatives

This is based on staff's best estimate. Short of there being major disincentives to driving, having an on site TDM program offering commute assistance is fundamental to an effective TDM program.

Survey Employees to examine use and best practices.

Three peak hour trips will be credited for a survey developed to be administered twice yearly

This is based on staff's best estimate with the goal of finding best practices to achieve the mode shift goal.

Implementation of a parking cash out program.

One peak hour trip will be credited for each parking spot where the employee is offered a cash payment in return for not using parking at the employment site.

Yields a one-to-one ratio (one cashed out parking spot equals one auto trip reduced).

Implementation of ramp metering.	Three hundred peak hour trips will be credited if the local jurisdiction in cooperation with CalTrans, installs and turns on ramp metering lights during the peak hours at the highway entrance ramp closest to the development.	This is a very difficult and costly measure to implement and the reward must be significant.
Installation of high bandwidth connections in employees' homes to the Internet to facilitate home telecommuting	One peak hour trip will be credited for every three connections installed. This measure is not available as credit for a residential development.	Yields a one-to- three ratio.
Installation of video conferencing centers that are available for use by the tenants of the facility.	Five peak hour trips will be credited for a center installed at the facility.	This is based on staff's best estimate.
Implementation of a compressed workweek program.	One peak hour trip will be credited for every 5 employees that are offered the opportunity to work four compressed days per week.	The workweek will be compressed into 4 days; therefore the individual will not be commuting on the 5 th day.
Flextime: Implementation of an alternate hours workweek program.	One peak hour trip will be credited for each employee that is offered the opportunity to work staggered work hours. Those hours can be a set shift set by the employer or can be individually determined by the employee.	This is based on staff's best estimate.
Provision of assistance to employees so they can live close to work.	If an employer develops and offers a program to help employees find acceptable residences within five miles of the employment site, a credit of one trip will be given for each slot in the program.	This assumes that a five-mile trip will generally not involve travel on the freeways.

Implementation of a program that gives preference to hiring local residents at the new development site.

One peak hour trip will be credited for each employment opportunity reserved for employees recruited and hired from within five miles of the employment site.

This assumes that a five-mile trip will generally not involve travel on the freeways.

Provision of on-site amenities/accommodations that encourage people to stay on site during the workday, making it easier for workers to leave their automobiles at home.

Five peak hour trips will be credited for each feature added to the job site. Possible features may include:

- banking
- grocery shopping
- clothes cleaning
- exercise facilities
- child care center

This is based on staff's best estimate.

Provide use of motor vehicles to employees who use alternate commute methods so they can have access to vehicles during breaks for personal use.

Five peak hour trips will be credited for each vehicle provided.

This is based on staff's best estimate.

Provide use of bicycles to employees who use alternate commute methods so they can have access to bicycles during breaks for personal use.

One peak hour trip will be credited for every four bicycles provided.

This is based on staff's best estimate.

Provision of child care services as a part of the development

One trip will be credited for every two child care slots at the job site. This amount increases to one trip for each slot if the child care service accepts multiple age groups (infants=0-2yrs, preschool=3&4 yrs, school-age=5 to 13 yrs).

This is based on staff's best estimate.

Developer/property owner may join an employer group to expand available child care within 5 miles of the job site or may provide this service independently

One trip will be credited for each new child care center slot created either directly by an employer group, by the developer/property owner, or by an outside provider if an agreement has been developed with the developer/property owner that makes the child care accessible to the workers at the development.

This is based on staff's best estimate.

Join the Alliance's guaranteed ride home program.

Two peak hour trips will be credited for every 2 slots purchased in the program.

Experience shows that when a Guaranteed Ride Home Program is added to a TDM program, average ridership increases by about 50%.

Combine any ten of these elements and receive an additional credit for five peak hour trips.

Five peak hour trips will be credited.

Experience has shown that offering multiple and complementary TDM components can magnify the impact of the overall program.

Work with the Alliance to develop/implement a Transportation Action Plan.

Ten peak hour trips will be credited.

This is based on staff's best estimate.

The developer can provide a cash legacy after the development is complete and designate an entity to implement any (or more than one) of the previous measures before day one of occupancy.

Peak hour trip reduction credits will accrue as if the developer was directly implementing the items.

Credits accrue depending on what the funds are used for.

Encourage infill development.

Two percent of all peak hour trips will be credited for each infill development.

