Controlling Growth with Level-of-Service Policies

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In the last few years many rapidly growing cities have adopted traffic level of service (LOS) standards that restrict new development to available street capacity. These standards go beyond the usual general plan goals for reducing traffic congestion in that they take away from elected decision makers the authority to approve any proposed land development that would cause traffic levels of service to exceed these standards. Most of the statutory LOS standards that have been adopted to date, however, tend to be so inflexible that they result in de facto growth moratoriums. They fail to recognize both the impacts of through traffic generated outside of their jurisdiction and the fact that other community goals occasionally may supersede the single-minded goal of eliminating traffic congestion. Some agencies subsequently have had to "stretch" the technical analysis to fit more development under a given level of service ceiling. They spread out the peak periods, they average the level of service over several intersections, or they simply use higher saturation flows in the capacity analysis. A better approach is to leave the technical calculations alone and to write into the LOS standards administrative provisions for dealing with "overriding considerations" and "special circumstances" beyond the city's control. These provisions, backed by the appropriate policies and procedures, provide a flexible and responsive traffic policy that does not have to be stretched in order to avoid a building moratorium. This paper presents the experiences of a selected group of California cities that have had statutory LOS standards in effect for several years. These standards are described, their weaknesses critiqued, and the results of two recent court tests briefly reviewed. A suggested model LOS policy then is presented that would provide improved administrative flexibility while still constraining the rate of land development to the rate of street construction.

Almost three-quarters of the cities in the United States have traffic policies that set the preferred minimum acceptable level of service (LOS) for their streets (*1*). New development projects are reviewed individually and mitigation measures developed to maintain the desired LOS. Each project is judged on its merits before the city council and may be approved or denied regardless of the LOS policy.

Rapid growth, however, has outpaced the ability of many cities to construct the needed street improvements. New development projects are approved on a day-to-day basis under the local general plan, but public agencies are unable to fund and construct the needed circulation improvements that keep pace with private developers' construction. The result has been strong pressure from local residents to slow down or stop growth until traffic congestion can be eliminated or at least improved.

Several rapidly growing cities in the last few years consequently have adopted (or have been compelled to adopt) a statutory traffic LOS standard that prevents their elected officials from approving new development projects until there is some assurance that adequate street capacity is or will be available to carry the added traffic.

LOS standards are simple in concept and thus very appealing to the general public. The city sets a peak hour LOS standard of, say, LOS D. No development project then can be approved by the city unless all intersections are forecasted to operate at or better than LOS D. After passage of such a statute, the general public often thinks it has now successfully "legislated away" all future traffic congestion.

These LOS statutes, however, do not usually deliver on their implied promise of no more congestion. Stopping growth alone does not solve preexisting traffic problems. Similarly, stopping growth in one jurisdiction does not prevent other jurisdictions from continuing to grow and generating increased through traffic.

The impacts of statutory LOS standards on the fabric of the city also are far from simple. Rigid LOS statutes rapidly become de facto building moratoriums in the face of increasing traffic from outside the jurisdiction. Beneficial projects, such as schools, recreation centers, and senior housing, then are caught in this moratorium, along with the commercial projects the city wishes to control.

This paper describes the evolution of statutory LOS standards in four rapidly growing cities in California. The experiences of the cities administering these standards then are critiqued to identify the strengths and weaknesses of LOS standards. Two ongoing court cases are highlighted that have challenged the legality of statutory LOS standards. Finally, a suggested model LOS standard statute is proposed that would provide the needed administrative flexibility while continuing to regulate the pace of growth in rapidly growing cities.

CURRENT EXPERIENCE

Although many rapidly growing cities recently have enacted statutory LOS standards, most of these standards are so new that there is relatively little working experience with them. A few California cities, however, have had these statutory standards in effect for as long as 10 years. The evolution of statutory LOS standards in four California cities—San Jose, Newport Beach, Walnut Creek, and Concord—illustrates the strengths and weaknesses of typical statutory LOS standards.

San Jose

The city of San Jose was one of the earliest cities in California to enact an LOS standard. San Jose has a population of about

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750,000 and experienced a 9 percent increase in population and a 20 percent increase in employment in 5 years (1980–1985) (*2*).

