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MEMORANDUM

To:	Nader Asmar, T.E., Principal Engineer Conrad Viana, P.E., Engineer City of Pasadena Department of Transportation	Date:	October 19, 2021
From:	Clare Look-Jaeger, P.E. Grace Turney, EIT Linscott, Law, & Greenspan, Engineers	LLG Ref:	1-21-4431-1
Subject:	City of Pasadena Transportation Impact Analysis Guidelines Update – Local Mobility Analysis Recommendations		

INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared this memorandum to summarize the initial recommendations for updates to the City of Pasadena Department of Transportation's (PasDOT) local mobility analysis guidelines. These recommendations were developed based on the findings of LLG's Best Practices review along with consideration of the comments and concerns previously provided by various Pasadena stakeholder groups as well as at the recent public outreach meetings. It is LLG's opinion that the proposed recommended changes to the PasDOT "Transportation Impact Analysis Current Practice & Guidelines"[1] ("Guidelines" herein) would bring the local mobility analysis requirements into better alignment with current best practices and provide greater transparency with the general public regarding the local mobility analysis process. The Guidelines currently apply to all projects greater than 10 residential units, add more than 10,000 non-residential square feet or generate more than 300 daily vehicle trips.

CEQA TRANSPORTATION ANALYSIS

The City of Pasadena adopted the current Guidelines and associated CEQA transportation analysis metrics in 2015 and the Pasadena City Council recently approved updates to the City's CEQA impact thresholds in November 2020. The City has engaged the consulting firm Kimley-Horn and Associates, Inc., to develop a vehicle miles traveled (VMT) and vehicle trip (VT) mitigation calculator. Any CEQA mitigation measures proposed as a result of that work effort shall be reviewed by the City. It is understood that the City of Pasadena is not pursuing any changes to the CEQA transportation analysis requirements at this time. Therefore, no recommendations pertaining to changes to CEQA analysis screening, metrics and analysis methodology, thresholds of significance, or mitigation measures are provided in this memorandum.

[1] "Transportation Impact Analysis Current Practice & Guidelines", Pasadena Department of Transportation Complete Streets Division, September 2015.

LOCAL MOBILITY ANALYSIS

As noted above, the City's current Guidelines were developed and adopted in 2015 and require a separate outside of CEQA evaluation process to be completed. Projects that exceed targeted caps under the Transportation Review section of the Guidelines are subject to conditions of approval. The intent of the outside of CEQA evaluation and the corresponding Transportation Impact Analyses is to identify potential impacts to the transportation system (i.e., to vehicular, transit, bicycle, and pedestrian circulation systems) as new development is proposed. When applicable, the current Guidelines pertaining to the outside of CEQA evaluation require assessments of street segments, auto Level of Service (LOS) at intersections, and environmental quality for both pedestrian and bicycle circulation. It is PasDOT's responsibility in response to any identified impacts in these areas to identify strategies that would either eliminate, minimize, or manage potential impacts. Therefore, these analyses provide PasDOT, and ultimately the City's decision-makers, with important information prior to taking any action on an entitlement request/s from proposed project applicant/s.

The purpose of updating the current Guidelines with respect to the outside of CEQA component (i.e., referred to as "local mobility analysis" herein) is to bring the City's requirements into better alignment with current best practices of the industry and provide greater transparency with the general public regarding the local mobility analysis process.

As discussed previously during the extensive best practices research and review work effort, a number of local mobility topics and analyses were identified for further evaluation and consideration. The following sections briefly summarize the City of Pasadena's current Guidelines and requirements, and then provides recommended updates where appropriate.

Project Screening

The City of Pasadena's current Guidelines require local mobility analyses to be conducted for projects which include more than 10 residential units, or which add more than 10,000 non-residential square feet or generate 300 daily trips or more. Projects which do not exceed these thresholds are screened out from providing local mobility analysis. The City of Pasadena's approach to local mobility analysis screening is consistent with the most common approach taken by other agencies, as determined in the Best Practices review. While no major changes or significant updates to the screening criteria are recommended, LLG does recommend that the City consider lowering the current daily vehicle trip threshold (i.e., 300 daily vehicle trips) to 110 daily vehicle trips to be in better alignment with many other jurisdictions, including the State of California Governor's Office of Planning and Research (OPR) and the County of Los Angeles. The State's OPR issued proposed updates to the CEQA guidelines in November 2017 and an accompanying technical advisory guidance was finalized in December 2018 (*Technical Advisory on*

Evaluating Transportation Impacts in CEQA) which references the 110 daily vehicle trip threshold. This more conservative screening criteria would be in alignment with most conservative criteria adopted by other Southern California jurisdictions.