Generally acceptable TDM practices (based on research of TDM practices around the nation and reported on the Internet).

Encourage shared parking.	Five peak hour trips will be credited for an agreement with an existing development to share existing parking.	Generally acceptable TDM practices (based on research of TDM practices around the nation and reported on the Internet).
Participate in/create/sponsor a Transportation Management Association.	Five peak hour trips will be credited.	Generally acceptable TDM practices (based on research of TDM practices around the nation and reported on the Internet).
Coordinate Transportation Demand Management programs with existing developments/ employers.	Five peak hour trips will be credited.	This is based on staff's best estimate.
For employers with multiple job sites, institute a proximate commuting program that allows employees at one location to transfer/trade with employees in another location that is closer to their home.	One peak hour trip will be credited for each opportunity created.	Yields a one-to-one ratio.
Pay for parking at park and ride lots or transit stations.	One peak hour trip will be credited for each spot purchased.	Yields a one-to-one ratio.

Additional Measures for Residential Developments

Develop schools, convenience shopping, recreation facilities, and child care centers in new subdivisions.	Five peak hour trips will be credited for each facility included.	This is based on staff's best estimate.
Provision of child care services at the residential development and/or at a nearby transit center	One trip will be credited for every two child care slots at the development/transit center. This amount increases to one trip for each slot if the child care service accepts multiple age groups (infants, preschool, school-age).	This is based on staff's best estimate.
Make roads and streets more pedestrian and bicycle friendly.	Five peak hour trips will be credited for each facility included.	This is based on staff's best estimate.
Revise zoning to limit undesirable impacts (noise, smells, and traffic) instead of limiting broad categories of activities.	Five peak hour trips will be credited.	This is based on staff's best estimate.
Create connections for non-motorized travel, such as trails that link dead-end streets.	Five peak hour trips will be credited for each connection make.	This is based on staff's best estimate.
Create alternative transportation modes for travel within the development and to downtown areas - bicycles, scooters, electric carts, wagons, shuttles, etc.	One peak hour trip will be credited for each on-going opportunity created (i.e. five bicycles/scooters/wagons = five trips, two-seat carts = two trips, seven passenger shuttle = seven trips).	This is based on staff's best estimate.
Design streets/roads that encourage pedestrian and bicycle access and discourage automobile access.	Five trips will be credited for each design element.	This is based on staff's best estimate.
Install and maintain	Five trips will be credited for each	This is based on staff's best

alternative
transportation kiosks.

kiosk.

estimate.

Install/maintain safety
and security systems
for pedestrians and
bicyclists.

Five trips will be credited for each
measure implemented.

This is based on staff's best
estimate.

Implement jitneys/
vanpools from
residential areas to
downtowns and transit
centers.

One trip will be credited for each
seat created.

Yields a one-to-one ratio.

Locate residential
development within
one-third mile of a
fixed rail passenger
station.

All trips from a residential
development within one-third mile
of a fixed rail passenger station
will be considered credited due to
the location of the development.

This is based on staff's best
estimate.

The local jurisdiction must also agree to maintain data available for monitoring by C/CAG, that supports the on-going compliance with the agreed to trip reduction measures.

