

TRANSPORTATION IMPACT ANALYSIS GUIDELINES

APPENDIX B UPDATE PROCESS & STYLE GUIDE



San Francisco
Planning



1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Appendix B Update Process and Style Guide Memorandum

Date: February 14, 2019
To: Record No. 2015-012094GEN
Prepared by: Colin B. Clarke
Reviewed by: Wade Wietgreffe
RE: **Transportation Impact Analysis Guidelines, Update Process and Style Guide**

INTRODUCTION

The department issued a series of memoranda that provide updates to topics (e.g., transit, loading) within the Transportation Impact Analysis Guidelines. The prior guidelines did not include the contents that are now included within this memorandum below and its attachment. The department will use this memo as a reference in the development for each of the aforementioned memoranda and for general use in transportation analysis. The department prepared this memorandum in consultation with stakeholders (e.g., city and county agencies).

Transportation analysis will evolve as transportation technologies, devices/modes, systems, services, networks, and legislation change. Therefore, the department may periodically update this memorandum to reflect those changes, as discussed below.

The organization of the memorandum is as follows: process for updates and precision. The attachment (Attachment A) is under separate cover and consists of commonly used acronyms, abbreviations, and definitions. The department may update the attachment to the memorandum more regularly than the body of the memorandum.

PROCESS FOR UPDATES

This section describes some of the reasons that may justify updates to the guidelines and main body of the topic memoranda and associated attachments. The department will not revise the guidance and topic memoranda if the reasons prompting an update are generally not applicable to several projects over a period of time.

Justification for Updates – Main Body

The department does not intend to update the guidelines and main body of the topic memoranda frequently. At a minimum, the department will assess the necessity of updates approximately every four years, following the periodic updates to the San Francisco County Transportation Plan, or following updates to the San Francisco General Plan, or Transportation Element of the San Francisco General Plan. The following list includes some of the reasons that would induce potential updates, if applicable:

- Published California Quality Act(CEQA) appellate or supreme court decisions
- Statutory changes to CEQA
- Regulatory changes to the CEQA Guidelines
- Legislative changes to San Francisco Administrative Code chapter 31

- Findings from the Planning Commission or Board of Supervisors in response to a CEQA appeal
- Resolutions adopted by the Planning Commission or Board of Supervisors
- New substantial evidence¹ regarding travel demand (e.g., demographics, economics, emerging mobility services and technologies, etc.)
- Major policy documents (e.g., if a policy document identifies goals for vehicle miles traveled) or code changes (e.g., if a code change eliminates the possibility of a significant effect for a significance criterion, that methodology or significance criterion may be removed or revised)
- Substantial changes to methodologies and review processes
- Other updates as determined by the department

In most instances, when the department updates the guidelines and main body of the topic memorandum, it will supersede the previous guidelines and topic memorandum. The department will use that new guidance for all transportation analyses, despite the status of the transportation analysis for any particular project (e.g., if the department has started, but not yet finalized a transportation analysis). However, instances may occur where the department already commenced analysis that is more conservative (e.g., more stringent in what the department considers an impact on the environment), but yet would not be misleading to the public and decision-makers, and therefore the department may consider the analysis complete and adequate. Example: if the department issues revised trip generation rates that result in lower, but not substantially lower, trip generation than prior analysis already commenced for a particular project, the department may consider not updating the already commenced analysis. Another example: if the department removes a significance criterion, the department may consider presenting the already commenced analysis for informational purposes only, at the department's discretion.

Justification for Updates – Attachments

The department may update the attachments of the memoranda more frequently than the main body or guidelines. At a minimum, the department will assess the necessity of updates approximately every two years. The following list includes some of the reasons that would induce potential updates, if applicable:

- The department identifies new mitigation or improvement measures
- The planning commission adopts an area plan and associated mitigation measures
- A department or consultant-prepared transportation study that includes a useful example of an impact and mitigation measure
- Updated terms and definitions as a result of code or policy changes or emerging technologies and services
- Updated data maintenance requirements
- Other updates as determined by the department

In most instances, when the department updates an attachment, it will supersede the previous attachment. The department generally uses the attachments as additional *resources* (e.g., sample projects, sample mitigation measures and improvement measures, sample design solutions), with the exception of acronyms, terms, and definitions contained herein, as opposed to *guidance*. Therefore, the department will generally not use updates to the attachments, as opposed to direction regarding the guidelines or main

¹ CEQA defines the term "substantial evidence", which the department will use, and the department will determine if something is "major" or "substantial" as it relates to other listed items.

body of the memoranda, for already commenced analysis (e.g., a consultant submitted draft 1 of a transportation analysis).

Precision

This section describes the level of precision that the department will use in the presentation of any transportation analysis in tables or text/narrative within a transportation study or section. The department may include more detailed level of precision, if necessary, in appendices of a transportation study or section (e.g., spreadsheet).² Level of precision will depend on the subject matter and flexibility is allowed where appropriate to illustrate any meaningful difference (e.g., more precision may be warranted if the total reported value is small). The following table is intended to provide guidance, not strict rules, and it includes a non-comprehensive list of metrics and the associated level of precision.

