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8 SUPERIOR COURT FOR THE STATE OF CALIFORNIA
9 COUNTY OF LOS ANGELES

11 THE CITIES OF ARCADIA, BALDWIN
PARK, BELL GARDENS, BELLFLOWER,
12 CERRITOS, CLAREMONT, COMMERCE,
COVINA, DIAMOND BAR, DOWNEY,
13 GARDENA, HAWAIIAN GARDENS,
IRWINDALE, LAWDALE,
14 MONTEBELLO, MONTEREY PARK,
PARAMOUNT, PICO RIVERA, POMONA,
15 ROSEMEAD, SAN GABRIEL, SANTA FE
SPRINGS, SIERRA MADRE, SIGNAL HILL,
16 SOUTH GATE, SOUTH PASADENA,
TEMPLE CITY, VERNON, WALNUT, WEST
17 COVINA, WHITTIER and THE BUILDING
INDUSTRY LEGAL DEFENSE
18 FOUNDATION, a non-profit mutual benefit
corporation, and the CONSTRUCTION
19 INDUSTRY COALITION ON WATER
QUALITY, a non-profit corporation,

20 Petitioners/Plaintiffs,

21 vs.

22 THE CALIFORNIA REGIONAL WATER
23 QUALITY CONTROL BOARD, LOS
ANGELES REGION, and DOES 1 through 50,
24 inclusive,

25 Respondents/Defendants.

Case No. BS080548

[Exempt from Filing Fees – Government
Code § 6103]

**PETITION FOR WRIT OF
MANDATE AND COMPLAINT FOR
DECLARATORY AND INJUNCTIVE
RELIEF**

[Code of Civil Procedure §§ 1085,
1094.5, 526 and 527; Water Code
§§ 13330 and 13361; Public Resources
Code § 21167; Government Code
§§ 11350 and 11350.3; Civil Code
§ 3422; Request for Hearing]

1 STATE WATER RESOURCES CONTROL
2 BOARD, COUNTY OF LOS ANGELES, LOS
3 ANGELES COUNTY FLOOD CONTROL
4 DISTRICT, THE CITIES OF AGOURA
5 HILLS, ALHAMBRA, ARTESIA, AZUSA,
6 BELL, BEVERLY HILLS, BRADBURY,
7 BURBANK, CALABASAS, CARSON,
8 COMPTON, CUDAHY, CULVER CITY,
9 DUARTE, EL MONTE, EL SEGUNDO,
10 GLENDALE, GLENDORA, HAWTHORNE,
11 HERMOSA BEACH, HIDDEN HILLS,
12 HUNTINGTON PARK, INDUSTRY,
13 INGLEWOOD, LA CANADA FLINTRIDGE,
14 LA HABRA HEIGHTS, LA MIRADA, LA
15 PUENTE, LA VERNE, LAKEWOOD,
16 LOMITA, LOS ANGELES, LYNWOOD,
17 MALIBU, MANHATTAN BEACH,
18 MAYWOOD, MONROVIA, NORWALK,
19 PALOS VERDES ESTATES, PASADENA,
20 RANCHO PALOS VERDES, REDONDO
21 BEACH, ROLLING HILLS, ROLLING
22 HILLS ESTATES, SAN DIMAS, SAN
23 FERNANDO, SAN MARINO, SANTA
24 CLARITA, SANTA MONICA, SOUTH EL
25 MONTE, TORRANCE, WEST
26 HOLLYWOOD, and WESTLAKE VILLAGE,
27 and DOES 51-100, inclusive,

Real Parties In Interest.

17 Petitioners and Plaintiffs, the Cities of Arcadia, Baldwin Park, Bell Gardens,
18 Bellflower, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Gardena,
19 Hawaiian Gardens, Irwindale, Lawndale, Montebello, Monterey Park, Paramount, Pico
20 Rivera, Pomona, Rosemead, San Gabriel, Santa Fe Springs, Sierra Madre, Signal Hill,
21 South Gate, South Pasadena, Temple City, Vernon, Walnut, West Covina, Whittier and the
22 Building Industry Legal Defense Foundation, a non-profit mutual benefit corporation, and
23 the Construction Industry Coalition on Water Quality, a non-profit corporation (hereinafter
24 collectively "Petitioners") hereby petition this Court and allege as follows:

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I.

GENERAL ALLEGATIONS

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3 1. City Petitioners herein, are and at all relevant times herein, were cities
4 organized under and existing under laws of the State of California and located in the
5 County of Los Angeles, California.

6 2. City Petitioners, and each of them, are Permittees under that Permit/Order
7 issued by Respondent, the California Regional Water Quality Control Board, Los Angeles
8 Region, on December 13, 2001, Waste Discharge Requirements for Municipal Storm
9 Water and Urban Runoff Discharges within the County of Los Angeles, and the
10 incorporated cities therein, except the City of Long Beach, Order No. 01-182, NPDES No.
11 CAS004001 (hereinafter "Permit" or "Order").

12 3. Petitioner BILD is a California non-profit corporation dedicated to
13 representing the interests of members of the Southern California construction and building
14 industry. BILD is a wholly owned subsidiary of the Building Industry Association of
15 Southern California ("BIA/SC") whose purposes are to monitor legal developments and
16 participate in litigation impacting the residential construction industry in Southern
17 California. BIA/SC's 1,800 members include a significant number of residential
18 developers and associate businesses that construct approximately 70% of all the residential
19 housing units built annually in the Southern California Region. BILD and BIA/SC
20 members reside and conduct commercial land development activities within the
21 jurisdiction of the California Regional Water Quality Control Board, Los Angeles Region,
22 and within the City Petitioners' jurisdictions. BIA/SC and BILD members are currently
23 engaged in, and in the future will engage in, development projects that must comply with
24 and implement various portions of the Order. BILD is authorized to bring legal action,
25 including this Petition, on behalf of BILD members.

26 4. Petitioner CICWQ is a non-profit corporation made up of four entities,
27 including BIA/SC, along with the Associated General Contractors of California, the
28 Engineering Contractors Association, and the Southern California Contractors Association,

1 all of which are associations organized under and existing under the laws of the State of
2 California. Petitioner CICWQ has a membership of over 3,300 members and companies
3 and is comprised of construction contractors, labor unions, landowners, developers and
4 home builders throughout the Los Angeles region and the State of California. All
5 segments of CICWQ are impacted by the permit, including construction employees who
6 rely upon jobs within the region, landowners within the region and potential builders
7 which require land resources to satisfy the State's ever-growing demand for housing.
8 Petitioner CICWQ is aggrieved by the actions of Respondents herein as set forth in this
9 Petition as the livelihood of Petitioner's members will be impacted by the regulatory and
10 jurisdictional scope of the Permit and as the Permit imposes regulatory mandates beyond
11 the scope and intent of State and federal law and as such are illegal and inappropriate
12 regulatory actions.

13 5. Respondent, the California Regional Water Quality Control, Los Angeles
14 Region (hereinafter "Respondent" or "Regional Board"), is the entity that issued the
15 disputed Order on December 13, 2001.

16 6. Petitioners are interested and aggrieved parties as said Petitioners have been
17 adversely impacted by the actions taken by Respondents in connection with the issuance of
18 the subject Order. Petitioners herein, as aggrieved parties, with this Petition are
19 challenging the actions taken by the Respondent on December 13, 2001 through the
20 adoption of the Subject Permit, and the actions leading to the adoption of the Order,
21 including the manner in which Respondent approved the Permit and the lack of adequate
22 notice of changes, deletions and additions to the Permit, and the lack of a fair and
23 meaningful opportunity to be heard on such modifications, i.e. the lack of due process, and
24 including challenging the approval of the Order itself, along with the lack of findings to
25 support the terms of the Order, and the lack of evidence to support the findings, as such
26 actions and approval were improper, inappropriate, arbitrary and capricious, and contrary
27 to State and federal law.

28 7. Respondent the Regional Board Water Quality Control Board, Los Angeles

1 Region (hereafter "Respondent" or "Regional Board"), is and at all relevant times herein,
2 was a regional agency created pursuant to the provisions of California Water Code Section
3 13200 *et seq.*, and is one of nine Regional Water Quality Control Board, which, pursuant
4 to the California Water Code, is to operate under the purview of the State Water Resources
5 Control Board.

6 8. Petitioners do not know the true names or capacities of Respondents/
7 Defendants named herein as DOES 1 through 50, inclusive, and for that reason have sued
8 such Respondents/ Defendants by these fictitious names pursuant to Code of Civil
9 Procedure section 474. Petitioners will amend this Petition to show their true names and
10 capacities when the same have been ascertained.

11 9. Petitioners are informed and believe and, based thereon, allege that
12 Respondents, and each of them, are responsible, in whole or in part, for the acts or
13 omissions alleged herein, and that at all times herein mentioned, Respondents, and each of
14 them, were acting as agents, servants, and employees of each other and were acting within
15 the full course and scope of their agency and employment with the full knowledge and
16 consent, either express or implied, of each of the other Respondents. As such,
17 Respondents, and each of them, were and are jointly and severally responsible, with each
18 of the other Respondents herein, for those actions, inactions, or omissions alleged herein.

19 10. On information and belief, Petitioners herein allege that Real Parties in
20 Interest County of Los Angeles, Los Angeles County Flood Control District, the Cities of
21 Agoura Hills, Alhambra, Artesia, Azusa, Bell, Beverly Hills, Bradbury, Burbank,
22 Calabasas, Carson, Compton, Cudahy, Culver City, Duarte, El Monte, El Segundo,
23 Glendale, Glendora, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry,
24 Inglewood, La Canada Flintridge, La Habra Heights, La Mirada, La Puente, La Verne,
25 Lakewood, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach,
26 Maywood, Monrovia, Norwalk, Palos Verdes Estates, Pasadena, Rancho Palos Verdes,
27 Redondo Beach, Rolling Hills, Rolling Hills Estates, San Dimas, San Fernando, San
28 Marino, Santa Clarita, Santa Monica, South El Monte, Torrance, West Hollywood, and

1 Westlake Village, and DOE Real Parties In Interest 51-75, inclusive, are public bodies
2 located in the County of Los Angeles, and organized under the laws of the State of
3 California, and are all Co-Permittees under the subject Order.

4 11. Real Party in Interest, the State Water Resources Control Board ("State
5 Board") is a state agency created pursuant to California Water Code Sections 174 *et seq.*
6 and 13200 *et seq.*, and is charged with formulating and adopting state policy for water
7 quality control within the State of California.

8 12. On information and belief, Petitioners allege that DOE Real Parties In
9 Interest are persons or entities, other than those identified above as Petitioners,
10 Respondents or Real Parties in Interest, who have a legally recognizable beneficial interest
11 in the Permit. Petitioners are unable to ascertain the true names, identities or capacities of
12 those sued herein as DOE Real Parties In Interest 51-100, inclusive. Petitioners therefore
13 sue such parties by such fictitious names. Petitioners will seek leave to amend this Petition
14 to set forth the true names and capacities of these DOE Real Parties In Interest after they
15 have been ascertained.

16 13. In accordance with California law, in formulating and revising state policy
17 for water quality control, the State Board is to consult with and carefully evaluate the
18 recommendations of concerned federal, state *and local agencies* on water policy issues.
19 (Cal. Water Code § 13144.) The State Board is designated as the state water pollution
20 control agency for all purposes stated under the Federal Water Pollution Control Act
21 ("Clean Water Act" - 33 U.S.C. § 1251 *et seq.*) and is the authorized agency to exercise
22 powers delegated to it under the Clean Water Act and amendments thereto. (Cal. Water
23 Code § 13160.) The State Board is further empowered, pursuant to State and federal law,
24 to adopt water quality control plans as required by the Clean Water Act, and such plans,
25 when adopted, supersede any regional water quality control plans that are in conflict with
26 the State Plan. (Cal. Water Code § 13170.)

27 14. City Petitioners own and operate municipal separate storm sewer systems
28 ("MS4s") and are permittees under the disputed Permit, which is identified as being a

1 National Pollutant Discharge Elimination System ("NPDES") permit, and which was
2 issued by Respondent Regional Board on December 13, 2001, and referenced as the Waste
3 Discharge Requirements for Municipal Storm Water and Urban Run-off Discharges within
4 the County of Los Angeles and the incorporated cities therein, except the City of Long
5 Beach.

6 15. With this Petition, Petitioners herein, as aggrieved parties, are challenging
7 the actions taken by Respondents, and the failures of Respondents to act lawfully in
8 establishing and adopting the subject Order, in accordance with State and federal law, as
9 described below. The actions taken by Respondents, and their failures to act, were
10 improper, inappropriate, arbitrary and capricious, and in violation of State and federal law.

11 16. This action is brought pursuant to Code of Civil Procedure sections 1094.5
12 and 1085 and Water Code section 13330, for declaratory relief under Code of Civil
13 Procedure section 1060 and Government Code sections 11350 and 11350.3, and/or
14 injunctive relief under the Code of Civil Procedure sections 526 and 527 and Civil Code
15 section 3422. Petitioners and/or others presented the objections and grounds upon which
16 this petition is based to Respondents, both in writing and orally, prior to the close of the
17 various hearings on the approval and establishment of the subject Order. Various
18 Petitioners have exhausted all administrative remedies, except for where exhaustion would
19 be futile, and have performed all conditions precedent to the filing of this Petition by
20 raising each and every issue known to them before the subject Respondents. Further,
21 various Petitioners herein have raised the same or similar arguments that are being raised
22 in this Petition, to the State Water Resources Control Board, also challenging the actions of
23 Respondents herein in issuing the subject Order to the State Water Resources Control
24 Board, through a prior petition filed with the State Board pursuant to California Water
25 Code section 13320 (hereinafter "Administrative Petition"). The State Board through a
26 letter dated December 18, 2002, failed to act on the Administrative Petition, and rejected
27 the Administrative Petition, taking no action on any of the issues raised therein.
28 Accordingly, this action is appropriately brought pursuant to California Water Code

1 section 13330.

2 17. Venue is proper for this action in the Superior Court of California in and for
3 the County of Los Angeles, as Petitioners and each of them are located in Los Angeles
4 County, and as the situs of the focus of the regulatory actions of Respondents, as well as
5 the situs of the discharges in issue, is Los Angeles County. Thus, the injury that will result
6 to the environment and to Petitioners will occur in Los Angeles County. Accordingly,
7 pursuant to Government Code section 955.3 which provides in relevant part that
8 “[n]otwithstanding any provision of law, when a city, county, or city and county, or local
9 agency is a plaintiff in an action or proceeding against the State of California, the action
10 may be tried in any city or county, or city and county, where the city, county, or city and
11 county, or local agency is situated,” venue is appropriate in the County of Los Angeles.

12 18. This Petition has been brought within the appropriate time period to
13 challenge Respondents’ actions and inactions in the subject Order, as required by Public
14 Resources Code sections 21080.5(g) and 21167(a) and Title 14, section 15112 of the
15 California Code of Regulations, and pursuant to Water Code section 13330.

16 19. On January 17, 2003, before the commencement of this action, Petitioners
17 served written notice of the commencement of this action on Respondents in accordance
18 with requirements of Public Resources Code section 21167.5. A true and correct copy of
19 the notice of commencement of action under CEQA is attached hereto and marked as
20 Exhibit “A” and incorporated herein by this reference.

21 20. Petitioners have also furnished the California Attorney General’s Office with
22 a copy of this Petition, pursuant to Public Resources Code section 21167.7 and Code of
23 Civil Procedure section 388, as shown by the proof of service by mail attached hereto and
24 marked as Exhibit “B.”

25 21. Unless the requested writs herein are issued and the other relief requested
26 herein is granted, Respondents will proceed with the enforcement of the subject Order, in
27 violation of and in excess of Respondents’ authority under the Federal Clean Water Act
28 (the “Act” or the “CWA”), the California Porter-Cologne Act, the California

1 Environmental Quality Act, the California Administrative Procedures Act, California
2 Government Code section 17561, and other State law and the United States and California
3 Constitutions.

4 II.

5 STANDARD OF REVIEW

6 22. Pursuant to California Code of Civil Procedure sections 1085 and 1094.5(c),
7 Water Code section 13330(d), and Public Resources Code section 21187.5, this Court has
8 jurisdiction to exercise its independent judgment of the evidence to determine whether
9 Respondents have abused their discretion or otherwise acted contrary to law.

10 23. Pursuant to Government Code sections 11350 and 11350.3, this Court has
11 jurisdiction to determine whether there is substantial evidence that Respondents have acted
12 in compliance with the process set forth in California's Administrative Procedures Act for
13 adopting administrative regulations.

14 24. California Code of Civil Procedure section 1094.5 authorizes this Court to
15 issue a stay of the operation of an administrative order or decision pending judgment of the
16 Court, if the Court determines that the stay is in the interest of the public, as it is in this
17 case. Further, California Code of Civil Procedure sections 526 and 527 and California
18 Water Code section 13361, authorize this Court to issue a temporary restraining order,
19 preliminary injunction and/or a permanent injunction under the present circumstances.

20 III.

21 RESPONDENTS ACTED CONTRARY TO THE REQUIREMENTS OF THE
22 CLEAN WATER ACT AND STATE LAW

23 25. The Federal Water Pollution Control Act was adopted in 1948, amended in
24 1972, and again amended in 1977 as the Clean Water Act of 1977 (hereinafter the "Act,"
25 the "Clean Water Act" or the "CWA"). In 1987, the Act was amended to establish new
26 controls on industrial and municipal storm water discharges. The 1987 amendments, in
27 part, required National Pollutant Discharge Elimination System ("NPDES") Permits for
28 storm water discharges from Municipal Separate Storm Sewer Systems ("MS4s").

1 26. Under the Act, NPDES Permits are to be limited to discharges to “navigable
2 waters.” (See 33 USC §§ 1251(a), and 1362(12), and the regulations thereunder, 40 CFR
3 § 122.2.) Further, the term “navigable waters” refers to waters that “were or had been
4 navigable in fact or which reasonably could be made so.” (40 CFR § 122.2.) As the
5 Subject Permit seeks to regulate discharges to things that are not “waters of the United
6 States” and that are not “navigable waters,” Respondents actions in establishing and
7 adopting the Subject Permit were arbitrary and capricious, and contrary to law.

8 27. The Clean Water Act’s NPDES program further prohibits only “point”
9 source discharges of pollutants into navigable waters, and excludes agricultural storm
10 water discharges and irrigated return flows from NPDES Permits, by excluding these
11 discharges from the definition of “point source.” (See 33 USC §§ 1342(a), 1362(12), and
12 1362(14).) Further, overland street flow, aerial deposition, and all other discharges which
13 do not constitute “point sources” are to be considered non-point source discharges, i.e., are
14 discharges which are not subject to NPDES permits. As the Subject Permit seeks to
15 regulate “non-point sources” through regulations on municipalities, it is arbitrary and
16 capricious and was adopted contrary to law.

17 28. In addition, the Subject Permit regulates discharges into things other than
18 “navigable waters,” through its regulation of discharges into municipal streets, gutters, and
19 curbs, and other similar regulation of discharges into “things” other than “navigable
20 waters.” The Permit’s regulation of such discharges is a regulation of things other than to
21 “waters of the United States” and constitutes action by Respondents which is arbitrary and
22 capricious and contrary to law.

23 29. The Act requires permits for discharges “*from*” municipal storm sewer
24 systems to require controls “to reduce the discharge of pollutants to the *maximum extent*
25 *practicable* to waters of the United States.” (33 U.S.C. § 1342(p)(3)(B).) Dischargers
26 who are issued permits and who operate within the terms of such permits are thus in
27 compliance with the requirements of the Clean Water Act.

28 30. The regulations to the Act require the consideration of quantitative data on

1 the volume and quality of discharges from the MS4s, including a list of water bodies that
2 receive discharges from the MS4 where the pollutants in issue may accumulate and cause
3 water degradation. These federal regulations require the consideration of and a description
4 of known water quality impacts (see 40 C.F.R. 122.26(d)(1)(iv)(B) and (C)), and further
5 require a description of such things as: whether the body is expected to meet water quality
6 standards and goals as a result of the described impacts; whether the water body is listed as
7 a non-point source under the Act; whether such bodies can, without additional action to
8 control non-point sources of pollution, reasonably be expected to maintain water quality
9 standards due to storm sewers, construction, highway maintenance and runoff from
10 municipal landfill and municipal sludge; and whether the water body is recognized as a
11 highly valued or sensitive water or is defined as a "wetland." (See 40 C.F.R.
12 §§ 122.26(d)(1)(iv)(C)(1) - (9).)

13 31. The Clean Water Act thus requires a quantitative and qualitative review of
14 the volume and quality of discharges from MS4s, as well as a study of the receiving waters
15 in which pollutants may accumulate, as a part of the process of issuing the MS4 NPDES
16 Permit. The regulations mandate that a specifically designed program be adopted to
17 address pollutants reported to exist in such receiving waters, with the programs focusing
18 particularly on the sources of the pollutants. (40 C.F.R. §§ 122.26(d)(1) and (2).) Though
19 the NPDES Permit applications submitted by the Permittees have been found to be
20 complete and in compliance with these provisions, the subject Permit issued by the
21 Regional Board on December 13, 2001, is not consistent with the regulations and their
22 requirements that the Permit be specifically designed to address pollutants reported to exist
23 in particular receiving waters. Nor does the Permit contain the necessary information on
24 "Source Identification," "Discharge Characterization," and "Characterization Data" as
25 envisioned by the regulations to the Act, i.e. the Permit was not issued by Respondents
26 based on the "Source Identification," "Discharge Characterization," and "Characterization
27 Data" set forth throughout the application process.

28 32. Respondents herein have failed to develop a permit, with appropriate

1 findings, that identifies the “pollutants of concern” and their sources, and that is geared to
2 addressing such “pollutants of concern.” Respondents’ Order thus does not comply with
3 the requirements of the Act or the regulations under the Act.

4 33. The State of California is authorized to administer certain aspects of the
5 NPDES Program within the State of California. The State Board administers the NPDES
6 Program in California pursuant to the Clean Water Act and pursuant to that Memorandum
7 Of Understanding between the U.S. Environmental Protection Agency (“U.S. EPA”) and
8 the California State Water Resources Control Board, effective September 22, 1989.

9 34. Pursuant to California Water Code Section 13160, the *State Board* is the
10 designated agency to exercise the powers delegated to the State under the Clean Water
11 Act, including the right and obligation to administer the NPDES Program. Further,
12 pursuant to Water Code Section 13000, there is to be a state-wide program for water
13 quality control which is to be administered regionally, but within a framework of state-
14 wide coordination and state policy. Federal regulations allow NPDES authority within a
15 state to be shared between two or more state agencies, *if each agency has statewide*
16 *jurisdiction* over a class of activities or discharges. When more than one agency is
17 responsible for issuing permits within the state, each agency must make a submission
18 meeting the requirements of the Federal regulations. (40 C.F.R. §§ 123.1(g)(1) and
19 123.22(b).) *Respondent Regional Board is not a state agency with statewide jurisdiction*
20 *over a class of activities or discharges, and has not been authorized under the Clean Water*
21 *Act or the Federal regulations to administer the NPDES Program in California, and*
22 *accordingly, has no authority to do so.*

23 35. As Respondent Regional Board is not an agency with statewide jurisdiction
24 over a class of activities or discharges and does not have the authority to issue NPDES
25 Permits under the Clean Water Act, the subject Permit was invalidly issued and is
26 unenforceable. The inability and failure of Respondent Regional Board to adhere to the
27 application process and the requirements in the regulations to the Clean Water Act for
28 issuing an NPDES MS4 permit, as set forth herein, further highlight the problems

1 encountered when an unauthorized agency, without statewide authority, seek to administer
2 the provisions of the Clean Water Act. Without specific regulatory direction from the
3 State Board, such as has occurred with the issuance of various general permits for
4 industrial and construction activities, Respondent Regional Board is and was without
5 authority and jurisdiction to have issued the municipal NPDES Permit in question.

6 36. The lack of authority of Respondent Regional Board to issue the subject
7 NPDES under the Clean Water Act has added to the problem of inconsistency in the
8 issuance of the municipal NPDES permits throughout the State of California, as varying
9 municipal NPDES permit with differing terms, have been adopted by different regional
10 agencies without statewide jurisdiction, thus resulting in a patchwork of municipal NPDES
11 permits that lack continuity and consistency. In addition, municipalities throughout the
12 State who straddle regional board jurisdictional lines, with both storm water and non-storm
13 water moving from one jurisdiction to another, must comply with differing municipal
14 NPDES permits for virtually identical discharges and identical pollutants of concern. As
15 Respondent Regional Board is not an agency with statewide jurisdiction over a class of
16 activities or discharges, and as no regulatory consistency through general permit terms, or
17 otherwise, has been provided by the State Board, the subject Order is the result of a flawed
18 and illegal process, and one that is directly contrary to the express provisions of the Clean
19 Water Act. Pursuant to Water Code Section 13000, the waters of the State of California
20 are to be regulated as necessary to "attain the highest water quality which is *reasonable*,
21 considering all demands being made and to be made on those waters, and the total values
22 involved, beneficial and detrimental, *economic* and social, tangible and intangible."

23 37. In addition, in formulating water quality policy within their regions, regional
24 boards are required to consult with and consider *the recommendations of affected local*
25 *agencies*. (Cal. Water Code § 13240.) Further, in establishing water quality objectives
26 and water quality control plans within its region, a regional board is required to consider
27 specific factors, including: (a) Past, present and probable future *beneficial uses of water*;
28 (b) Environmental characteristics of the hydrographic unit under consideration, including

1 the quality of water available thereto; (c) Water quality conditions *that could reasonably*
2 *be achieved* through the coordinated control of all factors which affect water quality in the
3 area; (d) *Economic considerations*. (Cal. Water Code § 13241.)

4 38. Further, under Water Code section 13263, “waste discharge requirements”
5 such as those issued with the adoption of the subject Order, are to be issued “with relation
6 to the conditions existing in the disposal area or receiving waters upon, or into which, the
7 discharge is made or proposed. The requirements shall implement any relevant water
8 quality control plans that have been adopted, and shall take into consideration the
9 beneficial uses to be protected, the water quality objectives *reasonably required* for that
10 purpose, other waste discharges, the need to prevent nuisance, *and the provisions of*
11 *section 13241.*” (Cal. Water Code §13263.) Section 13263 further specifically limits the
12 Respondents’ authority in issuing waste discharge requirements to the “proposed
13 discharge” in issue, i.e., discharges of pollutants from the municipal storm sewer system.
14 Thus, under Section 13263, Respondents have no jurisdiction to impose waste discharge
15 requirements on discharges that are outside of the control of the Petitioners, and that are
16 outside of the jurisdiction of the Clean Water Act.

17 39. The subject Permit exceeds the standard for the issuance of waste discharge
18 requirements as set forth under sections 13263 and 13241, as there are no findings and no
19 evidence that the requisite factors set forth in section 13241 were properly considered, as
20 required under section 13263 of the Water Code, and as there is no indication that the
21 water quality objectives that have been attempted to be met have been “*reasonably*
22 *required*” as set forth under section 13263.

23 40. Similarly, each regional board with respect to its region is required, in
24 addition to its other duties to: “[r]equire as necessary any state or local agency to
25 investigate and report on any technical factors involved in water quality control or to
26 obtain and submit analyses of water, *provided that the burden, including costs, of such*
27 *reports shall bear a reasonable relationship to the need for the report and the benefits to*
28 *be obtained therefrom.*” (Cal. Water Code § 13225(c).) (Also see Water Code section

1 13165, which requires the State Board, when requiring any State or local agency to
2 investigate and report on technical factors involved in water quality, to weigh the burdens,
3 including the costs of such reports, which burdens must bear a reasonable relationship to
4 the need for the report and the benefits to be obtained therefrom.) In addition, pursuant to
5 Water Code section 13267, where a regional board requires a discharger such as the City
6 Petitioners herein, to provide technical and monitoring reports, again before making such a
7 requirement, the regional board is to perform a cost/benefit analysis whereby, "the burden,
8 including costs, of these reports shall bear a reasonable relationship to the need for the
9 reports and the benefits to be obtained from the reports." (Water Code § 13267(b).) In
10 fact, the regional board is required to provide the person with a written explanation with
11 regard to the need for the reports, and is required to identify the evidence that supports
12 requiring that person to provide the reports.

13 41. A regional board is also obligated to take into consideration the effect of its
14 actions on the California Water Plan and "on any other general or coordinated
15 governmental plan looking toward the development, utilization or conservation of the
16 water resources of the state." (Cal. Water Code § 13225(h).)

17 42. The Southern California Association of Governments (hereafter "SCAG") is
18 a regional joint powers authority, created pursuant to California Government Code
19 Sections 6500 et seq. SCAG represents over one hundred and eighty cities in Southern
20 California and the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura
21 and Imperial. The SCAG region encompasses 38,000 square miles and a population of 15
22 million. SCAG'S mission statement is "to enhance the quality of life of all Southern
23 Californians by working in partnership with all levels of government, the business sector,
24 and the community at large to meet regional challenges and to resolve regional
25 differences."

26 43. SCAG, as the Regional Council of Governments, is independently
27 responsible pursuant to state and federal statutes for a number of regional activities such as
28 transportation planning, water planning, housing needs planning, and air quality planning.

1 44. SCAG has been designated as an Areawide Waste Treatment Management
2 Planning Agency pursuant to 33 U.S.C. Section 1288 (a)(2) (Section 208 of the Clean
3 Water Act). As such, SCAG is responsible for a continuing areawide waste treatment
4 management planning process under the Clean Water Act.

5 45. Under Section 208(e) of the CWA (33 U.S.C. § 1288(e)), no NPDES Permit
6 is to be issued which is in conflict with the approved Areawide Waste Treatment
7 Management Plan. The Permit adopted on December 13, 2001 is generally in conflict with
8 the Areawide Waste Treatment Management Plan adopted by SCAG and/or the
9 requirements for such a plan under the Act, particularly with the failure of the Order to
10 provide "regional solutions" and to provide necessary "financial arrangements" for the
11 implementation of the terms of the Permit. The Permit violates the Clean Water Act and
12 Water Code Section 13225(h) as Respondent has failed to make a finding of consistency
13 with the Area-Wide Waste Treatment Management Plan.

14 46. California Water Code section 13360, moreover, prohibits Respondents from
15 specifying, in any order or set of waste discharge requirements, specific designs, locations,
16 or types of construction standards, or a particular manner in which compliance with an
17 order, requirement or set of waste discharge requirements, is to be met. Under Water Code
18 section 13360, all persons are permitted to comply with the requirements of any order or
19 waste discharge requirements in any lawful manner. (Cal. Water Code § 13360(a).)

20 47. On or about June 18, 1990, the Respondent issued Order No. 90-079
21 (NPDES No. CA0061654) for Los Angeles County and its co-permittees, 85 cities in the
22 County of Los Angeles (hereinafter "1990 Permit"). Because this 1990 Permit was
23 adopted prior to adoption of applicable federal regulations, the 1990 Permit was a permit
24 that was commonly referred to as an "Early Permit" under the Act.

25 48. Thereafter, on or about July 15, 1996, effective on July 31, 1996, the Early
26 Permit was rescinded and the Petitioners were issued a new Storm Water Permit, Order
27 No. 96-054 (NPDES No. CAS614001), Waste Discharge Requirements for Municipal
28 Storm Water and Urban Runoff Discharges within the County of Los Angeles (hereinafter

1 "1996 Permit"). Both the Early Permit and the 1996 Permit were, by their own terms, to
2 be 5-year permits, which, under the Act, would continue in effect with the filing of a
3 timely permit application until a new permit was issued.

4 49. On or about February 1, 2001, the Report of Waste Discharge ("ROWD")
5 was submitted as an application for renewal of the 1996 Permit for an additional 5 year
6 period (hereafter "Permit Application") on behalf of the City Petitioners and other
7 municipalities in the County.

8 50. Respondent Regional Board reviewed the Permit Application presumably to
9 determine compliance with the requirements of the Clean Water Act. Upon its review, the
10 Regional Board determined that the Application was in fact complete and was consistent
11 with the U.S. Environmental Protection Agency's ("US EPA") application process for
12 Municipal Separate Storm Sewer Systems ("MS4s"). Respondent thus specifically
13 determined that the Permittees' Storm Water Quality Management Plan put forth in the
14 Permit Application met the minimum requirements set forth under the federal regulations
15 to the Clean Water Act.

16 51. On or about December 13, 2001, Respondent Regional Board adopted the
17 subject disputed NPDES Permit, and rescinded the 1996 Permit. A draft of the subject
18 Permit dated October 11, 2001, was originally scheduled for adoption on November 29,
19 2001. In mid-November 2001, the hearing on the adoption of the Permit was continued
20 until December 13, 2001. On December 4, 2001, a change sheet for the October 11, 2001
21 Permit was circulated. On December 10, 2001, an additional change sheet was issued by
22 the Regional Board, along with another draft of the Permit. However, the December 10,
23 2001 Change Sheet was never publicly circulated. Thereafter, on December 13, 2001, on
24 the morning of the hearing on the Permit, an additional change sheet dated December 13,
25 2001 and entitled "Additions to Supplemental Change Sheet" was distributed with yet
26 further changes to the Permit, along with the December 10, 2001 draft of the Permit. Still
27 more, in the course of the December 13 hearing yet additional changes were proposed and
28 made by Respondent to the Order. Still, at the hearing on December 13, 2001, the subject

1 Permit was adopted by Respondent Regional Board.

2 52. The changes put forth in the various change sheets to the Permit, along with
3 those at the hearing, were collectively significant in number and in scope. Yet, no
4 additional time for public comment was provided by Respondent for review and comment
5 of all such changes by the public and interested shareholders. An additional public
6 comment period of at least 30 days should have been provided in accordance with the
7 requirements of the regulations to the Clean Water Act. Specifically, the regulations
8 require a 30-day notice and publication period for hearings on NPDES Permits, but such
9 requirements was violated as substantial revisions were made to the Permit less than ten
10 (10) days and four (4) days prior to the hearing, with even more changes and revisions
11 having been made both in writing and orally on the day of the hearing itself.

12 53. Additional evidence could have and would have been presented by the
13 Petitioners on the proposed modifications, report references and the numerous changes to
14 the Permit, had Petitioners been given sufficient time and opportunity to review the
15 changes and proposed references, and had Respondent Regional Board complied with the
16 regulations to the Clean Water Act and provided the requisite 30-day notice. Respondent
17 Regional Board improperly denied Petitioners and other interested parties a fair hearing in
18 its consideration of the Permit, as the last minute changes to the proposed Permit were
19 significant in both number and scope. The Permit was required to have been recirculated
20 for additional public review and comment, and the Respondents' failure to recirculate the
21 Permit is a violation of the hearing requirements under the regulations to the Act, and a
22 violation of due process of law.

23 54. In addition, scientific peer review of the Subject Permit was required
24 pursuant to California Health and Safety Code Section 57004, and Respondents acted
25 arbitrarily and capriciously and contrary to law by failing to cause such a required
26 scientific peer review to be conducted.

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1 IV.

2 THE PERMIT IS CONTRARY TO THE MEP STANDARD UNDER THE CWA
3 AND REQUIREMENTS UNDER THE PORTER-COLOGNE ACT.

4 55. Under section 402 of the Clean Water Act (33 U.S.C. § 1342(p)(3)(B)), the
5 Act authorizes the issuance of permits for municipal dischargers to reduce the discharge of
6 pollutants to the “*maximum extent practicable*” “*from*” municipal storm sewers to
7 navigable *waters of the United States*. Municipal NPDES permits are not authorized or
8 necessary for discharges *to* the MS4 under any federal law, or otherwise under any State
9 law, and there is no other stricter standard than the MEP standard required to be adhered to
10 under federal or State law for municipal NPDES discharges. Moreover, it is apparent from
11 the language under the Act and recent case authority, that the Clean Water Act only applies
12 to *navigable waters of the United States*. (33 USC § 1251(a).) Thus, the provisions
13 throughout the Permit that attempt to regulate the discharge of pollutants “*to*” or “*into*” the
14 MS4, either directly or indirectly (including, but not limited to the Industrial/Commercial
15 Facilities Control Program; the Standard Urban Storm Water Mitigation Program
16 (hereinafter “SUSMP”); the Receiving Water Limitation provisions in the Permit; the
17 Permit language allowing the automatic incorporation of total maximum daily loads
18 (“TMDLs”) into the Permit, and the numerous provisions directly infringing on the local
19 land use authority of the City Petitioners), without consideration of the MEP standard, all
20 violate: (1) the application of the “maximum extent practicable standard,” (2) the
21 requirement that only municipal discharges “*from*” the MS4 are to be regulated; and (3)
22 the Act’s limitation regulating only navigable waters of the United States.

23 56. Clean Water Act Section 402 permits are to be issued “from municipal storm
24 sewers . . . to reduce the discharge of pollutants to the *maximum extent practicable*” to
25 waters of the United States (“MEP standard”). The MEP standard is a maximum standard,
26 and is the *only* standard to be applied to Permittees under either State or federal law. The
27 subject Permit exceeds the MEP standard under each of the major parts of the Permit,
28 including Part I entitled “Discharge Prohibitions,” Part 2 entitled “Receiving Water

1 Limitations,” Part 3 entitled “Storm Water Quality Management Program (‘SQMP’)
2 Implementation” Part 4 entitled “Special Provisions,” and Part 5 entitled “Definitions.”

3 57. Under Part 1 entitled “Discharge Prohibitions,” the Executive Officer of
4 Respondent Regional Board has discretion to remove “exempted” discharges from the list
5 of prohibited discharges, and/or to impose additional prohibitions on non-storm water
6 discharges, in consideration of anti-degradation policies and what are known as total
7 maximum daily loads. These modifications and this discretion is permitted by the Order,
8 irrespective of whether prohibiting these discharges will entail imposing requirements on
9 the Petitioners that exceed the “maximum extent practicable” standard.

10 58. Under Part 2 entitled “Receiving Water Limitations,” the MEP standard has
11 been exceeded as the Permit, as written, imposes more stringent standards and
12 requirements beyond those set forth either in the Clean Water Act or Water Code
13 section 13263, and imposes standards that are stricter than the standards set forth under
14 any applicable State or federal law. In particular, irrespective of the maximum extent
15 practicable standard, Part 2 of the Permit provides that any discharge from the municipal
16 storm drain system that causes or contributes to a violation of a water quality standard or
17 water quality objective, or that causes or contributes to a condition of nuisance, is
18 prohibited and requires that in the event of any such violation of a water quality standard
19 or contribution to a condition of nuisance (hereinafter collectively “exceedence”), that
20 Permittees are to develop additional best management practices that will be “implemented
21 to prevent or reduce any pollutants that are causing or contributing to the exceedences . . .”
22 Under the language of Part 2 of the Permit, the Best Management Practices to be
23 implemented to address exceedences are not limited to those BMPs that are consistent with
24 the maximum extent practicable standard, but rather include all BMPs as necessary to
25 prevent or reduce exceedences. Accordingly, Part 2 of the Permit effectively imposes a
26 “strict liability” standard on municipalities by not requiring the implementation of those
27 BMPs that are consistent with the maximum extent practicable standard. The language
28 under Part 2 of the Permit also inappropriately exposes Permittees to unjustified

1 enforcement actions and spurious third party lawsuits, as it improperly holds Permittees
2 responsible for the discharges of others “to” its MS4, and as it inappropriately holds the
3 Permittees to a “strict liability” standard that is not supported anywhere under State or
4 federal law.

5 59. In Part 3 of the Permit, “Stormwater Quality Management Program”
6 (“SQMP Implementation”), both the MEP and “from” standards under the Act are violated
7 as the various provisions throughout Part 3 attempt to impose obligations on the Permittees
8 to control and reduce the “discharge of pollutants *in* stormwater to the MEP.” With the
9 SQMP provisions, Respondent seeks to require the Permittees to implement or require the
10 implementation of the most effective combination of BMPs for storm water/urban runoff
11 pollution control. When implemented, the BMPs are then to result in the reduction of
12 pollutants *in* storm water into the MS4. Other provisions within Part 3 require that
13 Permittees implement controls “to reduce the discharge of pollutants *in* stormwater to the
14 MEP.” Such a standard is contrary to the provisions of the Clean Water Act, and is not
15 supported under any State or other federal law.

