

CITY OF DALY CITY

Circulation Element



Introduction

Scope and Role of the Circulation Element

The Circulation Element identifies policies for ensuring that adequate transportation facilities are maintained throughout the planning period, that the facilities in which the City plans to invest reflect the land uses contemplated by the Land Use Element, and that the transportation system provides a range of transportation choices. The element accomplishes these objectives by describing the existing transportation system, areas that need improvement, and proposing policies and tasks to ensure the safe and efficient transport of people and goods throughout the City. Topics that are given special attention in this plan are traffic improvements, public transit, bicycle facilities, and techniques to mitigate impacts from individual development proposals.

State Planning Law

State Planning law requires every city and county adopt a Circulation Element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other public transit facilities. State law encourages the development of a balanced transportation system within each community. In particular, Section 65302 (b) of the California Government Code states that the Circulation Element policies and programs should:

- Coordinate the transportation and circulation system with planned land uses as outlined in the Land Use element;
- Promote the efficient transportation of goods and the safe and effective movement of a segments of the population;
- Make efficient use of existing transportation facilities; and
- Protect environmental quality and promote the wise and equitable use of economic and natural resources.

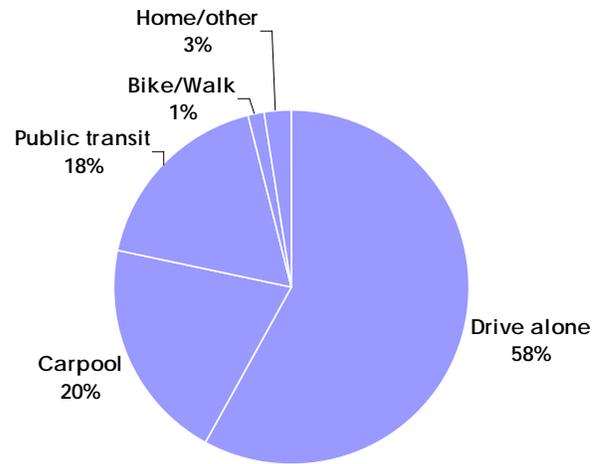
Additionally, the California Complete Streets Act requires that all cities plan for the development of a multimodal transportation network which allows for effective travel by motor vehicle, foot, bicycle, and transit to reach key destinations within their community and the larger region. The law emphasizes the desire that cities prioritize the construction of public improvements that accelerate development of a balanced, multimodal transportation network. The General Plan Circulation Element provides a policy framework wherein both public and private project's efforts to enhance the multimodal transportation network are identified and, where necessary, funding mechanism(s) for their implementation explored.

Background Information

Although Daly City remains one of the most-dense communities in the Bay Area in terms of population per square mile, most of the City is characterized by neighborhoods consisting of single-family homes most easily accessed by the private automobile. As illustrated in Figure CE-1, approximately 78 percent of residents travel to work either driving alone or with others, up slightly since 1980 when about 75 percent of residents did so.

Given the automobile's predominance in the transportation network, it is important to understand how the City's land use decisions can have a cumulative impact on traffic conditions. For example, single-family subdivisions generate considerably more traffic (measured by the number of average daily vehicular trips) than housing types which are typically constructed in more-dense structures. As identified in Table CE-1, a new development consisting of 50 single-family homes will generate 25 percent more vehicular trips than a comparably-sized condominium project and almost 40 percent more trips than a comparably-sized apartment project.

Figure CE-1: Daly City Residents Means of Transportation to Work



Source: US Census (2000)

Table CE-1: Traffic Generation by Comparable Residential Land Use

Residential Land Use Type	Daily Traffic Generation	Morning Peak-Hour Generation	Evening Peak-Hour Generation	50-unit development	
				Morning Peak	Evening Peak
Single family home	9.57 trips	0.75 trips	1.01 trips	37.5 trips	50.5 trips
Apartment	6.65 trips	0.51 trips	0.62 trips	25.5 trips	31 trips
Condo/townhouse	5.81 trips	0.44 trips	0.75 trips	22 trips	37.5 trips
Retirement Community	2.81 trips	0.18 trips	0.29 trips	9 trips	14.5 trips

Source: Institute of Transportation Engineers

As land availability shrinks and higher densities become more commonplace, the City will likely see a continued shift away from the single-family home to denser types of housing, such as condominiums and apartments. As this occurs, it will become increasingly important that the Circulation Element promote other modes of transportation in addition to -- and in some instances in-lieu of -- the private automobile, e.g., public transit, bicycling, and pedestrian circulation. For this reason, the Circulation Element provides information regarding each of these modes.

Vehicular traffic

Because the private automobile remains a primary transportation resource in Daly City, managing vehicular traffic will remain a principal concern for the City. This section identifies the traffic system's

components, its current effectiveness in moving traffic, what concerns in the system could arise within the planning period, and what can be done to address anticipated traffic issues.

Roadway network

Figure CE-2 identifies the City's existing roadway network, categorized by size, volume of traffic, and how each is connected to the larger regional transportation network. The following are descriptions of the four major roadway types identified in the figure.

- **Freeways** are routes designed to carry large traffic volumes over long distances. The two freeways that travel through Daly City, Highway 1 and Interstate 280, are owned, operated, and maintained by the California Department of Transportation (Caltrans). Vehicular access to these freeways is limited to on- and off-ramps, crossings are grade separated and median islands are used to separate lanes moving in opposite direction. Interstate 280, an eight-lane freeway with a right-of-way of 290 feet, is the most heavily traveled roadway in the City carrying approximately 150,000 vehicles through Daly City every day.
- **Highways** are roads designed to carry heavy traffic volumes at moderate speeds. Like freeways, access is controlled to just a few locations and there are medians between lanes in opposite directions. Highways are different from freeways in that cross traffic usually is at the same grade. The basic right-of-way can vary from 100 to 170 feet. Access to abutting properties is provided by frontage roads. Intersections are signalized and parking is not permitted. Highways are typically landscaped heavily to give them a parkway-type character. At the present time, Highway 35 is the only highway in Daly City. Like Interstate 280, Highway 35 is owned, operated, and maintained by Caltrans.
- **Arterials** are designed to carry heavy traffic volumes at lower speeds than highways. Most arterials incorporate medians to control cross traffic, and provide separate turn lanes and signals controls at major intersections. In Daly City, four-lane arterials have rights-of-way ranging from 88 to 115 feet, depending on whether there are parking lanes and typically provide a capacity of 22,500 average daily trips (ADT). Examples of four-lane arterials are Geneva Avenue, Mission Street, John Daly Boulevard, and Serramonte Boulevard. Examples of two-lane arterials are Eastmoor Avenue and Southgate Avenue. They have right-of-ways ranging from 60 to 70 feet and have a capacity of 11,000 ADT.
- **Collector streets** are designed to channel traffic from local streets into the arterial street system and to handle short trips within neighborhoods. Collectors have two lanes in a right-of-way of 50 or 60 feet and have a capacity of 3,000 ADT. Examples of collector streets include Crocker Avenue and South Mayfair Avenue.

In addition to the above roadways (not identified in Figure CE-2) are local streets. They provide access from larger roadways to destinations within a residential or business district. Local streets may be loop streets, cul-de-sacs, or straight connections between two collector streets, and are typically not signalized. Travel distance to a collector typically does not exceed one-half of a mile. Right-of-way widths typically range from 50 to 60 feet, and capacity does not typically exceed 800 ADT. Local streets are designed for relatively low speed travel with parking permitted on both sides of the street.

Level of Service

Traffic at Daly City's intersection is measured by a Level of Service (LOS) standard which grades intersection performance on an "A" through "F" scale. This LOS measurement is calculated by summing the average delay for vehicles in each lane for all intersection approaches. Table CE-2 provides a brief description of the levels of service recognized by the City and corresponding driving conditions associate with each:

Table CE-2: Traffic Level of Service (LOS) Descriptions

Level of Service	Average Stopped Delay ¹ (seconds/vehicle)	Description
A	Delay ≤ 10.0.0	Free flow; minimal to no delay
B	10.0 < Delay ≤ 20.0	Stable flow, but speeds are beginning to be restricted by traffic condition; slight delays.
C	20.0 < Delay ≤ 35.0	Stable flow, but most drivers cannot select their own speeds and feel somewhat restricted; acceptable delays.
D	35.0 < Delay ≤ 55.0	Approaching unstable flow, and drivers have difficulty maneuvering; tolerable delays.
E	55.0 < Delay ≤ 80.0	Unstable flow with stop and go; delays
F	Delay > 80.0	Total breakdown; congested conditions with excessive delays.

