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AN EXPERIMENT IN SUB-REGIONAL PLANNING: CALIFORNIA'S CONGESTION MANAGEMENT POLICY

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ABSTRACT

One result of voter passage of Proposition 111 in 1990 was the creation of congestion management agencies (CMAs) representing each of California's 32 urban counties. These new agencies were charged with developing and administering a comprehensive congestion management program (CMP) within the county. Although the CMP requirements have been studied elsewhere in the literature, relatively little attention has been paid to CMA organizational issues and effectiveness. The purpose of this paper is to fill some of the gaps in knowledge, after four years of experience with the CMP.

The approach taken was a review of all of the published CMP documents (plans), and then development of a telephone interview survey. Survey respondents were generally the CMA executive director, or his/her deputy. The questionnaire covered prior and existing CMA functions and structure, self-rating of CMA performance (on a semantic differential scale, from one to ten), a series of statements on CMA effectiveness in various program areas (using a semantic differential scale, with 'one' indicating strong disagreement, and 'ten' strong agreement), information on staffing and budget, cooperation with other agencies, and an appraisal of what the CMA does best and worst.

This study reports on the results of these interviews, and of a comparison of the key technical features of the CMP documents. The results should be of interest to those contemplating or developing congestion management systems in other states, and those responding to the mandates in the ISTEA management systems.

I. INTRODUCTION

A. PURPOSE OF THIS STUDY

In June 1990, 52 percent of California voters approved a "transportation blueprint for the 21st century." This package of measures (Proposition 111) included a nine-cent phased increase in the motor vehicle fuel tax, as well as one of the most far-reaching statewide congestion management programs (CMP) in the United States. Among the requirements of the CMP law[1] were that each of the 32 urban counties (with an urban area over 50,000 people) create a congestion management agency (CMA)[a], and that a congestion management program plan be developed. Thus, counties become the basic geopolitical unit for addressing congestion, rather than the metropolitan area-- a role that counties did not have before.[2] The plans were required to have several elements, including a designated CMP highway system for monitoring; traffic level of service standards; transit service standards; a trip reduction/travel demand management element; a computerized traffic forecasting model; a land use analysis program; and a capital improvement program.

Several studies have been published regarding congestion management requirements, and those requirements are only covered briefly here to avoid duplication.[3] What has been lacking is a study of how well the organization of the congestion management agencies have performed in addressing their assigned task. Now, approximately four years later, experience has been gained in the development and first update of the CMP plans, and also with organizational forms. It seems to be an appropriate time to take stock of this experience. These lessons might be useful in not only improving California's CMP, but also in developing congestion management systems in other states, and in developing an effective response to the ISTEA-mandated management systems. An increasing number of states, such as Florida, Oregon, Washington, and New Jersey have been developing statewide growth management measures that affect transportation planning (DeGrove, 1991; Bollens, 1992). This trend is likely to continue in the future.

The purpose of this study is to review all of the California CMPs and suggest the "good practices" that have been used in preparing the required elements of the CMP. In addition, we attempt to determine the organizational characteristics of CMAs that are well suited for the attainment of CMP objectives.

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[a] There are only 31 CMAs since 2 counties, Sutter and Yuba, share the same CMA.

B. INTENT AND PURPOSE OF THE CMP LEGISLATION

The CMP legislation (California Government Code 65081 et.seq.) was ostensibly passed to improve the relationship between land use, transportation and air quality. The law provides for the establishment of a congestion management agency (CMA) for each urban county in the state, and requires that the CMA prepare a congestion management program which must be updated every odd-numbered year. The law provides a significant degree of latitude in meeting the statutory requirements.

As with most complex legislation, the high-minded principles embodied in the law are partly the result of more pragmatic and political considerations. During the course of development of the transportation blueprint, it became clear that constituencies within the state concerned about air quality and highway expansion might oppose Proposition 111. These groups were brought together in forums during the development of the legislation, out of which emerged a compromise position acceptable to a variety of different groups. While Proposition 111 provided substantially increased funding for new highways, it also contained provisions for new transit spending, and requirements to better coordinate transportation planning between agencies, as well as with land use and air quality programs and issues. The CMP legislation was further amended (AB 1791) when concerns emerged from groups supporting transportation projects and land development that the legislation might tip the balance too far in favor of opposing groups. This gave rise to a series of exclusions and alternatives that qualified the CMP act. Examples include the exclusion of inter-county trips from level of service calculations, certain exclusions for low income housing and the addition of "deficiency plans" as a method of achieving CMP conformity as a recourse in the event that acceptable traffic service levels are unachievable.

Other controversial transportation issues were simply avoided by the CMP statutes, and left for individual CMAs to resolve. A good example of this is the CMP's relationship to CEQA: if the CMP is a plan, it is exempt from CEQA requirements, so that no environmental impact report and the associated procedures are required. On the other hand, if it is a discretionary governmental action, it is subject to the full EIR requirements. Ultimately the determination of the appropriate environmental review was left up to the individual CMA to determine.

C. RELATIONSHIP TO OTHER CMP STUDIES

During the past four years, several papers and reports have been published on CMP issues. Some groups have developed their own interpretative guidelines to the legislation.[4] The most comprehensive study to-date has been the *Statewide CMP/Air Quality Coordination Study,* led by the Los Angeles Metropolitan Transportation Authority (MTA), which recently completed its work. However, the present study differs from the Statewide study in several important respects. The Statewide study is intended to determine if inconsistencies exist between the CMP legislation and state and federal clean air acts; compare different types of performance measures for the CMP; coordinate the state CMP requirements with those in the Federal congestion management system; and make miscellaneous recommendations for amending the CMP legislation. Although some overlap is

inevitable, the present study deals with considerably different aspects of the CMP, concluding with recommendations that may also be useful in amending the CMP. Furthermore, our work is done from the perspective of independent university researchers, rather than that of the congestion management agencies. This does not mean our approach is better, but does mean that the perspective with which we examine some of the issues, weigh their importance, and suggest solutions, is likely to be somewhat different.

D. ORGANIZATION OF PAPER

The remainder of this paper is divided into three major areas: a description of the study approach and methodology, a discussion of the important technical elements of the CMP and some of the "good practices" used by the CMAs, and the institutional roles and relationships of the CMA with its external environment. The section on institutional issues deals with agency roles, who pays for the CMA, control of the CMA, and citizen involvement. The technical issues section deals with four key requirements of the CMA legislation, and how they have been approached differently by the 30 CMAs included in this study. Finally, we conclude with a summary of what has been learned, including some characteristics that appear to be shared by successful CMAs. We believe that these recommendations could be useful to CMAs, to lawmakers considering revisions to the congestion management legislation, as well as to agencies outside California who may be considering CMP-like legislation, including statewide growth management measures.

II. STUDY APPROACH AND METHODOLOGY

A. REVIEW PROCESS OF CMP DOCUMENTS

We began our study with Phase I during the Fall 1993 by conducting preliminary interviews of the staff of all 31 CMAs eligible for participation in the Congestion Management Program and arranging to receive the most recent CMP for each CMA. Our preliminary review of 30 of the 31 CMP documents[5] and examination of reports of other related studies of the program, such as the Statewide CMP/Air Quality Coordination study, provided us with an informative overview about the nature of the CMP and related issues. Based on this preliminary review, we decided that the best contribution our study could make to understanding the program would be by focusing on the following five major aspects of CMPs:

1. Selection of CMP Highway Network
2. Transit standards
3. Transportation Demand Management (TDM)/Trip Reduction Ordinance (TRO)
4. Land use analysis programs
5. Organizational characteristics

Accordingly, we developed an information matrix which described each CMA with respect to these aspects. First we attempted to complete our matrix from a detailed review of each CMP. This process was helpful in that it familiarized our study team with the activities of each CMA, but did not provide all the information we needed for our matrix. For example, few CMPs (i.e., the documents) provided information about the composition of CMAs, their advisory committees and annual budgets.

The next phases of our study involved generating a questionnaire which would help us to complete our information matrix and help us develop and test several hypotheses concerned with the relative success of CMAs. Tables 1 through 5 present a final version of our information matrix.

B. INITIAL HYPOTHESES AND ASSUMPTIONS

In Phase II (Fall-Winter 1994) we not only determined the data needed to complete our information matrix, but we also identified the output measures of success related to the Congestion Management Program as well as the factors or input variables which might influence these outcomes. The measures of success we utilized were based on CMA staff judgements with respect to:

- o overall-effectiveness of CMA organization to meet objectives
- o improved coordination between local governments, transportation and land use activities, and transportation and air quality activities
- o degree of cooperation between the CMA and other significant regional transportation related agencies
- o reduction of traffic congestion
- o effectiveness of the CMA/CMP process in improving transport mobility and air quality

Based on previous research (Glickfeld and Levine, 1992; Wachs et al. 1993; Donaghy and Schintler, 1994), we determined the factors or input variables likely to influence the desired outputs to be of two kinds. First, there are contextual variables which have important influence on the outputs, but are essentially given for each county and cannot be easily changed. Yet, because of their importance, these variables needed to be accounted for, or controlled, through such techniques as multiple regression or partial correlation analysis (see Appendix E) which tries to determine the influence of each variable while holding the others constant. Examples of contextual variables for each county are per capita income, education (percent college graduates, age 25+ of the 1990 population), total population, population density, number of local governments, and to a somewhat lesser extent, population change, and state highway miles per capita.

The other factors influencing the desired outputs are the characteristics of the CMAs and participating local governments which can be changed through conscious public policy. These characteristics, or policy variables, include the number of CMA functions, extent of citizen participation, number of local governments involved, CMA budget per capita, percent CMA budget from local government contributions, percent CMA board comprised of local government representatives, minimum trip generation required for development review, and non-state highway miles per capita.[6]

Like any research study, this work began with a set of expectations and hypotheses by the investigators formed from prior research on and experience with the CMPs and attending CMA meetings. The expectations are important because they governed the nature and orientation of the questions asked in the CMA survey. Some of these expectations were verified by the CMA interviews, but others were disproved or only partially supported. Among the basic expectations were:

- Generally, we expected that the contextual variables that would suggest intensity of development and growth, such as population, population change, density would be indicators of congestion and have a negative impact on our output variables; and that measures of socio-economic status such as income and education would be related to enlightened transport policies and be positively associated with our outcome measures.

- With regard to our policy variables, we expected that the more focused, the more inclusive (in terms of broad consensus building processes), and the more resources available to the CMAs, the greater would be the desired outcomes. Thus, we expected a negative association between number of CMA functions and outputs, and positive relationships between indicators of the extent participation (citizens and local governments) and abundance of resources (financial and physical) with desired results as expressed by indicators of CMA effectiveness.

Some additional specific expectations were that:

- CMAs would attempt to simplify the process to the greatest degree possible, in order to minimize costs and maximize the impact of available staff resources. This motivated us to ask such questions as whether agencies would prefer to see the land use analysis element of the CMP folded into the CEQA process.

- CMAs would prefer specific direction on CMPs, in order to maximize protection in case of litigation.

- CMAs would prefer to use existing agencies/institutions (existing prior to 1990) to act as the CMA, rather than creating a new agency.

- The lack of incentives for including roads in the CMP-monitored networks would result in a relatively small system of CMP-designated highways.

C. DEVELOPMENT OF THE SURVEY INSTRUMENT

Questions concerning each output variable or measure of success were devised and put into the form of a questionnaire schedule. As Appendix A indicates, questions related to these measures of success were designed to yield an ordinal score in accordance with semantic differential scales (where one equals "poor" or "strongly disagree" and ten equals "excellent" or "strongly agree").

Generally, questions involving the input variables were devised employing scales similar to those used for the output measures of success. In addition, questions concerning missing data for our information matrix and questions of an exploratory and open-ended nature were included in the questionnaire.

During Phase III of our study (Winter 1994) the questionnaire was constructed, pre-tested and revised. The pretest involved interviewing several CMA senior staff as well as the staff of air quality districts and regional transportation agencies. Their feedback was very helpful for improving the final questionnaire. In Phase IV (Winter-Spring 1994), the structured questionnaire was administered by telephone to all the CMA Executive Directors or their designates. Each interview required about one hour to complete.

D. RESULTS OF SURVEY INSTRUMENTS

After the data were collected, scores from questions concerning each variable were entered on computer files for tabular, graphic and statistical analysis in Phase V (Spring 1994). First, simple correlation coefficients were computed in order to make a preliminary examination of the relationships between variables. This procedure also acted as a technique for screening out input variables with marginal influences on dependent variables. Other statistical techniques, such as t-tests and analysis of variance were used to test differences between mean scores of sub-groups of the CMAs (e.g., high density vs. low density counties). Partial correlation coefficients were employed primarily to test for expected relationships between input and output variables in the entire sample (see Appendix E for computational details). In some cases, multiple regression analysis was used to test the combined impact of the input variables expected to influence each output variable.

Because of the exploratory nature of this study, only tentative expectations of the relationships among the variables examined were used and thus two-tailed t-tests of significance seem most appropriate. Of course, it is recognized in the social and other applied sciences that it is desirable to obtain at least a 95 percent probability of no error due to chance ($p<0.05$) before granting any theoretical importance to the relationships uncovered. However, in order to call the attention of the reader to potentially important areas for future research, results are reported with a somewhat lower 90 percent probability of no error due to chance ($p<0.10$).

III. KEY FEATURES OF 'GOOD PRACTICES'

A. COMPARATIVE APPROACHES TOWARD THE CMP NETWORK

The CMP legislation [Government Code Section 65089 (b)(1)] requires that CMA's designate as part of their monitored system all state highways and "principal arterials" within their jurisdiction. In this report, this system is referred to as the "CMP network." The statutes do not define what constitutes a principal arterial, and over the years, traffic engineers have developed only very broad definitions of what characteristics constitute a principal arterial. Consequently, this latitude for interpretation created concern that various CMAs would interpret this part of the legislation very differently. See, for example, the variability in county criteria for selecting CMP networks in Table 2.

In particular, the CMP statutes provided no incentive to include routes in the CMP system. This contrasts with the general history of highway funding legislation, which has generally required that states and local governments specify particular routes according to some criteria, which then become eligible for particular categories of grants. The CMP statutes in fact attached two *disincentives* to inclusion of routes in the CMP network: first, the designated network was required to be periodically "monitored" in terms of traffic counts, travel times studies, or other methods, in order to establish its traffic level of service (LOS). Traffic level of service is explained in Table 6. This expense is typically between $50-$200 per mile per monitoring interval (typically per year). Second, the CMP statutes *did* provide for specific penalties when the LOS on monitored segments dropped below the designated goal (typically LOS "E"). In theory, this could trigger a freeze on a land use development, and/or an expensive mitigation measures in order to bring the highway LOS up to the CMA's standard.

In general, we found this concern manifested in the results of the information provided by the CMAs. The *non-State highway mileage* (where CMA's have discretion) ranges from zero to more than 351 centerline (route) miles.[6] Because California counties range in size from under 50 square miles to several thousand square miles, the figures must be normalized to some other variable, such as population or land area.

Table 1 and Figure 1 indicate that the non-state highway mileage per thousand population ranged from zero to a high of 0.387 centerline miles (387 miles per million). The mean of this variable is 0.142, and the median is 0.02 miles per thousand population.[b]

Another measure (see Figure 2) shows the extent of the CMP system in terms of the number of centerline miles versus the square root of the land area (SRLA) of the county. The square root of the land area was chosen because area is a second-order variable, and highway mileage is a linear (first order) variable. Taking the square root of area reduces the area to a first order variable.

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[b] Includes counties with no non-state highway miles in CMP network.

The value ranges from a low of zero, to a high of 2.5 miles per SRLA (San Bernardino County), with the exception being San Francisco, which has over 15 miles per SRLA. This indicates a wide variation in how the "discretionary" portions of the CMP network (other than the mandatory state highway inclusion) are being designated.With a land area of only 46 square miles, San Francisco has a dense and highly urban road system which gives it a mileage per SRLA much greater than any other county. The mean value for this variable is 2.049, and the median is 1.48 route-miles.

There are several reasons why different CMAs may have arrived at varying lengths of CMP networks. All CMPs were reviewed for a specific selection criteria for the CMP network (if one existed). Eight indicated that the number of lanes on a highway played a role in the selection process; 10 indicated that average daily traffic (ADT) played a role; 29 (all but one CMA) indicated that the function or purpose of the highway was an important criterion; eight indicated that the Federal Highway Administration (FHWA) criteria developed during the 1970's was used.[8] It was thought that an inter-county route might be given weight in the selection process, but only nine counties indicated that this was a criterion for designation in the CMP route system.

B. COMPARISON OF APPROACHES TOWARD THE LAND USE ANALYSIS PROGRAM

One of the stated purposes of the CMP legislation was to make a closer connection between land use and transportation decisionmaking. In the past, critics of transportation decisionmaking have asserted that the lack of coordination between these two disciplines has been responsible for a considerable number of transportation problems. For example, it has been asserted that transportation infrastructure frequently is not in place when needed by the land development projects necessitating the infrastructure, or that there was inadequate thought given to the traffic impacts, or that the appropriate land development was not adequately charged for the costs of providing that infrastructure.

One of the questions asked of CMAs was:

> *Our CMP process has succeeded in making a closer connection between transportation and land use decision-making in our area.*

Using the semantic differential scale of one for strongly disagree, and ten for strongly agree, the mean response for this question was 6.4, indicating a somewhat positive attitude toward this statement. Six counties indicated responses of strong agreement (10); there was no discernible geographic, size, or other patterns to those counties giving this response. Those giving the lowest responses (4 or less) tended to be medium-large counties (0.7 to 1 million) experiencing rapid growth. Overall, urban counties were slightly more inclined to agree with this statement than rural counties (6.8 vs. 6.1).

Two hypotheses are possible here: one, that many counties already (due to high growth rates) had mechanisms in place to deal with land use/transportation linkages; the other that because of the size and complexity of these linkages, the

CMP process was able to make little contribution to resolving the problems experienced in the past. Several high growth counties also gave very high responses to this question, and over a third (11 counties) indicated indifference (a rating of five).

There are several steps involved in the land development approval process at which CMA review of the development application can be introduced. Major land use projects typically require an environmental impact report (EIR), and often require zoning changes, new subdivision maps, and/or a general plan amendment. The CMA's had a variety of places at which the review of project applications could be made for CMP purposes. Although some CMA's review projects at more than one step of the process, the largest number (nine) review land use proposals at the general plan, zoning change, and/or conditional use permit stage. The next largest number (seven) consider a project for CMP review when it exceeds a certain threshold number of trips (see discussion below). Six agencies consider only general plan amendments (GPA) as the trigger mechanism, five combine the requirements under the California Environmental Quality Act (CEQA), and three use a different step of the land development process, or had not fully developed their policy at the time this study was prepared.

The use of the CEQA process to satisfy CMP requirements seems particularly appealing, since transportation analyses already form a substantial portion of the effort in most EIR's. In theory, resource effectiveness could be maximized by folding in the CMP-required land use analysis with those of CEQA and EIR processes. This is discussed later in the section on The Relationship with CEQA.

As Table 4 indicates, more than half of all CMA's have developed some formal vehicle-trip-based threshold for triggering CMA review of a land development proposal. A total of 11 agencies base their threshold on the number of daily trips generated (or some equivalent amount of land use, such as dwelling units). Six base their threshold on peak vehicle trip generation. The most common daily standard, used by five CMAs, is 1,000 trips per day (ADT). Five more used project daily trip generation between 1,500 and 2,500 as a trigger; one agency used 5,000+ ADT as the trigger for CMA review.