16 60. Further, under Part 3 of the Permit, subsection (c) allows the Executive
17 Officer of the Regional Board to incorporate and require the implementation of total
18 maximum daily loads into what is referred to as the SQMP (“Storm Water Quality
19 Management Program”), which is thus, an indirect incorporation of any such TMDL
20 requirement into the Permit itself. Yet, the incorporation of TMDLs under the Permit is
21 not restricted only to those best management practices that are consistent with the
22 maximum extent practicable standard. Rather, under the Permit, the Executive Officer has
23 the discretion to incorporate TMDLs into the Permit without regard to whether the BMPs
24 to be implemented to comply with the TMDLs are “practicable.” Accordingly, the Permit
25 in question was issued contrary to the maximum extent practicable standard, as it allows
26 for the incorporation of TMDLs without regard to whether the best management practices
27 to be implemented thereunder, are consistent with the maximum extent practicable
28 standard.

1 61. In addition, the discretion provided to the Executive Officer under the Permit
2 to incorporate TMDLs into the Permit, similarly violates other requirements under the
3 Clean Water Act and the Porter-Cologne Act. Specifically, under the Clean Water Act, an
4 NPDES permit cannot be modified without appropriate notice and public comment (see 40
5 CFR §§ 124.5, 124.6, 124.10 and 122.62). Similarly, under the Porter-Cologne Act, a
6 regional board may only delegate certain powers to its Executive Officer, and the Porter-
7 Cologne Act expressly prohibits an Executive Officer from issuing, modifying or revoking
8 an order which contains waste discharge requirements, such as the Subject Permit. (See
9 Water Code § 13223(a).) Moreover, even the Permit itself prohibits modifications to its
10 terms without compliance with procedural requirements under California and federal law.
11 Finally, Water Code Section 13263 governs the adoption of waste discharge requirements,
12 and only those waste discharge requirements which are “reasonably required” may be
13 imposed, which would accordingly prohibit the automatic incorporation of unreasonable
14 TMDLs. Similarly, TMDLs that otherwise fail to comply with waste discharge
15 requirements under the Porter-Cologne Act cannot be incorporated into the Permit.
16 Accordingly, Part 3 of the Permit contains language which is contrary to the MEP
17 Standard, the “reasonableness” and other waste discharge requirement provisions of the
18 Porter-Cologne Act, the notice, hearing and public comment requirements of State and
19 federal law, and the provisions of the Porter-Cologne Act which restrict the authority of
20 the Executive Officer to act in such fashion.

21 62. With respect to Part 4, the MEP Standard is ignored in various sections,
22 including but not limited to: (a) in the general requirements under Section A of Part 4
23 dealing with MEP; (b) in various portions of the Public Information and Public
24 Participation Program under Section B of Part 4; (c) throughout the provisions under
25 Section C of Part 4 entitled “Industrial/Commercial Facilities Program;” (d) throughout
26 Section D of Part 4 entitled “Development Planning Program,” including the entire
27 SUSMP provisions; (e) throughout Section E of Part 4 entitled “Development Construction
28 Program;” (f) throughout Section F of Part 4, “Public Agency Activities Program;” and (g)

1 in Section G of Part 4, "Illicit Connections and Illicit Discharges Elimination Program."

2 63. In addition, the MEP standard and its limited application to discharges
3 "*from*" MS4s, has been exceeded by Respondent in Part 5 of the Permit, the various
4 definitions in the Permit, specifically including the definitions of the terms
5 "Environmentally Sensitive Areas," "Inspection," "Maximum Extent Practicable,"
6 "Planning Priority Projects," "Redevelopment," "Significant Ecological Areas," and
7 "Waters of the United States or Waters of the U.S."

8 V.

9 **THE INDUSTRIAL/COMMERCIAL FACILITIES PROGRAM**

10 **SECTION IS CONTRARY TO STATE AND FEDERAL LAW.**

11 64. The Industrial/Commercial Facilities Program under Part 4 of the Permit,
12 and particularly the inspection requirements imposed on the Petitioners therein, similarly
13 exceeds both the MEP and "from" standards *and* other requirements under the Clean
14 Water Act and State law. Respondent Regional Board has no authority to impose such
15 inspection and related obligations on the Petitioners under State or federal law, and neither
16 requires, nor authorizes, a municipality to inspect any *commercial* facilities for purposes of
17 determining compliance with BMPs, or otherwise.

18 65. Evidence of the need for statutory authority on the part of Respondent
19 Regional Board to require "inspections" is contained in Water Code Section 13362,
20 wherein in this Statute, the State Legislature expressly provided specific "inspection"
21 authority to POTWs to inspect and regulate certain private facilities. (See Water Code
22 § 13362). No such similar inspection authority has been provided in connection with
23 storm water runoff to the Respondents herein, or otherwise. Accordingly, neither federal
24 or State law provides authority to Respondent Regional Board to require that
25 "*commercial*" facilities of any kind, including restaurants, automotive service facilities,
26 retail gasoline outlets and automotive dealerships, and any other commercial facilities that
27 would fall within the inspection provisions of the Permit, be inspected for purposes of
28 compliance with specific BMPs or determining discharges "to" the MS4.

1 66. In addition, under the federal regulations, any responsibility on Permittees to
2 inspect *industrial facilities* is specifically limited to those industrial facilities described in
3 the federal regulations themselves, i.e., municipal landfills, hazardous waste treatment,
4 disposal and recovery facilities, SARA Title 3 facilities, and industrial facilities that the
5 “*municipal permit applicant determines* are contributing a substantial pollutant loading to
6 the municipal storm sewer system.” (See 40 C.F.R. § 122.26(d)(2)(iv)(C).) With the
7 subject NPDES Permit, there has been no determination by the Petitioners that the
8 particular industrial facilities identified in the subject Permit are “*contributing a*
9 *substantial pollutant loading to the municipal storm sewer system,*” and as such, the
10 provisions within the Permit in issue are in conflict with the limitations and requirements
11 of the Clean Water Act and are not supported by any other federal law or State authority.

12 67. Further, the provisions under the legal authority section of the Permit (Part 3.
13 G.) require the Permittees to have Adequate Legal Authority to control pollutants
14 “*including potential contribution,*” and further to inspect, sample, and review and copy
15 records and require regular reports from industrial facilities “with *the potential to*
16 *discharge* polluted storm water runoff into [the Permittees] MS4.” Such requirements are
17 not supported anywhere under State or federal law and are requirements that far exceed
18 any limited inspection obligation that may be placed upon municipalities in connection
19 with certain industrial facilities.

20 68. Further, the definition of “inspection” on the Permit is invalid as it attempts
21 to impose obligations on the Permittees that exceeds the requirements of State and federal
22 law, and to require the Permittees to take action in violation of the California and U.S.
23 Constitutions. Specifically, the definition of “inspection” is defined to mean “entry and
24 the conduct of an on-site review of facility and its operations, at reasonable times, and to
25 determine compliance with specific municipal or other legal requirements.” The definition
26 goes on to identify various steps that are to be performed in conducting an “inspection,”
27 including but not limited to: “interview of facility personnel;” “facility walk-thru;”
28 “examination and copying of records as required;” “sample collection (if necessary or

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VI.

**THE RECEIVING WATER LIMITATION LANGUAGE EXCEEDS STATE AND
FEDERAL LAW.**

71. Under Part 2 of the Permit, "Discharges from the MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives are prohibited." Further under Part 2, "Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance." As these standards are standards that exceed the maximum extent practicable standard as well as the standards for the issuance of Water Discharge Requirements under State law, they were adopted contrary to law.

72. The very purpose of an NPDES Permit and WDRs is to *allow* for the discharge of pollutants to waters of the United States "*from*" the municipal storm drain system. The imposition of a standard that is inconsistent with the requirements of the Porter-Cologne Act (particularly Water Code Sections 13263 and 13241), as well as the MEP standard, is action contrary to State and federal law. The MEP standard is a standard that by definition, requires the consideration of "practicability" in evaluating compliance. The language under Part 2 of the Permit ignores the standard of "practicability," and ignores the fact that municipalities have no jurisdiction over otherwise permitted discharges from industrial facilities, or permitted or unpermitted discharges from State, regional or federal lands and facilities, including special districts, universities and community colleges. The provisions under Part 2 of the Permit are contrary to law and should be invalidated.

VII.

**THE DEVELOPMENT PLANNING PROVISIONS ("SUSMPs") AND THE
CONSTRUCTIONS PROVISIONS UNDER THE PERMIT ARE INVALID AND
CONFLICT WITH STATE AND FEDERAL LAW.**

73. Under Section 4 of the Permit, specifically Section D entitled "Development Planning Program," the development planning program and SUSMP requirements

1 thereunder, along with the peak flow restrictions, the numerical design criteria, and the
2 requirements for Petitioners to revise and modify their CEQA and General Plan processes,
3 are all provisions that have been imposed in excess of Respondents' authority, and in
4 excess of State and federal law, including the MEP and "from" standards and the
5 limitations imposed thereunder.

6 74. The SUSMP requirements exceed the MEP standard both in the application
7 of the Permit to discharges "to" the MS4, and in the breadth of the numerous categories
8 and the one-size-fits-all program set forth therein. In addition, the proposed numerical
9 design criteria itself is *not* based on any scientific data or qualitative evidence or on the
10 pollutants of concern and the sources of those pollutants, and the benefits of the program
11 have not been shown to exceed its costs.

12 75. Similarly, the application of the SUSMP Program to "non-discretionary"
13 projects is inappropriate and in conflict with the findings required by Order No. 2000-11,
14 and is directly contrary to the California Environmental Quality Act ("CEQA"), as is the
15 entirety of the SUSMP program.

16 76. The SUSMP provisions in general are contrary to CEQA, as the provisions
17 of CEQA govern the types of development projects that are subject to local agency review
18 for purposes of imposing mitigation measures to address potential impacts on the
19 environment. CEQA spells out the procedure to follow in determining whether and what
20 mitigation measures are to be imposed on a proposed development "project," and whether
21 overriding considerations would allow the "project" to be approved without imposing
22 mitigation measures. As the California Legislature has already established a procedure to
23 follow to assess, and if necessary, mitigate environmental impacts from proposed
24 development "projects," and as the SUSMP provisions in the subject Permit are contrary to
25 the process already established by the California Legislature, Respondents acted contrary
26 to law in adopting the SUSMP provisions in the subject Permit.

27 77. In addition to the deficiencies set forth above, the Development
28 Planning/SUSMP requirements under the Permit are further invalid for the following

1 reasons: (1) the .75 standard is an inappropriate one size fits all standard that is not
2 supported by findings or substantial evidence, that was developed without scientific data
3 on the pollutants of concern and their sources, and that has not been shown to be the
4 appropriate standard or criteria to be applied to one or any of the categories set forth within
5 the Permit; (2) Respondents failed to take into account the requirements of Water Code
6 sections 13000, 13263 and 13241 and the regulations under the Clean Water Act in
7 developing the SUSMP requirements; (3) Respondents failed to perform a cost/benefit
8 analysis and to consider economic considerations in the development of the Development
9 Planning and SUSMP provisions; (4) Respondents lack the authority to regulate
10 “environmentally sensitive areas,” an area that is already “subject to extensive regulation
11 under other regulatory programs,” and because of such, an area that Respondent Regional
12 Board is preempted from regulating; (5) the definition of “redevelopment” is overly broad
13 and ambiguous, and Respondent Regional Board refused to adhere to the definition
14 provided under State Board Order No. 2000-11 or to utilize the definition of
15 “redevelopment” as set forth in the federal regulations (see 64 Fed. Reg. 68721, 68760);
16 (6) the Development Planning and SUSMP provisions are inappropriately applied to
17 “nondiscretionary” projects as such is contrary to existing State law; (7) Respondents
18 failed to include adequate provisions to allow for “regional solutions” as previously
19 required by the State Board in Order No. 2000-11; (8) Respondents failed to adequately
20 consider other unintended consequences from the Development Planning and SUSMP
21 provisions, such as adverse impacts to groundwater quality, adverse impacts on low or
22 moderate income housing, and the potential vector control problems created by
23 implementation of the SUSMP provisions; (9) Respondents failed to consider “conditions
24 existing in the disposal area or receiving waters” as required under Water Code section
25 13263; (10) Respondents violated Water Code section 13360 by imposing a “particular
26 manner” and a particular design standard on Petitioners; (11) Respondents acted contrary
27 to law by improperly mandating the transfer of liability onto municipalities for private
28 illicit discharges and by improperly imposing a “maintenance agreement and transfer

1 obligations” on the Petitioners, contrary to State or federal law, and since the Permittees
2 are without authority to impose such obligations on private parties; (12) Respondents
3 improperly expanded the SUSMP provisions to other development categories such as
4 “industrial” projects, and to projects of one or more acres of surface area, contrary to law;
5 and (13) Respondents failed to work cooperatively with the Permittees to formulate a
6 Mitigation Funding Program Planning before developing the SUSMP requirements.

7 78. Further, the SUSMP provision concerning “peak flow control” in natural
8 drainage systems to “prevent accelerated stream erosion and to protect stream habitat,” is
9 an expansion that is not supported by the State law, the Clean Water Act or the regulations
10 thereunder. The Clean Water Act provides for the control of the “quality” of storm water
11 being discharged into waters of the United States, not the “quantity” of such waters. Peak
12 flow provisions are thus not authorized under the Clean Water Act, and no State law
13 provides the authority to the Respondents to regulate the “quantity” of water being
14 discharged.

15 79. The Development Planning and SUSMP provisions further violate the MEP
16 standard and the authority provided for source control and treatment control provisions
17 under the regulations to the Clean Water Act. Specifically, the imposition of source
18 control measures for an MS4 NPDES Permit is expressly limited to “runoff from
19 commercial and residential areas that are discharged from the municipal storm sewer
20 system,” and such controls are required to be accompanied by “an estimate of the expected
21 reduction of pollutant loads” and “a proposed schedule” for implementing such controls.
22 (40 C.F.R. 122.26(d)(iv)(A).) The regulations are also clear that the source control
23 measures to be included in a proposed management plan are to “address controls to reduce
24 pollutants in discharges *from* municipal separate storm sewers after construction is
25 completed.” (40 C.F.R. 122.26(d)(2)(iv)(A)(1)&(2).) As the SUSMP provisions in
26 question have not been limited to source control measures designed to address runoff
27 “*from*” the municipal storm sewer system, but rather are plainly designed to impose source
28 control measures “*to*” the MS4, the entirety of the SUSMP provisions violate the Clean

1 Water Act.

2 80. Also, with respect to the inclusion of “industrial” facilities within the
3 SUSMP provisions, such facilities are already subject to regulation through the Phase I
4 industrial permit regulatory process. Under the regulations, an application for a permit for
5 an operator of an existing or new storm water discharge associated with a Phase I
6 industrial activity or associated with small construction activity, is to include specific
7 information on “proposed measures to control pollutants and storm water discharges that
8 will occur *after construction operations have been completed*,” as well as proposed best
9 management practices to control pollutants in the storm water discharge during
10 construction. (40 C.F.R. 122.26(c)(ii)(C)&(D).) Also, consistent with the source control
11 measures involving commercial and residential developments, such post-construction
12 measures for industrial facilities are to include an estimate of the runoff coefficient to the
13 site, and the increase in impervious area after the construction addressed in the permit
14 application is completed, and the nature of fill material and excavation, describing the soil
15 or the quality of the discharge. (40 C.F.R. 122.26(c)(i)(ii)(D)&(E).)

16 81. Further, the SUSMP program improperly expands the development planning
17 requirements to new development and redevelopment that do not presently require a
18 SUSMP, but which “potentially have adverse impacts on post-development storm water
19 quality, where one or more of the following project characteristics exist:” As there is
20 no evidence or other findings to support such an expansion of the SUSMP requirements,
21 such an expansion again violates the MEP standard as well as other provisions and
22 regulations to the Clean Water Act and State law.

23 82. In addition, the SUSMP requirements fail to consider “economic
24 considerations,” and no “cost-benefit analysis” was conducted, as required by State and
25 federal law. The failure of the SUSMP to properly consider “economic considerations,”
26 and the failure of Respondent Regional Board to perform a “cost-benefit analysis” requires
27 that the subject Permit be invalidated.

28 83. The SUSMP provisions also fail to address the need for developing housing

1 within the region, as required throughout State law, and as specifically set forth in
2 Government Code section 65580, as well as under California Water Code section 13241,
3 and other provisions of State law. The potential adverse impacts on available housing
4 within the County, along with the additional costs imposed on such housing, require that
5 the subject Permit be invalidated.

6 84. Further, the Development Construction Program section of the subject
7 Permit were adopted contrary to law, as they inappropriately provide that various
8 minimum construction requirements be imposed requiring the "limiting of grading
9 scheduled during the wet season," retaining presumably all sediment and construction
10 related materials at all construction sites, irrespective of the practicability of such a BMP,
11 and irrespective of the effectiveness of other appropriate construction BMPs. Further, the
12 Development Construction Program provisions of the subject Permit are contrary to law as
13 they inappropriately seek to impose additional requirements and controls through the use
14 of a local storm water pollution prevention plan for all construction sites one acre and
15 greater, a requirement that is contrary to the requirements of the federal regulations. Such
16 additional requirements, prohibitions, and limitations on construction are contrary to law,
17 and further, are written in a vague and ambiguous manner.

18 85. In addition, the Development Construction Program provisions of the Permit
19 are contrary to law, as they impose additional requirements on construction activities
20 disturbing five acres or more, which are sites that are presently already regulated under the
21 Clean Water Act through the issuance of a General Construction Activities Storm Water
22 Permit issued by the State Board. Imposing additional and unnecessary requirements on
23 activities for construction sites five acres or greater will result in duplication in regulation
24 and in inconsistent regulations, and with respect to the subject Permit, in regulations that
25 are contrary to the existing General Construction Activities Storm Water Permit. Thus,
26 requiring the City Petitioners to impose additional obligations on construction activities
27 through the subject Permit, and imposing such additional requirements on the Private
28 Petitioners herein, are actions that are not authorized under the Clean Water Act or the

1 regulations thereunder, and are provisions that go beyond the provisions and obligations
2 permitted under existing law.

3 **VIII.**

4 **THE PERMIT IMPROPERLY INFRINGES ON PERMITTEES LOCAL LAND**
5 **USE AUTHORITY.**

6 86. The Development Planning requirements throughout the Permit violate the
7 policies and purpose of CEQA and applicable State laws which grant the Petitioners, not
8 Respondent, the authority to review “discretionary” projects for purposes of considering
9 whether such projects will have a significant adverse impact on the environment, and for
10 purposes, if necessary, of adopting appropriate “mitigation measures” such as SUSMPs, to
11 address such potentially significant adverse impacts.

12 87. In addition, the provisions of the Permit which require modifications to the
13 Petitioners’ CEQA process, violate State law, as the Regional Board has *no authority* and
14 is *not authorized* to adopt legislation or to impose regulations without complying with the
15 requirements of the California Administrative Procedures Act. (See Gov. Code § 11340 et
16 seq.)

17 88. The provisions of the Permit that require the Permittees to amend their
18 General Plans similarly violates State law, as Respondent is without authority to adopt
19 legislation or to impose regulations, and any attempted change by Respondent to
20 California law concerning General Plans, is preempted.

21 89. Government Code sections 65300 and 65307 require City Petitioners to
22 prepare Comprehensive General Plans, including specific elements of a General Plan, such
23 as a land use element, a circulation element, a housing element, a conservation element, an
24 open space element, a noise element and a public safety element. Under Government
25 Code section 65302(d), a General Plan must include a conservation element “for the
26 conservation, development and utilization of natural resources, including water and its
27 hydraulic force, soils, rivers and other waters, harbors, fisheries, wildlife, minerals and
28 other natural resources.” The General Plan requirements allow for the “conservation

1 element” to include, among other issues, *the prevention and control of pollution in*
2 *streams and other waters*, as well as the prevention, control and correction of the *erosion*
3 *of soils*, beaches and shores, and *the protection of watersheds*.

4 90. Pursuant to Government Code section 65300.9, the Legislature has already
5 expressed its intent that it is “for each city and county to coordinate its local budget
6 planning and local planning for federal and state program activities . . . with the local land
7 use planning process, recognizing that each city and county is required to establish its own
8 appropriate balance in the context of the local situation when allocating resources to meet
9 the purposes.” (Gov. Code § 65300.9.)

10 91. Similarly, Congress, under the Clean Water Act, specifically chose to
11 “recognize, preserve and protect the primary responsibility and rights of states . . . to plan
12 the development and use . . . of land and water resources . . .” (33 U.S.C. § 1251(b).) The
13 regulations to the Clean Water Act further recognize the concerns with “possible federal
14 interference with local land use planning,” and EPA has expressly determined not to
15 infringe on local land use authority.

16 92. Accordingly, the subject Permit seeks to improperly infringe upon and
17 interfere with the local land use planning and regulatory authority of the City Petitioners,
18 contrary to law.

19 IX.

20 **NO “COST/BENEFIT” ANALYSIS WAS CONDUCTED AND APPROPRIATE**
21 **CONSIDERATION WAS NOT GIVEN TO “ECONOMIC” CONSIDERATIONS.**

22 93. In adopting the subject, Permit Respondent failed to properly consider
23 “economic” considerations and did not develop the Permit based on a cost/benefit analysis.
24 Numerous provisions in State and federal law require the conducting of a cost/benefit
25 analysis (which Respondent has failed to perform), and further require that economic
26 considerations be addressed in adopting such permits. (See 33 U.S.C. §§ 1288, 1313,
27 1315(b), and 64 Fed. Reg. 68722, 68732; Water Code §§ 13000, 13165, 13241, 13225 and
28 13267.)

1 Constitution, and the corresponding statutory prohibition on mandating the construction of
2 major waste water treatment facilities, such as will result from the adoption of the subject
3 Order. (See, Gov. Code § 17516(c).) For example, Part II, of the Subject Permit requires
4 Permittees to implement best management practices as necessary to prevent exceedences
5 of water quality objectives or standards. Petitioners contend that such a requirement will
6 result in the construction of major waste water treatment facilities throughout the region, in
7 violation of the provisions of Article XIII B, Section 6 of the California Constitution, and
8 further in violation of Government Code Section 17516(c), since no State or federal
9 assistance was made available pursuant to the Clean Water Bond Act of 1970 and 1974, to
10 the Petitioners. In a study prepared by the University of Southern California entitled "An
11 Economic Impact Evaluation of Proposed Storm Water Treatment for Los Angeles
12 County," a true and correct copy of which is attached hereto and marked as Attachment
13 "C," the study concluded that anywhere from 65 to 130 treatment plants would need to be
14 constructed over the next 20 years to comply with the subject Permit and other stormwater
15 regulations, with capital costs ranging from \$43.7 billion to treat flows from approximately
16 70% of the historic average annual storm events, to \$283.9 billion for 97% of the expected
17 storm events.

18 99. As Part II of the Subject Permit requires the installation of BMPs as
19 necessary to prevent exceedences of water quality standards and water quality objectives
20 and to prevent discharges from storm drain systems causing or contributing to a condition
21 of nuisance, the Subject Permit is an order that will result in the construction of major
22 waste water treatment facilities, without any corresponding State or federal assistance
23 under the Clean Water Bond Act of 1970 and 1974, or otherwise.

24 100. Numerous other mandates imposed by the Permit, including the
25 Development Planning Program/SUSMP requirements, the Development Construction
26 Program, the Catch Basin Program, the Trash Receptacle Program, the Illicit Connection
27 and Illicit Discharge Program and various other requirements imposed upon Permittees are
28 similarly invalid unfunded mandates.

1 projects (i.e., CEQA), and is an attempt to impose additional legislative requirements
2 and/or regulations on the development and use of land throughout the region. As such, the
3 proposed Order is more than a set of waste discharge requirements and in effect, is a set of
4 regulations and/or is legislation, adopted in violation of the requirements of the
5 Administrative Procedures Act and California law.

6 **XIII.**

7 **RESPONDENTS HAD NO AUTHORITY TO ISSUE THE SUBJECT NPDES**
8 **PERMIT AND THE FINDINGS ARE NOT SUPPORTED BY THE RECORD AND**
9 **DO NOT SUPPORT ITS TERMS.**

10 105. Under the Clean Water Act, only state agencies with statewide jurisdiction
11 over class of activities or discharges may issue NPDES permit. (40 C.F.R. 123.1(g)(1) and
12 123.22(b).) As Respondent Regional Board is not a state agency and is not an agency with
13 statewide jurisdiction over a class of activities or discharges, without specific regulatory
14 direction from the State Board and direct oversight by the State Board of the issuance of an
15 NPDES permit, Respondent Regional Board was without authority to issue any NPDES
16 permit, specifically including the subject Permit.

17 106. Just as the State Board has issued general permits for construction activities
18 and industrial activities to be thereafter enforced and administered by the regional boards,
19 the State Board has jurisdiction to issue a general or specific permit for MS4s throughout
20 the State. No such authority, however, exists within any *regional* board unless and until
21 specific *regulatory* direction and guidance is provided by the State Board. (See 40 C.F.R.
22 123.1(g)(1) and 123.22(b).)

23 107. As a result of the failure of the State Board to date to take action to provide
24 the necessary regulatory guidance to all regional boards throughout the State for municipal
25 NPDES Permits, a series of petitions and challenges have been filed challenging individual
26 MS4 NPDES permits, thereby turning the regulatory process into an adjudicative process,
27 and a piecemeal process, without sufficient direction from the State Board on the
28 appropriate terms and provisions for issuing a municipal NPDES permit. Respondents

1 acted contrary to law in issuing the subject Permit as they had no authority to do so.
2 108. Finally, the subject Permit is defective and was improperly issued as
3 numerous findings throughout the Permit are not supported by the evidence and/or do not
4 support the various terms of the Permit. Specifically, Findings B.6, D.2, D.4, D.5, E.1,
5 E.5, E.6, E.7, E.14, E.16, E.18, E.19, E.24, E.25, F.1, F.3, F.4, F.9, F.10, and G.6, are all
6 findings that are either not supported by the evidence in the record and/or are findings that
7 do not support the terms of the Permit. The findings contained in the Subject Permit are
8 without substantial evidence in the record to support such findings. Respondents abused
9 their discretion and acted contrary to law and their decisions were not supported by
10 substantial evidence, since the findings were not supported by substantial evidence, and
11 since the findings were insufficient to support the terms of the Permit.

12 **FIRST CAUSE OF ACTION**

13 **For Peremptory Writ of Mandate**

14 **(Code of Civil Procedure § 1094.5 and Water Code § 13330)**

15 109. Petitioners incorporated herein by reference in their entirety each and every
16 allegation set forth in paragraphs 1 through 108 above, and further incorporate Code of
17 Civil Procedure section 1060 herein.

18 110. Petitioners, subject to the terms and requirements of the subject Order, either
19 directly as Permittees hereunder, or as persons whose activities will adversely be impacted
20 by the regulatory mandates imposed by the terms of the subject Permit, and thus are parties
21 who are beneficially interested in the subject of this Petition for Writ of Mandate.

22 111. Respondents adopted the subject Order ostensibly under the requirements of
23 the Clean Water Act and Water Code section 13263 and related provisions thereto, and
24 conducted a hearing on the adoption of such Order, wherein evidence was required to be
25 taken and discretion was vested in Respondent Regional Board; accordingly, Respondents'
26 actions, inactions and omissions are subject to judicial review in accordance with Code of
27 Civil Procedure section 1094.5 and pursuant to Water Code section 13330, a reviewing
28 court is to exercise its independent judgment in reviewing the subject actions, inactions,

1 and omissions of Respondents herein.

2 112. Respondents have prejudicially abused their discretion and have failed to
3 proceed in a manner required by law, in that:

4 (a) Respondents acted contrary to law and specifically the requirements
5 of the Clean Water Act and the regulations thereunder, as Respondents had no authority to
6 issue the subject Permit since Respondent Regional Board is not a state agency with
7 statewide jurisdiction over the matters addressed in the Permit;

8 (b) Respondents' findings in the subject Permit are not supported by
9 substantial evidence, and the requirements and conditions set forth in the subject Permit
10 are not supported by the findings;

11 (c) Respondents failed to comply with the requirements of the Clean
12 Water Act and regulations hereunder, and acted contrary to law as described herein in
13 developing, processing and adopting the subject Permit;

14 (d) Respondents failed to comply with the requirements of Porter-
15 Cologne Act, Water Code sections 13000 et seq., and acted contrary to law, as described
16 herein;

17 (e) Respondents acted contrary to the requirements of CEQA by failing to
18 comply with the requirements of CEQA and by adopting Permit terms that are inconsistent
19 with and contrary to the process set forth by the California Legislature in its adoption of
20 CEQA, and in the promulgation of regulations thereunder;

21 (f) Respondents' actions in adopting the subject Permit, and in modifying
22 the same, without providing Petitioners sufficient opportunity to review and comment on
23 all substantive changes prior to the adoption of the subject Permit, as required by law,
24 resulted in Petitioners being denied a full opportunity to review and comment on all such
25 changes, and being denied due process of law, in violation of the United States and
26 California Constitutions;

27 (g) Respondents failed to comply with the requirements of the California
28 Administrative Procedures Act, and acted contrary to law as described herein; and

1 (h) Respondents failed to comply with the requirements of the California
2 Constitution, Article XIII B, Section 6, and acted contrary to law as described herein by
3 violating Government Code Section 17516(c).

4 113. For reasons set forth in this Petition, issuance of a writ of mandate will result
5 in the enforcement of an important right affecting the public interest and will confer a
6 significant benefit on the general public. Respondents have the present ability to set aside
7 the terms of the subject Permit, which will result in reinstatement of the 1996 Permit
8 terms, pending the adoption of a new permit that is consistent with the requirement of
9 applicable law.

10 114. Respondents must set aside the subject Order, as the Order was issued in
11 violation of the procedures and processes required by law, is arbitrary, capricious, and
12 illegal, and/or is lacking in evidentiary support, for the reasons set forth herein.

13 115. By orally testifying before Respondents, and by the submission of written
14 and oral arguments and materials in evidence to Respondents, and further by petitioning
15 the State Board for review of Respondent Regional Board's actions, pursuant to Water
16 Code section 13320, Petitioners herein have exhausted all administrative remedies
17 available, have no further administrative remedies, and have no adequate legal remedy in
18 the ordinary course of law other than the issuance by this Court of a writ of mandate.

19 116. Petitioners herein further seek a stay of the implementation and enforcement
20 of the subject Order, as well as preliminary and permanent injunction pursuant to
21 California Water Code section 13361, as permanent damage and irreparable harm may
22 result as a result of the implementation and enforcement of the subject Order, and as
23 significant costs and resources will be expended towards compliance with a deficient and
24 invalid Order issued by Respondent Regional Board without authority to do so, and as
25 Petitioners herein will be subject to unwarranted and inappropriate citizen suits and
26 enforcement actions under the Clean Water Act, and other potential and unwarranted
27 litigation, if such relief is not granted.

28

1 SECOND CAUSE OF ACTION

2 For Writ of Mandate

3 (Code of Civil Procedure § 1085)

4 117. Petitioner herein incorporate by reference each and every allegation
5 contained in paragraphs 1 through 116 above.

6 118. Petitioners, subject to the terms and requirements of the subject Order, either
7 directly as Permittees hereunder, or as persons whose activities will adversely be impacted
8 by the regulatory mandates imposed by the terms of the subject Permit, and thus are parties
9 who are beneficially interested in the subject of this Petition for Writ of Mandate.

10 119. Respondents had a clear and present duty to provide a fair hearing, to comply
11 with the Clean Water Act, the California Porter-Cologne Act, the California
12 Environmental Quality Act, the California Administrative Procedures Act, Government
13 Code sections 11340 *et seq.*, and other state and federal laws and regulations, as well as to
14 act in accordance with the United States and California Constitutions, and must set aside
15 the subject Order which was issued in excess of Respondents' authority and in violation of
16 the procedures and processes required by law. Respondents' actions, as described herein,
17 were arbitrary, capricious, contrary to law, and/or entirely lacking in evidentiary support.

18 120. Respondents have a clear and present duty to proceed in the manner required
19 by law and to obtain authority and jurisdiction under the Clean Water Act through further
20 regulatory direction from the State Board, to issue NPDES permits, and to thereafter act in
21 accordance with the regulations and other federal and State law, and the United States and
22 California Constitutions.

23 121. Respondents have not proceeded in the manner required by law in that:

24 (a) Respondents acted contrary to law and specifically the requirements
25 of the Clean Water Act and the regulations thereunder, as Respondents had no authority to
26 issue the subject Permit since Respondent Regional Board is not a state agency with
27 statewide jurisdiction over the matters addressed in the Permit;

28 (b) Respondents' findings in the subject Permit are not supported by

1 substantial evidence, and the requirements and conditions set forth in the subject Permit
2 are not supported by the findings;

3 (c) Respondents failed to comply with the requirements of the Clean
4 Water Act and regulations hereunder, and acted contrary to law as described herein in
5 developing, processing and adopting the subject Permit;

6 (d) Respondents failed to comply with the requirements of Porter-
7 Cologne Act, Water Code sections 13000 et seq., and acted contrary to law, as described
8 herein;

9 (e) Respondents acted contrary to the requirements of CEQA by failing to
10 comply with the requirements of CEQA and by adopting Permit terms that are inconsistent
11 with and contrary to the process set forth by the California Legislature in its adoption of
12 CEQA, and in the promulgation of regulations thereunder;

13 (f) Respondents' actions in adopting the subject Permit, and in modifying
14 the same, without providing Petitioners sufficient opportunity to review and comment on
15 all substantive changes prior to the adoption of the subject Permit, as required by law,
16 resulted in Petitioners being denied a full opportunity to review and comment on all such
17 changes, and being denied due process of law, in violation of the United States and
18 California Constitutions;

19 (g) Respondents failed to comply with the requirements of the California
20 Administrative Procedures Act, and acted contrary to law as described herein; and

21 (h) Respondents failed to comply with the requirements of the California
22 Constitution, Article XIII B, Section 6, and acted contrary to law as described herein, by
23 violating Government Code Section 17516(c).

24 122. For the reasons set forth herein, the issuance of a writ of mandate will result
25 in the enforcement of an important right affecting the public interest and will confer a
26 significant benefit under the general public. Respondents have the present ability to set
27 aside the terms of the subject Permit, which will result in reinstatement of the 1996 Permit
28 terms, pending the adoption of a new permit that is consistent with the requirement of

1 applicable law.

2 123. Respondents must be ordered to set aside the subject Order, as the Order was
3 issued in violation of the procedures and processes required by law, is arbitrary, capricious,
4 and illegal; and/or lacking in evidentiary support, and for the reasons set forth herein.

5 124. By orally testifying before Respondents, and by the submission of written
6 and oral arguments and materials in evidence to Respondents, and further by petitioning
7 the State Board for review of Respondent Regional Board's actions, pursuant to Water
8 Code section 13320, Petitioners herein have exhausted all administrative remedies
9 available, have no further administrative remedy, and have no adequate legal remedy in the
10 ordinary course of law other than the issuance by this Court of a writ of mandate.

11 125. Petitioners herein further seek a stay of the implementation and enforcement
12 of the subject Order, as well as preliminary and permanent injunction pursuant to
13 California Water Code section 13361, as permanent damage and irreparable harm may
14 result as a result of the implementation and enforcement of the subject Order, and as
15 significant costs and resources will be expended towards compliance with a deficient and
16 invalid Order issued by Respondent Regional Board without authority to do so, and as
17 Petitioners herein will be subject to unwarranted and inappropriate citizen suits and
18 enforcement actions under the Clean Water Act, and other potential and unwarranted
19 litigation, if such relief is not granted.

20 **THIRD CAUSE OF ACTION**

21 **For Declaratory Relief**

22 **(Code of Civil Procedure § 1060 and Government Code §§ 11350 and 11350.3)**

23 126. Petitioners herein incorporate by reference each and every allegation
24 contained in paragraphs 1 through 125 above.

25 127. An actual controversy has arisen between Petitioners and Respondents
26 relating to their legal rights and duties concerning the subject NPDES permit. Specifically,
27 Petitioners contend that the Permit is invalid, was adopted by Respondent Regional Board
28 which had no authority to do so, and was adopted contrary to the requirements of State law

1 and the Clean Water Act, including the regulations thereunder, and was adopted contrary
2 to CEQA and the United States and California Constitutions, as well as Government Code
3 Section 17516(c), all as alleged herein.

4 128. Respondents, on the other hand, contend that the subject Order was adopted
5 in accordance with State and federal law.

6 129. No adequate remedy other than that prayed for herein exists by which the
7 rights of the parties hereto may be adjudicated and determined because of the public
8 interest requires a prompt resolution of this matter, and as the subject Permit concerns
9 unique rights. Declaratory relief is thus necessary and appropriate to resolve the pending
10 dispute and to avoid the multiplicity of actions over the same and/or similar actions by
11 Respondents herein, and as necessary to provide specific direction to Respondents in
12 taking any future action that may involve the subject Permit, or similar and/or related
13 permits and actions.

14 **FOURTH CAUSE OF ACTION**

15 **For Stay and a Preliminary and Permanent Injunction**

16 **(Code of Civil Procedure §§ 526, 527,**

17 **Civil Code § 3422, and Water Code §§ 13361)**

18 130. Petitioners herein incorporate by reference in their entirety each and every
19 allegations set forth in paragraphs 1 through 129 above.

20 131. The subject Order was adopted contrary to the Clean Water Act and the
21 regulations thereunder, and contrary to State law and the United States and California
22 Constitutions, for the reasons alleged herein.

23 132. Unless Respondents are enjoined by this Court from implementing,
24 administrating and enforcing the subject Order, Petitioners, the public at large and cities
25 throughout Los Angeles County will suffer substantial and irreparable harm. Petitioners,
26 and others, will be forced to expand their limited resources, and to commence
27 implementation of the terms of the subject Order to the detriment of Petitioners and the
28 public. Proceeding with the implementation, administration and enforcement of the

1 subject Order will, therefore, result in the waste of resources, and will further hinder future
2 environmental compliance efforts throughout Los Angeles County, as a result of the
3 imposition of unreasonable and overly expensive requirements and restrictions, and
4 requirements that are not cost effective, all which would result in irreparable damage to
5 untold businesses and citizens, without any appropriate corresponding benefit."

6 133. Petitioners herein have no adequate remedy other than that prayed for herein,
7 in that the subject matter is unique and in that monetary damages would be inadequate to
8 fully compensate Petitioners for the consequences of Respondents actions. Injunctive
9 relief is therefore in the interest of the public for the reasons alleged herein.

10 134. Petitioners therefore seek and are entitled under Code of Civil Procedure
11 sections 526 and 527, Civil Code section 3422 and Water Code section 13361, to a stay or
12 a preliminary and/or permanent injunction, enjoining Respondents from proceeding further
13 with the administration, implementation and enforcement of the subject Order.

14 **PRAYER FOR RELIEF**

15 WHEREFORE, Petitioners herein, and each of them pray as follows:

16 (1) That the Court issue a writ of mandate commanding Respondents to set aside
17 the subject Order, and in all actions taken or to be taken as a result of such Order towards
18 the enforcement and/or implementation of the Order, and all actions pertaining thereto, and
19 that the 1996 Permit be reinstated; or, in the alternative, that the Court issue a writ of
20 mandate commanding that the Respondents provide a full and fair hearing on the issuance
21 of a proper municipal NPDES permit for Los Angeles County, including the City of Los
22 Angeles and all municipalities therein, except the City of Long Beach, in accordance with
23 the requirements of State and federal law;

24 (2) That a declaratory judgment be entered declaring the subject Order invalid
25 and declaring that Respondents' actions were arbitrary and capricious and otherwise
26 contrary to State and federal laws, and requiring the reinstatement of the 1996 Permit
27 pending the development, processing and approval of a municipal NPDES Permit that is
28 consistent with law;

1 (3) That a stay and/or temporary restraining order, preliminary injunction and/or
2 permanent injunction be issued, enjoining the adoption, implementation, and enforcement
3 of the subject Permit;

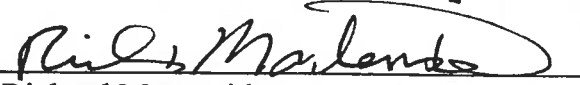
4 (4) That an Order be issued by the Court setting aside the action through
5 adoption of the Order, and any related action of Respondents under such Order, or, in the
6 alternative, that the Court modify such actions so that they are in compliance with the
7 requirements of State and federal law;

8 (5) That an Order by issued by the Court providing for such other and further
9 relief as is just and proper; and

10 (6) That costs, attorney fees and other expert fees incurred in pursuing this
11 Petition be awarded to Petitioners, as permitted by law.

