TRANSPORTATION IMPACT ANALYSIS GUIDELINES

APPENDIX O
VEHICULAR PARKING

San Francisco Planning

SAN FRANCISCO
PLANNING DEPARTMENT

MEMO

Attachment O
Vehicular Parking Memorandum

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RE:	**Transportation Impact Analysis Guidelines, Vehicular Parking**

INTRODUCTION

This memorandum updates the prior guidance provided in the Transportation Impact Analysis Guidelines for the topic of vehicular parking. The department prepared this memorandum in consultation with stakeholders (e.g., city and county agencies, consultants). The department will issue memoranda that provide updates to other topics (e.g., transit, loading) within the guidelines. When the department issues a memorandum about a topic, it will supersede existing guidance regarding that topic.

This memorandum provides specific guidance on the methodology and impact analysis required for the vehicular parking transportation topic. Overall guidance on conducting transportation analysis for environmental review, including developing the project description, how to address the significance criteria, methodology, and impact analysis, is in the Transportation Impact Analysis Guidelines.

The guidance provided herein assumes a land use development project located outside of an area plan that requires a transportation study. Guidance on other types of projects, such as projects located in an area plan or infrastructure projects, is discussed below under the "Other" subsection. The department may use this guidance for multiple projects, but the department has discretion on how to apply the guidance on a project-by-project basis.

The organization of the memorandum is as follows:

1) Project Description
2) Significance Criteria
3) Existing and Existing plus Project
   a) Methodology
   b) Existing Baseline
   c) Impact Analysis
4) Cumulative
   a) Methodology
   b) Impact Analysis
5) Other (covers different types of projects)

Below the significance criterion includes a screening criteria checklist. If a project meets the screening criteria, then a substantial parking deficit would not occur and the project would not be subject to the contents within this memorandum. Almost all projects located within San Francisco are also located within transit priority areas and would not require parking analysis under the California Environmental Quality Act (CEQA).

Attachments to this memorandum are under separate cover and are attached to the end of this memorandum. The department may update the attachments to the memoranda more frequently than the body of the memoranda.

PROJECT DESCRIPTION

Refer to the Transportation Impact Analysis Guidelines Appendix A, Tables 1-3, for a list of the typical physical, additional physical, and programmatic features for existing and existing plus project conditions, as applicable. The geographic extent of these features must, at a minimum, include the project's frontage and may include the entirety of the project's block. Appendix A, Table 4 of the guidelines provides a non-exhaustive list of approvals from agencies other than the planning department that a project sponsor may need to obtain for the project description features described in the guidelines. Attachment A of this memorandum includes examples of figures that illustrate how to graphically represent vehicular parking conditions.

SIGNIFICANCE CRITERION

San Francisco Administrative Code chapter 31 directs the department to identify environmental effects of a project using as its base the environmental checklist form set forth in Appendix G of the CEQA Guidelines. In 2009, Appendix G of the CEQA Guidelines removed parking in and by itself as a checklist question. As it relates to parking, Appendix G states: "would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?" The department uses the following significance criterion to evaluate the secondary effects from vehicular parking as it relates to that question. A project would have a significant impact if:

1A) it would result in a substantial[1] vehicular parking deficit, and

1B) the secondary effects would:

create potentially hazardous conditions[2] for people walking, bicycling, or driving; or
interfere with accessibility for people walking or bicycling or inadequate access for emergency vehicles; or
substantially delay public transit.

The following provides the screening criteria to determine if a substantial parking deficit could occur.

