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Ceqa's influence on development in Alameda County, California

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CEQA'S INFLUENCE

ON DEVELOPMENT IN

ALAMEDA COUNTY, CALIFORNIA

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ABSTRACT

CEQA'S INFLUENCE ON DEVELOPMENT IN ALAMEDA COUNTY, CALIFORNIA

by Susan Marie Jones

Although the California Environmental Quality Act (CEQA) is often said to be the most important land-use planning law in California, relatively little research has addressed the effect of this Act on planning. This study examined 30 Environmental Impact Reports (EIRs) from Alameda County, California to determine how and to what extent final projects changed as a result of CEQA from the original submission.

Results indicate that CEQA plays an important part in the prevention of significant, avoidable damage to the environment. When data from the EIRs were averaged, the number of significant or potentially significant impacts was reduced from 29 impacts per EIR to less than four after mitigation. Ten percent of the EIRs incorporated some aspect of the alternatives analysis into their project. There was an average of 57 mitigations per project and 87% of the impacts were reduced to less than significant.

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INTRODUCTION

The California Environmental Quality Act (CEQA) is the California equivalent of the National Environmental Policy Act (NEPA), the federal law enacted in 1969. NEPA requires an environmental impact analysis, known as the Environmental Impact Statement (EIS), for "proposed legislation or other major federal actions significantly affecting the quality of the human environment" (Bass et al. 2000). Conducting environmental impact analyses for projects ensures that significant environmental impacts are identified, assessed, and taken into account in the decision-making process.

California was the first of 15 states to adopt environmental impact laws patterned after NEPA (Bass et al. 2000). The California Environmental Quality Act (CEQA) was enacted in 1970 and has since become an integral component of local land-use planning and development in California. This Act requires that local and state agencies prepare an environmental impact analysis, either an Environmental Impact Report (EIR) or a Mitigated Negative Declaration (a document stating that that after certain mitigations are performed, there will be no significant effects on the environment), for any project that may produce significant or potentially significant environmental effects. It also requires that agencies avoid or mitigate significant environmental effects whenever possible.

CEQA review is pervasive. For example, an estimated 1600 EIRs and 30,000 initial studies were produced in 1990 alone (Olshansky 1996). An initial study, which is prepared when a project is subject to CEQA, includes the project description, environmental setting, and potential environmental impacts. It is used to determine

whether to prepare a Negative Declaration or an EIR and can be used to focus an EIR on the potentially significant impacts (Bass et al. 2000).

In addition to inspiring similar acts in different states, NEPA also spawned environmental impact assessment (EIA) systems all over the world. By 1980, 50 countries had implemented some type of EIA into their system. Many developing countries, such as Mexico and Cuba, have incorporated some aspect of EIA into development planning. Even though these countries may be hindered by limited budgets, expertise, baseline data, and political feasibility, they undertake EIA review because international agencies often require it (Hyman and Stiftel 1988). For example, the Organisation for Economic Co-operation and Development (OECD) uses EIA when granting aid to developing countries. The United Nations Environment Programme (UNEP) has established goals and principles for EIA for their members and developing countries. The World Bank recommends EIA for borrowing countries and has published a sourcebook for EIA (Wood 1997). The dissemination of EIA continues today into wealthy countries as well as developing nations.

Despite the popularity of CEQA, NEPA, and EIA systems around the world, few studies have examined the extent to which projects are changed as a result of EIA. This thesis will review the literature, discuss, and gather data for the following topics to determine how CEQA changes projects: impacts identified in EIRs; mitigations imposed for the identified impacts; alternatives analyses; and findings of overriding significance. Agencies involved with EIA can learn from studies of the various systems, leading to more environmentally sound development planning locally and globally.

RELATED LITERATURE

Supporters of CEQA state that the law's objectives have been met and that CEQA is indeed an appreciable asset to planning and development (Olshansky 1996). According to Shute (1993), "it is institutionalized in public decision making and has become a vehicle by which citizens can formally influence governmental actions." Although CEQA is not a land-use planning law per se, it is a major element of land-use planning and is indeed the most recognized "planning law" in California (Olshansky 1996). It is also the foundation of environmental law and policy in this state. The Planning and Conservation League (1997) states that CEQA "is not only the most important environmental protection law in this state, it is the basic good government law for California." According to Herson (1993), "CEQA reviews of individual projects have functioned as the state's environmental safety net ever since CEQA's inception." This Act creates a forum for the agencies involved in a project to work together and discuss the different environmental effects of projects. This comprehensive approach is certainly more effective at minimizing adverse impacts than a system in which agencies work individually.

Opponents of CEQA have a different view. They feel that projects, too often, must be changed dramatically from the original intent in order to comply with CEQA (Falik 1987). CEQA requires project proponents to assess any detrimental impacts their project may have on the environment. Depending on feasibility, proponents must then find a way to avoid or minimize the impact, return the site to its original condition, or

compensate for the impacts by mitigating elsewhere (Bass et al. 2000). In addition, with the signing of Assembly Bill 3180 in 1988, CEQA now requires monitoring of all mitigation measures (Cervantes et al. 1989). However, little information exists on how often projects are changed or the extent to which they are altered as a result of the process. One study in 1975 by the Assembly Committee on Local Government did look at the types of impacts raised, the extent of mitigations proposed, the nature of public input and the nature of final actions taken in relation to the severity of impacts. The results of this 1975 study will be central to this thesis as the results of the two studies will be compared. The Assembly Committee selected 23 local jurisdictions in California, chosen to cover a cross section of geographical, environmental, political, and social environments, and reviewed in-depth 185 of their EIRs that were done between 1973 and 1975. They gained additional information by interviewing elected officials, agency staff, and private applicants. The results relevant to this thesis are discussed throughout this thesis and summarized below.

- The reviewers found 58 different impacts in their EIR sample and listed their frequency of occurrence (Appendix A).
- An average of 6 individual impacts were raised per EIR, 48% of these had mitigations.
- Traffic was the number one impact, occurring in 64% of the EIRs.
- Fifty percent of the EIRs received public comment, identifying an additional adverse impact or providing information that had not been previously covered in the EIR in 5% of the cases.

- Fifty-one percent of the EIRs required at least one mitigation for approval.
- Thirty-one percent of the projects required changes in their design or operation as a result of impacts identified in the EIR.

The researchers judged CEQA to be effective in that it was identifying and evaluating potential environmental impacts and steps are taken to mitigate adverse impacts. The Committee concurred that many of these mitigating actions would not have occurred without CEQA's formal review. It was not possible, however, to judge the full extent of CEQA's impact. The CEQA process leads to increased public awareness and knowledge of the environment. This in turn can lead to changes in plans, policies, regulatory programs, and more environmentally sensitive project designs.

In discussing the effectiveness of CEQA, Bass et al. (1996) write that evaluations of CEQA's effectiveness "will vary depending upon which objective is being evaluated, the type of agency involved, and the nature of the project being studied." They also note that relatively few studies regarding CEQA's effectiveness have been conducted.

To determine if CEQA is meeting its objectives, the Association of Bay Area Governments (ABAG 1993) held a conference in 1991 attended by 107 CEQA professionals and conducted two surveys of Bay Area professionals directly involved with CEQA. They investigated ways to modify CEQA to better achieve its goals. Four suggestions for improving CEQA that came from that study are relevant to this thesis research:

- "Encourage adoption of a comprehensive mitigation package and mitigation monitoring plan for all new general or specific plans."

- "Permit lead agencies more latitude in setting standards or thresholds for CEQA implementation."
- "Limit EIRs to environmental analysis."
- "Specify extent of analysis of alternative locations for proposed projects."

In 1995, the Environmental Law Section of the CEQA Review Committee reviewed various EIRs and interviewed those involved in EIR preparation. They published a report, The California Environmental Quality Act: Assessment and Recommendations, Final Report, which summarized their results. One of their recommendations relevant to this thesis was that "agencies should be encouraged to develop standard mitigations for particular projects."