Of the agencies using peak hour trip generation, three used 100+ vehicle trips as a threshold, two used 200+ trips, and one used 400+ trips. As a very rough rule-of-thumb, one can assume that 10 percent of all trips are made in the peak hour for all land uses combined, so the daily figures above can be divided by ten to get a rough equivalence to the peak land use trip generation rate.[9]

The remaining agencies said they evaluated "all GPAs" (4 agencies); an EIR as triggering CMA review (1); a LOS trigger (2); or informal or other triggers (3). This demonstrates a fairly broad range of approaches taken by CMAs. There are many factors that are likely to have influenced the choice of these thresholds. Staff resources and technical expertise, the size of projects relative to other development in the county, environmental and political concerns, and historical considerations are all likely to have played a role. Those counties (at the time of study) with the highest thresholds were Orange, San Bernardino, San Diego, Solano, Sonoma, Ventura, and Yolo. Although several of these represent populous and/or fast-growing counties, some of the medium size counties (the four last

counties) may have had limited staff resources or technical (traffic modeling) capability to perform traffic impact analyses, unless the land use threshold were set high enough so that it only captured the very largest projects. Setting this threshold too low would otherwise require the review and analysis of many more development projects. Some discussion of this issue can be found in the latersection covering CMA budgets.

One of the advantages of having a numerical standard for land use review is that it allows an agency to conserve resources by only analyzing the most significant projects, provides measurable goals, and is easily understood by developers and public officials. It is not surprising that most CMAs chose a trip generation threshold for this purpose, since traffic engineers have typically required traffic studies based on a minimum trip generation of 50 to 100 peak hour trips (about equivalent to 500 to 1,000 daily trips). In fact it is probably more surprising that more CMAs did not chose such a standard.

C. COMPARISON OF APPROACHES TOWARD TRANSIT STANDARDS

Transit standards within the CMP legislation are intended to work in partnership with level of service standards and the transportation demand management element to achieve desired mobility and air quality goals. The transit standards deal with the frequency, routing, and coordination of transit services. Beyond this, the legislation is fairly vague as to what is required of the transit standards, so there is a wide variety of approaches taken by CMA's to this topic. One of the difficulties with developing transit standards is to craft legislation that can cover the wide range of transit supply and demand among California's urban counties. In downtown San Francisco, 35% of the commute trips are made by a rich variety of transit services, including heavy, light, and commuter rail, as well as buses. In other urban California counties, one percent or less of the commute trips are made by transit. Table 3 presents CMP transit standards by county.

Cooperation between transit operators (most CMA's have more than one) and the CMA is obviously a key consideration. Most CMA's felt that the level of cooperation with transit operators was generally very good, with the mean rating given of 7.4 for the nine largest urban counties, and 7.9 by suburban/rural counties (see Question 22e in Appendix A). The slightly lower level of cooperativeness in the very large counties could be indicative of the greater importance of transit in these counties, and the fact that those transit operators might be under a greater strain to provide service demanded by the public than in smaller, less urbanized counties. The response to this question is generally very even, except for one suburban county in the San Francisco Bay Area. The dissatisfaction of some of the larger transit operators with the CMP process may stem from staff limitations and inability to participate in the CMP process due to other commitments. The scores given by suburban/rural counties vary more widely, with the lowest scores being given by three medium-sized counties in the San Joaquin Valley.

Most CMA's used a standard that was mode specific (i.e., bus, local bus, light rail, etc.) for their transit standards. Nine agencies used standards that were both mode and operator (i.e., agency) specific; three used standards that were specific to particular transit operators. Four agencies used a different approach. Nearly half of the responding agencies used ridership as a criterion to establish

transit service standards, which historically has been the method most used (or given the most weight) when determining how much transit service an area should receive. Some counties (Santa Cruz, Orange, Marin) use a *load factor*, which is a measure of the total passengers to seated passengers, to determine how much service an area should have. A few others provide service standards that differentiate between rural and urban areas; Tulare and Merced are examples. These counties typically have areas that have mixes of urban and large rural environments. Shasta County uses a slight variation on this theme, distinguishing between intercity and local urban services.

Residential density was used as a factor in Sacramento, San Diego, and Stanislaus counties. Again, this is a fairly traditional measure of transit potential used in short range transit planning for many years. In total, 20 counties use population density as a factor in establishing their transit standards, while seven consider total population of the communities/areas served. A few counties used variations on the themes noted above. For example, Santa Clara County differentiates between designated "high" and "low" capacity corridors; San Francisco and San Mateo create distinctions by service type (radial service to the downtown, vs. "crosstown" services providing links between the radial lines). San Luis Obispo considers the population of the community to be serviced.

One-quarter mile is a typical standard used by transit planners for the primary transit walking area. However, only Sacramento, Santa Barbara, Solano, and Tulare counties used this as a transit standard in the CMP. One-quarter mile is considered to be the typical maximum distance to which people will walk to bus transit services. Yolo and Sonoma are two counties that use unique approaches. As Table 3 and Appendix B show, Yolo County developed its own detailed transit service standards perhaps because the transit operator is also the CMA for the county. Sonoma County considers the directional peak vehicular traffic volume on a roadway. This approach may have some disadvantages, since particularly in rural areas, traffic volumes do not correlate well with transit potentials. Interestingly, none of the CMP's make use of the transit level of service in the 1985 *Highway Capacity Manual.*

Other considerations related to route coverage include service to major activity centers (cited in 15 of the CMPs), and geographic coverage of routes (cited by eight). Again, service to major activity centers and trip generators has been a transit planning criterion for many decades.

Despite the variety of approaches noted above, there were no real surprises, with most of the CMA's incorporating pre-existing transit operator standards that were available from the state-mandated short range transit plans, or else from informal transit planning policies which had not been put on paper prior to the CMP and which exist primarily in the *de facto* actions of local transit planning departments. The biggest problem experienced with this section of the CMP seems to be that transit operators complained of not being provided the resources to adequately carry out the requirements of the transit standards, and the fact that new land use development was unlikely to be called on to assure (through fees or other mechanisms) that the standards would be met. Unlike highways, transit was provided no new gas tax funding by the legislation which enacted the CMP

process. Considerably more funding exists to implement CMP dictums for highways, and the CMP legislation provides a means for making sure that new development pays for its fair share of new highway costs.

It is telling that not a single one of the 30 CMAs interviewed indicated (in an open ended question) that the transit coordination process needed to be improved. Of course, had these interviews been held with *transit agency* personnel about the CMP process, the answer might well be different.

D. COMPARISON OF APPROACHES TOWARD TDM/TRO ELEMENT

The *Resource Handbook* (Caltrans, 1990) notes that the purpose of the Trip Reduction Ordinance (TRO) and Travel Demand Management (TDM) Element is:

- To improve system efficiency by developing measures that will increase the person through-put of the system with a minimum of capital improvements
- To integrate modal options by ensuring that measures chosen are supportive of alternative mode choices.
- To reduce vehicle trips and vehicle miles traveled by encouraging alternative choices.
- To improve the overall system level of service by reducing vehicle demand or by maximizing the person throughput of the system.
- To integrate air quality planning requirements with the transportation planning and programming functions.

One of the issues since the first round of CMPs were prepared in 1991 is that these goals, and the associated statutory CMP requirements, overlap with both federal and state clean air acts. It is not surprising, therefore, that 26 of the 30 CMAs (87%) largely rely upon the local air district's[10] rules as the source for their TDM/TRO requirements. The CMP requires that each city in a CMA adopt a trip reduction ordinance (TRO), yet in some areas, these TROs quickly were superseded by local air district rules. Although the CMP was intended to promote cooperation between air districts and the CMA's, this portion of the legislation actually appears to have created some confusion and conflict.

In reviewing the CMP documents, we found this section of the CMPs share a number of common features:

- Nearly all CMPs rely on *employer*-based trip reduction measures.
- Land use issues are typically discussed in fairly general terms, without specific requirements, possibly because the CMAs have no direct land use approval authority (they cannot deny a land use application).

- Virtually all TRO/TDM requirements are tiered by employer size. Typically, there are few or no requirements placed on employment *sites* with fewer than 100 employees. Some CMA's also place extra requirements on employment sites with more than 500 employees.

- Heavy reliance is placed on the transportation control measures (TCMs) that had previously been promulgated by the federal EPA and the state Air Resources Board (ARB).

- This section showed relative uniformity of approaches among CMPs, but unfortunately, also exhibited rather little innovativeness. This may have occurred because the air districts had covered this area before, and due to the feeling that the CMP was pre-empted in this field by existing or impending air district actions.

In most cases, CMAs have delegated the monitoring of the TDM/TRO implementation to individual cities (or the counties, in the cases of unincorporated areas). This was found to be true in approximately two-thirds of the CMAs from which information was available. The sanctions for non-compliance with the program typically involve loss of the incremental motor fuel tax funds provided by Proposition 111. This is true in 20 of the 30 CMAs. Several CMAs had no penalties for non-compliance, or allowed the CMA Board to develop *ad hoc* sanctions as needed. One county (Butte) includes monetary penalties imposed by the CMA.

Where average vehicle ridership (AVR)[11] is mentioned in the CMP's, it typically varies between 1.3 and 1.5, with the upper end of the range most often reserved for downtown areas and or the longest time horizon. Seven CMPs made no direct mention of AVR's; ten referenced the relevant air district's AVR objective; 11 included specific, numerical AVR goals (two of which were by geographic sub-areas of the county), and one was not determinable.

The degree of cooperation with local air districts (Question #22b) appears to be moderately high, although suburban/rural counties typically had a higher degree of cooperation than urban counties (mean rating of 8.3 vs. 7.7). In the larger counties, which are typically within AQMDs, the air quality problems are generally more severe and more complex than in smaller rural counties. Therefore, one would expect greater conflict between transportation goals (such as congestion reduction), and air quality goals. Cooperation may also be limited by political, geographic, and staff workload considerations that may generate more conflict in large counties in metropolitan settings. It is noteworthy that seven urban counties gave a response of nine or ten to this question, indicating extremely good cooperation, and no one responded with less than a four rating. However, three large counties gave scores of five or less.

E. THE RELATIONSHIP WITH CEQA

The authors' originally hypothesized that in order to reduce CMA staff efforts, many agencies would prefer that the land use analysis process be combined into the environmental review process, since the two share many common features. Question 13e. asked respondents:

The CMP process should be largely integrated into the CEQA process, perhaps by amending CEQA and reducing some of the CMP elements.

This hypothesis was generally refuted by the survey results. The average score for this question was 3.6 (indicating fairly strong disagreement) by the urban CMA's, and 5.7 by the rural CMA's (indicating relative indifference). It may be that the rural CMA's, which tend to have smaller staffs and budgets without commensurately smaller workloads, may have been more anxious to see some streamlining of the CMP process. There also appears to be wide variation between individual respondents; two urban counties gave this question an eight or ten rating, while four other urban counties gave a 'one' to this question. Six rural counties gave this question a 10 rating, five counties gave a 'one' to this question. Clearly, this appears to be one of the more controversial aspects relating to amendment of the CMP legislation.

F. CHARACTERISTICS OF 'GOOD PRACTICES'

1. What Constitutes a Good Practice?

The concept of 'best' or even 'good practice' is necessarily a normative concept upon which there may not be universal agreement. For example, several aspects of the CMP law are vague and are really more legislative aspirations than specific objectives to be measured and achieved. This characteristic is not unique to the CMP. To some, the broad language implies vagueness and thus inefficiency as agencies struggle to interpret exactly what it is legislators want. For example, the term 'principal arterial' is used in defining the CMP-monitored network, but even among traffic engineers, this term has no firm, indisputable definition. Furthermore, there has been concern expressed that this vagueness could result in lawsuits, with resultant delays and judicial determination of the CMP requirements. The early history of the California Environmental Quality Act (CEQA) is cited as a precedent; in 1972, the California Supreme Court interpreted the term "projects" initiated by government to include not just governmental projects, but also discretionary approval of permits, leases and other entitlements-- an interpretation not originally contemplated.[12] To date, the CMP appears not to have been subjected to the same intense scrutiny and litigation as was CEQA in its early days. This, of course, could change over time.

To others, the lack of specificity in the CMP statutes imply flexibility, allowing each CMA to define a structure and a CMP document that fits its own unique needs. Clearly, a level of service standard or transit standard ideal for Los Angeles County is not automatically good for Shasta County. The CMP as written provides substantial latitude for interpretation and implementation in a wide variety of different physical, economic, and social conditions.

Because of differences in interpretation of the law by CMA staff, it became more difficult than anticipated to establish an objective measure of what constituted a 'best practice'. This partly resulted from the short time schedule under which the first round of CMP's had to be developed. Many agencies and consultants borrowed approaches and even substantial amounts of text from other CMPs that had preceded it. Therefore, there was not as much variation in the CMP's as was originally anticipated, and it was more difficult to pick one or a few CMP's as having the 'best practice' in a given area.

We have therefore attempted to define 'good practice' in the broadest possible terms, but in ways that could be used by an individual CMA as a yardstick to be measured against. Factors taken into consideration include innovativeness, thoroughness in addressing the problem, ability to measure progress toward achieving goals, realism, specificity, and provision of incentives for other actors in the CMP process. This is necessarily a very subjective evaluation, and not intended to slight any CMA for the effort it has put into its program.

2. Good Practice in CMP Network Definitions

The good practice was based on the following characteristics:

- Use of the FHWA criterion for principal arterials (consistency)
- Inclusion of non-state highways in the system. As the *Resource Handbook* notes, "CMAs will need to define a system sensitive enough to demonstrate impacts from off-system improvements, yet still be manageable for administration." Some CMAs only use the required state highway system.
- Connection to adjacent counties
- Clear graphics.

Based on these standards, Ventura County demonstrated good CMP practices in this area.

3. Good Land Use Analysis Program Practices

The CMP legislation did not give the CMA's direct land use regulatory powers. The powers of the CMA are indirect: they can analyze and disclose impacts, but the only tool available to change a project is to withhold the Proposition 111 provided increment in gasoline taxes provided to local governments. In this sense, the CMA's have great responsibility without much authority.

Some key features of good practice in this area were:

- Use of specific, numeric values to establish the threshold for CMA review. This promotes efficiency and should tend to minimize conflict (by reducing the arbitrariness of CMA decisions to review projects).

- Analysis at the appropriate step in the land development review process.

- Integration with CEQA to the extent possible. Transportation analyses already form a substantial portion of the effort in most land development projects. This maximizes efficiency.

- Continuous updating of traffic projections and cumulative development.

Using these criteria, the Alameda County CMP scored very well. Alameda continuously updates their land use data, and provides three tiers of land use analysis: a project level, a quarterly cumulative analysis (about to be implemented), and an annual update, based on city-supplied updates of information.

4. Good Practice in Transit Standards

Yolo County developed its own detailed transit service standards, perhaps because the transit operator is also the CMA for the county. As Appendix B indicates transit level of service (LOS) is defined in terms of bus frequency, schedule reliability, passenger density (passengers divided by seated capacity, sometimes referred to as "load factor" in transit planning), and for demand-responsive systems, percent of total requests filled. The LOS is evaluated for various service types, for individual categories; as an example, current express bus service is LOS "D" in frequency, but "C" in reliability and passenger density (load factor). CMP standard, actual, and "optimal targets" are provided for each category.

5. Good Practice in the TDM/TRO Element

As noted earlier, the vast majority of CMA's allowed air district rules and/or federally mandated transportation control measures (TCMs) to supersede the CMA authority in this topical area. There proved to be relatively little innovation and variety in this section that could be attributed to the CMA.

In either the land use analysis program or TDM section, CMPs need to deal with the issue of balance in the approval of job-producing versus residential development. This problem is illustrated by one Bay Area county, which during the 1980's approved development generating more than 25,000 new jobs, but only enough housing to provide about 8,400 workers (the remainder having to be imported from other counties).

Desirable characteristics for the TDM section are that it be multi-modal, consider both the supply and demand of transportation, and integrate air quality planning into requirements with the transportation planning and programming functions.

San Francisco County provides an example of good practice for the TDM/TRO section. It contains an extensive write-up of the section's relationship to the county's other plans and policies, the county's planning code, and other city ordinances and initiatives. The section discusses funding provided by the $5 per square foot transit impact development fee, housing/employment balance, and implementation measures. It avoids one of the disappointing aspects of some of the other CMPs, in which long "laundry lists" of TDM measures are provided, with no information as to how they are to be implemented.

One of the more innovative measures taken in San Francisco County is a restriction on maximum parking. Although this measure may not be appropriate to all California counties, it is one with popular support in this county with extensive transit and pedestrian travel options.

IV. INSTITUTIONAL ROLES

A. THE EVOLVING ROLE OF THE CMA

Before the CMP effort, 93 percent of the 30 study counties had some form of organization to coordinate and improve transportation and land use planning. Of these, 68 percent were public agencies, a third of which were regional in nature. They were given a moderate average success score of 5.1 out of 10.0.

When the Congestion Management Program was established, more than half (60.7 percent) of these initial organizations absorbed the newly created Congestion Management Agencies, while less than one fifth (17.9 percent) remained separate from and advisory to their CMAs. This finding is corraborated by the fact that 60.0 percent of the CMA staff indicated being "combined for convenience [and] to avoid duplication of duties" when asked why their CMA originally organized this way. As might be expected we found a positive simple correlation ($r=0.45$, $p<0.02$)[c] between percent 1982-92 county population change and the degree of CMA absorption into existing transportation organizations.

Accordingly, most CMA's are integrated with other organizational functions, such as Councils of Governments, Transportation Authorities and Regional Transportation Planing Agencies. As Table 1 indicates, the number of CMA functions ranged between one and six. While a few CMAs have been single function independent organizations, such as those in Alameda and Santa Clara counties, political pressure has grown to merge these CMAs with existing transportation organizations in order to economize on staff and other resources and share in the new found financial influence of the CMA in sub-regional transportation planning with local governments. In a few other cases, such as Los Angeles County, mergers occurred to share resources which actually reduced the number of articulated functions. Overall, the average number of CMA functions have remained remarkably stable at about 3.2 over the four year life of the program.

As Table 1 shows, the most prevalent other functions CMAs have are as Regional Transportation Planning Agencies (47 percent), Councils of Government (37 percent), and County Transportation Authorities (30 percent). While most counties with relatively large numbers of CMA functions are from less populous and lower density areas, such as those in the central valley, a few do represent some of the larger and more urban areas, such as Sacramento and San Diego counties, which have highly integrated regional planning activities.

B. WHO PAYS FOR THE CMA?

Based on data from 22 of the 30 study counties, the 1994-95 CMA budgets range from a low of $27,000 in Placer County to high of $1,780,000 in Santa Clara County, with an average of $307,700 (see Table 7). In per capita terms, the CMA budgets vary from a low of $21.90 per thousand population to a high of $2,196, with an average of $486. As might be expected, the more generous CMA budgets are most readily found in the more urbanized and congested counties, and positive partial correlations were found between CMA budget per capita and self-evaluated success in reducing traffic congestion ($r=0.75$, $p<0.05$) (see Table 10).

Most CMAs receive funding from the county organizations to which they are linked, as well as from state and federal government grants. As shown on Table 6, these combined sources comprise about half (51.5 percent or $185,500) of the average 1994-95 CMA budget. Of these funds, federal/ISTEA grants represent about half, or 24.2 percent of the total budget. In addition, most CMAs receive at least some contribution (usually based on a formula concerned with population and Proposition 111 local funding) from the local governments which range from zero percent of the total budget in Marin County to 100 percent in Monterey County. The average local contribution to the total CMA budget for 1994-95 is nearly half (47.7 per cent or $146,700). This budgetary arrangement usually results in a considerable amount of local government influence in CMA policy-making.

In the absence of new funding sources, it seems likely that the average local government contribution will increase its share of the CMA budget as counties deplete their interest and carryover funds, which is expected in Marin County. If this does occur, it will further enhance local government influence on the CMA boards.

C. WHO CONTROLS THE CMA?

With regard to governance, virtually every CMA has a combination of elected officials from local and county government (usually members of city councils and county boards of supervisors). In several cases representatives of related transportation organizations, Caltrans and the general public also sit on the governing board. Membership size ranges from four in Solano County to 31 in Alameda County. Generally, the boards are numerically dominated by local government voting representatives, who on average constitute 64.3 percent of the CMA voting power. In addition, some CMA boards provide extra voting representation to large political units. For examples, the City of Sacramento received four out of 11 CMA board votes and San Jose obtained five of 12 votes.