Table 1: Precision

Metric	Level of Precision, i.e., rounding
<i>Project Description and Existing Baseline (i.e., actual observations)</i>	
distance	actual distance via each transportation mode, not as the crow flies; less than 50, nearest foot; between 50 and 100, nearest 10 feet; between 100 and 1,000, nearest 50 feet; greater than 1,000, nearest 0.25 mile
linear feet for sidewalk and roadway width	nearest whole foot (text); nearest six inches (table, figure)
square feet	less than 100 square feet, nearest 10; between 100 and 1,000, nearest 50; between 1,000 and 10,000, nearest 100; ... between 90,000 and 99,999, nearest 900; greater than or equal to 100,000, nearest 1,000
parking spaces (e.g., bicycle, loading, vehicle)	less than 100, nearest whole number; between 100 and 200, nearest five spaces; greater than 200, nearest 10 spaces
parking rate (e.g., neighborhood, per unit, per square footage)	nearest 5/100 (e.g., 0.15, 0.20, etc.)
counts (number of people walking, riding transit, bicycling, driving)	less than 100, nearest 10; between 100 and 199, nearest 20; ...

² In other words, the appendices of a transportation study or section should present a greater level of precision (e.g., calculations in mathematical formulas) than the main body of a transportation study or section.

Metric	Level of Precision, i.e., rounding
	between 900 and 999, nearest 100; greater than or equal to 1,000, nearest 110;
counts (commercial and passenger loading spaces or trips, number of parking spaces)	nearest whole number
transit headway(s)	nearest half minute
utilization (e.g., transit, parking, etc.)	nearest whole percentage
injuries or fatalities	nearest whole number, rounding up
<i>Modeling, Forecasting, and Projections (i.e., estimates)</i>	
transit delay or speed	nearest second or 1/10 mile per hour
vehicle miles traveled per metric (e.g., household or land use (retail, office, etc.))	nearest 1/10 (e.g., 0.1, 0.2, etc.)
trip generation rate (estimate)	nearest 1/10 (e.g., 0.1, 0.2, etc.)
trip generation (number of people walking, riding transit, bicycling, driving)	less than 100, nearest 10; between 100 and 199, nearest 20; ... between 900 and 999, nearest 100; greater or equal than 1,000, nearest 110
commercial and passenger loading demand, parking demand	round up to whole number
average number of persons in a vehicle (i.e., average vehicle occupancy)	nearest 1/10 (e.g., 0.1, 0.2, etc.)
ways people travel (i.e., mode split); common destinations (i.e., trip distribution)	less than 10%, nearest 1/10 (0.1%, 0.2%, etc.); greater than 10%, nearest whole percentage

Acronyms and Abbreviations & Terms and Definitions

Acronyms and Abbreviations

The department uses abbreviations and acronyms to enhance the readability of a document, not for the convenience of the writer. The department generally avoids technical and legal terms and replaces those terms with plain English whenever possible. The department avoids excessive use of abbreviations, acronyms, and technical terms as they make documents more challenging to understand.

The following includes a list of generally commonly used transportation-related acronyms and abbreviations not listed in the San Francisco Planning Department's Environmental Review Guidelines and Planning Style Guide. If the department did not list an acronym below or in those documents, the acronym most likely should not be used; however, a shortened name in replacement of the term may be used after the first use instead of an acronym.

FIGURE 1

Acronyms and Abbreviations

Acronym or Abbreviation	Meaning
ABAG	Association for Bay Area Governments
AC Transit	Alameda County Transit
ADA	Americans with Disabilities Act (Federal law)
BART	Bay Area Rapid Transit
Blue Book	San Francisco's Regulations for Working in San Francisco Streets – 8th Edition (or subsequent update)
BMPs	best management practice(s)
BRT	Bus Rapid Transit
Caltrain	Peninsula Corridor Joint Powers Board
Caltrans	California Department of Transportation
state public utilities commission	California Public Utilities Commission
DMV	California State Department of Motor Vehicles
Golden Gate Transit	Golden Gate Bridge Highway and Transportation District
mph	miles per hour
MTC	Metropolitan Transportation Commission (regional)
Muni	San Francisco Municipal Railway and transit system managed by the Municipal Transportation Agency (SFMTA)
Planning Code	San Francisco Planning Code
planning department	San Francisco Planning Department
public works	San Francisco Public Works
SamTrans	San Mateo County Transit District
street design team	Street Design Advisory Team, multi-agency
transportation authority	San Francisco County Transportation Authority
fire department	San Francisco Fire Department
SFgo	San Francisco County Transportation Authority's Congestion Management Program, and Advanced Technology/Information Systems Transit Signal Priority
SFMTA	San Francisco Municipal Transportation Agency
police department	San Francisco Police Department
city public utilities commission	San Francisco Public Utilities Commission
TDM	transportation demand management
joint powers authority	Transbay Joint Powers Authority
bay ferry	Water Emergency Transportation Authority in the San Francisco Bay

Terms and Definitions

The following includes a list of common terms and definitions. The list is separated into common and less common terms and definitions. Both lists are in alphabetical order. The department developed the definitions, in consultation with stakeholders and other agencies, for terms that are used in the guidelines and in transportation impact analysis documents, to allow for the use of consistent language (ideally across agencies, i.e., planning department, SFMTA, transportation authority, etc.), when developing a project description and impact analysis.