12 Dated: January 17, 2003

Respectfully submitted
RUTAN & TUCKER, LLP
RICHARD MONTEVIDEO

13
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15 By: 
16 Richard Montevideo
17 Attorneys for Petitioners/Plaintiffs
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VERIFICATION

STATE OF CALIFORNIA, COUNTY OF LOS ANGELES


I have read the foregoing PETITION FOR WRIT OF MANDATE AND COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF and know its contents.

I am General Counsel to the Building Industry Legal Defense Foundation, a party to this action, and am authorized to make this verification for and on its behalf, and I make this verification for that reason. I am informed and believe and on that ground allege that the matters stated in the foregoing document are true.

Executed on January 16, 2003, at Diamond Bar, California.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Building Industry Legal Defense Foundation



David C. Smith, Esq.

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VERIFICATION

STATE OF CALIFORNIA, COUNTY OF LOS ANGELES

I have read the foregoing PETITION FOR WRIT OF MANDATE AND COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF and know its contents.

I am an officer of the Construction Industry Coalition on Water Quality, a party to this action, and am authorized to make this verification for and on its behalf, and I make this verification for that reason. I am informed and believe and on that ground allege that the matters stated in the foregoing document are true.

Executed on January 16, 2003, at West Covina, California.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

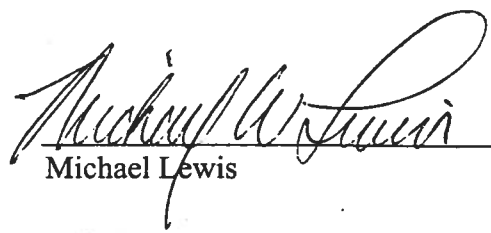

Michael Lewis

EXHIBIT "A"

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*A PROFESSIONAL CORPORATION
**PATENT AGENT

January 17, 2003

VIA FACSIMILE AND FIRST CLASS MAIL

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality
Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013-1105

Re: Notice of Intent to Commence Action under the California Environmental Quality
Act (Public Resources Code Section 21167.5)

Dear Mr. Dickerson:

Notice is hereby given, pursuant to Section 21167.5 of the California Public Resources Code, that the Cities of Arcadia, Baldwin Park, Bell Gardens, Bellflower, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Gardena, Hawaiian Gardens, Irwindale, Lawndale, Montebello, Monterey Park, Paramount, Pico Rivera, Pomona, Rosemead, San Gabriel, Santa Fe Springs, Sierra Madre, Signal Hill, South Gate, South Pasadena, Temple City, Vernon, Walnut, West Covina, Whittier and potentially other Los Angeles County Cities, and the Building Industry Legal Defense Foundation, a non-profit mutual benefit corporation, and the Construction Industry Coalition on Water Quality, a non-profit corporation, intend to commence proceedings seeking a Writ of Mandate against the California Regional Water Quality Control Board, Los Angeles Region, and DOES 1 through 50, inclusive, ("Respondents") to challenge the Respondents' actions and inactions in developing and adopting Order No. 01-182, NPDES Permit No. CAS004001 Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the incorporated Cities therein, except for the City of Long Beach, in part because of said Respondents failure to comply with the requirements of the California Environmental Quality Act (Public Resources Code Section 21100, *et seq.*) and various other requirements of State and federal law.

Mr. Dennis Dickerson
January 17, 2003
Page 2

Please do not hesitate to contact the undersigned should you have any questions in this regard.

Respectfully submitted,

RUTAN & TUCKER, LLP



Richard Montevideo

RM:kmh

cc: Bill Lockyer, Esq., State Attorney General

EXHIBIT B

EXHIBIT "B"

1 **PROOF OF SERVICE BY MAIL**

2 **STATE OF CALIFORNIA, COUNTY OF ORANGE**

3
4 I am employed by the law office of Rutan & Tucker, LLP in the County of Orange, State of
5 California. I am over the age of 18 and not a party to the within action. My business address is
6 611 Anton Boulevard, Fourteenth Floor, Costa Mesa, California 92626-1931.

7 On January 17, 2003, I served on the party below the within:

8 **PETITION FOR WRIT OF MANDATE AND COMPLAINT FOR DECLARATORY
9 RELIEF AND INJUNCTIVE RELIEF**

10 by placing a true copy thereof in sealed envelope(s) addressed as stated below:

11 Bill Lockyer, Esq.
12 California Attorney General
13 300 S. Spring Street, Suite 13-N
14 Los Angeles, CA 90013

15 In the course of my employment with Rutan & Tucker, LLP, I have, through first-hand
16 personal observation, become readily familiar with Rutan & Tucker, LLP's practice of collection
17 and processing correspondence for mailing with the United States Postal Service. Under that
18 practice I deposited such envelope(s) in an out-box for collection by other personnel of Rutan &
19 Tucker, LLP, and for ultimate posting and placement with the U.S. Postal Service on that same day
20 in the ordinary course of business. If the customary business practices of Rutan & Tucker, LLP
21 with regard to collection and processing of correspondence and mailing were followed, and I am
22 confident that they were, such envelope(s) were posted and placed in the United States mail at
23 Costa Mesa, California, that same date. I am aware that on motion of party served, service is
24 presumed invalid if postal cancellation date or postage meter date is more than one day after date
25 of deposit for mailing in affidavit.

26 Executed on January 17, 2003, at Costa Mesa, California.

27 I declare under penalty of perjury under the laws of the State of California that the
28 foregoing is true and correct.

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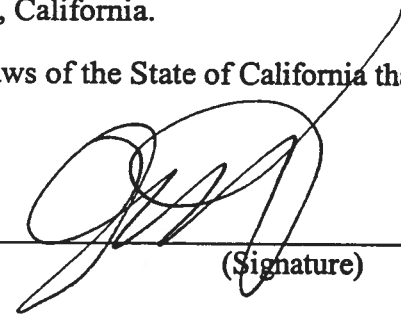

(Signature)

EXHIBIT C

EXHIBIT "C"



An Economic Impact Evaluation of Proposed Storm Water Treatment for Los Angeles County

by

Peter Gordon
John Kuprenas
Jiin-Jen Lee
James E. Moore
Harry W. Richardson
Christopher Williamson

with the assistance of

Donghwan An
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School of Engineering and School of Policy, Planning, and Development
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Los Angeles, CA 90089

November 2002

The findings and views expressed in this report are solely those of the authors
and not of the officers or the Board of Trustees of the University of Southern California.

EXHIBIT C

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STUDY OVERVIEW

A. Introduction

This study is the most comprehensive analysis to date of the potential costs required to meet new and emerging storm water regulations in the Los Angeles area. It confirms that advanced treatment of storm flows will likely be required to meet current and anticipated federal and state water quality standards. Such treatment will be extremely costly and will generate significantly negative economic consequences for our region. The principal study case, which contemplates 65 treatment plants to accommodate regional storm water requirements, shows that:

- The capital costs required to build new collection and treatment facilities range from \$43.7 billion to treat flows from about 70% of the historic average annual storm events to \$283.9 billion for 97% of the expected storm events.
- The net employment impacts depend on the period studied, a 15-year construction period, or a subsequent period of operations. In the first period, losses range from over 22,000 full-time jobs per year to treat 70% of the annual storm events to 139,000 full-time jobs per year to achieve 97% storm event coverage. The corresponding annual job losses for post-construction plant operations and maintenance range from 59,000 jobs to over 382,000.
- The present value (cost) of the net economic impacts from the project over 20 years ranges from -\$25 billion to treat storms that drop ½ inch per day or less (70% of storms or 22 days per year) to -\$156 billion for 97% coverage, or a six fold increase in costs to treat an average of nine additional days of runoff per year.
- Over 20 years, the present value (cost) of the net economic impacts to El Monte will range from -\$399 million to -\$2.56 billion, -\$492 million to -\$3.17 billion for Inglewood, -\$737 million to -\$4.66 billion for Pasadena, -\$321 million to -\$2.2 billion for Pomona, and -\$1.2 billion to -\$7.7 billion for Torrance.
- The 20 year present value (cost) of the net economic impacts to each L.A. County household for these required storm water facilities ranges from about -\$6,670 to treat the smallest 70% of storms to -\$41,760 to treat 97% of the expected annual storm events.

B. Background

Largely in response to lawsuits brought by environmental advocacy groups, state and federal regulators have dramatically expanded the scope of regional water quality controls to include storm water flows. Municipal Separate Storm Sewer System (MS4) permit provisions issued under the National Pollutant Discharge Elimination System (NPDES) program, together with issuance of the California Toxics Rule and the continuing expansion of the Los Angeles region's list of "impaired" waterbodies are greatly increasing the magnitude and scope of water quality regulations. Considering these developments, this study concludes that:

"It is quite feasible, indeed likely, that the ultimate public policy result to these simultaneous requirements will be advanced treatment of storm water and urban runoff."

Rainfall is naturally infrequent in the semi-arid Los Angeles area. On average, the basin experiences no rainfall, and thus no storm flows, for approximately 333 of 365 days per year (about 91% of the time). On the remaining 32 days per year, rain falling on natural canyons, residential areas, shopping centers, roads and other surfaces infiltrates into the ground or drains into catch basins, pipes, and flood control channels that eventually empty into the ocean. Previous protection programs recognized that there was no rationale for constructing facilities to divert and treat intermittent storm flows and focused on improving regional water quality without such drastic measures.

New state and federal programs, however, are generating numerous stringent water quality standards that even temporary rain-driven storm flows usually exceed. Many of these storm water standards, in fact, are more stringent than those for existing sewage treatment plants. To meet the new requirements, the Los Angeles region must build and maintain a very large network of new collection and treatment facilities, most of which will be idle for the 91% of each year during which no rain falls.

Several studies have estimated the costs of building these facilities, including a widely cited 1998 study for the California Department of Transportation, conducted by the water treatment and environmental engineering firm of Brown & Caldwell. This study found that construction of approximately 480 facilities to divert and treat flows from about 90% of the annual expected storm events would cost approximately \$53.6 billion. The Los Angeles County Sanitation District, which operates most of the region's water treatment plants, subsequently reviewed the Brown & Caldwell study and concluded that the costs were more likely to be in the range of \$65 billion.

Given the magnitude of these cost estimates, a multidisciplinary team of experts from USC was asked to provide an independent, comprehensive assessment of the regulatory requirements and projected storm water treatment costs in the Los Angeles region. The team was composed of environmental, engineering, planning, and economics professionals and employed the following approach:

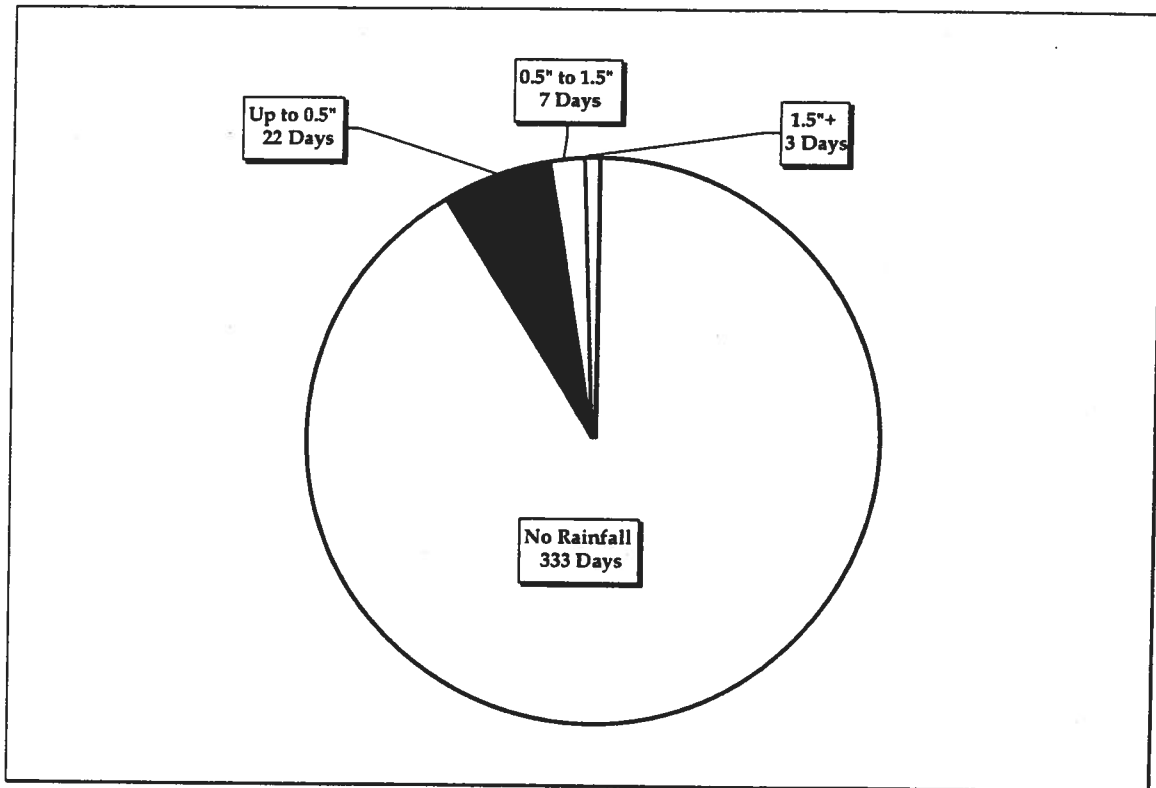
- (1) 70 years of daily rainfall data from 76 local rain gauge stations were analyzed to determine storm patterns and the volume of storm-related flows that would require treatment.
- (2) The rainfall data were divided into three "scenarios" that approximate the 70%, 90% and 97% (22, 29, and 31 of 32 rainfall days respectively) cumulative distribution of the region's historic annual storm frequency.
- (3) For each of the three rainfall scenarios, the 20-year capital and operations and maintenance (O&M) costs required to meet the new storm water regulations were estimated for three facility construction "cases." These cases include: (a) the Brown & Caldwell approach of using similar-size, regionally dispersed plants; (b) siting hydrology-sized plants in each of the 65 regional sub-basins (the study's "highlighted" or base case); and (c) a "political equity" approach that would site 130 hydrology-sized plants among each watershed and political jurisdiction.
- (4) Net employment impacts resulting from treatment facility construction and O&M spending and offsetting household income reductions (largely attributable to associated increased taxes) were estimated for the region and most of the communities in the region.
- (5) The present value of the net economic output generated by facility construction and O&M spending offset by reduced household spending was estimated for the region and most of the communities in the region.
- (6) The present value of the net economic output generated by facility construction and O&M spending offset by reduced household spending was estimated for municipalities within and adjacent to Los Angeles County – highlighted for the examples of El Monte, Inglewood, Pasadena, Pomona and Torrance.
- (7) The present values of the average net economic impacts to each Los Angeles County household for facility construction and operation in each of the construction and rainfall scenarios were estimated.

C. Key Findings

This study confirms that the advanced level of treatment required to meet new and emerging storm water regulations will impose very large burdens on the regional economy. This study's treatment facility capital cost estimate based on the Brown & Caldwell approach is over \$102 billion, which is considerably higher than either the Brown & Caldwell (\$53.6 billion) or the Los Angeles County Sanitation District (\$65 billion) estimate for comparable treatment capacities. Much of the increase is due to this study's use of higher current land costs. Even if land costs are excluded, the study still projects that the Brown & Caldwell treatment case will cost approximately \$64.9 billion to construct.

The study also demonstrates that storm water treatment costs and economic impacts greatly increase with the capacity of the facilities to treat rare, large storm events. On average, the Los Angeles area experiences about 32 days of rainfall per annum. Typically, 22 (70%) of these wet days result in 0-0.5 inches of rain, 0.5-1.5 inches fall on about 7 (20%) wet days, from 1.5 to 2.25 inches are recorded on an average of only 2 (7%) days each year, and more than 2.25" falls about 1 day (3%) per year. Rain-driven storm water treatment facilities are basically idle for approximately 333 of 365 days, or over 91% of the average year (see Chart 1).

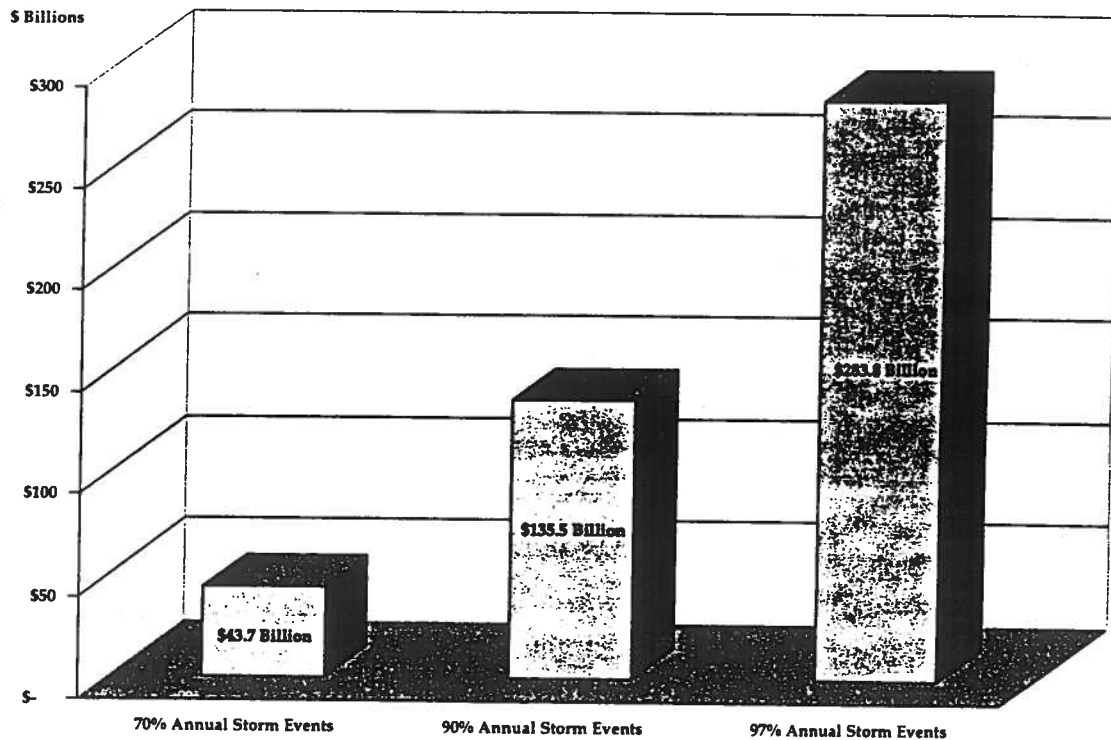
Chart 1
Average Annual Los Angeles Region Rainfall Over the Last 70 Years



The study examines the compliance costs and impacts associated with treatment of storm flows produced by 0-0.5" of rain (22 of 32 wet days, or 70% of the rain events per year), 0-1.25" of rain (the Brown & Caldwell assumption that corresponds to about 29 of 32 wet days or about 90% of the average rain events per year) and a 2.25" one-day storm (statistically about 97% of the average annual storm events). Costs and impacts were found to increase dramatically as storm water treatment capacity approaches the full annual rain event coverage.

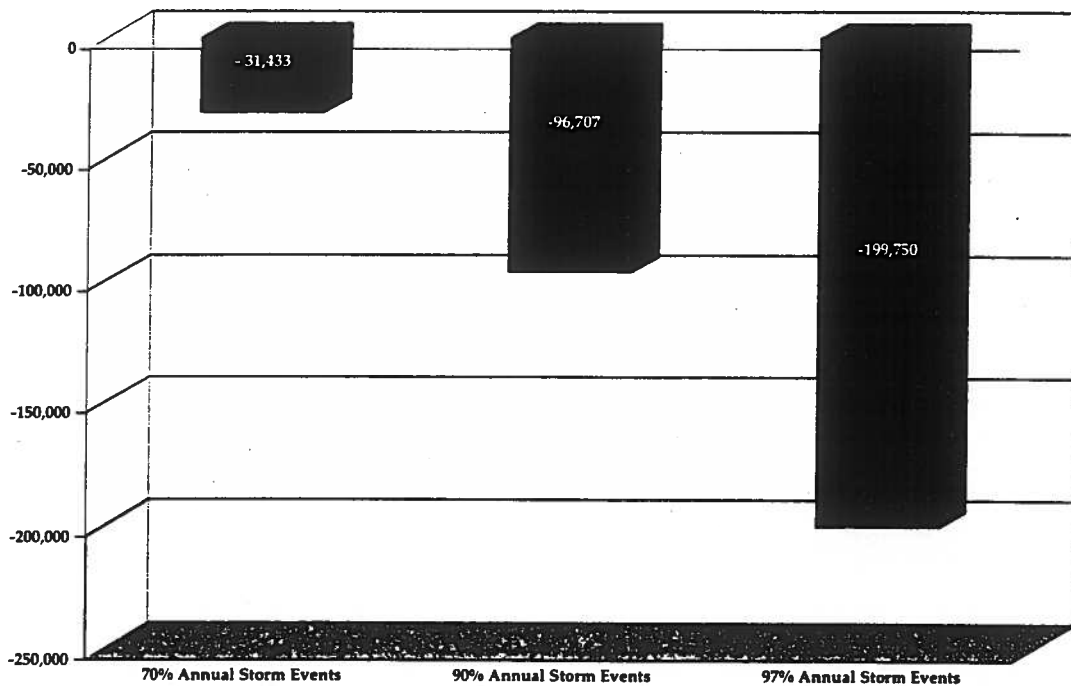
The study highlights the case of 65 plants, one in each major drainage sub-basin of the Los Angeles area, as a reasonably plausible engineering approach to address the region's new storm water discharge standards and requirements. To build a 65-plant system, the study estimates that the region would have to invest \$43.7 billion for new collection and treatment capacity to accommodate the 22 days of flows generated by storms of less than 0.5 inch per day. These capital expenses increase to a total of \$135.5 billion to build the capacity to accommodate the additional seven storm events per year that produce 0.5 –1.25 inches of rain per day. The cost of facilities that can treat 97% of the average daily rainfall drainage rises to nearly \$283.9 billion. Even assuming that flows from fewer than 70% of the region's annual storm events are treated, advanced facilities will be very costly to construct (see Chart 2).

Chart 2
Collection and Treatment Facility Capital Costs
by Storm Event Scenario for the 65-Plant Case



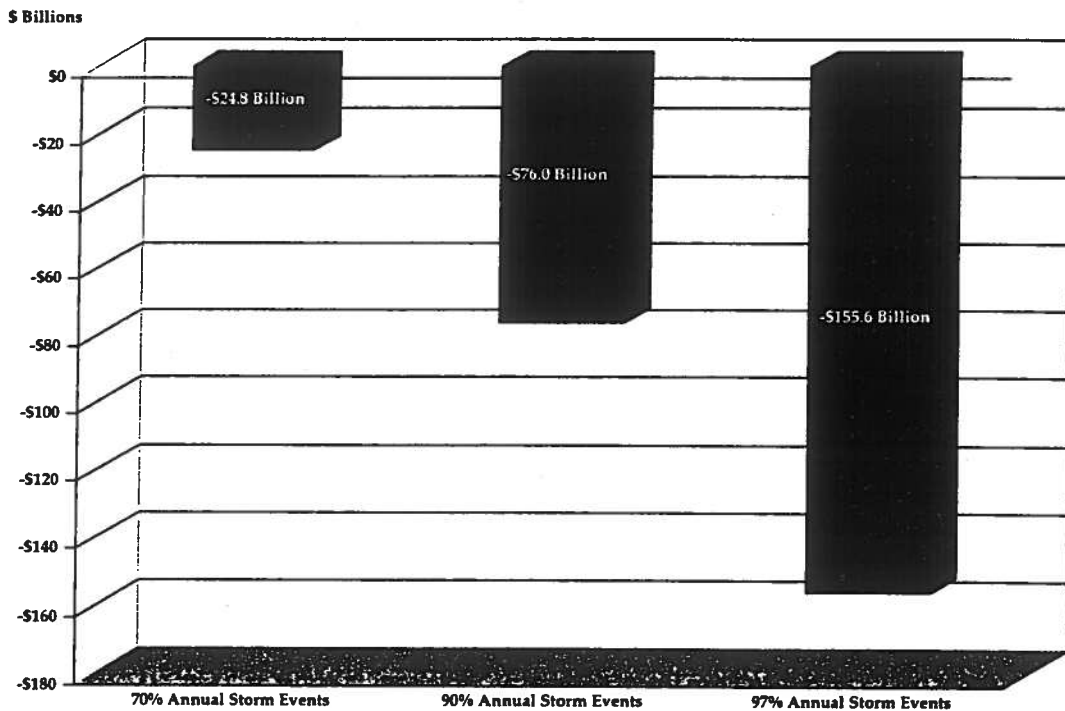
Expenditures of this magnitude will substantially affect the regional economy. The study estimates that the net employment impacts associated with the construction and operation of 65 treatment plants will be strongly negative. Any short-term positive employment stimulus will be more than offset by the long-term household income reductions necessary to pay for the new facilities. During the two decades of analysis, job losses will be larger in years 16-20, after the capital spending for new facilities in years 1-15 is completed. Taking a weighted average of the years from the two periods, the annual full-time equivalent ("person year") job losses will range from approximately 31,400 in the event that flows from 70% of the annual storm events are treated to 199,750 to achieve 97% coverage (see Chart 3).

Chart 3
Annual Net Full-Time Equivalent Employment Impacts
by Storm Event Scenario for the 65-Plant Case



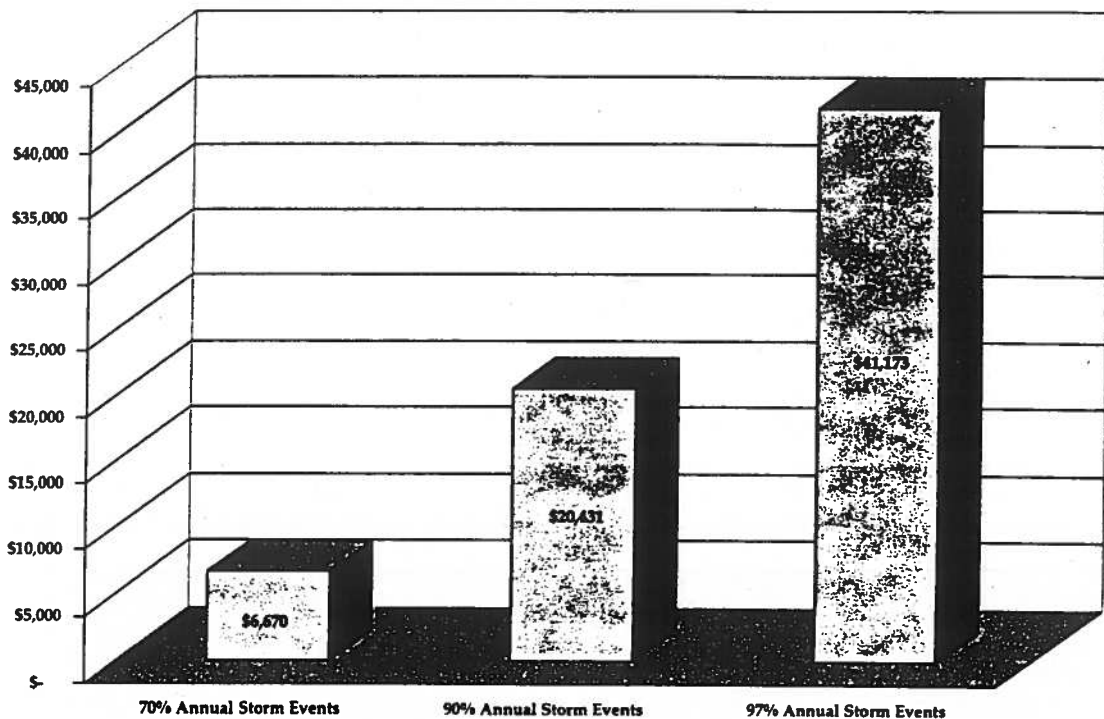
The study also estimates that the present value of the 20-year economic impacts associated with the 65-plant base case is strongly negative, again due primarily to higher taxes and lower household income and spending. The magnitude of these losses is predicted to range from a present value of -\$24.8 billion to build facilities that can treat flows from 70% of the annual storm events to -\$155.6 billion for 97% storm event coverage (see Chart 4).

Chart 4
Present Value of 20-Year Net Output Losses Generated
by Storm Event Scenario for the 65-Plant Case



About 80% of the predicted economic impacts associated with storm water treatment facilities will be focused in Los Angeles County. According to the 2000 census, the County was home to approximately 3 million households. This study estimates that each County household will "pay" (experience a negative economic impact) of about \$6,670 over 20 years to build facilities that can treat 70% of the expected storms and about \$42,000 to achieve 97% storm coverage (see Chart 5).

Chart 5
Present Value of the 20-Year Cost Burden per L.A. County Household
by Storm Event Scenario for the 65-Plant Case



The study's analysis of the dispersed, Brown & Caldwell plant siting approach and 130-plant construction cases is largely consistent with the 65-plant case assessment. In each instance, costs and impacts increase substantially as the storm water treatment capacity approaches full annual storm flow coverage (see Chart 6).

Chart 6
Summary of Study Findings by Construction Case
And Level of Treatment

Construction Case	Treatment Capacity		
	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Collection & Treatment Facility Capital Costs (\$ Bil)			
Dispersed (B&C Approach)	\$37	\$102	\$192
65 Larger Plants	\$44	\$136	\$284
130 Smaller Plants	\$48	\$148	\$326
Present Value of 20-Year Regional Net Output Losses (\$ Bil)			
Dispersed (B&C Approach)	-\$23	-\$64	-\$122
65 Larger Plants	-\$25	-\$76	-\$156
130 Smaller Plants	-\$26	-\$80	-\$170
Present Value of 20-Year Cost per LA County Household			
Dispersed (B&C Approach)	\$6,089	\$17,269	\$32,881
65 Larger Plants	\$6,674	\$20,432	\$41,763
130 Smaller Plants	\$7,064	\$21,469	\$45,605
Average Annual Full Time Equivalent Job Losses			
Dispersed (B&C Approach)	-26,776	-74,899	-141,783
65 Larger Plants	-31,433	-96,707	-199,750
130 Smaller Plants	-32,605	-99,313	-214,463

The study analyzes the net fiscal impact of the three treatment plant cases and three rainfall scenarios for most municipalities in Los Angeles County and in neighboring areas. Most municipalities will experience significant negative economic impacts over 20 years due to the costs of constructing, operating, and financing the required storm water treatment facilities. This result is illustrated in the study with specific reference to five geographically distinct communities, El Monte, Inglewood, Pasadena, Pomona and Torrance (see Chart 7).

Chart 7
Summary of Present Value of Net Economic Losses Over 20 Years
by Community, Construction Case, and Level of Treatment (\$ Millions)

	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Dispersed (B&C Approach)			
El Monte	-\$225	-\$548	-\$1,069
Inglewood	-\$180	-\$489	-\$1,392
Pasadena	-\$458	-\$1,626	-\$3,252
Pomona	-\$10	-\$133	-\$499
Torrance	-\$561	-\$2,470	-\$4,485
65 Larger Plants			
El Monte	-\$399	-\$1,232	-\$2,569
Inglewood	-\$492	-\$1,522	-\$3,174
Pasadena	-\$737	-\$2,188	-\$4,664
Pomona	-\$321	-\$1,061	-\$2,230
Torrance	-\$1,201	-\$3,714	-\$7,745
130 Smaller Plants			
El Monte	-\$238	-\$915	-\$2,064
Inglewood	-\$427	-\$1,428	-\$3,143
Pasadena	-\$942	-\$2,978	-\$6,483
Pomona	-\$167	-\$854	-\$1,887
Torrance	-\$1,075	-\$3,382	-\$7,497

D. Conclusion

This study is consistent with previous analyses of Los Angeles County storm water cost burdens. It demonstrates that the collection and treatment of storm flows would very likely have enormous economic and policy consequences for our region. While the impact on the greater Southern California region is described in detail in Appendix A of this study, Charts 8, 9, and 10 summarize the consequences for each MS4 Permit city, the Los Angeles County unincorporated area, and many communities within the permit jurisdiction. Chart 8 is based on the results for the principal 65 treatment plant analysis, while Chart 9 summarizes the 130 treatment plant analysis, and Chart 10 is based on assumptions similar to those used in the 1998 Brown and Caldwell report for the California Department of Transportation.

- New regulations and standards increasingly require, for the first time, that communities throughout Los Angeles County collect and treat intermittent storm flows with advanced, expensive technology. ***Despite considerable population gains, regional water quality has been improving over time without such requirements.***
- To meet these new mandates, communities in the greater Los Angeles and surrounding areas must construct, maintain and operate a very large network of collection and treatment plants and facilities that presently does not exist. ***Most of these new facilities will remain idle for more than 90% of the time each year.***
- The cost and size of the new collection and treatment facilities increase substantially as they are designed to accommodate a larger number of expected annual rain events. ***It will cost about six times more to build a system that can handle 97% versus 70% of the region's annual average storm days, or to achieve about 9 additional days of storm event coverage.***
- Over the twenty-year period analyzed in the report, most communities in the greater Los Angeles area will experience very significant employment and net economic losses caused by the new storm water regulations. ***The region as a whole is projected to lose from 27,000 to 214,000 full time jobs per year and suffer a net economic loss of from \$23 billion to \$170 billion to collect and treat intermittent storm flows.***

Chart 8

NET ECONOMIC IMPACT IN LOS ANGELES COUNTY BY CITY AND CDP, YEARS 1-20			
65 SMALLER PLANTS			
City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Acton	-\$58,536	-\$377,647	-\$825,425
Agoura Hills	-\$20,178,314	-\$100,646,676	-\$232,085,757
Alhambra	-\$368,577,816	-\$1,133,077,137	-\$2,362,102,206
Alondra Park	-\$19,742,466	-\$61,038,797	-\$127,311,488
Altadena	-\$102,904,071	-\$318,186,490	-\$663,788,483
Arcadia	-\$367,695,271	-\$1,137,180,717	-\$2,371,699,940
Artesia	-\$135,587,368	-\$419,203,808	-\$874,356,212
Avocado Heights	-\$70,208,320	-\$216,906,214	-\$451,682,050
Azusa	\$1,419,948,688	\$4,669,061,039	\$10,283,191,920
Baldwin Park	-\$173,306,074	-\$536,095,302	-\$1,118,251,375
Bell	-\$131,945,553	-\$407,848,009	-\$850,266,664
Bellflower	-\$253,509,284	-\$783,851,463	-\$1,635,179,255
Bell Gardens	-\$108,655,082	-\$335,969,896	-\$700,890,412
Beverly Hills	-\$561,880,841	-\$1,736,176,437	-\$3,616,973,383
Bradbury	-\$5,573,746	-\$17,256,587	-\$35,987,456
Burbank	-\$650,627,462	-\$2,010,966,543	-\$4,191,783,190
Calabasas	\$12,417,334	\$297,817	-\$32,277,444
Carson	-\$406,589,609	-\$1,256,045,981	-\$2,615,420,637
Cerritos	-\$316,216,099	-\$977,353,178	-\$2,037,215,929
Charter Oak	-\$35,188,709	-\$108,824,200	-\$227,102,310
Citrus	-\$19,546,643	-\$60,452,326	-\$125,166,810
Claremont	-\$97,090,427	-\$365,108,012	-\$802,796,288
Commerce	-\$201,606,058	-\$622,345,846	-\$1,293,978,132
Compton	-\$276,514,908	-\$854,675,971	-\$1,781,606,932
Covina	-\$303,009,404	-\$937,030,571	-\$1,954,884,721
Cudahy	-\$56,668,591	-\$175,243,436	-\$365,671,625
Culver City	-\$484,142,453	-\$1,496,752,173	-\$3,121,436,891
Del Aire	-\$48,137,206	-\$148,785,384	-\$310,148,668
Diamond Bar	-\$96,039,610	-\$334,625,486	-\$700,654,464
Downey	-\$417,548,584	-\$1,290,561,844	-\$2,690,105,232
Duarte	-\$52,123,981	-\$154,466,817	-\$309,024,614
East Compton	-\$9,490,971	-\$29,342,488	-\$61,195,741
East La Mirada	-\$17,759,367	-\$54,908,194	-\$114,527,036
East Los Angeles	-\$264,853,793	-\$818,335,578	-\$1,704,646,929
East Pasadena	-\$103,337,722	-\$319,625,942	-\$667,206,980
East San Gabriel	-\$63,461,996	-\$196,298,234	-\$409,802,202
El Monte	-\$398,658,472	-\$1,232,230,196	-\$2,588,760,027
El Segundo	\$705,854,813	\$2,129,079,443	\$4,269,428,470
Florence-Graham	-\$92,408,679	-\$285,631,218	-\$595,432,112

City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Gardena	-\$324,601,630	-\$1,003,600,452	-\$2,093,294,791
Glendale	-\$1,020,336,069	-\$3,159,794,904	-\$6,646,513,484
Glendora	-\$133,384,161	-\$395,528,141	-\$791,625,672
Hacienda Heights	-\$148,625,031	-\$459,517,049	-\$958,448,555
Hawaiian Gardens	-\$33,400,030	-\$103,253,630	-\$215,314,673
Hawthorne	-\$308,563,416	-\$954,072,751	-\$1,990,239,062
Hermosa Beach	-\$160,161,692	-\$495,298,598	-\$1,033,562,537
Hidden Hills	-\$6,324,301	-\$19,500,851	-\$40,453,889
Huntington Park	-\$232,234,227	-\$718,038,792	-\$1,497,761,126
Industry	-\$339,035,437	-\$1,112,864,892	-\$2,300,801,567
Inglewood	-\$492,288,935	-\$1,521,964,606	-\$3,174,115,672
Irwindale	\$23,460,475	\$11,041,421	-\$33,688,226
La Canada Flintridge	-\$99,418,311	-\$307,232,191	-\$641,070,936
La Crescenta-Montrose	-\$74,908,595	-\$231,642,699	-\$483,329,614
Ladera Heights	-\$26,948,069	-\$83,278,991	-\$173,541,933
La Habra Heights	-\$64,240,434	-\$151,623,481	-\$319,764,598
Lakewood	-\$391,503,458	-\$1,210,712,325	-\$2,526,394,885
La Mirada	-\$127,903,450	-\$395,100,735	-\$822,625,496
La Puente	-\$102,693,555	-\$317,584,488	-\$662,738,355
La Verne	\$65,854,733	\$179,359,824	\$346,705,316
Lawndale	-\$118,403,168	-\$366,150,177	-\$764,016,107
Lennox	-\$57,091,337	-\$176,525,575	-\$368,236,270
Lomita	-\$114,802,906	-\$355,045,717	-\$740,965,425
Long Beach	\$1,237,469,238	\$3,880,108,741	\$8,230,318,918
Los Angeles	-\$9,958,406,520	-\$29,837,656,414	-\$61,552,800,902
Lynwood	-\$131,659,211	-\$407,020,916	-\$848,791,302
Malibu	\$240,678,433	\$497,397,993	\$868,215,926
Manhattan Beach	-\$285,044,946	-\$881,704,998	-\$1,840,549,945
Marina del Rey	-\$106,451,514	-\$329,053,901	-\$686,147,315
Mayflower Village	-\$9,421,386	-\$29,135,404	-\$60,797,072
Maywood	-\$70,155,384	-\$216,825,395	-\$451,914,934
Monrovia	-\$140,490,768	-\$536,004,592	-\$1,065,512,788
Montebello	-\$306,899,880	-\$949,301,777	-\$1,980,725,983
Monterey Park	-\$245,365,944	-\$758,457,245	-\$1,581,301,878
North El Monte	-\$8,048,714	-\$24,875,082	-\$51,842,700
Norwalk	-\$280,994,426	-\$868,695,965	-\$1,811,561,942
Palos Verdes Estates	-\$28,164,084	-\$87,034,330	-\$181,354,607
Paramount	-\$144,131,424	-\$445,411,887	-\$928,146,470
Pasadena	-\$736,509,128	-\$2,187,569,594	-\$4,664,167,914
Pico Rivera	\$2,204,838,494	\$6,800,529,265	\$14,188,392,616
Pomona	-\$321,254,696	-\$1,060,623,305	-\$2,229,806,257
Rancho Palos Verdes	-\$150,423,099	-\$465,245,084	-\$971,110,323
Redondo Beach	-\$392,037,256	-\$1,212,166,333	-\$2,528,615,198