In 1978 the city adopted a citywide peak-hour LOS policy (*3*) that requires that any project causing a 1 percent change in the intersection critical volume and a consequent drop in the LOS to E to mitigate its impacts. The building permit can be issued no more than 1 year prior to the expected completion of the mitigation measures.

The city council can (and does) modify the policy at its own discretion. The central business district (CBD) specifically was excluded from the policy since it is the city's goal to redevelop the downtown. Certain other areas of the city also have had their own specific LOS policies adopted by the city council.

Development projects under a specific size are exempted from the policy. Retail projects under 5,000 ft² (465 m²), office projects under 10,000 ft² (930 m²), industrial projects under 30,000 ft² (2790 m²), single-family detached projects under 15 units, and multifamily projects under 25 units are exempt from the LOS policy.

The city maintains a citywide list of previously approved developments for use in the traffic analysis. Developers are allowed to include as their mitigation city street improvements listed in the first year of the city's capital improvements program. The LOS calculation method is *Circular 212* (*4*), modified by San Jose, with capacities of 1,780 vehicles per hour of green per lane (vphgl) for through traffic and 1,675 vphgl for left turns (*5*).

This citywide LOS policy has worked fairly smoothly where the city controls virtually all the development likely to affect its streets. The policy has not worked as smoothly in the northern San Jose area (the Golden Triangle area between US-101 and Interstate 880), where traffic from development in neighboring cities significantly affects San Jose's streets. The city was in the position of pacing growth to its own detriment and to the benefit of the neighboring cities.

The city of San Jose consequently joined five neighboring cities in the Golden Triangle Study to evaluate various growth management options. San Jose subsequently adopted a specific LOS policy for the northern San Jose area based on some of the conclusions of that study (*6*).

The more liberal northern San Jose LOS policy (*7,8*) exempts all "regional" intersections from the policy. A regional intersection is defined as any intersection where one of the street legs is operated by another city, the county, or the state. These intersections presumably would be mitigated by a "regional impact fee" that has not yet been adopted by the city but that would be levied presumably on new development.

The northern San Jose policy also allows developers to take the average of all intersections affected by 1 percent or more, with mitigation required only if the average LOS at these intersections exceeds LOS D. The LOS calculation method for the Golden Triangle area is *Circular 212* with 1,900 vphgl for all movements.

Newport Beach

Newport Beach, a city of 70,000 people (*9*), first established an LOS policy in 1979. They passed their traffic phasing ordinance in 1986 (*10*). This ordinance prohibits the issuance of building or grading permits unless there is or will be adequate street capacity to allow all major street intersections to operate at LOS D *and* at less than or equal to 0.89 volume/capacity (V/C) ratio.

Building and grading permits are delayed for development projects that will be completed in less than 5 years, if the city's primary streets do not meet the LOS standard or will not meet the standard 1 year after the project is completed. The building and grading permits can be issued, however, if

- The project mitigates the problem intersections (where such improvements are feasible),
- The project mitigates the problem so that the affected intersections on the average meet the LOS standard, or
- A major street improvement already planned by the city and expected to be completed within 4 years will mitigate the congestion (the proposed development project must contribute a fee for its share of the major improvement).

If a large development project will take over 5 years to complete, it can be approved in stages based on a traffic study showing that each stage will meet the LOS standards, assuming street improvements are consistent with the city's general plan.

LOS is calculated for the peak morning and the peak evening peak 1-hour periods according to the latest *Highway Capacity Manual* method (*11*), and the V/C ratio is calculated according to the intersection capacity utilization (ICU) method (*12*). Newport Beach uses a saturation flow of 1,600 vphgl, with no reduction for yellow loss time (*13*).

A small development project is excepted from the LOS standard based on a hearing in front of the Planning Commission if it meets the following conditions:

1. The project is a commercial/industrial project smaller than 10,000 ft² (930 m²) floor area or is a residential project less than 10 dwelling units, and
2. The project generates 130 or fewer daily trips.