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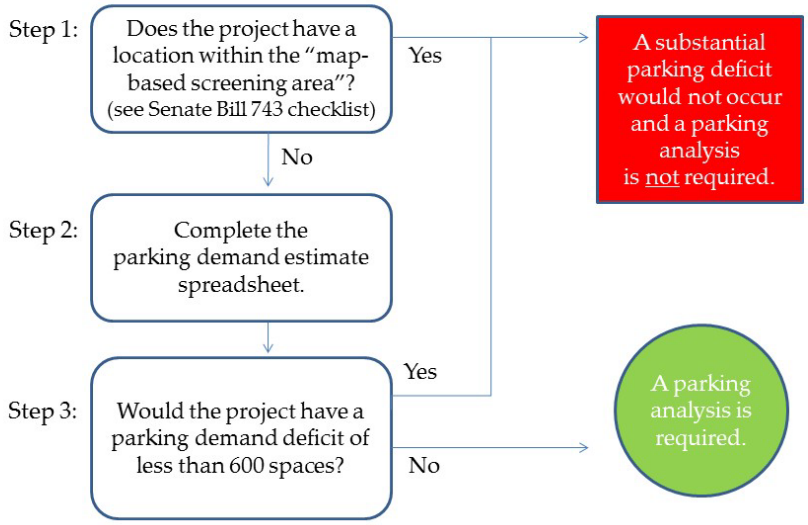
[1] Throughout this memo, the term "substantial amount" is used but not defined. This is because what constitutes a substantial amount of people, vehicles, etc., depends on the context in which the project is being evaluated (e.g., existing conditions, proposed land uses, and other variables).

[2] For the purposes of this memorandum, "hazard" refers to a project generated vehicle potentially colliding with people walking that could cause serious or fatal physical injury, 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, sight lines) 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.

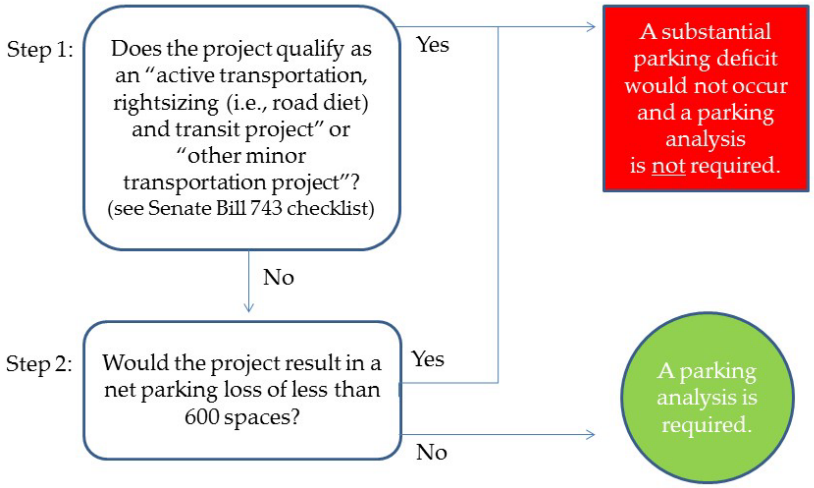
PARKING ANALYSIS SCREENING CRITERIA CHECKLIST

If the answer is "yes" after completing the numbered steps in the applicable flowchart below, then a substantial parking deficit would not occur and a parking analysis is not required (see next page for exceptions).[3]

Screening Criteria Checklist: **Land Use** Project or **Area Plan** Project



Screening Criteria Checklist: **Infrastructure** Project



[3] The department based the number of 600 vehicular parking spaces on the parking impact analysis of the changes to the Muni Route 14 in the Transit Effectiveness Project (TEP / Muni Forward) Final Environmental Impact Report, March 27, 2014, Planning Case No. 2011.0558E, and used a lower criteria of 600 based on professional judgement, to acknowledge that projects with parking analysis will most likely be located outside of map-based screening areas, unlike TEP / Muni Forward. TEP Impact Statement TR-57 (existing plus project) provided the following analysis: TTRP.14 Moderate Alternative Variant 1 included a permanent loss of 370 vehicular parking spaces (360 of them: part-time loss) north of 13th Street, a permanent loss of 430 spaces (415 of them: part-time loss) on Mission Street between 13th Street and Cesar Chavez Street, and a permanent loss of 360 spaces (355 of them: part-time loss) south of Cesar Chavez Street, which results in a total net loss of 1,160 spaces (1,130 of them: part-time loss). TTRP.14 Moderate Alternative Variant 2 included a permanent loss of 370 vehicular parking spaces (360 of them: part-time loss) north of 13th Street, a permanent loss of 230 spaces (zero of them: part-time loss) on Mission Street between 13th Street and Cesar Chavez Street, and a permanent loss of 360 spaces (355 of them: part-time loss) south of Cesar Chavez Street, which results in a total net loss of 955 spaces (715 of them: part-time loss). The EIR considered the parking loss from each variant substantial for certain segments.