City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Rolling Hills	-\$2,962,542	-\$9,158,307	-\$19,097,125
Rolling Hills Estates	-\$47,019,722	-\$145,433,221	-\$303,587,641
Rosemead	-\$165,983,590	-\$513,011,954	-\$1,069,195,335
Rowland Heights	-\$187,576,442	-\$579,910,857	-\$1,209,416,029
San Dimas	-\$66,480,841	-\$290,243,744	-\$588,495,245
San Fernando	\$191,100,455	\$604,512,811	\$1,137,541,074
San Gabriel	-\$193,913,821	-\$599,825,469	-\$1,251,048,909
San Marino	-\$43,964,435	-\$135,875,472	-\$283,190,267
Santa Clarita	\$3,044,177,510	\$10,887,146,045	\$25,293,923,794
Santa Fe Springs	-\$151,393,580	-\$466,887,269	-\$968,831,124
Santa Monica	-\$927,352,193	-\$2,866,209,766	-\$5,974,246,103
Sierra Madre	-\$42,866,728	-\$132,540,689	-\$276,474,313
Signal Hill	-\$78,821,236	-\$243,369,988	-\$506,232,893
South El Monte	-\$60,190,653	-\$185,848,376	-\$386,601,443
South Gate	-\$252,475,412	-\$780,576,831	-\$1,628,011,287
South Pasadena	-\$128,019,914	-\$395,729,888	-\$825,081,697
South San Gabriel	-\$18,463,116	-\$57,078,705	-\$119,032,146
South San Jose Hills	-\$21,624,542	-\$66,868,512	-\$139,515,617
South Whittier	-\$104,530,034	-\$323,163,257	-\$673,955,392
Temple City	-\$138,787,412	-\$429,177,228	-\$895,492,871
Torrance	-\$1,201,424,130	-\$3,714,032,033	-\$7,744,554,176
Valinda	-\$50,091,383	-\$154,921,719	-\$323,342,242
Val Verde	\$1,304,330	\$4,049,084	\$7,981,178
Vernon	-\$112,764,628	-\$347,548,285	-\$720,322,609
View Park-Windsor Hills	-\$34,095,044	-\$105,385,140	-\$219,887,706
Vincent	-\$58,318,124	-\$180,360,023	-\$376,398,698
Walnut	-\$60,597,796	-\$187,583,706	-\$390,782,153
Walnut Park	-\$35,958,412	-\$111,191,259	-\$231,986,664
West Athens	-\$17,678,731	-\$54,644,346	-\$113,916,182
West Carson	-\$87,643,603	-\$270,893,461	-\$564,684,416
West Compton	-\$24,319,366	-\$75,008,865	-\$155,885,581
West Covina	-\$449,892,865	-\$1,391,230,859	-\$2,902,883,619
West Hollywood	-\$425,358,337	-\$1,314,821,457	-\$2,741,202,536
Westlake Village	\$20,845,414	\$20,161,544	-\$2,682,856
Westmont	-\$51,990,031	-\$160,754,176	-\$335,348,175
West Puente Valley	-\$20,895,443	-\$64,584,460	-\$134,625,532
West Whittier-Los Nietos	-\$85,576,299	-\$202,760,833	-\$422,985,362
Whittier	-\$297,661,026	-\$938,649,143	-\$1,956,281,331
Willowbrook	-\$64,626,418	-\$199,648,389	-\$415,710,877
LOS ANGELES - UNINCOR	\$2,019,749,885	\$5,041,152,264	\$9,814,300,143
Total	-\$18,776,308,256	-\$57,436,098,900	-\$117,227,732,638
Source: Table A25			

Chart 9

NET ECONOMIC IMPACT IN LOS ANGELES COUNTY BY CITY AND CDP, YEARS 1-20			
130 SMALLER PLANTS			
City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Acton	-\$190,607	-\$738,710	-\$1,791,204
Agoura Hills	-\$30,583,528	-\$127,608,263	-\$311,024,970
Alhambra	-\$348,696,221	-\$1,121,189,624	-\$2,495,853,499
Alondra Park	\$121,687,214	\$212,258,121	\$468,362,890
Altadena	-\$112,274,592	-\$342,937,266	-\$751,689,103
Arcadia	-\$284,555,689	-\$976,160,249	-\$2,182,880,494
Artesia	-\$147,563,856	-\$451,054,674	-\$988,691,143
Avocado Heights	-\$76,199,427	-\$232,996,658	-\$509,377,822
Azusa	-\$179,013,647	-\$546,844,224	-\$1,198,158,587
Baldwin Park	-\$180,979,110	-\$562,241,769	-\$1,234,745,276
Bell	-\$52,079,548	-\$263,524,164	-\$626,995,276
Bellflower	-\$275,778,659	-\$843,221,275	-\$1,847,985,719
Bell Gardens	-\$82,228,460	-\$292,306,577	-\$677,596,487
Beverly Hills	-\$609,722,976	-\$1,863,631,130	-\$4,076,779,846
Bradbury	-\$6,101,660	-\$18,836,984	-\$40,849,680
Burbank	-\$557,798,042	-\$1,757,971,765	-\$3,881,483,007
Calabasas	\$36,573,401	\$43,193,812	\$58,802,100
Garson	-\$233,098,438	-\$760,485,146	-\$1,781,548,888
Cerritos	-\$49,266,778	-\$480,747,875	-\$1,013,988,906
Charter Oak	-\$38,411,324	-\$117,336,767	-\$257,325,019
Citrus	-\$20,072,352	-\$61,872,535	-\$135,818,289
Claremont	-\$169,418,516	-\$517,515,854	-\$1,133,177,568
Commerce	-\$139,945,648	-\$515,997,782	-\$1,129,005,959
Compton	-\$248,102,048	-\$818,269,103	-\$1,847,998,254
Covina	-\$109,445,885	-\$444,089,711	-\$894,204,757
Cudahy	-\$60,257,927	-\$185,880,442	-\$408,503,754
Quiver City	-\$527,921,266	-\$1,612,355,726	-\$3,532,420,048
Del Aire	-\$52,452,444	-\$160,177,567	-\$350,688,077
Diamond Bar	-\$78,850,537	-\$289,762,486	-\$647,769,689
Downey	-\$353,243,112	-\$1,193,909,677	-\$2,711,652,150
Duarte	-\$64,440,868	-\$237,073,448	-\$561,425,251
East Compton	-\$9,481,302	-\$29,952,301	-\$66,560,576
East La Mirada	-\$19,369,802	-\$59,161,030	-\$129,642,309
East Los Angeles	-\$208,052,776	-\$725,059,273	-\$1,594,076,044
East Pasadena	-\$112,072,828	-\$342,572,697	-\$751,829,703
East San Gabriel	\$224,205,154	\$624,657,151	\$1,287,022,746
El Monte	-\$237,577,213	-\$914,953,560	-\$2,063,928,943
El Segundo	-\$108,165,792	-\$387,614,269	-\$892,461,845
Florence-Graham	-\$100,136,804	-\$306,448,615	-\$671,572,759

City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Gardena	-\$292,755,651	-\$962,644,806	-\$2,120,862,833
Glendale	-\$1,299,020,953	-\$3,968,567,196	-\$8,694,861,728
Glendora	-\$254,380,067	-\$776,982,881	-\$1,702,962,650
Hacienda Heights	-\$162,119,743	-\$495,161,141	-\$1,085,042,789
Hawaiian Gardens	-\$36,049,696	-\$110,507,400	-\$242,140,792
Hawthorne	-\$308,588,234	-\$973,716,061	-\$2,124,316,540
Hermosa Beach	-\$110,931,299	-\$408,162,429	-\$941,946,852
Hidden Hills	\$1,620,908	-\$4,505,056	-\$18,221,742
Huntington Park	-\$253,317,808	-\$773,718,792	-\$1,695,623,282
Industry	-\$259,757,817	-\$937,616,006	-\$2,088,134,092
Inglewood	-\$427,401,840	-\$1,427,949,647	-\$3,142,728,627
Irwindale	\$96,688,934	\$141,797,695	\$276,409,496
La Canada Flintridge	-\$108,697,612	-\$332,186,833	-\$727,972,339
La Crescenta-Montrose	-\$81,749,722	-\$249,712,937	-\$547,496,269
Ladera Heights	-\$29,345,962	-\$89,607,258	-\$196,089,950
La Habra Heights	-\$17,812,157	-\$58,328,822	-\$131,906,724
Lakewood	-\$282,263,713	-\$1,026,365,263	-\$2,319,385,610
La Mirada	-\$139,134,008	-\$424,740,597	-\$928,239,976
La Puente	-\$52,787,183	-\$224,867,323	-\$548,311,951
La Verne	-\$137,152,289	-\$419,769,832	-\$920,605,971
Lawndale	-\$91,647,500	-\$321,210,784	-\$735,215,976
Lennox	-\$62,281,292	-\$190,247,387	-\$418,971,351
Lomita	-\$124,876,886	-\$381,976,729	-\$838,200,071
Long Beach	\$4,132,207,785	\$13,536,333,892	\$30,550,648,495
Los Angeles	-\$12,141,945,399	-\$36,972,850,382	-\$79,875,809,304
Lynwood	-\$141,985,997	-\$435,424,141	-\$955,559,118
Malibu	\$273,088,211	\$751,869,036	\$1,577,559,337
Manhattan Beach	-\$227,261,994	-\$788,339,976	-\$1,788,995,571
Marina del Rey	-\$116,446,290	-\$355,610,331	-\$778,681,569
Mayflower Village	\$2,146,766	-\$7,829,375	-\$32,626,373
Maywood	-\$25,195,250	-\$136,637,876	-\$361,603,910
Monrovia	-\$240,823,679	-\$747,484,814	-\$1,649,418,065
Montebello	-\$349,100,779	-\$1,066,991,957	-\$2,338,041,485
Monterey Park	-\$188,027,600	-\$662,988,142	-\$1,459,891,108
North El Monte	\$29,792,684	\$63,716,023	\$134,747,437
Norwalk	-\$304,357,432	-\$930,444,455	-\$2,038,745,149
Palos Verdes Estates	\$49,273,613	\$62,726,552	\$66,238,529
Paramount	\$49,098,828	-\$83,417,279	-\$251,242,591
Pasadena	-\$941,843,317	-\$2,977,709,897	-\$6,483,083,765
Pico Rivera	\$1,322,779	-\$35,586,317	-\$11,200,269
Pomona	-\$167,382,539	-\$854,342,508	-\$1,886,823,351
Rancho Palos Verdes	-\$37,890,384	-\$254,584,236	-\$665,897,252
Redondo Beach	-\$375,440,036	-\$1,203,684,730	-\$2,684,701,189

City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Rolling Hills	-\$1,469,957	-\$6,421,212	-\$15,561,076
Rolling Hills Estates	-\$51,275,326	-\$156,724,173	-\$343,916,561
Rosemead	\$2,601,693	-\$197,152,880	-\$521,632,821
Rowland Heights	-\$204,552,573	-\$624,740,420	-\$1,368,748,837
San Dimas	-\$93,394,404	-\$364,466,150	-\$812,028,268
San Fernando	-\$157,016,818	-\$479,565,735	-\$1,050,749,366
San Gabriel	-\$152,719,891	-\$528,994,112	-\$1,200,851,013
San Marino	-\$41,831,769	-\$129,265,845	-\$284,726,051
Santa Clarita	\$4,536,851,743	\$17,715,433,393	\$42,549,462,108
Santa Fe Springs	-\$18,205,510	-\$104,606,279	-\$261,891,536
Santa Monica	-\$1,008,919,994	-\$3,082,514,181	-\$6,747,169,557
Sierra Madre	-\$46,523,030	-\$142,361,383	-\$312,151,955
Signal Hill	-\$85,361,896	-\$260,822,064	-\$569,482,420
South El Monte	-\$17,500,275	-\$107,811,371	-\$265,449,106
South Gate	-\$168,839,876	-\$636,481,597	-\$1,506,693,193
South Pasadena	-\$139,431,789	-\$425,915,120	-\$932,858,487
South San Gabriel	-\$20,131,095	-\$61,482,954	-\$134,693,161
South San Jose Hills	-\$8,066,588	-\$41,404,544	-\$88,926,868
South Whittier	-\$113,990,823	-\$348,150,624	-\$762,748,439
Temple City	-\$119,226,780	-\$386,997,900	-\$852,725,661
Torrance	-\$1,074,550,213	-\$3,381,805,512	-\$7,497,063,527
Valinda	-\$54,690,049	-\$167,070,070	-\$366,460,365
Val Verde	-\$63,378	-\$193,417	-\$422,005
Vernon	-\$121,783,817	-\$371,288,016	-\$805,821,883
View Park-Windsor Hills	-\$37,154,707	-\$113,463,150	-\$248,426,613
Vincent	-\$61,329,965	-\$189,984,123	-\$416,763,164
Walnut	-\$64,667,574	-\$199,002,283	-\$435,472,280
Walnut Park	-\$39,236,089	-\$119,848,010	-\$262,738,823
West Athens	-\$19,265,071	-\$58,832,190	-\$128,819,486
West Carson	-\$95,500,089	-\$291,634,650	-\$638,490,782
West Compton	-\$26,340,298	-\$80,339,259	-\$174,736,166
West Covina	-\$316,523,971	-\$1,154,725,148	-\$2,526,766,030
West Hollywood	-\$463,208,503	-\$1,415,018,830	-\$3,098,979,844
Westlake Village	\$24,234,310	\$22,692,651	-\$1,370,119
Westmont	-\$56,721,853	-\$173,252,544	-\$379,735,667
West Puente Valley	\$146,703,455	\$367,110,940	\$756,701,596
West Whittier-Los Nietos	-\$71,547,945	-\$218,536,295	-\$478,962,976
Whittier	-\$300,511,734	-\$986,402,329	-\$2,221,186,060
Willowbrook	-\$70,347,037	-\$214,759,141	-\$489,374,571
LOS ANGELES - UNINCOR	\$1,439,855,107	\$5,011,597,587	\$11,748,122,399
Total	-\$10,826,871,709	-\$60,232,245,005	-\$127,641,574,464
Source: Table A25			

Chart 10

NET ECONOMIC IMPACT IN LOS ANGELES COUNTY BY CITY AND CDP, YEARS 1-20			
Dispersed (B & C) Approach			
City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Acton	\$3,286,993	\$9,050,739	\$14,226,237
Agoura Hills	-\$34,223,169	\$39,226,958	\$59,218,563
Alhambra	-\$314,587,802	-\$552,439,929	-\$1,109,025,349
Alondra Park	\$98,580,146	-\$46,684,620	-\$87,859,344
Altadena	-\$88,165,294	-\$242,674,035	-\$264,309,908
Arcadia	-\$75,237,112	-\$764,673,985	-\$1,239,296,804
Artesia	-\$118,223,749	-\$317,071,331	-\$497,679,512
Avocado Heights	-\$60,632,049	\$56,008,475	-\$27,212,396
Azusa	-\$140,780,786	-\$38,778,311	-\$608,586,731
Baldwin Park	\$88,309,368	\$14,706,310	-\$449,076,335
Bell	-\$113,274,866	-\$204,053,557	-\$215,589,326
Bellflower	\$20,563,054	-\$176,775,874	-\$816,878,351
Bell Gardens	-\$93,090,057	-\$153,769,878	-\$276,244,480
Beverly Hills	-\$483,325,277	-\$1,335,700,807	-\$2,404,697,684
Bradbury	\$1,564,980	-\$1,997,990	\$182,309,991
Burbank	-\$557,010,167	-\$805,729,811	-\$2,380,667,043
Calabasas	\$84,871,262	\$245,004,675	\$368,718,713
Carson	-\$350,492,189	-\$797,843,362	-\$1,075,976,072
Cerritos	-\$33,266,744	-\$217,042,577	-\$479,918,835
Charter Oak	-\$30,114,612	\$8,645,550	-\$7,572,205
Citrus	-\$15,848,786	-\$12,239,881	\$60,984,933
Claremont	-\$41,760,497	-\$58,612,064	\$39,377,861
Commerce	-\$53,694,386	-\$376,467,740	-\$774,179,311
Compton	-\$237,004,761	-\$166,322,052	-\$484,094,937
Covina	-\$28,241,880	-\$132,057,527	-\$690,230,264
Cudahy	-\$48,515,058	-\$130,896,320	-\$145,952,195
Culver City	-\$414,936,146	-\$1,015,826,736	-\$2,151,114,189
Del Aire	-\$41,192,229	-\$114,135,823	-\$214,701,188
Diamond Bar	-\$111,440,386	-\$229,402,706	-\$226,730,397
Downey	-\$122,436,799	-\$351,049,921	-\$929,683,604
Duarte	\$144,592,657	\$74,876,114	-\$6,450,454
East Compton	-\$8,137,796	-\$22,452,747	\$22,651,080
East La Mirada	-\$15,222,514	-\$41,993,211	-\$78,992,173
East Los Angeles	\$126,477,115	-\$219,056,074	-\$457,676,161
East Pasadena	-\$88,358,849	-\$242,728,977	-\$457,673,687
East San Gabriel	\$33,174,020	-\$149,445,949	-\$179,260,981
El Monte	-\$225,058,903	-\$548,440,937	-\$1,089,047,771
El Segundo	-\$129,075,304	-\$233,285,967	-\$676,561,730
Florence-Graham	\$41,212,913	\$93,567,088	\$88,224,371

City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Gardena	-\$278,265,536	-\$427,442,090	-\$1,337,853,647
Glendale	-\$534,927,237	-\$2,171,535,570	-\$4,256,823,239
Glendora	\$27,942,202	\$79,193,608	-\$261,474,907
Hacienda Heights	-\$127,419,504	-\$89,227,864	-\$69,718,281
Hawaiian Gardens	-\$4,530,188	-\$78,695,154	-\$1,680,935
Hawthorne	-\$251,537,010	-\$684,993,837	-\$935,022,718
Hermosa Beach	-\$137,085,894	-\$377,443,434	-\$710,397,462
Hidden Hills	-\$5,006,030	-\$49,331,906	\$33,846,051
Huntington Park	-\$199,029,991	-\$443,042,672	-\$700,070,111
Industry	-\$338,128,258	-\$839,537,707	-\$1,412,764,853
Inglewood	-\$179,923,074	-\$489,047,765	-\$1,391,568,948
Irwindale	-\$26,444,473	-\$83,543,110	-\$53,392,420
La Canada Flintridge	\$174,030,919	-\$112,209,814	-\$115,822,894
La Crescenta-Montrose	\$144,149,956	\$5,566,922	-\$253,726,877
Ladera Heights	-\$23,160,671	-\$63,937,239	-\$10,339,228
La Habra Heights	\$96,013,430	-\$69,181,178	-\$21,748,155
Lakewood	-\$233,845,344	-\$375,930,581	-\$630,777,799
La Mirada	-\$110,258,788	-\$98,787,144	-\$39,280,038
La Puente	\$27,039,842	-\$27,431,838	\$78,410,680
La Verne	\$98,572,373	-\$240,598,224	-\$14,511,341
Lawndale	-\$100,037,976	-\$279,470,977	-\$211,547,842
Lennox	\$54,401,166	-\$29,372,024	-\$5,253,369
Lomita	-\$98,240,666	-\$269,521,572	-\$403,431,158
Long Beach	-\$523,113,360	-\$834,128,180	-\$1,089,302,477
Los Angeles	-\$9,800,604,653	-\$25,196,415,687	-\$48,507,165,695
Lynwood	\$7,457,113	\$12,747,776	-\$379,917,199
Malibu	-\$8,392,094	\$41,124,983	\$106,425,951
Manhattan Beach	-\$246,944,554	-\$427,133,511	-\$734,964,772
Marina del Rey	-\$91,725,913	-\$253,223,178	-\$476,028,208
Mayflower Village	-\$8,065,756	-\$22,179,039	-\$28,206,433
Maywood	-\$60,277,586	-\$61,403,067	-\$119,460,841
Monrovia	-\$187,865,437	-\$527,483,334	-\$555,391,872
Montebello	-\$274,861,609	-\$440,739,579	-\$1,216,676,850
Monterey Park	\$30,296,351	-\$580,260,206	-\$258,535,299
North El Monte	-\$6,916,961	-\$19,104,550	\$595,935
Norwalk	-\$4,074,235	-\$237,526,051	-\$116,007,385
Palos Verdes Estates	-\$24,123,213	\$54,515,720	\$200,763,248
Paramount	-\$3,257,780	-\$124,101,229	-\$92,309,041
Pasadena	-\$458,095,835	-\$1,626,499,474	-\$3,252,448,668
Pico Rivera	-\$166,774,348	-\$37,258,110	-\$138,574,203
Pomona	-\$10,391,182	-\$133,339,475	-\$499,319,676
Rancho Palos Verdes	-\$128,648,011	\$94,476,317	-\$402,399,713
Redondo Beach	-\$211,281,981	-\$925,665,708	-\$1,408,616,036

City and CDP	70% Annual Storm Events	90% Annual Storm Events	97% Annual Storm Events
Rolling Hills	-\$2,541,440	-\$5,300,201	-\$10,638,039
Rolling Hills Estates	-\$40,201,697	-\$66,422,486	\$20,134,458
Rosemead	-\$142,914,073	-\$389,595,784	-\$331,935,847
Rowland Heights	-\$42,025,444	-\$230,217,693	-\$624,359,586
San Dimas	-\$5,848,421	-\$104,340,903	-\$509,935,046
San Fernando	-\$123,452,678	-\$340,607,580	-\$637,172,535
San Gabriel	-\$166,071,158	-\$425,848,437	-\$552,278,183
San Marino	-\$37,200,174	-\$104,047,467	-\$89,397,800
Santa Clarita	\$1,112,113,071	\$2,408,232,864	\$4,344,382,431
Santa Fe Springs	-\$42,339,287	-\$239,178,893	-\$375,270,676
Santa Monica	-\$669,169,695	-\$1,814,980,094	-\$3,919,782,108
Sierra Madre	-\$36,116,716	\$3,432,382	-\$86,052,834
Signal Hill	-\$66,327,490	-\$187,169,813	-\$252,170,143
South El Monte	\$9,590,384	-\$34,555,984	-\$133,069,392
South Gate	-\$215,671,073	-\$384,532,598	-\$700,903,309
South Pasadena	-\$108,802,223	-\$197,708,235	-\$362,176,844
South San Gabriel	-\$15,744,852	-\$43,693,108	-\$82,238,110
South San Jose Hills	-\$18,518,651	-\$34,690,079	\$113,602,486
South Whittier	-\$171,906,517	-\$45,095,863	\$201,584,477
Temple City	-\$85,691,006	-\$222,127,181	-\$585,891,041
Torrance	-\$561,063,814	-\$2,469,627,537	-\$4,485,106,148
Valinda	-\$42,852,578	-\$104,014,932	-\$5,364,233
Val Verde	\$394,829	\$999,485	\$1,915,696
Vernon	-\$98,541,915	-\$68,988,901	-\$393,987,119
View Park-Windsor Hills	-\$28,756,740	-\$80,830,181	-\$151,916,981
Vincent	-\$40,753,944	-\$16,825,296	-\$213,897,272
Walnut	-\$51,004,229	-\$143,354,244	-\$251,808,712
Walnut Park	-\$30,795,120	-\$82,677,730	\$151,149,185
West Athens	-\$15,177,270	-\$36,919,789	\$25,755,321
West Carson	-\$75,263,735	-\$205,978,318	-\$179,154,449
West Compton	-\$21,179,764	-\$58,639,872	\$32,252,357
West Covina	-\$40,916,681	-\$418,885,863	-\$680,418,757
West Hollywood	-\$365,081,309	-\$1,003,100,721	-\$1,792,331,264
Westlake Village	\$279,541,398	\$235,154,034	\$533,090,517
Westmont	-\$44,548,646	-\$120,834,391	-\$19,138,610
West Puente Valley	-\$14,299,901	\$27,573,224	\$25,266,106
West Whittier-Los Nietos	-\$55,314,393	-\$66,087,826	-\$64,167,813
Whittier	-\$41,230,695	-\$270,536,674	-\$815,846,946
Willowbrook	\$65,467,839	-\$31,893,890	\$26,703,795
LOS ANGELES - UNINCOR	\$2,044,055,068	\$5,471,978,073	\$10,400,806,666
Total	-\$17,294,414,960	-\$49,123,918,352	-\$93,586,595,355

Source: Table A25

SUMMARY OF FINDINGS

- ◆ The NPDES (National Pollutant Discharge Elimination System) requires advanced treatment of storm water. This study provides new estimates to compare with the results of earlier studies under a wide variety of "what if" combinations of cases and scenarios.
- ◆ Capital costs and operating and maintenance costs vary widely among nine combinations of rainfall scenarios and construction cases. Cases I, II and III refer to three alternative treatment plant facility allocations: 480 plants (each with 42.5 million gallons capacity; 65 plants (one for each sub-basin); and 130 plants (one for each city and unincorporated area, with more than one for cities straddling sub-basins). Rainfall Scenarios are: I. 1.25" of precipitation in 24 hours; II. 0.5" precipitation in 24 hours; and III. 2.25" of precipitation in 24 hours with a three-day runoff period. The range of costs over 20 years (expressed in net present value terms) is between \$22.6 and \$169.9 billion. The approximate mid-point of \$100 billion is equivalent to a cost of \$33,000 to each Los Angeles County household.
- ◆ The study focuses on one of the low-cost combinations (Case II, Scenario II). This would not handle all the storm water in all circumstances because the facilities could only cope with a 0.5" storm. In other words, a waiver would be needed to implement this program. However, over the past 50 years there have been an average of only 10 days per year when this rainfall level has been exceeded. This rainfall scenario and construction case combination has a capital cost of \$43.74 billion and operating and maintenance costs of \$127 million.
- ◆ To evaluate economic impacts, the study assumes that the system would be built over fifteen years. The total economic impacts are estimated over twenty years. It is assumed that the total costs are financed via a four percent, 20-year bond.
- ◆ On the one hand, there is a construction stimulus that varies by location; on the other hand, the tax impact reduces consumer expenditures. The study uses an input-output model of the southern California area (IMPLAN) to calculate the aggregate net economic impacts, and then uses a spatially disaggregated economic impact model (SCPM) to allocate these impacts by individual city. Annual job losses of the conservative Scenario II, Case II (II, II) combination highlighted in this report are about 22,000 jobs during the construction phase, rising to almost 60,000 thereafter. The range of job losses across all combinations is 20,000 to 400,000 annual jobs. The net present value of the twenty-year costs of Scenario II, Case II are \$24.851 billion. Los Angeles county's share would be approximately \$20.02, or approximately \$6,670 per household.

- ◆ Almost all cities in the county experience net job losses. In the last five years of the 20-year planning period, the annual net economic losses of the (II, II) combination in five example cities (El Monte, Inglewood, Pasadena, Pomona and Torrance) ranged from \$321.3 million in Pomona to \$1.2 billion in Torrance. Under the most costly combination (III, III), Torrance's net economic losses amount to \$7.5 billion.

- ◆ The study makes no attempt to estimate the benefits from this degree of storm water treatment. However, it does show that achieving advanced treatment is very costly, especially if the region is required to accommodate the worst-case storms.

I. INTRODUCTION

In 2000, the US Environmental Protection Agency (USEPA) established numerical criteria for priority toxic pollutants in the State of California in the form of the California Toxics Rule (CTR), filling a policy gap in water quality standards that was created in 1994 when a State court overturned California's water quality control plans. State policy makers have used the stringent CTR discharge limits to create a variety of State water quality standards, and will presumably refer to the numerical criteria in the CTR as new State and regional rules are promulgated

The Water Quality Act of 1987 requires the USEPA to establish National Pollutant Discharge Elimination System (NPDES) requirements. The federal Clean Water Act (CWA) authorizes States to serve as the NPDES permitting authority in lieu of the USEPA, and the State of California exercises such in-lieu authority.

The California State Water Resources Control Board and nine Regional Water Quality Control Boards are responsible for protecting water quality in California. The overarching objectives of the plans and policies developed by the Los Angeles Regional Water Quality Control Board (LARWQCB) are

"... to preserve and enhance water quality and protect the beneficial uses of all regional waters."

(LARWQCB, 1995, p. 1-1)

The definition of "beneficial uses" includes agriculture, aquatic life, recreational uses such as fishing and swimming, and drinking water. The key enforcement mechanism for ensuring that Los Angeles County municipalities take active steps to ensure that storm water discharges and urban runoff into California waterbodies support the designated beneficial uses are the LARWQCB's

- Water Quality Control Plan, Los Angeles Region (Basin Plan, 1995), and
- National Pollutant Discharge Elimination System Permit No. CAS004001 (2001).

NPDES Permit No. CAS004001 defines the waste discharge requirements for municipal storm water and urban runoff discharges with the County of Los Angeles and 84 cities operating municipal separate storm sewer systems (MS4s) located within the Los Angeles County Flood Control District.

Storm water treatment is conventionally classified into three, cumulative levels.

- Level I (physical treatment) focuses on settling and removing suspended solids and particulates. Techniques and procedures include screening and grinding, grit removal, influent chemical systems, and primary sedimentation.
- Level II (disinfectant treatment) focuses on filtering and disinfecting to remove biological contaminants. Techniques and procedures include physical treatment plus chlorination, dechlorination, effluent filtration, effluent screening, and defoaming. Disinfectant treatment of storm water is consistent with recreational beneficial uses.
- Level III (advanced treatment) focuses on removal of small concentrations of priority toxics and heavy metals. The only standard technique is secondary treatment plus reverse osmosis. Advanced treatment of storm water eliminates virtually all pollutants and renders it appropriate for beneficial use as water for groundwater augmentation.

USEPA policies require that MS4 communities reapply for an NPDES permit for five-year terms. The NPDES Permit for Los Angeles County and its incorporated

cities was first issued in 1990, reissued in 1996, and most recently reissued December 13, 2001. During this period, the focus of the permit has shifted from requiring municipalities to engage in best management practices (BMPs) to requiring municipalities to plan for the implementation of Total Maximum Daily Loads (TMDLs) of pollutants.

Many California bodies of water do not yet meet applicable water quality standards. Section 303(d) of the federal CWA requires each State to list waterbodies that have been identified as "impaired" for (not achieving) one or more designated beneficial uses. Placing a waterbody on the 303(d) list triggers an LARWQCB planning process to establish the TDMLs of pollutants that these water bodies can receive that will protect the impaired beneficial uses. The USEPA entered a consent decree with several litigants requiring that LARWQCB adopt all such TDMLs by 2012. Presumably the NPDES Permit process will be used to implement load allocations for municipal storm water discharges.

The draft 2002 update to the 1998 303(d) list for Los Angeles (California Region 4) includes 175 waterbodies. The draft 2002 list adds 104 waterbodies to the 1998 list and removes 73 for a net increase of 31 impairment listings. The draft 2002 list includes virtually all of the major Los Angeles water bodies, including beaches and conveyances such as rivers. An analysis of the treatment responses necessary to eliminate the impairment identified for the waterbodies on the draft 2002 list appears in Appendix B. In a few cases, best management practices (BMPs) are all that is required, but the vast majority of cases will require treating discharges to at least secondary levels. In the majority of the cases, the combination of contaminants and beneficial use objectives will require advanced, level III treatment.

The joint implications of the recent California Toxics Rule, the steadily increasing demands associated with NPDES Permit requirements (driven in part by the USEPA consent decree), and the growing number of major Los Angeles

waterbodies appearing on the 303(d) list are collectively a source of concern to the Los Angeles municipalities that will be responsible for achieving the resulting regulatory goals. It is quite feasible, indeed likely, that the ultimate public policy result to these simultaneous requirements will be advanced treatment of storm water and urban runoff.

Most, if not all, of Los Angeles county's cities and communities would be significantly affected by such treatment plans. Recent reports (Brown and Caldwell, 1998; Hoffman Associates, 1998; Los Angeles County Sanitation District, 2002) place 10-year county-wide costs in the range of \$53.6 - \$65 billion, including almost \$200 million in annual operations and maintenance costs. These studies envision 480 new storm water treatment plants of approximately 29 acres each, occupying a total of 13,950 acres.

Several questions motivate this study:

1. How robust and how plausible are the previous capital cost estimates for achieving advanced storm flow treatment?
2. What are the annualized capital cost equivalents for various plausible alternative combinations of cases and scenarios?
3. What are annual operations and maintenance costs for alternative combinations of cases and scenarios?
4. What are the net present values of twenty-year costs (capital and operations and maintenance) for various combinations of cases and scenarios?
5. For each of these, how are the various costs distributed throughout the metropolitan area?
6. How are they distributed by economic sector?
7. How are various cities expected to be impacted?

This report does not account for any additional benefits from storm water treatment. Our focus is on the magnitude and distribution of costs associated with mandated treatments in light of rainfall and construction cost data. Most decision makers would agree that any benefits should meet or exceed these costs.

There are major uncertainties as to the course of natural events and/or policy directions to be taken. It is, therefore, appropriate to elaborate alternative options. In the following sections, we discuss our choice of scenarios, rainfall assumptions and data, present capital and operations and maintenance costs for various cases (and their justifications) and test the economic impacts of each combination of scenario and case. The latter are investigated using a spatially disaggregated regional input-output model of the southern California (five-county) economy.

- We find that the twenty-year compliance costs are significant, with net present values for the region in the range of \$22.6 - \$169.9 billion – depending on the combination of case and scenario. The mid-point of this range is almost \$100 billion. Most of these costs accrue to LA county households, of which there were slightly more than three million in 2000. Using round numbers, the average household liability is \$33,333. This is a substantial amount anywhere and especially controversial in a semi-arid region.
- Investigating impacts on a city-by-city basis, shows that a few cities would experience twenty-year net benefits for some combinations of cases and scenarios because significant construction stimulus would take place within their borders; yet, overwhelmingly, there are net losses for most municipalities – in the range of \$6.5-\$7.5 billion for some cities.

- Of the many scenarios and cases studied, a conservative combination places one treatment plant in each of the region's 65 sub-basins. Each such plant is built to handle the runoff from a one-half inch rainstorm (all runoff calculations in this report consider water losses due to interception and infiltration, as appropriate for the various scenarios). This is the most likely precipitation event – but one which requires that regulators accept the fact that there will be pollution standard exceedance in the event of larger storms. That combination requires capital costs of \$43.7 billion and annual operating costs of \$127 million.
- Annual job losses, due to household spending diverted to finance these expenditures, range from over 22,000 jobs per year for the first 15 years, while the plants are being built, to almost 60,000 per year thereafter when the economic stimulus from construction is no longer in effect. The net present value of the twenty-year costs of the conservative combination of case and scenario are \$24.851 billion. Los Angeles county's share of this sum is expected to be \$20.022 billion, or approximately \$6,670 per household.

II. ESTIMATING COSTS FOR CASES AND SCENARIOS

We study nine combinations of cases and scenarios. There are three alternative prototypical levels of rainfall accumulation combined with three scales of treatment plants. Each scale of treatment plant also has associated siting options around Los Angeles county. Advanced treatment capacity is assumed in all cases.

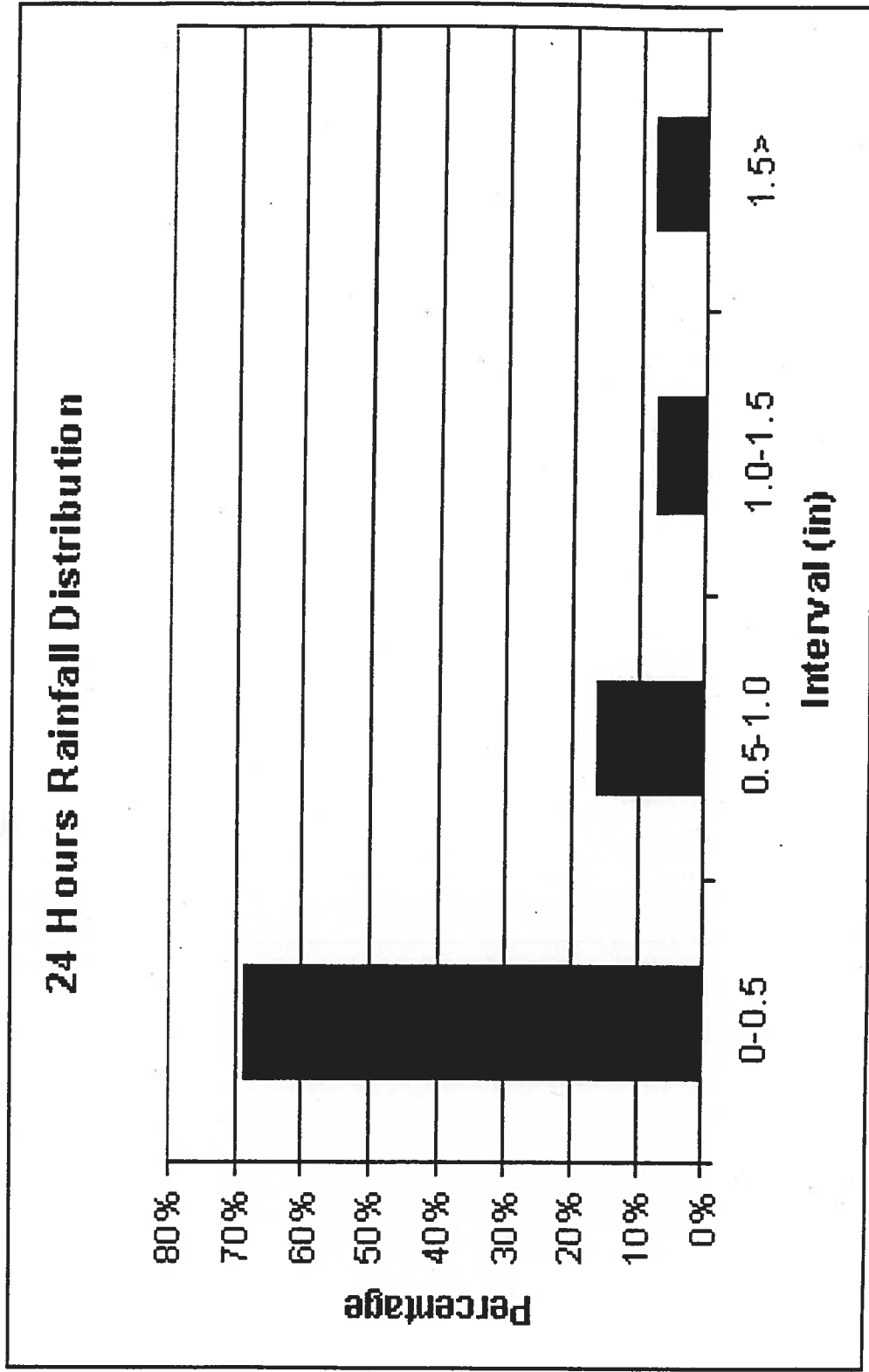
II.1 Rainfall Scenarios

The Brown and Caldwell (1998) study assumed a 1.25" 24-hour storm. We have retained this default assumption as Scenario I. The other rainfall scenarios are based on our study of county rainfall data. We analyzed daily precipitation data at seventy-six representative stations throughout the entire monitoring area. These data were kept by the Los Angeles County Department of Public Works. Many of these stations have records of precipitation for over seventy years. Out of the total 1,484,090 station-days we found that only 132,299 station days had any trace of rainfall. Thus, 91.1 percent of the time there was no precipitation at all.