Common Terms and Definitions

assignment. Generally, refers to the process of estimating the location or assignment of project vehicle trips to different streets, on-street loading zones, and driveways, and project transit trips to specific transit routes.

bicycle parking, including Class 1 (secured, enclosed bicycle parking) and Class 2 (outdoor publicly accessible bicycle parking). For definitions and requirements, refer to Planning Code sections 155.1 and 155.2, and Zoning Administrator Bulletin 9.

bicycle facility. Any facility that provides primarily for, and promotes, bicycling. Facility types may include protected (one-way, raised, two-way), bicycle lanes (conventional, buffered, contra-flow, left-side), or shared (e.g., sharrow or shared-lane marking). Refer to the California Highway Design Manual Chapter 1000 (e.g., class-I, II, III, IV), the (California; and Federal Highway Administration) Manual on Uniform Traffic Control Devices, and the National Association of City Transportation Officials for definitions.

bulb-in. Also known as cut-in. On-street loading bay.

bulb-out. Also known as curb extension. Location where the sidewalk edge is extended from the prevailing curb line into the roadway at sidewalk grade, effectively increasing space for people walking.

extended bulb-out. Curb extension that continues significantly beyond the typical corner area, to allow space for landscaping or public use.

transit bulb-out. Curb extension that includes a transit stop to allow transit vehicles to board without pulling in and out of traffic.

car-share service. Refer to Planning Code section 166 and Zoning Administrator Bulletin 6.

certified car-share organization. Refer to Planning Code section 166.

off-street car-share parking space. Refer to Planning Code section 166.

on-street shared-vehicle parking permit program space. Also known as a vehicle pod(s) for qualified vehicle-sharing organizations.

car-share vehicle. Refer to Planning Code section 166. Refer to “vehicle” definition.

car-sharing. Refer to Planning Code sections 166 and 151.1.

color curb loading zone. A marked curb designation for specific types of on-street vehicular parking and on-street loading activities regulated by the SFMTA. When the “loading” term is used, it is often also referring to unloading (e.g., pick-up and drop-off). Refer to SF Transportation Code section 7.2 for curb parking regulated uses and durations under on-street parking.

blue curb zone. A color curb marked in blue paint for one or more Americans with Disabilities Act-compliant vehicular parking spaces for persons with disabilities.

dual-use curb zone. A color curb marked in white paint (but old ones are sometimes yellow) for both part-time commercial and part-time passenger loading.

green curb zone. A color curb marked in green paint for short-term parking.

part-time loading curb zone. A color curb marked in white paint if both part-time passenger loading and on-street vehicular parking; or a color curb marked in yellow paint if both part-time commercial loading and on-street vehicular parking.

red curb zone. A color curb marked in red paint to prohibit parking and loading at specific locations such as fire hydrants, transit stops, or driveways to provide additional clearance to allow (driveway) access to off-street parking.

white curb zone. A color curb marked in white paint for passenger loading. However, commercial loading is also allowed to occur.
Refer to SF Transportation Code section 1006.

yellow curb zone. A color curb marked in yellow paint for commercial loading.

commercial trips. Including goods movement through-trips, and freight and delivery service vehicle trips that often result in off-street or on-street loading or unloading activity.

delivery service. Typically refers to pick-up trucks, light trucks, box trucks, moving trucks, or vans, etc. (e.g., SU-30, i.e., a wheel base between 22 and 30 feet). The larger end of the light truck vehicle type may occupy approximately 30-40 linear feet, which includes the space for loading/unloading, and maneuvering.

freight. Refers to heavy trucks with wheelbases length of 40 feet or more, whose total length may approach 55 feet (e.g., WB-40). Freight trucks may occupy approximately 60 feet when parked.

common destinations. Also known as trip distribution. The number or ratio of total trips that the department estimates would occur between one place and another place (e.g., between a home and downtown), including the routes people may take between those places.

curb cut. Location where the sidewalk curb is depressed to the level of the roadway, either for a curb ramp, driveway, or other feature. Commonly, it is distinct from Americans with Disabilities Act-compliant curb ramps for accessibility.

driveway. Location where the sidewalk curb is depressed to the level of the roadway (with a curb cut), to provide vehicle access across a sidewalk to a parcel or to each use within a parcel. Refer to SF Transportation Code section 7.2 for parking in driveways, under on-street parking.

for-hire vehicle. Inclusive of “motor vehicle for hire,” “ride-hailing service,” and “taxi.”

motor vehicle for hire. Refer to SF Transportation Code section 1102.

ride-hailing service. Also known as ride-sourcing. Mobility service where a trip is requested typically using a phone, internet, or phone/computer application. A passenger(s) is matched with a driver, on-demand or pre-scheduled. Often referred to as “ride-sharing;” however, “ride-hailing” is used instead because the driver typically does not share a destination with the passenger(s). This service is distinguished from taxi service by the ride-hailing service’s inability to legally street hail; ride-hailing companies can only pick up pre-arranged rides. Regulated by the California Public Utilities Commission as a “transportation network company.”