¹ Control Delay per vehicle (seconds per vehicle).

Source: Transportation Research Board, Special Report 209, Highway Capacity Manual, Chapter 16 – Signalized Intersections, 2000.

As identified in Task CE-1.6 on page 151, this Circulation Element employs a Level of Service “D” standard intended primarily to determine impacts of new land uses on the City’s roadway network and the intersection improvements that may need to occur as a result. This standard requires that a minimum Level of Service “D” be maintained at all principal intersections. The morning and evening peak traffic conditions occur between 7:00 a.m. and 9:00 a.m., and 4:00 p.m. and 7:00 p.m., respectively.

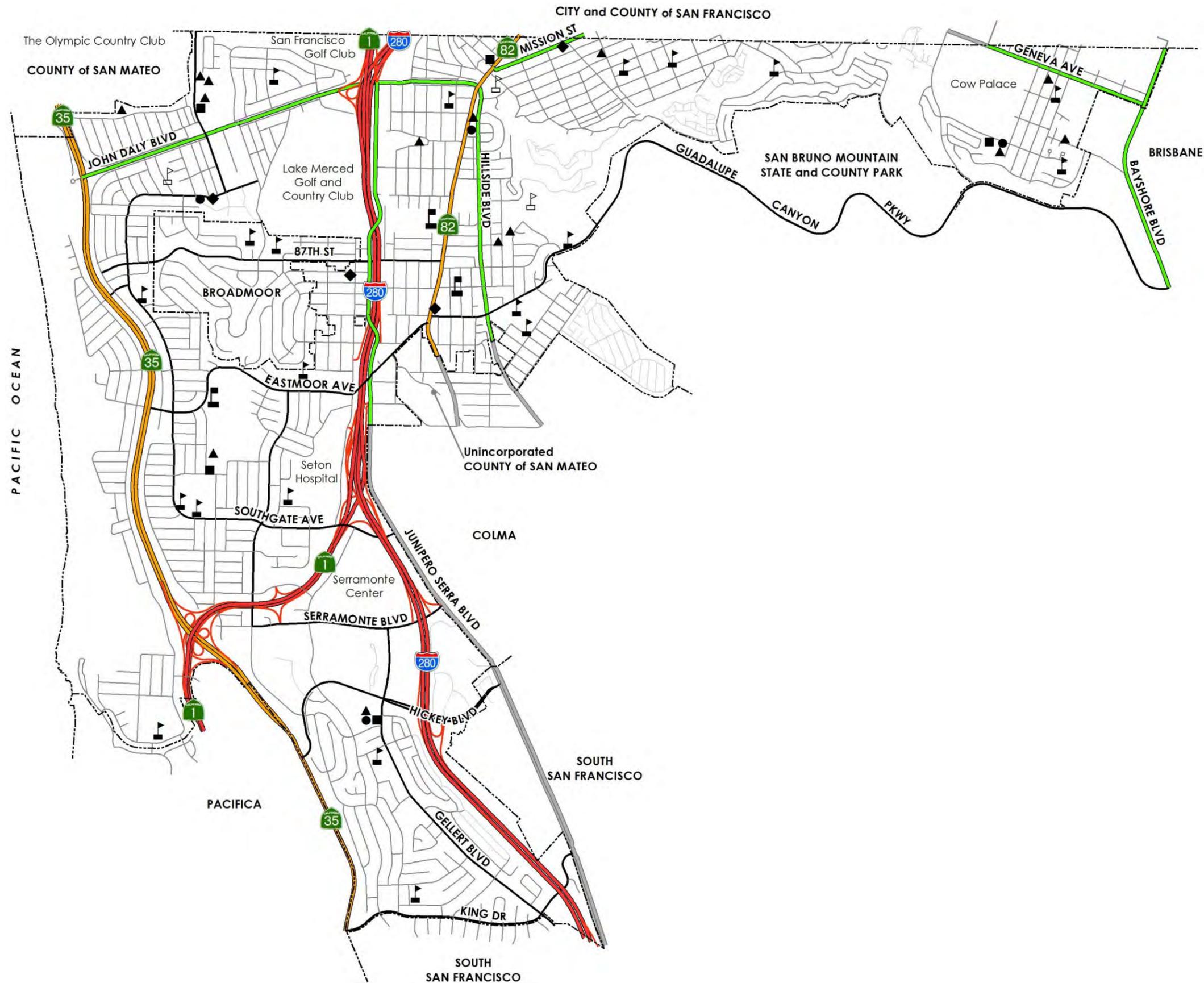
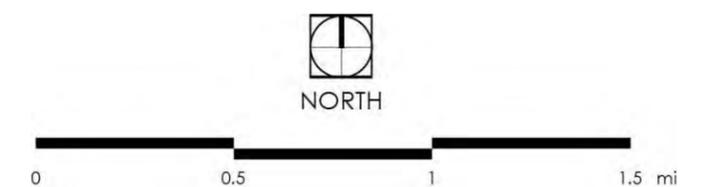


Figure CE-2
**EXISTING
ROADWAYS**

- Freeway
- Highway
- Arterial
- Collector
- Local
- Private

CITY OF DALY CITY
**CIRCULATION
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Existing traffic conditions

In 2008, the City measured traffic volumes at 54 principal intersections to determine the peak-hour Level of Service for each. According to these measurements, the vast majority of the City's intersections operate at minimum Levels of Service during both peak traffic periods. However, the following intersections did not:

- The intersection of John Daly Boulevard/Junipero Serra Boulevard currently operates at LOS E during the p.m. peak. The congestion at this intersection can be attributed to commuters exiting the nearby BART station and the large number of motorists exiting and entering I-280.
- The intersection of Junipero Serra Boulevard/Washington Street currently operates at LOS F during the p.m. peak. The congestion at this intersection can be attributed to the large number of northbound and southbound vehicles access the I-280 on-ramp.
- The intersection of Hickey Boulevard/Skyline Boulevard currently operates at LOS E during the p.m. peak. This intersection provides access to a shopping center on the northwest corner as well as the Fairmont neighborhood in Pacifica.

The existing LOS identified in the Circulation Element constitute baseline traffic conditions in Daly City and as such may be used for future analyses in the City in conjunction with, or tiered from, the environmental document prepared in association with this element.

Future traffic conditions

Using a computerized traffic model, the City has been able to develop projections which identify the intersections that will likely be impacted by additional traffic and new development occurring both inside and outside Daly City between now and the a future year when all properties are expected to be fully developed. This future year is called "build out". Although the majority of the City's intersections would continue to operate at an acceptable Level of Service, several intersections could degrade from acceptable to unacceptable levels, including the following six intersections:

- John Daly Boulevard/Mission Street/Hillside Boulevard could operate at LOS F in the a.m. and p.m. peaks and Junipero Serra Boulevard/Washington Street could operate at LOS F in the p.m. peak.
- Mission Street/East Market Street/San Pedro Road could operate at LOS E in the a.m. and p.m. peaks.
- John Daly Boulevard/Junipero Serra Boulevard could operate at LOS F in the p.m. peak.
- Hickey Boulevard/Skyline Boulevard could operate at LOS E in the p.m. peak.
- Geneva Avenue/Bayshore Boulevard could operate at LOS E in the p.m. peak.

In consideration of the traffic model projections, it is important to understand that the degradation of these intersections is not imminent because the traffic impacts anticipated to affect service levels would likely take several decades to be realized. Also, all new traffic is not attributable to new development as high housing costs make intergenerational living arrangements and renting rooms to unrelated individuals even more commonplace than they are today, resulting in increased traffic from existing neighborhoods. Rather than causing alarm, the intent of developing the traffic model is that the model act as a catalyst for how the City plans for future infrastructure needs, informing the City's decision-makers that with new housing and job opportunities comes the need to effectively plan for and finance an expanded City infrastructure.

Future roadway improvements

Figure CE-3 identifies the future roadway improvements that are presently considered by the City as both feasible and necessary to improving the City's transportation network within the planning period. Although the figure may identify projects that are not located in Daly City or projects in which Caltrans is the lead agency, the intent of identifying these improvements is to identify any project to which the City intends to commit financial resources or seek public funding to help finance.

Parking

As mentioned in the introduction section of this element, housing construction in Daly City will likely continue to shift away from the single-family home to denser types of housing, such as condominiums and apartments. The decreased traffic associated with these higher densities (as compared with a single-family home) has a related secondary impact of reducing parking demand according to the studies of parking demand undertaken by the Institute of Traffic Engineers (ITE). In consideration of ITE's findings, the Circulation Element provides policies that offer parking reductions to denser transit-oriented development that occurs in close proximity to public transit hubs like the Daly City and Colma BART stations. These policies would be refined and incorporated into the Zoning Ordinance.