The department may still require a parking analysis for the following project types:

- Large entertainment center outside of "map-based screening" area (greater than 300-person capacity)
- Large retail use primarily for the sale or provision of heavy or bulk goods
- Large institutional use such as a hospital

EXISTING AND EXISTING PLUS PROJECT

Methodology

This section is only applicable if the project does not meet the above screening criteria.

This section describes the typical methodology required to address the significance criterion. The methodology section identifies the collection, generation, and approach to analyze data. The department will determine whether to adjust the methodology as necessary to inform the analysis. The guidelines provide direction on the typical geographical area and period required for analysis. Additional guidance on the appropriate period of study for parking demand and the typical methodology for evaluating existing and existing plus project conditions for this topic, including data collection, is provided below.

This section also indicates in bracketed text [ ] whether the presentation of typical methodological elements in other sections of a transportation study (e.g., baseline, impact analysis) could occur in text, a figure, and/or a table. Appendix A provides examples of figures and tables.

Period

For parking demand, for land uses that typically generate daily long-term parking, the methodology should typically use the weekday mid-day average peak period (Tuesday, Wednesday, or Thursday from 11 a.m. to 2 p.m.). These land uses include, but are not limited to, residential, offices, schools, public parking facilities, medical facilities, and hotels. In addition, for residential uses, the methodology should typically use the weekday average evening and early morning peak period (Tuesday, Wednesday, or Thursday from 2 a.m. to 4 a.m.). For land uses that typically generate short-term demand, such as visitors at non-residential uses, the methodology should typically use the weekday average pm peak period (3 p.m. to 7 p.m.).

Other land uses, such as event centers may generate a peak parking demand on evenings or weekends, depending on the type of events that would occur. The department will determine the period for these types of land uses on a case-by-case basis.

Existing Conditions

The following identifies the typical methodology for projects. The department will determine the appropriate methodology as necessary to inform the impact determination:

<u>Counts</u>

The methodology may include prior counts collected from other studies or sources combined with (e.g., an average of three different dates with counts at the same intersection, global positioning system user data) or in isolation from the counts collected for the project. The use of prior counts must be justified, in consultation with the department. Typically, the use of prior counts may occur if these counts have not changed substantially under existing conditions (e.g., due to lack of new development, circulation changes, or travel patterns). [text, table]

Visual Analysis with Recorded Observations

Data collection for the project should include a site visit for a visual analysis, with recorded observations of the absence, discontinuity, or presence of the features listed in the project description, other relevant features (e.g., type of parking space, on-street parking regulation [e.g., cleaning, tow away zones, residential permit parking] and parking pricing rates [e.g., hourly, daily, weekly, monthly, including ranges]), and a description of the weather conditions. In addition, a site visit must record any existing potential or observed hazards or delays to public transit at locations in the study area where people park vehicles, especially at locations where people parking may interact with people walking, bicycling, or could affect transit. For example, describe whether people parked vehicles in travel lanes, sidewalks, or red color curb zones or observations of people regularly driving their vehicles looking for parking for extended periods of time on streets with transit.