The Planning Commission also can except larger development projects from the LOS standards if

- The project was approved by the city prior to enactment of the ordinance,
- The project-generated traffic would affect any leg of a critical intersection by less than 1 percent during the peak 2½-hour morning and evening peak periods, or
- The project's beneficial effects outweigh its traffic impacts (requires a four-fifths planning commission vote and a confirming four-fifths city council vote).

A group of Newport Beach residents recently objected to the "flexibility" of the LOS ordinance and sought, through an initiative ordinance, to tighten the standards (*14*). The initiative would have enacted a more strict technical definition of LOS D based on a 15-minute peak and a 5 percent loss-time factor. It would have required all street improvements to be in place before issuance of the building and grading permits (rather than 1 year later). Planners also would have been prohibited from considering the trip generation reductions of transportation system management (TSM) programs unless the same program were already operating in the city

of Newport Beach and had demonstrated a trip generation reduction.

The initiative also would have eliminated the provision whereby the city council could exempt a project that had beneficial effects outweighing its traffic impacts. Such projects would have to meet an LOS E standard but only if approved by a six-sevenths vote of the city council.

The initiative failed to obtain a majority in the November 1988 election; however, it illustrates how residents might respond to a flexible LOS statute.

Walnut Creek

Walnut Creek's LOS standard was created by a citizen-sponsored initiative ordinance, Measure H, that was approved by the voters in 1986 (*15*). Walnut Creek, with a population of 73,000, had experienced a 3 percent population growth and 15 percent employment growth between 1980 and 1985 (*2*).

Measure H prohibits any land development project that would affect an intersection and cause its V/C ratio to exceed 0.85 for a specific list of streets contained in the initiative. Development cannot proceed until street improvements reduce the V/C ratio at the intersections on these streets to below 0.85. Planners are not allowed to reduce the estimated trip generation of a proposed project (for traffic projection purposes) with a TSM program or other assumptions of increased transit use or ridesharing.

The measure allows small projects meeting the following criteria to be exempted from the LOS requirements:

- The lesser of (a) 10,000 ft² (930 m²) of retail commercial development (or its equivalent) or (b) the existing zoning is permitted on any parcel that existed at the time the ordinance was approved. (The timing stipulation was intended to prevent the subsequent division of parcels to take advantage of this exception.) The city subsequently has interpreted this provision to allow the combination of adjacent parcels to allow large development projects.
- Thirty dwelling units in the downtown area or ten dwelling units outside the downtown area on any existing parcel are allowed.
- There is no size limit for projects considered to be in the "public good," including senior citizen housing, medical clinics, hospitals, churches, schools, or community centers.

The city allows parcels to be combined, so that four parcels can support a 40,000 ft² (3720 m²) retail development, if the developers can prove that each parcel could have supported a 10,000 ft² (930 m²) development on its own.

The initiative ordinance itself did not specify a method for calculating the service level. In implementing the ordinance, the city has selected the *Circular 212* methodology. For projects expected to be completed within 2 years, the "operations" method of computation is used, with the *Circular 212* limit of 1,800 passenger car equivalents per hour as the capacity value. For projects to be completed more than 2 years after approval, the "planning" method is used, with the standard 1,500 cars per hour as the capacity value.

Over 30 intersections in the city of Walnut Creek currently exceed the 0.85 limit. The city staff has not been able to find a combination of street improvements and land use that could solve the problem after having tried solutions as advanced as a new freeway in the Ygnacio corridor. City planners, instead, have been focusing on tallying all the 10,000 ft² exemptions that could occur in the city and allocating the total to a few large developments in the downtown area.

Concord

In 1986 Concord (population 107,000) enacted Ordinance 86-5 (*16*) to postpone the issuance of city permits for any new downtown development that imposes "significant impacts" on the downtown street system that cause "unacceptable" LOSs. The motivation for passing this strict ordinance was a 29 percent growth in jobs between 1980 and 1985 (*2*) plus the recent successful passage of the Measure H citizen's initiative in Walnut Creek.

The key words in this LOS standard are "significant impacts" and "unacceptable" levels of service. "Significant" has been defined by city staff as 1 percent or 50 evening peak-hour trips. "Unacceptable" has been defined as evening peak-hour LOS E. This ordinance, which has no administrative mechanism for dealing with exceptions, disputes, and overriding community concerns, applies only to the downtown areas, leaving the rest of the city exempt.