Public Transit

Despite the prevalence of the automobile, Daly City residents are somewhat more inclined to use public transit for getting to work than their counterparts in other cities and in the entirety of San Mateo County. As identified in Figure CE-4, when compared to the residents of the entire State of California, Daly City residents are almost four times as likely to use public transit as a method of travel to and from work. The reasons for this are very likely Daly City's relatively easy access to SamTrans and Muni bus services, and close proximity to two BART stations, both of which provide public parking.

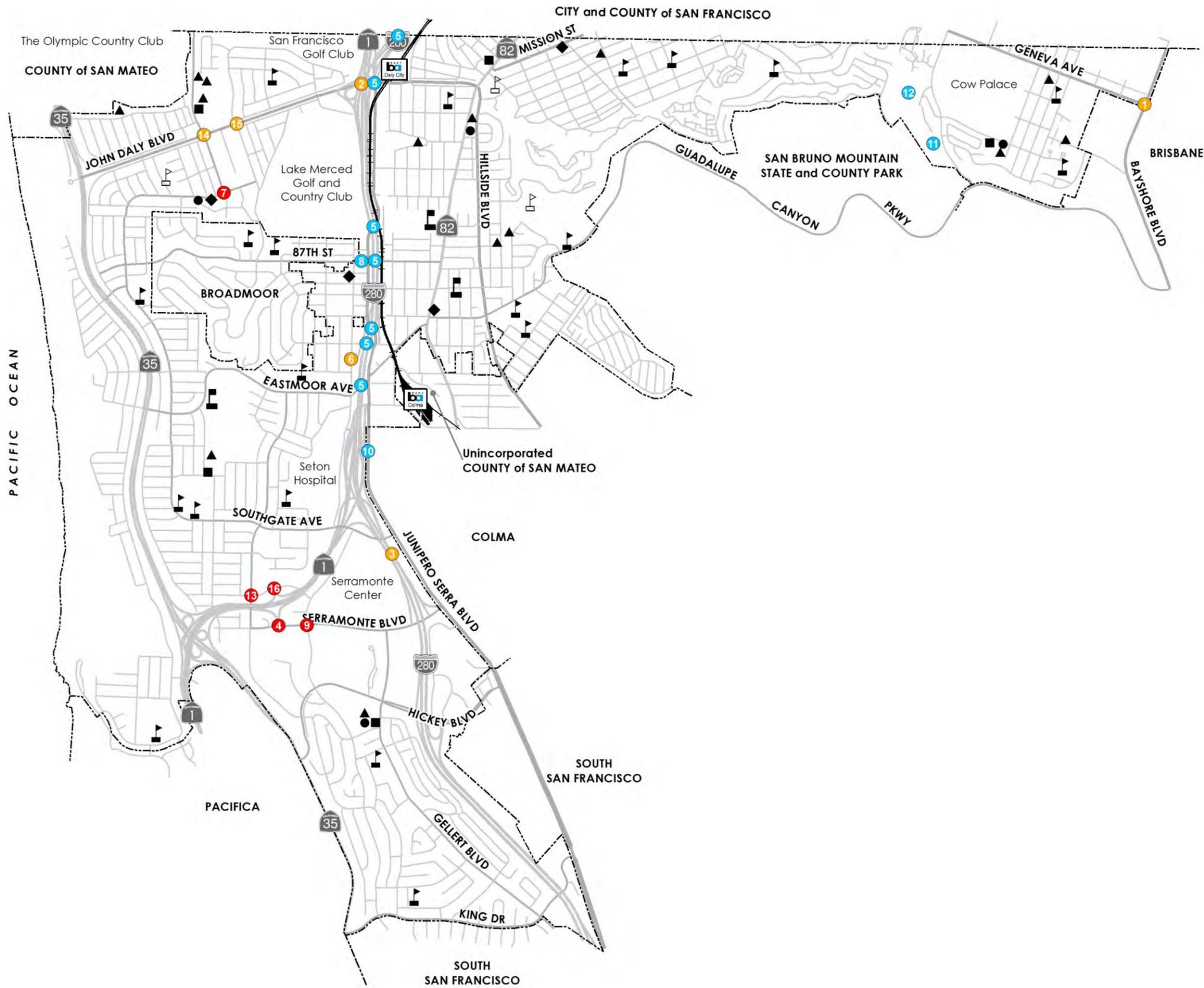


Figure CE-3
**ROADWAY
 IMPROVEMENTS**

- 1 Geneva Avenue Extension
- 2 John Daly Blvd Overcrossing
- 3 Serramonte Blvd/HWY 1/ I-280 Merge Lane
- 4 Serramonte Blvd/SR-1 On/OffRamp - Install Traffic Signal
- 5 I-280 Overcrossings Pedestrian Improvements
- 6 Sullivan Avenue Widening
- 7 Lake Merced Blvd/Southgate Ave Sign
- 8 School Street/Junipero Serra Blvd Intersection Improvements
- 9 Serramonte Blvd/Callan Blvd - Install Traffic Signal
- 10 Junipero Serra Blvd Sidewalk Extension
- 11 Bay Ridge Trail Improvements
- 12 Martin St Extension/Circulation Plan
- 13 St Francis Blvd/Clarinda Ave - Install Traffic Signal
- 14 John Daly Blvd/Lake Merced Blvd - Optimize Signal Timings - Adjust Signal Phasing
- 15 John Daly Blvd/Park Plaza Dr - Optimize Signal Timings
- 16 Clarinda Ave/SR-1 On/Offramp - Install Traffic Signal

**CITY OF DALY CITY
 CIRCULATION
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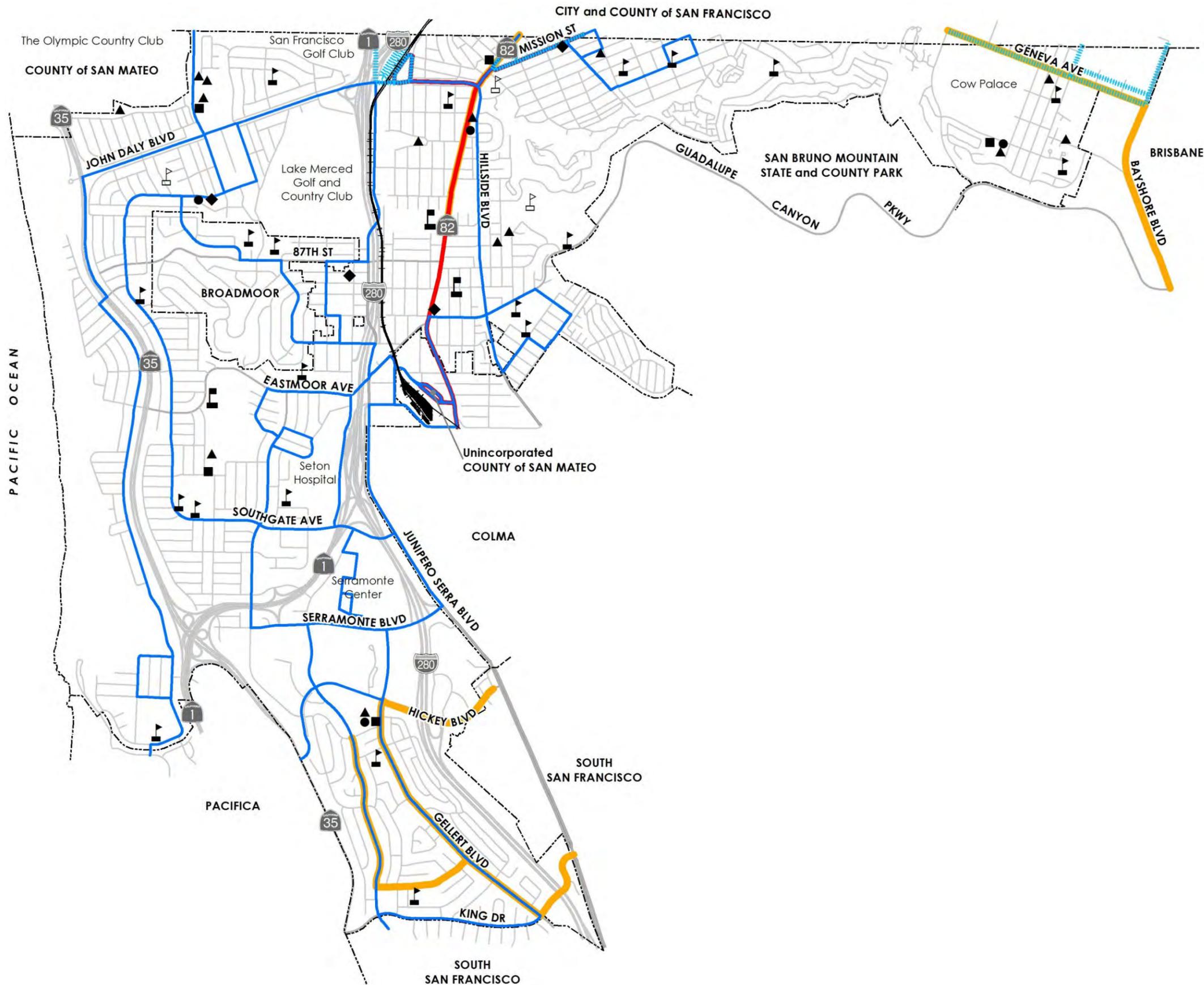