In 1995, Landis et al. published Fixing CEQA: Options and Opportunities for Reforming the California Environmental Quality Act. The authors systematically chose 12 cities and two counties in California to represent the range of CEQA activity in the state. The study looked at factors such as number and types of EIRs, key development issues, and select EIR practices (i.e. who conducts EIRs) in the case study communities. They also interviewed the planners in the case study sites about several possible CEQA reform issues. One of the issues was whether standardized thresholds should be implemented. Although opinions varied, the majority of those interviewed felt that standardized thresholds could be useful regionally. According to this study:

> Regional standards for regional impacts, these planners believed, would promote greater interproject and interjurisdictional review consistency, would improve cumulative impact mitigation, and would relieve local reviewers of their current responsibility of having to implement regional regulations and standards.

Planners in this study were also asked how they felt about the requirement for alternatives analyses. The majority felt that although good in theory, it was not a particularly useful or used CEQA element. When asked about limiting the scope of CEQA, planners in 8 of the 12 jurisdictions stated they would like to see some limiting of social and/or economic issues.

In 1993, the Planning and Conservation League observed, "...no other governmental process is more important in reducing the detrimental impacts of development." The League discussed the need to strengthen CEQA and asserted, "...agencies too easily adopt statements of overriding considerations, allowing projects with significant adverse effects to go forward nevertheless." The study by Landis et al. (1995), however, found that only two of the 14 jurisdictions had "frequent" findings of overriding considerations. "Frequent" was not quantified in the study.

Olshansky (1996) conducted one of the most recent and comprehensive CEQA studies to date. His study focused on four key topics: CEQA administration, mitigation monitoring, the general plan, and the relative functions of general plans. After surveying 455 municipalities and 58 counties in California, Olshansky concluded that CEQA is a valuable asset to planning in this state. He indicated that the following important question remained unanswered: "Does it (CEQA) really change projects substantially?" According to his article, one way to find answers to this question is to examine a number of local EIR cases in depth.

In 1997, Keyes and Newton of the Legislative Analyst's Office (LAO) conducted a study of CEQA and made recommendations for achieving its goals at a lower cost to all

involved. They interviewed business organizations, environmental groups, state agencies, and local governments and reviewed research conducted on CEQA decision-making at local levels. Two concerns raised in this study include the fact that little information exists on the cost-effectiveness of mitigating environmental impacts and that those involved with CEQA would like more detailed guidance in determining the thresholds of significance of environmental impacts. The lack of thresholds of significance has arisen as a concern in several documents (ABAG 1993, Azevedo 1996, Herson 1993, Landis et al. 1995, Keyes and Newton 1997). Knowing if an environmental effect is significant is a key determinant in whether to prepare an EIR or a Negative Declaration (Azevedo 1996). According to the CEQA Statutes (1999) § 21082.2 (d), "If there is substantial evidence, in light of the whole record before the lead agency, that a project may have a significant effect on the environment, an environmental impact report shall be prepared."

Herson and Bass (1993) state that the lack of thresholds for impact significance leads to these problems for CEQA implementation:

- "Some lead agencies fail to identify the significance of impacts or fail to disclose impact significance thresholds in environmental documents."
- "Lead agencies are inconsistent in making significance determinations from document to document."
- "Project proponents lack reliable standards for project proponents to use in planning their projects to avoid significant effects."
- "Some lead agencies routinely avoid EIR preparation even when commonly accepted thresholds of significance are exceeded." (Herson and Bass 1993)

Although CEQA has such tools as Appendix G and the mandatory findings of significance to help with significance determination, more specificity is often required. Herson and Bass (1993) also say, however, that many CEQA observers feel that

developing impact thresholds "should be approached cautiously." Concerns include the following:

- "Confusion could result if lead and responsible agencies have different thresholds of significance for the same resource topic."
- "Adopted thresholds could be changed based on political motivations."
- "Changes in thresholds could be used to argue the need for a Supplemental EIR."
- "Multiple projects might be designed to approach but not exceed thresholds, causing environmental damage." (Herson and Bass 1993)

The recommendation to discontinue the inclusion of economic and social impacts in EIRs has arisen in the aforementioned documents, ABAG 1993 and Landis et al. 1995, among others. In response to groups who suggest putting more economic study into the CEQA process, Zischke and Kostka (1993), attorneys for respondents in CEQA litigation, state: "...injecting economic issues into CEQA are bad ideas. However well-intentioned, they would create more uncertainty, more traps, higher legal and planning bills, and more targets for project opponents." According to CEQA Guidelines (1999) Code § 15358 (b), "effects (impacts) analyzed under CEQA must be related to a physical change." Under Guideline § 15131(b), however, the inclusion of these impacts may be necessary to fully determine the environmental impact. According to this Guideline, "Economic or social effects of a project may be used to determine the significance of physical changes caused by the project." NEPA, however, requires an EIS to evaluate social and economic effects when they are directly related to a significant effect on the environment. A 1976 study of CEQA practices by the Office of Planning and Research

(OPR) comments on jurisdictions that provide only physical impacts in their EIRs: "This strategy may represent an attempt to comply with the letter of CEQA, but hardly with its spirit."

Environmental impact analysis is invaluable, as revealed in a 1994 Council on Environmental Quality (CEQ) review of NEPA (CEQ 1994i). This study was undertaken by obtaining opinions of a cross-section of NEPA stakeholders. According to the review, the major strengths of NEPA identified were:

- Increases public involvement in decision making;
- Creates a standard framework for decision making;
- Fosters better coordination of federal projects;
- Improves understanding of ecosystems;
- Creates more environmentally sound federal actions.

CEQA research has very little information on how this Act changes projects and thereby affects development. The 1975 study by the Assembly Committee discusses this issue but CEQA has certainly changed and grown since that time. This thesis will show how CEQA changes projects and, by comparing the data to the 1975 data, will also show how CEQA has changed in 20 years.

RESEARCH OBJECTIVES

The primary objective of this study was to determine the extent to which projects are changed to comply with CEQA. The focus was on mitigations imposed, alternatives chosen, and on the use of findings of overriding significance. The research questions addressed in this thesis are as follows:

1. In 30 Alameda County EIRs, which impacts were addressed and how much mitigation was imposed to reduce these impacts?
2. Compared to data obtained in 1975 by the Assembly Committee for Local Government, what trends in effectiveness exist? What questions arise from these trends?
3. How often were alternatives chosen and what were those alternatives?
4. What percentage of comments to the EIR resulted in a change to the project?
5. How often were overriding considerations allowed and what significant impacts remained?
6. How effective is CEQA in meeting Purposes 2 and 3 of the CEQA Guidelines?
    - Purpose 2. Identify ways that environmental damage can be avoided or significantly reduced.
    - Purpose 3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.

7. **What recommendations for improving CEQA effectiveness arise from the findings of this study?**

METHODS

Research Site

This study focused on the County of Alameda, California. With cities along the San Francisco Bay as well as inland (Figure 1), Alameda has a diverse landscape with urban and rural zones. In addition, there is a diverse population. An estimated 1.47 million people lived in Alameda County in the year 2000 with an ethnic makeup of 648,127 Caucasians, 295,366 Asians, 267,915 Hispanics, 251,959 African-Americans, and 6,788 American Indians (McCormack and Kanda 1999). This natural and cultural diversity results in a large range of project impacts. Between 1990 and 2000, the County had a 10.7% increase in population (Alameda County 2002) and EIRs dealt with many issues regarding open space and expansion (Engels, pers. comm.). In addition to Federal and State agencies, such the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game, several other agencies are responsible for regulating the regional environmental issues of this Bay Area County. Regional agencies include the Bay Conservation and Development Commission (shore protection), the Bay Area Air Quality Management District, the Association of Bay Area Governments, the Regional Water Quality Control Board, and the Metropolitan Transportation Commission. As with many California communities, Alameda County is sensitive to environmental degradation. Over the past 30 years, development controls have been installed, pollution controls tightened, and millions of dollars have been spent to protect the environment and clean the Bay (McCormack and Kanda 1999).