taxi. Refer to SF Transportation Code section 1102.

hazard. For the purposes of the guidelines, “hazard” refers to a project-generated vehicle potentially colliding with (the applicable transportation topic, i.e., a person driving, or bicycling, or walking, or public transit operations) that could cause serious or fatal physical injury to the person driving, accounting for the aspects described below. Human error or non-compliance with laws, weather conditions, time-of-day, and other factors can affect whether a collision could occur. However, for purposes of CEQA, hazards refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sightlines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. This significance criterion focuses on hazards that could reasonably stem from the project itself, beyond collisions that may result from aforementioned non-engineering aspects or the transportation system as a whole.

headway. As it relates to transit, the scheduled time duration between public transit vehicles on the same route.

high-injury network. The City and County of San Francisco adopted Vision Zero as a policy in 2014, with the goal of zero traffic deaths for all ways people travel, including people in vehicles, walking, and bicycling. The network identifies streets in San Francisco where most severe and fatal injuries are concentrated. The network helps the City target traffic safety investments to reduce severe and fatal injuries to people walking, bicycling, and driving in those locations.

improvement measure. Recommended measure (different from mitigation measure) to reduce a less-than-significant impact further.

inbound. As it relates to transit. For Muni, indicates direction of travel generally in the direction of the downtown/Transbay Terminal or northern parts of San Francisco, and in the direction generally away from the southern and western parts of San Francisco.

loading. Passenger or commercial (freight or delivery service) loading, on-street or off-street. Refer to “color curb” and “for-hire vehicle” definitions.

major destination. Also known as “trip attractor.” A location that a substantial number of people would travel to such as a school, event center, recreational facility, tourist activity location, shopping district, high-density residential or office area, transit station, and airport.

mitigation measure. Refer to CEQA Guidelines section 15370.

mixed-flow travel lane. A lane allowed for legal use by the multiple ways people travel: transit (e.g., buses), people bicycling, people driving, and other vehicles. Also known as a traffic lane.

modify/modification. To change. This term or the term “change” must be used instead of improve/ments for descriptions of modifications to the public right-of-way. Refer to Public Works Code section 186.

outbound. As it relates to transit. For Muni, indicates direction of travel generally in the direction of the southern and western parts of San Francisco, and in the direction generally away from the downtown/Transbay Terminal parts of San Francisco.

parking (use “vehicular parking”). Generally refers to physical, vehicle parking, whether off-street parking or on-street parking, or on-site or off-site. Parking configuration types vary (e.g., parallel parking, reverse-in/back-in/head-out angled parking). Parking types include visitors, customers, employees, commuters, and residents; no-cost/free-of-charge, shared, leased, or rented; potential restrictions such as priority, preferential, or reserved parking; and time-limited (e.g., short-term, long-term). Parking generally does not refer to bicycle parking. Refer to SF Transportation Code section 7.2 for on-street parking regulated uses and durations.

parking, accessory. Refer to Transportation Demand Management Program Standards Glossary of Terms.

parking ratio. Also known as project parking rate, or neighborhood parking rate. The number of parking spaces to the number of dwelling units. The number of parking spaces to square feet per land use.

parking supply. The amount of vehicle parking provided within a geographic area (e.g., project site, 1,000-foot radius).

peak hour. The one-hour during the peak period with the greatest constraint on the transportation system. It can vary by the way people travel and location. For example, for transit, the peak hour in which delays to Muni are estimated to be the greatest.

peak period. The peak period (which typically contains the peak hour) with the greatest constraint on the transportation system. It is typically characterized by constrained capacity, throughput/flow, reduced speeds, and/or longer travel times. It can vary by the way people travel and location. For example, for transit, the period during which delays to Muni are estimated to be the greatest.

people bicycling. Any person(s) traveling on a bicycle for transport, recreation, exercise, or sport. Also known as cyclists, bicyclists, and bicycle traffic.

people driving. Also known as motorists and vehicle traffic. Includes people driving all types of vehicles in the roadway. Refer to “vehicle” definition.

people loading. Includes people participating in passenger loading (e.g., visitors and customers, employees, and residents) and commercial freight and delivery service loading activities.

people riding transit. People or passengers in transit vehicles operated by a public transit agency.

people walking. Primarily people walking in the public right-of-way, including people with physical disabilities that may or may not require personal assistive mobility devices. May also include other motorized or non-motorized users authorized on the sidewalk. May also refer to people participating in recreational or social activities. Refer to SF Transportation Code section 7.2 for non-motorized user-propelled vehicles (NUV), and California Vehicle Code Division 11, Chapter 5 for pedestrians.

person trip. A trip that a person takes, regardless of the way (mode) that a person travels, between one location and another location (e.g., between home and work, home and school, home and grocery store, work and grocery store, etc.).

place type. Geographic area that shares a similar mode share for vehicle use. The department identified three place types: urban high density, urban medium density, and urban low density.

public right-of-way. Refer to SF Public Works Code section 2.4.4.