Parking Surveys

The methodology should include a parking survey. The parking survey typically includes the following:

- Parking supply: number of parking spaces available in parking facilities during the period
- Parking utilization: a percentage consisting of the number of parking spaces occupied divided by number of parking spaces available [text, figure, table]
- Generation: the number of parked vehicles associated with a specific land use, building, or geography [text]
- Duration: the length of stay of a parked vehicle in a space [text]
- Turnover: the number of different vehicles that park in a particular space during a period, if not derived from aforementioned data (e.g., turnover rate for commercial short-term parking) [text]
- The parking survey may use video or in-person observations, information requests from parking facility operators, intercept surveys of users, and/or other survey methodologies to obtain information

Street Design Characteristics

Obtain the following general characteristics of streets within the study area:

- Number of travel lanes by type (e.g., mixed-flow, parking, bicycle, transit-only, etc.) [text, figure]
- Presence of public transit stops
- Presence of public transit service
- Location and number of on-street parking spaces [text, figure, table]

Obtain the following additional characteristics of streets within the study area to the extent applicable:

- Number of travel lanes by type at intersections (if different from midblock) [text, figure]

Other Characteristics

- Publicly accessible parking facilities [text, figure]
- Emergency service operator facilities [text, figure]

Existing plus Project Conditions

The following identifies the typical methodology for assessing existing plus project conditions.

Parking Demand and Travel Demand Analysis

The methodology to estimate parking demand[4] will vary depending upon the land use. The following is the typical methodology for different land uses: [text, table]

To estimate the long-term parking demand at residential uses, the methodology will use the private residential neighborhood parking supply[5] and survey data for the analysis period of on- and off-street publicly accessible parking spaces divided by number of dwelling units in the neighborhood to determine a parking demand rate per unit (refer to formula below). Alternatively, the methodology could use neighborhood specific total numbers of available vehicles divided by number of units in the neighborhood to determine a parking demand rate per unit.[6] For both methodologies, the methodology will multiply the parking demand rate by the total number of units in the project.

$$\textit{residential long-term parking demand rate per unit} = \frac{\text{(private residential neighborhood parking supply) + (on- and off-street publicly accessible parking spaces)}}{\text{number of dwelling units in the neighborhood}}$$

To estimate the long-term parking demand for employees at non-residential uses, the methodology will multiply the total number of employees (based on employee density estimates) by work-related, non-for-hire vehicle automobile modal split and divide by vehicle occupancy estimates.

$$\textit{long-term parking demand for employees} = \frac{\text{(total number of employees) (work automobile modal split)}}{\text{vehicle occupancy estimate}}$$

To estimate the long-term parking demand for visitors at hotels, the methodology will multiply the total number of rooms by non-work, non-for-hire vehicle automobile modal split.

long-term parking demand for visitors = (total number of rooms) (non-work automobile modal split)

To estimate the short-term parking demand for visitors at non-residential uses, the methodology will multiply the peak hour inbound, non-work person trips by non-for-hire vehicle automobile modal split and divide by vehicle occupancy estimates. To extent possible, the methodology should account for turnover rates.

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[4] People demand access to destinations. There is no inherent parking demand. While this memo includes estimates of parking demand, based on available data, it acknowledges many variables that could affect travel behavior.

[5] This data is available as part of the neighborhood parking rate for the TDM Program. The methodology should use the neighborhood parking supply most appropriate for the project proposed (i.e., single-family plus multi-family buildings versus multi-family buildings only).

[6] If the margin of error is limited, the methodology can use U.S. Census American Community Survey data regarding answers to the question, "How many automobiles, vans, and trucks of one-ton capacity or less are kept at home for use by members of this household?". The department will determine adequate margin of error on a case-by-case basis.

$$\textit{short-term parking demand for visitors} = \frac{\text{(peak hour inbound person trips) (non-work automobile modal split)}}{\text{vehicle occupancy estimate}}$$

To estimate parking demand for other types of land uses, the methodology can use different sources. These sources, in order of preference, include recent observed data at sites with uses and area characteristics like the project in San Francisco, the Bay Area, or California or nationally recognized transportation engineering materials.

To estimate the parking demand of a mixed-use project, use a combination of the methodologies outlined above, as appropriate. For example, to estimate the parking demand of a project that includes residential and office uses, the methodology will combine the residential parking demand with that of the office uses, if the demand occurs during the same time periods.