Figure CE-5
**PUBLIC
 TRANSPORTATION**

- Rail
- +— BART - Bay Area Rapid Transit
- Bus
- samTrans - San Mateo County Transit
 - Service to BART
 - Service to BART and CalTra
 - Community Service
- MUNI - San Francisco
- Service to Daly City BART or connections to samTrans

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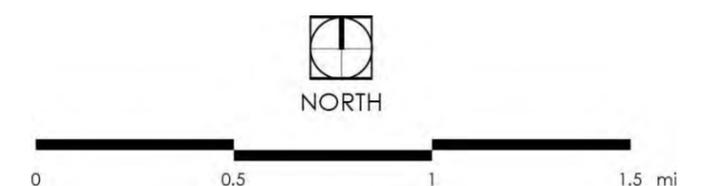
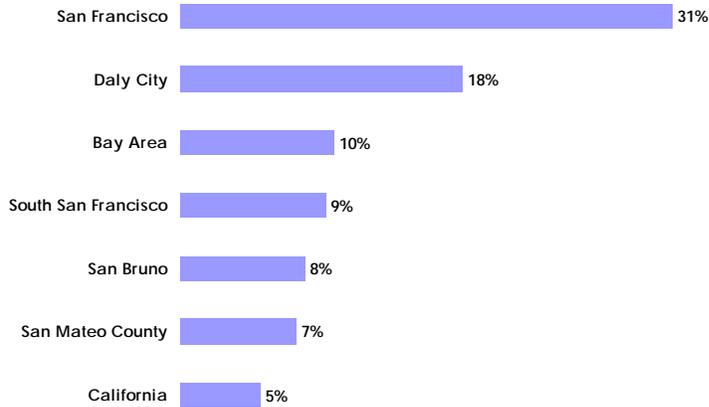


Figure CE-4: Daly City Workers Aged 16+ Using Public Transit



Source: U.S. Census

Figure CE-5 identifies the public transit options, including bus routes, available to Daly City residents. As shown in the figure, Daly City is served by two BART stations, SamTrans bus service, and Muni bus service.

San Mateo County Transit District (SamTrans)

SamTrans operates an overall fixed route bus system of 82 routes with a service area of 150 square miles. SamTrans operates 14 fixed bus routes in Daly City with 14 routes directly serving the BART station. Four of the fixed bus routes have vehicles equipped with handicapped access and one route is an express route which runs along Interstate 280 directly into San Francisco.

San Francisco Municipal Railway (Muni)

Municipal Railways of the City and County of San Francisco (Muni) operates five routes into Daly City. Route 28-19th Avenue and route 54-Felton serve the Daly City BART station, and the 14-Mission route serves Mission Street at the Top of the Hill. Routes 8-Bayshore Express and 9-San Bruno serve the Bayshore neighborhood. Of the three routes that serve the Daly City BART station, the 28-19th Avenue has the highest number of passengers. Muni has expressed an interest in extending the 14-Mission line to the Daly City BART station.

Bay Area Rapid Transit (BART)

Daly City is presently served by two BART stations: the Daly City BART Station located at the corner of John Daly Boulevard and Junipero Serra Boulevard, and the Colma BART Station located south of San Pedro Road in unincorporated Colma. In Fiscal Year 2009, the Daly City and Colma stations in combination were used by almost 12,000 riders each weekday.

Table CE-3: Daly City/Colma BART Ridership Levels 2002-2009 (Station Exits)

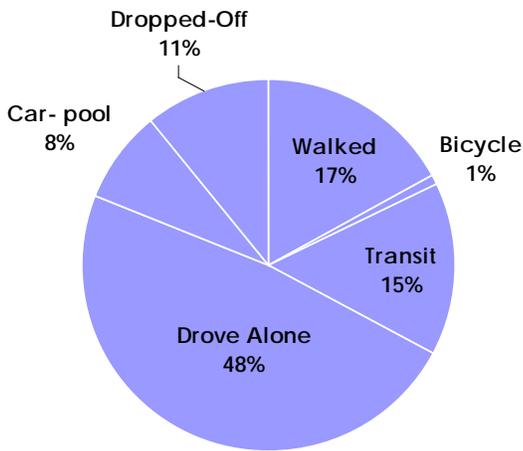
Station	FY	2002	2003	2004	2005	2006	2007	2008	2009
Daly City		7,722	7,650	7,319	7,275	7,879	8,257	8,590	8,096
Annual Change			-0.9%	-4.3%	-0.6%	8.3%	4.8%	4.0%	-5.8%
Colma		6,530	6,332	3,770	3,221	3,181	3,350	3,632	3,759
Annual Change			-3.0%	-40.5%	-14.6%	-1.2%	5.3%	8.4%	3.5%
Combined Total		14,252	13,982	11,089	10,496	11,060	11,607	12,222	11,855
Annual Change			-1.9%	-20.7%	-5.3%	5.4%	4.9%	5.3%	-3.0%

Source: Bay Area Rapid Transit District Annual Report

According to Table CE-3, BART ridership levels at the Colma station has decreased since 2002, mostly due to the opening of new BART stations in South San Francisco, San Bruno, Millbrae, and San Francisco Airport. This decrease is most pronounced at the station between the fiscal years 2003 and 2004, when the opening of the aforementioned stations in 2003 caused ridership at the station to decrease by about 40 percent. Ridership at the Daly City BART Station has remained fairly consistent since 2002, peaking at over 8,500 daily riders in 2008.

As identified in Figure CE-6, most of the riders arriving at the Daly City and Colma BART Stations do so by private automobile and just under half of these riders do so by driving to the stations alone. The percentage of riders who have walked to the station is approximately the same (15 to 17 percent) as the number who have arrived by public transit (SamTrans or Muni), while the number arriving by bicycle is extremely low (one percent).

Figure CE-6: Daly City/Colma BART Stations (combined)
– Mode of Travel to Station



Source: 2008 BART Station Profile Study

With regard to the destinations of the riders at both the Daly City and Colma BART Stations who have arrived at these stations from home, the trip destination for 82 percent of these riders is to work. Specifically with regard to riders who have arrived at the Daly City BART Station from a place other than home, 63 percent have arrived from school and 27 percent have arrived from work (2008 BART Station Profile Study).

Paratransit Services

Paratransit is an alternative mode of flexible passenger transportation that does not follow fixed routes or schedules. In Daly City, paratransit consists of shuttlebuses, carpools, vanpools, and taxicab services. As described below, some paratransit services respond to special needs of people who cannot use public transit and require an on-call service to get to a doctor's appointment, shopping, or social event. Other paratransit services are pre-arranged ridesharing services that operate mainly during peak times and provide commuters with constant work schedules the opportunity to share vehicles.

Shuttlebuses

Shuttlebuses services are typically provided by employers or homeowners associations to transport residents or employees to work or to public transit hubs. Examples of shuttlebuses in Daly City are the Seton Shuttle and the shuttle provided by Crown Colony Condominium Association. Both of these shuttles provide the opportunity for a large concentration of individuals to ride to a specific common destination such as BART, where the rider can continue their commute to work.

Two shuttlebus programs serve the mobility-impaired population in Daly City. SamTrans contracts with the Redi-Wheels program to operate a County-wide service. This program provides curb-to-curb service for handicapped individuals and the elderly who have impairments that exclude them from effectively using public transit. The service is provided on-call to persons who make reservations. In Daly City, Redi-Wheels focuses on taking people to various medical offices in the St. Francis Heights neighborhood, Seton Hospital on Sullivan Avenue, and Kaiser medical facilities. The service is also extended to groups of elderly people for trips to adult day care centers and social gatherings, and handicapped students who attend Skyline College in San Bruno.