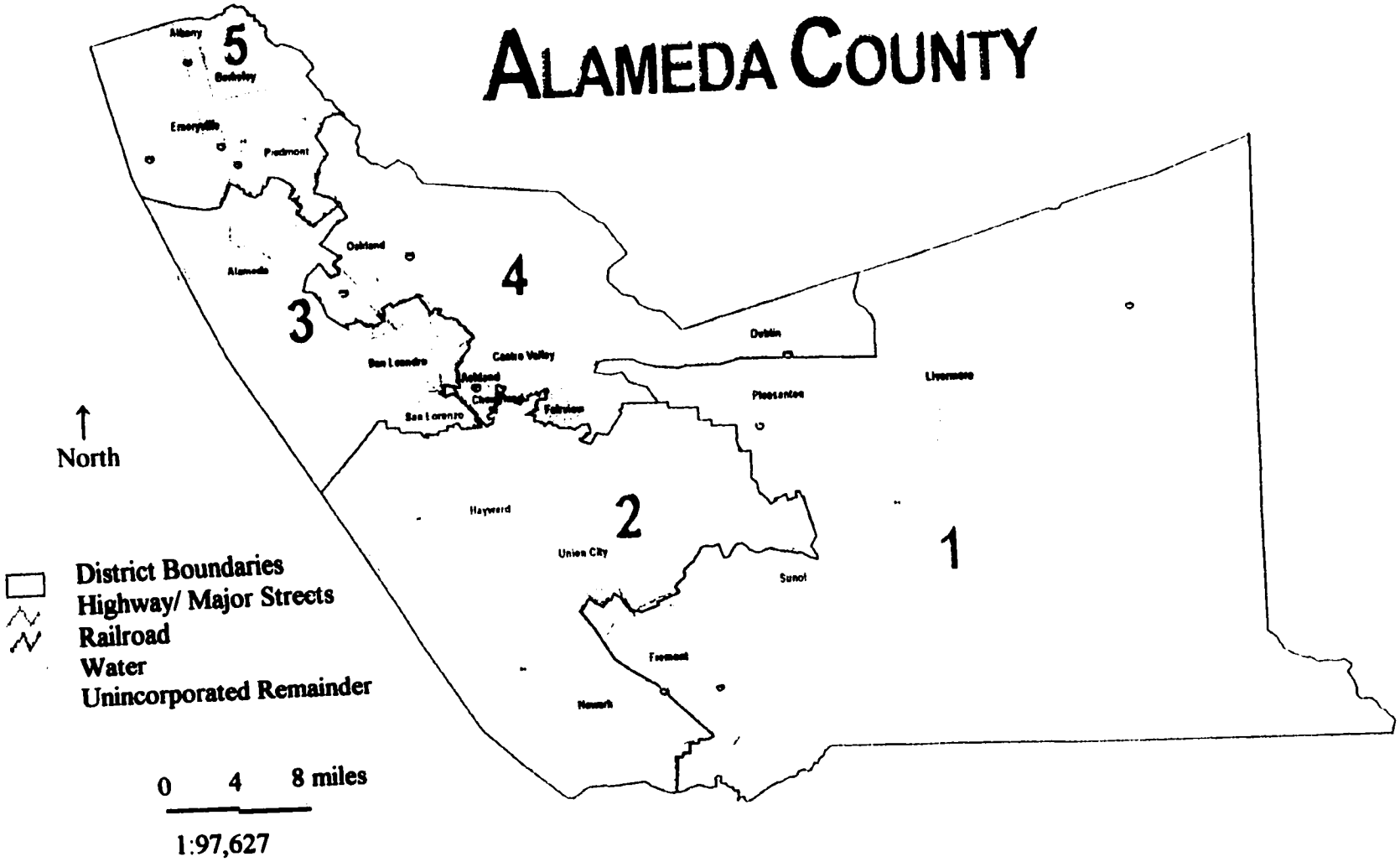

Figure 1. Map of Alameda County. Available from http://www.co.alameda.ca.us/map.htm; accessed 8 October 2002.

Study Design

A variety of methods were used to address the objectives of this research. The methods used to address each objective are given below.

Objective 1: Project impacts, mitigations, alternatives chosen, and findings of overriding significance were quantified in order to determine changes made to reduce significant or potentially significant impacts for 30 randomly chosen project EIRs prepared between 1994 and 2001 in Alameda County. The projects studied are listed in Appendix B. During this time period, a total of 49 project EIRs from the cities and the County were prepared. These EIRs were identified from these three sources:

- The on-line environmental database of the State Clearinghouse (http://www.ceqanet.ca.gov/);
- Lists of EIRs from city and County planners;
- EIRs on file at local libraries.

Changes to the projects were determined based on case studies of the 30 draft EIRs and interviews with the lead agencies. Data on these EIRs were collected during the summer of 2001.

Objective 2: In order to detect trends, the new data obtained were placed in a table and compared to data from the 1975 Assembly Committee for Local Government study described above.

The categories of impacts and mitigations used in this thesis are the same as those used in the 1975 study. The Assembly Committee also looked at individual EIRs and

tallied the types of impacts and amount of mitigation involved (Appendix C). The major differences in samples between the 1975 study and this thesis are listed in Table 1 below.

Table 1. Differences between Assembly Committee for Local Government Study (1975) and current research

	1975	2001
Sample size	185	30
Study site	Cities and Counties throughout California	Alameda County
Types of EIRs	89% Project EIRs	Project EIRs only

The present study is a smaller scale and has a slightly narrower range of EIRs than in the 1975 study and comparisons must consider these differences. However, Alameda County has a large cultural diversity and varied range of impacts and, together, these characteristics enhance the validity of the comparisons of the two studies and may show trends in CEQA effectiveness.

The mitigations included in the data are the result of applicant and decision-maker action. The applicant may have written mitigations into the project, but these are usually undistinguishable from those imposed by the decision-maker in the EIR. Mitigations that simply follow the existing policies and codes of a city or the County were not included in this comparison as these changes are not a direct result of CEQA. Mitigations that "may/might be done" are also not included so as to avoid overstating the mitigations actually being done.

Objective 3: To assess adoption of alternatives, the lead agencies were contacted to determine the outcome of the project and if alternatives were chosen. Alternatives might include "no project," the "environmentally superior" alternative, or any other

alternative in the EIR. These data were then tabulated and qualitatively assessed to detect characteristics of alternatives that influenced final project makeup.

Objective 4: To detect the effects of public comments on project changes, final EIRs for 15 of the projects were randomly selected and reviewed. The number of comments requesting new mitigations or changes to mitigations, comments requesting text changes or answers to questions, and the number of duplicate comments were tallied. These numbers are compared to the actual number of new mitigations or changes to mitigations identified in the Final EIR from these public comments. Minor mitigations that did not change the project itself in any substantial way were not included.

Objective 5: To determine the number of projects for which overriding considerations were allowed and the nature of remaining significant impacts, these data are reviewed in the 30 EIRs.

Objective 6: To determine if CEQA effectively meets Purpose 2 of its Guidelines, identifying ways to avoid or reduce environmental damage, the number of significant impacts identified in the EIRs was compared to the number of significant impacts that remained after mitigation. To determine whether Purpose 3 was being met, the number of significant impacts that remain was noted as well as how often alternatives were chosen and how much mitigation was required.

Objective 7: The results of this study were reviewed with respect to the literature to derive recommendations for improving CEQA effectiveness.

When attempting to understand the effects of CEQA on development, it is important to note that other factors also come into play. As discussed in the report by the Assembly Committee (1975), other issues that may affect the planning process and that may or may not be a result of CEQA include:

- an increase in public awareness of environmental issues;
- new policies that have been developed for the protection of the environment;
- efforts by applicants to propose more environmentally sensitive projects.

The data collected for each objective are presented and interpreted with the three above caveats in mind.

RESULTS/ DISCUSSION

The results pertaining to each objective are tabulated and discussed in turn.

Objective 1: In Alameda County, which impacts are addressed and how much mitigation is imposed to reduce these impacts?

The number of impacts and the amount of mitigation imposed is used here as the indicator of project changes resulting from CEQA. Table 2 lists the impacts that were found in the 30 EIRs reviewed. The impact categories followed those given in the Assembly Committee's 1975 report.

The 51 impacts are listed in order from most frequently listed in the EIRs to the least. Three recurring impacts found in this study did not neatly fall within the 58 categories of the Assembly Committee. "Parking" was found as an impact 20 times and remained a significant impact six times. "Hazardous waste" was identified 12 times and remained significant three times. "Loss of wetlands" was identified four times and remained significant on one occasion. "Parking" and "hazardous waste" impacts were placed in the "not otherwise coded" category and "loss of wetlands" was placed in the "degrade native habitat" impact category. These impacts were most likely not considered significant during the period of the 1975 study since laws regulating these topics were only recently passed. Alternately, eight impacts documented in the 1975 study did not appear in this study. These include "economic loss or gain to adjacent property," "siltation," "economic feasibility," "induce poor development patterns," "incomplete project plans," "poor pricing of units," "vector control," and "air quality impact on users

Table 2. Summary of impacts in 30 Alameda County EIRs.