Figure 1 summarizes the distribution of rainfall during the 24-hr period from the 132,299 station-day data. These are the periods during which rainfall occurred. The data show that:

- 69 percent of the time, 24-hr rainfall was between 0 and 0.5",
- 16 percent of the time, it was between 0.5" and 1.0",
- 7 percent of the time, it was between 1.0" and 1.5", and
- rainfall was above 1.5" the remaining 8 percent of the time.

Figure 1. 24 Hours of Rainfall Distribution



In the interests of being conservative and because the great majority of the 24-hr rainfall data were below 0.5", we chose the 0.5" rainfall as Scenario II. We also calculated the average rainfall that occurred during continuous three-day periods in which precipitation occurred. The observed average *total* for these three-day storms was 2.25". This 2.25" value is also the 97th percentile for observed 24-hr rainfall. Thus, 2.25" with a three-day runoff period was chosen as the design rainfall for Scenario III.

II.2 Construction Cases

We studied three treatment plant siting and sizing cases for each rainfall scenario. The 45.2 (average) million-gallon plants assumed in the Brown and Caldwell study constitute Case I. Because plant sizes are fixed for this case, the number of Case I plants varies with the rainfall scenario. This produces a relatively large number of treatment facilities, which we sited relatively uniformly throughout the region. Case II places one large treatment plant in each of the county's sub-basins for a total of 65 plants regardless of rainfall scenario. Case II plant sizes vary with rainfall. Case III is based on political "equity" with one treatment plant in each of the county's cities. There are 87 cities but many straddle more than one sub-basin. Drainage requirements dictate that such cities accommodate one plant per-sub basin. Census Designated Places (CDPs) include both incorporated and unincorporated communities. Unincorporated CDPs in Los Angeles county were added to adjacent cities for the purposes of this study. This produced a total of 123 sub-basin-CDP combinations in Los Angeles county. There are also seven residual basin areas that are neither incorporated nor designated as a CDP but which certainly experience rainfall. Case III then places a treatment plant in each one of these 130 areas with the plant sized to treat the runoff from each area.

II.2.1 ENR Construction Cost Index

The analysis in Tables 2-4 assumes an Engineering News Record (ENR) Construction Cost Index (CCI; 1913 = 100) of 7420.88 for Los Angeles as of July 5, 2002. The Brown and Caldwell and LACSD review study both used a twenty-city average ENR CCI of 6710. Using the Los Angeles index provides a correction that brings the project to the current time and correct location. Note, however, that for the most accurate budget estimate, specific cost indices should be used based upon:

- specific planned expenditures for every project, and
- a projection of when the project is to be built.

In contrast, the ENR CCI is based upon

- 200 hours of common labor,
- 25cwt of standard structural steel shapes,
- 1.128 tons of Portland cement, and
- 1,088 board-ft of 2x4 lumber.

Thus, the components of the CCI are consistent with the materials included in treatment plants.

II.2.2 Real estate costs

The Brown and Caldwell and LACSD review study both used a real estate cost of \$914,760 per acre. This figure significantly underestimates real estate costs for

most basin areas in this study. We have constructed weighted costs based on the distribution of residential, non-residential, and vacant land values. These improved estimates of land costs used were derived from a record of all 2001 Los Angeles county real property transactions as reported by DataQuick Information Systems. These data were for various land uses, by city, including transactions labeled "vacant land." Because there is no way to tell exactly where plants will be sited, we computed a composite land cost index by weighting the DataQuick transactions data by the amount of land by general land use type in each city. Land use data were provided by the Southern California Association of Governments. Note that these values are specific to each basin, sub-basin, or City/CDP depending on the particular facility case.

The various siting assumptions have implications for Collection System costs. Plant size is function of the design flow for the plant with 0.2455 acres of plant land needed per MG of flow. This figure determines the maximum and minimum plant acreage requirements of all nine combinations of cases and scenarios. Acres per plant is defined to mean how much land is needed to construct each individual treatment plant. The land requirements therefore vary with plant capacity (millions of gallons treated). In Case II and Case III, the plant sizes are determined based on required flow treatments (and hence drainage areas) of each individual sub-basin or individual City/CDP, and the plant sizes vary across rainfall scenarios. In the Case I scenarios, the plant size is fixed and the number of plants varies based on required flow treatments of each basin (because of different rainfall assumptions). Hence, given the nine different combinations of cases scenarios, there is a blending of costs across hundreds of different size plants.

In some combinations, the required individual plant capacities may be quite small for a small city, e.g., Case III, Scenario II. Consequently, the required plant size can be very small, perhaps less than one acre. Consistent with the 9-combinations approach, the plant construction cost for such small (and arguably

unlikely) projects is included in the total cost for each combination. In some combinations, the required individual plant capacities may be quite large, e.g., a large basin in Case II, Scenario III. In these cases, the required plant size is very large, perhaps over one thousand acres. Again, in keeping with the 9-combination approach, the plant construction cost for even such large (and arguably unlikely) project is included in the total combination cost. Given the large number of plants and the large variety of sizes, the total cost difference across the combinations is not large.

In the interests of conservatism, we have assumed that vacant land parcels would be available in Case III (the City/CDP option), and used the "vacant land" real estate costs as opposed to the weighted costs for unincorporated areas added to each basin. The weighted cost estimates were used in all other cases.

II.2.3 Engineering soft costs

The Brown and Caldwell and LACSD studies both assumed a 20 percent "Engineering/Legal/Administrative" soft cost to account for additional project costs other than the land and physical construction costs. Most projects experience a much higher soft cost share of 25 percent to 50 percent, but normally do not include land in the value from which the percentage is taken. To correct this, we have applied an "Engineering/Legal/Administrative" soft cost of 25 percent instead of 20 percent to the base construction value, and applied a 10 percent soft cost to the corrected land values.

II.2.4 Construction costs

Treatment plant cost will vary with size of the plant, but not as significantly as expected. All plants are assumed to be the same 45.2 million gallons (MG) size in Case I, and the Brown and Caldwell cost capacity equation was used to compute the plant costs, subject to the data corrections identified above. The

Brown and Caldwell typical plant size of 45.2 MG was then used to treat the different flow amounts for Case I.

In contrast, Cases II and III require construction of treatment plants with a wide variety of capacities. For plants up to 100 MG, we used Brown and Caldwell's cost capacity equation. For plants larger than 100 to 150 MG, we used \$2.2 M per MG of runoff to be treated. For plants from 150 to 250 MG, we used \$2.4 M per MG of runoff to be treated. For plants of more than 250, we used \$2.5 M per MG of runoff to be treated. These costs are consistent with both the Brown and Caldwell and with the LACSD studies.

The cost capacity equation is

$$C = K \times [Q^{0.6}], \quad (1.)$$

where

- C = cost of construction in million of dollars,
- K = cost capacity constant of 11,237,200, and
- Q = design flow in millions of gallons.

Table 1 gives construction costs for plant sizes representative of the hundreds in the study. These costs are based on tertiary treatment. Corrections for real estate costs based on specific plant location are applied to each of these values for each plant in every combination of case and scenario. Note that plant real estate costs constitute a large portion of the total cost of all combinations.

Although Brown and Caldwell and LACSD effectively agree on the total plant costs, they disagree on exact breakdown for the three levels of treatment. This disagreement is likely based on specific methods used in each process and into which level of treatment each process is assigned. We calculated the breakdown based on the total project cost where 31.36 percent is the cost for the Level I

(primary) treatment, 14.98 percent is the cost for the Level II (secondary) treatment, and 53.66 percent is the cost for the Level III (tertiary) treatment.

Table 1: Representative Treatment Plant Construction Costs

Plant Design Capacity	Construction Cost
1 MG plant	\$ 11,237,200
25 MG plant	\$ 77,521,491
45.2 MG plant (Brown and Caldwell Model)	\$ 110,596,446
100 MG plant	\$ 178,097,618
200 MG plant	\$ 480,000,000
500 MG plant	\$ 1,250,000,000
1,000MG plant	\$ 2,500,000,000
2,500 MG plant	\$ 6,250,000,000

The costs of this study are based upon the following assumptions concerning treatment processes.

- Level I treatment includes sewage pumping, screening and grinding, grit removal, influent chemical systems, and primary sedimentation.
- Level II treatment includes chlorination, scrubbers, dechlorination, effluent filtration, effluent screening, effluent pumping/disposal, and defoament.
- Level III treatment includes reverse osmosis.

These processes are typical use in the industry today and are consistent with the Brown and Caldwell and LACSD studies.

II.2.5 Collection system costs

Collection system costs are a function of the area of land to be treated by a plant and the amount of flow, which is in turn a function of runoff. For example, two basins of the same size (a fixed amount of land) with varying flows would have different collection system costs. Similarly, two basins of the same flow, but with different land areas would also have different collection system costs. This method is consistent with the methods used by Brown and Caldwell and by LACSD.

The equation to calculate the collection system cost is

$$C = K \times [(A \times Q)^{0.5}] \quad (2.)$$

Where

C = cost of collection system in million of dollars,

$$K = 0.0001318 \times Q + 0.0594214, \quad (2.a)$$

A = drainage area in acres, and

Q = design flow of in millions of gallons.

II.2.6 Operations and maintenance costs

Annual operations and maintenance (O&M) costs were calculated on a percentage basis with a different percentage for each level of treatment. This method is consistent with the methods used by Brown and Caldwell and by LACSD.

The O& M cost equation is

$$C = M \div F, \quad (3.)$$

where

C = cost of operations and maintenance in million of dollars;

M = capital cost for each functional element of the plant (collection system, level I treatment, level II treatment, and level III treatment), in million of dollars; and

F = factor based on plant function, where

$$F_{\text{collection}} = 1220.30,$$

$$F_{\text{level I}} = 484.66,$$

$$F_{\text{level II}} = 333.19, \text{ and}$$

$$F_{\text{level III}} = 269.56.$$

II.3 Summary of Cost Estimates

Tables 2-4 summarize runoff and cost information for the nine combinations of rainfall scenarios and plant siting cases. Data are presented for the county's seven watersheds as well as county totals. The volume of storm water runoff was computed using modified coefficients of runoff with consideration of antecedent conditions. The runoff coefficients for the seven watersheds in each of the three rainfall scenarios are represented in Column 2 of Tables 2-4. In computing the total runoff volume it was also assumed that the first 0.06" of the design rainfall was assumed to fill the local depression areas and, therefore, did not contribute to runoff. The computed total runoff values for the seven drainage basins under each of the scenarios are shown in Column 4 of Tables 2-4.

Economic impact analysis requires particular attention to the columns headed "Collection System" and "Level III plus Levels I and II." These entries include land costs. As noted above, Level I (physical) treatment consists of equalization and sedimentation. Level II (disinfection) treatment consists of disinfection and dechlorination. Level III (advanced) treatment is the most ambitious and conventionally consists of reverse osmosis to remove heavy metals.

Table 2. Plants Case I - 480 PLANTS PER SUB-BASIN (45.2 MG PLANTS)

Rainfall Scenario I - 24-hour, 1.25 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominguez	0.599	69,091	1,337	27	626	1,954	2,897	8,231	3,022	4,269	0.5	2.4	5.2	14.0
Upper Los Angeles River	0.452	522,061	7,572	173	4,111	10,379	15,336	33,097	9,916	23,181	3.4	13.8	29.7	79.2
Malibu	0.299	98,729	956	20	835	1,535	2,299	4,895	1,754	3,145	0.5	1.7	3.7	10.0
San Gabriel	0.403	370,468	4,774	107	2,749	6,345	9,375	20,233	6,895	14,425	2.3	8.7	18.7	49.9
Santa Ana	0.423	15,880	214	5	120	249	369	794	182	613	0.1	0.4	0.8	2.2
Santa Clara	0.294	491,947	4,641	104	3,124	4,264	8,270	13,532	1,365	12,177	2.6	8.5	18.2	48.5
Santa Monica Bay	0.504	134,429	2,190	44	1,122	3,479	5,140	11,094	3,902	7,192	0.9	4.0	8.6	22.9
Total		1,702,404	21,684	488	12,488	28,185	41,845	88,977	24,998	64,989	19	49	85	227

Rainfall Scenario II - 24-hour, 0.50 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominguez	0.539	69,091	445	10	363	850	981	2,074	878	1,401	0.3	0.8	1.7	4.7
Upper Los Angeles River	0.407	522,061	2,538	56	2,380	3,478	5,140	11,093	3,334	7,779	2.0	4.8	10.0	26.5
Malibu	0.289	98,729	317	7	368	598	752	1,824	582	1,042	0.3	0.8	1.2	3.3
San Gabriel	0.383	370,468	1,808	36	1,595	2,134	3,154	6,907	1,854	4,053	1.3	2.9	6.3	16.8
Santa Ana	0.381	15,880	71	2	89	83	122	263	60	203	0.1	0.1	0.3	0.7
Santa Clara	0.285	491,947	1,557	34	1,809	1,424	2,104	4,540	405	4,035	1.5	2.8	6.1	16.3
Santa Monica Bay	0.454	134,429	729	16	647	1,158	1,711	3,693	1,300	2,393	0.5	1.3	2.9	7.6
Total		1,702,404	7,263	161	7,228	9,637	13,944	30,094	8,998	21,796	6	13	28	78

Rainfall Scenario III - 24-hour, 2.25 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominguez	0.829	69,091	2,584	57	874	3,776	5,580	12,043	3,807	8,236	0.7	4.7	10.1	27.0
Upper Los Angeles River	0.475	522,061	14,750	326	5,737	20,218	29,873	64,471	18,916	45,555	4.7	28.9	57.8	154.3
Malibu	0.314	98,729	1,843	41	882	2,980	4,374	9,439	3,281	6,058	0.7	3.4	7.2	18.3
San Gabriel	0.423	370,468	9,318	206	3,841	12,384	18,299	39,492	11,238	28,254	3.1	17.0	36.5	97.5
Santa Ana	0.444	15,880	414	9	187	482	712	1,536	351	1,185	0.1	0.8	1.6	4.3
Santa Clara	0.309	491,947	9,039	200	4,380	8,265	12,212	28,358	2,639	25,717	3.8	16.5	35.4	94.5
Santa Monica Bay	0.525	134,429	4,228	94	1,559	6,718	9,924	21,417	7,981	13,437	1.3	7.7	16.6	44.2
Total		1,702,404	42,178	833	17,418	64,862	89,973	174,754	48,822	128,522	14	77	165	441

Reviewing all possible combinations of scenarios and cases, capital costs (including land) were lowest for Plant Case I, Rainfall Scenario II (\$37 billion) and highest for Plant Case III, Rainfall Scenario III (\$325.54 billion). Annual operations and maintenance costs were lowest for Plant Cases I and II and Rainfall Scenario II (\$76 million) and were highest for Plant Case II, Rainfall Scenario III (\$755 million). Collection System costs were added to these respective totals to define the basis for economic impact modeling.

Table 3. Plants Case II - ONE PLANT PER SUB-BASIN (65 PLANTS)

Rainfall Scenario 1 - 24-hour, 1.25 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominguez	0.599	73,925	1,337	2	1,547	1,900	2,925	6,314	2,023	4,291	1.3	6.0	18.9	24.0
Upper Los Angeles River	0.452	527,446	7,572	9	17,147	10,390	15,352	33,132	9,700	23,432	14.1	31.7	99.4	125.7
Matzu	0.299	99,862	956	24	666	1,625	2,401	5,182	1,690	3,492	0.5	5.0	15.6	19.7
San Gabriel	0.403	377,505	4,774	10	9,855	6,233	9,210	18,878	6,802	14,376	7.9	19.0	59.7	75.4
Santa Ana	0.423	18,634	214	5	133	283	389	839	107	942	0.1	0.8	2.5	3.2
Santa Clara	0.294	498,500	4,841	9	14,208	4,246	6,274	13,541	1,213	12,228	11.6	12.9	40.6	51.4
Santa Monica Bay	0.504	136,878	2,180	6	2,049	3,527	5,211	11,246	3,931	7,315	1.7	10.8	33.8	42.7
Total		1,730,549	21,684	65	45,607	28,264	41,762	86,129	24,699	61,429	37	86	271	343

Rainfall Scenario 2 - 24-hour, 0.50 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominguez	0.539	73,925	445	2	524	653	965	2,064	679	1,410	0.4	2.0	6.3	7.9
Upper Los Angeles River	0.407	527,446	2,536	9	4,773	3,455	5,105	11,017	3,291	7,785	3.9	10.5	33.1	41.8
Matzu	0.269	99,862	317	24	351	873	994	2,145	639	1,517	0.3	2.1	6.4	8.1
San Gabriel	0.383	377,505	1,808	10	2,855	2,133	3,152	6,802	1,800	4,982	2.3	6.5	20.4	25.8
Santa Ana	0.381	18,634	71	5	66	112	165	356	65	290	0.1	0.3	1.1	1.3
Santa Clara	0.285	498,500	1,557	9	3,861	1,433	2,117	4,589	441	4,128	3.2	4.4	13.7	17.3
Santa Monica Bay	0.454	136,878	729	6	790	1,111	1,842	3,543	1,366	2,235	0.6	3.4	10.8	13.4
Total		1,730,549	7,263	65	13,222	9,989	14,139	30,816	8,217	22,599	11	29	82	110

Rainfall Scenario 3 - 24-hour, 2.25 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominguez	0.629	73,925	2,584	2	3,380	3,827	5,654	12,202	3,900	8,300	2.8	11.7	36.6	48.3
Upper Los Angeles River	0.475	527,446	14,750	9	41,651	20,291	29,982	64,706	18,894	45,812	34.1	61.9	194.2	245.5
Matzu	0.314	99,862	1,843	24	1,042	3,013	4,452	9,908	3,856	5,954	0.9	9.2	28.8	38.5
San Gabriel	0.423	377,505	9,318	10	22,972	12,263	18,120	39,106	10,731	28,376	18.8	37.4	117.4	148.4
Santa Ana	0.444	18,634	414	5	211	495	731	1,578	261	1,317	0.2	1.5	4.7	6.0
Santa Clara	0.309	498,500	9,039	9	34,840	8,379	12,381	26,720	2,659	24,100	28.8	25.5	80.2	101.4
Santa Monica Bay	0.529	136,878	4,228	6	4,167	6,803	10,052	21,694	7,589	14,105	3.4	20.7	65.1	82.3
Total		1,730,549	42,176	65	108,272	55,972	81,372	175,816	47,719	127,899	89	169	527	666

Throughout this report, we afford special attention to the 65 Plants Case (II), which places one treatment plant in each sub-basin. In the interests of remaining conservative we will highlight the one-half-inch storm, Scenario II. The caveat, of course, is the implication that regulators will have to allow for pollution exceedance in periods of larger storms. For simplicity, we will occasionally refer to the highlighted combination as simply (II, II). Table 3 shows that capital costs for (II, II) are \$43.7 billion while annual operating costs are \$127 million.

Table 4. Plants Case III - ONE PLANT PER CITY/GDP (130 PLANTS)

Rainfall Scenario I - 24-hour, 1.25 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominquez	0.569	72,036	1,337	18	803	1,918	2,832	6,111	1,876	4,136	0.7	2.4	5.2	13.8
Upper Los Ang	0.452	519,839	7,572	44	18,025	10,287	15,170	32,736	3,829	23,060	14.8	13.6	29.2	78.0
Meibou	0.269	98,026	956	7	1,227	1,488	2,195	4,737	1,829	3,160	1.0	1.7	3.9	9.7
San Gabriel	0.403	371,403	4,774	37	8,487	6,116	9,037	19,506	3,910	12,895	7.0	8.3	17.8	47.4
Santa Ana	0.423	18,365	214	4	129	218	322	894	170	810	0.1	0.4	0.8	2.1
Santa Clara	0.294	490,288	4,841	4	27,880	4,018	5,937	12,812	700	12,812	22.9	8.5	18.3	48.8
Santa Monica	0.504	134,647	2,190	16	3,611	3,439	5,081	10,865	3,895	7,110	3.0	4.0	8.5	22.7
Total		1,702,404	21,684	130	60,182	27,459	48,973	87,863	23,899	63,972	49	39	83	222

Rainfall Scenario II - 24-hour, 0.50 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominquez	0.530	72,036	445	18	377	737	1,089	2,349	657	1,692	0.3	0.9	2.0	5.2
Upper Los Ang	0.407	519,839	2,538	44	4,921	3,790	5,800	12,080	3,334	8,802	4.0	4.9	10.5	28.0
Meibou	0.269	98,026	317	7	454	545	805	1,730	542	1,185	0.4	0.6	1.2	3.2
San Gabriel	0.383	371,403	1,806	37	2,611	2,314	3,419	7,379	1,887	5,492	2.1	2.8	6.1	16.2
Santa Ana	0.381	18,365	71	4	87	104	154	333	30	274	0.1	0.1	0.3	0.9
Santa Clara	0.265	490,288	1,557	4	8,500	1,327	1,960	4,231	385	3,988	5.3	2.8	6.1	16.3
Santa Monica	0.454	134,647	729	16	1,083	1,309	1,934	4,175	1,383	2,892	0.9	1.5	3.2	8.6
Total		1,702,404	7,283	130	16,613	16,128	14,882	32,390	7,898	24,492	13	14	29	78

Rainfall Scenario III - 24-hour, 2.25 inch storm

Drainage Basin	Runoff Information			Number of Treatment Plants Required	Treatment Costs, Millions of Dollars									
	Runoff Coefficient	Drainage Area, Acres	Total Runoff, Million Gallons		Capital Costs					O & M Costs				
					Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2	Land Costs (Levels 1 & 2)	Level 3 without Land	Collection System	Level 1	Level 2 plus Level 1	Level 3 plus Levels 1 & 2
Dominquez	0.829	72,036	2,594	18	1,408	3,864	5,709	12,320	3,819	8,502	1.2	4.8	9.8	26.2
Upper Los Ang	0.475	519,839	14,750	44	44,114	20,828	30,771	66,410	18,787	47,623	38.2	28.8	57.1	152.3
Meibou	0.314	98,026	1,843	7	2,549	2,985	4,411	9,519	3,132	6,389	2.1	3.3	7.2	18.2
San Gabriel	0.423	371,403	9,318	37	19,841	12,573	18,578	40,095	10,849	29,246	18.3	17.0	36.5	97.3
Santa Ana	0.444	18,365	414	4	205	481	711	1,534	341	1,193	0.2	0.7	1.6	4.3
Santa Clara	0.309	490,288	9,039	4	72,082	7,779	11,494	24,805	1,538	23,270	59.1	16.8	35.6	96.1
Santa Monica	0.529	134,647	4,228	16	8,379	6,983	10,333	22,301	7,442	14,859	6.9	7.8	16.3	43.5
Total		1,702,404	42,176	130	148,558	56,901	82,807	178,985	48,837	130,148	122	78	164	436

III. ECONOMIC IMPACTS

III.1 Annual Economic Impacts

Building and operating a system of treatment plants of the scales described in Tables 2-4 involves large expenditures, many with stimulative secondary economic effects. Paying for these expenditures requires levels of taxation that often have opposite (and usually greater) depressive economic effects.

Because construction staging information is not known at this point of the discussion, we assume that capital costs are evenly spread over fifteen years of construction activity. Operations and maintenance costs start small and reach full scale in year 16. This is a twenty-year analysis that combines a Year 1-Year 15 construction and operations period; a Year 16-Year 20 full operations period and a Year 1-Year 20 financing period.

We assume households throughout Los Angeles county are taxed for twenty years to repay four-percent twenty-year bonds (including 10 percent of underwriting costs). The depressive economic effects of this financing scheme are calculated by reducing households' expenditures by the amount of the annual tax needed to service this debt.

Two economic models were used to study the full impacts of all of these activities (see Cho, et al 2000 and 2001 for a detailed discussion of our modeling approaches). The first is IMPLAN (<http://www.implan.com/products/products.htm>), a 528-sector input-output model describing the economy of the five-county Southern California region. Costs from Tables 2-4 were processed to generate specific changes in regional final demands. See Table A1 and accompanying description. Input-output models calculate all *indirect* and *induced* effects after subtracting leakages. In this context, *direct* effects include the construction of new facilities and the reductions

in household expenditures due to increased taxes. Direct effects are actual project expenditures from Tables 2-4. Not all of these expenditures are made in the five-county region and the model makes an allowance for direct expenditures that accrue to firms outside the region. These leakages are usually small quantities. Indirect effects consist of impacts on vendors from whom constructors purchase materials. Each such indirect impact creates additional but attenuating indirect impacts. A vendor who supplies more of his own product purchases additional inputs from his own vendors, and so forth. Labor is an especially important production input and *induced* impacts consist of the impacts specific to the labor sector.

The IMPLAN model calculates all indirect effects (activities induced by vendors that supply goods and services to firms directly involved) and all induced effects (the result of changes in household sector expenditures) associated with the direct effects from construction and financing new treatment facilities.

IMPLAN was applied 27 times for this study:

- once for each of nine combinations of cases and scenarios for an average prototypical year in the interval of Years 1-15 (stimulus from construction and limited operations and maintenance);
- once for each of nine combinations for a standard year in the period of Years 16-20 (stimulus from full operations and maintenance, but no construction)
- and once for each of nine combinations for a standard year in the full period in Years 1-20 (uniform household expenditure reductions associated with financing the project)

The first two sets of simulations, estimate the stimulative economic effects produced when households receive and spend cash payments for rendering any services associated with these projects. This includes payments to labor by any associated vendors. The exception is land acquisition costs. The household sector has to pay for these as part of the financing of overall bond obligations but these transactions are not a stimulus. Eminent domain ensures that activities that are displaced in Cases I and II receive a cash payment for the loss of their land but we assume that these households and firms use these funds to purchase a new location. Many of these incremental activities spill over outside the region and, in any event, are not thought to be a major stimulant to the real estate market.

Tables 5-7 summarize the 27 applications of the IMPLAN model. Each of the 27 panels shows results aggregated to the level of ten one-digit SIC sectors. The entries in the first column in each panel are in terms of jobs (person-years). The entries in the second column of each table summarize income (output) multiplier effects. In column(s) two, direct-plus-leakage sums are derived from Tables 2-4. (See worksheet in Table A1). All impacts on all ten sectors are shown as well as the sum of indirect and induced effects. The "multiplier" shown in each column is the ratio of direct effects to total effects. All output multipliers are in the range of 1.71 - 1.86.

Table 5. Economic Impacts of Construction, Land Acquisition, and Operating & Management Costs for years 1-15

Scenario	Sector	Case 1: 45.2 MG Plant Scenario (400, 161, 633 Plants)				Case 2: One Plant per Sub-Station Scenario (65 Plants)				Case 3: One Plant per City-Block Intersection Scenario (130 Plants)			
		Employment	Output	Value Added	Property Income	Employment	Output	Value Added	Property Income	Employment	Output	Value Added	Property Income
Scenario 1: 244, 120*	Agriculture	433	34,250	1,200	1,200	418	33,800	1,180	1,180	403	33,350	1,160	1,160
	Manufacturing	23,774	2,440,871	1,200,531	1,179,154	23,774	2,440,871	1,200,531	1,179,154	23,774	2,440,871	1,200,531	1,179,154
	Construction	2,008	419,622	277,880	86,833	2,008	419,622	277,880	86,833	2,008	419,622	277,880	86,833
	Wholesale Trade	8,331	177,363	115,900	64,119	8,331	177,363	115,900	64,119	8,331	177,363	115,900	64,119
	Retail Trade	8,331	177,363	115,900	64,119	8,331	177,363	115,900	64,119	8,331	177,363	115,900	64,119
	Food Services	32,168	2,600,266	1,481,917	802,441	32,168	2,600,266	1,481,917	802,441	32,168	2,600,266	1,481,917	802,441
	Government	548	11,800	42,800	5,480	548	11,800	42,800	5,480	548	11,800	42,800	5,480
	Other	481	10,000	34,700	8,917	481	10,000	34,700	8,917	481	10,000	34,700	8,917
	Direct Effect	39,894	4,377,281	2,459,728	1,383,719	39,894	4,377,281	2,459,728	1,383,719	39,894	4,377,281	2,459,728	1,383,719
	Indirect Effect	16,709	1,639,823	997,960	530,811	16,709	1,639,823	997,960	530,811	16,709	1,639,823	997,960	530,811
	Total Effect	56,603	6,017,104	3,457,688	1,914,530	56,603	6,017,104	3,457,688	1,914,530	56,603	6,017,104	3,457,688	1,914,530
	Multiplier	2.077	1.881	1.829	1.721	2.077	1.881	1.829	1.721	2.077	1.881	1.829	1.721
	Scenario 2: 244, 0.8*	Agriculture	182	7,490	2,420	1,233	182	7,490	2,420	1,233	182	7,490	2,420
Manufacturing		47	12,811	6,821	3,290	47	12,811	6,821	3,290	47	12,811	6,821	3,290
Construction		6,895	1,121,141	511,877	208,232	6,895	1,121,141	511,877	208,232	6,895	1,121,141	511,877	208,232
Wholesale Trade		787	161,100	83,496	46,254	787	161,100	83,496	46,254	787	161,100	83,496	46,254
Retail Trade		1,355	180,200	113,811	60,254	1,355	180,200	113,811	60,254	1,355	180,200	113,811	60,254
Food Services		2,183	188,477	119,400	63,332	2,183	188,477	119,400	63,332	2,183	188,477	119,400	63,332
Government		15,912	652,721	228,000	120,817	15,912	652,721	228,000	120,817	15,912	652,721	228,000	120,817
Other		172	30,400	16,877	12,800	172	30,400	16,877	12,800	172	30,400	16,877	12,800
Direct Effect		379,118	3,791,118	2,000,000	1,000,000	379,118	3,791,118	2,000,000	1,000,000	379,118	3,791,118	2,000,000	1,000,000
Indirect Effect		14,634	1,867,471	928,000	480,000	14,634	1,867,471	928,000	480,000	14,634	1,867,471	928,000	480,000
Total Effect		393,752	5,658,589	2,928,000	1,480,000	393,752	5,658,589	2,928,000	1,480,000	393,752	5,658,589	2,928,000	1,480,000
Multiplier		2.077	1.881	1.829	1.721	2.077	1.881	1.829	1.721	2.077	1.881	1.829	1.721
Scenario 3: 244, 2.26*		Agriculture	406	27,100	9,200	4,600	406	27,100	9,200	4,600	406	27,100	9,200
	Manufacturing	44,195	4,533,900	2,179,320	1,141,160	44,195	4,533,900	2,179,320	1,141,160	44,195	4,533,900	2,179,320	1,141,160
	Construction	6,449	1,299,000	629,500	314,750	6,449	1,299,000	629,500	314,750	6,449	1,299,000	629,500	314,750
	Wholesale Trade	2,875	772,341	396,165	203,082	2,875	772,341	396,165	203,082	2,875	772,341	396,165	203,082
	Retail Trade	15,490	700,811	369,405	194,702	15,490	700,811	369,405	194,702	15,490	700,811	369,405	194,702
	Food Services	11,979	2,209,321	1,050,660	525,330	11,979	2,209,321	1,050,660	525,330	11,979	2,209,321	1,050,660	525,330
	Government	96,788	4,737,119	2,371,571	1,185,785	96,788	4,737,119	2,371,571	1,185,785	96,788	4,737,119	2,371,571	1,185,785
	Other	1,914	161,719	79,700	40,850	1,914	161,719	79,700	40,850	1,914	161,719	79,700	40,850
	Direct Effect	205,252	10,708,252	5,350,000	2,720,000	205,252	10,708,252	5,350,000	2,720,000	205,252	10,708,252	5,350,000	2,720,000
	Indirect Effect	31,176	3,239,269	1,589,772	800,000	31,176	3,239,269	1,589,772	800,000	31,176	3,239,269	1,589,772	800,000
	Total Effect	236,428	14,000,000	6,939,772	3,520,000	236,428	14,000,000	6,939,772	3,520,000	236,428	14,000,000	6,939,772	3,520,000
	Multiplier	2.077	1.881	1.829	1.721	2.077	1.881	1.829	1.721	2.077	1.881	1.829	1.721

* All units except employment are in Millions of \$ 1998.
** Employment impacts are in person-year.

Table 6. Economic Impacts of Operating and Management Costs for years 16 - 20

Scenario	Case 1: 45.2 MG Plant Scenario (450, 161, 933 Plants)						Case 2: One Plant per Sub-Basin Scenario (85 Plants)						Case 3: One Plant per City-Basin Interconnection Scenario (130 Plants)					
	Employment	Value Added	Labor Income	Proprietary Income	Ind. Bus. Taxes	Ind. Bus. Fees	Employment	Value Added	Labor Income	Proprietary Income	Ind. Bus. Taxes	Ind. Bus. Fees	Employment	Value Added	Labor Income	Proprietary Income	Ind. Bus. Taxes	Ind. Bus. Fees
Scenario 1: 2044, 1.2P	48	3,262	1,094	1,137	641	0.11	9	2,327	1,009	628	0.81	0.07	9	3,222	1,174	1,590	0.87	0.13
Agriculture																		
Mining																		
Construction	1,290	47,233	87,233	61,854	88,844	0.24	3,237	104,810	63,308	4,000	0.50	0.70	2,896	117,000	72,500	4,500	0.70	0.21
Manufacturing	2,008	42,777	16,448	6,344	5,888	0.47	1,094	81,790	22,011	13,320	0.81	0.87	2,777	166,832	52,448	12,700	2.07	0.21
Retail Trade	1,076	19,268	16,640	13,284	13,284	0.36	1,111	30,771	18,641	63,777	0.81	0.93	3,364	156,822	97,600	65,544	15,778	0.19
Wholesale Trade	208	24,366	17,296	16,048	16,048	0.28	2,097	40,597	14,477	6,344	0.34	0.35	1,904	233,520	136,832	133,200	42,544	0.19
Food Stores	1,127	18,133	14,208	13,284	13,284	0.36	1,582	30,771	18,641	63,777	0.81	0.93	3,364	156,822	97,600	65,544	15,778	0.19
F&E	1,853	697,665	478,728	283,808	179,324	32.44	4,728	918,837	638,611	248,000	43.05	4.05	1,916	1,781,317	1,117,832	396,000	11,777	4.72
Services	2,322	166,208	161,844	87,356	114,212	2.77	3,299	219,232	143,800	125,988	1.77	1.97	3,126	207,652	120,000	219,120	44,122	0.42
Government	68	8,272	6,816	6,356	1,362	0.05	119	17,258	9,300	16,198	0.17	0.16	115	207,652	120,000	219,120	44,122	0.42
Other	68	8,272	6,816	6,356	1,362	0.05	119	17,258	9,300	16,198	0.17	0.16	115	207,652	120,000	219,120	44,122	0.42
Leisure	251	25,222	19,715	17,917	17,917	0.29	3,331	43,116	1,150	1,150	0.15	0.15	305	62,822	1,927	1,927	5,171	0.11
Direct Effect	3,210	1,798,064	497,718	278,377	178,028	33.24	6,223	1,649,713	682,231	245,428	4.72	4.72	10,800	3,268,525	1,927,000	2,179,120	343,008	44.78
Indirect Effect	2,199	218,877	147,244	119,844	28,688	7.62	3,128	319,633	166,794	110,790	0.77	0.77	2,851	633,322	329,200	339,120	67,800	8.78
Total Effect	5,409	1,916,941	644,962	398,221	206,716	40.86	9,351	1,969,346	849,025	356,218	5.49	5.49	13,651	3,901,847	2,256,200	2,518,240	410,808	53.56
Multiplier	2,618	1,227	1,127	1,228	1,408	0.27	1,635	1,228	1,128	1,228	0.27	0.27	1,635	1,228	1,128	1,228	0.27	0.27
Scenario 2: 2044, 0.8P	11	881	647	647	0.62	0.02	22	1,086	601	0.42	0.17	0.02	26	1,086	648	1,086	0.62	0.02
Agriculture																		
Mining																		
Construction	3	32,700	31,325	20,208	5,384	0.87	8	70,816	32,650	31,144	1.33	0.20	6	87,320	34,402	22,900	8,000	0.08
Manufacturing	74	15,225	8,800	3,200	2,000	0.17	97	29,341	10,200	2,622	0.22	0.22	498	19,778	9,700	4,111	2,400	0.09
Retail Trade	240	66,325	40,011	18,877	18,488	4.85	268	102,258	60,641	27,900	7.00	7.00	267	177,811	95,200	10,200	2,900	0.26
Wholesale Trade	79	8,888	6,188	3,888	1,200	1.26	87	16,228	9,150	4,176	1.82	1.82	90	18,622	7,830	4,200	1,800	0.18
Food Stores	404	26,112	18,278	9,411	3,113	2.78	620	28,935	19,744	12,144	4.72	4.72	601	24,422	18,840	11,000	3,000	2.40
F&E	1,203	290,244	172,008	99,113	66,116	11.70	1,520	298,822	204,420	113,641	27.08	26.11	1,602	322,113	222,760	124,000	63,911	16.11
Services	628	64,222	26,200	31,200	4,100	0.99	1,078	71,290	49,020	40,400	0.98	0.98	1,026	82,113	57,000	30,700	8,000	1.21
Government	31	4,411	2,327	1,822	0.45	0.05	38	8,632	3,020	2,400	0.28	0.28	30	10,228	3,440	2,170	600	0.30
Other	28	8,272	6,816	6,356	1,362	0.05	38	8,632	3,020	2,400	0.28	0.28	30	10,228	3,440	2,170	600	0.30
Leisure	1,203	290,244	172,008	99,113	66,116	11.70	1,520	298,822	204,420	113,641	27.08	26.11	1,602	322,113	222,760	124,000	63,911	16.11
Direct Effect	1,203	290,244	172,008	99,113	66,116	11.70	1,520	298,822	204,420	113,641	27.08	26.11	1,602	322,113	222,760	124,000	63,911	16.11
Indirect Effect	795	79,200	18,200	43,722	8,800	2.31	1,027	101,830	69,000	52,844	13.28	3.28	963	98,888	65,411	62,422	11,000	3.10
Total Effect	1,998	369,444	190,208	142,838	74,916	14.01	2,547	400,652	273,420	166,484	20.36	19.39	2,565	421,002	268,831	186,422	74,916	17.21
Multiplier	2,618	1,227	1,127	1,228	1,408	0.27	1,635	1,228	1,128	1,228	0.27	0.27	1,635	1,228	1,128	1,228	0.27	0.27
Scenario 3: 2044, 2.2P	98	4,288	2,447	1,708	1,407	0.62	13	4,811	2,611	2,611	1.04	0.14	133	4,811	2,611	2,611	1.04	0.14
Agriculture																		
Mining																		
Construction	2,400	106,877	119,231	112,822	4,831	0.65	3,888	207,425	108,427	188,250	1.74	0.33	17	479	3,222	3,778	2,800	1.02
Manufacturing	383	81,811	29,217	17,888	10,388	0.89	608	126,311	41,113	27,244	1.80	0.15	2,896	224,008	147,832	141,000	6,000	0.57
Retail Trade	1,208	278,400	229,622	92,778	102,008	25.87	2,229	615,988	301,077	181,888	107.46	42.08	1,397	122,778	64,117	28,008	18,977	1.38
Wholesale Trade	309	48,188	22,778	19,088	6,900	0.90	608	71,772	40,600	20,622	10.72	10.88	1,904	103,421	62,888	129,022	12,978	22.77
Food Stores	2,131	108,119	80,778	49,088	18,858	14.82	3,274	183,244	124,188	78,266	25.42	22.32	3,298	183,427	124,188	78,266	25.42	
F&E	8,074	1,297,888	883,877	486,778	317,117	61.01	8,800	1,619,200	1,207,688	724,488	802.16	89.88	11,201	2,441,888	1,698,445	626,811	29,211	19.19
Services	4,411	292,844	182,000	168,200	21,800	5.24	6,784	449,844	296,200	294,111	33.14	6.04	6,784	449,844	296,200	294,111	33.14	
Government	161	1,148	710	16,111	2,388	0.05	246	38,632	19,113	16,417	3.05	3.05	199	36,000	19,445	16,720	3,242	0.48
Other	150	1,148	710	16,111	2,388	0.05	246	38,632	19,113	16,417	3.05	3.05	199	36,000	19,445	16,720	3,242	0.48
Leisure	4,272	1,297,888	883,877	486,778	317,117	61.01	4,926	1,619,200	1,207,688	724,488	802.16	89.88	5,100	1,619,200	1,207,688	724,488	802.16	
Direct Effect	2,212	1,297,888	883,877	486,778	317,117	61.01	2,212	1,297,888	883,877	486,778	317,117	61.01	2,212	1,297,888	883,877	486,778	317,117	61.01
Indirect Effect	4,168	419,844	219,877	219,877	80,444	13.28	2,611	2,141,888	1,089,633	768,477	613.87	97.88	10,800	2,187,832	1,129,888	815,188	127.62	98.81
Total Effect	6,380	1,717,732	1,103,754	706,655	407,561	74.29	4,823	2,439,776	1,973,510	1,255,255	124.89	159.89	13,600	2,485,720	1,993,766	1,603,866	244.74	187.69
Multiplier	18,154	2,413,022	1,298,022	897,222	602,888	114.87	27,888	3,812,311	2,063,111	1,421,222	178.25	178.25	27,888	3,812,311	2,063,111	1,421,222	178.25	178.25
Multiplier	2,618	1,227	1,127	1,228	1,408	0.27	1,635	1,228	1,128	1,228	0.27	0.27	1,635	1,228	1,128	1,228	0.27	0.27

* All units except employment are in Millions of \$ 1996.