Scoping Memorandum/Form

The purpose of requiring the preparation of a formal transportation impact analysis scoping document is to establish a common understanding between all parties (i.e., the City's Departments of Planning and Transportation, the applicant/s of a project, among others) of the project to be evaluated and the scope of the analysis parameters *prior* to commencement of the evaluation. This process affords an opportunity for PasDOT to comment on the scope so as to avoid any future misunderstandings to the extent feasible. Therefore, LLG recommends that the City re-establish a formal scoping review process prior to commencement of any local mobility analysis. This process can involve either the creation of a formal Memorandum of Understanding (MOU) worksheet outlining the parameters of the transportation study with signature blocks for the preparer and PasDOT staff, or the requirement for the preparer to provide a scoping memorandum summarizing key study parameters to PasDOT staff for review and approval.

Intersection Operational Analyses

- Study Area

  Establishing guidance on the formulation of the local mobility analysis study area is important as it sets expectations as to which locations will be assessed and to what extent. The City's current Guidelines do not provide any guidance on selecting an appropriate study area for intersection operational analyses. Consistent with the approach utilized by other agencies in Los Angeles County, it is recommended that the City provide criteria for selecting study intersections. LLG recommends that the study area should include analysis of a project's proposed driveway/s and the nearest intersections. Additional locations depending on the specific characteristics of the immediate project vicinity could be added in consultation with PasDOT during the scoping process.

- Analysis Scenarios

  The City's current Guidelines do not provide any guidance on the analysis scenarios that must be included in the intersection operational analysis. It is understood that in practice, the City currently evaluates existing conditions (without and with the proposed project) only. Inclusion of future conditions analysis scenarios is expected to adequately evaluate both the project-specific and cumulative effects of development on the study area.

  Consistent with the findings of the Best Practices review, it is recommended that the City require analysis of existing and project build-out (i.e., opening year or near-term future year) conditions, without and with the proposed project. If a project is planned to be constructed in phases over multiple years, then additional

analysis conditions may be required during the scoping process to evaluate key projected occupancy milestones between existing and project build-out conditions.

The trends identified in the Best Practices review were inconclusive regarding inclusion of future cumulative (i.e., horizon year or long-term future year) conditions. The future cumulative year would generally be consistent with a city's current General Plan or travel demand model horizon year. Such conditions are typically evaluated as part of a General Plan update process. Thus, a future cumulative with project analysis condition for the General Plan Buildout Year may be required by PasDOT staff for informational purposes only when a project would require long-term multi-year phasing and/or a long-term development agreement, or when a project would require a General Plan zoning amendment. Further discussion of the recommended future conditions forecasting methodology (project build-out and General Plan horizon year, if required) is contained below.

- Future Conditions Forecasting

  The transportation analysis should estimate future baseline traffic conditions for the project build-out year and the future General Plan (cumulative) year, if required. It is recommended that the City should require the forecast future project build-out traffic conditions to be based on traffic volumes which include both increases in existing volumes (i.e., through incorporation of an annual growth in ambient traffic factor [annual growth rate]) and added volumes related to other known and reasonably foreseeable development projects (i.e., related or cumulative projects). The annual ambient growth rate should be determined based on the most recent Southern California Association of Governments (SCAG) regional transportation program, the City of Pasadena's travel demand model, or other appropriate sources, and shall be approved by PasDOT staff prior to commencement of the study. The future baseline (project build-out) traffic conditions forecast should include the trip generation for related projects located within approximately one-half (1/2) mile of the project site. Related projects research should consider all other known projects on file at the time the development project's application is filed with the Planning Department and the scoping processed has commenced.

  If needed, the methodology for developing the forecast General Plan horizon year traffic volumes within the study area should be outlined in consultation with PasDOT staff during the scoping process.