Vanpools

Vanpools allow groups of people to share a ride similar to a carpool, but on a larger scale with concurrent savings in fuel and vehicle operating costs, providing a flexible and cost effective mode of transportation. Vehicles may be provided by individuals, individuals in cooperation with various public and private support programs, through a program operated by or on behalf of an element of government, or a program operated by or on behalf of an employer. The key concept is that people share the ride from home or one or more common meeting locations and travel together to a common destination or work center.

Carpools

Carpooling, also known as car-sharing, is the sharing of car journeys so that more than one person travels in a car. Carpooling reduces the costs involved in car travel by sharing journey expenses such as fuel, tolls, and car rental between the people travelling. Carpooling is also an environmentally friendly and sustainable way to travel as sharing journeys reduces carbon emissions, traffic on the roads, and the need for parking spaces.

Carpools are typically established by private individuals who may work together or are brought together by Rideshare 511, a private non-profit corporation funded mostly by the Metropolitan Transportation Commission and Caltrans. Established as Rides in 1977, the program was established to promote and facilitate alternative transportation for commuters who work and/or live in the nine-county Bay Area and Santa Cruz. Rides provides carpooling services for both individual commuters and large employers. The services for individual commuters includes free computerized car pool matching, general commuter and transit information, and specialized information on how to establish, operate, and maintain a carpool.

Taxicabs

Two companies provide twenty-four hour private taxi service in Daly City. The City Council reviews and approves the license to operate a taxi service in the City. The Gateway Cab Company operates eleven cabs and, with a fleet of sixteen vehicles, the Daly City Cab Company provides about 500 trips per day to locations within and outside of the City. The average length of a trip is approximately three miles and the average number of passengers is 1.25 persons.

Bikeway System

The topography, level of development, and high traffic volumes in Daly City provide the greatest challenge to providing a safe environment for bicyclists. There are a limited number of flat or even relatively flat through-routes in the City, and bicycles must compete for space on these streets with automobiles and transit. In spite of these challenges, much can be done to make bicycling safer and more convenient.

Figure CE-7 identifies the City's existing bicycle network. The following are descriptions of the three major bikeway types identified in the figure.

- **Class I bikeways** are designed and operated for the exclusive use of bicycles. Street and pedestrian crossings are minimized or are avoided altogether by building underpasses or overpasses. This type of bikeway is best located in parks or alongside freeways, railroad right-of-way or waterways. An example of a Class I bikeway located in Daly City on Lake Merced Boulevard extending from Westlake Park into San Francisco. Another example is John Daly Boulevard between Ashland and Poncetta.
- **Class II bikeways** are adjacent to, but separated from motor vehicle and/or pedestrian traffic. While the cyclist has a separate path, it may be preempted by turning or parking vehicles. This type of bikeway can be added easily to existing streets by removing curb parking or narrowing travel lanes to provide a path separated by a low berm or painted markings. One way lanes should be at least four feet wide. An example of a Class II bikeway in Daly City is found along Callan Boulevard.
- **Class III bikeways** are shared bikeways where the cyclist occupies the same right-of-way with either motor vehicles or pedestrians. Signs are used to designate that the street or path also is to be used by cyclists. While this type of bikeway is the most hazardous, it also is the least expensive to install and is often used to provide continuity to other bicycle facilities (e.g., Class II bikeways) where right-of-way is limited). The segment of Southgate Avenue between St. Francis Boulevard and Junipero Serra Boulevard is an example of this type of bikeway in Daly City.

In 2004 the City adopted a Bicycle Master Plan intended to provide a comprehensive network of signed and mapped routes for bicyclists and identify improvements that would expedite travel and improve safety along these routes. Since the plan's adoption, new bicycle facilities not contemplated by the plan have been installed and other aspects of the plan are in need of refinement to the extent that this Circulation Element has identified the update of the Master Plan as a task.

Although the Circulation Element provides broad policies for improvements intended to make bicycling a viable transportation option, the Bicycle Master Plan should continue to be the primary policy document used to guide the provision of bicycle facilities in Daly City.

Pedestrian Circulation

The pedestrian circulation system in Daly City has been determined by the type and extent of land uses within the City. In the older areas of the City, most notably the Original Daly City and Crocker neighborhoods, commercial land uses are integrated with residential uses in the form of corner grocery stores that are easily accessed by walking rather than driving. The central location of Mission Street within these two neighborhoods also provides the residents with commercial uses within walking distance. However, in the newer areas such as the St. Francis Heights and Serramonte neighborhoods, commercial uses are concentrated in small neighborhood serving commercial shopping centers which are more easily accessed by automobile or bus, therefore restricting pedestrian access.

There are several hiking trails in Daly City. Most notably is the coastline trail which runs north to south along the Pacific coastline and closely follows the abandoned Highway 1 right-of-way. Other hiking trails in the city are located around San Bruno Mountain and provide access to San Bruno Mountain State and County Park. Although opportunities for new full-length trail development are limited, the development of a coastline trail would provide better access to Daly City's scenic coastal resources. In addition, the continued inclusion of pedestrian access easements in new developments located around San Bruno Mountain that provide links to the extensive trail system in the San Bruno Mountain State and County park would further promote hiking and a recreational activity in the City.

To assist the City in identifying potential pedestrian improvement, the Circulation Element calls for the development of a Pedestrian Mobility Plan (PMP) which would include specific projects for inclusion in the City's Capital Improvement Program (CIP). These projects would not just include new sidewalk construction, but projects that raise the profile of walking as a mode of transportation as well as expand walking as an attractive recreational opportunity in Daly City. In this regard, the Pedestrian Master Plan should make specific recommendations for both Mission Street and Geneva Avenue. An existing conditions report related to the PMP was under preparation as of the summer of 2011.

Circulation Goal, Policies, and Tasks

The circulation goal represents the type of circulation system the City would prefer. The objectives represent actions, which can be measured over time, that provide a general direction towards achievement of the goals, while the policies reflect more specific actions that the City has to take in order to attain the circulation goal.

The City's Circulation goal is:

"Develop and maintain an efficient, balanced transportation system which preserves and enhances environmental quality while providing for the safe movement of all people and goods throughout the community. To this end, the City shall strive to provide complete streets that are safe, comfortable, and convenient routes for walking, bicycling, and public transportation to increase use of these modes of transportation, enable active travel as part of daily activities, reduce pollution, and meet the needs of all users of the streets, including bicyclists, children, persons with disabilities, pedestrians, users of public transportation, seniors, and families, while continuing to maintain a safe and effective transportation system for motorists and movers of commercial goods consistent with the other goals, objectives, and policies of this plan."

Several facets of the goal warrant consideration. First of all, a balanced transportation system provides the community with alternative transportation choices. Although the automobile is still the primary mode of transportation in the City, many people use other forms of transportation such as buses, taxis,

ridesharing, shuttle services and bicycles to move throughout the City. The location of BART in Daly City and in Colma also provides the community with an alternative method of travelling throughout the Bay Area region. However, there are some people who have little or no choice in terms of transportation mode. These transit dependent citizens must use public transit to move throughout the community or region. Emphasis should be placed on developing new choices and maintaining and improving existing alternative forms of transportation.

Second, the goal promotes the development of an efficient system. The efficiency of a transportation system is related to the reduction in costs associated with travelling between two places. Two types of costs, direct and indirect costs can be defined. Direct costs include: time, gas, vehicle maintenance, and traffic accidents. Indirect costs include: emotional or psychological stress, energy use, and air quality impacts. A reduction in these costs can be achieved through the development of a balanced, multi-modal transportation system.

Third, a balanced and efficient transportation system helps to preserve and enhance environmental quality. The use of alternative modes of transportation reduces the number of single occupancy vehicles, will result in improved air quality through the conservation of natural resources such as fuel and reduce parking demand. Adverse transportation impacts resulting from development can be mitigated through the requirement of contributions for transportation system improvements such as the signalization of intersections and widening of roads. Other transportation impacts such as insufficient parking can also be mitigated by requiring in-lieu fees for the construction of parking garages or requiring payments under a parking assessment district.

Fourth, all forms of transportation within the community provide for the safe movement of all citizens. The proper maintenance of streets, sidewalks, intersections, signals, bus stops and directional signs is essential to the safety of the community. The construction of handicapped modifications allow for the improved movement and safety of the physically handicapped. Programs and policies should be directed towards improving the safety of public transit systems that serve the City such as BART, SamTrans, and Muni, in order to ensure the safety of their passengers.

The following provides a set of integrated policies and tasks.

Vehicular Traffic

Policy CE-1: Use the City's traffic model and environmental review process outlined by the California Environmental Quality Act (CEQA) to ensure that the City's existing roadway network is relatively free flowing during peak traffic periods.