Many of the above methodologies rely on travel demand data. Typical site-specific travel demand methodologies account for multiple variables that affect travel to and from a site and whether people choose to drive and park at a site.[7] However, four variables often not accounted for in determining the parking demand in site-specific travel demand methodologies (non-residential) nor the neighborhood parking rate/availability methodology (residential) are the availability and pricing of parking, size of dwelling units (number of bedrooms), and demographics. Therefore, the methodology should, to the extent substantial evidence is available, account for these variables for revising the parking demand estimates derived using the above methodologies.

After determining the parking demand, distribute and assign the project's vehicle trips to the project's parking facility. For any unmet on-site parking demand, assign estimated vehicle trip routing to the project site prior to distributing to nearby on-street or off-street publicly accessible parking facility(ies).[8] [text, figure]

Demand versus Supply

Assess to the extent applicable, including accounting for time-of-day restrictions, demand-responsive pricing, and overlap of demand for mixed uses:

- The ability of on-site parking facilities to accommodate the parking demand [text, table]
- The location of the project in relation to on-street and off-street publicly accessible parking facilities [text, figure]

For unmet on-site parking demand, the ability of on-street or off-street publicly accessible parking facility(ies)[9] in the study area to conveniently accommodate the parking demand [text, figure, table]

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[7] Variables that affect travel behavior include density, diversity of land uses, design of the transportation network, access to regional destinations, distance to high-quality transit, development scale, demographics, and transportation demand management. Source: Institute of Transportation Studies, *California Smart-Growth Trip Generation Rates Study*, Appendix A, March 2013.

[8] If the project proposes valet operations to an off-site private parking facility, then the methodology should account for that facility, too.

[9] *Ibid*. The department will only use the off-site parking facility as it relates to vehicle trip assignment and for parking demand versus supply analysis. The department will not evaluate impacts of an existing principally permitted parking facility because the department does not have discretion to affect the environmental outcomes of that existing condition. The department also does not require documentation of private agreements between the project and the off-site parking facility.

Potentially Hazardous Conditions

Use the existing conditions, including of geographic areas with similar characteristics, as that would exist with implementation of the project, travel demand analysis, and demand versus supply analysis to determine if the project would potentially cause secondary parking impacts. The methodology should assess to the extent applicable:

- The potential for unmet parking demand to occur within sidewalks or crosswalks, bicycle facilities, or travel lanes [text]
- The number of people walking, bicycling, or driving in the respective facilities [text, figure]
- The sightlines and speed of vehicle trips in relation to the travel lanes [text]

Accessibility

Use the existing conditions, including of geographic areas with similar characteristics as that would exist with implementation of the project, travel demand analysis, and demand versus supply analysis to determine if the project would potentially cause secondary parking impacts. The methodology should assess to the extent applicable

- The potential for unmet parking demand to occur within sidewalks or crosswalks, bicycle facilities, red color curb zones, or travel lanes [text]
- The number of people walking, bicycling, or driving in the respective facilities [text, figure]
- The ability of emergency service operator facilities near the project site to conduct operations that could interact with unmet parking demand [text]

Public Transit Delay

Use the existing conditions, including of geographic areas with similar characteristics as that would exist with implementation of the project, demand versus supply analysis, and project elements to determine if the project would potentially cause secondary parking impacts. The department provides examples of some of the circumstances that may result in potential delays to public transit in the public transit memorandum of these guidelines. The methodology should assess to the extent applicable:

- The potential for unmet parking demand to occur within travel lanes used by public transit [text]
- The potential, as a result of unmet parking demand, for people regularly driving their vehicles for extended periods of time looking for parking
- The location of the project in relation to public transit facilities and amount of public transit service at those facilities [text, figure]

Existing Baseline

Refer to the guidelines for direction on including existing baseline in transportation studies.