At the same time, CMA staff with their professional expertise about transportation, land use and air quality also help frame the policy-making agenda. Various advisory committees also appear to have significant influence in the CMA policy-making process, especially the Technical Advisory Committees, which are comprised of senior technical staff of the participating local governments.

D. CITIZEN AND STAKEHOLDER ROLES IN THE CMAs

As Table 5 indicates, all 30 CMAs studied have a Technical Advisory Committee (TAC), which generally parallels the CMA board's representation with transportation and planning related senior technical staff, such as the heads of planning, transportation and public work departments. As its name implies, each TAC focuses on professional issues concerned with transportation, land use and air quality planning.

Table 5 shows, an overwhelming majority of CMAs (26 out of 30, or 87 percent) have other advisory committees. In contrast to most TACs, these committees attempt to represent a broad range of constituencies, such as business interests, minority social equity groups, environmental organizations and modal advocates. The number of these committees varies from zero in Shasta County to four in Contra Costa County with the average number for our CMA sample of 2.2.

The groups most frequently represented were the modal advocates (61.5 percent) and business interests (46.2 percent), while the least represented were environmental organizations (34.6 percent) and minority social equity groups (30.8 percent). This pattern was even more pronounced for the most urban counties. Perhaps this finding reflects the perception of the overarching importance of physical and economic efficiency compared to social considerations in the transportation planning process.

Contrary to our expectations, we also found that the greater the breadth of citizen participation (as measured by the number of other advisory committees), the less effective the CMA appeared to be. For example, we found a negative simple correlation between the breadth of citizen participation and effectiveness of CMA structure and process ($r=-0.47$, $0<0.05$); and, as Table 9 indicates, negative partial correlations with the CMA cooperation with regional institutions, such as the air quality district ($r=-0.67$, $p<0.10$) and Regional Transportation Planning Agencies ($r=-0.99$, $p<0.05$). Perhaps this suggests the increased difficulty in arriving at a policy consensus as the breadth and extent of citizen participation expands. That is, there may be a trade-off between the extent of local citizen participation and degree of regional planning consensus.

At the sub-regional level, however, we did find a positive partial correlation between the breadth of citizen participation and degree of CMA cooperation with other nearby CMAs ($r=0.78$, $p<0.05$). This suggests that the same or similar citizens groups may have representation and/or influence on several CMAs in the same geographical area.

E. HOW DOES THE CMA RELATE TO OTHER REGIONAL ORGANIZATIONS?

One of the objectives of the CMP legislation is to improve the quality of metropolitan transportation planning and its relationships with land use and air quality decision making activity. Accordingly, our study examined the extent to which the CMA coordinated its activities with those of other regional transportation related agencies.

As Appendix A shows, scores for Regional Cooperation ranged from a low of six to a high of eight out of a possible 10. Perhaps not surprisingly, the highest average score for cooperation of eight was given to the regional transportation planning agencies (RTPAs) which were highly integrated with nearly half of the CMAs. As Table 8 shows, the positive partial correlation between the degree of CMA-RTPA cooperation and the number of CMA Functions ($r=0.9982$, $p<0.05$); and the number of local governments represented by the CMA ($r=0.9961$, $p<0.05$) support the desirability of formal CMA comprehensive functional and local government representation. Yet, as discussed in the previous section, the breadth of informal citizen participation was negatively correlated with CMA-RTPA cooperation. Again, this seems to suggest the difficultly of integrating informal local citizen participation with formal regional planning processes.

The next highest score of 7.9 for CMA-regional cooperation was given to air quality districts, which suggests some positive cooperative development since few CMAs are directly linked to such organizations. Land use agencies ranked somewhat lower with a 7.3 score even though one third of the CMAs were directly linked to their councils of government. The lowest average score of 6.0 was given to the most distantly transportation related institution -- the U.S. Department of Transportation.

F. WHAT INGREDIENTS MAKE FOR A SUCCESSFUL CMA?

In attempting to determine the ingredients that make for a successful CMA, we first identified the output measures of success related to the goals of the Congestion Management Program, as well as the factors which might influence these desired outcomes. Then, we collected the relevant information by interviewing the staff and examining the CMP of every CMA and gathering related U.S. census data. After appropriate analysis, we have reported our fundings as to the CMA characteristics most associated with the desired outcomes.

1. Number of CMA Functions

Generally, we found that (as we expected) the more functional responsibilities and the less independent the CMA was, the poorer the output scores were for overall effectiveness ($p<0.05$), cooperation with other CMAs ($p<0.05$) and effectiveness in improving air quality ($p<0.10$) and transportation mobility ($p<0.05$) (see Table 8). The major positive relationship that occurred when increasing the number of functional CMA responsibilities was with the degree of CMA cooperation with regional transportation planning agencies ($p<0.05$). These relationships held regardless of the nature of the other non-CMA functions.

Interestingly, when the CMA staff were asked what they would do to improve the structure and function of the organization, the two most frequent suggestions were to have more independent staff to focus on CMA functions and have more coordination with local jurisdiction and agencies. Apparently, there seems to be a desire for both a clearly defined, focused CMA function, and a comprehensive integrative function. This suggests that CMAs should not have too many different responsibilities so as to swamp their staff, but enough functional integration to provide regional breadth of vision. Thus, extremes should be avoided and perhaps a range of two to three functions should be utilized depending on local conditions.

2. Degree of Citizen Participation

As pointed out earlier, contrary to our expectations, as the degree of citizen participation (as measure by the number of and type advisory committees) increases there was an observed decrease in the desired output scores for overall effectiveness, and CMA cooperation with regional institutions, such as air quality and transportation planning agencies. At the same time, we also found a positive relation between the breadth of citizen participation and degree of CMA cooperation with other nearby CMAs.

Our analysis suggested the likelihood of a trade-off between the extent of local citizen participation and the ability to form a regional planning consensus. That is, extensive citizen participation may actually assist in CMA relations with local governments or other CMAs in its subregion, since most groups are local in nature, while such activity could be a potential obstacle to regional planning if conducted excessively or improperly. Perhaps some optimal point can be reached which balances the costs of participation with the benefits of regional consensus as shown in Figure 3.

Thus, additional attention is needed by the CMAs and related regional institutions to bridge what appears to be a gap between the legitimate democratic drive for increasing local citizen participation and the growing need for large-scale regional planning activities for our expanding metropolitan areas. Similar conclusions were arrived at in studies of planning and growth management activities in California and elsewhere (Beatley et al., 1994; Pincetl, 1994). Thus, while the approaches may vary in each region of the state, more progress seems to be needed here.

3. CMA Budget Per Capita

As we expected, our analysis of program spending, in terms of CMA budget per capita indicates a positive relationship with a major desirable score for the reduction of traffic congestion ($p<0.05$) (see Table 10). This finding was reinforced further by one of the CMA staff's most frequent answer to the question, "What suggestions do you have to improve the CMP/CMA process", of providing a dedicated source of funding and staff for the CMA and local jurisdictions.

Clearly, adequate funding is needed for effective CMA planning and consensus building, and obtaining such funding will continue to be an important challenge to the CMP effort. Possible approaches to this financial challenge are to encourage increased financial support from local governments (through a fair share mechanism) for CMA activities, and additional funding from ISTEA through each designated Metropolitan Planning Organization. Another important potential source of funding could be amending the CMP legislation so that a minimum floor of financial support could be dedicated to CMAs from gasoline tax revenues (based on a fair share formula, such as county populations).

4. Percent CMA Budget from Local Government Contributions

As was pointed out earlier, the local contribution to the total CMA budget ranged from zero to 100 percent with an average of nearly half (48 percent or $146,700). Thus, local government is playing an important budgetary role in the CMA activities and a role which seems likely to increase as other sources of revenue diminish.

Our partial correlation analysis presented on Table 11 showed expected positive but modest relationships between the percent CMA budget from local government and degree of cooperation between the CMA and local governments and regional land use agencies and the reduction of traffic congestion ($p<0.10$). These data suggest that the greater the financial involvement in CMA activities the greater cooperation it fosters among these governments in regional planning activities and the more successful the reduction of traffic congestion.

The only negative finding in our analysis was the weak correlation ($p<0.10$) between percent CMA budget from local government contributions and utility of current CMA structure and process. Perhaps this reflects local governments' perceived gap between their growing financial support of, and influence in, CMA activities, especially for small communities which may not receive enough Prop 111 funds to cover their CMA contributions and related expenses.

5. Number of Local Governments Involved in the CMA

Given the great diversity of the CMA counties it is not surprising that the number of local governments involved in CMA activities ranges from one in San Francisco county to 89 in Los Angeles county. The mean is 14.

Also in accordance with our expectations are the significant positive relationships we found between the number of local governments involved in the CMA and the effectiveness indicators of success of CMAs over time, degree of CMA cooperation with the regional transportation agencies, reduction of traffic congestion and improvement of transportation mobility in region and state (all $p<0.05$). These findings shown on Table 12 suggest that, unlike less formal citizen participation, formal local government activity fosters increased CMA cooperation with regional planning activities and mobility improvements.

When we tried to normalize our data with regard to population and examine the impact of the number of local governments per capita, we found similar positive results as those found with absolute number of governments, but some significant ($p<0.01$) negative correlations with respect to utility of current CMA structure and function and improved cooperation between local governments (see Table 13). This finding suggests that counties with many local governments with small populations may receive only modest participation and support for CMA activities since these governments receive little in Proposition 111 funding. Again, increased funding and resources were among the most often cited recommendation to improve the CMP/CMA process (see Appendix D).

6. Percent CMA Board Comprised of Local Government Representatives

As Table 5 indicates, the percent of the CMA board comprised of local government representatives ranges from a low of 28.6 percent in Shasta County to high of 95.0 percent in San Mateo County, with an average of 64.3.

Unexpectedly, we found no significant positive (as we expected) or negative relationship between percent CMA board comprised of local government representatives and any effectiveness indicator (see Table 14). This suggests that most CMAs have an appropriate amount of local government representation on their governing boards which on average represents nearly two-thirds of the voting power. Since more than 60 percent of the CMAs were absorbed into preexisting agencies, which apparently already had politically accepted governing board compositions, it should not be surprising that 65.5 percent of the CMA staffs found the governing board appropriate (see Appendix D).

7. Minimum Trip Generation Required For Development Review

As mentioned earlier, the minimum trip generation required for review of new development is a screening tool various kinds of planning agencies use to determine which developments warrant closer review based on trip generating characteristics. Table 4 indicates that roughly one third of the CMAs use this review criterion which ranges from a low of 1,000 trips per day to a high of 5,000.

These CMAs obtained somewhat higher scores for desired output measures of utility of current CMA structure and process, coordination between local governments and improvement in transportation mobility ($p<0.10$), than those forCMAs without minimum trip generation requirements (see Appendix B). Our partial correlation analysis shows that as the minimum trip generation required for development review increases (or as the land use requirements become more permissive), there is an increase of cooperation with regional transportation agencies ($p<0.10$), U.S. Department of Transportation ($p<0.05$), and increases in regional transportation mobility ($p<0.10$) and air quality ($p<0.05$) (see Table 15). These somewhat unexpected positive influences of development friendly criteria may reflect CMA economizing on staff time resulting in a more careful planning process reserved for only the largest and most environmentally significant new developments. There is also a possibility that these larger projects may be located in peripheral areas which could generate a more dispersed traffic pattern.

8. Highway Miles Per Capita

Our expectations for positive relationships between the amount of non-state highway miles per capita and effectiveness indicators were not borne out. As Table 16 reveals, the correlations were overwhelmingly negative and none were statistically significant. When we extended our examination to study the influence of the amount of non-state highway miles with respect to the square root of land area we obtained similar results (see Table 17).

An analysis of the impact of the length of state highways per capita also indicated previously negative relationships with desired outcomes, with a few significant at the 0.05 level: Utility of current CMA structure and process; and improvements in regional transportation mobility and air quality (see Table 18).

These findings indicate that the relative supply of existing non-highway resources are generally of equal utility among the counties, and that when significant differences in the supply of state highway facilities are provided they probably represent a late and inadequate response to already over congested traffic situations.

9. Population Change

We expected increasing population change to reflect more development pressure and traffic congestion and thus have negative influences on our desired indicators of program outcomes. Instead, Table 19 shows only positive relationships between population change and cooperation with regional transportation agencies ($p<0.10$) and the U.S. Department of Transportation ($p<0.005$).

These findings about the limited relative impact of population growth on transportation quality is similar to that found in the growth management field (Glickfeld and Levine, 1992), probably reflects the fact that the highest population growth generally occurs in the less developed counties on the edge of metropolitan areas. For example, counties in our study with a population density less than 1,000 persons per square mile had a mean 1982-92 population change of 33.7 percent compared to 21.8 percent for that of higher density counties. Yet, our data did indicate a growing willingness of CMAs to cope with the transportation implications of growth through greater cooperation with regional and federal transportation agencies.

10. Population Density

Population density, which is a measure of intensity of development, or degree of urbanization, varies greatly among our study areas from a low of 41.65 persons per square mile in rural Shasta County to a high of 15,841 in very urban San Francisco, with a mean value of 338. As Table 1 shows, only seven of the 32 CMA counties (Los Angeles, Sacramento and 5 in the San Francisco Bay Area) have an overall residential density over 1,000 persons per square mile which is a U.S. census criteria for defining the boundaries of urban areas.

Our expectations about the influence on population density were supported by the significant ($p<0.05$) negative partial correlations with effectiveness of CMA/CMP process to improve regional transport mobility and air quality and state-wide transport (see Table 20). Yet, there were also strong positive relations between density and overall success of CMAs ($p<0.01$), and cooperation with the U.S. Department of Transportation ($p<0.005$). Again our findings suggest an adaptive CMA behavior to try to become more effective and cooperative with transportation funding institutions in order to cope with increasing intensity of development.

11. Total Population

As shown in Table 1, the 1992 population varied greatly among the CMA counties from a low of 114,800 in Napa to a high of 9,087,400 in Los Angeles, with a mean value of 986,900.

In accordance with our expectations, Table 21 shows that population size varied negatively with overall success of the CMA ($p<0.10$), degree of cooperation between CMA and local governments ($p<0.05$), reduction of traffic congestion ($p<0.01$), and improvement of transport mobility throughout the state ($p<0.05$). These findings are corroborated by those of other studies which show, for example, that the most populous communities in California are most likely to be impacted by development and to enact growth management measures (Glickfeld and Levine, 1992).

12. Per Capita Income

The level of affluence also varies significantly among the CMA counties. Table 1 shows that 1990 per capita income ranged from a low of $10,302 in rural Tulare County to a high of $28,381 in surburban Marin County, with a mean of $16,082. Thus, the potential resources available for dealing with community problems in more affluent areas could be a positive factor in the field of transportation.

Yet, contrary to our expectations, Table 22 shows that increases in per capita income yielded only negative relationships with overall success of CMA organization ($p<0.01$), coordination between local governments ($p<0.05$), reduction of traffic congestion ($p<0.05$), and improvement of transportation mobility in the region and throughout the state ($p<0.05$). While other studies have shown that socio-economic characteristics, such as income, were not good predictors for the passage of growth management ordinances (Knaap 1987; Baldassare 1990), our research yields strong negative associations of income with indicators of CMA effectiveness. Perhaps other factors such as greater scrutiny and higher expectations of governmental activities by more affluent surburban environments, may be at work.

13. Education

As Table 1 shows, educational backgrounds also varied substantially among our study areas. In terms of the percent college graduates age 25 plus of the 1990 population, the level ranged from 12 to 44 percent, with a 23 percent average.

Unlike per capita income, level of education did support our expectations of having positive relationships with desired outcomes. As Table 23 clearly indicates, percent college graduates age 25 plus of the 1990 population had positive correlations with overall success of CMAs ($p<0.10$) coordination between local governments ($p<0.05$) and cooperation between CMA and local governments, regional transportation planning agencies and U.S. Department of Transportation (all $p<0.10$), reduction of traffic congestion ($p<p<0.01$) and effectiveness in improving regional transport mobility ($p<0.01$) and air quality ($p<0.05$) and state-wide transport mobility ($p<0.05$). These findings are corroborated by the Glickfeld and Levine (1992) study of California growth management which found that "jurisdictions that had a higher proportion of college educated persons in 1980 tend to enact more [growth management] measures."

V. CONCLUSIONS AND RECOMMENDATIONS

A. THE CMP IN PROSPECT

The future role of the CMP in California's transportation planning process seems assured for at least three reasons:

- Local government has adapted to the CMP process with remarkably little difficulty, despite the costs involved. This indicates a developing constituency for the services performed by CMAs.

- CMAs will serve an important role in meeting the requirements for a congestion management system that are part of the federal ISTEA requirements.

- Although many interview respondents at CMAs expressed support for modifying or improving the legislation, there appears to be little or no support at this level for discarding the legislation.

The real question is what role the CMP will play in future transportation planning, and whether that role will be useful in reducing congestion and improving air quality in the state.

Transportation planners typically have worked in two very different time frames: long range plans that typically cover a goal-driven planning process of two decades (or more); and a short term planning process, typically five to seven years, that is facility, programmatically, and financially oriented. These two extremes are covered by the regional transportation plan (long range) and the regional transportation improvement programs (short range) at the regional/metropolitan level, and the state transportation plan and statewide transportation improvement program (STIP) at the statewide level. The CMP occupies an awkward position between these two extremes, in that it must rely for effectiveness on facilities that can only be constructed in a medium term horizon (seven to fifteen years), and it is more than just facility specific.

Four years is a relatively short time period in transportation planning time, and so it is probably unrealistic to expect that the CMP would visibly improve congestion in that period. Perhaps one of the more important, but less noticeable, benefits of the statewide CMP is that it has brought a number of disparate actors in the transportation planning process together, who otherwise would not be communicating as actively. This may help to identify problems, establish priorities, and ultimately reduce conflicts between agencies.

B. CONCLUSIONS

Based on our analysis of the information collected in this study, we offer the following conclusions about the nature of statewide CMP practices:

One of the conclusions of the survey was that CMA staff do not wish to see more proscriptive and detailed requirements imposed on them. Since the CMP law covers a wide variety of transportation and land use conditions, the general sentiment is that the CMAs should be given the discretion to determine what should be included in the CMP. Whether this approach will be upheld in court is another matter. At this point, there has been little litigation regarding the CMPs. In the 1970's, case law substantially defined some of the requirements of the California Environmental Quality Act, and the potential exists for a repeat of this process of judicial interpretation.

It is also too early to tell if CMAs will actually withhold gas tax funds from a local government when the land use analysis program indicates that a proposed project would violate the level of service standard. Since the CMA boards are mostly constituted of local elected officials, there has been a notable reluctance to impose this sanction on another community. However, the threat of such an action may be enough to induce some land developers (and local governments) to conform to the level of service standard. The current recession in California has tempered traffic growth and has made it easier for CMAs to stay within LOS standards.

The fact that transit standards showed relatively little innovation is probably a reflection of the fact that no money was made available by Proposition 111 (or is available at this time) to expand transit services. Since transit planning was being done long before the CMP, it is not surprising that these elements mostly embody the status quo. In the future, the CMPs may evolve into a more integrative function, where modal trade-offs can be considered explicitly with the capital improvement program and level of service standards. One CMA (San Diego) has taken this to the logical conclusion, by incorporating the CMP within its Regional Transportation Plan, since the two processes and resulting documents share much in common.

Generally, we found that the greater the number of functional responsibilities carried by the CMA and the less independent it was, the poorer the output scores were for overall effectiveness, cooperation with other CMAs, effectiveness in improving air quality, and transportation mobility. Interestingly, when CMA staff were asked what they would do to improve the structure and function of the organization, the two most frequent suggestions were greater staff independence to focus on CMA functions, and greater coordination with local jurisdictions/agencies. Apparently, there seems to be a desire for both a clearly defined, more focused CMA function, and a comprehensive integrative function.