sidewalk. A part of the transportation network typically in the public right-of-way: (1) that is intended for use primarily by people walking, including people with disabilities that require personal assistive mobility devices, and other authorized motorized or non-motorized users, and (2) that is between (i) the lateral curb lines or in the absence of curbs, the lateral boundary line of a roadway; and (ii) the adjacent property lines. Refer to SF Public Works Code section 2.4.4 for a “sidewalk” definition, and SF Transportation Code section 7.2 for regulated uses.

signal. Designed to manage and direct traffic movement at an intersection, driveway, or crosswalk.

street. Refer to SF Planning Code section 102 and SF Transportation Code section 101 for definitions.

streetlight. A light illuminating a sidewalk or roadway typically mounted on a pole. Different than a traffic “signal.”

traffic. Vehicles or persons moving (or not) along or across a sidewalk or roadway, including bicycle facilities.

transit, public. Public transit system operations within the public right-of-way, including public transit services owned and/or operated by a local or regional government agency. Transit does not include private transit carriers, on-demand services, and/or shuttle services, as they are considered private vehicles within the public right-of-way during evaluation of a project’s transportation-related impacts. Refer to the definitions for “private bus” and “private transit vehicle.”

transit, regional. Any public transit that exits or enters San Francisco, including BART, Caltrain, AC Transit, SamTrans, bay ferry, Amtrak thruway (expressway) bus connections, and Golden Gate Transit.

transit delay. Additional time experienced by a transit vehicle as it travels between stops across one or more intersections in the corridor due to a several factors (e.g., vehicular congestion).

transit priority area. Refer to California Public Resources Code, Division 13 - Environmental Quality, section 21099.

transit stop. A stop or station along a public transit route used by people riding transit for boarding and alighting a transit vehicle. A flag stop is marked with a transit route number on a pole, without a shelter and sometimes without a color curb or (transit zone) pavement marking.

transportation network company. Refer to “ride-hailing service” under “for-hire vehicle” definition.

transportation project. As it relates to vehicle miles traveled. Active transportation (walking, bicycling), right-sizing (road diet), or transit project.

active transportation, right-sizing (road diet), and transit project. Any of the following:

- Reduction in number of through lanes.
- Infrastructure projects, including safety and accessibility modifications, for people walking or bicycling.
- Installation or reconfiguration of traffic-calming devices.
- Creation of new or expansion of existing transit service.
- Creation of new or conversion of existing general purpose lanes (including vehicle ramps) to transit lanes.
- Creation of new or addition of roadway capacity on local or collector streets, provided the project also substantially improves conditions for people walking, bicycling, and, if applicable, riding transit (e.g., by improving neighborhood connectivity or improving safety).

(other) minor transportation project. Any of the following:

- Rehabilitation, maintenance, replacement, and repair projects designed to improve the condition of existing transportation assets (e.g., highways, roadways, bridges, culverts, tunnels, transit systems, and bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity.
- Installation, removal, or reconfiguration of travel lanes that are not for through-traffic, such as left, right, and U-turn pockets, or emergency breakdown lanes that are not used as through lanes.
- Conversion of existing general purpose lanes (including vehicle ramps) to managed lanes (e.g., high-occupancy vehicle, high-occupancy toll, or trucks) or transit lanes.
- Grade separation to separate vehicles from rail, transit, pedestrians or bicycles, or to replace a lane in order to separate preferential vehicles (e.g. high-occupancy vehicle, high-occupancy toll, or trucks) from general vehicles.
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority features.
- Traffic metering systems.
- Timing of signals to optimize the flow of vehicles, or people walking or bicycling on local or collector streets.
- Installation of a modern roundabout.
- Adoption of or increase in tolls.
- Conversion of streets from one-way to two-way operation with no net increase in number of travel lanes.
- Addition of transportation wayfinding sign(s).
- Removal of any off- or on-street parking space.
- Adoption, removal, or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and preferential/reserved parking permit programs).

trip generation. Number of trips (person trips and vehicle trips) that the department estimates that people would take to and from a (project) site.

vehicle miles traveled. For purposes of analysis for compliance with Senate Bill 743 (CEQA Guidelines sections 21155, 15064.3, etc.). The amount and distance of vehicle travel attributable to a project, or cumulative and regional analysis. Calculation consists of the distance of vehicular travel, inclusive of for-hire vehicles (including both in-service and out-of-service mileage) to the extent that information is available and exclusive of public transit, and accounting for the average number of people per vehicle (average vehicle occupancy).

vehicle miles traveled per capita (residential). Vehicle miles traveled as defined by a residential land use or other land uses with similar travel behavior (refer to appendix of the vehicle miles traveled memorandum for more details, for each land use).

vehicle miles traveled per employee (office).

vehicle miles traveled per employee (retail).

ways people travel. Also known as ways of travel, mode share, and mode split. The percentage of the way or methods people use to travel between destinations (walking, bicycling, transit, etc.).