The LOS is calculated for the peak hour using the *Circular 212* planning method and 1,500 vphgl capacity.

Based on these criteria, two intersections in the morning and seven intersections in the afternoon currently do not meet the standards set by Ordinance 86-5 (*17*).

A 5-year street improvement plan developed in 1986 for the Downtown and West Concord Redevelopment Areas will mitigate current and planned redevelopment to LOS D during the evening peak hour (*18*); however, this plan suffers from two flaws:

1. The street improvements needed to correct the most critical *existing* deficiencies cannot be completed until toward the end of the plan's 5-year horizon;
2. These street improvements require the cooperation of outside agencies and funding, which the city, to date, has not been able to obtain.

Thus the current 5-year street improvement plan holds out only vague prospects of solving current and future traffic congestion problems and eventually allowing downtown redevelopment to proceed.

Ordinance 86-5 consequently will hold up all downtown redevelopment for several years. This will reduce redevelopment revenues that would have been used to fund the 5-year street program and will shift development pressure to the periphery of downtown Concord.

Concord currently is in the process of amending its general plan and Ordinance 86-5 to expand the LOS policy's coverage citywide and to give the city council the flexibility to approve development projects with significant social and economic benefits to the community. The council will also exempt from the LOS calculations all intersections adjacent to the freeway ramps, because congestion at these locations is a function of freeway conditions as well as local land use decisions.

Conclusions

These four California cities have had statutory LOS standards in effect for several years. All of them have faced the problem of excessive rigidity in their initial ordinances and have sought technical and/or political means to insert more flexibility into their standards.

San Jose has adjusted its LOS technical analysis in certain areas of the city to expand the LOS "envelope" and allow some growth. Walnut Creek is considering adding together 20 years' worth of exemptions and allocating the total to a few large downtown projects. The city of Concord currently is adding an "overriding benefits" provision to its LOS statute plus a provision to exempt certain intersections from the criteria.

Several years ago, Newport Beach established a relatively flexible LOS ordinance that allows the city council to override the LOS provisions by a four-fifths vote for "beneficial" development projects. As a warning to others, however, local residents have attempted to curtail some of this flexibility.

RECENT COURT CASES

Unlike courts in many other states, California courts have established that development is a privilege rather than a right. On this basis, local jurisdictions are allowed to use their police powers to require impact fees, street improvements, and dedication of land to mitigate the impacts of development as long as these actions are consistent with their general plans.

The California State Legislature and the state courts have established the local general plan as the foundation for all zoning, exactions, fees, and virtually any decision made by cities and counties regarding development. It is critical, though, in California that no fee or exaction be interpreted as a "tax," which is prohibited by the California Constitution unless the tax has been approved by a two-thirds vote in a general election (*19*).

Although exactions on development have a long court history, statutory LOS standards have, until recently, been relatively untested in courts. Two cases in California testing the legality of statutory LOS standards are still at the Superior Court and Court of Appeals levels.

Lesher Communications v. *City of Walnut Creek* is seeking to have the citizen's initiative ordinance Measure H invalidated because it is inconsistent with the city's general plan. The Appeals Court has given Walnut Creek approximately 6 months to amend its general plan before ruling on this issue (*20*).

Marblehead v. *City of San Clemente* was successful in having the San Clemente citizen's initiative ordinance ruled unconstitutional because, in the judge's opinion, it "requires property owners to mitigate conditions not only caused by their development (a proper goal) but also to cure the inadequacies of those who developed their property before them" (*21*). This decision has not yet been appealed.

The San Clemente initiative ordinance (*22*) would have amended the city's general plan, but unlike the other LOS statutes, it specifically required that a developer's mitigation measures cause a "measurable improvement" over existing levels for intersections currently operating at conditions worse than LOS D. The initiative also set LOS requirements and other criteria for police, fire, paramedic services, flood control, scenic corridors, regional parks, and animal migration corridors.

These two cases illustrate two key issues in statutory LOS standards as far as California practice is concerned. First, the statute must be consistent with the local general plan. Second, the statute must make clear that a developer is not required to correct *existing* problem conditions.