** Employment impacts are in person-year.

Table 7. Economic Impacts of Household Expenditure Reductions for years 1 - 20

Scenario	Industry	Case 1: 45.2 MG Plant Scenario (480 - 181, 933 Plants)				Case 2: 244.1 0.8" Scenario (85 Plants)				Case 3: One Plant per City-Block Intersection Scenario (130 Plants)				
		Employment	Output	Value Added	Property Income	Employment	Output	Value Added	Property Income	Employment	Output	Value Added	Property Income	
Scenario 1: 244.1 1.25"	Architecture	1,147	54.87	33.38	22.28	1,524	68.84	44.37	30.98	21.16	1,909	77.86	50.91	32.48
	Mining	185	50.84	34.09	18.20	246	45.31	29.45	18.88	21.16	326	57.25	38.84	24.48
	Construction	2,297	1,291.89	1,008.49	103.81	3,052	2,298.45	1,641.17	206.47	158.89	3,804	3,253.83	2,598.05	318.22
	Manufacturing	1,763	1,224.92	838.21	232.19	2,414	1,763.94	1,235.10	317.42	232.19	3,168	2,316.55	1,666.81	448.24
	TCPU	3,872	774.21	533.24	210.35	5,136	1,008.06	688.15	278.03	188.88	6,702	1,336.11	896.66	338.23
	Wholesale Trade	42,880	2,138.83	1,628.38	333.36	57,116	2,853.57	2,153.08	432.28	443.25	76,352	3,856.14	2,916.87	538.63
	Retail Trade	8,230	2,009.71	1,791.88	461.62	11,004	2,700.33	2,333.78	612.64	467.11	14,788	3,633.27	3,153.56	779.64
	Food Services	42,101	3,882.24	2,208.12	2,148.81	56,234	5,192.44	3,201.21	2,838.08	3,171.29	75,368	6,834.27	4,032.82	3,168.12
	Government	2,895	24.26	24.26	34.32	3,861	32.70	32.70	45.81	45.81	5,136	42.72	42.72	59.12
	Other	1,206.33	1,311.32	1,311.32	1,311.32	1,608	1,722.00	1,722.00	1,722.00	1,722.00	2,112	2,226.00	2,226.00	2,226.00
	Subtotal		69,837	6,837.38	4,528.41	2,708.18	114,332	6,837.38	4,528.41	2,708.18	114,332	6,837.38	4,528.41	2,708.18
Direct Effect		18,881	2,048.19	1,238.26	317.87	25,234	2,719.13	1,641.51	422.41	114.81	37,293	3,842.32	2,188.24	487.88
Indirect Effect		1,814	165.34	103.66	64.17	2,328	209.51	138.71	74.90	28.84	3,052	276.24	180.95	98.94
Total Effect		20,695	2,213.53	1,341.92	382.04	27,562	3,928.64	1,780.22	507.31	143.65	40,345	4,118.56	2,369.19	586.82
Multiplier		1.09	1.72	1.82	1.15	1.82	1.72	1.82	1.15	1.82	2.05	1.72	1.82	1.15
Scenario 2: 244.1 0.8"	Architecture	619	21.45	13.18	8.48	826	28.28	18.33	11.63	7.60	1,042	37.00	24.16	15.73
	Mining	87	18.45	12.42	6.56	116	21.75	14.33	7.96	5.20	153	32.62	21.50	13.11
	Construction	637	618.61	397.85	37.85	849	809.38	488.66	44.94	1.76	1,116	1,090.31	658.81	47.16
	Manufacturing	1,787	204.09	137.26	61.72	2,381	482.90	357.84	85.74	89.53	3,168	571.77	437.87	101.21
	TCPU	1,729	292.01	195.48	78.84	2,304	392.44	263.14	123.16	49.22	3,082	473.42	323.23	74.19
	Wholesale Trade	16,856	779.45	593.14	295.19	22,544	1,079.57	798.84	173.64	113.99	29,892	1,356.66	1,013.31	242.35
	Retail Trade	3,282	913.82	823.71	197.83	4,361	1,079.57	798.84	173.64	113.99	5,742	1,356.66	1,013.31	242.35
	Food Services	22,021	1,414.14	873.87	783.01	29,849	1,883.89	1,079.48	522.48	121.63	39,690	2,463.38	1,434.94	311.44
	Government	1,685	107.48	107.48	132.30	2,243	132.30	132.30	176.71	176.71	2,928	176.71	176.71	221.02
	Other	1,206.33	1,311.32	1,311.32	1,311.32	1,608	1,722.00	1,722.00	1,722.00	1,722.00	2,112	2,226.00	2,226.00	2,226.00
	Subtotal		31,240	2,468.84	1,648.81	669.34	41,871	2,468.84	1,648.81	669.34	41,871	2,468.84	1,648.81	669.34
Direct Effect		8,814	1,058.50	674.87	402.48	11,686	1,365.00	874.87	402.48	412.35	15,272	1,883.17	1,184.87	493.53
Indirect Effect		1,100	126.34	81.94	42.96	1,444	178.84	126.34	49.89	187.94	1,928	236.71	163.90	63.97
Total Effect		9,914	1,184.84	756.81	445.44	13,130	1,543.84	1,001.21	452.33	600.29	17,200	2,120.88	1,348.77	557.50
Multiplier		1.09	1.72	1.82	1.15	1.82	1.72	1.82	1.15	1.82	2.05	1.72	1.82	1.15
Scenario 3: 244.1 2.25"	Architecture	2,154	110.87	67.79	42.72	2,848	153.70	102.83	64.74	44.62	3,542	188.28	122.11	77.11
	Mining	387	88.11	64.03	33.72	516	116.41	84.89	44.16	24.62	680	159.32	117.94	67.83
	Construction	4,314	4,217.78	2,853.78	188.15	5,704	5,514.41	3,641.99	247.70	90.82	7,484	7,323.83	4,942.81	312.02
	Manufacturing	8,109	1,800.36	1,197.41	519.05	10,692	2,313.21	1,481.32	605.32	481.16	13,956	3,018.17	1,924.47	738.84
	TCPU	7,398	1,454.02	961.83	408.81	9,792	1,883.89	1,198.88	502.84	312.43	12,884	2,488.97	1,608.11	615.71
	Wholesale Trade	11,821	1,411.32	1,071.46	662.87	15,648	1,883.89	1,427.08	802.84	508.81	20,496	2,313.21	1,738.81	815.18
	Retail Trade	60,719	4,619.77	3,058.19	1,882.87	80,808	6,079.47	4,282.34	2,397.90	1,009.81	107,626	8,081.31	5,288.61	2,397.90
	Food Services	17,235	4,711.56	3,288.31	2,072.45	22,884	6,079.47	4,282.34	2,397.90	1,009.81	30,718	8,081.31	5,288.61	2,397.90
	Government	19,830	7,281.16	4,709.70	4,037.13	26,448	10,794.30	6,888.37	5,079.89	1,899.43	35,366	13,293.32	8,588.18	3,498.11
	Other	2,895	24.26	24.26	34.32	3,861	32.70	32.70	45.81	45.81	5,136	42.72	42.72	59.12
	Subtotal		101,884	12,841.29	8,564.71	5,069.07	133,874	16,428.39	10,812.28	5,713.99	175,718	21,843.82	14,328.85	6,179.78
Direct Effect		28,849	3,862.81	2,519.84	1,561.19	38,737	5,192.44	3,444.89	2,022.81	5,136	6,837.38	4,528.41	2,708.18	
Indirect Effect		1,100	126.34	81.94	42.96	1,444	178.84	126.34	49.89	187.94	1,928	236.71	163.90	
Total Effect		29,949	4,089.15	2,601.78	1,604.15	40,181	5,371.28	3,571.83	2,072.70	5,324	7,065.38	4,692.31	2,872.08	
Multiplier		1.09	1.72	1.82	1.15	1.82	1.72	1.82	1.15	1.82	2.05	1.72	1.82	1.15

* All units except employment are in Millions of \$ 1999.
** Employment impacts are in person-year.

Combining data where possible, there are two periods to consider. Years 1-15 each combine a construction stimulus effect with simultaneous reductions in household expenditures. Years 16-20 combine the stimulus from full-scale operations and maintenance expenditures with continued reductions in household expenditures. This is why Table 8, which summarizes net job impacts contains mostly negative entries. There are more jobs lost than gained and there are extraordinarily large net losses in the last interval when the stimulative effects of construction are over. There are, to be sure, gains in construction sector employment in Years 1-15, but these are more than offset by losses in all of the other industrial sectors. Depending on the combination of case and scenario, aggregate regional job losses range from an average of just over 20,000 (Rainfall Scenario II, Plant Case I) for each of the first fifteen years to over 150,000 (Rainfall Scenario III, Plant Case III) in the same interval. In the post-construction interval, these losses grow substantially from almost 47,000 to over 400,000 jobs per year for the same two bookend combinations. Job losses for combination (II, II) are more than 22,000 in each of Years 1-15 and almost 60,000 in each of the last five years.

The other model used in this study is a proprietary model developed at USC, the Southern California Planning Model (SCPM) which has the unique capability to allocate all of the IMPLAN outputs to the various cities and communities throughout the five-county southern California metropolitan areas. SCPM has been used by our group for a variety of impact studies over the last twenty years. Its data components have continuously been updated.

Table 8. Net Annual Employment Impacts by Scenario by Period

Construction Period	Industry	(Person-Year)								
		CASE I			CASE II			CASE III		
		Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Year 1 - Year 15	Agriculture	-714	-256	-1,349	-905	-294	-1,874	-963	-316	-2,090
	Mining	-59	-20	-114	-66	-22	-131	-66	-22	-134
	Construction	21,477	8,043	39,851	31,129	9,968	66,221	34,516	11,238	77,813
	Manufacturing	-1,918	-672	-3,661	-2,248	-737	-4,568	-2,313	-763	-4,868
	TCPU	-1,846	-662	-3,491	-2,200	-712	-4,566	-2,468	-808	-5,344
	Wholesale Trade	-2,721	-957	-5,185	-3,241	-1,060	-6,611	-3,354	-1,106	-7,104
	Retail Trade	-34,649	-12,550	-65,229	-45,273	-14,631	-94,273	-48,654	-15,933	-106,536
	FIRE	-3,304	-1,179	-6,259	-4,136	-1,346	-8,529	-4,350	-1,429	-9,374
	Services	-29,936	-10,609	-56,874	-36,512	-11,909	-74,907	-38,173	-12,560	-81,595
	Government	-1,100	-396	-2,076	-1,409	-457	-2,926	-1,507	-494	-3,281
	Other	-2,429	-881	-4,571	-3,184	-1,030	-6,642	-3,429	-1,123	-7,518
	Direct Effect	-47,352	-16,905	-89,689	-59,017	-19,194	-121,770	-62,420	-20,503	-134,583
	Indirect Effect	-2,213	-664	-4,470	-1,262	-462	-1,936	-827	-305	-642
	Induced Effect	-7,634	-2,571	-14,799	-7,715	-2,573	-15,101	-7,514	-2,509	-14,807
	Total Effect	-57,199	-20,140	-108,958	-67,994	-22,229	-138,806	-70,761	-23,316	-150,032
Year 16 - Year 20	Agriculture	-1,100	-401	-2,066	-1,524	-492	-3,189	-1,587	-519	-3,497
	Mining	-179	-65	-336	-246	-79	-514	-258	-84	-568
	Construction	-1,047	-404	-1,915	-3,052	-986	-6,387	-1,852	-593	-4,273
	Manufacturing	-4,643	-1,693	-8,716	-6,445	-2,081	-13,486	-6,697	-2,190	-14,758
	TCPU	-3,207	-1,179	-5,997	-5,212	-1,683	-10,906	-4,783	-1,558	-10,628
	Wholesale Trade	-6,142	-2,239	-11,531	-8,435	-2,724	-17,649	-8,855	-2,896	-19,511
	Retail Trade	-41,853	-15,252	-78,588	-57,115	-18,444	-119,505	-60,282	-19,715	-132,778
	FIRE	-5,678	-2,069	-10,661	-12,266	-3,961	-25,664	-8,180	-2,675	-18,019
	Services	-59,768	-21,785	-112,218	-82,524	-26,649	-172,670	-86,156	-28,175	-189,808
	Government	-1,560	-569	-2,929	-2,186	-706	-4,575	-2,250	-736	-4,958
	Other	-2,824	-1,029	-5,303	-3,841	-1,240	-8,036	-4,066	-1,330	-8,955
	Direct Effect	-82,227	-29,977	-154,372	-114,332	-36,921	-239,225	-118,622	-38,788	-261,385
	Indirect Effect	-16,785	-6,129	-31,490	-25,224	-8,146	-52,778	-24,369	-7,963	-53,785
	Induced Effect	-28,988	-10,578	-54,397	-43,289	-13,979	-90,577	-41,976	-13,720	-92,585
	Total Effect	-128,000	-46,684	-240,259	-182,846	-59,046	-382,581	-184,968	-60,471	-407,755

Selected SCPM results expressed in terms of total output effects (direct plus indirect plus induced, in 1999 millions of dollars) are shown in Tables 9 and 10. The associated direct, indirect and induced effects are shown in Appendix Tables A2-A7. Tables 9 and 10 show total impacts for a representative year in the intervals of Years 1-15 and Years 16-20 respectively. Just as in the case of regional job impacts, Tables 9 and 10 show both stimulative effects (top panels) resulting from construction and depressive effects (middle panels) resulting from financing. Net impacts are shown in the third panel of each table. Now, however, the results are reported for the five counties in the Southern California metropolitan area, as regional total and for sub-areas of Los Angeles county constituting SCAG sub-regional planning areas. Whereas most of the direct effects are located within Los Angeles county, the five-county area is an integrated metropolitan economy making it quite likely that indirect and induced effects will be felt in neighboring counties.

For the region, net annual losses in the first interval range from \$1.186 billion (Rainfall Scenario II, Plant Case I) to \$7.823 billion (Rainfall Scenario III, Plant Case III). All five of the counties also show net losses for these years. Within Los Angeles county, there are economic winners as well as losers. North Los Angeles county, for example shows some net gains for some of the combinations of cases and scenarios. This is because while expenditures may be funneled there, there are few households and thus relatively low taxation impacts. For the conservative combination (II, II), net annual losses are \$1.242 billion for the region, most of which is expected to fall on Los Angeles county.

In the second interval, the construction stimulus is removed and there are net losses for all areas, for all combinations: Net annual losses for the region range from \$3.830 billion (Rainfall Scenario II, Plant Case I) to \$33.530 billion (Rainfall Scenario III, Plant Case III). For the (II, II) combination, net annual losses are expected to be \$4.464 billion.

Table 9. Annual Total Impacts for years 1 - 15

(Millions of \$ 1999)

Scenario	Los Angeles County										Orange County	Riverside County	San Bernardino County	Ventura County	Total		
	Arroyo Verdugo	City of Los Angeles	North Los Angeles County	San Gabriel Valley	Southeast Los Angeles County	South Bay	Westside Cities	Other Los Angeles County	Los Angeles County Total								
									Los Angeles County	Total							
CASE I	CASE II	CASE III	CASE I	CASE II	CASE III	CASE I	CASE II	CASE III	CASE I	CASE II	CASE III	CASE I	CASE II	CASE III	CASE I	CASE II	CASE III
Scenario I	355.5	2,382.5	391.6	776.6	1,145.8	432.9	176.1	1,130.2	6,791.3	791.6	262.1	301.2	179.5	8,325.7			
Scenario II	156.1	810.5	163.6	344.8	366.6	151.0	60.0	476.7	2,529.4	295.0	97.7	112.2	67.1	3,101.4			
Scenario III	588.5	4,358.9	718.2	1,515.6	2,124.0	826.0	282.2	2,237.4	12,630.8	1,471.9	487.4	560.0	333.7	15,483.8			
Scenario I	339.3	3,576.9	1,168.8	1,003.1	1,928.2	520.4	187.1	961.3	9,685.1	1,129.2	374.1	429.8	255.9	11,874.0			
Scenario II	106.8	1,134.0	335.9	330.9	622.8	169.0	60.0	346.5	3,105.9	362.1	119.9	137.8	82.1	3,807.8			
Scenario III	701.7	7,539.4	2,668.5	2,152.5	4,055.0	1,081.2	397.0	1,947.3	20,542.5	2,395.7	793.6	911.8	542.6	25,186.5			
Scenario I	304.4	3,404.7	1,786.6	770.6	2,491.9	550.4	207.5	1,176.5	10,682.6	1,248.1	413.4	474.9	282.6	13,111.5			
Scenario II	103.8	1,113.8	473.9	307.7	829.1	206.0	67.7	383.2	3,485.3	406.7	134.7	154.7	92.1	4,273.5			
Scenario III	680.8	7,627.9	4,248.6	1,662.2	5,508.7	1,168.5	466.0	2,640.2	24,003.1	2,803.0	928.4	1,066.6	634.7	29,435.7			
Scenario I	662.6	3,871.7	345.9	1,114.3	1,403.5	903.6	529.3	729.8	9,560.8	1,141.8	346.6	457.5	262.6	11,769.3			
Scenario II	241.4	1,410.3	128.0	405.9	511.2	329.1	192.8	265.8	3,482.6	415.9	128.3	166.6	95.7	4,287.0			
Scenario III	1,244.4	7,271.3	649.7	2,092.8	2,936.0	1,697.1	994.1	1,370.7	17,956.0	2,144.3	650.9	859.2	493.2	22,103.6			
Scenario I	880.5	5,144.8	459.7	1,480.8	1,865.1	1,200.8	703.4	969.8	12,705.1	1,517.2	460.8	607.9	349.0	15,639.9			
Scenario II	284.4	1,661.5	148.5	478.2	602.3	387.8	227.1	313.2	4,102.9	490.0	148.7	196.3	112.7	5,050.6			
Scenario III	1,842.4	10,765.1	961.9	3,098.4	3,902.5	2,512.5	1,471.7	2,029.3	26,583.9	3,174.6	983.7	1,272.1	730.2	32,724.5			
Scenario I	952.8	5,567.1	497.4	1,602.3	2,018.1	1,299.3	781.1	1,049.4	13,747.5	1,641.7	498.4	657.8	377.6	16,923.0			
Scenario II	311.7	1,821.1	162.7	524.1	660.2	425.0	249.0	343.3	4,497.0	537.0	163.0	215.2	123.5	5,535.8			
Scenario III	2,097.7	12,258.8	1,095.2	3,527.7	4,443.3	2,860.7	1,675.6	2,310.5	30,287.5	3,614.5	1,097.3	1,448.3	831.4	37,259.0			
Scenario I	-307.1	-1,489.2	45.6	-337.7	-257.7	-470.7	-353.1	400.4	-2,788.5	-350.2	-84.5	-156.3	-83.1	-3,443.6			
Scenario II	-85.2	-599.7	37.6	-61.1	-144.6	-178.1	-132.8	210.8	-953.2	-120.9	-28.6	-54.4	-26.6	-1,185.6			
Scenario III	-676.0	-2,912.4	68.5	-577.2	-511.9	-871.1	-711.8	866.8	-5,325.2	-672.4	-163.5	-299.2	-159.5	-6,619.9			
Scenario I	-641.2	-1,568.0	709.0	-477.7	63.1	-680.4	-516.3	-8.5	-3,020.0	-368.1	-66.5	-178.2	-93.1	-3,765.9			
Scenario II	-177.8	-527.5	187.5	-147.3	20.5	-218.8	-187.1	33.3	-997.0	-127.9	-28.6	-58.5	-30.6	-1,242.8			
Scenario III	-1,140.7	-3,225.7	1,706.5	-945.9	152.4	-1,431.3	-1,074.7	-82.0	-6,041.4	-776.9	-170.1	-360.2	-187.3	-7,537.9			
Scenario I	-648.3	-2,162.4	1,289.2	-831.7	473.7	-748.9	-553.6	127.1	-3,054.9	-393.7	-85.0	-182.9	-95.0	-3,811.6			
Scenario II	-207.9	-707.2	311.2	-216.4	169.0	-218.0	-181.2	39.9	-1,011.7	-130.4	-28.3	-60.4	-31.4	-1,262.3			
Scenario III	-1,416.9	-4,628.9	3,153.4	-1,865.5	1,065.4	-1,692.1	-1,209.6	328.7	-6,264.4	-811.6	-168.9	-381.7	-196.7	-7,823.2			

Table 10. Annual Total Impacts for years 16 - 20

Scenario	Los Angeles County										(Millions of \$ 1999)				
	Arroyo Verdugo	City of Los Angeles	North Los Angeles County	San Gabriel Valley	Southeast Los Angeles County	South Bay	Westside Cities	Other Los Angeles County	Los Angeles County Total	Orange County	Riverside County	San Bernardino County	Ventura County	Total	
CASE I	56.3	374.5	59.1	122.3	178.4	66.1	26.4	176.1	1,059.2	112.7	37.0	42.3	24.4	1,275.6	
Scenario I	24.1	122.0	23.9	52.8	54.2	22.1	8.5	72.3	379.9	40.4	13.3	15.2	8.6	457.5	
Scenario II	90.7	695.6	110.3	243.4	335.8	126.3	41.9	356.7	2,002.7	213.1	70.0	80.0	46.2	2,412.0	
Scenario III	53.8	565.2	153.0	148.6	316.7	78.9	26.1	150.0	1,492.2	158.8	52.2	59.7	34.5	1,787.4	
CASE II	17.1	182.6	45.5	49.9	104.0	26.0	8.5	53.8	487.3	51.9	17.1	19.5	11.3	587.1	
Scenario I	108.7	1,155.2	339.1	310.4	646.5	159.2	53.8	298.8	3,071.7	328.8	107.5	122.9	70.9	3,699.8	
Scenario II	41.0	461.9	218.8	110.8	340.8	75.3	25.3	158.7	1,432.6	152.4	49.9	57.0	32.8	1,724.6	
Scenario III	14.0	152.5	60.1	43.9	114.9	28.2	8.3	52.6	474.5	50.2	16.4	18.8	10.8	570.8	
CASE III	88.4	993.3	506.7	230.5	726.9	152.7	54.8	342.9	3,096.2	330.1	107.9	123.3	71.0	3,728.5	
Scenario I	662.6	3,871.7	345.9	1,114.3	1,403.5	903.6	529.3	729.8	9,560.8	1,141.8	346.6	457.5	282.6	11,769.3	
Scenario II	241.4	1,410.3	126.0	405.9	511.2	329.1	192.8	265.8	3,482.6	415.9	126.3	166.6	95.7	4,287.0	
Scenario III	1,244.4	7,271.3	649.7	2,092.8	2,636.0	1,697.1	994.1	1,370.7	17,958.0	2,144.3	650.9	859.2	493.2	22,103.6	
CASE I	880.5	5,144.9	459.7	1,480.8	1,865.1	1,200.8	703.4	969.8	12,705.1	1,517.2	460.6	607.9	349.0	15,639.9	
Scenario I	284.4	1,661.5	148.5	478.2	602.3	387.8	227.1	313.2	4,102.9	480.0	148.7	196.3	112.7	5,050.6	
Scenario II	1,842.4	10,765.1	961.9	3,098.4	3,902.5	2,512.5	1,471.7	2,029.3	26,583.9	3,174.6	963.7	1,272.1	730.2	32,724.5	
Scenario III	952.8	5,567.1	497.4	1,602.3	2,018.1	1,299.3	761.1	1,049.4	13,747.5	1,841.7	498.4	657.8	377.6	16,923.0	
CASE II	311.7	1,821.1	182.7	524.1	660.2	425.0	249.0	343.3	4,487.0	537.0	183.0	215.2	123.5	5,535.8	
Scenario I	2,097.7	12,256.8	1,095.2	3,527.7	4,443.3	2,860.7	1,875.6	2,310.5	30,287.5	3,614.5	1,097.3	1,448.3	831.4	37,259.0	
Scenario II	-606.3	-3,497.1	-266.8	-882.1	-1,225.2	-837.6	-502.8	-563.7	-8,501.6	-1,028.0	-309.6	-415.2	-238.2	-10,493.7	
Scenario III	-217.3	-1,288.3	-102.2	-353.1	-457.0	-307.1	-184.3	-193.5	-3,102.7	-375.5	-113.0	-151.5	-86.9	-3,829.5	
CASE I	-1,153.8	-6,575.7	-539.4	-1,849.4	-2,300.1	-1,568.8	-952.2	-1,013.9	-15,953.3	-1,931.2	-581.0	-779.2	-447.0	-19,691.7	
Scenario I	-826.7	-4,579.8	-306.7	-1,332.2	-1,548.4	-1,121.9	-677.2	-819.9	-11,213.0	-1,358.5	-408.4	-548.2	-314.5	-13,842.5	
Scenario II	-267.3	-1,478.9	-103.0	-428.3	-498.3	-381.8	-218.6	-259.4	-3,615.5	-438.1	-131.7	-176.8	-101.4	-4,463.5	
Scenario III	-1,733.7	-8,610.0	-622.8	-2,788.0	-3,256.0	-2,353.3	-1,417.9	-1,730.5	-23,512.1	-2,847.8	-858.3	-1,149.2	-659.3	-29,024.7	
CASE II	-911.8	-5,105.2	-278.6	-1,491.5	-1,877.3	-1,224.0	-735.8	-860.7	-12,314.9	-1,489.3	-448.5	-600.9	-344.8	-15,186.4	
Scenario I	-297.6	-1,668.6	-102.6	-480.2	-545.3	-396.9	-240.6	-290.7	-4,022.5	-486.8	-148.6	-196.4	-112.7	-4,965.0	
Scenario II	-2,009.3	-11,263.5	-588.5	-3,297.3	-3,716.4	-2,707.9	-1,620.9	-1,967.6	-27,171.3	-3,284.4	-989.3	-1,325.0	-760.4	-33,530.5	
Scenario III															
	Stimulus Effect			Impacts of Household Expenditure Reduction						Net Impacts					

All of these effects were computed for all cities and CDPs in the five-county area. Results are shown in Tables A8-A15. These annual tables correspond to the typical years in each of the two intervals. Tables A8, A10, A12, and A14, correspond to Years 1-15; and Tables A9, A11, A13, and A15 correspond to Years 16-20. The first Tables (A8 and A9) summarize total effects, while the following table pairs detail direct, indirect, and induced effects, respectively. Each of the eight tables lists stimulus effects for the nine combinations of cases and scenarios. These are the first nine columns. Household expenditure reduction effects appear in the next nine columns and net effects appear in the last nine columns.

It is obviously cumbersome to discuss all of these results for hundreds of cities. Consider just some of the county's cities, namely El Monte, Inglewood, Pasadena, Pomona and Torrance. Tables 11 and 12 are laid out like Tables 9 and 10. In Years 1-15, there are occasional economic winners. Pomona wins in two of the nine combinations of cases and scenarios. But overwhelmingly there are cities that are losers year after year. The four other cities show substantial losses for each combination of case and scenario. In Years 15-20, the stimulus associated with construction will have passed and all five of the cities experience substantial losses. Pomona's annual net losses are as "small" as \$28.8 million per year (Rainfall Scenario II, Plants Case I) whereas Torrance's losses go as high as \$777.4 million per year. Four of the five cities experience losses in Years 1-15, Pomona's being the occasional exception. Pomona's advantage disappears in Years 16-20; once the construction stimulus is past, there are net losses for all these cities.

Tables A16 - A21 in Appendix A summarize the direct, indirect and induced effects evaluated in this report. Direct costs always refer to the expenditures actually made in each city. Detailed plant site decisions are not predictable. Our approach is to site hypothetical plants at the lowest topographic elevations consistent with each plants case. In the 65-plant case, this means that there are direct expenditures in some cities, but not in others.

Table 11. Annual Total Impacts for years 1 - 15 (El Monte, Inglewood, Pasadena, Pomona, Torrance)

Scenario		El Monte	Inglewood	Pasadena	Pomona	Torrance
Stimulus Effect	CASE I	55.4	81.6	112.5	101.7	91.1
	CASE II	18.0	29.6	52.7	40.4	62.6
	CASE III	100.5	112.1	194.0	169.3	184.3
Impacts of Household Expenditure Reduction	Scenario I	29.9	32.8	147.1	58.4	83.7
	Scenario II	9.6	10.5	44.9	20.7	26.8
	Scenario III	63.5	69.7	300.4	121.4	177.7
	CASE I	68.8	54.6	106.7	88.9	146.1
	CASE II	27.9	21.3	37.7	38.9	50.6
	CASE III	147.3	120.5	241.6	195.5	317.7
	Scenario I	87.2	105.1	214.9	95.9	258.7
	Scenario II	31.8	38.3	78.3	34.9	94.2
	Scenario III	163.7	197.3	403.6	180.2	485.9
Net Impacts	Scenario I	115.9	139.6	285.6	127.5	343.8
	Scenario II	37.4	45.1	92.2	41.2	111.0
	Scenario III	242.4	292.2	597.6	266.8	719.4
	CASE I	125.4	151.1	309.0	138.0	372.0
	CASE II	41.0	49.4	101.1	45.1	121.7
	CASE III	276.0	332.7	680.4	303.7	819.1
	Scenario I	-31.8	-23.5	-102.4	5.8	-167.6
	Scenario II	-13.8	-8.7	-25.6	5.5	-31.6
	Scenario III	-63.2	-85.2	-209.6	-10.9	-301.6
CASE I	-85.9	-106.8	-138.5	-69.1	-260.1	
CASE II	-27.8	-34.6	-47.3	-20.5	-84.2	
CASE III	-178.9	-222.5	-297.1	-145.4	-541.7	
Scenario I	-56.6	-96.4	-202.3	-49.0	-225.9	
Scenario II	-13.1	-28.1	-63.4	-6.3	-71.1	
Scenario III	-128.7	-212.1	-438.7	-108.2	-501.4	

Table 12. Annual Total Impacts for years 16 - 20 (El Monte, Inglewood, Pasadena, Pomona, Torrance)

Scenario		El Monte	Inglewood	Pasadena	Pomona	Torrance
Stimulus Effect	CASE I	8.5	13.0	17.6	16.0	13.5
	CASE II	2.6	4.6	8.1	6.2	9.6
	CASE III	15.6	17.8	30.7	27.0	28.1
Impacts of Household Expenditure Reduction	Scenario I	3.9	4.3	23.5	9.1	11.2
	Scenario II	1.3	1.4	7.2	3.2	3.7
	Scenario III	8.0	8.9	47.1	18.6	23.0
	CASE I	9.7	7.2	14.2	12.7	20.0
	CASE II	3.9	2.9	5.1	5.5	6.9
	CASE III	20.1	15.4	31.0	27.3	41.7
	Scenario I	87.2	105.1	214.9	95.9	258.7
	Scenario II	31.8	38.3	78.3	34.9	94.2
	Scenario III	163.7	197.3	403.6	180.2	485.9
Net Impacts	Scenario I	115.9	139.6	285.6	127.5	343.8
	Scenario II	37.4	45.1	92.2	41.2	111.0
	Scenario III	242.4	292.2	597.6	266.8	719.4
	CASE I	125.4	151.1	309.0	138.0	372.0
	CASE II	41.0	49.4	101.1	45.1	121.7
	CASE III	276.0	332.7	680.4	303.7	819.1
	Scenario I	-78.7	-92.0	-197.3	-79.9	-245.2
	Scenario II	-29.1	-33.7	-70.2	-28.8	-84.7
	Scenario III	-148.1	-179.6	-373.0	-153.1	-457.8
Scenario I	-112.0	-135.3	-262.1	-118.3	-332.6	
Scenario II	-36.1	-43.7	-85.0	-37.9	-107.4	
Scenario III	-234.4	-283.3	-550.5	-248.2	-696.4	
CASE I	-115.6	-143.9	-294.8	-125.2	-352.0	
CASE II	-37.1	-46.6	-96.0	-39.6	-114.8	
CASE III	-255.9	-317.3	-649.3	-276.4	-777.4	

III.2 Net Present Values

There are several reasons to present our results in net present value terms rather than in annual terms. First, there is the standard rationale that gains or losses further in the future have less consequence than those occurring in the near term. The second is related to the first: There are two distinct intervals in the twenty-year study period. Most of the pain is felt in the years 16-20, when the stimulative effects are substantially reduced. Outcomes across these two intervals are best combined when proper account is given to which of these takes place first. A four-percent discount rate is used throughout for net present value calculations. This is consistent with the interest rate used in this study's bond cost calculations.

Table 13 shows net present values for the region, the five counties and the Los Angeles county sub-areas introduced earlier. Regional present values range from losses of \$22.649 billion (Rainfall Scenario II, Plants Case I) to losses of \$169.866 billion (Rainfall Scenario III, Plants Case III). As might be expected, the brunt of the cost is borne by Los Angeles county with losses ranging from an \$18.267 billion to a \$136.815 billion loss. The city of Los Angeles incurs the greatest costs. These range from \$9.853 billion to \$79.308 billion. The highlighted (II, II) combination includes \$24.851 billion of losses for the region, \$20.022 billion for the Los Angeles county, of which \$9.5 billion accrues to LA city. The direct, indirect and induced effects that make up these totals are itemized in Tables A22-A24 of Appendix A.

Table 13. Present Value of Net Total Impacts by County by Scenario

County	(Millions of \$ 1999)								
	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Arroyo Verdugo	-4,913.7	-1,484.8	-10,367.9	-8,061.3	-2,634.9	-16,968.6	-9,462.4	-3,046.8	-20,720.3
City of Los Angeles	-25,201.6	-9,852.6	-48,635.5	-28,754.9	-9,520.5	-59,619.8	-36,661.9	-11,987.7	-79,308.4
North Los Angeles County	-201.6	165.9	-572.2	7,125.1	1,829.9	17,434.6	13,645.2	3,206.1	33,606.2
San Gabriel Valley	-6,206.8	-1,552.1	-10,988.6	-8,604.6	-2,696.9	-17,408.2	-12,934.5	-3,593.3	-28,891.8
Southeast Los Angeles County	-5,893.5	-2,737.6	-11,377.5	-3,126.2	-1,003.7	-6,353.7	1,120.8	530.6	2,659.5
South Bay	-7,304.2	-2,739.5	-13,563.2	-10,337.9	-3,326.6	-21,731.1	-11,352.6	-3,416.1	-25,507.2
Westside Cities	-5,169.6	-1,932.5	-10,267.9	-7,414.0	-2,398.7	-15,453.9	-7,973.5	-2,609.8	-17,455.3
Other Los Angeles County	3,083.3	1,865.7	7,130.7	-2,121.5	-270.5	-5,189.3	-788.5	-275.1	-1,197.5
Los Angeles County Total	-51,807.7	-18,267.5	-98,642.2	-61,295.3	-20,022.0	-125,289.9	-64,407.3	-21,191.9	-136,814.8
Orange County	-6,436.8	-2,272.2	-12,249.4	-7,672.6	-2,504.9	-15,699.8	-8,058.2	-2,652.9	-17,141.9
Riverside County	-1,704.6	-596.9	-3,254.3	-1,971.4	-645.6	-4,007.8	-2,054.0	-677.5	-4,323.6
San Bernardino County	-2,764.6	-979.5	-5,253.2	-3,336.0	-1,087.6	-6,845.7	-3,518.8	-1,157.4	-7,519.1
Ventura County	-1,512.5	-532.4	-2,878.3	-1,812.4	-591.0	-3,712.6	-1,908.9	-628.2	-4,066.4
Total	-64,226.2	-22,648.6	-122,277.5	-76,087.7	-24,851.2	-155,555.8	-79,947.3	-26,308.0	-169,865.9

Because annual costs are available for all cities of the region, for all rainfall scenarios, net present values are also available for each combination of scenario and case. Tables A25-A28 of Appendix A show these results. Once again, these detailed model outputs are best highlighted by focusing on the five representative cities mentioned earlier. The top panel of Table 14 summarizes net present value of total economic effects. The net present values of direct, indirect and induced effects appear in the lower panels. Looking at the top panel of total net effects, all of the selected cities show substantial losses for all of the combinations of cases and scenarios. Most losses are expected to accrue to Torrance, where losses range from just over \$561 million to \$7.497 billion. Pasadena's losses are slightly lower but also substantial. Inglewood can expect net present value losses, ranging from almost \$180 million to \$3.174 billion. El Monte's losses are slightly greater, from just over \$225 million to almost \$2.569 billion. The (II, II) combination also means losses for all of the cities, ranging from \$321 million for Pomona to \$1.201 billion for Torrance.

Table 14. Present Value of Net Impacts by Scenario for Selected Cities (El Monte, Inglewood, Pasadena, Pomona, Torrance)

Impacts	City	(Millions of \$ 1999)							
		CASE I		CASE II		CASE III			
		Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II		
Net Total Impacts	El Monte	-548.4	-226.1	-1,089.0	-396.7	-2,588.8	-815.0	-237.6	-2,083.9
	Inglewood	-489.0	-178.9	-1,381.6	-492.3	-3,174.1	-1,427.6	-427.4	-3,142.7
	Pasadena	-1,826.5	-458.1	-3,252.4	-736.5	-4,864.2	-2,877.7	-941.8	-6,483.1
	Pomona	-133.3	-10.4	-488.3	-321.8	-2,228.8	-854.3	-167.4	-1,886.8
	Torrance	-2,468.6	-681.1	-4,485.1	-1,201.4	-7,744.6	-3,381.8	-1,074.6	-7,487.1
Net Direct Impacts	El Monte	-431.6	-184.4	-845.3	-355.4	-2,302.9	-779.1	-192.7	-1,781.0
	Inglewood	-358.3	-134.4	-1,141.3	-443.7	-2,875.2	-1,275.1	-376.9	-2,823.9
	Pasadena	-1,363.0	-387.4	-2,745.9	-642.2	-4,091.7	-2,686.0	-845.2	-5,884.4
	Pomona	18.2	42.6	-208.7	-264.3	-1,877.0	-673.6	-107.7	-1,507.6
	Torrance	-2,144.6	-448.1	-3,862.6	-1,081.1	-7,004.7	-3,004.1	-949.7	-6,710.5
Net Indirect Impacts	El Monte	-38.5	-13.2	-74.2	-13.7	-82.7	-42.1	-14.0	-86.1
	Inglewood	-38.4	-13.2	-73.8	-13.7	-82.9	-42.3	-14.0	-86.7
	Pasadena	-88.3	-29.4	-171.7	-28.2	-162.6	-82.0	-27.5	-158.1
	Pomona	-53.3	-18.6	-101.9	-19.9	-123.0	-63.1	-20.8	-132.2
	Torrance	-118.0	-40.6	-226.9	-42.2	-255.5	-129.9	-43.0	-286.0
Net Induced Impacts	El Monte	-78.3	-27.4	-149.6	-29.6	-183.2	-83.7	-30.9	-196.8
	Inglewood	-92.4	-32.3	-176.5	-34.9	-216.1	-110.5	-38.5	-232.2
	Pasadena	-175.3	-61.3	-334.8	-66.2	-409.9	-209.7	-69.2	-440.6
	Pomona	-88.3	-34.4	-187.7	-37.1	-229.9	-117.6	-38.8	-247.1
	Torrance	-207.1	-72.4	-395.6	-78.2	-484.4	-247.8	-81.8	-520.6

IV. DISCUSSION

The results depicted in this study are not a standard cost-benefit analysis. No attempt has been made to quantify the benefits of storm water treatment. Rather, this is an impact study that acknowledges and accounts for both the stimulative and depressive economic effects associated with constructing new storm water treatment plants. We pose a number of if-then combinations of cases and scenarios, and investigate the implications of these in some detail, other things equal. A massive public works projects will be a bonanza for some sectors of the economy, but the costs of such projects have to come from somewhere and we have tried to account for these. We have explored a wide range of empirical and policy-relevant assumptions and our results bracket the dollar costs suggested in earlier studies.