Impact category	Rank	Frequency of Occurrence in EIRs (%)	Total # of significant or potentially significant impacts in 30 EIRs	Average # of significant or potentially significant impacts/ EIR	Total # of mitigations in 30 EIRs	Average # of mitigations/ impact	Total # of impacts that remain significant in 30 EIRs	# of 30 EIRs that passed with this significant impact
Traffic congestion	1	76%	145	5	202	1	36	11
Construction dust	1	76	28	1	110	4	4	4
Seismic hazard	3	73	39	1	64	2	2	2
Construction noise	4	66	26	1	90	3	8	5
Aesthetic impacts	5	60	26	1	95	3	1	1
Air pollution from project	6	53	32	1	54	2	19	9
Erosion	7	50	28	1	68	2	0	0
Runoff	7	50	29	1	37	1	0	0
Damage to ecosystems	7	50	32	1	84	3	0	0
Personal safety of users	7	50	19	1	37	2	0	0
Endangered species	11	46	43	1	80	2	1	1
Noise from project	12	43	24	1	47	2	2	1
Archaeological site	12	43	15	1	17	1	0	0
Water pollution	14	40	23	1	55	2	2	2
Construction nuisance	14	40	22	1	31	1	0	0
Historical site	16	36	21	1	38	2	9	5
Adequacy of public services	16	36	30	1	74	2	0	0
Soil suitability	16	36	22	1	51	2	0	0
Degrade native habitat	16	36	10	<1	23	2	2	1
Water supply inadequacy	20	33	4	<1	5	3	0	0
Traffic and pedestrian safety	21	26	13	<1	27	2	0	0
Sewer inadequacy	21	26	10	<1	21	2	0	0
Lighting nuisance	23	23	8	<1	20	2	0	0
Flood damage to project	23	23	10	<1	16	2	0	0

Table 2 (Con't)

Impact category	Rank	Frequency of Occurrence in EIRs (%)	Total # of significant or potentially significant impacts in 30 EIRs	Average # of significant or potentially significant impacts/ EIR	Total # of mitigations in 30 EIRs	Average # of mitigations/ impact	Total # of impacts that remain significant in 30 EIRs	# of 30 EIRs that passed with this significant impact
Noise impact on users of project	25	20	10	<1	16	2	1	1
Incompatible land use	25	20	8	<1	21	3	0	0
Impact on housing availability	27	16	6	<1	8	1	0	0
Change in character of land, area, or neighborhood	27	16	6	<1	8	1	0	0
Loss of recreational opportunity	27	16	7	<1	13	2	1	1
School adequacy	27	16	8	<1	20	2	0	0
Conflict or support of master plan	31	13	9	<1	15	2	2	2
Fire danger to users of project	31	13	5	1	13	6	0	0
Adequacy of public transportation	31	13	4	<1	6	1	1	1
Loss of open space	34	10	3	<1	2	1	1	1
Road maintenance	34	10	3	<1	3	1	0	0
Energy consumption	34	10	6	<1	4	1	2	1
Fire danger from project	34	10	3	<1	6	2	0	0
Loss of agricultural land	38	7	2	<1	0	0	1	1
Growth inducement	38	7	4	<1	7	2	2	1
Groundwater supply	38	7	4	<1	5	1	0	0
Bike trail needed	38	7	2	<1	2	1	0	0
Subsidence	38	7	2	<1	5	2	0	0
Lake/pond nuisance	43	3	2	<1	2	1	0	0

Table 2 (Con't)

Impact category	Rank	Frequency of Occurrence in EIRs (%)	Total # of significant or potentially significant impacts in 30 EIRs	Average # of significant or potentially significant impacts/ EIR	Total # of mitigations in 30 EIRs	Average # of mitigations/ impact	Total # of impacts that remain significant in 30 EIRs	# of 30 EIRs that passed with this significant impact
Public revenues vs. expenses	43	3	1	<1	2	2	0	0
Construction vibration	43	3	1	<1	1	1	0	0
Dust from project operation	43	3	2	<1	2	1	0	0
Landscaping or design adequacy	43	3	1	<1	0	0	0	0
Odor	43	3	1	<1	2	2	1	1
Power adequacy	43	3	1	<1	2	2	0	0
Grading (general)	43	3	1	<1	3	3	0	0
Not otherwise coded	N/A	N/A	87	N/A	174	N/A	13	N/A
Totals	N/A	N/A	874	N/A	1686	N/A	111	N/A
Average	N/A	N/A	29	N/A	56	2	4	N/A

Column 2 ranks the impacts according to their frequency of occurrence (e.g. 'traffic congestion' and 'construction dust' have the highest rank as they were identified in 76% of the EIRs).
"Frequency of Occurrence in EIRs" shows what percentage of EIRs identified that impact at least one time (e.g. 'traffic congestion' was identified in 76% of the EIRs).
"Total number of significant or potentially significant impacts in 30 EIRs" describes the total number of times this impact was identified in the review of 30 EIRs.
"Average number of significant or potentially significant impacts per EIR" tells on average how many times an impact appeared in an EIR.
"Total number of mitigations in 30 EIRs" gives the total number of times this impact was mitigated in the 30 EIRs.
"Average number of mitigations per impact" describes the average number of mitigations that accompany each impact in this category.
"Total number of impacts that remain significant in 30 EIRs" describes the number of times, in the 30 EIRs studied, that an impact remained significant after mitigating (e.g. 'traffic congestion' remained significant on 36 occasions).
The last column describes how many of the 30 EIRs were certified by the lead agency with a significant impact in the corresponding category (e.g. 11 of the 30 EIRs passed with 'traffic congestion' as a significant impact).

of project." These issues may have been incorporated in other impacts in the 30 EIRs studied.

The data show that the long-term impact of "traffic congestion" and the short-term impact of "construction dust" were the top two impacts cited in Alameda County EIRs. With Alameda County being in a region of high seismic activity, "seismic hazard" was ranked as the #3 impact. "Construction noise," another short-term impact, was #4 and "aesthetic impacts," a social impact, was ranked #5. The long-term impact of "air pollution," which is directly related to traffic congestion, was #6, occurring in 60% of EIRs. "Erosion," "runoff," "damage to ecosystems," and "personal safety of users" all tied for the #7 rank, occurring in 50% of the EIRs studied. Although "endangered species" was ranked #11 due to its frequency of occurrence of 46%, it was second only to "traffic congestion" in the total number of impacts identified.

EIRs in this study had an average of 29 impacts (874 impacts ÷ 30 EIRs) and 56 mitigations (1686 mitigations ÷ 30 EIRs). "Traffic" accounted for approximately 12% of the mitigations; "construction dust" 7%; "aesthetic impacts" 6%; "construction noise," "damage to ecosystems," and "endangered species" each accounted for 5%; "seismic hazard," "erosion," and "adequacy of public services" accounted for 4% apiece. Ninety-eight percent of identified impacts had mitigations. Comparatively, the 1975 study averaged 6 impacts per EIR and only 48% of the identified impacts had mitigations. Thus, compared to 20 years ago, EIRs do a more thorough job now of identifying impacts and providing mitigations to address those impacts.

Earlier studies identified persons or groups who believed that developing standard mitigations would improve or help streamline CEQA (ABAG 1993, State Bar of California 1995). Many jurisdictions used well-developed mitigation practices or Best Management Practices (BMPs) in their EIRs. Impacts for which fairly standard practices have been developed and applied across the County and in many cities include traffic congestion and air pollution (regarding the encouragement of alternative transportation use), erosion, construction noise and dust, seismic hazard, hazardous waste, archaeologic and historic sites, and (potential for) endangered species. The use of basic mitigation practices and BMPs may be partially responsible for the increase in mitigations between 1975 and today. If this is so, then developing standard mitigations does help advance the CEQA process.