Citizen participation was also found to be inversely correlated with desired output scores for overall effectiveness and CMA cooperation with regional agencies. At the same time, it was found that there was a positive relation between the breadth of citizen participation and the degree of CMA cooperation with other neighboring CMAs. Our analysis suggests that there is a trade-off between the extent of citizen participation and the ability to form a regional planning consensus. That is, extensive citizen participation may assist in CMA relations with local governments or other CMAs in the region, since most groups are local in nature; while such activity could be a potential obstacle to regional planning if conducted excessively or improperly.

The analysis of program spending (in terms of CMA budget per capita) indicates a positive relationship with a score for the reduction in traffic congestion. As expected, the CMA budget per capita correlated positively with the agency's self-rating of effectiveness. Respondents frequently suggested improving the CMP process by providing a dedicated source of funding for the CMA. Current CMA law is silent on this matter, leaving it to each CMA to obtain funding.

We also found some positive relationships between desired outcomes and the percent of the CMA budget from local government contributions, and the number of local governments involved in the CMA. Thus, in contrast to the less formal citizen participation, increased formal local government activities (in terms of funding and involvement) appear to have a positive influence on CMA effectiveness. The fact that 410 of the 429 (or 95.6 percent) of all local governments in the study counties are participating in CMA activities can be viewed as a positive sign for the program effectiveness.

Yet, we found no significant relationships between the percent of the CMA board that is comprised of local representatives and any effectiveness indicator. This suggests that, since most CMAs were absorbed into preexisting agencies possessing already acceptable governing boards, the level of local government representation on CMA boards is generally satisfactory.

While CMAs with a minimum trip generation threshold required for development review did register somewhat higher scores for desired outcomes in overall CMA effectiveness and coordination between local governments, our analysis also showed that the more permissive of these requirements had a positive influence on increases in self-rating scores for transport mobility and air quality.

Although population change had only a marginal impact on desired measures of output, our study did indicate a growing willingness of CMAs to cooperate with regional and federal transportation as growth rates increased.

Population and infrastructure density were both shown to be indicators of congestion and therefore had negative influences on most desired outcomes. This was also shown to be the case for total population.

Finally, our research indicated mixed results for social status variables. Per capita income was shown to be negatively associated with CMA effectiveness which is somewhat corroborated by other studies showing that income is a poor predictor for support of growth management programs. By contrast, counties that had a higher proportion of college-educated persons in 1990 indicated positive results for their CMA activities. This too was supported by other research on growth management which showed a positive influence of education level on improved land use measures.

C. RECOMMENDATIONS

Based on the conclusions generated in this study, we offer the following recommendations to improve CMP practices in the state:

- The CMP legislation should more clearly standardize and clarify definitions of terms, but still allow for flexibility by the CMAs. Terms like "principal arterial" should be better defined, either in the legislation, or in interpretive guidelines.

- The responsibility for monitoring the state highway portion of the CMP network should be designated as either a CMA or Caltrans responsibility.

- Although there may be value in having the smaller, more rural counties prepare CMPs, it is likely that less benefit is derived from having them prepare a comprehensive document as more urban/congested counties. For example, in rural counties, transit carries less than one percent of all trips, and the costs of congestion monitoring are incurred even though virtually no congestion exists. Reduced requirements might be placed on counties under 500,000 population, or where the average population density is under 250 persons/square mile.

- Identification and mitigation of interjurisdictional impacts needs clarification. This was a theme that emerged in discussions with several CMAs.

- The role and responsibilities for air districts should be more carefully thought out and defined if the CMPs are to make a positive contribution to achievement of air quality standards. Also, if the air district's trip reduction measures are to take precedence over the CMAs, then perhaps the TDM/TRO requirements of the CMP should be eliminated for those counties that are part of AQMDs.

- The legislation should clarify the type of environmental documentation required for the CMP.

- CMAs should not have too many different responsibilities so as to overwhelm staff, but enough functional integration to provide regional breadth of vision. Thus, extremes should be avoided and perhaps two or three functions should be mandated, depending on local conditions. This recommendation suggests that proposals for "regional superagencies" may have more difficulty achieving success than is widely thought.

- Some optimal point should be sought that balances the costs of citizen participation with the benefits of regional consensus. Thus, more attention is needed by the CMAs to bridge what appears to be a gap between the legitimate democratic drive for increasing local citizen participation and the growing need for large-scale regional planning activities for expanding metropolitan areas.

- Each CMA should receive a dedicated funding source to pay for its basic activities. A logical source of such funding would be the gasoline tax. For example, when the gasoline tax is next increased, dedicating the equivalent of $0.001 (one-tenth of a cent) per gallon to CMA support would provide approximately the average level of CMA expenditures. In larger and more complex counties, or where more elaborate agencies/programs are desired, additional revenues could be obtained via the *ad hoc* mechanisms that are now the primary source of CMA support, such as increased local government contributions.

- Where feasible, CMAs should conduct vigorous public education programs to familiarize their communities with the goals and importance of the CMA/CMP process. This is likely to not only increase the degree of citizen participation, but also increase support and funding for CMA activities.

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NOTES

1. The CMP statutes are found in California Government Code, Sections 65081, et. seq.

2. While some counties are large enough to contain their entire metropolitan area (e.g., San Diego, Fresno), the statutorily-created metropolitan planning organizations were bypassed by the CMP legislation. These were the Southern California Association of Governments (five Los Angeles area counties), and the Metropolitan Transportation Commission (nine counties in the San Francisco Bay Area). Both agencies have worked closely with the county CMAs, however.

3. See Final Study Report, Statewide CMP/Air Quality Coordination Study, May 1994, prepared by the Statewide CMP/Air Quality Coordination Steering Committee, Los Angeles Metropolitan Transportation Authority, Los Angeles; Richard Lee and Linda Wilshusen, "Congestion Management in California After Two Years," presented at the 1994 Annual meeting of the Transportation Research Board, Washington, DC; Steven B. Colman, et al., "California's Experience with Congestion Management Programs," Compendium of Papers, Institute of Transportation Engineers annual meeting, Milwaukee, WI., 1991.

4. For example, see "Guidelines for Congestion Management Program Transportation Impact Report for the San Diego Region," prepared by the San Diego Traffic Engineers' Council (SANTEC) and the Institute of Transportation Engineers (ITE) California Border Section, 1993.

5. The investigators attempted unsuccessfully to obtain a copy of the Yuba-Sutter Counties CMP (Marysville-Yuba City metropolitan area).

6. Since state highways must be included in the CMP network by law, this represents the discretionary mileage selected by the CMA.

7. Centerline miles ignore the number of lanes on a facility. In the rare cases where two one way streets constitute a "route", the mileage is essentially double-counted. However, this does not cause any significant problems for analysis. Although the authors tried to also obtain information on lane-miles of CMP network highways, it was found that many agencies did not have this information available.

8. The federal definition of a principal arterial is:

   A principal arterial serves major through movements between important centers of activities in a metropolitan area, and a substantial portion of trips entering and leaving the area. It also connects freeways with major traffic generators. In small cities (under 50,000 population), its importance is derived from the service provided to traffic passing through the urban area. Service to abutting land is very subordinate to the function of moving through traffic. This definition is subject to widely varying interpretation.

9. In actuality, the peak is typically in the 8-12% range for residential and certain types of commercial land uses. For office uses, it is typically higher (up to 15%, or more), and in some cases is as low as 3% for some land uses in the morning peak (e.g., retail).

10. In California, most counties have a local air pollution control district (APCD), although counties in the San Francisco Bay Area and Southern California are part of multi-county air quality management districts (AQMDs). The term 'air district' is used here to denote the generic form, including both APCDs and AQMDs.

11. AVR differs from the traditional transportation planning concept of average vehicle occupancy (AVO) in some important ways. AVR is usually computed by dividing the number of employees at a worksite, by the number of motor vehicles used for commuting. In essence, transit, walking, and other modes are 'averaged into' this number. Therefore, AVR's tend to be higher than AVO's.

12. Friends of Mammoth v. Board of Supervisors (1972) 8 Cal. 3d 247 [104 Cal. Rptr. 761].

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TABLE 1 CMA and County Basic Information

COUNTY	CURRENT CMA ORGANIZATIONAL FUNCTIONS (1)	NON-STATE HWY MILES (2)	STATE HWY MILES (3)	TOTAL COUNTY POP. (4)	PER CAPITA INCOME (4a)	% POP 25+ COLLEGE GRAD (4b)	NON-STATE MILES/ 1000 POP (5)	STATE MILES/ 1000 POP (5a)	LAND AREA SQ. MILES (6)	POP. DENSITY (7)	NON-STATE MI./SQ. RT. OF LAND AREA (8)	NUMBER OF GOVT'S IN COUNTY (8a)	NUMBER OF GOVT'S/ MIL. POP. (8b)
Alameda	CMA	26.0	204.0	1,313,300	$17,547	29%	0.020	0.155	736	1784.38	0.958	15	11.42
Butte	CMA, COG, MPO, RTPA	10.0	183.4	191,200	$12,083	20%	0.052	0.959	1646	116.16	0.246	6	31.38
Contra Costa	CMA, TA, CTC, AQD	ND	112.1	836,900	$20,748	32%	ND	0.134	730	1146.44	ND	18	21.51
Fresno	CMA, COG, MPO, RTPA	ND	520.9	713,700	$11,824	17%	ND	0.730	5978	119.39	ND	16	22.42
Kern	CMA, COG, MPO, SAFE, RTPA, ALUC	ND	868.6	584,100	$12,154	13%	ND	1.487	8130	71.85	ND	12	20.54
Los Angeles	CMA, TA	100.0	897.3	9,087,400	$16,149	22%	0.011	0.099	4070	2232.78	1.567	89	9.79
Marin	CMA	32.0	91.0	237,000	$28,381	44%	0.135	0.384	523	453.15	1.399	12	50.63
Merced	CMA, COG, MPO	20.0	255.0	187,100	$10,606	12%	0.107	1.363	1944	96.24	0.454	7	37.41
Monterey	CMA, RTPA	40.0	288.8	366,600	$14,578	22%	0.109	0.788	3303	110.99	0.696	13	35.46
Napa	CMA, CPO	2.0	119.9	114,800	$17,640	22%	0.017	1.044	744	154.30	0.073	6	52.26
Orange	CMA, TA, RTPA, CTD	ND	243.4	2,512,200	$19,890	28%	ND	0.097	798	3148.12	ND	31	12.34
Placer	CMA, CTC	72.3	155.8	186,900	$17,311	23%	0.387	0.834	1416	131.99	1.921	7	37.45
Riverside	CMA, SAFE, CTC, TA	ND	696.5	1,289,700	$14,510	15%	ND	0.540	7214	178.78	ND	25	19.38
Sacramento	CMA, SAFE, CTPA, TA, CPO	ND	226.6	1,099,100	$15,265	23%	ND	0.206	971	1131.93	ND	5	4.55
San Bernardino	CMA, COG, SAFE, TA, RTPA, CTC	351.0	1210.4	1,530,600	$13,358	15%	0.229	0.791	20064	76.29	2.478	25	16.33
San Diego	CMA, COG, MPO, RTPA, CTC, ALUC	96.0	585.0	2,602,200	$16,220	25%	0.037	0.225	4212	617.81	1.479	19	7.30
San Francisco	CMA, TA	102.0	32.0	728,700	$19,695	35%	0.140	0.044	46	15841.30	15.039	1	1.37
San Joaquin	CMA, MPO, RTPA, ALUC	58.9	261.6	502,000	$12,705	13%	0.117	0.521	1415	354.77	1.566	8	15.94
San Luis Obispo	CMA, COG, MPO, RTPA	0.0	366.2	221,900	$15,237	23%	0.000	1.650	3308	67.08	0.000	8	36.05
San Mateo	CMA, COG, RTPA, ALUC, SWMA, TA	ND	214.3	670,100	$22,430	31%	ND	0.320	447	1499.11	ND	20	29.85
Santa Barbara	CMA, COG, MPO, RTPA	ND	302.5	379,000	$17,155	27%	ND	0.798	2748	137.92	ND	8	21.11
Santa Clara	CMA	ND	248.0	1,531,800	$20,423	33%	ND	0.162	1293	1184.69	ND	16	10.45
Santa Cruz	CMA, SAFE, RTPA, CTC	ND	123.6	231,600	$17,347	30%	ND	0.534	446	519.28	ND	5	21.59
Shasta	CMA, MPO, RTPA, LTC	4.0	313.0	157,700	$12,381	14%	0.025	1.985	3786	41.65	0.065	4	25.36
Solano	CMA, CTC	93.0	162.0	364,700	$14,833	19%	0.255	0.444	834	437.29	3.220	8	21.94
Sonoma	CMA, TA	ND	237.5	407,200	$17,239	25%	ND	0.583	1604	253.87	ND	10	24.56
Stanislaus	CMA, COG	0	181.3	393,400	$12,731	13%	0.000	0.461	1506	261.22	0.000	9	22.88
Tulare	CMA, COG, MPO, RTPA	254.0	371.0	330,000	$10,302	12%	0.770	1.124	4808	68.64	3.663	9	27.27
Ventura	CMA, CTC	ND	271.9	686,900	$17,861	23%	ND	0.396	1862	368.90	ND	11	16.01
Yolo	CMA, TA	ND	182.7	149,200	$13,861	30%	ND	1.225	1014	147.14	ND	5	33.51
Averages	NA	74.2	330.9	986,900	$16,082	23%	0.142	0.669	2920	1091.78	2.049	14	23.27

NOTES:

ALUC= Airport Land Use Commission
AQD= Air Quality Duties
COG= Council of Governments
CPO= Countywide Planning Organization
CTC= County Transportation Commission
CTD= County Transit District
CTPA= County Transportation Planning Agency
MPO= Metroplitan Planning Organization
NA= Not Applicable
ND= No Data Available
RTPA= Regional Tranportation Planning Agency
SAFE= Service Authority for Freeway Emergencies or similar functions.
SWMA= Solid Waste Management Agency
TA= Transportation Authority

SOURCES:

County Congestion Management Program, 1991-94;
Interviews of CMA staff, February-June 1994;
U.S. Census of Population & Housing 1990;
State of California, Department of Finance,
California Statistical Abstract 1982 & 92;
State of California, Department of Transportation

TABLE 2 Criteria for Selection of CMP Network

COUNTY	NUMBER OF LANES (9)	AVERAGE DAILY TRAFFIC (10)	FUNCTION OR PURPOSE OF ROAD SEGMENT (11)	FEDERAL HIGHWAY ADMIN. STANDARDS (12)	ROAD SEGMENT CONNECTS TO AN ADJACENT COUNTY (13)
Alameda	yes	yes	yes	no	no
Butte	no	no	Used each local govt's GP to identify Principle Arterials.	no	no
Contra Costa	yes	yes	yes	no	no
Fresno	no	no	yes	no	no
Kern	no	no	yes	no	no
Los Angeles	no	no	yes	no	yes
Marin	no	yes	yes	no	no
Merced	no	no	yes	no	no
Monterey	no	no	yes	no	no
Napa	no	no	yes	yes	no
Orange	Yes	Yes	yes	yes	yes
Placer	no	no	yes	no	no
Riverside	no	no	yes	yes	yes
Sacramento	no	yes	yes	no	yes
San Bernardino	no	no	yes	no	yes
San Diego	no	yes	yes	no	no
Santa Barbara	no	no	yes	no	no
Santa Clara	yes	yes	yes	no	no
Santa Cruz	no	no	yes	yes	no
San Francisco	no	no	yes	no	no
San Luis Obispo	yes	yes	yes	yes	yes
San Mateo	yes	yes	yes	no	yes
Shasta	no	no	yes	no	no
San Joaquin	no	no	yes	no	no
Solano	no	no	yes	no	no
Sonoma	no	no	yes	yes	no
Stanislaus	yes	no	yes	no	no
Tulare	no	no	yes	no	yes
Ventura	yes	yes	yes	yes	yes
Yolo	no	no	yes	yes	no

SOURCES:

County Congestion Management Program, 1991-94;

Interviews of CMA staff, February-June 1994;

U.S. Census of Population & Housing 1990;

State of California, Department of Finance, California Statistical Abstract 1982 & 92;

State of California, Department of Transportation

TABLE 3 CMP Transit Standards

	FREQUENCY					ROUTING					COORDINATION
COUNTY	PRIOR STANDARDS OR DEV. NEW FOR CMP (14)	BY % W/IN 1/4 MILE (15)	MODE OR OPERATOR SPECIFIC? (16)	BY TRANSIT RIDER-SHIP (17)	OTHER STANDARDS (18)	BY TOTAL POP. (19)	BY POP. DENSITY (20)	BY LOC. OF MAJOR ACTIVITY CENTERS (21)	BASED ON GEOGRAPHIC COVERAGE (22)	MODE OR OPERATOR SPECIFIC? (23)	STANDARD(S) (24)
Alameda	new	no	both	yes	none	no	yes	yes	yes	both	SB 602 + other standards.
Butte	prior	no	operator	no	"clock headways"	no	no	yes	yes	both	Yes, but recommended only.
Contra Costa	prior	no	both	no	One standard for all service area for certain operators.	no	yes	yes	no	no	SB 602
Fresno	prior	no	operator	no	Standards for Express & Local Routes.	no	yes	no	no	operator	yes
Kern	new	no	no	no	One standard for all routes.	no	yes	no	no	mode	yes
Los Angeles	prior	no	both	yes	none	yes	no	no	no	mode	yes
Marin	new	no	no	Yes, by service demand.	Based on load factors & service demand.	no	no	yes	no	no	Yes, use trans. operator's standards.
Merced	Combined old w/new.	no	mode	no	Urban vs. rural routes.	no	no	yes	no	mode	yes
Monterey	new	no	no	no	LOS headway standards dev. for corridors, transit op. criteria used.	no	no	no	Yes, corridors developed.	no	Yes, individual standards dev. by operators.

TABLE 3 CMP Transit Standards

	FREQUENCY					ROUTING					COORDINATION
COUNTY	PRIOR STANDARDS OR DEV. NEW FOR CMP (14)	BY % W/IN 1/4 MILE (15)	MODE OR OPERATOR SPECIFIC? (16)	BY TRANSIT RIDER-SHIP (17)	OTHER STANDARDS (18)	BY TOTAL POP. (19)	BY POP. DENSITY (20)	BY LOC. OF MAJOR ACTIVITY CENTERS (21)	BASED ON GEOGRAPHIC COVERAGE (22)	MODE OR OPERATOR SPECIFIC? (23)	STANDARD(S) (24)
Napa	new	no	mode	no	Min. headways used.	yes	yes	no	no	mode	MTC Resolution 2137. SB 602.
Orange	Original CMP used prior, but later CMPs will dev. new standards.	no	mode	yes	Passenger load and route-by route basis.	no	yes	yes	no	mode	Yes
Placer	new	no	mode	no	Determined individually by corridors.	no	no	yes	no	mode	Coord. between trans. centers.
Riverside	new	no	both	yes	Identify & expand lines which may be alternative to autos.	no	yes	yes	no	both	Yes, service coordination & provision of transfers.
Sacramento	new	yes	mode	no	Frequency by res. density or trip gen. rates.	yes	yes	Yes, by employment densities.	no	mode	Yes, of routes, schedules, info., access, fares.
San Bernardino	new	no	both	no	Determined individually for each route/ cooridor.	yes	yes	yes	no	both	Yes, providers allowed to route outside service area, schedule coord., transfer pts., trans. pass.
San Diego	new	no	both	no	By pop. densities.	no	yes	no	no	mode	Yes, uniform fares, schedule coord., transfers between operators.