Our contributions to the discussion include carefully assessed inputs in terms of plausible rainfall and runoff assumptions as well as carefully researched treatment plant construction and operations data. We have also applied spatial economic models that describe the consequences of building and paying for these projects by industry as well as by city and community.

Our combinations of cases and scenarios provide a range of results. Yet, which rainfall scenario and which plants case are the most relevant and deserving of special attention? We have highlighted a conservative combination, one that places one treatment plant in each of the region's 65 sub-basins and built to handle the runoff from a one-half inch rainstorm, the most likely precipitation event -- but one which requires that regulators accept the fact that there will be pollution standard exceedance in the event of larger storms. That combination requires capital costs of \$43.7 billion and annual operating costs of \$127 million. Annual job losses, due to household spending diverted to finance these expenditures, range from over 22,000 jobs per year for the first 15 years, while the plants are being built, to almost 60,000 per year thereafter when the

economic stimulus from construction is no longer in effect. The net present value of the twenty-year costs of the conservative combination are \$24.851 billion. Los Angeles county's share of this sum is expected to be \$20.022 billion, or approximately \$6,670 per household (using the 2000 census count of approximately 3 million LA county households).

The requirements imposed by advanced treatment constitute a large component of a large cost. This requirement, therefore, requires further discussion. Advanced treatment requirements may be contested administratively and legally. In a few years, it is reasonable to suppose that technology improvements may reduce advanced treatment costs to the point that the administrative discussions are resolved. In light of the very large costs involved, and the pace of technological change, it is possible that very large costs will have been incurred for facilities that are unnecessary.

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**Appendix A:
Worksheet and Supporting Economic Model Outputs**

Table A1. Annual Total Stimulus and Annual Total Household Expenditure Reduction by Scenario

Millions of \$ 1999

Case I : 480, 161, 933 Plants		Scenario 1 : 24h, 1.25"	Scenario 2 : 24h, 0.5"	Scenario 3 : 24h, 2.25"
Capital Costs	a) Collection System	12,489	7,228	17,419
	b) Land Costs (Levels 1 & 2)	24,968	8,356	48,522
	c) Level 3 without Land	64,909	21,738	126,232
	Annual Costs W/O Land Costs (A) = (a+c)/15	5,160	1,931	9,577
	Annualized Total Capital Costs with Land Costs (B) = (a+b+c)/13.5903	7,532	2,746	14,140
	Annualized Underwriting Costs (C) = [(a+b+c)*0.1]/13.5903	753	275	1,414
O & M Costs	d) Collection System	10	6	14
	e) Level 3 plus Levels 1 & 2	227	76	441
	Annual Total O & M Costs (D) = d+e	237	82	455
Annual Total Stimulus for years 1 - 15	= A+C+D/2	6,032	2,247	11,218
Annual Total Stimulus for years 16 - 20	= C+D	990	357	1,869
Annual Total Household Expenditure Reduction for years 1 - 20	= B+C+(5D+15D/2)/20	8,434	3,072	15,839

Case II : 65 Plants		Scenario 1 : 24h, 1.25"	Scenario 2 : 24h, 0.5"	Scenario 3 : 24h, 2.25"
Capital Costs	a) Collection System	45,407	13,222	108,272
	b) Land Costs (Levels 1 & 2)	24,556	8,217	47,716
	c) Level 3 without Land	65,573	22,298	127,900
	Annual Costs W/O Land Costs (A) = (a+c)/15	7,399	2,368	15,745
	Annualized Total Capital Costs with Land Costs (B) = (a+b+c)/13.5903	9,973	3,218	20,889
	Annualized Underwriting Costs (C) = [(a+b+c)*0.1]/13.5903	997	322	2,089
O & M Costs	d) Collection System	37	11	89
	e) Level 3 plus Levels 1 & 2	342	116	666
	Annual Total O & M Costs (D) = d+e	379	127	755
Annual Total Stimulus for years 1 - 15	= A+C+D/2	8,586	2,753	18,211
Annual Total Stimulus for years 16 - 20	= C+D	1,376	448	2,844
Annual Total Household Expenditure Reduction for years 1 - 20	= B+C+(5D+15D/2)/20	11,207	3,619	23,450

Case III : 130 Plants		Scenario 1 : 24h, 1.25"	Scenario 2 : 24h, 0.5"	Scenario 3 : 24h, 2.25"
Capital Costs	a) Collection System	60,162	16,013	148,558
	b) Land Costs (Levels 1 & 2)	23,690	7,928	46,037
	c) Level 3 without Land	63,873	24,363	130,949
	Annual Costs W/O Land Costs (A) = (a+c)/15	8,269	2,692	18,634
	Annualized Total Capital Costs with Land Costs (B) = (a+b+c)/13.5903	10,870	3,554	23,954
	Annualized Underwriting Costs (C) = [(a+b+c)*0.1]/13.5903	1,087	355	2,395
O & M Costs	d) Collection System	49	13	122
	e) Level 3 plus Levels 1 & 2	222	78	438
	Annual Total O & M Costs (D) = d+e	272	92	559
Annual Total Stimulus for years 1 - 15	= A+C+D/2	9,492	3,093	21,309
Annual Total Stimulus for years 16 - 20	= C+D	1,359	447	2,955
Annual Total Household Expenditure Reduction for years 1 - 20	= B+C+(5D+15D/2)/20	12,127	3,967	26,689

NOTES:

- Entries a, b, c, d, e Refer to the relevant cells of Tables 1-3.
- A = (a+c)/15 Refers to the spreading out of capital costs over 15 years.
- B = (a+b+c)/13.5903 Refers to the 20-year 4% annuitized value of capital costs, including land.
- C = (a+b+c)*0.1/13.5903 Refers to the 20-year 4% annuitized value of underwriting costs.
- A + C + D/2 Refers to annual capital cost stimulus plus annualized stimulus of underwriting costs plus average start-up O & M costs for Years 1-15.
- C + D Refers to annualized underwriting costs plus full annual O & M costs for Years 16-20.
- B + C + (5D + 15D/2)/20 Annual household expenditure reduction, Years 1-20, is annual cost of all bonded indebtedness associated with the project, including capital, underwriting and O & M costs.

Table A2. Annual Direct Impacts for years 1 - 15

Scenario	Los Angeles County											Orange County	Riverside County	San Bernardino County	Ventura County	Total
	Arroyo Verdugo	City of Los Angeles	North Los Angeles County	San Gabriel Valley	Southeast Los Angeles County	South Bay	Westside Cities	Other Los Angeles County	Los Angeles County Total							
									Los Angeles County	Los Angeles County Total						
CASE I	194.8	1,401.7	342.2	514.9	793.3	225.7	45.0	956.9	4,476.5	0.1	0.0	0.0	0.0	0.0	0.5	4,477.1
CASE II	96.2	445.0	145.2	247.3	235.2	73.8	11.1	412.8	1,666.7	0.0	0.0	0.0	0.0	0.0	0.3	1,667.1
CASE III	269.6	2,535.1	626.3	1,029.0	1,466.5	440.7	38.3	1,918.8	8,328.5	0.2	0.0	0.0	0.0	0.0	0.8	8,327.5
CASE I	110.1	2,177.3	1,098.3	629.7	1,424.8	224.6	0.0	716.7	6,381.5	0.0	0.0	0.0	0.0	0.0	0.3	6,381.8
CASE II	33.3	685.2	313.3	211.1	461.4	74.2	0.0	268.1	2,046.6	0.0	0.0	0.0	0.0	0.0	0.1	2,046.8
CASE III	215.5	4,569.9	2,518.9	1,360.3	2,986.7	453.5	0.0	1,428.2	13,533.0	0.1	0.0	0.0	0.0	0.1	0.5	13,533
CASE I	51.1	1,857.8	1,708.8	357.8	1,935.3	223.3	0.7	906.1	7,041.0	0.0	0.0	0.0	0.0	0.0	0.0	7,041.
CASE II	21.3	609.8	448.5	173.2	647.8	99.5	0.3	295.1	2,295.5	0.0	0.0	0.0	0.0	0.0	0.0	2,295.6
CASE III	112.0	4,153.6	4,073.7	735.3	4,258.5	433.9	1.5	2,032.9	15,801.4	0.1	0.0	0.0	0.0	0.1	0.1	15,801.6
CASE I	458.5	2,619.9	281.9	772.4	949.2	643.2	367.2	507.9	6,600.4	132.1	7.9	66.3	30.1	66.3	30.1	6,836.7
CASE II	167.0	954.3	102.7	281.3	345.8	234.3	133.8	185.0	2,404.2	48.1	2.9	24.1	11.0	24.1	11.0	2,490.3
CASE III	861.1	4,920.4	529.5	1,450.6	1,782.8	1,208.0	689.6	954.0	12,396.0	248.1	14.8	124.5	56.5	124.5	56.5	12,899.9
CASE I	609.3	3,481.5	374.7	1,026.4	1,261.4	854.8	488.0	675.0	8,771.0	175.5	10.5	88.1	40.0	88.1	40.0	9,085.1
CASE II	196.8	1,124.3	121.0	331.5	407.4	276.0	157.6	218.0	2,832.4	56.7	3.4	28.4	12.9	28.4	12.9	2,933.9
CASE III	1,274.9	7,284.6	784.0	2,147.6	2,639.4	1,788.5	1,021.0	1,412.4	18,352.3	367.3	21.9	184.3	83.7	184.3	83.7	19,009.5
CASE I	659.3	3,767.1	405.4	1,110.6	1,364.9	924.9	528.0	730.4	9,490.6	189.9	11.3	95.3	43.3	95.3	43.3	9,830.5
CASE II	215.7	1,232.3	132.6	363.3	446.5	302.5	172.7	236.9	3,104.5	62.1	3.7	31.2	14.2	31.2	14.2	3,215.7
CASE III	1,451.6	8,294.0	892.6	2,445.2	3,005.1	2,036.3	1,162.4	1,608.1	20,895.3	418.2	25.0	209.9	95.3	209.9	95.3	21,643.6
CASE I	-263.8	-1,218.2	60.2	-257.4	-155.9	-417.5	-322.2	450.9	-2,123.9	-132.0	-7.9	-66.3	-29.6	-66.3	-29.6	-2,359.6
CASE II	-70.8	-508.3	42.5	-34.1	-110.6	-160.5	-122.7	227.8	-737.6	-48.1	-2.9	-24.1	-10.6	-24.1	-10.6	-823.3
CASE III	-591.6	-2,385.3	96.8	-421.6	-314.2	-767.3	-651.3	964.9	-4,069.5	-247.9	-14.8	-124.5	-55.8	-124.5	-55.8	-4,512.4
CASE I	-499.2	-1,304.2	723.6	-396.7	163.4	-630.1	-488.0	41.7	-2,389.6	-175.5	-10.5	-88.1	-39.7	-88.1	-39.7	-2,703..
CASE II	-163.5	-439.1	192.4	-120.3	54.1	-201.9	-157.6	50.1	-785.8	-56.7	-3.4	-28.4	-12.8	-28.4	-12.8	-887.0
CASE III	-1,059.5	-2,714.7	1,735.0	-787.3	347.3	-1,335.0	-1,021.0	15.9	-4,819.3	-367.2	-21.9	-164.3	-83.2	-164.3	-83.2	-5,475.9
CASE I	-608.2	-1,908.4	1,303.3	-752.7	570.4	-701.6	-527.3	175.8	-2,449.7	-189.9	-11.3	-95.3	-43.2	-95.3	-43.2	-2,789.5
CASE II	-194.4	-622.5	315.9	-190.0	201.3	-203.1	-172.4	56.2	-809.0	-62.1	-3.7	-31.2	-14.1	-31.2	-14.1	-920.1
CASE III	-1,339.8	-4,140.4	3,181.1	-1,709.8	1,253.4	-1,602.4	-1,161.0	424.8	-5,093.8	-418.1	-25.0	-209.8	-95.2	-209.8	-95.2	-5,841.9

(Millions of \$ 1999)

Table A3. Annual Direct Impacts for years 16 - 20

(Millions of \$ 1999)

Scenario	Los Angeles County										Orange County	Riverside County	San Bernardino County	Ventura County	Total
	Arroyo Verdugo	City of Los Angeles	North Los Angeles County	San Gabriel Valley	Southeast Los Angeles County	South Bay	Westside Cities	Other Los Angeles County	Los Angeles County Total						
CASE I	32.6	237.1	52.1	85.3	132.2	38.7	7.8	153.0	738.9	0.0	0.0	0.0	0.0	0.1	739.0
Scenario I	15.6	72.7	21.3	39.6	37.7	12.3	1.9	64.0	265.0	0.0	0.0	0.0	0.0	0.1	265.1
Scenario II	45.9	435.7	97.0	173.6	248.5	76.6	6.7	312.9	1,396.9	0.0	0.0	0.0	0.0	0.1	1,397.1
Scenario III	20.5	371.2	143.1	98.6	251.3	40.2	0.0	117.2	1,040.0	0.0	0.0	0.0	0.0	0.1	1,040.1
CASE II	6.2	119.2	42.2	32.9	82.6	13.3	0.0	43.1	339.6	0.0	0.0	0.0	0.0	0.0	339.6
Scenario I	40.1	756.2	318.7	203.2	512.1	79.7	0.0	231.4	2,141.5	0.0	0.0	0.0	0.0	0.1	2,141.6
Scenario II	8.8	276.4	209.4	60.9	278.8	38.5	0.1	127.5	1,000.5	0.0	0.0	0.0	0.0	0.0	1,000.5
Scenario III	3.4	91.4	57.0	27.5	94.4	16.0	0.1	42.3	332.1	0.0	0.0	0.0	0.0	0.0	332.1
CASE III	18.7	591.8	486.1	122.5	592.9	73.2	0.3	275.5	2,161.0	0.0	0.0	0.0	0.0	0.0	2,161.0
Scenario I	458.5	2,619.9	281.9	772.4	949.2	643.2	367.2	507.9	6,600.4	132.1	7.9	66.3	30.1	6,836.7	
Scenario II	167.0	954.3	102.7	281.3	345.8	234.3	133.8	185.0	2,404.2	48.1	2.9	24.1	11.0	2,490.3	
Scenario III	861.1	4,920.4	528.5	1,450.6	1,782.8	1,208.0	689.6	954.0	12,386.0	248.1	14.8	124.5	56.5	12,839.9	
CASE I	609.3	3,481.5	374.7	1,026.4	1,261.4	854.8	488.0	675.0	8,771.0	175.5	10.5	88.1	40.0	9,085.1	
Scenario I	196.8	1,124.3	121.0	331.5	407.4	276.0	157.6	218.0	2,832.4	56.7	3.4	28.4	12.9	2,933.9	
Scenario II	1,274.9	7,284.6	784.0	2,147.6	2,639.4	1,788.5	1,021.0	1,412.4	18,352.3	367.3	21.9	184.3	83.7	19,009.5	
Scenario III	659.3	3,767.1	405.4	1,110.6	1,364.9	924.8	528.0	730.4	9,490.6	189.9	11.3	95.3	43.3	9,830.5	
CASE II	215.7	1,232.3	132.6	363.3	446.5	302.5	172.7	238.9	3,104.5	62.1	3.7	31.2	14.2	3,215.7	
Scenario I	1,451.6	8,294.0	892.6	2,445.2	3,005.1	2,036.3	1,162.4	1,608.1	20,895.3	418.2	25.0	209.9	95.3	21,643.6	
Scenario II	-425.9	-2,382.8	-229.8	-687.0	-817.0	-604.5	-359.4	-355.0	-5,861.5	-132.1	-7.9	-66.3	-30.0	-6,097.7	
Scenario III	-151.5	-881.6	-81.4	-241.8	-308.1	-222.0	-131.9	-121.0	-2,139.2	-48.1	-2.9	-24.1	-10.9	-2,225.2	
CASE I	-815.3	-4,484.7	-432.5	-1,277.0	-1,534.2	-1,131.4	-682.9	-641.0	-10,999.0	-248.1	-14.8	-124.5	-56.4	-11,442.8	
Scenario I	-588.8	-3,110.3	-231.6	-929.8	-1,010.1	-814.6	-488.0	-557.8	-7,731.0	-175.5	-10.5	-88.1	-39.9	-8,045.0	
Scenario II	-190.6	-1,005.0	-78.8	-298.6	-324.7	-262.7	-157.6	-174.9	-2,492.8	-56.7	-3.4	-28.4	-12.9	-2,594.2	
Scenario III	-1,234.8	-6,528.4	-465.2	-1,944.4	-2,127.2	-1,708.7	-1,021.0	-1,181.0	-16,210.7	-367.3	-21.8	-184.3	-83.6	-16,887.9	
CASE II	-650.5	-3,490.8	-198.0	-1,049.7	-1,086.1	-886.4	-527.9	-602.8	-8,490.1	-189.9	-11.3	-95.3	-43.3	-8,830.0	
Scenario I	-212.2	-1,140.9	-75.7	-335.8	-352.1	-286.5	-172.7	-196.6	-2,772.4	-62.1	-3.7	-31.2	-14.2	-2,883.6	
Scenario II	-1,432.9	-7,702.2	-406.4	-2,322.6	-2,412.3	-1,963.1	-1,162.2	-1,332.6	-18,734.3	-418.2	-25.0	-209.9	-95.3	-19,482.6	
Scenario III															
CASE III															
Scenario I															
Scenario II															
Scenario III															

Stimulus Effect

Impacts of Household Expenditure Reduction

Net Impacts

Table A4. Annual Indirect Impacts for years 1 - 15

Scenario	Los Angeles County										Orange County	Riverside County	San Bernardino County	Ventura County	Total
	Los Angeles County														
	Arroyo Verdugo	City of Los Angeles	North Los Angeles County	San Gabriel Valley	Southeast Los Angeles County	South Bay	Westside Cities	Other Los Angeles County	Los Angeles County Total						
CASE I	Scenario I	72.6	443.0	16.1	105.0	151.8	90.3	59.2	74.8	1,012.6	362.9	87.0	102.8	73.0	1,638.4
	Scenario II	27.0	165.1	6.0	39.1	56.6	33.7	22.1	27.9	377.5	135.3	32.4	38.3	27.2	610.7
	Scenario III	134.9	823.7	30.0	195.2	282.2	167.8	110.1	139.0	1,882.8	674.9	161.9	191.2	135.7	3,046.5
CASE II	Scenario I	103.4	632.5	23.0	149.9	217.1	129.1	84.5	106.9	1,446.4	518.0	124.4	146.9	104.3	2,339.9
	Scenario II	33.2	202.8	7.4	48.1	69.6	41.4	27.1	34.3	463.7	166.1	39.9	47.1	33.4	750.2
	Scenario III	219.4	1,342.1	48.9	318.0	460.8	273.9	179.3	226.8	3,069.0	1,098.9	263.9	311.7	221.4	4,964
CASE III	Scenario I	114.3	696.9	25.4	165.6	240.0	142.7	93.4	118.1	1,598.4	572.4	137.3	162.2	115.3	2,585.
	Scenario II	37.2	227.7	8.3	53.9	78.2	46.5	30.4	38.5	520.8	188.5	44.7	52.9	37.6	842.5
	Scenario III	256.7	1,569.8	57.1	371.9	539.4	320.7	209.8	265.3	3,590.6	1,285.5	308.4	364.4	259.0	5,807.9
CASE I	Scenario I	89.0	549.3	20.6	137.2	192.1	107.7	68.1	95.7	1,259.7	450.0	110.1	132.2	94.0	2,046.0
	Scenario II	32.4	200.1	7.5	50.0	70.0	39.2	24.8	34.9	458.9	163.9	40.1	48.2	34.2	745.3
	Scenario III	167.1	1,031.7	38.6	257.8	360.8	202.3	128.0	179.8	2,365.9	845.1	206.7	248.3	176.5	3,842.5
CASE II	Scenario I	118.2	730.0	27.3	182.4	255.3	143.1	90.5	127.2	1,874.0	598.0	146.3	175.7	124.9	2,718.8
	Scenario II	38.2	235.7	8.8	58.9	82.4	46.2	29.2	41.1	540.6	193.1	47.2	56.7	40.3	878.0
	Scenario III	247.3	1,527.4	57.2	381.6	534.1	299.5	189.4	266.1	3,502.7	1,251.1	306.0	367.6	261.3	5,688.8
CASE III	Scenario I	127.9	789.9	29.6	197.3	276.2	154.9	98.0	137.6	1,811.4	647.0	158.3	190.1	135.1	2,941.9
	Scenario II	41.8	258.4	9.7	64.6	90.4	50.7	32.0	45.0	592.5	211.8	51.8	62.2	44.2	962.3
	Scenario III	281.6	1,739.0	65.1	434.5	608.1	341.0	215.7	303.0	3,988.1	1,424.5	348.4	418.5	297.5	6,477.1
CASE I	Scenario I	-16.4	-106.4	-4.4	-32.3	-40.3	-17.4	-8.9	-21.0	-247.1	-87.0	-23.0	-29.4	-21.0	-407.5
	Scenario II	-5.4	-35.0	-1.5	-10.9	-13.4	-5.6	-2.7	-7.0	-81.4	-28.6	-7.6	-9.8	-7.0	-134.5
	Scenario III	-32.1	-208.0	-8.6	-62.6	-78.6	-34.5	-17.9	-40.8	-483.1	-170.2	-44.8	-57.1	-40.8	-796.
CASE II	Scenario I	-14.8	-97.5	-4.3	-32.5	-38.2	-14.1	-6.0	-20.3	-227.7	-80.0	-21.9	-28.8	-20.6	-378
	Scenario II	-5.0	-32.9	-1.4	-10.8	-12.8	-4.8	-2.1	-6.8	-76.9	-27.0	-7.4	-9.6	-6.9	-127.7
	Scenario III	-27.9	-185.3	-8.3	-63.7	-73.3	-25.6	-10.2	-39.4	-433.7	-152.2	-42.2	-55.9	-39.9	-723.9
CASE III	Scenario I	-13.6	-91.0	-4.1	-31.8	-36.2	-12.2	-4.6	-19.6	-212.9	-74.6	-20.9	-27.9	-19.8	-356.2
	Scenario II	-4.6	-30.7	-1.4	-10.6	-12.2	-4.2	-1.6	-6.6	-71.7	-25.2	-7.0	-9.3	-6.6	-119.9
	Scenario III	-24.9	-169.2	-8.0	-62.6	-68.8	-20.3	-5.9	-37.8	-397.5	-139.0	-40.0	-54.2	-38.5	-669.2

(Millions of \$ 1999)

Table A5. Annual Indirect Impacts for years 16 - 20

Scenario	Los Angeles County											Other Southern California Counties					Total
	Arroyo Verduogo	City of Los Angeles	North Los Angeles County	San Gabriel Valley	Southeast Los Angeles County	South Bay	Westside Cities	Other Los Angeles County	Los Angeles County Total	Orange County	Riverside County	San Bernardino County	Ventura County				
CASE I	11.0	60.1	2.2	14.4	17.3	10.5	8.2	9.3	133.0	51.1	11.8	13.7	9.1	218.6			
Scenario I	4.0	21.5	0.8	5.1	6.2	3.8	3.0	3.3	47.6	18.3	4.2	4.9	3.2	78.3			
Scenario II	20.8	113.6	4.2	27.2	32.7	19.9	15.6	17.6	251.6	96.6	22.3	26.0	17.2	413.8			
Scenario III	15.5	85.2	3.2	20.4	24.8	15.0	11.6	13.2	188.8	72.1	16.8	19.6	13.0	310.4			
CASE II	5.0	27.9	1.0	6.7	8.1	4.9	3.8	4.3	61.8	23.6	5.5	6.4	4.2	101.1			
Scenario I	31.9	175.0	6.5	41.9	50.8	30.8	23.9	27.2	387.9	148.3	34.5	40.3	26.6	637.1			
Scenario II	15.0	80.6	3.0	19.3	22.8	14.0	11.1	12.3	178.1	68.8	15.7	18.3	12.1	293.0			
Scenario III	4.9	26.6	1.0	6.4	7.5	4.6	3.7	4.1	58.8	22.7	5.2	6.0	4.0	96.7			
CASE III	32.5	174.2	6.5	41.7	49.2	30.2	24.1	26.5	384.7	149.0	33.9	39.4	26.1	633.2			
Scenario I	89.0	549.3	20.6	137.2	192.1	107.7	88.1	95.7	1,259.7	450.0	110.1	132.2	94.0	2,046.0			
Scenario II	32.4	200.1	7.5	50.0	70.0	39.2	24.8	34.9	458.9	163.9	40.1	48.2	34.2	745.3			
Scenario III	167.1	1,031.7	38.6	257.8	360.8	202.3	128.0	179.8	2,385.9	845.1	208.7	248.3	176.5	3,842.5			
CASE I	118.2	730.0	27.3	182.4	255.3	143.1	90.5	127.2	1,674.0	598.0	146.3	175.7	124.9	2,718.8			
Scenario I	38.2	235.7	8.8	58.9	82.4	46.2	29.2	41.1	540.6	193.1	47.2	56.7	40.3	878.0			
Scenario II	247.3	1,527.4	57.2	381.6	534.1	299.5	189.4	268.1	3,502.7	1,251.1	308.0	387.6	261.3	5,688.8			
Scenario III	127.9	789.9	29.6	197.3	276.2	154.9	98.0	137.6	1,811.4	647.0	158.3	190.1	135.1	2,941.9			
CASE II	41.8	258.4	9.7	64.6	90.4	50.7	32.0	45.0	592.5	211.6	51.8	62.2	44.2	962.3			
Scenario I	281.6	1,739.0	65.1	434.5	608.1	341.0	215.7	303.0	3,988.1	1,424.5	348.4	418.5	297.5	6,477.1			
Scenario II	-77.9	-489.3	-18.3	-122.9	-174.8	-97.2	-59.9	-88.5	-1,126.8	-398.9	-98.3	-118.5	-84.9	-1,827.3			
Scenario III	-28.4	-178.6	-6.7	-44.8	-63.8	-35.5	-21.9	-31.6	-411.3	-145.6	-35.9	-43.2	-31.0	-667.0			
CASE III	-146.2	-918.0	-34.4	-230.6	-328.1	-182.4	-112.4	-162.2	-2,114.3	-748.5	-184.4	-222.3	-159.3	-3,421.1			
Scenario I	-102.7	-644.8	-24.1	-162.0	-230.5	-128.1	-78.9	-114.0	-1,485.2	-525.8	-129.4	-156.0	-111.9	-2,408.1			
Scenario II	-33.1	-207.9	-7.8	-52.2	-74.3	-41.3	-25.4	-36.7	-478.8	-169.5	-41.7	-50.3	-36.1	-776.5			
Scenario III	-215.4	-1,352.4	-50.6	-339.7	-483.4	-288.7	-165.6	-239.0	-3,114.8	-1,102.8	-271.5	-327.3	-234.7	-5,051.2			
CASE I	-112.9	-709.3	-26.6	-178.1	-253.4	-140.9	-88.8	-125.3	-1,633.3	-578.2	-142.5	-171.8	-123.0	-2,648.8			
Scenario I	-36.9	-231.8	-8.7	-68.2	-82.8	-46.0	-28.4	-41.0	-533.8	-189.0	-46.6	-56.1	-40.2	-865.7			
Scenario II	-249.1	-1,564.9	-58.6	-392.8	-559.0	-310.8	-191.8	-276.5	-3,603.3	-1,275.5	-314.5	-379.1	-271.4	-5,843.9			
Scenario III																	

(Millions of \$ 1999)

Table A6. Annual Induced Impacts for years 1 - 15

Scenario	Los Angeles County										Other Counties					Total
	Arroyo Verdugo	City of Los Angeles	North Los Angeles County	San Gabriel Valley	Southwest Los Angeles County	South Bay	Westside Cities	Other Los Angeles County	Los Angeles County Total	Orange County	Riverside County	San Bernardino County	Ventura County			
	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)	(Millions of \$ 1999)			
CASE I	Scenario I	88.2	537.8	33.3	156.7	200.7	116.9	72.0	96.6	1,302.2	428.5	175.1	198.3	106.1	2,210.2	
	Scenario II	32.9	200.4	12.4	58.4	74.8	43.6	26.8	36.0	485.3	159.7	65.2	73.9	39.5	823.6	
	Scenario III	163.9	1,000.1	61.9	291.5	373.3	217.4	133.8	179.6	2,421.5	798.9	325.6	386.8	197.2	4,109.9	
CASE II	Scenario I	125.7	767.1	47.4	223.6	286.3	166.7	102.6	137.8	1,857.3	611.2	249.7	282.8	151.3	3,152.3	
	Scenario II	40.3	246.0	15.2	71.7	91.8	53.5	32.9	44.2	595.5	196.0	80.1	90.7	48.5	1,010.7	
	Scenario III	266.8	1,627.5	100.7	474.3	607.5	353.8	217.7	292.3	3,940.5	1,296.7	529.8	600.1	321.0	6,688.0	
CASE III	Scenario I	139.0	848.0	52.4	247.1	316.5	184.3	113.4	152.3	2,053.2	675.7	276.0	312.7	167.2	3,484	
	Scenario II	45.3	276.3	17.1	80.5	103.1	60.1	37.0	49.6	669.0	220.1	89.9	101.9	54.5	1,135	
	Scenario III	312.2	1,904.5	117.8	555.0	710.9	414.0	254.8	342.0	4,611.1	1,517.4	619.9	702.2	375.6	7,828.2	
CASE I	Scenario I	115.1	702.4	43.4	204.7	262.2	152.7	84.0	126.2	1,700.7	559.7	228.7	259.0	138.5	2,886.6	
	Scenario II	41.9	255.9	15.8	74.6	95.5	55.6	34.2	46.0	619.5	203.9	83.3	94.3	50.5	1,051.5	
	Scenario III	218.2	1,319.2	81.6	384.5	492.4	286.8	176.5	236.9	3,194.1	1,051.1	429.4	486.4	260.2	5,421.3	
CASE II	Scenario I	153.0	933.4	57.7	272.0	348.4	202.9	124.9	167.6	2,260.1	743.7	303.9	344.2	184.1	3,835.9	
	Scenario II	49.4	301.4	18.6	87.8	112.5	65.5	40.3	54.1	729.8	240.2	98.1	111.1	59.4	1,238.7	
	Scenario III	320.1	1,953.1	120.8	569.2	729.0	424.6	261.3	350.8	4,728.9	1,558.2	635.8	720.1	385.2	8,026.2	
CASE III	Scenario I	165.6	1,010.0	62.5	294.4	377.0	219.6	135.1	181.4	2,445.5	804.8	328.8	372.4	199.2	4,150.6	
	Scenario II	54.2	330.4	20.4	96.3	123.3	71.8	44.2	59.3	800.0	263.3	107.6	121.8	65.2	1,357.7	
	Scenario III	364.5	2,223.8	137.5	648.1	830.0	483.4	297.5	398.4	5,384.1	1,771.8	723.9	819.9	438.5	9,138.3	
CASE I	Scenario I	-27.0	-164.6	-10.2	-48.0	-61.4	-35.8	-22.0	-29.6	-398.5	-131.2	-53.6	-60.7	-32.5	-676.4	
	Scenario II	-9.1	-55.4	-3.4	-16.2	-20.7	-12.1	-7.4	-10.0	-134.2	-44.2	-18.0	-20.4	-10.9	-227.8	
	Scenario III	-52.3	-319.1	-19.7	-93.0	-119.1	-69.4	-42.7	-57.3	-772.6	-254.3	-103.9	-117.7	-62.9	-1,311.4	
CASE II	Scenario I	-27.3	-166.4	-10.3	-48.5	-62.1	-36.2	-22.3	-29.9	-402.8	-132.6	-54.2	-61.3	-32.8	-683	
	Scenario II	-9.1	-55.5	-3.4	-16.2	-20.7	-12.1	-7.4	-10.0	-134.3	-44.2	-18.1	-20.5	-10.9	-226	
	Scenario III	-53.4	-325.6	-20.1	-94.9	-121.5	-70.8	-43.6	-58.5	-788.4	-259.5	-106.0	-120.1	-64.2	-1,338.1	
CASE III	Scenario I	-26.6	-162.0	-10.0	-47.2	-60.5	-35.2	-21.7	-29.1	-392.3	-129.1	-52.7	-59.7	-32.0	-665.8	
	Scenario II	-8.9	-54.1	-3.3	-15.8	-20.2	-11.8	-7.2	-9.7	-131.0	-43.1	-17.6	-19.9	-10.7	-222.3	
	Scenario III	-52.3	-319.3	-19.7	-93.1	-119.2	-69.4	-42.7	-57.3	-773.1	-254.4	-103.9	-117.7	-63.0	-1,312.1	

Table A7. Annual Induced Impacts for years 16 - 20

Scenario	Los Angeles County											Other Southern California Counties					Total
	Arroyo Verdugo	City of Los Angeles	North Los Angeles County	San Gabriel Valley	Southeast Los Angeles County	South Bay	Westside Cities	Other Los Angeles County	Los Angeles County Total	Orange County	Riverside County	San Bernardino County	Ventura County				
CASE I Stimulus Effect	Scenario I	12.7	77.4	4.8	22.6	28.9	16.8	10.4	13.9	187.3	61.7	25.2	28.5	15.3	318.0		
	Scenario II	4.6	27.8	1.7	8.1	10.4	6.0	3.7	5.0	67.2	22.1	9.0	10.2	5.5	114.1		
	Scenario III	24.0	146.3	9.0	42.6	54.6	31.8	19.6	26.3	354.1	118.5	47.6	53.9	28.8	601.1		
CASE II Stimulus Effect	Scenario I	17.8	108.7	6.7	31.7	40.6	23.6	14.5	19.5	283.3	86.6	35.4	40.1	21.4	446.9		
	Scenario II	5.8	35.5	2.2	10.3	13.3	7.7	4.7	6.4	86.0	28.3	11.6	13.1	7.0	145.9		
	Scenario III	38.7	224.0	13.9	65.3	83.6	48.7	30.0	40.2	542.3	178.5	72.9	82.6	44.2	920.5		
CASE III Stimulus Effect	Scenario I	17.2	104.9	6.5	30.6	39.2	22.8	14.0	18.8	254.0	83.6	34.1	38.7	20.7	431		
	Scenario II	5.7	34.6	2.1	10.1	12.9	7.5	4.6	6.2	83.7	27.5	11.2	12.7	6.8	142		
	Scenario III	37.3	227.4	14.1	66.3	84.9	49.4	30.4	40.8	550.5	181.2	74.0	83.8	44.8	934.3		
CASE I Impacts of Household Expenditure Reduction	Scenario I	115.1	702.4	43.4	204.7	262.2	152.7	94.0	126.2	1,700.7	559.7	228.7	259.0	138.5	2,886.6		
	Scenario II	41.9	255.9	15.8	74.6	95.5	55.6	34.2	46.0	619.5	203.9	83.3	94.3	50.5	1,051.5		
	Scenario III	216.2	1,319.2	81.6	384.5	492.4	286.8	176.5	236.9	3,184.1	1,051.1	429.4	486.4	260.2	5,421.3		
CASE II Impacts of Household Expenditure Reduction	Scenario I	153.0	933.4	57.7	272.0	348.4	202.9	124.9	167.6	2,260.1	743.7	303.9	344.2	184.1	3,835.9		
	Scenario II	49.4	301.4	18.6	87.8	112.5	65.5	40.3	54.1	729.8	240.2	98.1	111.1	59.4	1,238.7		
	Scenario III	320.1	1,953.1	120.8	569.2	729.0	424.6	261.3	350.8	4,728.9	1,556.2	635.8	720.1	385.2	8,026.2		
CASE III Impacts of Household Expenditure Reduction	Scenario I	165.8	1,010.0	62.5	294.4	377.0	219.6	135.1	181.4	2,445.5	804.8	328.8	372.4	199.2	4,150.6		
	Scenario II	54.2	330.4	20.4	96.3	123.3	71.8	44.2	59.3	800.0	263.3	107.6	121.8	65.2	1,357.7		
	Scenario III	364.5	2,223.8	137.5	648.1	830.0	483.4	297.5	399.4	5,384.1	1,771.8	723.9	819.9	438.5	9,138.3		
CASE I Net Impacts	Scenario I	-102.5	-825.1	-38.7	-182.2	-233.3	-135.9	-83.6	-112.3	-1,513.4	-498.0	-203.5	-230.5	-123.3	-2,568.6		
	Scenario II	-37.4	-228.1	-14.1	-66.5	-85.1	-49.6	-30.5	-41.0	-552.3	-181.7	-74.2	-84.1	-45.0	-937.3		
	Scenario III	-192.3	-1,173.0	-72.5	-341.8	-437.8	-255.0	-156.9	-210.7	-2,840.0	-934.6	-381.8	-432.5	-231.3	-4,820.2		
CASE II Net Impacts	Scenario I	-135.2	-824.7	-51.0	-240.3	-307.8	-179.3	-110.3	-148.1	-1,996.8	-657.1	-288.5	-304.1	-162.6	-3,387		
	Scenario II	-43.8	-265.9	-16.4	-77.5	-99.3	-57.8	-35.8	-47.8	-643.9	-211.9	-86.6	-98.1	-52.4	-1,109		
	Scenario III	-283.4	-1,728.1	-106.9	-503.9	-645.4	-375.9	-231.3	-310.5	-4,186.5	-1,377.7	-582.9	-637.5	-341.0	-7,105.7		
CASE III Net Impacts	Scenario I	-148.4	-905.1	-56.0	-263.8	-337.8	-196.8	-121.1	-162.6	-2,191.5	-721.2	-294.6	-333.7	-178.5	-3,719.6		
	Scenario II	-48.5	-295.8	-18.3	-86.2	-110.4	-64.3	-39.6	-53.1	-716.3	-235.7	-96.3	-109.1	-58.3	-1,215.7		
	Scenario III	-327.2	-1,996.4	-123.5	-581.8	-745.2	-434.0	-267.1	-358.5	-4,833.7	-1,590.7	-649.9	-736.1	-393.7	-8,204.0		

(Millions of \$ 1999)

Table AB. Annual Total Impacts (Year 16-2028)

Table with columns for City and CDP, Brinkley Effects (CASE I-III), Impacts of Household Expenditures Reduction (CASE I-III), and Net Impacts (CASE I-III) across various metrics like Scenario I, Scenario II, and Scenario III.