- Data Collection

  The City of Pasadena's current Guidelines state that counts should be collected "in accordance with industry standards and established methodologies," and when local schools are in session. The Guidelines do not indicate if the use of recently collected count data is acceptable. Consistent with the findings of the Best Practices review, it is recommended that the City clearly state that traffic count

data be two (2) years old or less at the time the analysis is prepared, barring a drastic change in conditions (e.g., major earthquake, pandemic, etc.). Depending on the situation of such event/s, use of older counts, or the requirement for new counts, would be confirmed during the scoping process. Also, as discussed in more detail in the following section, if an existing use trip generation credit is applicable to the project's trip generation forecast, the existing traffic counts should include those volumes.

- Trip Generation Credits and Adjustments

  The City of Pasadena's current Guidelines indicate that trip credits may be allowed, but are determined on a case-by-case basis. Consistent with the findings of the Best Practices review, it is recommended that the City clearly state the allowable types of trip generation credits, reductions and adjustments and provide suggested ranges or sources for certain types of trip generation credits, reductions, and adjustments in order to promote uniform assumptions. The recommended trip generation adjustments are summarized below and should be documented in the scoping document:

  - *Existing Use Credits*: Many proposed development projects within the City are planned to be located on sites that contain an existing active/operational land use or land uses. In cases where the existing uses are planned to be removed/demolished as part of the proposed project, an existing use trip generation credit should be applied to the proposed project's forecast trip generation so as to be able to assess the potential impacts of the *net new* trip generation on the study area traffic operations. LLG recommends that the City add language to the Guidelines that notes that existing use trip generation credits may be granted for existing or recently terminated land uses which were active for at least 12 months during the most recent two (2) years, barring a drastic change in conditions as described above. Supporting documentation may be required to verify the status of active or recently terminated uses at the project site.
  - *Internal Capture Adjustments*: Internal capture trips are trips that occur between project land use components (e.g., within a mixed-use development). A trip generation credit may be applied to mixed-use projects to account for these trips which are made internal to the project site. Internal capture may be estimated using information provided in the latest edition of the Institute of Transportation Engineers' (ITE) *Trip Generation Handbook*, the Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) *Report 684: Enhancing Internal Capture Estimation for Mixed-Use Developments*, or other appropriate sources.
  - *Transit Adjustments*: Transit adjustments may be applied to projects which are located in proximity to public transit services, including bus and light rail transit lines. Such trip generation adjustments are consistent with the City's goals of promoting the use of transit and encouraging development within

Transit-Oriented Development (TOD) areas. LLG's recommendations for the maximum transit adjustments based on location and quality of transit service are summarized below. The actual adjustment will be determined in coordination with PasDOT staff on a project-by-project basis at the time of analysis scoping.

- Adjacent to dedicated transit stations – up to 20%. For purposes of this section, "Adjacent" refers to projects located adjacent to or across the street from a dedicated transit station.
- Within an established TOD area, or within one block or 600 feet, whichever is greater, to high-quality transit with less than 15-minute headways during peak periods – up to 15%.
- Outside an established TOD area and within one block or 600 feet, whichever is greater, to transit with less than 30-minute headways during peak periods – up to 10%.

- *Pass-by Adjustments*: Pass-by adjustments account for trips which are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the site. Pass-by trips are made as intermediate stops on the way from an origin to a primary destination without a route diversion. Pass-by adjustments should be based on the latest edition of the ITE *Trip Generation Handbook* or supported by empirical data or other appropriate sources, and be approved by PasDOT prior to commencement of the study. Pass-by trip adjustments should be applied after internal capture, transit, and other project-specific external trip adjustments have been applied. LLG recommends that the City consider an attachment to the revised Guidelines (in table format) for consideration of both the preparer and PasDOT during the scoping process.