TABLE 3 CMP Transit Standards

	FREQUENCY					ROUTING					COORDINATION
COUNTY	PRIOR STANDARDS OR DEV. NEW FOR CMP (14)	BY % W/IN 1/4 MILE (15)	MODE OR OPERATOR SPECIFIC? (16)	BY TRANSIT RIDER-SHIP (17)	OTHER STANDARDS (18)	BY TOTAL POP. (19)	BY POP. DENSITY (20)	BY LOC. OF MAJOR ACTIVITY CENTERS (21)	BASED ON GEOGRAPHIC COVERAGE (22)	MODE OR OPERATOR SPECIFIC? (23)	STANDARD(S) (24)
San Francisco	prior	no	both	Yes, by Peak & Non-peak hours.	Cross-town vs. radial & feeder lines.	yes	yes	yes	yes	both	SB 602
San Joaquin	new	no	yes	yes	Regional transit cooridors & by Pop. of rural areas.	no	yes	yes	no	mode	Yes, operators are to create multi-modal hubs as $$ allow. Coord. schedules & serv.
San Luis Obispo	new	no	mode	no	Population of community & # of transit trips per day.	yes	Yes, in future CMP.	no	yes	no	Yes, ability to transfer when possible, points of coordinated transfer est., transfer passes between each system.
San Mateo	prior	no	both	Yes, by peak & non-peak hours.	Cross-town vs. radial & feeder lines.	no	yes	no	yes	both	SB 602
Santa Barbara	prior	yes	both	no	Min. headways.	no	yes	yes	no	operator	none
Santa Clara	new	no	no	yes	"High" & "Low" capacity cooridors. "Policy Headways".	no	yes	no	no	no	Yes, regional transfer locations & routes, fare coordination.

TABLE 3 CMP Transit Standards

	FREQUENCY					ROUTING					COORDINATION
COUNTY	PRIOR STANDARDS OR DEV. NEW FOR CMP (14)	BY % W/IN 1/4 MILE (15)	MODE OR OPERATOR SPECIFIC? (16)	BY TRANSIT RIDER-SHIP (17)	OTHER STANDARDS (18)	BY TOTAL POP. (19)	BY POP. DENSITY (20)	BY LOC. OF MAJOR ACTIVITY CENTERS (21)	BASED ON GEOGRAPHIC COVERAGE (22)	MODE OR OPERATOR SPECIFIC? (23)	STANDARD(S) (24)
Santa Cruz	prior	no	mode	yes	Load factors, operating headways.	no	no	no	Yes, corridors of service established along CMP network.	mode	Yes, operators must consider inter-operator coordination when dev. new services.
Shasta	prior	no	mode	no	Intercity vs. local urban routes.	no	yes	yes	no	mode	Yes, maintain fewest # trans. providers, 95% on time departures, DAR should be coord. w/ para-trans. services.
Solano	prior	yes	mode	no	Standards also determined by city pop.	yes	yes	no	no	mode	SB 602 compliance as measured by MTC.
Sonoma	new	no	operator	no	By peak one-way auto traffic vol.	no	no	no	Yes, transit cooridors.	operator	SB 602 + other standards.
Stanislaus	prior	no	mode	yes	Avg. wait time avg. dev. between est. & actual p/u time.	no	yes	no	no	mode	Central transfer pts. must be provided. Timed trans. @ all major pts.

TABLE 3 CMP Transit Standards

	FREQUENCY					ROUTING					COORDINATION
COUNTY	PRIOR STANDARDS OR DEV. NEW FOR CMP (14)	BY % W/IN 1/4 MILE (15)	MODE OR OPERATOR SPECIFIC? (16)	BY TRANSIT RIDER-SHIP (17)	OTHER STANDARDS (18)	BY TOTAL POP. (19)	BY POP. DENSITY (20)	BY LOC. OF MAJOR-ACTIVITY CENTERS (21)	BASED ON GEOGRAPHIC COVERAGE (22)	MODE OR OPERATOR SPECIFIC? (23)	STANDARD(S) (24)
Tulare	new	yes	mode	no	Urban vs. rural route areas using transit LOS.	no	yes	no	no	mode	Yes, all operators must coordinate dev. & disseminate info., operators min. wait time.
Ventura	Prior for current use, new for when new funds are available.	no	mode	yes	Targets for specific mode's routes/ cooridors, local productivity std. used.	no	no	yes	no	mode	Yes, dev. of fare transfers, County Trans. Pass dev., dev. of central "real time" info. source.
Yolo	Old for routing, new for the rest.	no	mode	yes	Using transit LOS standards.	no	no	no	no	mode	Yes, coord. of routes, schdules, info., & access. Coord. fares to maximize ease of transfer.

NOTES:

MTC= Metropolitan Transportation Commission

SB 602= Senate Bill 602 (California) which provides standards & assistance for transit operation & capital investment

TABLE 4 TDM/TRO, Land Use, & Level of Service Programs

	TDM/TRO PROGRAMS					LAND USE ANALYSIS PROGRAM					LEVEL OF SERVICE
COUNTY	MINIMUM REQUIREMENTS? What are they? (25)	USE AIR DISTRICT RULE (26)	MONITORING PROGRAM (27)	AVERAGE DAILY RIDERSHIP REQUIREMENTS? (Zones?) (28)	SANCTIONS FOR NON-COMPLIANCE (29)	TYPE OF DEVELOPMENT APPLICATION COVERED (30)	MIN. SIZE OF DEVELOPMENT SUBJECT TO REVIEW (31)	FREQUENCY OF CUMULATIVE REVIEW (32)	SANCTIONS FOR NON-COMPLIANCE (33)	RELATION TO EIRs/ CEQA (34)	METHODOLOGY FOR MEASUREMENT OF NON-STATE HWYS. (35)
Alameda	BAAQMDs Reg. 13-Rule 1.	yes	Cities responsible for monitoring. Cities can give monitoring duties to AQMD.	AQMD has AVRs. Vary by 3 zones.	State Controller w/holds Prop. 111 $$, jurisdiction not eligible for federal STP Cong. Mitigation & Air Qual. program $$.	Any dev. projects that generate over a threshold of min. size of dev. (see next column).	100+ single fam. homes, 150 apt. or hotel units, or 45k+ sq. ft. office space.	Annually	Same as in TDM/TRO section.	Project rev. during Env. Rev. Process.	Ch. 8 & 11 of HCM.
Butte	Employers w/100+ emps. must obtain Trip Red. Permit by choosing & implementing TRO req'ts.	no	Self-Certification progress report from local jurisdictions.	none	Yes, considered a misdemeanor. $500, 6 mos. jail or both.	Any proposed proj. generating 1000+ trips/day.	Analysis recommended when peak hour thresholds are met.	Semi-annually	Withholding of Prop. 111 funds.	Yes, CEQA.	Based on a theoretical 4-lane urban arterial using HCM 212.
Contra Costa	Employers w/100+ emps. implement TDM prog., appoint TC., file baseline rep.	yes	Local jurisdictions responsible.	1.3 AVR by 1997. Linked to AQMD areas & requirements.	Local juris. responsible for creating/implementing penalties.	GPs, GPAs, Dev. Plans	Those gen. 100+ vehicle trips in peak hours.	Done as part of normal dev. review process.	Witholding Prop. 111 funds.	yes	LOS calc. at intersections w/ method outlined in CCTAs "Tech. Proceadures"
Fresno	Employers w/100+ & emps. must have programs for ride-sharing, encouraging transit, giving info.	yes	Local Govt's responsible for transit standards.	none	Yes, witholding of Prop. 111 funds.	GPAs zoning changes, conditional use permits.	Proj. generating 1k+ daily vehicle trips determined by ITE rates.	Annually	Witholding Prop. 111 funds.	none	1987 "LOS Max. Vol. Tables" dev. by Florida D.O.T., based on 1985 HCM.
Kern	Local jurisdictions may choose either plans adopted by either AQMDs in County.	yes	ND	ND	State controller w/holds apportionments by Section 2105 of Streets & Hwy. Code.	GPAs	All approved GPAs	Quarterly	Same as Column #29.	none	Trans. & Traffic Eng. handbook
Los Angeles	Projects w/EIR must consult w/ transit operators. Non-res. Dev. 25k+ sq. ft. must be ped./transit friendly.	yes	Monitoring methods selected by city/county.	Only standards mentioned are AQMDs & are not part of CMP.	Sanction methods selected by city/county.	EIRs	Dev. causes traffic demand to increase by 2% of capacity or reduce to LOS F.	Annually	State controller will withhold apportionments by Section 2105 of Streets & Hwy. Code.	yes	Circular 212, 1985 HCM, or method consistent w/HCM.
Marin	BAAQMDs Reg. 13-Rule 1: employers w/100+ emps must give info. on trans. alt., Emp. Trip Surveys, & ETC.	yes	Annual reports from local jurisdictions on monitoring results. CMA assists employers in monitoring emps.	none	Jrurisdiciton risks losing Prop. 111 funds & ability to apply for State TSM funds and have projects programed in the RTIP.	GPA Apps.	100+ single fam. homes, 150+ apt. units, 5,000+ sq. ft. retail, 40,000 sq. ft. office.	Annually	State controller will withhold apportionments by Section 2105 of Streets & Hwy. Code.	yes	Ch. 11 of HCM.

TABLE 4 TDM/TRO, Land Use, & Level of Service Programs

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COUNTY	MINIMUM REQUIREMENTS? What are they? (25)	USE AIR DISTRICT RULE (26)	MONITORING PROGRAM (27)	AVERAGE DAILY RIDERSHIP REQUIREMENTS? (Zones?) (28)	SANCTIONS FOR NON-COMPLIANCE (29)	TYPE OF DEVELOPMENT APPLICATION COVERED (30)	MIN. SIZE OF DEVELOPMENT SUBJECT TO REVIEW (31)	FREQUENCY OF CUMULATIVE REVIEW (32)	SANCTIONS FOR NON-COMPLIANCE (33)	RELATION TO EIRs/ CEQA (34)	METHODOLOGY FOR MEASUREMENT OF NON-STATE HWYS. (35)
Merced	AQMD standards will be adopted & used as a minimum by CMP.	yes	Annual reports from local jurisdictions on monitoring results.	Yes, same as AQMD req.	None	GPAs, approved sumbdivisions & zone ammendments.	Determined by LOS of roadways.	Semi-annually	State controller w/holds apportionments by Sec. 2105 of Streets & Hwy. Code	yes	Florida D.O.T. standards used.
Monterey	Facility req. supporting alt. modes @ new dev. & expansions, prog. supporting pooling & trans.	yes	Yes, AVR counts @ employment sites, & after programs are implemented.	Voluntary goal of 1.35.	Loss of Prop. 111 funds.	Zoning or discretionary permit granted.	All approved projects from single fam. DUs & up.	Semiannually	Agency & Controller notified of non-conformance.	none	Ch. 9 of HCM, Intersection LOS used for arterials that are signalized.
Napa	Employers w/ 100+ emps. must appoint emp. trans. coordinator, conduct emp. transp. surveys, seek & attain AVR.	yes	Self-certification report submitted by local jurisdicitons to CMA, CMA reports overall conformance to MTC.	1.3 AVR by 1999.	State Controller w/holds apportionments by Section 2105 of Streets & Hwy. Code. No CMA $$ from ISTEA, Cong. Mit. & Air Qual.	All GPs, GPAs, spec. plans, zoning changes, subdivis., planned dev., & use permits which increase amt. traffic gen. by current use.	Any dev. that increases amt. of traffic.	Semi-annually	State controller will withhold apportionments by Section 2105 of Streets & Hwy. Code.	yes	1985 HCM. Arterial LOS by avg. travel speed for road segments, & computed running time & intersection approach delay.
Orange	All non-res. dev. w/100+ emps. must: provide 15% carpool parking near emp. entrance, showers, improve bus stops, rideshare load areas.	Yes	Local jurisdictions submit checklists to CMA for monitoring purposes.	Use AQMD req.	Sanctions determined by CMA Governing Board on case-by-case basis	"Existing env. forums and inter-jurisdictional discussions."	All dev. gen. 2.4k+ daily trips adj. to CMP system, 1,600+ daily trips w/direct access to CMP system link.	Annually	Yes, sanctions determined by CMA Governing Board on case-by-case basis	yes	Ch. 11 of 1985 HCM using table 11-1 of the HCM applicaiton.
Placer	Employers w/100+ emps. req. to have pooling prog. Ones w/<100 emps. must post rideshare info.	yes	Caltrans will monitor AVR standards.	1.5 AVR by 1999 for entire County.	Loss of Prop. 111 funds.	Approved proj. gen. 200+ vehicle trips & GPAs generating 100+ vehicle trips in the PM peak hour.	See previous GPAs & Approved Projects	Annually	Loss of Prop. 111 funds.	yes	Ch. 11 of HCM.
Riverside	Yes, Model TDM serves as min. req.	Only as a guide.	RCTC responsible for monitoring.	None in CMP, AQMD has AVRs.	Possible loss of Prop. 111 funds.	Development proposals, EIRs.	Dev. Proposals that will generate 200+ peak hour trips.	Annually	Transportation Uniform Mitigation for jurisdicitons w/out prog.	EIR's submitted for Land use analysis.	HCM Software.

TABLE 4 TDM/TRO, Land Use, & Level of Service Programs

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Sacramento	Employers w/ 25-99 emps. post info. for alt. modes, have a TC, give alt. mode info. to new hires. Employers w/100+ must dev. TMP's.	yes	STA determines conformance annually.	35% alternative mode goal.	Notification of State Controller & considered a public nuisance subject to prosecution.	Building permits (active or complete), issued cert. of occupancy, tentative subdivision maps, cond. use and special permits, GPAs, zoning changes.	Local govt's submit all dev. info. to modelers & they determine what to use.	Biennial	State controller will be notified.	Every local govt. must submit all env. document of any proj. w/potential of impacting CMP network.	Circular 212 or most recent version of HCM.
San Bernardino	None for Mojave Basin area, In South Coast Basin facility oriented requirements.	yes	AQMD reviews local plans & CMA consults w/ transit providers to to determine impacts of TDM/TRO on serv.	None for CMP.	South Coast part of County has min. req.	General plans, GPAs & revisions, specific plans.	250 du's, 250k sq. ft. retail, 350k sq. ft. indust., 125k sq. ft. office, 250 hotel rooms.	Annually @ a min.	Loss of Prop. 111 funds.	none	HCM Ch. 11, using speed, traffic vol., geometric, signalization data, or or FDOT method.
San Diego	Local agencies must adopt land use & employer-based TRO prog. by 12/94. Can dev. own or use AQMD.	Yes, dev. in conj. w/ AQMD.	Annual CMP conformity finding made by CMA.	None for CMA, if locals use AQMD TRO prog., then they must meet: 1.5=downtown 1.3=uninc. areas.	Yes, witholding of Prop. 111 funds.	Conducted as part of CEQA process.	Any proj. or group of proj. generating 2,400+ avg. daily 200+ trips or peak trips.	Every 2 years.	Yes, witholding of Prop. 111 funds.	Process is an enhancement of CEQA process.	1985 HCM section speed w/intersection delay.
San Francisco	Max. parking 7% gross floor area, rate restric., On-site TMP & TBS.	no	TMA monitors the TRO program & tied to ability to receive dev. permits downtown.	None	None	Will be decided in Nov. 1994.	Will be decided in Nov. 1994.	Will be decided in Nov. 1994.	Will be decided in Nov. 1994.	Will be decided in Nov. 1994.	1985 HCM.
San Luis Obispo	AQMD measures used if adopted, CMP min. req. used if not. CMP req's. 3 TROs, Rideshare Ctr. AQMD req's. emp. based TROs.	yes	Monitoring by AQMD or local jurisdictions.	AQMD has 1.3 std.	Loss of Prop. 111 funds.	GPAs, land use zoning changes, conditional use permits. Procedurai CEQA. guidelines used.	All dev. proj. req. to prepare EIR. Low income, high density res. & mixed use 1/4 mi. from a CBD are exempted.	Annually	State controller will withhold apportionments by Section 2105 of Streets & Hwy. Code.	Procedural CEQA guidelines used.	Avg. travel speed using HCM or Circular 212.
San Joaquin	Employers w/100+ tot. & 40+ emps. starting 6-10 AM, must designate a TC.	yes	none	1.25 for 1995, 1.33 for 1996, 1.42 for 1997, 1.5 by 1998.	none	GPUs & GPAs, approved dev. proj., Done in conjunction w/CEQA process.	GPAs gen. 1000+ avg. daily trips.	Annually	Loss of Prop. 111 funds.	yes	Florida LOS Method based on 1985 HCM.

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San Mateo	Yes, Local gov't must have TROs if have employers w/100+emps.	yes	Local jurisdictions must report to CMA on implementation of TDM/TRO programs.	Yes, 25% participation rate in alt. modes by emps.	Witholding of Prop. 111 funds.	GPAs w/ specific dev. proposals, rezonings, any other land use projects.	No min. size.	Every 6 mos.	Witholding Prop. 111 funds.	none	1985 HCM for multi-lane hwy, & for 2-lane, volume/cap. of of 2,800 vph.
Santa Barbara	When 20% CMP Intersections in jurisdiction exceed .8 V/C ratio, emps. w/50+ must have TDM, TC.	yes	TRO/TDM monitoring done by local jurisdictions.	None for CMP. AQMD has AVR's.	Loss of Prop. 111 funds.	Proposed dev. through CEQA/EIR process.	Projects causing "significant impacts" to the CMP system.	Only for forecasts in 1990, '96, & 2015.	Loss of gas tax revenues	Process is an enhancement of CEQA process.	Circular 212, by most recent version of HCM, or by method consistent w/ HCM.
Santa Clara	Yes, BAAQMDs Regulation 13, rule 1 "Trip Reductions for Large Employers".	yes	Member agencies and AQMD must confirm monitoring annually.	None for CMP, AQMD handles AVR's. @ zones in County.	State controller will withhold apportionments.	All approved land-use projects and changes.	All projects generating 100+ AM or PM peak trips.	Annually	Yes, loss of Prop 111 funds	Guidelines used in EIR, i.e. scope of work,ect, are also used in land use analysis.	1985 HCM intersection analysis.
Santa Cruz	Voluntary until 1995, then mandatory. Employers must comply w/ TROs, establish TDMs, participate in TC Training Prog.	yes	Local jurisdictions monitor & annually report to CMA.	Yes, 1.35 AVR at employer sites w/50+ emps.	Witholding of Prop. 111 funds.	Any land use projects & decisions.	ND	Annually	Witholding Prop. 111 funds.	Yes, under the land use analysis prog.	1985 HCM.
Shasta	Yes, all employers w/100+ emps. @ 1000+ ft. must have TCM. Local jurisdictions must encourage ridehsare, & make annual trip red. reports.	yes	CMA & AQMD conduct monitoring.	none	Sanctions for not reporting. Use County ordinance enforcemtnes & Article 3, Ch. 4, Pt. 4, Div. 26 of CA. Health & Safety Code for AQMD enforcement.	GPA's, updates, zoning changes, specfic plans for residential project, or a dev. proposal generating 1500+ vehicle trips/day.	150 units single fam. res., 214 mult. fam. units, 50,692 sq. ft. Off., 96 ac. gen. ind. 200 k sq. ft. light ind., 400,000 sq. ft. manuf.	Annually	Witholding of state funds.	none	latest version of HCM.
Solano	Local agencies use AQMD rules or CMA TRO. Jurisdicitons must have complete & functional trans. sys., sufficient pk. & ride lots, improved bike fac., innovative land use decisions.	yes	Yes, through annual review process.	1.33 AVR	Loss of Prop. 111 funds.	GPAs or changes, specific area plans, subdivision reviews, planned developments, conditional use permits.	Any proj. generating 2000+ trips/day. All other projects go on quarterly reports to CMA.	Quarterly & annual.	Loss of Prop. 111 funds.	none	Segment Level LOS w/ HCM & Intersection LOS w/Circular 212.