Many critics of CEQA state that EIRs should not include economic and social impacts (Zischke and Kostka 1993, ABAG 1993, Landis et al. 1995). Utilizing the

categories for social and economic impacts developed in a NEPA study by Culhane et al. (1987) (Appendix D), 39 of the 58 impacts listed in Appendix A are considered social. Some of these impact categories, especially transportation, noise, and cultural preservation, are very important elements of current CEQA review. In the 30 EIRs, there were no economic impacts identified. Sixty-five percent of the total impacts identified in this study would therefore be considered social (the "not otherwise coded" impacts were not included in this number). While this number seems high, different jurisdictions, and the public, may have different ideas about which category an impact falls into. For example, based on the Culhane et al. (1987) categories, traffic is a social impact. Most CEQA document writers, however, see traffic congestion as a cause of air pollution and therefore place it in the physiographic category. Because traffic congestion has an environmental effect, though, CEQA requires evaluation of this impact regardless of which category it fits [CEQA Guidelines 1999, § 15358(a)(2)]. Looking at the issues in Appendix D that are social, it appears that most of these issues are important to the health and/or well-being of humans. In fact, it is a basic goal of CEQA to protect the well being of the environment and the population [CEQA Statutes 1999, § 21000(c)].

Falik (1987) stated that a major complaint about CEQA is that projects must be changed dramatically from the original intent to comply with CEQA. Although 'dramatically' is difficult to quantify, some might see an average of 56 mitigations as an indicator that significant changes must be made to projects. Perhaps more appropriately, this statistic makes a good argument for CEQA supporters who claim, "...no other

governmental process is more important in reducing the detrimental impacts of development." (PCL 1993)

Objective 2: Compare the Alameda County data to 1975 data and look at trends in impact identification and mitigation use. What questions are raised from these trends?

When comparing the top 35 impacts identified in 1975 to the 2001 EIRs, there are several noteworthy findings (Table 3). First, 32 of the 35 impacts have a higher frequency of occurrence in the 2001 study of EIRs. Eighteen of the 35 impacts have an increase in frequency of 50% or more. Three possible reasons for this include:

(1) Amendments were made in 1997 and 1998 to CEQA Guidelines §§ 15064, 15064.5, and 15064.7 that clarified determining the significance of environmental effects caused by a project and made dismissing impacts as less-than-significant more difficult for lead agencies. Section 15064.7 of the Guidelines encourages each public agency to develop thresholds of significance. The 1998 amendments also changed Appendix G of the Guidelines, the Initial Study checklist, to contain a more comprehensive list of potential environmental impacts. With these amendments being relatively new, however, they probably had only a minor effect on this study.

(2) The adoption of many major environmental laws, such as the federal Endangered Species Act (1973) and the Clean Water Act (1977), created standards for significant impacts to air quality, water quality, rare species and habitats, wetlands, and toxic sites. These standard did not exist or were just developed in 1975.

Table 3. Comparing impacts that occurred in 10% or more of the EIRs examined

Impact	Frequency of occurrence in EIRs (2001 study)	Frequency of occurrence in EIRs (1975 study)		% of impacts w/ proposed mitigations (2001 study)	% of impacts w/ proposed mitigations (1975 study)
Traffic congestion	76%	64%		97%	42%
Construction dust*	76	11		100	30
Seismic hazard*	73	10		100	39
Construction noise*	66	11		100	24
Aesthetic impacts	60	44		94	44
Air pollution from project	53	46		87	79
Erosion *	50	14		100	21
Runoff	50	32		100	34
Damage to ecosystems*	50	<10		100	N/A
Personal safety of users*	50	<10		100	N/A
Endangered species*	46	<10		100	N/A
Noise from project	43	26		100	57
Archaeological site*	43	<10		100	N/A
Water pollution	40	30		100	35
Construction nuisance*	40	11		100	60
Historical site*	36	<10		95	N/A
Adequacy of public services*	36	<10		100	N/A
Soil suitability*	36	<10		100	N/A
Degrade native habitat	36	37		100	60

Water supply inadequacy*	33	<10		100	N/A
Traffic and pedestrian safety*	26	11		100	28
Sewer inadequacy*	26	<10		100	N/A
Lighting nuisance*	23	<10		100	N/A
Flood damage to project*	23	<10		100	N/A
Noise impact on users of project	20	14		90	32
Incompatible land use*	20	<10		100	N/A
Impact on housing availability	16	14		100	89
Change in character of land, area, or neighborhood	16	15		100	65
Loss of recreational opportunity	16	<10		100	N/A
School adequacy	16	11		100	50
Conflict or support of master plan	13	<10		100	N/A
Fire danger to users of project	13	<10		100	N/A
Loss of open space	10	16		67	79
Road maintenance	10	<10		100	N/A
Energy consumption	10	<10		100	N/A

* impacts from 2001 data that have an increase in frequency of 50% or more compared to 1975 data

(3) The fear of legal challenges makes lead agencies more apt to call out impacts as significant. Since 1975, CEQA has become a key point on which projects are challenged and there has been a significant increase in CEQA cases (Engels pers. comm.). With planners and developers wanting to avoid project delays and the expense of a lawsuit, and the public becoming increasingly more involved in the CEQA process, this may likely be the major reason for the increase in impact identification.

Three impacts did not show an increase in frequency in the EIRs. These include "loss of open space," "loss of agricultural land," and "degradation of native habitat." "Loss of agricultural land" does not appear in Table 3 as its frequency of occurrence was only 6% (compared to 12% in the 1975 study). These three impacts are all open lands impacts and are, therefore, related. Possible explanations for declines in these impacts include:

(1) There is less open space to develop. According to the Alameda County General Plan (2001), "In the County's unincorporated urbanized areas, most of the remaining undeveloped parcels are infill parcels that have one or more physical constraints, such as slope, drainage, or traffic circulation."

(2) There is less agricultural land to lose. In 1992, 61% of Alameda County was farmland. By 1997, this had declined to 55% or 258,070 acres (USDA 2002).

(3) Knowing that open space is an important issue, developers often put aside open space for protection before the EIR process, making their taking less than significant.

(4) The earlier researchers might have placed this impact in another category such as "loss of habitat".

(5) Fearing litigation or delay, many applicants design their project to avoid environmental impacts. These impacts would therefore be categorized as "non-significant" in the EIR and would not be included in the data.

It is probable that all of the above contribute to the decrease in open lands impacts.

Traffic congestion remains the number one impact, occurring in 64% of the EIRs in the 1975 study and 76% of the EIRs in the recent study. According to the transportation element of the City of Berkeley General Plan (2001), "Since 1977, traffic volumes and traffic congestion have generally continued to increase in Berkeley and in the larger region." The plan predicts a 55% increase in vehicle miles of travel in the San Francisco Bay Area between the year 1990 and 2020, indicating that this impact remains a significant issue. Traffic, as an impact, is assisted in achieving its number one rank is likely helped by the fact that it affects so many people on a day-to-day basis. The public is apt to be much more aware and involved in such a pervasive issue than in an issue that does not directly affect them, such as "loss of habitat".

Objective 3: How often were alternatives chosen?

Of the 30 EIRs analyzed, three utilized the alternatives by incorporating them into the proposed projects. These three projects had multiple smaller developments within the larger project design, perhaps lending them better to utilizing the alternatives analysis. There were no instances where an alternative was chosen outright over the proposed

required when projects were consistent with the general plan and zoning (ABAG 1993). The fact that 10% of projects (3 of 30) utilized the alternatives analysis demonstrates that it a somewhat useful and used element of CEQA. Table 4 shows which projects incorporated alternatives and also shows any other significant CEQA-related changes (excluding imposed mitigations).

Five of the 30 EIRs, 17%, were either rejected by the lead agency, could not get permits, or were withdrawn by the project proponent. Perhaps a more effective alternatives analysis could have been useful in some of these cases. Thus, 83% of projects, including those using the alternatives analysis, were approved without serious delay or legal challenge. When discussing project outcomes, many planners said that the applicants designed their project to avoid environmental impacts. Applicants likely fear delay or legal challenges and therefore bring forward projects with many impacts already addressed. CEQA's requirement to involve the appropriate agencies in the EIR process also encourages environmentally responsible projects. One applicant did not work with the Department of Fish and Game during the EIR process. The EIR was approved but the project proponent subsequently could not get a permit from this agency until environmental improvements were made, causing substantial delay (Anderly 2001). The 1998 Guidelines revisions lay out a comprehensive list of the contacts to which the lead agencies need to send draft EIRs (§15086).