Task CE-1.1: Keep the city's traffic model up to date to reflect new development, circulation network improvements, and land use projection amendments as they occur.

Task CE-1.2: Monitor traffic at intersections to identify timing of improvements by analyzing intersections currently operating at LOS C or worse on a regular basis. It is recommended that intersection counts are collected every five years on a typical mid-week day at these locations and analyzed per Daly City's Local Thresholds of Significance Guidelines to determine if and when improvements are needed. Unsignalized intersections should also be analyzed using the most current California Manual on Uniform Traffic Control Devices (California MUTCD) to determine if and when a traffic signal is warranted. Monitoring of intersections currently operating at LOS C or worse would continue through 2035, or until an improvement is warranted and implemented, whichever comes first.

Task CE-1.3: Require a traffic study as part of a complete application for discretionary projects which meet pre-determined criteria established by the City Engineer. The study shall determine the cumulative impact of the project on the City's principal intersections together with approved projects and projects under construction in Daly City and adjacent jurisdictions.

Task CE-1.4: Allow a trip generation discount pre-determined by the City Traffic Engineer for residential projects exceeding 30 dwelling units per acre located within 0.25 miles of any public bus hub or are within 0.5 mile distance of a BART station. For the purpose of this task, a bus hub shall be defined as a location where significant numbers of passengers are exchanged from one mechanized mode of transport to another (e.g., bus transfer points, bus "park-n-rides", etc.)

Task CE-1.5: Require a traffic study as part of a complete application in accordance with the *Caltrans Guide for the Preparation of Traffic Impact Studies* and proactively consult Caltrans where there exists ambiguity as to whether such a study is required under Caltrans guidelines.

Task CE-1.6: Incorporate a Level of Service (LOS) standard into Daly City's Local Thresholds of Significance Guidelines and use the standard as an evaluation measure for the traffic impacts created by new discretionary projects and to identify future roadway and intersection improvements in the City's Capital Improvement Program.

This standard shall be applied as follows:

- Require that a minimum LOS D be maintained at all principal intersections.
- Where a traffic study identifies that a discretionary project will degrade the Level of Service at any of the City's principal intersections to below acceptable levels, the City shall, through the environmental review process, require measures to mitigate the anticipated impact to a level of insignificance.
- New vehicular traffic created by a discretionary project that causes any of the City's principal intersections to degrade to LOS F during any traffic period shall be considered a significant impact subject to the preparation of an Environmental Impact Report (EIR). The EIR shall provide both mitigation measures and feasible project alternatives that would effectively mitigate anticipated traffic impacts to a level of insignificance.
- Mitigation measures shall include construction of or financial contribution toward traffic improvements that can effectively mitigate the impact within a ten-year timeframe from the project approval date. Traffic impacts which are not fully mitigable within a ten-year timeframe shall be considered temporarily unmitigable and subject to the adoption of a Statement of Overriding Considerations in addition to mitigation measures.
- The City shall consider the potential for adoption of a Statement of Overriding considerations related to traffic in instances where there is substantial evidence that the project possesses qualities (including environmental, legal, technical, social, and economic factors) that merit the project's approval despite the traffic impacts caused by the project.

The Local Thresholds of Significance Guidelines may provide additional detail and clarity.

- Policy CE-2: Minimize impacts on collector and local streets by moving traffic with origins and destinations outside of Daly City efficiently to area freeways and major arterial streets.**
- Task CE-2.1:** Review new development projects in adjacent jurisdictions and make every reasonable effort to ensure that these projects do not degrade traffic conditions at Daly City's principal intersection to Levels of Service identified in Daly City's Local Thresholds of Significance Guidelines.
- Task CE-2.2:** Support efforts by the City of Brisbane to establish an extension of Geneva Avenue, connecting with the Candlestick Highway 101 Interchange, as a part of the Baylands Specific Plan implementation, to the extent that any pass-through traffic originating from the new interchange can be effectively dissuaded/mitigated.
- Task CE-2.3:** Ensure that the Bi-County Transportation Study provides for an infrastructure phasing plan which ensures that Daly City roadways and intersections are not onerously impacted for significant periods of time.
- Task CE-2.4:** Limit and control the number and location of driveways into arterial streets and disallow any traffic entering City or State right-of-way to do so by backing into the right-of-way.
- Policy CE-3: In areas adjacent to principal intersections anticipated to experience Level of Service degradations, give preference to new development that can demonstrate a 20 percent reduction in long-term vehicular trip generation.**
- Policy CE-4: Proactively plan for roadway network improvements by using the City's Capital Improvement Program (CIP) to prioritize necessary traffic improvements and identifying the funding sources necessary to construct these improvements.**
- Task CE-4.1:** Continue updates of the CIP which include circulation improvements identified in Figure CE-3 and ensure that the figure is maintained to reflect all planned circulation improvements.
- Task CE-4.2:** Within the CIP, allocate to existing and new development the proportionate costs for traffic improvements identified in Figure CE-5, and identify anticipated funding sources for all improvements. In addition to circulation improvement projects in Daly City, the CIP should provide a component which identifies funding sources and responsibilities for joint-benefit transportation projects in adjacent jurisdictions to which the City intends to commit financial resources.
- Task CE-4.3:** Continue to collect AB1600 impact fees from new development and, from time to time, re-assess the amount and distribution of monies collected from such fees to ensure that these amounts are sufficient to provide an adequate pro-rata contribution toward the public improvements identified in the City's Capital Improvement Program (same as Task LU-17.2 and RME-11.1).
- Task CE-4.4:** As part of the comprehensive infrastructure plan for the Geneva Avenue Corridor identified in Task LU-3.2, develop a infrastructure enhancement fee program specific to new development in the Bayshore area which provides funding for any necessary circulation, utility, and joint-benefit projects planned in this area.
- Policy CE-5: Work with the Metropolitan Transportation Commission to coordinate the transportation planning efforts of the City with those of adjacent jurisdictions.**

Task CE-5.1: Support the Metropolitan Transportation Commissions (MTC) efforts to coordinate regional transportation planning insofar as they contribute to the accomplishment of the goals and policies of the General Plan.

Task CE-5.2: Ensure that the programs contained in MTC's Regional Transportation Plan are in accord with the needs of the City by participating in the yearly revisions of the plan.

Policy CE-6: Support regional efforts to improve traffic while accommodating future development.

Task CE-6.2: Participate in regional planning efforts conducted by CCAG and ensure the Countywide Congestion Management Program reflects the future transportation needs of Daly City residents and businesses.

Task CE-6.3: Actively participate in the multi-agency Bi-County Transportation Study currently being undertaken by the San Francisco County Transportation Authority to ensure that the study adequately identifies traffic improvements in and adjacent to Daly City necessary to accommodate future development in Bi-County study area.

Public Transit

Policy CE-7: Ensure an effective transit system by supporting the work of other agencies in their efforts to expand public transit in and around Daly City.

Task CE-7.1: Participate in SamTrans service planning and work with SamTrans staff to ensure the service levels in Daly City are enhanced and expanded.

Task CE-7.2: Participate in efforts by MUNI to extend the 14 Mission Street bus service to the Daly City BART Station to the extent that such a connection does not require the installation of additional utilities in Daly City's right-of-way or create a visual blight on John Daly Boulevard.

Task CE-7.3: Participate in efforts by MUNI to extend the T-Third light rail line and construct a multimodal Bayshore transit station.

Task CE-7.4: Support efforts to enhance MUNI and SamTrans service in the Bayshore neighborhood.

Policy CE-8: Accommodate the transit system by considering mechanisms which help public transit agencies reduce the headway times of their vehicles.

Task CE-8.1: Work with both San Mateo County Transit District and the San Francisco Municipal Transportation Agency to explore the concept of peak-hour exclusive bus-only lanes along Mission Street and Geneva Avenue.

Task CE-8.2: Ensure that plans for future exclusive bus-only lanes accommodate dedicated bicycle lanes identified by the City's Bicycle Master Plan.

Policy CE-9: Increase ridership levels for all public transit services by promoting public transit programs.

Task CE-9.1: Develop a program which provides free or reduced public transit vouchers to City employees who can demonstrate that their travel to work is provided primarily by public transit.

Task CE-9.2: Allow as a mitigation measures bona fide private programs which provide free or reduced public transit vouchers/passes to employees who can demonstrate that their travel to work is provided primarily by public transit.

Task CE-9.3: Ensure that access to public transit services is convenient by providing information about these services, such as bus routes and schedules, at City facilities such as libraries and community centers.