APPENDIX C – ON-STREET PARKING SURVEY DATA

225 Spruce Avenue: On-Street Parking Inventory Summary

Roadway Segment	Between		Side of Street	Parking Supply	Occupied Spaces	Available Spaces	% Occupancy
	From	To					
Grand Avenue	Magnolia Avenue	Spruce Avenue	North	26	17	9	65%
			South	31	26	5	84%
Spruce Avenue	3rd Lane	Grand Avenue	East	4	1	3	25%
			West	3	0	3	0%
Spruce Avenue	3rd Lane	Baden Avenue	East	4	1	3	25%
			West	4	0	4	0%
Spruce Avenue	4th Lane	Grand Avenue	East	2	2	0	100%
			West	4	4	0	100%
Spruce Avenue	4th Lane	Miller Avenue	East	4	4	0	100%
			West	4	4	0	100%
Grand Avenue	Spruce Avenue	Walnut Avenue	North	18	11	7	61%
			South	16	9	7	56%
Grand Avenue	Maple Avenue	Walnut Avenue	North	18	10	8	56%
			South	22	15	7	68%
Maple Avenue	3rd Lane	Grand Avenue	East	6	3	3	50%
			West	6	6	0	100%
Maple Avenue	3rd Lane	Baden Avenue	East	5	5	0	100%
			West	2	1	1	50%
Grand Avenue	Locust Avenue	Magnolia Avenue	North	19	15	4	79%
			South	18	17	1	94%
Baden Avenue	Magnolia Avenue	Spruce Avenue	North	24	20	4	83%
			South	34	25	9	74%
Spruce Avenue	2nd Lane	Baden Avenue	East	6	3	3	50%
			West	4	3	1	75%
Spruce Avenue	2nd Lane	Commercial Avenue	East	3	2	1	67%
			West	2	2	0	100%
Spruce Avenue	1st Avenue	Commercial Avenue	East	2	1	1	50%
			West	2	0	2	0%
Spruce Avenue	1st Avenue	Railroad Avenue	East	5	4	1	80%
			West	3	1	2	33%
Spruce Avenue	Miller Avenue	Tamarack Lane	East	4	3	1	75%
			West	4	3	1	75%
Spruce Avenue	Lux Avenue	Tamarack Lane	East	5	1	4	20%
			West	4	1	3	25%
Commercial Avenue	Maple Avenue	Spruce Avenue	North	19	15	4	79%
			South	37	33	4	89%
Commercial Avenue	Magnolia Avenue	Spruce Avenue	North	22	20	2	91%
			South	30	24	6	80%
Baden Avenue	Maple Avenue	Spruce Avenue	North	27	25	2	93%
			South	31	25	6	81%
Maple Avenue	2nd Lane	Baden Avenue	East	4	4	0	100%
			West	3	3	0	100%
Maple Avenue	2nd Lane	Commercial Avenue	East	5	4	1	80%
			West	7	4	3	57%
Grand Avenue	Linden Avenue	Maple Avenue	North	24	21	3	88%
			South	26	26	0	100%
Maple Avenue	Grand Avenue	Miller Avenue	East	11	10	1	91%
			West	12	7	5	58%
Maple Avenue	Miller Avenue	Tamarack Lane	East	4	3	1	75%
			West	5	5	0	100%
Maple Avenue	Lux Avenue	Tamarack Lane	East	5	5	0	100%
			West	3	3	0	100%
Magnolia Avenue	2nd Lane	Commercial Avenue	East	4	1	3	25%
			West	3	3	0	100%
Magnolia Avenue	2nd Lane	Baden Avenue	East	3	0	3	0%
			West	3	3	0	100%
Magnolia Avenue	Baden Avenue	Grand Avenue	East	4	6	-2	150%
			West	9	7	2	78%
Magnolia Avenue	4th Lane	Grand Avenue	East	4	3	1	75%
			West	5	3	2	60%
Magnolia Avenue	4th Lane	Miller Avenue	East	4	3	1	75%
			West	5	3	2	60%
Magnolia Avenue	Miller Avenue	Tamarack Lane	East	5	2	3	40%
			West	6	2	4	33%

Roadway Segment	Between		Side of Street	Parking Supply	Occupied Spaces	Available Spaces	% Occupancy
	From	To					
Walnut Avenue	Grand Avenue	Miller Avenue	East	17	9	8	53%
			West	19	12	7	63%
Walnut Avenue	Miller Avenue	Lux Avenue	East	12	8	4	67%
			West	10	7	3	70%
Miller Avenue	Magnolia Avenue	Spruce Avenue	North	34	26	8	76%
			South	39	25	14	64%
Miller Avenue	Spruce Avenue	Walnut Avenue	North	12	11	1	92%
			South	10	10	0	100%
Miller Avenue	Maple Avenue	Walnut Avenue	North	10	9	1	90%
			South	6	5	1	83%
Tamarack Lane	Magnolia Avenue	Spruce Avenue	North	3	3	0	100%
			South	13	14	-1	108%
Tamarack Lane	Maple Avenue	Spruce Avenue	North	0	0	0	-
			South	7	1	6	14%
Lux Avenue	Maple Avenue	Spruce Avenue	North	32	19	13	59%
			South	40	28	12	70%
Spruce Avenue	Lux Avenue	Park Way	East	8	6	2	75%
			West	5	3	2	60%
Total				925	689	236	74%

Note:

1. On-street parking inventory was collected on October 17, 2018 between 1:00 and 3:00 p.m.
2. Street Segments with greater than 100% Occupancy represent illegal parking resulting in a parking demand greater than the available supply