Table 4. Major CEQA-related changes to 30 projects in Alameda County, CA

#	Project Name	Non-mitigation Changes
1	Riverwalk GPA & Project	None
2	Pacific Commons	Found endangered species after EIR passed. Had to create wetlands on site and write a supplemental EIR.
3	Quarry Lakes Regional Recreational Area	None
4	311 Oak Street Project	None
5	Oakland Coliseum Arena Expansion Project	None
6	Chabot Observatory and Science Center	None
7	Lake Merritt Apartment Project	None
8	Berths 55-58 Project	None
9	Lake Chabot Municipal Golf Course	Applicant withdrew project before approval of EIR.
10	1640 Broadway Mixed Use Development Project	None
11	Ikea Retail Store	None
12	Chiron Corp. Development Plan	Alternatives were incorporated into the project.
13	South Bayfront Project	Alternatives were incorporated into the project.
14	Dublin Transit Center	None
15	Laguna Palisades Property Housing Implementation Program Project and PUD	None
16	Conditional Use Permit C-5512 Altamont Landfill and Resource Recovery Facility Class III Expansion	Project was in litigation for 3-4 years before passing a much smaller project.
17	Redwood Christian Schools	EIR denied at the Board of Supervisors
18	Little Valley Specific Plan and 2031st Zoning Unit	None
19	Lincoln-Stevenson Development Project	None
20	Sycamore Bay Apartments	None
21	Blue Rock Country Club Project	EIR approved but the Department of Fish and Game wouldn't issue a permit until environmental improvements were made.

22	Hayward Cannery Area Design Plan and related GPA/ Zone Change	None
23	Stony Brook Place Residential Planned Development Project	None
24	Thousand Oaks Elementary School	None
25	Underhill Area Projects	None
26	Alta Bates Medical Center Ashby Campus Master Plan	None
27	Berkeley Civic Center Urban Design Plan and Public Safety Building	None
28	Congregation Beth El Synagogue and School	Major project design changes were required before the EIR could be approved.
29	East Campus Playing Fields Project	City of Berkeley did not approve EIR due to significant neighborhood opposition. Project is still on hold.
30	Tri-Valley 2002 Capacity Increase Project	Alternatives were incorporated into the project.

Objective 4: What percentage of comments to the EIR resulted in a change to the project?

The public review period for a draft EIR is 30 to 60 days [CEQA Guidelines 1999, §15105). The 15 EIRs examined for this question received between 17 and 853 comments requesting some change to the EIR, depending on project size and how controversial the project was. This does not include comments that were simply 'for' or 'against' the project with no specific criticism. With an average of 249 comments per EIR, an average of 89 of these were questions or requests for text changes, 55 were requests to add or change mitigations, and 105 were duplicate comments. Table 5 shows the number of unique changes requested and the number of actual changes. It does not include duplicate requests. The average EIR contained four mitigation changes to the

project in response to comments. Four of the projects did not include any changes in response to public comments. In the 1975 study, only 50% of the EIRs received public comment.

Table 5. Number of project changes resulting from public comments in Final EIRs

Project	# of changes requested	# of changes	% success
Ikea	21	3	14
1640 Broadway	7	2	28
Oakland Coliseum	5	0	0
Berkeley Civic Center	99	8	8
Hayward Cannery	14	3	21
Blue Rock	17	8	47
Stony Brook Place	7	0	0
Pacific Commons	18	2	11
Quarry Lakes	13	1	8
Riverwalk	3	3	100
Tri-Valley 2002	211	4	2
Berths 55-58	66	0	0
Chabot Observatory	18	0	0
Congregation Beth El	197	1	<1
Altamont Landfill	123	23	19
TOTALS	820	58	N/A
AVERAGE	55	4	7%

These findings show that the public and public agencies are more active now in commenting on EIRs than in 1975. This is progress for CEQA though only 7% of the comments resulted in change. In reviewing the comments, it was apparent that many people were well informed on the projects. There are two likely reasons why only 7% of the comments resulted in change.

1. Many responses were based on the NIMBY principle. Although many people or groups requested reasonable changes, it is impossible for the decision-makers to please all interested parties.
2. The impacts in EIRs are systematically identified and analyzed prior to public viewing of the document. This indicates that CEQA is doing its job and is likely the main reason more change did not result from comments. It is important to note that public involvement is a primary motivator in this careful identification of impacts and subsequent mitigating in EIRs.

The public can influence the CEQA process in ways other than commenting during the review period. In the Underhill Projects EIR in Berkeley, planners received considerable public interest and a statement from the city following issuance of a Notice of Preparation (NOP). In response, the project was extensively analyzed, expanded, and its development program was reprioritized (Lawrence 2001). This was all prior to EIR preparation.

Objective 5: How often were overriding considerations cited and what significant impacts remained?

After mitigations were included, findings of overriding consideration were filed for 21 of the 30 EIRs evaluated, a full 70% (Table 6). Overall, 13% of the identified significant impacts remained significant; overriding considerations were granted to allow a range of between one and 24 significant impacts or an average of four significant impacts per project.

Table 6. Number of unmitigated significant impacts in 30 EIRs filed in Alameda County, CA

Project Name	# of unmitigated significant impacts
Riverwalk GPA & Project	1
Pacific Commons	12
Quarry Lakes Regional Recreational Area	0
311 Oak Street Project	0
Oakland Coliseum Arena Expansion Project	6
Chabot Observatory and Science Center	0
Lake Merritt Apartment Project	2
Berths 55-58 Project	3
Lake Chabot Municipal Golf Course	3
1640 Broadway Mixed Use Development Project	1
Ikea Retail Store	5
Chiron Corp. Development Plan	24
South Bayfront Project	6
Dublin Transit Center	4
Laguna Palisades Property Housing Implementation Program Project	0
Conditional Use Permit C-5512 Altamont Landfill Recovery Facility	6
Redwood Christian Schools	6
Little Valley Specific Plan and 2031st Zoning Unit	0
Lincoln-Stevenson Development Project	1
Sycamore Bay Apartments	0
Blue Rock Country Club Project	12
Hayward Cannery Area Design Plan and related GPA/ Zone Change	0
Stony Brook Place Residential Planned Development Project	2
Thousand Oaks Elementary School	1
Underhill Area Projects	5
Alta Bates Medical Center Ashby Campus Master Plan	5
Berkeley Civic Center Urban Design Plan and Public Safety Building	2
Congregation Beth El Synagogue and School	0
East Campus Playing Fields Project	0
Tri-Valley 2002 Capacity Increase Project	2
TOTAL	109
AVERAGE # OF SIGNIFICANT IMPACTS PER PROJECT	4

Seventy-five percent of the unavoidable significant impacts fell into the following six categories:

Table 7. Breakdown of 75% of unavoidable significant impacts by impact category in 30 Alameda County, CA EIRs

Impact category	% of unavoidable significant impacts
Traffic congestion	32%
Air pollution	17%
Historical site	8%
Construction noise	7%
Parking*	7%
Construction dust	4%

*Parking was not among the impacts identified in the 1975 study.

The Assembly Committee (1975) concluded in their study: "local agencies find it difficult to deal with adverse impacts which are complex in nature, incremental in their effect and regional in their scope." Traffic congestion and air pollution, which comprise nearly half of the unavoidable significant impacts, fit this description well. They are also closely linked. According to the BAAQMD (2001), "Vehicle emissions are the major cause of air pollution in the Bay Area. Motor vehicles are responsible for roughly 75% of the smog (ozone pollution) in the Bay Area." Traffic and air quality impacts are typically cumulative, resulting from numerous projects implemented over time. Although decision-makers attempt to mitigate these impacts in the EIRs, reducing cumulative air and traffic impacts to a less-than-significant level is usually not feasible for any one lead agency or project applicant.

The 1998 CEQA amendment to Guideline §15064.5(a) clarified that an adverse impact on a historical resource is a significant effect. Nearly half (9 out of 21) of the

historical impacts identified in this study remained significant after mitigation. If a project demolishes or materially alters in an adverse manner an historical resource, this is a significant impact. The historical impacts that remained significant usually involved demolition of the historic feature, and the project proponents could not or would not change the project to avoid the impact.

"Construction dust" and "construction noise" together make up 11% of the impacts that remain significant. With an average of four and three mitigations per impact respectively, these short-term impacts are two of the most heavily mitigated impacts. "Parking," which constitutes 7% of the remaining significant impacts, is also often a short-term impact as the majority of these issues were a loss of parking during construction. Decision-makers are more willing to pass short-term impacts because some temporary inconveniences are often necessary to develop projects or keep project costs down.