Task CE-9.4: Promote the development and maintenance of programs that increase transit ridership levels through incentives such as reduced fares and/or preferential passes for senior citizens, students, and other transportation dependent citizens.

Parking

Policy CE-10: **Parking requirements contained within the Zoning Ordinance should, as closely as possible, reflect accepted current parking trends. Regulations for residential uses should recognize the ability for high-density mixed-use development that is close to transit to reduce parking requirements.**

Task CE-10.1: As a part of the Zoning Ordinance update, ensure that parking requirements are identified for all non-residential land uses allowed within the City and that the off-street parking requirements for these uses reflect the minimum parking requirements supported by recognized parking demand studies.

Task CE-10.2: Amend the parking regulations to allow for a 30 percent parking reduction for all mixed-use development projects (as defined in the Zoning Ordinance) and clarify that the mixed-use parking reduction is allowed for buildings containing residential and retail components (same as Task HE-3.3).

Task CE-10.3: For larger residential projects (e.g., 50 units or more), allow further parking reductions for all development projects that provide permanently-funded HOA/POA amenities (e.g., van pools or car sharing programs) to building occupants, are within 0.25 miles of any public bus hub, or are within 0.5 mile distance of a BART station. For the purpose of this task, a bus hub shall be defined as a location where significant numbers of passengers are exchanged from one mechanized mode of transport to another (e.g., bus transfer points, bus "park-n-rides", etc.) (same as Task HE-3.4).

Task CE-10.4: Amend the parking regulations to remove differentiation between single-family, multiple-family, and condominium uses for the purpose of parking regulations, and establish such regulations based on total bedroom count. This requirement shall also apply to residential additions and the provision of additional bedrooms within any existing dwelling (same as Task HE-3.5).

Task CE-10.5: Clarify in the parking regulations that no parking reduction incentive (other than incentives allowed for senior affordable units) shall result in less than one parking space per unit. Any housing development that is willing to deed-restrict at least 20 percent of the units for extremely low-income households shall, however, be exempt from the minimum parking requirement identified by this task and instead a be subject to providing at least 0.5 parking spaces per unit (same as Task HE-3.6).

Policy CE-11: Consider the use of in-lieu fees for parking areas, joint-use of parking areas, the creation of parking assessment districts, and other innovative methods of providing off-street parking.

Task CE-11.1: Continue to explore the potential for use of innovative methods of providing off-street parking in these and other areas.

Task CE-11.2: Formalize within the Zoning Ordinance the allowance of shared parking between uses and provided criteria which identify when shared parking is appropriate and the extent to which it is allowed.

Task CE-11.3: Explore amendments to the Zoning Ordinance to require the payment of parking in-lieu fees for parcels 5,000 square feet or less with direct frontage on Mission Street or Geneva Avenue. As part of any such amendment, the City shall identify capital improvement(s) for both Mission Street and Geneva Avenue toward which in-lieu money is expended within a certain time. These improvements may include any improvements that enhance parking, pedestrian mobility, or public transit access along each respective corridor.

Policy CE-12: Encourage parking lots of 500 or more spaces in new development to be provided in parking structures.

Task CE-12.1: Consider revisions to the Zoning Ordinance that require structured parking for projects which require the provision of 500 or more parking spaces in all zones, including Planned Development zones.

Bicycle and Pedestrian Travel

Policy CE-13: View transportation improvements (new and retrofit) as opportunities to improve safety, access, and mobility for all travelers and recognize bicycle, pedestrian, and transit modes as integral elements of the transportation system.

Task CE-13.1: As part of the comprehensive infrastructure and streetscape plan for the Geneva Avenue Corridor (see Task LU-3.2), ensure that both public and private improvements provide significant accommodation of both pedestrian and bicycle transportation modes.

Task CE-13.2: Continue to participate in the effort of the Grand Boulevard Initiative for Mission Street and, when considering the design of Mission Street pedestrian improvements, make every reasonable effort to implement the street design guidelines identified by the Grand Boulevard Multimodal Transportation Corridor Plan.

Task CE-13.3: Consider impacts to the existing and future bicycle and pedestrian network when completing environmental review for private development projects, and require mitigation measures where necessary and reasonable to ensure that these systems are not impacted.

Task CE-13.4: Ensure that as part of any reassessment of the City's Development Impact Fee (AB1600) that adequate and commensurate money is collected and distributed to City projects involving the expansion of Daly City's pedestrian and bicycle network. The amount of this allocation shall be determined at the time of the fee reassessment, should a reassessment occur.

Task CE-13.5: As part of the effort to unify the Zoning Ordinance into a more broad set of development regulations (as identified in Policy LU-14.3), review the City's public improvement (i.e., street, curb, sidewalk) standards to ensure that safe and effective bicycle and pedestrian circulation is accommodated to the same extent as the automobile.

Policy CE-14: **Actively comment on the environmental reviews completed by other public agencies and quasi-public agencies desiring to undertake projects within Daly City in an effort to ensure impacts to pedestrian and bicycle circulation systems are not impacted.**

Task CE-14.1: As part of any City involvement in or comments provided for the Geneva Avenue connection with the Candlestick Highway 101 Interchange, work toward the inclusion of the both pedestrian and bicycle transportation modes that, at a minimum, extend those identified in the Geneva Avenue infrastructure plan, and/or Daly City Bicycle Route Map.

Policy CE-15: **Ensure the new buildings along Mission Street and Geneva Avenue are situated so that they are easily accessible by pedestrians.**

Task CE-15.1: Explore amendments to the Zoning Ordinance to provide for maximum setbacks along Mission Street and Geneva Avenue, consistent with any City-adopted urban design plan, and which disallow parking within any provided front setback area.

Task CE-15.2: Amend the Zoning Ordinance to require, in new development projects located along either Mission Street or Geneva Avenue, that all parking spaces provided for projects located be either underground or placed behind buildings.

Policy CE-16: **Strengthen pedestrian access between and within residential areas and schools, commercial areas, recreational facilities, transit centers, and major activity centers in the City.**

Task CE-16.1: Develop a Pedestrian Master Plan and, include specific projects in the City's Capital Improvement Program (CIP) that raise the profile of walking as a mode of transportation and as an attractive recreational opportunity. This Master Plan should make specific recommendations for both Mission Street and Geneva Avenue, consistent with any City-adopted urban design plan.

Task CE-16.2: Update the Comprehensive Accessibility and Mobility Plan, and codify requirements for private replacement of non-compliant sidewalk curbs for redevelopment or significant rehabilitation of non-residential properties.

Task CE-16.3: Improve pedestrian safety by providing adequate separation of pedestrian and motor vehicle traffic. This includes making provisions for sidewalks on newly constructed or existing roads and constructing pedestrian overcrossings in areas of heavy pedestrian and vehicular traffic.

Task CE-16.4: Make street crossings easier and more accessible to pedestrians by widening sidewalks, medians, installing bulb-outs, and/or allowing more time for pedestrians to cross the street.

Task CE-16.5: Consider developing parking lot design guidelines for shopping center parking lots exceeding a certain size that maximizes safe pedestrian access from perimeter sidewalks, parking lots to storefronts, and between storefronts.

Task CE-16.6: Work with BART on providing safe pedestrian access to and from the Daly City BART Station that utilizes existing street level crossings on John Daly Boulevard and maximizes either existing or future grade separated crossing(s) at this location.

Task CE-16.7: Evaluate increasing the City standard for new sidewalk construction to at least five (5) feet wide in an effort to increase sidewalk usability for pedestrians with strollers, wheelchairs, and other walking assistance devices.

Task CE-16.8: Explore amendments to the Zoning Ordinance which would require increased sidewalk dedication along roadways where existing sidewalk width has been determined by the City to be inadequate and/or less than optimal.

Task CE-16.9: Require as a condition of development/redevelopment project approval the provision of sidewalks and wheelchair ramps where lacking, repair or replacement of damaged sidewalks, and sidewalks that link directly to building entrances.

Task CE-16.10: Develop a policy which minimizes the number of curb-cuts along arterial and collector roadways.

Policy CE-17: Work with local school districts to implement projects and activities that promote walking to school among students, parents, and staff.

Task CE-17.1: Invite school districts in Daly City to participate in the Bicycle and Pedestrian Advisory Committee.

Policy CE-18: Continue to install bicycle facilities throughout the city in accordance with the Bicycle Master Plan

Task CE-18.1: Update the Bicycle Master Plan and Capital Improvement Programs to ensure that the City's bikeways system is effectively coordinated with the countywide system and conveniently serves major areas of attraction, such as shopping centers, public buildings, parks, schools and places of employment.

Task CE-18.2: Implement bicycle route improvements, which include signing, striping, paving and provision of bicycle facilities at employment sites, shopping centers, schools, and public facilities.