TABLE 4 TDM/TRO, Land Use, & Level of Service Programs

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Sonoma	TROs apply all employers w/100+ emps., info. dist., Trip red. goal.	yes	Local govts. monitor, CMA does analysis.	Yes, consistent w/ BAAQMD standards.	Loss of Prop. 111 funds.	Land-use proposals.	400+ new PM peak hour trips.	Every 2 years.	Witholding Prop. 111 funds.	none	HCM Ch. 11.
Stanislaus	Each jurisdiction must have TRO & TDM, conformance checklist to CMA.	yes	AQMD does monitoring.	1.5 AVR (AQMD's rule)	Loss of Prop. 111 funds.	GPAs	1000+ ADT by a proposed dev.	Reviewed & analyzed on ongoing basis.	Loss of Prop. 111 funds.	CEQA's "Reg. Trans. Impact Analysis." used.	Florida DOT Tables & 1985 HCM.
Tulare	Local jurisdicitons must have a TDM/TRO.	yes	Local agencies monitor & TCGA/TPA determines conformance.	none	Witholding of Prop. 111 funds.	GPAs, updates & EIRs.	100+ vehicles/ hour on CMP system or, proj. exceeding LOS standards.	Annually	Witholding Prop. 111 funds.	EIRs used for land use analysis.	1985 HCM methods, Ch. 9 for signal intersections, & Circular 373 for non-signal intersections.
Ventura	Specific AVRs dev., dev. express serv., encourage rideshare, construct bikeways & dev. bike amenities @ work.	yes	Annual report by local jurisdictions to CMA.	Yes, 50-100 emps.=1.35 AVR; 100+ emps.=1.5 AVR.	State controller will withhold apportionments by Section 2105 Streets & Hwy. Code.	All existing & proposed projects.	200+ peak hour trips.	Biennialy	none	yes	HCM for road segments, ICU method for signal intersections.
Yolo	None as of date of CMP.	Yes, when adopted.	Annual monitoring as req. by legislation.	1.5 for all zones.	Loss of Prop. 111 funds.	Specific proposals, specific plans, GPAs & GPUs, zoning changes.	500+ DUs, 1000+ emps. or 500k+ Sq. ft. retail, 1k+ emps. or 250,k+ sq. ft. com, 500+ room hotel, 1k+ emps. or 40+ acres or 650k+ sq.ft.	Annually	Witholding Prop. 111 funds.	Yes, CEQA thresholds used.	Each local jurisdiction dev. own procedures for LOS monitoring.

NOTES:

AQMD= Air Quality Management Dist. or Air Pollution Control Dist.
AVR= Average Vehicle Ridership
BAAQMD= Bay Area Air Qual. Management Dist.
CBD= Central Business Dist.
CEQA= California Environmental Quality Act
CMA=Congestion Management Agency
DOT= Dept. of Transportation
EIR= Environmental Impact Report
HCM= Highway Capacity Manual
GPA= General Plan Amendment
GPU= General Plan Update
ICU= Intersection Capacity Utilization
ISTEA= Intermodal Surface Transp. Efficiency Act
LOS= Level of Service
NA= Not Applicable
ND= No Data Available
TC= Transportation Coordinator
TDM= Transportation Demand Management
TRO= Transportation Reduction Ordinance

SOURCES:

County Congestion Management Program, 1991-94;
Interviews of CMA staff, February-June 1994;
U.S. Census of Population & Housing 1990;
State of California, Department of Finance, California Statistical Abstract 1982 & 92;
State of California, Department of Transportation

TABLE 5 CMA Organizational Information

COUNTY	COMPOSITION OF CMA BOARD (36)	PERCENT CITY REPS. ON CMA BOARD (36a)	TECHNICAL ADVISORY COMMITTEE MEMBERSHIP (37)	OTHER ADVISORY COMMITTEES (38)	OTHER ADVISORY COMMITTEE MEMBERSHIP (39)	FUNDING FOR CMA (FY 94-95) (40)	CMA BUDGET PER 1000 POPULATION (FY 94-95) (41)	PERCENT OF CMA BUDGET PAID BY LOCAL GOVT'S (FY 94-95) (42)
Alameda	1 rep. each for AC Transit, & BART, Weighted votes based on pop. for each city, 2 votes for County Board of Sups.	61.70%	Rep. from each city & the County, one from each transit operator, MTC, Caltrans, AQMD.	Admin. & Legislation Com., Plans & Programs Com.	Transit Rep., 1 elected citizen from each planning area, Board Members.	Estimated carryover = $335,000 ISTEA Support Revenue through MTC = $311,605 Vehicle Reg. Fee Admin. Revenue = $72,350 PVEA Grant Administration Revenue = $15,000 PVEA Grant Revenue = $267,500 Interest Revenue = $7,500 Local Contributions = $581,195	$1,210.80	37.00%
Butte	5 county sups., Mayors/ Council reps. from each city.	50.00%	Reps. from city & County public works & planning departments, Caltrans, AQMD.	Social Serv. Trans. Adv. Council, Management & Finance Com., Citizen's Adv. Com., Metro. Com., Policy Board.	Citizen reps., city managers, county admin. officers, County Sups.	State & Fed. Local Planning Grants, & local matching grants. Federal = $15,000 State = $15,000	$156.90	0.00%
Contra Costa	4 regional com. appoint 2 reps. from cities, 1 from mayor's conference, 2 Board of Sups.	33.30%	Staff from local govt's, Caltrans, MTC, BART, 5 County transit operators.	Planning & Gov. Affairs Com., Projects & Prog. Com., Regional Trans. Com., Transport. Partnership Adv. Com.	Citizen & industry advisors. Env. Groups.	Majority of CMP funds from sales txs. Other funds obtained from local juris. beginning 92-93. Other funds from ISTEA thru MTC & Vehicle Registration Fee Revenue. Special State/Federal Grants = $300,000 Federal Surface Transp. Program = $220,887 Proposed Local Govt. Contributions = $246,204	$917.42	32.00%
Fresno	Policy Board has 1 County Sup., & 1 member from each city council or mayor.	93.80%	Reps. from Pub. Works & planning depts.	Policy Adv. Com.	City Managers, & elected reps. from County & cities.	COFCG = $7,500 FHWA/Planning Funds = $2,500 Federal Transportion Funds (Section 8) = $15,000 Caltrans Subvention = $7,500 (Local govt dues to COG get trickled down to CMA, Locals fund by matching funds for planning projects)	$45.54	ND
Kern	1 city council rep. from each inc. city, 2 members from County Sups.	84.60%	Reps from county, cities, AQMD (ex-officio), Transit Dist. (ex-officio), & Caltrans (ex-officio).	Project Adv. Com.	B.I.A., banking & development interests, Sierra Club, & bicycling interests.	State & Fed. planning funds.	ND	ND

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COUNTY	COMPOSITION OF CMA BOARD (36)	PERCENT CITY REPS. ON CMA BOARD (36a)	TECHNICAL ADVISORY COMMITTEE MEMBERSHIP (37)	OTHER ADVISORY COMMITTEES (38)	OTHER ADVISORY COMMITTEE MEMBERSHIP (39)	FUNDING FOR CMA (FY 94-95) (40)	CMA BUDGET PER 1000 POPULATION (FY 94-95) (41)	PERCENT OF CMA BUDGET PAID BY LOCAL GOVT'S (FY 94-95) (42)
Los Angeles	5 County sups., 4 city council reps. (including LA) LA Mayor, 1 citizen rep., 1 ex-officio member from State.	45.50%	They have one but composition info. not available.	Policy Adv. Com., CMP Technical Forum.	Elected city, County, & regional agency staff reps., 1 rep. each from Caltrans, Autoclub, & Trans. operators, business interests, environmental & social equity groups.	ND	ND	ND
Marin	One member from County Sups., one from each city council.	91.70%	2 Planning Dirs. (1 from 2 from Public Works Dirs. (1 large, 1 small), County Pub. Works & Planning Dirs., 2 City Managers, 1 rep from business & env. communities each.	None	NA	MTC=$100,034 BAAQMD=$150,000 Estimated Carryover=$124,966	ND	ND
Merced	5 members from County Sups., 1 from each city council.	54.50%	City managers, planning dirs., parks/rec. dirs., dir. of public works engineering depts., Caltrans reps.	Citizens Adv. Com., Social Serv. Com.,	Business interests, modal advocates, Socio-economic advocacy groups.	Costs of CMP are budgeted to local jurisdictions on a per capita basis. Local Government Contributions = $23,600 Federal Transportation Funds (Section 8) =$12,200	$191.34	66.00%
Monterey	1 elected rep. from each city, 5 County sups., reps. from Transit & AQMD, COG, Caltrans. Only local reps. vote.	57.10%	Planners & Engineers	Citizens's Adv. Com.	Citizens	CMA budgeted from TAMC Revenue sources.	$731.12	100.00%
Napa	1 rep. from 4 cities & 2 each from County & City of Napa.	75.00%	Local jurisdiciton's staff from planning & public works, reps. from Caltrans, MTC, BAAQMD.	Bicycle Com.	5 members from the City of Napa nominated w/in their jurisdiction.	MTC Planning = $100,000 AB 434 = $97,124 Local Match = $35,000 County Donation = $13,480	$2,196.34 (A)	14.00%
Orange	6 members from cities, 4 from Board of Sups., 1 1 member from gen. public.	60.00%	Staff from all interested local jurisdicitons, Caltrans, AQMD, MPO, & local TMA's.	none	NA	Revenue that the OCTA generates trickles down for CMA.	$21.90 (E)	ND

TABLE 5 CMA Organizational Information

COUNTY	COMPOSITION OF CMA BOARD (36)	PERCENT CITY REPS. ON CMA BOARD (36a)	TECHNICAL ADVISORY COMMITTEE MEMBERSHIP (37)	OTHER ADVISORY COMMITTEES (38)	OTHER ADVISORY COMMITTEE MEMBERSHIP (39)	FUNDING FOR CMA (FY 94-95) (40)	CMA BUDGET PER 1000 POPULATION (FY 94-95) (41)	PERCENT OF CMA BUDGET PAID BY LOCAL GOVT'S (FY 94-95) (42)
Placer	1 rep. from each city & 3 County Sups.	66.70%	Staff from all interested local planning & public wrks. depts., Caltrans, AQMD, MPO, local trans. dist.	Transit TAC, Social Services Trans. Adv. Com.	Trans. Commiss. (CMA), City reps., Public Schools, Sierra College, minority social equity & modal advocates.	Local Funds = $8,100 State Form = $18,900	$144.46	30.00%
Riverside	3 reps. from County Sups., 1 City of Riverside rep., 2 at-large reps. for remaining cities, 1 citizen rep.	42.90%	3 western & 3 eastern county & city reps, reps from Caltrans dists., COG's, trans. authority.	CMP Subcom.	Pub. Works Dir, Trans. Dir. & Eng., Planning Dirs. of local govts., Caltrans, SCAG, Transit Op.	Local Transp. funds, Fed. & State Planning funds.	$62.03	ND
Sacramento	4 reps. from City of Sac., one Councilperson from City of Galt, 5 County sups., 1 member-at-large.	45.50%	Reps. from planning & pub. wks. depts, reps. from Caltrans, COG, transit providers, AQMD and County staff.	Community Adv. Com.	Modal Advocates, Neighborhood grps., BIA, Clean Air Advocates, Chambers of Com., Planning Com., Am. Lung Assoc., Env. Council.	Local Jurisdictions = $302,000	$274.77	100.00%
San Bernardino	1 elected off. from each city & all 5 County Sups. 1 Caltrans rep.	80.00%	Pub. Works Dir., Traffic Eng. & Planning Dir.s. from each local jurisdiction, staff from AQMD & SCAG.	CMP Policy Com.	COG Board members, elected officials, SCAG, Caltrans, AQMD, citizens.	County Sales Tax = $106,357	$82.90 (A)	16.00%
San Diego	1 rep. from each city, 1 County Sup., 1 adv. reps each from Caltrans, D.O.D., San Diego Port, & Tijuana/Baja Calif.	94.70%	City managers, planning dirs, public works dirs., traffic engineers.	Reg. Trans. Adv. Com., Cities/County Trans Adv. Com., Bicycle Fac. Subcom., Subcom. for Accessible Trans., Reg. Growth TAC.	Business interests, environmental groups, modal advocates, citizen's groups.	Part of the San Diego Assoc. of Govt's overall work program.	$69.32	ND
San Francisco	11 members of S.F. Board of Sups.	50.00%	City Staff.	Citizens Adv. Com.	Community reps.	Measure B sales tax for trans. improvements. CMA paid w/ STP funds thru MTC, 5% Vehicle Registration Fee funds. STP Carryover = $226,627 STP Grant = $172,558 Proposition B Match = $22,423	$578.58	ND

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COUNTY	COMPOSITION OF CMA BOARD (36)	PERCENT CITY REPS. ON CMA BOARD (36a)	TECHNICAL ADVISORY COMMITTEE MEMBERSHIP (37)	OTHER ADVISORY COMMITTEES (38)	OTHER ADVISORY COMMITTEE MEMBERSHIP (39)	FUNDING FOR CMA (FY 94-95) (40)	CMA BUDGET PER 1000 POPULATION (FY 94-95) (41)	PERCENT OF CMA BUDGET PAID BY LOCAL GOVT'S (FY 94-95) (42)
San Joaquin	1 member from each city council, 2 from County Sups.	77.70%	"Advisory Group" Planners from AQMD, Cities, Caltrans Dist. 10, County & Met. Trans. Dist.	Management & Finance Com., Citizen's Adv. Com., Social Services Trans. Adv. Com.	City man., County Admin., Citizens' reps., reps. of elderly, handicapped, social service providers, business interests, minority social equity groups.	Federal Planning Funds = $59,600 State Subventions = $11,100 TDA Planning Funds = $4,900 & counnty-wide sales tax.	$143.43	0.00%
San Luis Obispo	5 County Sups., 1 council rep. or mayor from each city.	58.30%	Engineering & planning reps. from County, each of 7 cities, Caltrans & AQMD. Non-voting members from airports, harbors, utilities, CHP, & Cal Poly.	Citizen Trans. Adv. Com., Regional Trans. Productivity Com., Planning Dir. Com.	Citizens from jurisdicitons, transit providers & users, senior citizens, bus drivers, social service providers, Planning Dir's., business interests, minority social equity groups, env. groups.	State Planning Subvention Funds = $10,935 Local Transportation Funds & Carryover = $27,416 Federal Planning Funds = $60,497	$445.46	0.00%
San Mateo	Mayor or council-persons from each of 19 cities & 1 County sup.	95.00%	SamTrans, Transp. Authority, Caltrans, MTC, County Planning Div. & Pub. Works, AQMD, S.F. Airport, 6 cities.	Policy Com.	Elected off., Leauge of Women Voters, gereral public.	Overall admin. provided by County Staff & billed to member jurisdictions based on pop. ISTEA 3% Planning Funds = $ 155,352 Member assessment = $ 465,133 SFIA Traffic Study & Model Contributions = $ 100,000 Estimated begining balance = $ 187,304	$1,339.78	52.00%
Santa Barbara	5 County Sups and 1 council rep. or mayor or mayor from each city.	58.30%	1 rep. from all local jurisdictions, 1 rep. from each pub. wrks. dept., 1 from AQMD and 1 from MTD.	Tech. Trans. Com., Tech Planning Adv. Com., Bicycle Com.	Most are designated by local jurisdictions. Management figures highly encouraged. Modal & land use advoc. also included.	FTA = $9,000 FHWA = 14,400 Caltrans Subvention =$ 4,700 SBCAG and others = $4,300	$87.76 (A)	ND

TABLE 5 CMA Organizational Information

COUNTY	COMPOSITION OF CMA BOARD (36)	PERCENT CITY REPS. ON CMA BOARD (36a)	TECHNICAL ADVISORY COMMITTEE MEMBERSHIP (37)	OTHER ADVISORY COMMITTEES (38)	OTHER ADVISORY COMMITTEE MEMBERSHIP (39)	FUNDING FOR CMA (FY 94-95) (40)	CMA BUDGET PER 1000 POPULATION (FY 94-95) (41)	PERCENT OF CMA BUDGET PAID BY LOCAL GOVT'S (FY 94-95) (42)
Santa Clara	5 council reps. from City of San Jose, 1 council rep./mayor from each of other cities in County, 1 County Sup., 1 rep. each from trans. Dist. & CMA itself.	86.40%	Planning or public works dir. from each city, County planning officer, asst. dir. Trans. Agency, exec. dir. Traffic Auth., prog. mang. Non-point Source Prog.	Land Use Subcom., Modeling & LOS Subcom., Cap. Improvement Prog. Subcom., TDM Subcom., Ctizen's Adv. Com. policy adv. com.	General public, elected officials.	Member agencies assessed annual fee based on each agency's share of Prop. 111 subventions & employment w/in the County. Assesments to member agencies = $1,239,994 Reserves from FY 92/93 & 93/94 for EIR = $140,000 MTC Planning Grant = $400,000	$1,162.03	70.00%
Santa Cruz	3 reps. from Santa Cruz Transit, 1 from private operators, 3 from County, 1 from Caltrans, 1 from Watsonville, Santa Cruz & Capitola each.	30.00%	Reps. from pub. works & planning staff, transit dist., Caltrans, AMBAG, UCSC, TMA's.	Elderly & Handicapped Adv. Com., Bicycle Com., Guideway oversight Com., Budjet & Admin. Com., Transp. System Management Task Force.	Reps. from AQMD, Caltrans, cities, CHP, TMA's, volunteer centers, & disabled transport. providers.	CAL TSM = $5,447 CMAQSTP grants= $42,045	$205.06	0.00%
Shasta	City councils of Redding, Anderson, & Shasta County Sups.	28.60%	Pub. works/planning dirs. from each city & the County, & rep. from bus authority.	none	none	AQMD funds (AB 2766), Caltrans funding for long term projects & planning. Other Federal and state planning $'s	ND	ND
Solano	1 rep. from each city council, 1 rep. from County Sups.	75.00%	Planning & Pub. Works reps from each member agency, BAAQMD, Sac. AQMD, MTC, Caltrans, CHP.	Paratransit Coord. Com., Bicycle Adv. Com., Public Com.	Citizens' reps, secected interest group reps.	Funds allocated from Solano Transportation Authority.	ND	ND
Sonoma	9 city council reps. from each city, 3 county sups.	75.00%	Pub. works dir., planning dir., trans. operators, Caltrans, AQMD, MTC, GG Br. Dist.	Citizens Adv. Com., Countywide Bicycle Adv. Com., Paratransit Coord. Com.	Business, environ., minority social equity & modal advocacy group reps. & citizens.	48% from members on formula basis, 48% Federal STP funds, 4% AB 434 funds. Local Government Contributions = $30,000 ISTEA $$ = $30,000	$147.35	50.00%
Stanislaus	5 County reps., 1 Caltrans rep., 3 reps. from Modesto, 1 each from 7 other cities.	62.50%	City reps., County rep., Caltrans rep.	Citizens Com.,	Reps. from all co. districts & interested citizens.	Federal Transportation Administration = $5,500 FHWA = $28,000 Caltrans = $7,000 Local Jurisdictions =$ 4,500	$117.69 (A)	10.00%

TABLE 5 CMA Organizational Information

COUNTY	COMPOSITION OF CMA BOARD (36)	PERCENT CITY REPS. ON CMA BOARD (36a)	TECHNICAL ADVISORY COMMITTEE MEMBERSHIP (37)	OTHER ADVISORY COMMITTEES (38)	OTHER ADVISORY COMMITTEE MEMBERSHIP (39)	FUNDING FOR CMA (FY 94-95) (40)	CMA BUDGET PER 1000 POPULATION (FY 94-95) (41)	PERCENT OF CMA BUDGET PAID BY LOCAL GOVT'S (FY 94-95) (42)
Tulare	5 County sups., 1 from city council, 3 members-at-large.	50.00%	City managers have designated their pub. works dir. or transit managers.	none	NA	State subvention = $6,500 FHWA Planning Funds = $47,500	$167.99 (A)	0.00%
Ventura	3 council reps. from 1000 Oaks, Ventura, & Simi Valley, 2 County Sups. 1 Caltrans rep., 1 citizen rep. for County & 1 for cities.	37.50%	Tech. staff & citizens of the area.	Transit Operators Com., Citizens Adv. Com. Manager's Pol. Com.	Citizen reps from each city & county, city managers, pub. works dirs.	ND	$80.10 (E)	ND
Yolo	Primary & alternate reps. from each of of 5 founding bodies; they are: County, Davis, W. Sac., Winters & Woodland.	80.00%	Reps. from community & pub. wrks. depts., Caltrans, SACOG, AQMD, County Transit, Davis Community Transit.	Citizens Adv. Com.	"Composed of appointments from each jurisdiction." representing citizens as a whole.	Support for planning & all staff support comes from AQMD.	ND	ND

NOTES:

A= FY '93-'94 budget adjusted for inflation (using Consumer Price Index)

AQMD= Air Quality Management Dist. or Air Pollution Control Dist.