- Intersection Analysis Methodology and Parameters

The City of Pasadena's current Guidelines require the use of the latest edition of the Highway Capacity Manual (HCM) methodology to evaluate all study intersections. Use of this methodology is consistent with the most common approach identified in the Best Practices review. It is recommended that the City of Pasadena continue to utilize the methodology as set forth by the Transportation Research Board (TRB, a part of the National Academy of Sciences, Engineering, and Medicine), which reports average control delay (reported in seconds per vehicle) for the intersection as a whole at signalized and all-way stop-controlled intersections, and for the most constrained approach at two-way stop-controlled intersections. Theis methodology is based research conducted at a national level and has been published for use by all jurisdictions in the country. All 18 of the agencies included in the Best Practices review implement the HCM methodology as published, although some agencies recommend modified calculation inputs and parameters in order to reflect local conditions (discussed further below). As it is not a standard practice to modify the implementation of the methodology, nor has

any research or evidence supporting a modified implementation been identified, is not recommended that the City adopt or require changes to the published HCM methodology. In addition, LLG recommends that the local mobility analysis Guidelines contain the provision that the latest version of *Synchro* be utilized for analysis purposes.

It is recommended that the City of Pasadena also provide guidance on the parameters which should be utilized in the HCM analysis in order to ensure the consistency in the analysis and that assumptions appropriate to the City of Pasadena are being utilized.

- Saturation Flow Rate (SFR) standards by lane group type as provided below should be employed, absent empirical surveys of SFR obtained per the methodology outlined in the latest edition of the HCM (i.e., HCM 6th Edition, Chapter 31 – Signalized Intersections: Supplemental).
  - 1,800 vehicles per hour per lane (vphpl) for exclusive through and right-turn lanes
  - 1,700 vphpl for exclusive left-turn lanes
  - 1,600 vphpl for exclusive dual left-turn lanes

  In order to assess the effects that at-grade light rail crossings have on the roadway network and nearby intersection operations, LLG recommends that the City require that such crossings be included in the roadway network modeling via use of the latest version of *Synchro*. This inclusion would account for situations where intersection operations are regularly disrupted due to at-grade light rail (i.e., Metro L Line) transit crossings. Each rail crossing is unique and these characteristics should be reviewed in consultation with PasDOT during the scoping process and prior to commencement of the study.
- Peak Hour Factor (PHF) represents the fluctuation in traffic demand during the peak hour, and is used to adjust hourly traffic volumes (i.e., over a 60-minute period) to reflect the most constrained traffic conditions occurring during the peak 15-minute increment within the hour. Utilization of a PHF based on traffic volumes for the entire intersection as a whole ensures that the analysis is appropriately, but not overly, conservative. The PHF for existing conditions analysis should be determined for each intersection as a whole based on traffic volumes collected in the field. A PHF of 0.92 (or the current PHF recommended for urban areas by the latest edition of the HCM) could be utilized for the future conditions (e.g., for the project build-out conditions), however, LLG recommends that the specific peak hour factor for the future conditions analyses be determined in consultation with PasDOT.
- Pedestrian and Bicycle field volume data should be collected for each crossing concurrently with the conduct of any required peak hour vehicle traffic counts.

- Signal Timing Parameters should be obtained according to the signal timing charts in use at the time any volume data was collected.

- Exclusive Turn-Lane Queuing Analysis

  In addition to intersection operational analysis utilizing the HCM methodology, it is recommended that the City should require an analysis of exclusive turn-lane queuing at study intersections. Existing exclusive left-turn lanes at all intersections within the study area should be included in the analysis. The exclusive turn-lane queuing analysis should require the calculation of vehicle queues (reported in either number of vehicles or feet), instead of vehicle delays and LOS. The analysis should identify the potential for a development project to cause or contribute towards excessive exclusive turn-lane queuing. Excessive exclusive turn-lane queuing can be defined as queuing which exceeds the turn-lane storage capacity and which may spill back into adjacent travel lanes and impede through vehicles, or as queuing which extends into or blocks upstream intersections and contribute to "gridlock". Exclusive right-turn lanes may also be included, if directed through consultation with PasDOT during the scoping process and prior to commencement of the study.

  LLG also recommends that the City consider expanding the local mobility analysis Guidelines to include the preparation of traffic signal warrants for the evaluation of all-way stop-controlled intersection/s, if such location/s fall within the study area. Level of Service (LOS) analysis should not be required for these all-way stop controlled locations.