Impact Analysis

This section ties the project description, methodology, and existing baseline together to address the significance criteria for existing plus project conditions. This section addresses the typical approach for the impact analysis and provides more details related to parking impacts. The impact analysis section should present a format (text, figure, or table) consistent with earlier sections of this memorandum for easy comparison. Refer to the guidelines for direction on what to typically consider when conducting the existing plus project impact analysis and how to present the findings.

Demand versus Supply

The first step in the analysis is to determine whether the project would accommodate the anticipated parking demand during the peak periods and, if not, whether study area parking facilities can accommodate the anticipated parking demand. Calculate parking demand throughout the average peak period. If the project does not meet the demand at the project site or study area parking facilities, then determine if the parking deficit is substantial. The following examples are some of the circumstances that may result in a substantial parking deficit. These circumstances also depend on the context of the project's size, location, and other site-specific considerations. This is not an exhaustive list of circumstances, under which, a project would result in a substantial parking deficit:

- The site is not well-served by multiple other ways of travel (e.g., bicycle, public transit, for-hire vehicles)
- The site itself or surrounding area is not dense enough to support neighborhood-serving uses that people walking can access (e.g., lack of sidewalks; large blocks; wide, high-speed roadways)
- The site or surrounding does not use demand-responsive pricing to manage demand

If the project would not result in a substantial parking deficit, then the analysis is complete.

If the project does result in a substantial parking deficit, then the impact analysis must address whether the project would create secondary effects from parking, such as potentially hazardous conditions for people walking, bicycling, or driving (e.g., as a result of vehicles blocking facilities used by people), whether the project would interfere with accessibility (e.g., as a result of vehicles blocking facilities used by people walking and bicycling), and the project would result in public transit delay. The subsections below provide specific examples of the types of circumstances that could potentially result in a hazardous condition impact or accessibility impact under existing plus project conditions.

Potentially Hazardous Conditions

The department provides examples of some of the circumstances that may result in potentially hazardous conditions associated with different ways people travel (e.g., people walking, bicycling or driving) in the applicable transportation topic memorandum of these guidelines. The following examples are some of the additional non-exhaustive list of circumstances that could result in potentially hazardous conditions that the department did not list in the other memorandums:

- A project would result in a substantial amount of parking in sidewalks or crosswalks, or bicycle facilities used by a substantial number of people walking or bicycling (e.g., based on counts or projections), respectively;
- A project would result in a substantial amount of parking in travel lanes on a slope that may obstruct sightlines used by a substantial number of people driving (e.g., based on counts or projections.

Accessibility

The department provides examples of some of the circumstances that may result in interference with accessibility in the applicable transportation topic memorandum of these guidelines. The following examples are some of the additional non-exhaustive list of circumstances that could result in potentially hazardous conditions that the department did not list in the other memorandums:

- A project would result in a substantial amount of parking in sidewalks or crosswalks, or bicycle facilities used by a substantial number of people walking or bicycling (e.g., based on counts or projections), respectively
- A project would result in a substantial amount of parking in red color curb zones that are designated for emergency service vehicle access
- A project would result in a substantial amount of parking in travel lanes without adequate space for emergency service vehicles to pass the parked vehicles as a result of street width or a substantial number of people driving in the oncoming travel lane (e.g., based on counts or projections)

Public Transit Delay

Below is a non-exhaustive list of circumstances that could result in public transit delay that are not provided in the transit memorandum.

- A project would result in a substantial amount of parking in travel lanes used by a substantial number of people taking public transit (e.g., based on Muni service type designation)
- A project would result in in a substantial number of people regularly driving their vehicles looking for parking for extended periods of time on streets with a substantial number of people taking public transit (e.g., based on Muni service type designation)

CUMULATIVE

Methodology

The guidelines detail the typical methodology for cumulative analysis, including the geographical area, period, cumulative projects, and adjustments (refer to Appendix B) The cumulative section in transportation studies must present (text, figure, or table) the applicable elements included in the methodology.

Impact analysis

This section ties the methodology and description of cumulative conditions together to address the significance criteria for cumulative conditions. Refer to the guidelines for direction on what to consider when conducting the cumulative impact analysis and how to present the findings. The same examples of the types of circumstances that could result in a potential hazardous condition impact or public transit delay that were provided for existing plus project conditions apply here, except for cumulative conditions.