AVR= Average Vehicle Ridership

BAAQMD= Bay Area Air Qual. Management Dist.

BART= Bay Area Rapid Transit Dist.

BIA= Building Industry Association

CEQA= California Environmental Quality Act

CMA=Congestion Management Agency

CMAQSTP grants= Congestion Management Air Quality Surface Transportation Program Funds from ISTEA

COFCG= Council of Fresno County Governments

DOT= Dept. of Transportation

E= Estimated from reported staff FTE

FHWA/PL= Federal Highway Admin. Planning Funds

FTA Section 8= Federal funds provided for planning

ISTEA= Intermodal Surface Transp. Efficiency Act

NA= Not Applicable

ND= No Data Available

PVEA= Petroleum Violation Escrow Account

SB 602= Senate Bill 602 (California) which provide standards and assistance for transit operation and capital investment

SBCAG= Santa Barbara County Association of Govt's

SFIA=San Francisco International Airport

STP=Surface Transporation Program (ISTEA)

TAMC= Transportation Agency for Monterey County

TDA Planning = Transportation Development Act, state sales tax for transportation

TABLE 6

Highway Level of Service (LOS)

Highway level of service is a qualitative measure describing operational conditions within a traffic stream, or their perception by motorists and/or passengers. LOS considers speed and travel time, freedom to maneuver, comfort and convenience, and safety.

There are six LOS "grades", ranging from "A" (best conditions, i.e., free-flow of traffic) to "F" (worst conditions, stop-and-go "Jammed" traffic).

For modem freeways, a LOS of "A" generally equates to average travel speeds 55-60 MPH. The other LOS designations are:

B 57-60 MPH

C 54-56 MPH

D 46-53 MPH

E 30-45 MPH

F Under 30 MPH

These speeds are only approximate, and LOS is usually determined from the density of traffic, i.e., how many vehicles there are per lane-mile of highway.

TABLE 7

Average Distribution of CMA
Budgetary Resources: FY 1994-95

Source	Average Funds	Percent
Local Contributions	$146,700	47.7
Federal/ISTEA	74,800	24.3
State	36,900	12.0
Interest and Carryover	36,300	11.8
County Grants & Sales Tax	10,500	3.4
Other	2,500	0.8
Total Average Budget	$307,700	100.0

Source: Data obtained from interviews of staff from all CMAs, February - May, 1994.

TABLE 8

Relationships between the Number of CMA Functions and Indicators of CMA Effectiveness

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time	-0.8167[c]
B.	Utility of current CMA structure and process	-0.6506[b]
C.	Improved coordination between:	
1.	Local governments	0.3663
2.	Transportation and land use activities	-0.3292
3.	Transportation and air quality activities	0.2042
D.	Degree of cooperation between CMA and local governments	0.0743
E.	Degree of cooperation of CMA with other Significant transportation related agencies	-0.8223[c]
1.	Other nearby CMAs	-0.8223[c]
2.	Air quality district	-0.4406
3.	Regional transportation planning agencies	0.9982[c]
4.	Land use agencies	-0.1567
5.	Transit operations	-0.0507
6.	Caltrans	0.1370
7.	U.S. Department of Transportation	-0.7531
F.	Reduction of traffic congestion	-0.3759
G.	Effectiveness of CMA/CMP process to improve:	
1.	Transport mobility in home region	-0.5493
2.	Air quality in home region	-0.6254[b]
3.	Transport mobility throughout state	-0.9036[c]
4.	Air quality throughout state	-0.2640

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 9

Relationships between Extent of Citizen Participation and Indicators of CMA Effectiveness

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time	0.3558
B.	Utility of current CMA structure and process	-0.3151
C.	Improved coordination between:	
	1. Local governments	-0.3660
	2. Transportation and land use activities	0.0100
	3. Transportation and air quality activities	-0.0086
D.	Degree of cooperation between CMA and local governments	0.0553
E.	Degree of cooperation of CMA with other Significant transportation related agencies	
	1. Other nearby CMAs	0.7792[c]
	2. Air quality district	-0.6698[c]
	3. Regional transportation planning agencies	-0.9996[c]
	4. Land use agencies	0.2766
	5. Transit operations	-0.1530
	6. Caltrans	-0.5901
	7. U.S. Department of Transportation	-0.4736
F.	Reduction of traffic congestion	0.0576
G.	Effectiveness of CMA/CMP process to improve:	
	1. Transport mobility in home region	-0.2477
	2. Air quality in home region	-0.3709
	3. Transport mobility throughout state	0.7201[b]
	4. Air quality throughout state	-0.0620

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 10

Relationships between CMA Budget per Capita
and Indicators of CMA Effectiveness

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time		0.5644
B.	Utility of current CMA structure and process		0.4548
C.	Improved coordination between:		
	1.	Local governments	0.2986
	2.	Transportation and land use activities	-0.0744
	3.	Transportation and air quality activities	0.3290
D.	Degree of cooperation between CMA and local governments		0.2157
E.	Degree of cooperation of CMA with other Significant transportation related agencies		
	1.	Other nearby CMAs	0.5757
	2.	Air quality district	0.0008
	3.	Regional transportation planning agencies	0.8032
	4.	Land use agencies	-0.2981
	5.	Transit operations	-0.1933
	6.	Caltrans	0.3511
	7.	U.S. Department of Transportation	0.6945[c]
F.	Reduction of traffic congestion		0.7479[c]
G.	Effectiveness of CMA/CMP process to improve:		
	1.	Transport mobility in home region	-0.3959
	2.	Air quality in home region	-0.3280
	3.	Transport mobility throughout state	0.8635[c]
	4.	Air quality throughout state	-0.0650

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 11

Relationships between Percent CMA Budget from Local Government Contributions and Indicators of CMA Effectiveness

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time	0.2273
B.	Utility of current CMA structure and process	-0.6293[b]
C.	Improved coordination between:	
1.	Local governments	-0.1985
2.	Transportation and land use activities	-0.3027
3.	Transportation and air quality activities	-0.3185
D.	Degree of cooperation between CMA and local governments	0.6111[b]
E.	Degree of cooperation of CMA with other Significant transportation related agencies	
1.	Other nearby CMAs	-0.5532
2.	Air quality district	-0.3091
3.	Regional transportation planning agencies	0.2211
4.	Land use agencies	0.6723[b]
5.	Transit operations	0.2348
6.	Caltrans	0.2071
7.	U.S. Department of Transportation	0.6757
F.	Reduction of traffic congestion	0.6180[b]
G.	Effectiveness of CMA/CMP process to improve:	
1.	Transport mobility in home region	-0.0542
2.	Air quality in home region	-0.3903
3.	Transport mobility throughout state	-0.3723
4.	Air quality throughout state	-0.1466

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 12

Relationships between Number of Local Governments and Indicators of CMA Effectiveness

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time	0.7691[c]
B.	Utility of current CMA structure and process	-0.5129
C.	Improved coordination between:	
	1. Local governments	0.2188
	2. Transportation and land use activities	0.3516
	3. Transportation and air quality activities	0.3915
D.	Degree of cooperation between CMA and local governments	0.1173
E.	Degree of cooperation of CMA with other Significant transportation related agencies	
	1. Other nearby CMAs	-0.1803
	2. Air quality district	0.2496
	3. Regional transportation planning agencies	0.9961[c]
	4. Land use agencies	0.5264
	5. Transit operations	0.0835
	6. Caltrans	0.4133
	7. U.S. Department of Transportation	-0.8403
F.	Reduction of traffic congestion	0.8098[c]
G.	Effectiveness of CMA/CMP process to improve:	
	1. Transport mobility in home region	0.7018[c]
	2. Air quality in home region	0.3924
	3. Transport mobility throughout state	0.8036[c]
	4. Air quality throughout state	0.1327

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 13

Relationships between Number of Local Governments per Capita and Indicators of CMA Effectiveness

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time		0.8470[d]
B.	Utility of current CMA structure and process		-0.8313[d]
C.	Improved coordination between:		
	1.	Local governments	-0.7323[d]
	2.	Transportation and land use activities	-0.1234
	3.	Transportation and air quality activities	0.0946
D.	Degree of cooperation between CMA and local governments		-0.0311
E.	Degree of cooperation of CMA with other Significant transportation related agencies		
	1.	Other nearby CMAs	-0.2810
	2.	Air quality district	0.3427
	3.	Regional transportation planning agencies	0.3241
	4.	Land use agencies	-0.1160
	5.	Transit operations	-0.0740
	6.	Caltrans	0.4705
	7.	U.S. Department of Transportation	-0.4306
F.	Reduction of traffic congestion		0.8221[c]
G.	Effectiveness of CMA/CMP process to improve:		
	1.	Transport mobility in home region	0.2216
	2.	Air quality in home region	-0.4870
	3.	Transport mobility throughout state	0.5530
	4.	Air quality throughout state	-0.3010

[a]two-tailed t-test yields $p>0.100$ unless otherwise noted
[b]t-test yields $p<0.100$
[c]t-test yields $p<0.050$
[d]t-test yields $p<0.010$
[e]t-test yields $p<0.005$
Source: Compiled by authors

TABLE 14

Relationships between Percent CMA Board Comprised of Local Government Representatives and Indicators of CMA Effectiveness

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time		-0.1260
B.	Utility of current CMA structure and process		-0.4849
C.	Improved coordination between:		
	1.	Local governments	0.0391
	2.	Transportation and land use activities	0.2281
	3.	Transportation and air quality activities	0.3477
D.	Degree of cooperation between CMA and local governments		-0.2805
E.	Degree of cooperation of CMA with other Significant transportation related agencies		
	1.	Other nearby CMAs	-0.3267
	2.	Air quality district	-0.4252
	3.	Regional transportation planning agencies	0.1245
	4.	Land use agencies	-0.5015
	5.	Transit operations	-0.0996
	6.	Caltrans	-0.1305
	7.	U.S. Department of Transportation	-0.5250
F.	Reduction of traffic congestion		-0.4645
G.	Effectiveness of CMA/CMP process to improve:		
	1.	Transport mobility in home region	-0.1402
	2.	Air quality in home region	0.0816
	3.	Transport mobility throughout state	-0.3784
	4.	Air quality throughout state	-0.2948

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 15

Relationships between Minimum Trip Generation Required for Development Review and Indicators of CMA Effectiveness

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time	0.1050
B.	Utility of current CMA structure and process	-0.2726
C.	Improved coordination between:	
	1. Local governments	0.3326
	2. Transportation and land use activities	0.3719
	3. Transportation and air quality activities	-0.1769
D.	Degree of cooperation between CMA and local governments	0.1607
E.	Degree of cooperation of CMA with other Significant transportation related agencies	
	1. Other nearby CMAs	0.4146
	2. Air quality district	0.1417
	3. Regional transportation planning agencies	0.8564[b]
	4. Land use agencies	0.1103
	5. Transit operations	0.0920
	6. Caltrans	0.2549
	7. U.S. Department of Transportation	0.9488[c]
F.	Reduction of traffic congestion	0.3189
G.	Effectiveness of CMA/CMP process to improve:	
	1. Transport mobility in home region	0.5873[b]
	2. Air quality in home region	0.6648[c]
	3. Transport mobility throughout state	0.2602
	4. Air quality throughout state	0.3709

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 16

Relationships between Non-State Highway Miles Per Capita and Indicators of CMA Effectiveness

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time		-0.1362
B.	Utility of current CMA structure and process		-0.2264
C.	Improved coordination between:		
	1.	Local governments	-0.4240
	2.	Transportation and land use activities	-0.1129
	3.	Transportation and air quality activities	-0.3794
D.	Degree of cooperation between CMA and local governments		0.1049
E.	Degree of cooperation of CMA with other Significant transportation related agencies		
	1.	Other nearby CMAs	-0.0967
	2.	Air quality district	-0.0673
	3.	Regional transportation planning agencies	0.2692
	4.	Land use agencies	0.3359
	5.	Transit operations	-0.4338
	6.	Caltrans	-0.4491
	7.	U.S. Department of Transportation	0.6761
F.	Reduction of traffic congestion		0.1722
G.	Effectiveness of CMA/CMP process to improve:		
	1.	Transport mobility in home region	-0.3256
	2.	Air quality in home region	-0.3459
	3.	Transport mobility throughout state	0.5783
	4.	Air quality throughout state	-0.5757

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 17

Relationships between Non-State Highway Miles Per Square Root of Area and Indicators of CMA Effectiveness

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time	0.0950
B.	Utility of current CMA structure and process	-0.2322
C.	Improved coordination between:	
	1. Local governments	-0.1175
	2. Transportation and land use activities	-0.0302
	3. Transportation and air quality activities	0.1815
D.	Degree of cooperation between CMA and local governments	-0.1490
E.	Degree of cooperation of CMA with other Significant transportation related agencies	
	1. Other nearby CMAs	-0.1241
	2. Air quality district	-0.1857
	3. Regional transportation planning agencies	0.2546
	4. Land use agencies	0.0669
	5. Transit operations	-0.0518
	6. Caltrans	-0.1620
	7. U.S. Department of Transportation	-0.1652
F.	Reduction of traffic congestion	-0.0186
G.	Effectiveness of CMA/CMP process to improve:	
	1. Transport mobility in home region	-0.0377
	2. Air quality in home region	-0.2233
	3. Transport mobility throughout state	-0.0541
	4. Air quality throughout state	-0.2513

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 18

Relationships between State Highway Miles per Capita and Indicators of CMA Effectiveness

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time	0.7335[c]
B.	Utility of current CMA structure and process	-0.7838[c]
C.	Improved coordination between:	
	1. Local governments	-0.4150
	2. Transportation and land use activities	-0.2482
	3. Transportation and air quality activities	-0.1580
D.	Degree of cooperation between CMA and local governments	0.0001
E.	Degree of cooperation of CMA with other Significant transportation related agencies	
	1. Other nearby CMAs	0.1118
	2. Air quality district	-0.0487
	3. Regional transportation planning agencies	0.1526
	4. Land use agencies	-0.3575
	5. Transit operations	-0.6228
	6. Caltrans	0.0998
	7. U.S. Department of Transportation	-0.4108
F.	Reduction of traffic congestion	0.4901
G.	Effectiveness of CMA/CMP process to improve:	
	1. Transport mobility in home region	-0.6952[c]
	2. Air quality in home region	-0.8329[c]
	3. Transport mobility throughout state	0.4529
	4. Air quality throughout state	-0.4942

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 19

Relationships between 1982-92 Population Change
and Indicators of CMA Effectiveness

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time		0.2432
B.	Utility of current CMA structure and process		-0.5047
C.	Improved coordination between:		
	1.	Local governments	0.1111
	2.	Transportation and land use activities	-0.2231
	3.	Transportation and air quality activities	0.2474
D.	Degree of cooperation between CMA and local governments		0.5061
E.	Degree of cooperation of CMA with other Significant transportation related agencies		
	1.	Other nearby CMAs	-0.5034
	2.	Air quality district	0.4918
	3.	Regional transportation planning agencies	0.9905[b]
	4.	Land use agencies	-0.3774
	5.	Transit operations	0.1341
	6.	Caltrans	0.4768
	7.	U.S. Department of Transportation	0.8792[e]
F.	Reduction of traffic congestion		0.5625
G.	Effectiveness of CMA/CMP process to improve:		
	1.	Transport mobility in home region	0.1370
	2.	Air quality in home region	-0.1811
	3.	Transport mobility throughout state	0.7029
	4.	Air quality throughout state	-0.1798

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 20

Relationships between 1992 Population Density and Indicators of CMA Effectiveness

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time		0.8551[d]
B.	Utility of current CMA structure and process		-0.4379
C.	Improved coordination between:		
	1.	Local governments	-0.0688
	2.	Transportation and land use activities	-0.3786
	3.	Transportation and air quality activities	-0.1230
D.	Degree of cooperation between CMA and local governments		0.0214
E.	Degree of cooperation of CMA with other Significant transportation related agencies		
	1.	Other nearby CMAs	-0.1176
	2.	Air quality district	0.2779
	3.	Regional transportation planning agencies	-0.6962
	4.	Land use agencies	0.0769
	5.	Transit operations	-0.1842
	6.	Caltrans	0.1347
	7.	U.S. Department of Transportation	0.8936[e]
F.	Reduction of traffic congestion		0.5956
G.	Effectiveness of CMA/CMP process to improve:		
	1.	Transport mobility in home region	-0.7044[c]
	2.	Air quality in home region	-0.7885[c]
	3.	Transport mobility throughout state	-0.8704[c]
	4.	Air quality throughout state	-0.2110

[a]two-tailed t-test yields $p>0.100$ unless otherwise noted
[b]t-test yields $p<0.100$
[c]t-test yields $p<0.050$
[d]t-test yields $p<0.010$
[e]t-test yields $p<0.005$
Source: Compiled by authors

TABLE 21

Relationships between 1992 Population
and Indicators of CMA Effectiveness

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time		-0.6401[b]
B.	Utility of current CMA structure and process		0.4871
C.	Improved coordination between:		
	1.	Local governments	-0.0109
	2.	Transportation and land use activities	-0.3810
	3.	Transportation and air quality activities	-0.4395
D.	Degree of cooperation between CMA and local governments		-0.7291[c]
E.	Degree of cooperation of CMA with other Significant transportation related agencies		
	1.	Other nearby CMAs	0.3794
	2.	Air quality district	-0.0341
	3.	Regional transportation planning agencies	0.7802
	4.	Land use agencies	-0.4108
	5.	Transit operations	0.0427
	6.	Caltrans	-0.4526
	7.	U.S. Department of Transportation	-0.6858
F.	Reduction of traffic congestion		-0.8522[d]
G.	Effectiveness of CMA/CMP process to improve:		
	1.	Transport mobility in home region	-0.1508
	2.	Air quality in home region	0.0150
	3.	Transport mobility throughout state	-0.8237[c]
	4.	Air quality throughout state	-0.2239

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

TABLE 22

Relationships between 1990 Per Capita Income
and Indicators of CMA Effectiveness

Effectiveness Indicator		Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time	-0.8612[d]
B.	Utility of current CMA structure and process	-0.7197[c]
C.	Improved coordination between:	
	1. Local governments	-0.7625[c]
	2. Transportation and land use activities	-0.4168
	3. Transportation and air quality activities	-0.5658
D.	Degree of cooperation between CMA and local governments	-0.1932
E.	Degree of cooperation of CMA with other Significant transportation related agencies	
	1. Other nearby CMAs	0.4971
	2. Air quality district	-0.2400
	3. Regional transportation planning agencies	-0.4546
	4. Land use agencies	-0.2981
	5. Transit operations	-0.6461
	6. Caltrans	-0.4626
	7. U.S. Department of Transportation	-0.5721
F.	Reduction of traffic congestion	-0.7868[c]
G.	Effectiveness of CMA/CMP process to improve:	
	1. Transport mobility in home region	-0.7957[c]
	2. Air quality in home region	0.4055
	3. Transport mobility throughout state	-0.8165[c]
	4. Air quality throughout state	0.2947