Less Common Terms and Definitions

advance stop and yield lines. An intersection stop line is a required solid white line, typically 12 to 24 inches wide, extending across all vehicle approach lanes to indicate where vehicles must stop in compliance with a stop sign or signal. An advance stop line is typically four to 30 feet before a crosswalk or the nearest edge of the intersection. A yield line is an optional row of white triangles placed across approach lanes to indicate the point at which vehicles must yield at locations without a signal or stop sign.

alighting. The activity of passengers unloading from a transit vehicle. Refer to “boarding” definition.

alley. Refer to SF Transportation Code section 101.

bicycle box (bike box). Refer to the (California; and Federal Highway Administration) Manual on Uniform Traffic Control Devices, e.g., two-stage bicycle turn box vs. intersection bicycle box. Also called “Dutch pockets” and enlarged bike lanes. An intersection bicycle box is typically a painted area at a signalized intersection provided for people bicycling to pull in front of waiting vehicular traffic. Most bike boxes have a distinct color as well as a bicycle symbol and “Wait Here”-painted area on the pavement.

bikeshare. A privately owned, publicly owned, or public-private partnership, system of bicycles that is available to users to access as needed for point-to-point or roundtrip trips, often to docking station kiosks that are generally unattended and established in dense urban areas. Bikeshare includes bikeshare locking technology that allows “free-floating” bicycles (known as stationless or dockless) within a geographic region that do not require a trip to end at a docking station kiosk.

boarding. The activity of passengers loading onto a transit vehicle. Refer to “alighting” definition.

bollard. Short fixed post or vertical element designed to separate or buffer people walking and bicycling, and other authorized motorized or non-motorized users, from areas with vehicles.

chicane. A traffic calming measure designed to slow traffic by visually narrowing the roadway and requiring vehicles to laterally shift from side to side while traversing.

commuter shuttle. Privately operated transit vehicle that transports workers from origins typically near home neighborhoods to destinations such as places of work or a transit station or stop, or transportation hub, in pre-arranged trips. A commuter shuttle is not a type of private transit vehicle. Refer to the definitions for “private bus” and “private transit vehicle.”

cordon. A round, rectangular, or irregular study area defining where to include counts of people traveling into or out of (e.g., people driving).

corridor. As it relates to transit. A generally linear street segment with one or more transit routes that share a common path.

corner island. Triangular raised island or area with striped pavement markings between through travel lanes and a right-turn slip lane. Often referred to as a “pork chop” island.

crosswalk. Legally designated location for people walking to cross from one side of a roadway to the other. Present at all intersections that intersect at approximately right angles; may be marked or unmarked.

continental crosswalk. High visibility crosswalk marking that typically features 2-foot-wide crosswalk stripes, parallel to the curb and the full width of the crosswalk, separated by 2-foot spaces between stripes. Not to be confused with a ladder crosswalk, which uses a similar striping pattern but also retains the transverse stripes of a standard crosswalk at both edges.

high-visibility crosswalk. Marked crosswalks that use longitudinal or diagonal stripes to increase crosswalk visibility to approaching vehicles.

marked crosswalk. White or yellow retro-reflective thermoplastic striping in the roadway to delineate the presence of a crosswalk.

mid-block crosswalk. Marked crosswalk at a mid-block (non-intersection) location.

raised crosswalk or intersection. Area where the level of the crosswalk or intersection is raised to

the sidewalk grade to provide a continuous grade walking surface along the sidewalk.

standard crosswalk. Basic pavement marking that typically uses two parallel 12-inch crosswalk stripes, for example, perpendicular to the curb, to delineate the two edges of the crosswalk, although they are not “standard” treatments for new crosswalks in San Francisco.

curb radius. Radius defining the sharpness of the curve that the curb or edge of the sidewalk follows as it turns a corner.

curb ramp. Location where the curb is depressed to the level of the roadway to provide a flush transition from the sidewalk to the roadway to enable accessible street crossing or movement.

daylighting. The removal of on-street parking near intersections and crosswalks to improve the sightline distance and visibility for ways people travel, often people driving. Daylighting can range from 10 feet to more than a couple of parking spaces depending on conditions. Refer to the Urban Street Design Guide from the National Association of City Transportation Officials.

employment center project. Located on property zoned, or to be zoned, for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area. If the underlying zoning for the project site allows for commercial uses and the project meets the rest of the criteria in this definition, then the project may be considered an employment center.

flexible parking zone. On-street vehicular parking lane that is used temporarily or semi-permanently for other uses, such as café or public seating.

furnishings zone. Portion of the sidewalk between the edge zone (typically a curb) and the throughway zone of the public right-of-way that contains most street trees, plantings, Class 2 bicycle parking, lighting, utility poles and equipment, seating such as benches, and site furnishings. Also includes licensed vendors, and items also known as street furniture.

high speed. Relative to the geographic context and the behavior of people driving and presence of other ways people travel, and does not only or necessarily refer to speeds observed above the posted speed limit.

island. An area between travel lanes used to channel traffic movements; differentiated from medians by their discontinuous and often irregular shape and location off of the centerline. Refer to definitions for “corner island,” “transit boarding island,” and “refuge.”

median. The portion of the roadway separating opposing directions of the traveled way, or local lanes from through travel lanes. Medians are generally linear and continuous through a block, and may be depressed, raised, or flush with the road surface.

other land use project. As it relates to vehicle miles traveled. A land use other than residential, retail, and office.

overhead contact system, or overhead catenary system. As it relates to transit. Part of Muni’s trolley bus overhead electric wire system for powering buses, in combination with the traction power (also refer to “traction power” definition). Consists of copper-alloy wires along the transit route that provides power to the trolleybuses or streetcars, guy wires stabilizing the copper-alloy wires, and poles that hold up the guy wires. Overhead wire poles are often placed along street curb frontage to support these electric wires.