Street Segment Operational Analyses/Neighborhood Traffic Intrusion and Cut-Through Analysis

It is noted that the City of Pasadena's current Guidelines require roadway segment analyses with the focus of the analysis being on neighborhood protection from traffic intrusion on "Access" and "Neighborhood connector" roadways. The analysis requirement is thus found to be more aligned with the Neighborhood Traffic Intrusion/Cut-Through Analysis described in further detail below. It is understood that roadway widening, the addition of through travel lanes, and other physical improvements aimed solely at vehicular travel which may cause detrimental effects on other travel modes are not in alignment with the City's established transportation policies and objectives. Therefore, LLG does not recommend that the City of Pasadena expand the scope of street segment operational analyses beyond the current requirements.

The City of Pasadena's current Guidelines require an analysis of increases in ADT on "Access" and "Neighborhood Connector" roadways, which is consistent with the intent of neighborhood intrusion/cut-through analysis. Consistent with the most common approach identified in the Best Practices review, it is recommended that the City provide a more detailed definition of neighborhood intrusion and cut-through

traffic and specify those conditions that would require the preparation of a detailed neighborhood cut-through analysis.

The transportation assessment should identify any potential detrimental effects on nearby residential neighborhood streets caused by project trips which may be classified as cut-through trips. Residential neighborhood street segments include roadways which are classified as "Access" and "Neighborhood Connector" in the City's Streets Plan and which serve residential uses along one or both sides of the roadway. Cut-through trips include trips along a residential neighborhood street segment either to or from a destination that does not take access from the subject roadway, or which is located outside of the neighborhood served by the subject roadway. Trips to or from destinations which may only be accessed by the subject roadway (i.e., project driveway(s) located on the study roadway segment only) do not represent intrusion or neighborhood cut-through trips. Cut-through trips may also include trips which have been diverted from nearby major corridors due to congestion.

Street segments which do not provide sole access to the project site should be assessed for potential neighborhood intrusion and cut-through traffic when both of the following conditions are met:

- The proposed project is required to provide a local mobility analysis study; and
- The street segment meets the definition of a neighborhood residential street.

In addition, either of the following two conditions should be met:

1. The project is expected to add trips to a neighborhood residential street(s); or,
2. a. The project is located in the vicinity of a roadway which is known to operate at an unacceptable Level of Service during peak traffic conditions; and

   b. The street segment provides a viable alternative route which is parallel to and/or in proximity to the congested corridor, as determined by PasDOT staff.

If a project's net new trip generation on any required street segment analysis location exceeds the average daily traffic (ADT) volume caps contained within the current Guidelines, measures to discourage use of the residential street segment to and from the project site should be developed. Typical measures which could be considered include, but are not limited to, the following subject to the review and approval by PasDOT:

- Establishment of a more aggressive average vehicle occupancy (AVO) target that exceeds the City's AVO average by enhancing the required Transportation Demand Management (TDM) Plan as required by the City's Trip Reduction Ordinance (TRO)

- Potential turn restrictions and/or revised project access and circulation scheme
- Installation of speed humps to deter cut-through trips
- Curb extensions, diverters, raised median neighborhood gateways, etc.
- Other measures as identified by PasDOT staff

Pedestrian/Bicycle/Transit Infrastructure Review

The City of Pasadena's current guidelines include an assessment of pedestrian and bicycle facilities based on the Pedestrian Environmental Quality Index (PEQI) and Bicycle Environmental Quality Index (BEQI) survey instruments. While inclusion of a pedestrian and bicycle infrastructure review is consistent with the approach identified in the Best Practices review, it is noted that no other agencies utilize the PEQI and BEQI, including the City of San Francisco where the surveys were originally developed. It is therefore recommended that the City adopt a pedestrian, bicycle, and transit infrastructure review, or active transportation review, that is consistent with the most common approach identified in the Best Practice review.