Although the above issues remained significant in the EIRs studied, CEQA was still useful on several important accounts: 1) many impacts are assessed and addressed, 2) the public is made aware of the issues, and 3) the lead agencies required significant amount of mitigation. The Planning and Conservation League (1993) has said that "...agencies too easily adopt statements of overriding considerations, allowing projects with significant adverse effects to go forward nevertheless." The results presented here support this statement, to an extent. Although 70% of the EIRs studied were filled with statements of overriding considerations, the above discussion shows this is not necessarily due to the lack of good faith efforts on the parts of the lead agencies. While

13% of impacts remained significant, almost half of these are traffic and air impacts that single lead agencies cannot mitigate. While agencies such as the Alameda County Congestion Management Agency (CMA) work to improve mobility and air quality in the County, the main way to decrease the number of significant impacts is to decrease the amount of new development until a regional transportation plan that addresses traffic and air impacts is developed.

Objective 6: How effective is CEQA in meeting Purposes 2 and 3 of the CEQA Guidelines?

Purpose 2. In the 30 EIRs analyzed, the number of significant or potentially significant impacts was reduced from an average of 29 impacts per EIR before mitigation to less than four after mitigation. The fact that the EIRs in the 1975 study averaged six impacts per EIR before mitigation demonstrates that more impacts are now being identified. These numbers indicate that CEQA is effective at meeting purpose 2.

Purpose 3. The Alameda County EIRs required applicants to implement approximately 57 mitigations per project, reducing 87% of impacts to less than significant. Thus, CEQA is an important part in the prevention of significant, avoidable damage to the environment.

RECOMMENDATIONS

Although this study shows CEQA practice has improved since the 1970's and CEQA is having positive effects, there is still room to improve. This study shows that the impacts with the highest occurrence in this region are traffic congestion, construction dust, seismic hazard, construction noise, aesthetic impacts, air pollution form project, erosion, runoff, damage to ecosystems, and endangered species. Lead agencies should be aware of the importance of these issues as well as the full range of impacts projects in the Bay Area have. This thesis provides a thorough list of 51 impact categories.

This study supports the idea that standard mitigation practices are implemented to reduce impacts. Jurisdictions should develop basic mitigation practices and BMPs to help streamline CEQA. The lead agencies in the County could work together with experts in the field to develop these mitigations. These standards would make CEQA an easier Act with which to comply and would ensure that the best practices are being used to deal with project impacts.

Although this study did not directly address the issue of thresholds of significance, such thresholds developed by each lead agency would also help project proponents comply with CEQA. Once again, coordination between the agencies is the key to ensuring that there is consistency in significance determinations from lead agency to lead agency and from document to document. Standard thresholds for this region will help avoid inconsistencies that may have resulted in agencies not preparing EIRs and will help proponents avoid significant impacts when planning their projects.

Lead agencies should continue to address social impacts as recommended by CEQA. Many so-called "social" impacts, such as traffic, are essential to the quality of our lives and have direct impacts on natural resources. Projects are developed for society and maintaining their well-being as well as the environment's well-being is important.

Including the alternatives analysis in EIRs is one of the major complaints of CEQA identified in the literature. ABAG (1993) suggested that alternative locations should not be analyzed for projects consistent with the general plan and zoning. The results of this study show that those projects that did incorporate the alternatives into their project required zoning changes and involved development of at least 10 acres. Researchers should perform additional studies of projects and their use of alternatives to determine when the analyses are useful and/or used and then limit them to those projects.

Lastly, CEQA should not be looked at as having a "weakness" because findings of overriding considerations are filed for projects. Lead agencies in this study made good faith efforts to mitigate these impacts. Remaining significant impacts should be looked at when deciding whether or not to pass an EIR, but they should not be viewed as an ineffectiveness of CEQA. Researchers could do further studies to determine if EIRs contain impacts that are not being identified as significant or if lead agencies are preparing Negative Declarations (or Mitigated Negative Declarations) when they should be preparing EIRs. This would be a better test of CEQA weakness.

The significant impacts that remained in the EIRs studied here showed that some important impacts must be addressed on a regional or statewide level. These impacts are cumulative in nature. Project by project analysis, as occurs with CEQA, is not effective

at dealing with regional problems, such as traffic and air quality. This CEQA analysis highlights the need for larger scale planning to effectively reduce cumulative impacts.

SUMMARY

In his 1996 study of CEQA, Olshansky recommended an in depth examination of local EIRs to answer the question: "Does it (CEQA) really change projects substantially?" Although it is difficult to quantify 'substantially', CEQA absolutely changes projects. It also has changed the way builders and planners approach projects. Knowing that preparers of the EIR, various agencies, and the public will scrutinize their project closely, proponents are becoming more likely to design projects that address environmental impacts. Even so, CEQA preparers are still identifying, and requiring mitigation for, an average of 29 significant or potentially significant impacts per project. These mitigations range from very simple (i.e., registering with historic landmark) to much more complex (i.e., creating new wetlands), but nearly all mitigations involve some investment of time and/or money.

To summarize the quantifiable CEQA-related changes to development in Alameda County:

- An average of 29 impacts were identified in each EIR.
- EIRs required an average of 56 mitigations, averaging approximately two mitigations per impact. Less than two percent of the impacts had no identified mitigations.
- Eighty-seven percent of impacts were reduced to a non-significant level, 13% remained significant and required findings of overriding considerations to pass the EIR
- Some aspect of the alternatives analysis was utilized in 10% of the EIRs.

- Public comments led to an average of four additional mitigations per EIR.
- Compared to the 1975 Assembly Committee study of California EIRs:
  - EIRs today identify an average of 29 impacts compared to 6 impacts in 1975.
  - Traffic remains the number one impact.
  - 48% of impacts were mitigated in 1975 compared to 98% today.
  - 50% of EIRs received public comment in 1975 compared to 100% today.

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APPENDIX A

Impact/mitigation topic areas from a report by the Assembly Committee for Local Government (1975)

1. Noise from project
2. Growth inducement
3. Open space
4. Change in character of area or neighborhood
5. Displace or provide housing (other facilities included)
6. Erosion
7. Noise impact on users of project
8. Loss of agricultural land
9. Construction noise
10. Construction dust
11. Traffic and pedestrian safety
12. School adequacy (crowding)
13. Construction nuisance (not specific)
14. Public revenues and expenses
15. Seismic hazard
16. Groundwater supply
17. Adequacy of public services (not specific)
18. Archaeological site
19. Economic loss or gain to adjacent property owners
20. Conflict or support of general plan
21. Adequacy of water supply
22. Fire hazard from project
23. Flood hazard to project
24. Loss of recreational opportunity
25. Energy consumption
26. Landscaping or design adequacy
27. Siltation
28. Dust from project operation
29. Sewer adequacy
30. Lighting nuisance
31. Incompatible land-use (poor density, etc.)
32. Pricing of residential units
33. Historical site
34. Endangered species
35. Fire hazard to users of project
36. Damage to ecosystems
37. Odor
38. Bike path
39. Personal safety to users of project
40. Induce poor future development patterns
41. Soil suitability
42. Air quality impact on users of project
43. Adequacy of public transportation
44. Economic feasibility of project
45. Lake/pond nuisance
46. Vector control
47. Power adequacy
48. Road maintenance
49. Vibration from construction
50. Grading (general)
51. Incomplete project plan
52. Subsidence
53. Traffic congestion
54. Aesthetic degradation
55. Air pollution from project
56. Runoff
57. Water contamination
58. Degrade native habitat
59. Not otherwise coded