[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

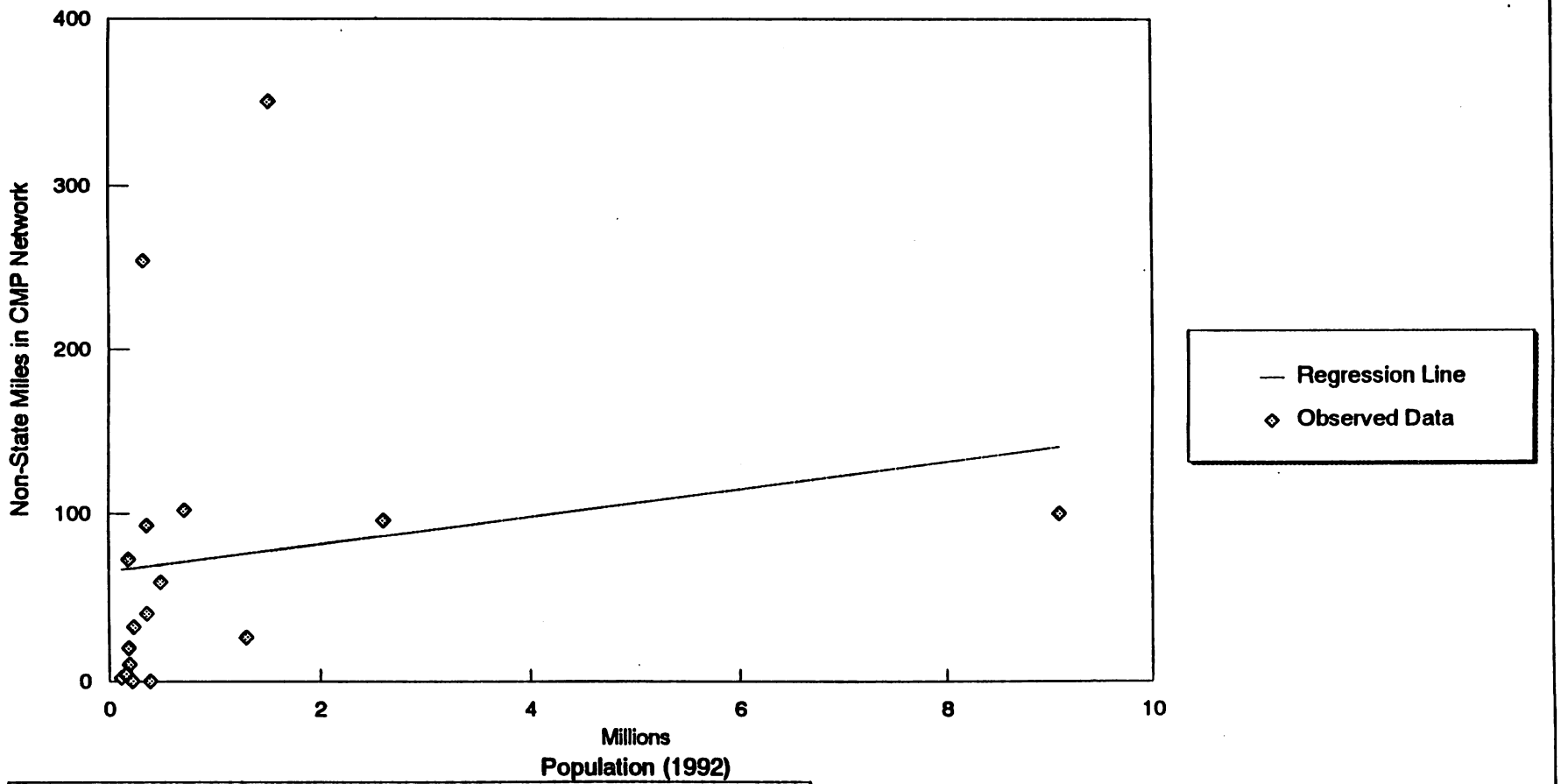
TABLE 23

Relationships between Percent College Graduates, Age 25+1990 Population and Indicators of CMA Effectiveness

Effectiveness Indicator			Partial Correlation Coefficient[a] (n=30)
A.	Success of CMA organizations over time		0.6864[b]
B.	Utility of current CMA structure and process		0.6826[b]
C.	Improved coordination between:		
	1.	Local governments	0.7849[c]
	2.	Transportation and land use activities	0.5056
	3.	Transportation and air quality activities	0.5575
D.	Degree of cooperation between CMA and local governments		0.6223[b]
E.	Degree of cooperation of CMA with other Significant transportation related agencies		
	1.	Other nearby CMAs	-0.4639
	2.	Air quality district	0.4348
	3.	Regional transportation planning agencies	0.9883[b]
	4.	Land use agencies	0.3789
	5.	Transit operations	0.6965[b]
	6.	Caltrans	0.6238[b]
	7.	U.S. Department of Transportation	0.6413[b]
F.	Reduction of traffic congestion		0.8530[d]
G.	Effectiveness of CMA/CMP process to improve:		
	1.	Transport mobility in home region	0.8454[d]
	2.	Air quality in home region	0.7272[c]
	3.	Transport mobility throughout state	0.8283[c]
	4.	Air quality throughout state	-0.2263

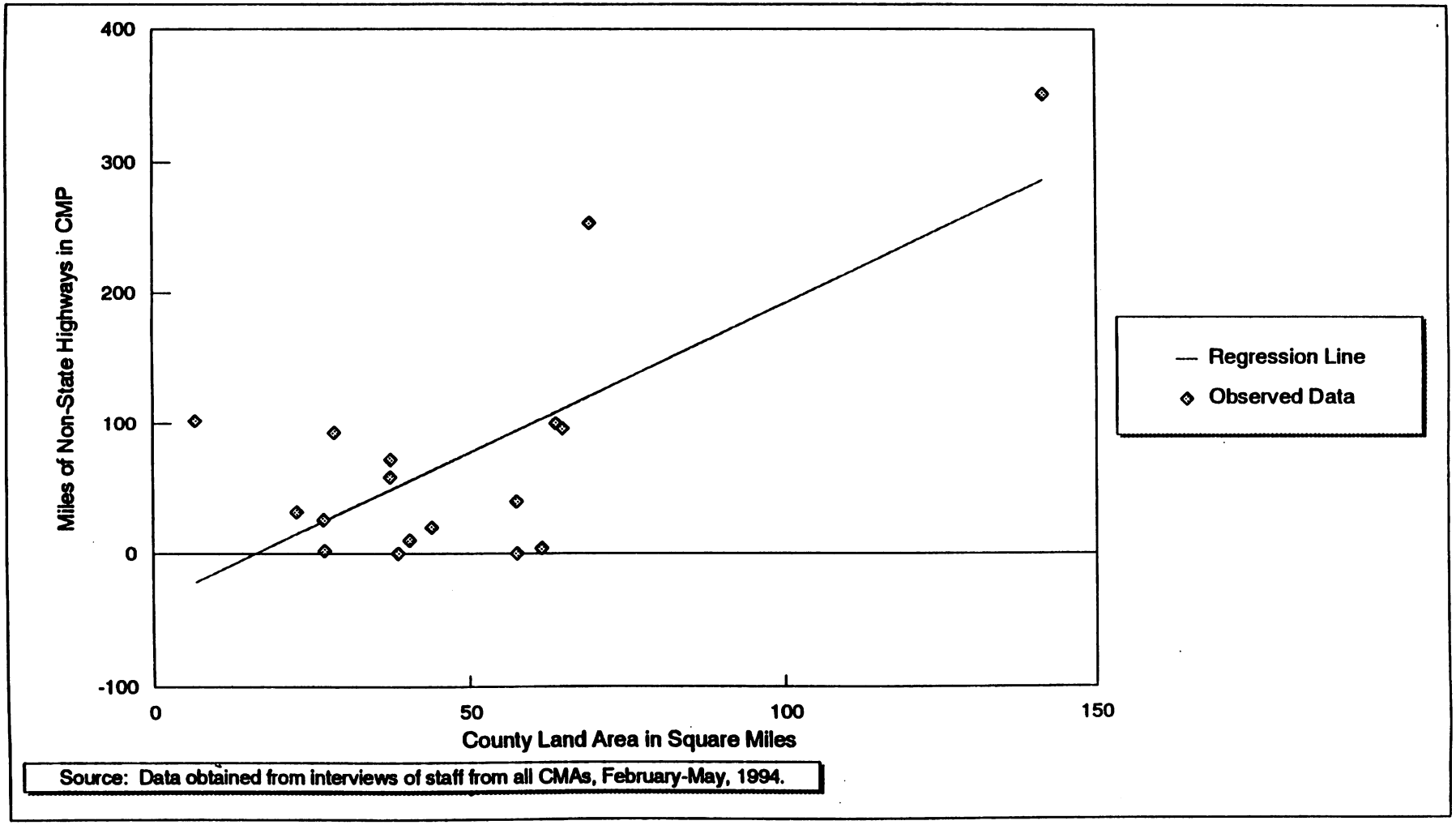
[a]two-tailed t-test yields p>0.100 unless otherwise noted
[b]t-test yields p<0.100
[c]t-test yields p<0.050
[d]t-test yields p<0.010
[e]t-test yields p<0.005
Source: Compiled by authors

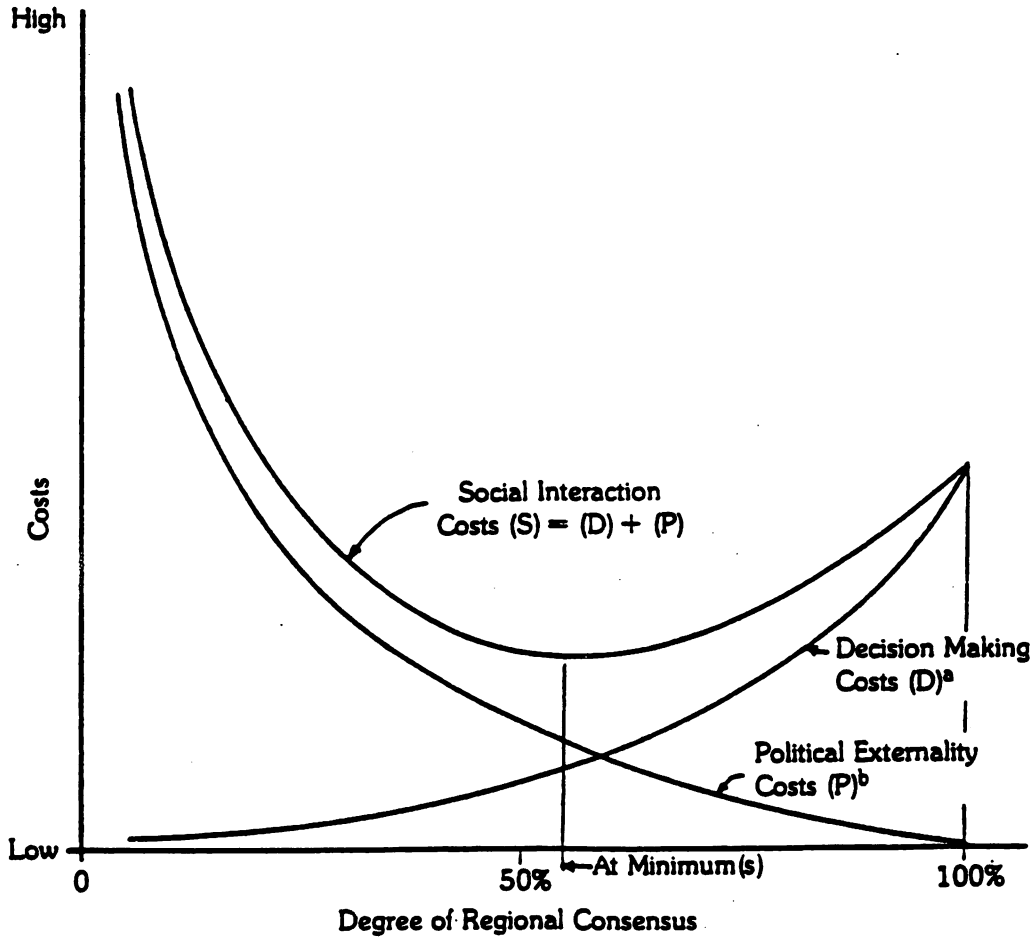
FIGURE 1 Population vs. Non-State Highway Miles in CMP Network



Source: Data obtained from interviews of staff from all CMAs, February-May, 1994.

FIGURE 2 Square Root of County Area vs. Non-State Highway Miles in CMP Network





[a]Decision Making Costs = time, effort, and direct outlays for consensus formation.

[b]Political Externality Costs = costs borne by an individual forced to participate in collective action with which he or she does not agree.

FIGURE 3 Social Interaction Costs of Regional Consensus Formation

Source: Bish, Robert L. 1971. The Public Economy of Metropolitan Areas (Chicago: Markham), Ch 3.

APPENDIX A

QUESTIONNAIRE ON
CONGESTION MANAGEMENT PROGRAM

Name of CMA_____

1. Before the congestion management program began in 1990, did your county have any organizations which tried to coordinate and improve transportation and land use planning among local governments?

   If yes, what kinds of organizations were they?

   [ ] Metropolitan Planning Organization
   [ ] Public Agencies
   [ ] Private or Non-profit Groups
   [ ] Public/Private
   [ ] Other (please specify) _____

2. On a scale of 1 (poor) to 10 (excellent), how successful were these organizations? _____.

3. After your congestion management agency was formed, what became of these organizations?

   [ ] Absorbed Into CMA
   [ ] Partially Absorbed in CMA
   [ ] Separate From and Advisory to CMA
   [ ] Other (please specify) _____

4. How has your CMA been organized?

	Originally	Presently	Future
a. As a New Separate Agency	_____	_____	_____
b. As Part of an Existing Agency	_____	_____	_____
Council of Governments	_____	_____	_____
Metropolitan Planning Organization	_____	_____	_____
Service Authority for Freeway Emergencies	_____	_____	_____
Local Transportation Sales Tax Authority	_____	_____	_____
Regional Transportation Planning Agency	_____	_____	_____
County Transportation Commission	_____	_____	_____
County Transit District	_____	_____	_____
Airport Land Use Commission	_____	_____	_____
Other (Specify) _____	_____	_____	_____

5 Can you briefly tell me why the CMA originally organized this way and why any changes or mergers were created?

*6. On a scale of 1 (poor) to 10 (excellent), how successful do you feel these organizations were in improving transportation congestion?

* 7. Who is on your CMA governing board? (in terms of public officials) _____

* 8. Why was the composition of the CMA governing board made this way? _____

* 9. Does your CMA have a Technical Advisory Committee? Yes _____ No _____.
If yes, what is this committee's composition?

*10. Does your CMA have other Advisory Committees?
Yes ____ No ____. If yes, what are those committees compositions?

a) Business Interests _____
b) Minority Social Equity Groups _____
c) Environmental View _____
d) Modal Advocates _____
e) Other (please specify) _____

11. How are the advisory committee members selected? _____

12. On a scale of 1 (poor) to 10 (excellent), how well has the current CMA structure and process served the agency? _____ Are there things you would change to improve the structure and function of the organization?
_____

13. On a scale of 1 (strongly disagree) to 10 (strongly agree), please indicate how strongly your agree with the following statements:

a. "Our CMA/CMP process has improved the coordination between different local governments in our area." _____

b. "Our CMA/CMP process has succeeded in making a closer connection between transportation and land use decision making in our area." _____

c. Our CMA/CMP process has succeeded in making a closer connection between transportation and improved air quality." _____

d. Our CMA/CMP process has succeeded in reducing (or potentially reducing) traffic congestion in our area." _____

e. "The CMP process should be largely integrated into the CEQA process, perhaps by amending CEQA and reducing some of the CMP elements." _____

f. "Deficiency plans should be largely proactive" (anticipating future problems, rather than reacting to existing ones). _____

g. "The CMP legislation should be amended to provide very specific and detailed requirements." _____

*14. How did you select highways to be in the CMP designated system?

15. Would it be desirable for someone to produce implementation guidelines that have some legal authority such as criteria for determining the CMP network. An example is the implementation guidelines presently produced for CEQA, which are required by law? Yes_____ No____ Not Sure____

16. If yes, who should be the primary agency responsible for developing them? _____

[ ] Caltrans
[ ] Office of Planning and Research (Governor's Office)
[ ] Other state agency
[ ] Committee made up of CMA staff or board members
[ ] Independent consultant or university
[ ] Other (please specify who) _____

17. How many FTE regular and contract employees does your agency have working for it for CMA purposes? _____

18. If your agency originally had non-CMA functions, how many additional FTE were added to it to conduct CMA activities? _____

19. How much does the CMA rely on consultants or other agencies? % of budget _____ or $_____ per year

20. How many cities and counties are there in your CMA's jurisdiction? _____

21. On a scale of 1 (poor) to 10 (excellent), what is the degree of CMA/Local Government Cooperation? _____

a) Number of Local governments actively participating in your CMA activities _____

b) Number of Local governments with Transportation and Land Use Plan Deficiencies? _____

c) Number of Local governments willing to mitigate deficiencies using a deficiency plan _____

22. On a scale of 1 (poor) to 10 (excellent), what is the degree of cooperation with other significant Agencies?

a) Other nearby CMA's _____
b) Air Quality District _____
c) Regional Transport Planning Agencies _____
d) Land Use Agencies _____
e) Transit Operators _____
f) Caltran _____
g) U.S. Department of Transportation _____

23. What do you think the CMA does best? _____
Worst? _____

24. On a scale of 1 (lowest) to 10 (highest), how would you rate the effectiveness of the CMA/CMP process to improve transportation mobility and air quality?

		Transport	Air Q
a)	Within your region	_____	_____
b)	Throughout California	_____	_____

25. What suggestions do you have to improve the CMP/CMA process?

a) Within your region_____
b) Throughout California_____

26. For CMP activities, where does the money come from? How much is received? And how adequate is this support for your CMA and local governments in your area? (for FY 92/93 & FY 93/94). If not readily available, please mail this information to us as soon as possible.

	For CMA	For Local Govts
a) Where From	_____	_____
b) How Much	_____	_____
c) How Adequate	_____	_____

* Ask question if not covered in Information Matrix

THANK YOU

APPENDIX B YOLO COUNTY TRANSIT SERVICE STANDARDS

TRANSIT LOS STANDARDS

Indicator	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Frequency (Minutes)	10 or less	11 to 15	16 to 29	30 to 45	46 to 60	60 +
Reliability	98 to 100%	95 to 97%	90 to 95%	75 to 89%	50 to 74%	<50%
Passenger Density	0 to 50%	51 to 75%	76 to 100%	101 to 110%	111 to 125%	>125%
% Within 10 min. of schedule* Within 15 min. for West Sacramento (Frequency)	100%	90 to 99%	80 to 89%	70 to 79%	60 to 69%	<60%
% of Total Requests Filled* (Reliability)	100%	98 to 99.9%	97 to 97.9%	96 to 96.9%	94 to 95.9%	<94%

Definitions of Standards

Frequency = Maximum time between consecutive buses
Reliability = Adherence to published schedules
Density = Passenger load/bus capacity (seated)

*Applies to demand-response systems

YOLOBUS TRANSIT LEVELS OF SERVICE

GENERAL SERVICE AREA (ROUTE)	FREQUENCY			RELIABILITY			DENSITY		
	CMP STD	Current	Optimal Target	CMP STD	Current	Optimal Target	CMP STD	Current	Optimal Target
Local W. Sac. Service (40.41)	E	F[1]	D	C	D[2]	B	E	C	C
Express Service (43.44.45)	D	D	C	C	C	B	D	C	C
Inter-City Weekday (42)	E	F[3]	D	C	C	B	D	C	C
Saturdays (42)	F	F	D	C	C	B	D	B	C
Sundays/Holidays (42)	F	F	E	C	C	B	D	B	C

Movement Between Ranges:

A) No mitigation required if any one or two indicators move one range lower
B) Mitigation required if any one indicator moves two or more levels lower, if all three indicators move one level lower each or if more than one indicator moves to level F

1. 65 min. headways
2. Large number of boardings
3. 100 min. headways