All statutory LOS standards implicitly require that existing problems be corrected before new development can proceed. However, as long as the city takes responsibility for making these corrections and does not specifically require the developer to do so, the statutory LOS standard merely is a "timing" device and not a method for "taxing" developers to correct existing problems.

Statutory LOS standards are similar to generally accepted "sewer hookup moratoriums" is that, for public health reasons, they delay new construction long enough for the jurisdiction to construct the needed capacity. The developers are not required to build the treatment plant but merely to wait until it is ready.

CRITIQUE

Statutory LOS standards have come about because of a general failure of the planning process to deliver uncongested transportation systems in rapidly growing areas. Long-range general plans provide for a balance between land use and the transportation system that unfortunately will not occur until 20 years in the future. These plans do not specify the rate at which land use and the circulation system will grow. They often include street improvements that are subsequently delayed or abandoned. However, there is no mechanism for "downzoning" the land use when a transportation facility is dropped or delayed.

For relatively stable cities, the fact that some facilities may be delayed is not too serious a problem. However, in cities experiencing rapid growth, the new construction can overwhelm the city's ability to build the needed street improvements. An LOS standard that delays the issuance of building permits is then an obvious and necessary technique for slowing down land development to the pace of street improvements.

The statutory LOS standards that have been adopted to date are well-meaning but rudimentary attempts to tie growth to the ability of cities to construct street improvements. They are usually adopted by individual jurisdictions on a piecemeal basis, not recognizing that regional cooperation is needed to make them work, and they often fail to recognize that sometimes other community goals may take precedence over traffic congestion.

Overriding Considerations

An LOS standard for new development must provide for conditions where the benefits of a particular land development may outweigh its negative traffic impacts. In the environmental review process, these typically are called overriding considerations. If this situation is not provided for, the decision makers are tempted to "stretch" the technical analysis so that a particular project will fit within the standard. The

result is a looser standard that then allows all projects to proceed to the new ceiling regardless of their relative benefits.

The LOS standard must also provide for cases where, owing to other considerations, the city does not wish to provide more capacity at a particular location. Further improvements at these locations might cause significant environmental impacts. Fiscal and technical constraints may make it highly undesirable to make further improvements, regardless of the LOS.

Special Circumstances Beyond the City's Control

This issue comes about because of the regional nature of the traffic congestion problem and the fact that individual cities can control only a small piece of the whole picture. The ideal solution is to cooperate with other jurisdictions in seeking joint solutions to the problem. This cooperative approach has been tried before (as in the Golden Triangle Study in San Jose), but it is rarely successful since jurisdictions often compete for new development. Consequently, those cities seeking to control growth usually must proceed alone, adapting their policy as best as possible to take into account the action or inaction of adjacent jurisdictions.

In the absence of interagency cooperation, it is necessary for the city to have a policy for dealing with locations where significant through traffic may be generated by development outside of the city's jurisdiction. It is unrealistic to set a rigid LOS policy for a street where the traffic level cannot be controlled by the city. The city would be put in a position similar to that of the city of San Jose, which is forced to turn down its own development projects while adjacent jurisdictions proceed to approve new development.

Similarly, some street improvements require the approval and/or funding of another agency. The city cannot have its development decisions delayed by required improvements it is unable to implement. One solution might be to raise the overall ceiling everywhere so that everybody can develop. A better and more controlled solution would be to identify these "special circumstance" locations and to give special treatment to these locations only.

This exclusion, however, has to be matched with a commitment by the city to make a special effort to get these locations off the special circumstance list as soon as possible. This means making a special effort to obtain the cooperation and funding of adjacent jurisdictions. Otherwise, the special circumstance locations will tend to act as magnets, drawing in additional growth because of their exemption from the LOS standard.

Recognition of Past Errors

The existing street system may not meet the standards at current development levels. Past errors may have allowed development to proceed too rapidly for the existing street system. There is little legal justification for requiring new development to correct for past errors made by the city. Consequently, the jurisdiction must provide a separate means (outside of the LOS standard) for correcting preexisting LOS problems, or at least a means to avoid penalizing new development for existing problems.