parking, unbundled. Refer to Transportation Demand Management Program Standards Appendix-A Measure PKG-1 Unbundle Parking, and Planning Code section 167.

parking, long-term. Refers to on-street or off-street vehicle parking spaces that are generally in use for longer than two hours. “Long-term” definition will vary though by land use, geographic context, and type.

parking, short-term. Refers to on-street or off-street vehicle parking spaces that are in use for a short period of time (e.g., generally from a minimum of 10 minutes up to three hours; up to two hours for retail or downtown worker parking), or office daytime and residential nighttime parking, or the SFMTA Residential Parking Permit program durations (e.g., one day or one week). “Short-term” definition will vary though by land use, geographic context, and type. Refer also to Transportation Demand Management Program Standards Appendix-A Measure PKG-2 Short-Term Daily Parking.

parking deficit. A quantified shortage or lack of parking supply, derived from the trip generation estimates for a project, and not meeting its estimated vehicular parking demand.

parking demand. The estimated amount of daily vehicular parking demand generated by each proposed use (project-generated demand for space on-site and off-site, if applicable).

parking facility types. A parking facility includes a public or private parking garage, parking lot, on-street parking lane or space, valet parking storage location (tandem or otherwise), or parking equipment (automated or human-operated) such as a mechanical stacker or lift, and includes the facilities and spaces listed in various sections of Planning Code section 102, 151.1, 154 and 166 and Transportation Code section 1.1.

parking meter. Refer to SF Transportation Code section 1.1.

parking permit. Refer to SF Transportation Code section 1.1.

parking turnover rate. The rate at which a given parking space becomes occupied by a different vehicle (e.g., the average number of vehicles in a parking space over a set time duration).

paratransit. As it relates to transit. Van and taxi services for people with disabilities, unable to independently use public transit due to a disability or disabling health condition.

passenger car equivalent. The quantity of loading spaces should be given in terms of a passenger car equivalent, typically 22 linear feet, which includes the space for loading, unloading, and maneuvering, for purposes of evaluating the number of proposed spaces versus the estimated passenger loading demand.

pedestrian. Refer to “people walking” definition.

private bus. Refer to SF Transportation Code section 101. A private bus is not a type of private transit vehicle, and can include fixed or dynamically generated (crowd-sourced) routes. A private bus does not necessarily require membership for ridership eligibility, but may require pre-arranging a ride.

private transit vehicle (PTV). Similar to the formerly used term, jitney. Also known as microtransit or a low-capacity service, carrying small numbers of people at a time. A privately operated shuttle service, typically available to the general public, enabled by technology that usually operates along a dynamically (crowd-sourced) generated route, or fixed-route offering bus-stop similar service (not point-to-point), in a bus or van. Refer to SF Transportation Code section 1202.

refuge. For people walking, area protected by a raised median or island where people may safely pause or wait while crossing a street in two stages. Refer to “island” definition.

thumbnail. A small island, in the roadway, forming the intersection side of a refuge for people walking, often curved to roughly form the shape of a thumbnail.

right-turn slip lane. A mixed-flow travel lane that allows larger and faster vehicle turns by increasing the curb radius and adding a corner island or striped area between the right turn lane and adjacent through travel lanes; may be controlled or uncontrolled. A right-turn slip lane is considered a free right turn (no stop or signal) if vehicles enter into a dedicated travel lane upon exiting the slip lane.

roundabout, modern. A type of looping junction in which vehicular traffic travels in one counterclockwise direction around a central circular raised area and priority is given to the vehicles already traveling in the roundabout. Signs typically direct traffic entering the roundabout to slow their speed and give way to traffic already in the roundabout. Yield-controlled circular intersection design used to control traffic on moderate to high-volume streets. Refer to “traffic calming circle” definition, which is different.

safe-hit posts. Physical vertical barriers (often flexible material to allow them to be knocked down and get back up) in the street intended to deter vehicles from entering, parking within, and intruding on painted safety zones, areas where transit vehicles need clearance to turn, and bicycle lanes. These posts can be driven over by emergency vehicles when necessary to safely cross.

scramble. Also known as Barnes Dance, scramble intersection, diagonal crossing, and exclusive pedestrian interval. For people walking, type of traffic signal movement that temporarily stops all vehicular traffic, allowing people walking to cross an intersection in every direction, including diagonally, simultaneously.

shared public way. Right-of-way that is designed at a single surface with no grade differentiation between street and sidewalk areas, and where roadway space is shared between people walking and slow-moving vehicles. Sometimes referred to as a “shared street.”

shared vehicle. Also known as shared-use vehicle. Vehicles with multiple people; includes carpool and private transit that has a minimum occupancy of four or more people 85-percent of the time. Refer to “vehicle” definition.

signal, accessible. As it relates to people walking. Signal located at a crosswalk that provides crossing signal status in a non-visual format such as audible tones, verbal messages, and/or vibrating surfaces.