Demand versus Supply

The first step in the cumulative analysis is to determine whether the project, in combination with reasonably foreseeable cumulative projects, would accommodate the anticipated parking demand during the peak periods and, if not, whether study area parking facilities can accommodate the anticipated parking demand. If the projects do not meet the demand at the project sites or study area parking facilities, then determine if the parking deficit is substantial. The same examples as provided for existing plus project conditions apply here, except for cumulative conditions.

If the cumulative projects would not result in a substantial parking deficit, then the analysis is complete.

Potentially Hazardous Conditions, Accessibility and Public Transit Delay

If the project does result in a substantial parking deficit, then the impact analysis must address whether the project would create secondary effects from parking. The department provides examples of some of the circumstances that may result in potentially hazardous conditions associated with different ways people travel (e.g., people walking, bicycling, driving, or riding transit) in the applicable transportation topic memorandum of these guidelines and under the Existing plus Project and Cumulative Impact Analysis subsections.

OTHER

The guidance provided in this memorandum assumes a land use development project located outside of an area plan that requires a transportation study. This section describes the type of additional or different information that may be necessary to address vehicular parking impacts for the following circumstances: land use development project located within an area plan, an area plan, or infrastructure project (which may be located in a different county than San Francisco). In addition, this section describes the extent to which a code compliance analysis and/or a discussion of policy inconsistencies may be necessary.

Land Use Development Project Located within an Area Plan

For projects that are consistent with an area plan for which an environmental impact report (EIR) was certified, pursuant to CEQA Guidelines section 15183, the assessment must limit its analysis to such conditions specified in that section. The guidelines provide direction on how to analyze a land use development project in an area plan and lists area plan EIRs that have been certified as of February 2019. The department will list parking-related mitigation and improvement measures from future area plan EIRs in Vehicular Parking Memorandum Attachment B after the Planning Commission or Board of Supervisors certifies those EIRs.

Area Plans

For area plans, the assessment will typically use the significance criteria and screening criteria identified herein. The following subsections describe the type of additional or different information that may be necessary to address parking impacts for project description, methodology, and impact analysis. For area plans that also include infrastructure changes (e.g., street redesigns), please see the Infrastructure Project subsection for additional or different information that may be necessary.

Project Description

Typically, the department conducts an analysis to estimate the amount of future development that could occur in the plan area as a result of its implementation. The department typically does not have all the project description details described herein. However, the project description may include policies that may relate to the methodology and impact analysis (e.g., parking maximum limits, transportation demand management).

Methodology

The assessment will typically use the same methodology identified herein and in the guidelines, except the methodology will use a larger geographical study area and require less site-specific information (e.g., parking spaces at each site) except to document circumstances where vehicles may not be allowed (e.g., no parking). While an individual project may not require some elements listed in the Existing and Existing plus Project Methodology subsection, area plans typically will include all of these elements.

Impact Analysis

For analysis of area plans, assess the projected amount of growth and infrastructure changes associated with the rezoning within the area plan boundaries. The analysis of demand versus supply and the secondary impacts of potentially hazardous conditions, accessibility, and public transit delay should be similar to that described under the Existing plus Project and Cumulative Impact Analysis subsections. Examples of circumstances that would result in significant impacts are described under the Existing plus Project Impact Analysis subsection.

Infrastructure Project

For infrastructure projects (e.g., new roads, bridge repair, sewer line, rail service, roadway modifications, etc.), the assessment of the project description, significance criteria, and impact analysis should be similar to private development projects. The analysis typically does not require parking demand analysis as infrastructure projects usually do not generate trips.[10] However, some infrastructure projects may induce parking demand, such as the new public building or public transit facility not located within a transit priority area.[11] In addition, infrastructure projects may generate short-term trips due to construction workers and vehicles accessing the project site.