Policy CE-19: Take proactive steps to ensure that owning and using a bicycle in Daly City is a viable transportation option.

Task CE-19.1: Require the provision of secure covered bicycle parking for large multifamily residential, commercial and office/institutional uses, and other key destinations, including public facilities such as transit stations. The requirement for such provision shall be detailed in the Zoning Ordinance and may be implemented through either code compliance during major remodel or environmental review undertaken as a part of the California Environmental Quality Act.

Task CE-19.2: Encourage provision of showers and lockers for employees as a part of all non-residential development by providing within the Zoning Ordinance a pre-specified parking reduction for projects that provide such facilities in perpetuity.

Task CE-19.3: Pursue regional funding and other sources for new bikeways to the extent possible under federal and State law.

Task CE-19.4: Work with transit providers to ensure that transit facilities are equipped with adequate bicycle carrying capacity.

Task CE-19.5: Work with local school districts to implement projects and activities that promote bicycling to school among students, parents, and staff.

Complete Streets

Policy CE-20: Integrate Complete Streets infrastructure and design features into street design and private construction to create safe and inviting environments for people to walk, bicycle, and use public transportation.

Task CE-20.1: In the design of any new roadway and as a part of any development review, ensure that adequate infrastructure is included that promotes a safe and convenient means of travel for all users. This shall include the provision of sidewalks, shared use paths, and, where practical, bicycle lanes.

Task CE-20.2: In the review of new residential subdivisions, ensure that sidewalks are provided on both sides of the street where site conditions allow, whether the new street is public or private. Where determined feasible by the City and where minimum lot size can be maintained, new residential development shall provide separated sidewalks to ensure the comfortable and attractive sidewalks. The City shall update and provide a standard cross-section for separated sidewalk to developers.

Task CE-20.3: Require that new subdivisions be designed to minimize the use of cul-de-sacs, unless pedestrian connections are provided in perpetuity between cul-de-sac ends.

Task CE-20.4: Require during the design review of all new public or private parking lots and driveways the incorporation of raised sidewalks providing access from the City sidewalk adjoining the development to site interior or, in the case of non-residential development, to the proposed store- or office-front(s).

Task CE-20.5: Include infrastructure in new public roadway projects that facilitates safe crossing of the right-of-way, such as accessible curb ramps, crosswalks, refuge islands, and, where necessary, pedestrian signals; such infrastructure must meet the needs of people with different types of disabilities and people of different ages.

Task CE-20.6: Give strong consideration to mid-block pedestrian crossings where these crossings can be implemented safely and provide facilitate a direct pedestrian connection between properties and uses.

Task CE-20.7: As a part of all new development, require, where appropriate, the provision of pedestrian-oriented signs, pedestrian-scale lighting, benches, and other street furniture so as to make non-motorized forms of travel comfortable and attractive alternatives to the automobile. Where necessary in new development, the City may require additional sidewalk and/or right-of-way width to accommodate these amenities.

Task CE-20.8: Ensure that sidewalks, crosswalks, public transportation stops and facilities, and other aspects of the transportation right-of-way are compliant with the Americans with Disabilities Act and meet the needs of people with different types of disabilities, including mobility impairments, vision impairments, hearing impairments, and others.

Task CE-20.9: Incorporate multimodal improvements into pavement resurfacing, restriping, and signalization operations where the safety and convenience of users can be improved within the scope of the work.

Task CE-20.10 In any assessment, collection, and/or distribution of AB1600 funds, consider the implementation of City projects that further the provision of Complete Streets in Daly City.

Policy CE-21: Provide children with safe and appealing opportunities for walking and bicycling to school in order to decrease rush hour traffic and fossil fuel consumption, encourage exercise and healthy living habits in children, and reduce the risk of injury to children through traffic collisions near schools.

Task CE-21.1: Work with the school districts in Daly City to pursue encouragement programs such as Walk and Bike to School Days, as well as “Walking School Bus”/“Bike Train” programs at elementary schools, where parents take turns accompanying a group of children to school on foot or via bicycle.

Task CE-21.2: Work with the school districts in Daly City and advocates to obtain Safe Routes to School funding to implement educational programs.

Task CE-21.3: Work with the school districts in Daly City to encourage educational programs that teach students safe walking and bicycling behaviors, and educate parents and drivers in the community about the importance of safe driving.

Task CE-21.4 Enforce speed limits and traffic laws, assist in ensuring safe crossings, and promote safe travel behavior within the schools.

Policy CE-22: Prioritize safety and roadway improvements around schools.

Task CE-22.1 Pursue Safe Routes to School funding to implement infrastructure.

The following section defines some of these technical terms used in this document in an attempt to clarify their meaning. Many of the terms described below are also used in other planning documents, such as environmental impact reports, when estimating the traffic impact of a proposed development project.

Average Daily Traffic (ADT) is the total volume of traffic that crosses over a fixed point on a road in a 24-hour period. This data is usually averaged over a month, year, or several years.

Average Weekday Traffic (AWDT) is very similar to ADT. As the name indicates, the figure for AWDT does not include weekend traffic. The weekday traffic count is used when traffic from employment centers needs to be analyzed.

Accessibility is the relative ease with which a location can be reached by car, public transit, bicycle, or walking.

Capacity of a road or street is measured in several ways. Capacity of a road is the maximum number of vehicles that can use the road over a time period, such as one hour, under the prevailing roadway and traffic conditions. The prevailing roadway conditions are the factors that influence the design capacity of the roadway.

Design capacity is the number of vehicles that can use a portion of the roadway in one direction, for one hour. The design capacity assumes existing traffic conditions and works toward a prescribed level of service. For example, when traffic engineers are asked to design road improvements, they will analyze the existing traffic volumes and propose the improvements needed to meet the desired level of service. (See below for explanation of level of service.)

Intersection capacity is affected by design factors such as the width of the streets and the timing and length of the signal cycle. Other characteristics also factor into the capacity of an intersection. These include the percent of turning vehicles, the percent of commercial vehicles, whether parking is allowed nearby, pedestrian use of the intersection, and the location of bus stops.

Controlled access means that through traffic is given preferential treatment in the design of a roadway. Expressways and some arterials have controlled access to increase the capacity of the road to handle larger volumes of traffic. Access to a road is controlled by limiting connections to selected public streets, and prohibiting direct connections of private driveways.

Directional split is always associated with a number and is used to identify the difference in the number of vehicles travelling in opposite directions on a road.

Headway is the time between arrivals of a bus or train at a specific location.

Mobility—impaired refers to that segment of the population where physical or mental handicaps, or age has made it impossible for individuals to use standard modes of transportation such as a vehicle or public transit.

Mode of travel is the type of transportation used by people to get to where they want to go. A mode of travel can be an auto, bus, skateboard, bicycle, walking, rapid transit, or airplane. This plan uses the term **multimodal**. This means maximizing the use of all modes of travel in an effort to design and/or promote a circulation system that is efficient.

Paratransit is an alternative form of transportation that fall between a fixed route public transportation and the private automobile. Conventional public transit has predetermined schedules, fixed routes and stops, and is available to the general public. Depending on the type of paratransit service, it may or may not have a fixed route or stops, or a predetermined schedule. They do not serve the general public. The paratransit service is targeted for a specific group of people such as employees from a company, residents of a residential complex, or the mobility- impaired. Examples of paratransit are dial-a-ride, carpools, shuttlebuses, and shared-ride taxis.

Peak hour(s) is the sixty-minute period(s) in which traffic volume is the highest for the day. Peak hours during the weekday typically occur during the time periods from 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m.

Transportation Systems Management is the combination of several programs used by an employer to reduce the impact of single occupancy automobiles on the transportation system. A variety of ways can be used to reduce the impacts of a large concentration of employees on the traffic and air quality of an area. For example, the employer could provide a shuttle service to mass transit facilities, promote ridesharing of employees that live in the same area, or allow for flexible work hours that allow employees to arrive and leave work at non-peak hours of traffic congestion.

A trip is one-way travel from an origin to a destination for a particular purpose such as a journey-to-work or the grocery store. **A trip end** is both the origin and destination of a trip; each trip has two trip ends. **A person trip** is one way travel by one person from an origin to a destination by any mode of travel.

Volume/Capacity Ratio, or V/C Ratio is the ratio of the volume of traffic to the design capacity of a road to handle those volumes. For example, if the capacity of a road is 20,000 vehicles/day and a day of traffic counts indicate 18,000 vehicles are using the road, then the V/C Ratio is 1.8:2.0. VC Ratios are used to estimate levels of service and congestion.