signal, countdown. As it relates to people walking, a component of a traffic signal located at crosswalks that provides supplemental countdown information about the seconds remaining in the current phase for people walking.

signal warrant. A set of standardized criteria used to establish and document the need for the appropriate traffic control device in a particular scenario. A signal is warranted per the (California; and Federal Highway Administration) Manual on Uniform Traffic Control Devices.

signal, transit priority. The traffic signal is designed to recognize an approaching transit vehicle and extend the green light when it is safe to do so. Emergency vehicles have priority and the ability to control the timing of a traffic signal.

throughput. The number of people (e.g., walking, bicycling, riding transit, or driving) that flow along a corridor, segment, block, or at or near an intersection.

throughway zone. Portion of the sidewalk, generally located between the property line and the furnishings zone, where people walking may move free of obstructions. Also known as “effective sidewalk width.”

toll road. A roadway with fixed or dynamic pricing (e.g., bridge roads to and from San Francisco), sometimes collected with electronic devices.

traction power. As it relates to transit. Part of Muni’s trolley bus overhead electric wire system for powering buses, in combination with the Overhead Contact System.

traffic calming (features). Practice of designing streets to improve safety by discouraging people driving from speeding through neighborhoods using visual or geometric changes including, but not limited to, lane reductions, roadway narrowing, intersection bulb-outs, raised medians, horizontal or vertical shifts in the roadway, or other features.

traffic calming device. Refer to SF Transportation Code section 101.

traffic calming circle. Also known as “neighborhood traffic circle.” Generally circular raised area in the center of a standard intersection that provides space for landscaping, and can slow traffic by visually breaking up the scale of wide streets, the monotony of the street grid, and visually shortening the roadway, forcing people driving to slow their vehicle speed to circulate around them. Traffic calming circles require counterclockwise travel and are generally used at low-volume neighborhood intersections. Refer to “roundabout, modern” definition, which is different.

traffic control device. Refer to SF Transportation Code sections 101 and 10.1.

traffic delineators. Raised pavement markers or bicycle lane separators such as zebras that are easy to drive over with a vehicle and “separate” people bicycling from people driving in mixed-flow travel lanes.

transit boarding island. Also known as “transit platform.” Raised area within the roadway that houses a transit stop, allowing transit vehicles to use center lanes without having to pull over to the side of the roadway for passengers to board. This may include a raised platform, raised curb, or floating island as part of a transit stop.

transit-only area. Refer to SF Transportation Code section 101. Transit-only areas are inclusive of transit-only lanes.

transit reliability/variability. Performance-based measurement of transit service indicating the ability for a transit vehicle to provide reliable service to people riding transit. Reliability of transit service can be affected by circumstances such as congestion by other vehicles.

truck. Refer to SF Transportation Code section 1.1.

extra legal truck. Refers to a vehicle with dimensions that exceed 8.5 feet in width, 65 feet in length, and 14 feet in height; this vehicle requires a permit from SFMTA.

large freight truck. Refers to a heavy truck with a wheelbase length of 40 feet or more, with a total length that may approach 65 feet, 14 feet in height, and 8.5 feet in width (e.g., WB-40 and larger up to WB-65). A large freight truck may occupy approximately 60-90 feet, which includes the space for loading/unloading, and maneuvering.

truck loading zone. Refer to SF Transportation Code section 1.1 and SF Transportation Code section 7.2 for commercial vehicles. On-street loading.

truck terminal. Refer to Planning Code section 102. Off-street loading. Also known as loading terminal, loading berth, loading bay, or loading dock.

vanpool. Refer to SF Environment Code section 427.

vehicle. Refer to California Vehicle Code section 670. Refer to definitions for car-share vehicle, for-hire vehicle, passenger car equivalent, shared vehicle, and commercial trips.

authorized emergency vehicle. Refer to California Vehicle Code section 165.

design vehicle. Type of vehicle used to determine appropriate roadway design characteristics such as curb radius.

non-standard vehicle. Refer to SF Transportation Code section 1202.

vehicular use area. Refer to Planning Code section 102.

vulnerable people. As it relates to hazards: people walking and bicycling, including children, seniors, and people with disabilities.

warning devices. Refer to “traffic control device” under SF Transportation Code section 10.1.

audible warning device. This device announces audible warning messages, providing an acoustic warning to complement visual warning signs, e.g., at signalized crosswalks, and to warn people walking of approaching vehicles, typically installed at garage entrances/exits where there is a sidewalk and people walking.

detectable warning. A surface feature of truncated dome material (raised shape) built in or applied to the walking surface to advise of an upcoming change from a right-of-way for people walking to a right-of-way for people driving that would be hazardous for people walking. Also can be used on a transit boarding island or accessible curb ramp edge.

flashing beacon. Flashing amber-colored light mounted to a pole adjacent to or above the roadway to alert drivers to an upcoming crosswalk for people walking.

visual warning device. An actuated device used to visually warn approaching vehicles and/or people walking of each other’s presence, such as in-roadway warning lights at crosswalks, flashing beacons, ‘bikes in tunnel,’ or a ‘vehicle approaching’ warning.

wayfinding sign. Static physical directional sign located on the sidewalk, typically used to help people walking and bicycling orient themselves and locate nearby destinations.