LLG recommends that the Guidelines be revised to remove the current PEQI and BEQI index calculations and rating system and that a more comprehensive review and assessment of active transportation elements within the project vicinity be included. This should include an inventory of all pedestrian, bicycle, and transit facilities within a 0.25-mile radius of the project boundary. The inventory should include existing and planned facilities, including but not limited to: sidewalks and sidewalk widths, pedestrian curb ramps and Americans With Disabilities Act (ADA) features, curb extensions and bulb-outs, crosswalks, pedestrian push buttons and signals, bicycle lanes, bicycle parking, bike-share locations, transit stops, benches and shelters, public trash receptacles, and other active transportation infrastructure. The City could then include this information as part of its on-going database/record files. The inventory should note facilities which are missing or substandard (e.g., cracked pavement or sidewalks, obstructions in pedestrian paths, etc.) as well. Significant destinations in the vicinity of the project site such as major transit stations, schools/daycares, parks, public services (e.g., senior citizen centers, hospitals, libraries, post offices, etc.) or other uses which could potentially attract pedestrian trips from the development project should also be identified. This detailed inventory would provide the City with additional information than what is currently obtained through the PEQI and BEQI evaluations.

LLG further recommends that the inventory should be presented in map format, with additional written discussion of missing or substandard facilities provided in the report text. The transportation assessment should evaluate the potential for the project to result in either the removal or degradation of existing facilities, or an increase in demand where the facilities are missing or substandard.

Collision Safety Review

The City of Pasadena does not currently require development projects to conduct collision analyses at study intersections. As determined in the Best Practices review, only the City of San Diego requires development projects to consider collisions at study intersections. This analysis requirement is supported by a robust statistical analysis of collision trends within San Diego, and identification of acceptable Crash Modification Factors (CMF) published by the Federal Highway Administration. This analysis requirement is unique to the City of San Diego and does not represent a current industry-wide best practice. Therefore, LLG does not recommend that the City require all proposed development projects to provide a collision analysis, as a general review of safety is already captured in other suggested areas of the local mobility analysis recommendations. The risks to safety (e.g., at study area intersections) would be identified in the recommended inclusion of detailed exclusive turn lane queuing assessments previously discussed within the analysis methodology section and within the geometric design section below. Having stated the above, PasDOT staff may require detailed review of collision trends at existing intersections on a case-by-case basis, or as necessary to determine if a proposed development project has the potential to cause or contribute to a maneuver of concern. However, when an existing intersection is reviewed for satisfaction of traffic signal warrants, Warrant No. 7 – Crash History should be included in the evaluation wherever possible. Such specific review should be discussed and confirmed during the scoping process.

Parking

The City of Pasadena's current Transportation Impact Analysis Guidelines do not require an assessment of parking for development projects. The City's parking requirements are set forth in the Municipal Zoning Code, which is administered primarily through the Planning Department. Since satisfaction of the zoning requirements are not determined by PasDOT, it is not recommended that the Guidelines be revised to require a Municipal Code parking analysis for every proposed development. It is understood that additional parking studies (e.g., shared parking studies or off-site parking studies) may be required by the Planning Department when variances to the Zoning Code parking requirements are requested. Any detailed parking analysis which may be required by the Planning Department should be presented in a separate document from the transportation study, in order to facilitate submittal and review of each document by the appropriate City departments.

Geometric Design of Site Access/On-Site Circulation

The City of Pasadena's current Guidelines do not require a development project to review geometric design of site access points or on-site circulation, although it is understood that City staff review proposed development projects and require these additional analyses on a case-by-case basis or as needed. The City's Municipal

Zoning Code Sections 17.46.140-180 provide standards regarding acceptable site access to and from development projects, driveway design standards, and the location and visibility of project access points. It is presumed that projects will comply with the zoning requirements and design standards; therefore, it is not recommended that the City require detailed analysis of site access and circulation for all development projects. In addition, the City's *Street Design Guide,* prepared by Nelson/Nygaard Consulting Associates, Inc, March 2017, is the implementation mechanism of the City's complete streets policy, as outlined in the Mobility Element of the City's General Plan. Having noted the above, it is understood that in some circumstances additional detailed review may be required in order to ensure the adequacy of the site access scheme to accommodate safe ingress and egress for all types of vehicles expected to be generated to/from the site. PasDOT staff may request additional technical analysis of sight distances, vehicle maneuvering, etc. on a case-by-case basis. As noted in the study area section, it is recommended that PasDOT require the analysis of project driveways. In conclusion, Public Works and PasDOT approvals are required for project driveways accessing public streets and alleyways.