Project Description

The project description must describe the typical physical, additional physical, and programmatic features for existing and project conditions, as applicable. The project description must provide the geographic boundaries of the project and street cross sections.

Methodology

The assessment will typically use the same methodology identified herein and in the guidelines, except the methodology will pay particular attention to proposed closures and rerouting.

Impact Analysis

The analysis of potentially hazardous conditions should be similar to that described under the Existing plus Project and Cumulative Impact Analysis subsections.

Demand versus Supply

Infrastructure projects are unlikely to generate a parking demand, as they typically are not associated with a land use change or growth inducement and would not generate trips. However, should the infrastructure project generate trips or remove parking, the first step in the analysis is to determine whether the infrastructure project would accommodate the anticipated parking demand and, if not, whether the study area on or off-street parking can accommodate the anticipated parking demand. If the project does not meet the demand at the project sites or study area parking facilities, then determine if the parking deficit is substantial. The same examples as provided for under the Existing plus Project Impact

[10] Governor's Office of Planning and Research, *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA,* January 20, 2016.

[11] Generally, minor transportation projects would not result in additional parking demand. Examples include, but are not limited to, rehabilitation, maintenance, and repair of transportation infrastructure; installation, removal or reconfiguration of non-through traffic lanes and traffic control devices; removal of through lanes; installation of traffic calming measures and wayfinding; removal of on- or off-street parking. Governor's Office of Planning and Research, *Technical Advisory on Evaluating Transportation Impacts in CEQA,* November 2017.

Analysis subsection apply here. The following example is an additional circumstance that could result in a substantial parking deficit that the department did not list above:

- a project would permanently remove a substantial number of parking spaces in a location without convenient parking facilities and multiple ways for people to travel to and from the study area (e.g., public transit, walking, bicycling, for-hire vehicles).

If the project would not result in a substantial parking deficit, then the analysis is complete.

Potentially Hazardous Conditions, Accessibility and Public Transit Delay

If the project does result in a substantial parking deficit, then the impact analysis must address whether the project would create secondary effects from parking. The department provides examples of some of the circumstances that may result in potentially hazardous conditions, interfere with accessibility, or result in public transit delay associated with different ways people travel (e.g., people walking, bicycling, driving, or riding transit) in the applicable transportation topic memorandum of these guidelines and under the Existing plus Project and Cumulative Impact Analysis subsections.

ATTACHMENT A

Mitigation and Improvement Measure Examples

The following list includes the typical types of measures that can mitigate or lessen parking impacts:

Reduction in Existing Parking Supply (Demand Versus Supply)

» Contribute equipment or funds to SFpark program to implement systems at parking facilities for entire study area that include the use of parking meter technology (e.g., demand-based pricing), vehicle sensors, dynamic signs (e.g., denoting available supply of parking), a central management system, and a real-time parking guidance system.

» Implement transportation demand management measures not already required by the Planning Code but listed in the Transportation Demand Management Program Standards such as:

a. Parking pricing, particularly demand-based pricing
b. Unbundle parking spaces in non-residential development
c. Parking cash-out
d. Delivery services
e. Delivery amenities

» Increase density at the project site so that it is more feasible for San Francisco or other service entities to provide more ways of travel (e.g., increased public transit service)

» Provide neighborhood-serving uses (e.g., retail) and amenities that people walking can access (e.g., by providing sidewalks; reducing block length; reducing intersection crossing distances)

» Establish or become part of an existing shared parking agreement. For example, multiple land uses would share parking at existing facilities through an agreement among private lot and property owners (e.g., users from other uses and buildings would park off-site).

Potentially Hazardous Conditions, Accessibility, and Public Transit Delay

» See demand versus supply measures above

» Add physically separated bicycle or transit facilities

» Add passenger loading zones

» Fund increased parking control officers (on-going)

» Refer to other memos for additional measures

Street widening and new on-street parking spaces are mitigation measures that may be technically feasible, but are generally considered undesirable.

The department may consider the creation of new parking spaces only after investigating the aforementioned measures that more effectively manage parking demand.