One solution is to require mitigation only to the baseline level. However, this does not correct the current congestion problems that probably motivated passage of the LOS standard in the first place. A better solution is to commit to a publicly funded 5-year street improvement program for correcting existing problems.

Tolerance for Forecasting Errors

LOS standards typically assume that the calculation and forecasting of LOS is a precise science. Predictions of trip generation and when street improvements will be built can prove inaccurate, but there is typically no specific margin of error built into the planning studies to allow for this.

There must be a certain ability to "roll with the punches" when the technical experts make errors in forecasting the impacts of new development and in forecasting the timing and benefits of street improvements. Street improvements may be delayed unexpectedly or cancelled if the necessary outside funding or agency approval cannot be obtained.

Ideally, the LOS standard used for pacing the issuance of building permits should be set to a worse level than is normally used for the planning studies. The general plan street network should be designed for a better LOS than the LOS standard to allow for later zoning changes and amendments and to allow for reasonable traffic forecasting errors. With this allowance a new developer does not have to "pay" for the mistakes made in earlier planning and impact studies at the time he or she obtains the building permit.

Equity

One issue often raised in discussing LOS standards is the question of equity. The equity issue comes up because the first landowner "in" often gets to build his or her project, whereas subsequent landowners may be delayed because of a lack of street capacity. This issue can be resolved by considering the equal opportunity argument. Each landowner has an equal opportunity to apply for development approval from the city at a time of the landowner's own choosing. The delay that a late applicant might face is unfortunate, but it is partly self-induced by the tardiness of the application. This delay is for the public welfare, much as a temporary sewer connection moratorium is imposed until adequate sewage treatment capacity becomes available.

Legal Issues

To date, court cases have focused on whether the LOS statute is consistent with the local general plan (which it must be) and whether the jurisdiction is requiring the correction of previous mistakes (which it cannot). A third legal issue, whether or not an LOS statute can be considered as "taking" a landowner's development rights, has been a concern to the city of San Rafael, California. This city chose to allow "reasonable interim uses" on each parcel until there is adequate street capacity for larger projects (*23*). However, an LOS statute should not be considered a taking since it does not *deny* the privilege of developing but instead *delays* it until it can be accomplished without harming the public welfare.

MODEL STATUTORY LOS STANDARD

The following is a recommended model traffic policy that addresses the issues described above. Generally, it is a hybrid of the LOS statutes described above, designed to provide both the control and flexibility that are necessary when making land use decisions in rapidly growing cities.

The model statute contains findings, a general statement of principle, and sections providing for overriding considerations and special circumstances. Suggested administrative guidelines for implementing the LOS statute are provided after the model.

Findings

1. Traffic congestion, when it exceeds a reasonable LOS, causes increased air pollution and energy consumption, hinders the passage of public safety vehicles, contributes to lost labor productivity, increases stress, and in general degrades the quality of life.
2. The general plan sets an LOS standard for the city street system.
3. The city has a 5-year street improvement program to correct existing street LOS deficiencies and a long-range plan to construct additional improvements to meet the long-range needs of new development.
4. Traffic studies indicate that the cumulative impacts of rapid new development temporarily will exceed the ability of the city to construct new street improvements in a timely manner, thus causing the city to fall behind temporarily in its efforts to maintain the general plan LOS standards.
5. The rate of new land development consequently must be controlled to allow the city adequate time to correct existing deficiencies and to provide new street capacity for new development.

Statement of General Principle

To implement the city's general plan, as requests for new development occur, the city shall determine if the new development would impose significant impacts upon the transportation network that could result in a reduction of existing levels of service to an unacceptable level. Issuance of the building and grading permits for those developments determined to impose significant impacts will be postponed until the city is satisfied that necessary improvements to the affected portion of the transportation network will be in place in time to offset the expected traffic increases from the development.

Overriding Considerations

The city council may, by a four-fifths vote, fully or partially exempt a project from the requirements of the LOS standard if it finds that the social and/or economic benefits of the proposed project outweigh the adverse impacts of the project. Projects categorically exempt from environmental review also would be exempt from the requirements of the LOS standard.