APPENDIX B. 30 projects included in this study

Lead Agency	State Clearing-house #	Project Name	Description (Zoning)
Fremont	98031004	Riverwalk GPA & Project	Construction of 138 homes on 34 acres (residential and open space)
Fremont	8721715 or 96052016	Pacific Commons	Development of 877 acres (Commercial/Industrial)
East Bay Regional Park District	No number assigned	Quarry Lakes Regional Recreational Area	Development of 450 acres (Recreation/Open Space)
Oakland	No number assigned	311 Oak Street Project	Demolition and construction of 6-story mixed-use building (mixed-use)
Oakland	91053054	Oakland Coliseum Arena Expansion Project	Expand/modernize interior of coliseum
Oakland	94063056	Chabot Observatory and Science Center	Construction of complex on 13 acres
Oakland	No number assigned	Lake Merritt Apartment Project	Development of 1 acre (residential high-density)
Port of Oakland	97102076	Berths 55-58 Project	Construction of 2 marine terminals (commercial)
Oakland	99112106	Lake Chabot Municipal Golf Course	Development of golf course and accessory structures on 251 acres (open space/ special use)
Oakland	No number assigned	1640 Broadway Mixed Use Development Project	Construction of mixed-use structure on a 22,210 sq.ft. site (mixed-use)
Emeryville	No number assigned	Ikea Retail Store	Development of 16 acres (commercial)
Emeryville	94063005	Chiron Corp. Development Plan	Development of additional 10 acres to existing 15-acre site (R&D, mfg.)
Emeryville	No number assigned	South Bayfront Project	Development of 20.5 acres (mixed-use)
Dublin	2000112039 5	Dublin Transit Center	Development of 2 million sq. ft. (mixed-use)
Livermore	No number assigned	Laguna Palisades Property Housing Implementation Program Project and PUD	Development of 52-acres (residential and open-space)
County	92083047	Conditional Use Permit C-5512 Altamont Landfill and Resource Recovery Facility Class III Expansion	1,020-acre expansion of Class II Landfill (agricultural)
Alameda County Community Develop-ment Agency	No number assigned	Redwood Christian Schools	Construction of school on 44.6 acres (Single-family residence, limited agriculture)

County	96042043	Little Valley Specific Plan and 2031st Zoning Unit	Rezoning to allow creation of 44 lots for single family houses or agricultural uses (Agricultural & Planned Development)
Newark	97-122106	Lincoln-Stevenson Development Project	Construction of R&D and mfg. facility on 100 acres (High technology park)
Newark	97022033	Sycamore Bay Apartments	Development of 311-unit multi-family apartment complex on 12.6 acres (High-density residential)
Hayward	97072028	Blue Rock Country Club Project	Development of 1635 acres (residential/ recreational)
Hayward	2001032099	Hayward Cannery Area Design Plan and related GPA/ Zone Change	Conversion of 155 acres into residential, commercial, open space, and public facilities (from light industrial)
Hayward	94113054	Stony Brook Place Residential Planned Development Project	Development of 108 acres (residential-low density)
Berkeley Unified School District	No number assigned	Thousand Oaks Elementary School	Demolition and reconstruction of school or rehabilitation of existing school (single-family residential)
Board of Regents for University of California	99042051	Underhill Area Projects	Development of student housing, parking, and student services (multi-family residential)
Berkeley	1998082066	Alta Bates Medical Center Ashby Campus Master Plan	Renovation/expansion of medical center (commercial/ multi-family residential)
Berkeley	96042053	Berkeley Civic Center Urban Design Plan and Public Safety Building	Renovation to Civic Center and construction of new building (commercial)
Berkeley	2000022042	Congregation Beth El Synagogue and School	Construction of 34,891 sq. ft synagogue and parking lot (single-family residential)
Berkeley Parks and Waterfront Dept.	99042013	East Campus Playing Fields Project	Development of a playing field (restricted multi-family residential)
California Public Utilities Commission	2000042087	Tri-Valley 2002 Capacity Increase Project	Installation of power lines and stations (mixed-use)

APPENDIX C

Characteristics of issues with frequency of occurrence of 10% or more (Assembly Committee on Local Government)

Code	Issue	Rank	Frequency Of Occurrence	% Favorable	%Mitigation Proposed When Not Favorable	% Regional	% Other Agency	% Severe	% Public Input	% Applicant Mitigation	% Special Condition	When Mit. Proposed % When No Applic. Mit. Or Spec. Cond
1	Traffic congestion	1	64%	5%	42%	24%	21%	14%	67%	19%	12%	63%
3	Air pollution from project	2	46	4	79	88	4	2	89	4	3	19
2	Aesthetic impacts	3	44	11	44	65	1	23	71	19	25	4
9	Degrade native habitat	4	37	0	60	88	4	12	69	14	6	64
5	Runoff	5	32	2	34	32	36	20	75	22	14	63
7	Water pollution	6	30	4	35	61	21	23	82	20	15	54
6	Noise from project	7	26	4	57	10	4	10	76	36	21	6
4	Growth inducement	8	22	8	78	93	0	28	80	8	0	75
11	Loss of open space	9	16	3	79	93	0	13	67	10	3	33
17	Change in character of land, area, or neighborhood	10	15	4	65	79	4	44	59	12	8	67

APPENDIX C (Con't)

50	Impact on housing availability	11	14	65	89	92	0	8	96	0	0	100
19	Erosion	12	14	4	21	36	8	12	76	13	17	6
10	Noise impact on users of project	13	14	0	32	8	4	20	88	24	4	71
35	Loss of agricultural land	14	12	4	90	84	0	12	75	5	0	100
21	Construction noise	15	11	0	24	0	5	5	100	5	19	69
22	Construction dust	16	11	0	30	0	10	5	95	10	20	57
20	Traffic and pedestrian safety	17	11	10	28	35	30	5	65	33	6	62
14	School adequacy	18	11	0	50	60	30	25	45	5	5	90
44	Construction nuisance	19	11	0	60	5	0	100	95	0	5	88
55	Public revenues and expenses	20	10	56	88	89	0	6	94	0	0	100
41	Seismic hazard	21	10	0	39	33	17	17	94	6	11	91

APPENDIX D
Social and economic impact categories (Culhane et al. 1987)

Social impacts

General
- Land use
- Population
- Community cohesion
- Flood plain risk
- Demographics
- Discrimination

Public services
- Sewage, wastewater load
- Solid waste load
- Municipal water supply
- Police and fire
- Education
- Public transit
- Health care
- Stormwater load
- Social services
- Public services, misc., other

Irritants
- Noise
- Safety, nonoccupational
- Safety, occupational
- Odor
- Vibration
- Crime
- Litter

Amenities
- Aesthetic, scenic effects
- Hunting, fishing use
- Recreational facilities/ units
- Impacts on resources from recreation use
- Boating, canoeing, etc.
- Open space preservation
- Wilderness, preservation experience/ use
- Camping use
- Recreation use

Transportation
- Traffic congestion
- Traffic volume, vehicular
- Access (i.e. to business or property)
- Traffic safety
- Convenience of travelers
- Air traffic safety
- Pedestrian or bicycle safety, movement
- Parking effects
- Misc. effects on air/water/rail transportation
- Traffic impacts on community, general

Cultural
- Historical sites
- Archeological/ cultural areas
- Scientific research, facilitation of
- Public education, enhancement of

Housing
- Displacement, residential/ commercial
- Housing quality, maintenance
- Housing stock, quantity
- Second-home development, effects

Public land
- Land or regional plan, relationship to
- Park designation, boundaries
- Wildlife refuge designation, boundaries
- Public lands special use permit
- Wilderness, wild river, etc.

Other
- Conversion of land to fixed project structure
- Other land acquisition or leasing of rights
- Collateral project, justification because of
- Collision/ impact property damage
- Public health, coliform
- Communications, impacts on
- Compliance with government regulations

APPENDIX D (Con't)

Economic impacts

Employment

- Employment, direct or indirect effects

Income

- Income, population within area
- Income, specific groups

Sectors

- Agriculture production, value, yields
- Timber, commercial sales/ cut
- Retail sales, revenues
- Recreation, tourism business development
- Electricity, consumption/ demand
- Realty sales, revenues
- Electricity, output
- Oil, natural gas production
- Energy consumption/ demand
- Mining, production
- Range use, productivity
- Manufacturing (other) sales, revenues
- Cargo shipping, waterborne
- Passenger traffic, air/rail/ship
- Development, commercial
- Development, industrial
- Economic development, regional or local, unspecified

Public finance

- Property tax, assessments/ receipts
- Project costs
- Payments in lieu of taxes
- Sales, income, or other taxes
- Benefit/cost ration, analysis
- Project revenues (to government)

Other

- Property value change, adjacent land
- Access, transportation cost change
- Flood damage change
- Accessibility to businesses
- Consumer energy costs
- Industrial water supply
- Irrigation water provision
- Engineering R&D advances
- Producer market diversity
- Private cost change, other
- Other unusual economic impact