Passenger Loading/Curb Space Management

The City of Pasadena's current Guidelines do not require the preparation of an assessment of loading facilities (e.g., commercial deliveries, passenger loading/unloading, etc.). The City's Municipal Zoning Code Section 17.46.260 requires all loading/delivery activities to be conducted on-site. It is presumed that projects will comply with the zoning requirements and therefore it is not recommended that the City require a detailed review of loading and curb management for all development projects. However, it is understood that in some circumstances a detailed review may be required in order to ensure the adequacy of the loading facilities to accommodate demand. Such analysis may be required on a case-by-case basis as a supplemental site access and circulation assessment.

For proposed projects which include on-site passenger vehicle loading or queuing facilities such as valet services, porte cocheres, or drive-through service lanes, additional quantitative analysis may be required, including detailed vehicle maneuvering analyses, in consultation with PasDOT staff.

Construction

The City of Pasadena's current Guidelines do not require development projects to assess of the effect of project construction on local mobility. As determined through the Best Practices review, when analysis of project construction is required by a jurisdiction, the most common approach is to conduct a qualitative assessment of the effect of construction activities on the local multi-modal network (e.g., closures of travel lanes, loss of pedestrian and bicycle access, the need to reroute transit lines and relocate transit stops, etc.), and the effect any identified closures may have on

emergency vehicles (e.g., loss of emergency access to adjacent parcels and adverse effects on circulation that may delay emergency responses).

If required through a CEQA environmental analysis, it is recommended that the Environmental Consultant provide a general description of construction activities and review and assess potential construction-related impacts to air quality, noise, and traffic, when applicable. Separate from the transportation analysis, development projects will be required to provide a Construction Staging and Traffic Management Plan (CSTMP) for review and approval prior to the issuance of any building/grading permits. The CSTMP will be developed to minimize detrimental effects on local mobility during the project construction phase. The CSTMP should include the identification, to the extent feasible, of any expected construction activities which would take place in the public right-of-way, as well as the potential for closure of one or more travel lanes (including bike lanes) or sidewalks, temporary loss of on-street parking, and temporary relocation of bus transit stops or rerouting of bus transit lines. Factors such as the duration of closures, duration of transit service interruptions, etc. should be identified in the CSTMP.

Cross-Jurisdictional Analysis

It is recommended that the City require projects which may affect facilities under the jurisdiction of other local agencies (e.g., freeway ramp intersections, adjacent cities, etc.) to coordinate with that jurisdiction. Selection of study locations should not be truncated along city boundaries. Refer also to the Study Area section of this memorandum.

Overview of Potential Improvement Measures

The City's current Guidelines include a brief list of measures that may be considered when detrimental effects on the local transportation network are identified. Consistent with the findings of the Best Practices review, it is recommended that the City consider a revision to the list of potential local mobility improvement measures for consolidation and simplification purposes in order to allow for greater flexibility. The City has recently retained a consultant to develop a VMT per service population and VT per service population mitigation/improvement calculator to determine any quantifiable mitigation measures to reduce a project to be below CEQA levels of significance. Separate from, but complemented by any CEQA mitigation measures, potential improvements to address local mobility constraints identified in the transportation assessment may include items from this list and could also include additional Transportation Demand Management (TDM) strategies above and beyond those already required as part of the City's Trip Reduction Ordinance (TRO) in an effort to reduce vehicular demand, in addition to physical improvements that both increase the efficiency of the existing network and promote a well-developed multi-modal system.

LINSCOTT LAW & GREENSPAN engineers

CONCLUSIONS

It is LLG's opinion that the above recommended changes to PasDOT's "Transportation Impact Analysis Current Practice & Guidelines" would bring the City's local mobility analysis requirements into better alignment with current best practices and provide greater transparency with the general public regarding the local mobility analysis process. These recommendations were developed based on the findings of LLG's Best Practices review along with consideration of the comments and concerns previously provided by various Pasadena stakeholder groups as well as at the recent public outreach meetings. Upon approval, these recommendations will be incorporated into a revised Transportation Impact Analysis Current Practice & Guidelines document.

c: Joaquin Siques, PasDOT
K.C. Jaeger, LLG
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