Special Circumstance Locations

The city council may, by a four-fifths vote, temporarily exempt certain street locations from the LOS standards owing to special circumstances that make it undesirable or not feasible to provide further capacity improvements at these locations. These special circumstances may include, but are not limited to, the following: there will be significant negative fiscal, economic, social, or environmental impacts of further construction; a significant portion of the traffic is generated by development outside the control of the city; or there will be a significant delay in obtaining the needed cooperation of other agencies. The city, however, will make every effort to design alternative improvements and obtain interjurisdictional cooperation so that these locations can be removed rapidly from the special circumstance list. Development projects affecting special circumstance locations may be required to implement mandatory TSM programs and other measures to reduce their impacts on these locations as much as possible.

MODEL LOS STANDARD ADMINISTRATIVE PROCEDURES

This section presents some recommended policies and procedures for implementing the model city traffic policy.

Administration

The determination as to whether a proposed development project meets this policy would be made within the environmental review process. Projects categorically exempt from environmental review also would be exempt from the LOS standard. For nonexempt projects an initial environmental study would be made to determine if

- A negative declaration of environmental impacts (including traffic) may be made, or
- A full (or focused) environmental impact report (EIR) with the consequent traffic study may be required.

The proposed recommended practice for traffic access and impact studies for site development by the Institute of Transportation Engineers (ITE) (*24*) recommends that traffic studies not be required for development projects generating less than 100 peak-hour vehicle trips inbound or outbound, since projects under this size are not likely to have a significant impact on peak-hour LOS. However, most of the cities described in this paper generally have adopted lower thresholds of 50 vehicle trips per hour (in and out) or 1 percent impacts on the intersection critical movement.

At the time of project approval (use permit, variance, zoning administrator permit, etc.), city staff would make a determination as to which street improvements must be completed or under construction prior to issuance of the building permit. This would then become a condition of approval that must be satisfied before the building permit can be issued to the applicant.

The construction, occupancy, and the issuance of building permits for larger projects may be staged to coincide with the expected schedule of street improvements.

Maximum Acceptable LOS

The city might pursue several options in selecting a maximum acceptable LOS. The draft practice by ITE recommends LOS D or the baseline level, whichever is worse (*24*).

Contra Costa County, California, recently adopted a growth management measure that sets different LOS standards depending on the character of the neighborhood (*25*). The county recognized that different land use intensities generate different expectations of LOS and consequently set the following maximum acceptable levels of service for each area type:

Area Type	*LOS*	*V/C (%)*
Rural	C	74
Semirural	C/D	79
Suburban	D	84
Urban	D/E	89
CBD	E	94

The method of calculating LOS should be according to the most recent edition of the *Highway Capacity Manual*, with specific saturation flows and other parameters as determined by city staff.

Development Impact Calculation

The development project's traffic impacts should be calculated generally according to the guidelines provided in ITE's recommended practice. Trip generation, distribution, mode split, and assignment are to be based on the best available commonly accepted sources as determined by city staff. City staff should maintain and update a comprehensive citywide list of "approved and under construction" projects for use in the impact analysis. City staff also should maintain and update biannually a data file of intersection turning movements counts and forecasts (from previous studies) for use in LOS forecasts.

Mitigation Measures

Developers would be allowed to include as mitigation all funded street improvements contained in the city's 5-year street improvement program. Other street improvements, including those contained in the city's general plan, also may be included as mitigation only if the developer can show to the city staff's satisfaction that the improvements are likely to be completed at about the same time as the proposed development.

The traffic reduction benefits of a TSM program can be included as a mitigation measure if it can be shown to the city staff's satisfaction that the proposed TSM program

- Is realistic and measurable, with an achievable TSM goal;
- Will be mandatory for current and future building owners, with significant sanctions for failure to meet the TSM goal; and
- Has a designated on-site TSM coordinator responsible for conducting and forwarding to the city annual employee surveys and driveway counts to the satisfaction of the city TSM coordinator.

The TSM program (if required) would be monitored on an annual basis by the city TSM coordinator based on surveys gathered by the building owner. Failure to meet the TSM goals for the second straight year would cause the sanctions agreed to by the city and the applicant (as part of the conditions of approval) to be implemented against the current building owner.

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