(Millions of \$ 1994)

City and CDP	CASE I		CASE II		CASE III		CASE IV		CASE V		CASE VI		CASE VII		CASE VIII		CASE IX		CASE X		CASE XI		CASE XII		CASE XIII		CASE XIV		CASE XV		CASE XVI		CASE XVII		CASE XVIII		CASE XIX		CASE XX																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue	Estimate	Revenue																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Valley	2.47	0.85	0.44	0.87	0.23	0.37	0.24	0.26	0.28	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	0.43	0.44	0.45	0.46	0.47	0.48	0.49	0.50	0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59	0.60	0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.70	0.71	0.72	0.73	0.74	0.75	0.76	0.77	0.78	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.86	0.87	0.88	0.89	0.90	0.91	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20	1.21	1.22	1.23	1.24	1.25	1.26	1.27	1.28	1.29	1.30	1.31	1.32	1.33	1.34	1.35	1.36	1.37	1.38	1.39	1.40	1.41	1.42	1.43	1.44	1.45	1.46	1.47	1.48	1.49	1.50	1.51	1.52	1.53	1.54	1.55	1.56	1.57	1.58	1.59	1.60	1.61	1.62	1.63	1.64	1.65	1.66	1.67	1.68	1.69	1.70	1.71	1.72	1.73	1.74	1.75	1.76	1.77	1.78	1.79	1.80	1.81	1.82	1.83	1.84	1.85	1.86	1.87	1.88	1.89	1.90	1.91	1.92	1.93	1.94	1.95	1.96	1.97	1.98	1.99	2.00	2.01	2.02	2.03	2.04	2.05	2.06	2.07	2.08	2.09	2.10	2.11	2.12	2.13	2.14	2.15	2.16	2.17	2.18	2.19	2.20	2.21	2.22	2.23	2.24	2.25	2.26	2.27	2.28	2.29	2.30	2.31	2.32	2.33	2.34	2.35	2.36	2.37	2.38	2.39	2.40	2.41	2.42	2.43	2.44	2.45	2.46	2.47	2.48	2.49	2.50	2.51	2.52	2.53	2.54	2.55	2.56	2.57	2.58	2.59	2.60	2.61	2.62	2.63	2.64	2.65	2.66	2.67	2.68	2.69	2.70	2.71	2.72	2.73	2.74	2.75	2.76	2.77	2.78	2.79	2.80	2.81	2.82	2.83	2.84	2.85	2.86	2.87	2.88	2.89	2.90	2.91	2.92	2.93	2.94	2.95	2.96	2.97	2.98	2.99	3.00	3.01	3.02	3.03	3.04	3.05	3.06	3.07	3.08	3.09	3.10	3.11	3.12	3.13	3.14	3.15	3.16	3.17	3.18	3.19	3.20	3.21	3.22	3.23	3.24	3.25	3.26	3.27	3.28	3.29	3.30	3.31	3.32	3.33	3.34	3.35	3.36	3.37	3.38	3.39	3.40	3.41	3.42	3.43	3.44	3.45	3.46	3.47	3.48	3.49	3.50	3.51	3.52	3.53	3.54	3.55	3.56	3.57	3.58	3.59	3.60	3.61	3.62	3.63	3.64	3.65	3.66	3.67	3.68	3.69	3.70	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.79	3.80	3.81	3.82	3.83	3.84	3.85	3.86	3.87	3.88	3.89	3.90	3.91	3.92	3.93	3.94	3.95	3.96	3.97	3.98	3.99	4.00	4.01	4.02	4.03	4.04	4.05	4.06	4.07	4.08	4.09	4.10	4.11	4.12	4.13	4.14	4.15	4.16	4.17	4.18	4.19	4.20	4.21	4.22	4.23	4.24	4.25	4.26	4.27	4.28	4.29	4.30	4.31	4.32	4.33	4.34	4.35	4.36	4.37	4.38	4.39	4.40	4.41	4.42	4.43	4.44	4.45	4.46	4.47	4.48	4.49	4.50	4.51	4.52	4.53	4.54	4.55	4.56	4.57	4.58	4.59	4.60	4.61	4.62	4.63	4.64	4.65	4.66	4.67	4.68	4.69	4.70	4.71	4.72	4.73	4.74	4.75	4.76	4.77	4.78	4.79	4.80	4.81	4.82	4.83	4.84	4.85	4.86	4.87	4.88	4.89	4.90	4.91	4.92	4.93	4.94	4.95	4.96	4.97	4.98	4.99	5.00	5.01	5.02	5.03	5.04	5.05	5.06	5.07	5.08	5.09	5.10	5.11	5.12	5.13	5.14	5.15	5.16	5.17	5.18	5.19	5.20	5.21	5.22	5.23	5.24	5.25	5.26	5.27	5.28	5.29	5.30	5.31	5.32	5.33	5.34	5.35	5.36	5.37	5.38	5.39	5.40	5.41	5.42	5.43	5.44	5.45	5.46	5.47	5.48	5.49	5.50	5.51	5.52	5.53	5.54	5.55	5.56	5.57	5.58	5.59	5.60	5.61	5.62	5.63	5.64	5.65	5.66	5.67	5.68	5.69	5.70	5.71	5.72	5.73	5.74	5.75	5.76	5.77	5.78	5.79	5.80	5.81	5.82	5.83	5.84	5.85	5.86	5.87	5.88	5.89	5.90	5.91	5.92	5.93	5.94	5.95	5.96	5.97	5.98	5.99	6.00	6.01	6.02	6.03	6.04	6.05	6.06	6.07	6.08	6.09	6.10	6.11	6.12	6.13	6.14	6.15	6.16	6.17	6.18	6.19	6.20	6.21	6.22	6.23	6.24	6.25	6.26	6.27	6.28	6.29	6.30	6.31	6.32	6.33	6.34	6.35	6.36	6.37	6.38	6.39	6.40	6.41	6.42	6.43	6.44	6.45	6.46	6.47	6.48	6.49	6.50	6.51	6.52	6.53	6.54	6.55	6.56	6.57	6.58	6.59	6.60	6.61	6.62	6.63	6.64	6.65	6.66	6.67	6.68	6.69	6.70	6.71	6.72	6.73	6.74	6.75	6.76	6.77	6.78	6.79	6.80	6.81	6.82	6.83	6.84	6.85	6.86	6.87	6.88	6.89	6.90	6.91	6.92	6.93	6.94	6.95	6.96	6.97	6.98	6.99	7.00	7.01	7.02	7.03	7.04	7.05	7.06	7.07	7.08	7.09	7.10	7.11	7.12	7.13	7.14	7.15	7.16	7.17	7.18	7.19	7.20	7.21	7.22	7.23	7.24	7.25	7.26	7.27	7.28	7.29	7.30	7.31	7.32	7.33	7.34	7.35	7.36	7.37	7.38	7.39	7.40	7.41	7.42	7.43	7.44	7.45	7.46	7.47	7.48	7.49	7.50	7.51	7.52	7.53	7.54	7.55	7.56	7.57	7.58	7.59	7.60	7.61	7.62	7.63	7.64	7.65	7.66	7.67	7.68	7.69	7.70	7.71	7.72	7.73	7.74	7.75	7.76	7.77	7.78	7.79	7.80	7.81	7.82	7.83	7.84	7.85	7.86	7.87	7.88	7.89	7.90	7.91	7.92	7.93	7.94	7.95	7.96	7.97	7.98	7.99	8.00	8.01	8.02	8.03	8.04	8.05	8.06	8.07	8.08	8.09	8.10	8.11	8.12	8.13	8.14	8.15	8.16	8.17	8.18	8.19	8.20	8.21	8.22	8.23	8.24	8.25	8.26	8.27	8.28	8.29	8.30	8.31	8.32	8.33	8.34	8.35	8.36	8.37	8.38	8.39	8.40	8.41	8.42	8.43	8.44	8.45	8.46	8.47	8.48	8.49	8.50	8.51	8.52	8.53	8.54	8.55	8.56	8.57	8.58	8.59	8.60	8.61	8.62	8.63	8.64	8.65	8.66	8.67	8.68	8.69	8.70	8.71	8.72	8.73	8.74	8.75	8.76	8.77	8.78	8.79	8.80	8.81	8.82	8.83	8.84	8.85	8.86	8.87	8.88	8.89	8.90	8.91	8.92	8.93	8.94	8.95	8.96	8.97	8.98	8.99	9.00	9.01	9.02	9.03	9.04	9.05	9.06	9.07	9.08	9.09	9.10	9.11	9.12	9.13	9.14	9.15	9.16	9.17	9.18	9.19	9.20	9.21	9.22	9.23	9.24	9.25	9.26	9.27	9.28	9.29	9.30	9.31	9.32	9.33	9.34	9.35	9.36	9.37	9.38	9.39	9.40	9.41	9.42	9.43	9.44	9.45	9.46	9.47	9.48	9.49	9.50	9.51	9.52	9.53	9.54	9.55	9.56	9.57	9.58	9.59	9.60	9.61	9.62	9.63	9.64	9.65	9.66	9.67	9.68	9.69	9.70	9.71	9.72	9.73	9.74	9.75	9.76	9.77	9.78	9.79	9.80	9.81	9.82	9.83	9.84	9.85	9.86	9.87	9.88	9.89	9.90	9.91	9.92	9.93	9.94	9.95	9.96	9.97	9.98	9.99	10.00	10.01	10.02	10.03	10.04	10.05	10.06	10.07	10.08	10.09	10.10	10.11	10.12	10.13	10.14	10.15	10.16	10.17	10.18	10.19	10.20	10.21	10.22	10.23	10.24	10.25	10.26	10.27	10.28	10.29	10.30	10.31	10.32	10.33	10.34	10.35	10.36	10.37	10.38	10.39	10.40	10.41	10.42	10.43	10.44	10.45	10.46	10.47	10.48	10.49	10.50	10.51	10.52	10.53	10.54	10.55	10.56	10.57	10.58	10.59	10.60	10.61	10.62	10.63	10.64	10.65	10.66	10.67	10.68	10.69	10.70	10.71	10.72	10.73	10.74	10.75	10.76	10.77	10.78	10.79	10.80	10.81	10.82	10.83	10.84	10.85	10.86	10.87	10.88	10.89	10.90	10.91	10.92	10.93	10.94	10.95	10.96	10.97	10.98	10.99	11.00	11.01	11.02	11.03	11.04	11.05	11.06	11.07	11.08	11.09	11.10	11.11	11.12	11.13	11.14	11.15	11.16	11.17	11.18	11.19	11.20	11.21	11.22	11.23	11.24	11.25	11.26	11.27	11.28	11.29	11.30	11.31	11.32	11.33	11.34	11.35	11.36	11.37	11.38	11.39	11.40	11.41	11.42	11.43	11.44	11.45	11.46	11.47	11.48	11.49	11.50	11.51	11.52	11.53	11.54	11.55	11.56	11.57	11.58	11.59	11.60	11.61	11.62	11.63	11.64	11.65	11.66	11.67	11.68	11.69	11.70	11.71	11.72	11.73	11.74	11.75	11.76	11.77	11.78

Table with columns: City and GDP, Scenario I, Scenario II, Scenario III, Scenario IV, Scenario V, Scenario VI, Scenario VII, Scenario VIII, Scenario IX, Scenario X, Scenario XI, Scenario XII, Scenario XIII, Scenario XIV, Scenario XV, Scenario XVI, Scenario XVII, Scenario XVIII, Scenario XIX, Scenario XX, Scenario XXI, Scenario XXII, Scenario XXIII, Scenario XXIV, Scenario XXV, Scenario XXVI, Scenario XXVII, Scenario XXVIII, Scenario XXIX, Scenario XXX. Rows include cities like Santa Monica, Beverly Hills, Culver City, etc.

Table A11. Annual Indirect Impacts (Year 10 - Year 20)

City and CDP	Simulas Effects						Impacts of Household Expenditure Reduction						Net Impacts						Case III					
	Scenario I		Scenario II		Scenario III		Scenario I		Scenario II		Scenario III		Scenario I		Scenario II		Scenario III		Scenario I		Scenario II		Scenario III	
	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario III	
Adrian	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00
Agua Fria	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00
Alameda	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00
Alhambra	0.04	0.01	0.07	0.05	0.02	0.11	0.35	0.13	0.07	0.15	0.47	0.16	0.09	0.17	0.12	0.30	0.14	0.08	0.17	0.10	0.26	0.15	0.09	0.04
Altadena	0.17	0.08	0.32	0.24	0.08	0.50	0.52	0.22	0.07	0.64	0.64	0.17	0.11	0.75	0.38	0.98	0.41	0.17	0.13	0.88	0.48	0.14	0.08	0.05
Arroyo	0.24	0.05	0.48	0.34	0.11	0.70	0.52	0.11	0.17	0.80	0.80	0.21	0.12	0.95	0.55	1.05	0.35	0.21	0.15	1.05	0.60	0.20	0.12	0.07
Azusa	0.08	0.05	0.14	0.10	0.04	0.28	0.18	0.08	0.08	0.36	0.36	0.11	0.07	0.44	0.28	0.54	0.15	0.09	0.10	0.62	0.37	0.13	0.08	0.05
Azusa Hills	0.08	0.05	0.14	0.10	0.04	0.28	0.18	0.08	0.08	0.36	0.36	0.11	0.07	0.44	0.28	0.54	0.15	0.09	0.10	0.62	0.37	0.13	0.08	0.05
Baldwin Park	0.32	0.11	0.61	0.46	0.15	0.86	0.43	0.14	0.02	0.92	0.92	0.15	0.08	1.07	0.60	1.17	0.35	0.21	0.15	1.07	0.60	0.20	0.12	0.07
Bell	0.38	0.13	0.71	0.53	0.17	1.10	0.64	0.23	0.11	1.23	1.23	0.21	0.11	1.34	0.76	1.42	0.40	0.25	0.18	1.42	0.76	0.25	0.14	0.08
Bellflower	0.13	0.05	0.24	0.18	0.06	0.36	0.18	0.08	0.08	0.36	0.36	0.11	0.07	0.44	0.28	0.54	0.15	0.09	0.10	0.62	0.37	0.13	0.08	0.05
Bell Gardens	0.13	0.05	0.24	0.18	0.06	0.36	0.18	0.08	0.08	0.36	0.36	0.11	0.07	0.44	0.28	0.54	0.15	0.09	0.10	0.62	0.37	0.13	0.08	0.05
Brea	0.12	0.01	0.05	0.01	0.01	0.04	0.01	0.01	0.01	0.04	0.04	0.01	0.01	0.01	0.04	0.04	0.01	0.01	0.01	0.04	0.04	0.01	0.01	0.01
Burbank	2.15	0.77	4.07	3.05	1.00	6.37	2.89	0.95	0.31	5.74	5.74	0.29	0.10	6.53	3.54	7.07	1.88	0.62	0.25	7.07	3.54	0.25	0.10	0.04
Calabasas	0.04	0.00	0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.00
Carrollton	1.81	0.57	3.07	2.36	0.78	4.82	1.84	0.62	0.22	4.48	4.48	0.26	0.09	5.04	2.75	5.99	1.59	0.53	0.20	5.99	2.75	0.20	0.07	0.03
Cerritos	1.00	0.26	1.86	1.40	0.46	2.66	1.38	0.45	0.24	2.04	2.04	0.15	0.05	2.39	1.29	2.64	0.65	0.22	0.10	2.64	1.29	0.10	0.04	0.02
Chico	0.02	0.01	0.04	0.02	0.01	0.06	0.02	0.01	0.01	0.06	0.06	0.02	0.01	0.08	0.04	0.10	0.03	0.01	0.01	0.10	0.04	0.03	0.01	0.01
Chico Park	0.02	0.01	0.04	0.02	0.01	0.06	0.02	0.01	0.01	0.06	0.06	0.02	0.01	0.08	0.04	0.10	0.03	0.01	0.01	0.10	0.04	0.03	0.01	0.01
Chino	0.34	0.12	0.64	0.48	0.18	0.88	0.45	0.15	0.06	0.94	0.94	0.15	0.08	1.09	0.60	1.17	0.35	0.21	0.15	1.09	0.60	0.20	0.12	0.07
Chino Hills	1.15	0.41	2.16	1.60	0.55	3.42	1.50	0.50	0.35	3.20	3.20	0.17	0.06	3.57	1.91	3.86	1.00	0.35	0.13	3.86	1.91	0.13	0.05	0.02
Claremont	0.84	0.29	1.22	0.84	0.31	1.92	0.83	0.30	0.18	1.74	1.74	0.10	0.04	1.94	1.00	2.04	0.54	0.20	0.08	2.04	1.00	0.08	0.03	0.02
Covina	0.64	0.25	1.25	0.80	0.29	1.86	0.87	0.29	0.16	1.69	1.69	0.24	0.09	1.94	1.00	2.04	0.54	0.20	0.08	2.04	1.00	0.08	0.03	0.02
Covina Hills	0.64	0.25	1.25	0.80	0.29	1.86	0.87	0.29	0.16	1.69	1.69	0.24	0.09	1.94	1.00	2.04	0.54	0.20	0.08	2.04	1.00	0.08	0.03	0.02
Covina Park	0.64	0.25	1.25	0.80	0.29	1.86	0.87	0.29	0.16	1.69	1.69	0.24	0.09	1.94	1.00	2.04	0.54	0.20	0.08	2.04	1.00	0.08	0.03	0.02
Covina Valley	0.64	0.25	1.25	0.80	0.29	1.86	0.87	0.29	0.16	1.69	1.69	0.24	0.09	1.94	1.00	2.04	0.54	0.20	0.08	2.04	1.00	0.08	0.03	0.02
Del Arroyo	0.10	0.04	0.18	0.15	0.05	0.38	0.15	0.04	0.04	0.29	0.29	0.04	0.01	0.34	0.18	0.38	0.05	0.02	0.01	0.38	0.18	0.05	0.02	0.01
Del Norte	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Del Norte Hills	0.30	0.18	0.85	0.71	0.23	1.45	0.68	0.23	0.12	1.17	1.17	0.08	0.03	1.25	0.65	1.33	0.36	0.13	0.05	1.33	0.65	0.13	0.05	0.02
Diamond Bar	1.30	0.46	2.48	1.85	0.60	3.78	1.74	0.57	0.37	3.75	3.75	0.15	0.05	4.02	2.16	4.28	1.00	0.35	0.13	4.28	2.16	0.13	0.05	0.02
Duarte	0.13	0.05	0.25	0.18	0.06	0.36	0.17	0.06	0.06	0.36	0.36	0.11	0.04	0.47	0.25	0.52	0.13	0.05	0.02	0.52	0.25	0.05	0.02	0.01
Duarte Hills	0.13	0.05	0.25	0.18	0.06	0.36	0.17	0.06	0.06	0.36	0.36	0.11	0.04	0.47	0.25	0.52	0.13	0.05	0.02	0.52	0.25	0.05	0.02	0.01
East La Brea	0.01	0.01	0.03	0.02	0.01	0.04	0.02	0.01	0.01	0.04	0.04	0.02	0.01	0.06	0.04	0.10	0.03	0.01	0.01	0.10	0.04	0.03	0.01	0.01
East Los Angeles	0.08	0.03	0.14	0.11	0.03	0.23	0.10	0.03	0.03	0.23	0.23	0.03	0.01	0.26	0.13	0.29	0.06	0.02	0.01	0.29	0.13	0.02	0.01	0.01
East Pasadena	0.05	0.02	0.08	0.07	0.02	0.14	0.07	0.02	0.02	0.14	0.14	0.02	0.01	0.16	0.08	0.18	0.04	0.01	0.01	0.18	0.08	0.01	0.01	0.01
East San Gabriel	0.34	0.24	3.78	1.25	0.44	5.77	1.25	0.41	0.17	5.04	5.04	0.15	0.05	5.49	2.84	5.94	1.50	0.48	0.18	5.94	2.84	0.18	0.06	0.03
East San Gabriel Hills	0.34	0.24	3.78	1.25	0.44	5.77	1.25	0.41	0.17	5.04	5.04	0.15	0.05	5.49	2.84	5.94	1.50	0.48	0.18	5.94	2.84	0.18	0.06	0.03
East San Gabriel Park	0.34	0.24	3.78	1.25	0.44	5.77	1.25	0.41	0.17	5.04	5.04	0.15	0.05	5.49	2.84	5.94	1.50	0.48	0.18	5.94	2.84	0.18	0.06	0.03
East San Gabriel Valley	0.34	0.24	3.78	1.25	0.44	5.77	1.25	0.41	0.17	5.04	5.04	0.15	0.05	5.49	2.84	5.94	1.50	0.48	0.18	5.94	2.84	0.18	0.06	0.03
Flamingo-Claremont	0.58	0.21	1.15	0.82	0.31	1.65	0.68	0.25	0.14	1.49	1.49	0.08	0.03	1.63	0.86	1.72	0.46	0.16	0.06	1.72	0.86	0.16	0.06	0.03
Fontana	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana Hills	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana Park	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana Valley	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana West	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana West Hills	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana West Park	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana West Valley	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana West West	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana West West Hills	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04
Fontana West West Park	0.80	0.29	1.59	1.13	0.46	2.25	1.08	0.38	0.22	2.02	2.02	0.10	0.04	2.12	1.13	2.22	0.57	0.21	0.09	2.22	1.13	0.21	0.09	0.04

City and CDP	CASE I			CASE II			CASE III			CASE IV			CASE V			CASE VI			CASE VII			CASE VIII			CASE IX			CASE X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Morongo Valley	0.23	0.18	0.14	0.33	0.24	0.18	0.43	0.31	0.23	0.53	0.38	0.28	0.63	0.45	0.33	0.73	0.52	0.38	0.83	0.58	0.43	0.93	0.65	0.48	1.03	0.72	0.53	1.13	0.79	0.58	1.23	0.86	0.63	1.33	0.93	0.68	1.43	1.00	0.73	1.53	1.07	0.79	1.63	1.14	0.83	1.73	1.21	0.89	1.83	1.28	0.95	1.93	1.35	1.01	2.03	1.42	1.07	2.13	1.49	1.13	2.23	1.56	1.19	2.33	1.63	1.25	2.43	1.70	1.31	2.53	1.77	1.37	2.63	1.84	1.43	2.73	1.91	1.49	2.83	1.98	1.55	2.93	2.05	1.61	3.03	2.12	1.67	3.13	2.19	1.73	3.23	2.26	1.79	3.33	2.33	1.85	3.43	2.40	1.91	3.53	2.47	1.97	3.63	2.54	2.03	3.73	2.61	2.09	3.83	2.68	2.15	3.93	2.75	2.21	4.03	2.82	2.27	4.13	2.89	2.33	4.23	2.96	2.39	4.33	3.03	2.45	4.43	3.10	2.51	4.53	3.17	2.57	4.63	3.24	2.63	4.73	3.31	2.69	4.83	3.38	2.75	4.93	3.45	2.81	5.03	3.52	2.87	5.13	3.59	2.93	5.23	3.66	2.99	5.33	3.73	3.05	5.43	3.80	3.11	5.53	3.87	3.17	5.63	3.94	3.23	5.73	4.01	3.29	5.83	4.08	3.35	5.93	4.15	3.41	6.03	4.22	3.47	6.13	4.29	3.53	6.23	4.36	3.59	6.33	4.43	3.65	6.43	4.50	3.71	6.53	4.57	3.77	6.63	4.64	3.83	6.73	4.71	3.89	6.83	4.78	3.95	6.93	4.85	4.01	7.03	4.92	4.07	7.13	4.99	4.13	7.23	5.06	4.19	7.33	5.13	4.25	7.43	5.20	4.31	7.53	5.27	4.37	7.63	5.34	4.43	7.73	5.41	4.49	7.83	5.48	4.55	7.93	5.55	4.61	8.03	5.62	4.67	8.13	5.69	4.73	8.23	5.76	4.79	8.33	5.83	4.85	8.43	5.90	4.91	8.53	5.97	4.97	8.63	6.04	5.03	8.73	6.11	5.09	8.83	6.18	5.15	8.93	6.25	5.21	9.03	6.32	5.27	9.13	6.39	5.33	9.23	6.46	5.39	9.33	6.53	5.45	9.43	6.60	5.51	9.53	6.67	5.57	9.63	6.74	5.63	9.73	6.81	5.69	9.83	6.88	5.75	9.93	6.95	5.81	10.03	7.02	5.87	10.13	7.09	5.93	10.23	7.16	5.99	10.33	7.23	6.05	10.43	7.30	6.11	10.53	7.37	6.17	10.63	7.44	6.23	10.73	7.51	6.29	10.83	7.58	6.35	10.93	7.65	6.41	11.03	7.72	6.47	11.13	7.79	6.53	11.23	7.86	6.59	11.33	7.93	6.65	11.43	8.00	6.71	11.53	8.07	6.77	11.63	8.14	6.83	11.73	8.21	6.89	11.83	8.28	6.95	11.93	8.35	7.01	12.03	8.42	7.07	12.13	8.49	7.13	12.23	8.56	7.19	12.33	8.63	7.25	12.43	8.70	7.31	12.53	8.77	7.37	12.63	8.84	7.43	12.73	8.91	7.49	12.83	8.98	7.55	12.93	9.05	7.61	13.03	9.12	7.67	13.13	9.19	7.73	13.23	9.26	7.79	13.33	9.33	7.85	13.43	9.40	7.91	13.53	9.47	7.97	13.63	9.54	8.03	13.73	9.61	8.09	13.83	9.68	8.15	13.93	9.75	8.21	14.03	9.82	8.27	14.13	9.89	8.33	14.23	9.96	8.39	14.33	10.03	8.45	14.43	10.10	8.51	14.53	10.17	8.57	14.63	10.24	8.63	14.73	10.31	8.69	14.83	10.38	8.75	14.93	10.45	8.81	15.03	10.52	8.87	15.13	10.59	8.93	15.23	10.66	8.99	15.33	10.73	9.05	15.43	10.80	9.11	15.53	10.87	9.17	15.63	10.94	9.23	15.73	11.01	9.29	15.83	11.08	9.35	15.93	11.15	9.41	16.03	11.22	9.47	16.13	11.29	9.53	16.23	11.36	9.59	16.33	11.43	9.65	16.43	11.50	9.71	16.53	11.57	9.77	16.63	11.64	9.83	16.73	11.71	9.89	16.83	11.78	9.95	16.93	11.85	10.01	17.03	11.92	10.07	17.13	11.99	10.13	17.23	12.06	10.19	17.33	12.13	10.25	17.43	12.20	10.31	17.53	12.27	10.37	17.63	12.34	10.43	17.73	12.41	10.49	17.83	12.48	10.55	17.93	12.55	10.61	18.03	12.62	10.67	18.13	12.69	10.73	18.23	12.76	10.79	18.33	12.83	10.85	18.43	12.90	10.91	18.53	12.97	10.97	18.63	13.04	11.03	18.73	13.11	11.09	18.83	13.18	11.15	18.93	13.25	11.21	19.03	13.32	11.27	19.13	13.39	11.33	19.23	13.46	11.39	19.33	13.53	11.45	19.43	13.60	11.51	19.53	13.67	11.57	19.63	13.74	11.63	19.73	13.81	11.69	19.83	13.88	11.75	19.93	13.95	11.81	20.03	14.02	11.87	20.13	14.09	11.93	20.23	14.16	11.99	20.33	14.23	12.05	20.43	14.30	12.11	20.53	14.37	12.17	20.63	14.44	12.23	20.73	14.51	12.29	20.83	14.58	12.35	20.93	14.65	12.41	21.03	14.72	12.47	21.13	14.79	12.53	21.23	14.86	12.59	21.33	14.93	12.65	21.43	15.00	12.71	21.53	15.07	12.77	21.63	15.14	12.83	21.73	15.21	12.89	21.83	15.28	12.95	21.93	15.35	13.01	22.03	15.42	13.07	22.13	15.49	13.13	22.23	15.56	13.19	22.33	15.63	13.25	22.43	15.70	13.31	22.53	15.77	13.37	22.63	15.84	13.43	22.73	15.91	13.49	22.83	15.98	13.55	22.93	16.05	13.61	23.03	16.12	13.67	23.13	16.19	13.73	23.23	16.26	13.79	23.33	16.33	13.85	23.43	16.40	13.91	23.53	16.47	13.97	23.63	16.54	14.03	23.73	16.61	14.09	23.83	16.68	14.15	23.93	16.75	14.21	24.03	16.82	14.27	24.13	16.89	14.33	24.23	16.96	14.39	24.33	17.03	14.45	24.43	17.10	14.51	24.53	17.17	14.57	24.63	17.24	14.63	24.73	17.31	14.69	24.83	17.38	14.75	24.93	17.45	14.81	25.03	17.52	14.87	25.13	17.59	14.93	25.23	17.66	14.99	25.33	17.73	15.05	25.43	17.80	15.11	25.53	17.87	15.17	25.63	17.94	15.23	25.73	18.01	15.29	25.83	18.08	15.35	25.93	18.15	15.41	26.03	18.22	15.47	26.13	18.29	15.53	26.23	18.36	15.59	26.33	18.43	15.65	26.43	18.50	15.71	26.53	18.57	15.77	26.63	18.64	15.83	26.73	18.71	15.89	26.83	18.78	15.95	26.93	18.85	16.01	27.03	18.92	16.07	27.13	18.99	16.13	27.23	19.06	16.19	27.33	19.13	16.25	27.43	19.20	16.31	27.53	19.27	16.37	27.63	19.34	16.43	27.73	19.41	16.49	27.83	19.48	16.55	27.93	19.55	16.61	28.03	19.62	16.67	28.13	19.69	16.73	28.23	19.76	16.79	28.33	19.83	16.85	28.43	19.90	16.91	28.53	19.97	16.97	28.63	20.04	17.03	28.73	20.11	17.09	28.83	20.18	17.15	28.93	20.25	17.21	29.03	20.32	17.27	29.13	20.39	17.33	29.23	20.46	17.39	29.33	20.53	17.45	29.43	20.60	17.51	29.53	20.67	17.57	29.63	20.74	17.63	29.73	20.81	17.69	29.83	20.88	17.75	29.93	20.95	17.81	30.03	21.02	17.87	30.13	21.09	17.93	30.23	21.16	17.99	30.33	21.23	18.05	30.43	21.30	18.11	30.53	21.37	18.17	30.63	21.44	18.23	30.73	21.51	18.29	30.83	21.58	18.35	30.93	21.65	18.41	31.03	21.72	18.47	31.13	21.79	18.53	31.23	21.86	18.59	31.33	21.93	18.65	31.43	22.00	18.71	31.53	22.07	18.77	31.63	22.14	18.83	31.73	22.21	18.89	31.83	22.28	18.95	31.93	22.35	19.01	32.03	22.42	19.07	32.13	22.49	19.13	32.23	22.56	19.19	32.33	22.63	19.25	32.43	22.70	19.31	32.53	22.77	19.37	32.63	22.84	19.43	32.73	22.91	19.49	32.83	22.98	19.55	32.93	23.05	19.61	33.03	23.12	19.67	33.13	23.19	19.73	33.23	23.26	19.79	33.33	23.33	19.85	33.43	23.40	19.91	33.53	23.47	19.97	33.63	23.54	20.03	33.73	23.61	20.09	33.83	23.68	20.15	33.93	23.75	20.21	34.03	23.82	20.27	34.13	23.89	20.33	34.23	23.96	20.39	34.33	24.03	20.45	34.43	24.10	20.51	34.53	24.17	20.57	34.63	24.24	20.63	34.73	24.31	20.69	34.83	24.38	20.75	34.93	24.45	20.81	35.03	24.52	20.87	35.13	24.59	20.93	35.23	24.66	20.99	35.33	24.73	21.05	35.43	24.80	21.11	35.53	24.87	21.17	35.63	24.94	21.23	35.73	25.01	21.29	35.83	25.08	21.35	35.93	25.15	21.41	36.03	25.22	21.47	36.13	25.29	21.53	36.23	25.36	21.59	36.33	25.43	21.65	36.43	25.50	21.71	36.53	25.57	21.77	36.63	25.64	21.83	36.73	25.71	21.89	36.83	25.78	21.95	36.93	25.85	22.01	37.03	25.92	22.07	37.13	25.99	22.13	37.23	26.06	22.19	37.33	26.13	22.25	37.43	26.20	22.31	37.53	26.27	22.37	37.63	26.34	22.43	37.73	26.41	22.49	37.83	26.48	22.55	37.93	26.55	22.61	38.03	26.62	22.67	38.13	26.69	22.73	38.23	26.76	22.79	38.33	26.83	22.85	38.43	26.90	22.91	38.53	26.97	22.97	38.63	27.04	23.03	38.73	27.11	23.09	38.83	27.18	23.15	38.93	27.25	23.21	39.03	27.32	23.27	39.13	27.39	23.33	39.23	27.46	23.39	39.33	27.53	23.45	39.43	27.60	23.51	39.53	27.67	23.57	39.63	27.74	23.63	39.73	27.81	23.69	39.83	27.8

Table A16 Annual Induced Impacts (Year 1 -Year 15)

City and GDP	Shrimp Sales						Imports of Household Appliances						Net Imports					
	CASE I		CASE II		CASE III		CASE I		CASE II		CASE III		CASE I		CASE II		CASE III	
	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II
Adrian	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00
Agua Hills	1.84	0.68	3.42	2.82	0.04	0.02	2.40	0.97	4.01	1.00	0.02	3.45	1.13	7.63	0.00	0.00	0.00	0.00
Alhambra	1.25	0.62	1.63	1.04	1.14	0.44	14.89	5.25	27.99	19.32	0.30	0.85	21.12	0.81	49.51	0.00	0.00	0.00
Alhambra Park	0.23	0.15	0.28	0.18	0.14	0.09	3.10	1.25	6.54	0.52	0.18	1.08	0.36	2.49	0.00	0.00	0.00	0.00
Altadena	1.83	1.05	3.38	4.04	3.56	4.48	13.58	4.94	18.01	5.82	17.38	18.48	8.95	42.91	0.00	0.00	0.00	0.00
Arroyo	4.77	1.78	8.87	6.80	2.16	11.43	6.23	22.7	11.68	8.95	2.83	10.9	2.93	18.91	0.00	0.00	0.00	0.00
Arroyo Heights	1.77	0.88	3.29	2.32	0.81	5.26	2.31	6.64	4.33	0.99	6.41	3.32	1.09	20.26	0.00	0.00	0.00	0.00
Azusa	5.00	1.82	8.11	5.99	2.24	14.83	6.30	23.23	12.02	8.50	2.75	17.79	3.20	31.90	0.00	0.00	0.00	0.00
Baldwin Park	1.82	1.00	2.59	1.88	1.12	3.25	5.82	16.99	7.19	2.97	19.23	9.95	3.25	21.90	0.00	0.00	0.00	0.00
Ball	4.18	1.55	7.73	5.82	1.86	12.56	6.23	20.10	14.22	4.59	29.75	15.39	5.39	30.15	0.00	0.00	0.00	0.00
Banana	8.19	3.05	15.23	11.68	3.78	24.79	10.70	33.86	20.10	14.22	4.59	29.75	15.39	5.39	30.15	0.00	0.00	0.00
Bell	3.40	1.27	6.32	4.85	1.55	10.26	4.44	12.02	9.60	5.90	1.91	12.35	6.38	20.9	0.00	0.00	0.00	0.00
Bell Gardens	15.00	5.89	29.30	23.54	7.23	47.83	20.64	73.32	36.77	27.43	8.86	57.38	29.68	61.71	0.00	0.00	0.00	0.00
Beverly Hills	0.18	0.08	0.30	0.23	0.07	0.48	0.21	0.88	0.48	0.28	0.88	0.31	0.10	0.87	0.00	0.00	0.00	0.00
Bradbury	0.62	0.35	1.02	0.88	0.51	1.98	0.61	1.98	4.88	1.18	22.68	9.37	11.57	77.86	0.00	0.00	0.00	0.00
Burbank	1.82	1.00	2.59	1.88	1.12	3.25	5.82	16.99	7.19	2.97	19.23	9.95	3.25	21.90	0.00	0.00	0.00	0.00
Calabasas	0.82	0.52	1.12	0.88	0.51	1.98	0.61	1.98	4.88	1.18	22.68	9.37	11.57	77.86	0.00	0.00	0.00	0.00
Carson	11.82	4.33	21.81	16.57	5.31	35.16	15.17	51.18	28.62	18.33	8.08	38.41	20.38	68.7	0.00	0.00	0.00	0.00
Cerritos	10.85	4.04	20.19	15.49	4.98	33.84	17.11	58.32	33.43	10.3	33.2	1.03	0.33	4.24	0.00	0.00	0.00	0.00
Chester Oak	1.09	0.38	1.81	1.48	0.47	1.78	0.49	2.82	1.44	1.02	3.14	1.10	0.36	2.43	0.00	0.00	0.00	0.00
China	0.30	0.11	0.56	0.43	0.27	1.18	0.93	3.20	2.08	0.77	2.28	1.14	0.36	2.43	0.00	0.00	0.00	0.00
Claremont	0.82	0.52	1.12	0.88	0.51	1.98	0.61	1.98	4.88	1.18	22.68	9.37	11.57	77.86	0.00	0.00	0.00	0.00
Compton	5.85	2.11	10.51	7.58	2.48	17.08	7.38	28.89	15.88	8.90	3.17	29.82	10.81	34.7	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56	33.86	14.87	10.56	3.38	18.28	3.40	22.86	0.00	0.00	0.00	0.00
Covina	8.11	3.02	15.97	11.56	3.84	28.53	10.56</											

City and CDP	Share of Effects										Impacts of Hazardous Waste Remediation										Net Impact														
	CASE I		CASE II		CASE III		CASE I		CASE II		CASE III		CASE I		CASE II		CASE III		CASE I		CASE II		CASE III		CASE I		CASE II		CASE III						
	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II					
Santa Monica	4.08	1.48	7.07	5.70	1.89	11.75	1.81	11.83	38.84	13.42	69.20	48.98	15.81	102.44	52.98	17.33	116.64	-11.88	-32.78	-11.88	-43.28	-13.85	-30.68	-17.48	-15.32	-104.71	-3.08	-0.68	-4.58						
Silver Lake	0.18	0.08	0.34	0.25	0.08	0.52	0.08	0.52	2.87	0.58	5.59	3.95	1.28	8.27	4.29	1.60	9.42	-1.44	-0.87	-1.44	-1.80	-0.61	-3.94	-2.08	-0.68	-4.58	-3.08	-0.68	-4.58						
Siguel Hill	0.33	0.12	0.82	0.46	0.15	0.85	0.64	0.15	0.76	0.78	0.07	2.88	0.07	2.88	0.02	3.12	1.02	8.88	-1.90	-0.78	-1.90	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65							
South El Monte	0.45	0.20	1.15	0.34	0.11	0.76	0.22	0.11	0.76	0.51	0.13	0.68	0.15	10.83	7.21	2.36	15.81	-1.89	-0.78	-1.89	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65								
South Pasadena	0.55	0.20	1.04	0.78	0.25	1.60	0.15	1.82	5.01	1.83	9.41	6.08	2.15	15.83	7.21	2.36	15.81	-1.89	-0.78	-1.89	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65								
South San Gabriel	0.08	0.03	0.18	0.14	0.05	0.24	0.04	0.24	0.82	0.34	1.71	1.23	0.40	3.27	1.08	0.33	2.36	2.36	10.08	-0.82	-0.34	-0.82	-1.08	-0.36	-1.64	-0.87	-0.31	-1.17							
South San Jose Hills	0.52	0.19	0.89	0.73	0.24	1.90	0.70	2.23	3.43	1.88	10.20	7.21	2.32	15.10	7.81	2.55	17.18	-1.89	-0.83	-1.89	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65								
Temple City	0.80	0.21	1.13	0.84	0.27	1.78	0.81	2.27	1.88	0.70	2.21	1.52	0.86	11.82	8.33	2.81	19.43	-3.35	-1.89	-3.35	-3.83	-1.25	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59						
Temple City	0.22	0.08	0.41	0.31	0.10	0.83	0.28	0.10	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Vista Verde	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Vernon	0.32	0.12	0.81	0.45	0.15	0.85	0.44	0.15	0.85	2.82	1.08	5.49	3.88	1.25	8.12	4.20	1.37	9.25	-2.80	-0.95	-2.80	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59					
West Athens	0.14	0.05	0.27	0.20	0.08	0.41	0.18	0.08	0.41	1.29	0.47	2.40	1.70	0.85	3.59	1.84	0.80	4.05	-1.14	-0.49	-1.14	-1.50	-0.48	-3.15	-1.65	-0.54	-0.84	-1.14	-0.48	-0.84					
West Athens	0.26	0.08	0.46	0.36	0.12	0.75	0.35	1.12	0.75	2.35	0.84	4.45	3.12	0.87	6.44	3.38	1.01	7.33	-2.72	-0.78	-2.72	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59					
West Covina	0.17	0.08	0.33	0.34	0.08	0.51	0.08	0.51	1.58	0.37	2.83	2.07	0.87	4.34	2.34	0.73	4.46	-2.80	-0.78	-2.80	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59						
West Covina	0.07	0.03	0.14	0.10	0.03	0.21	0.03	0.21	0.08	0.24	1.24	0.83	1.46	1.93	0.85	0.31	2.00	2.00	8.00	-0.58	-0.21	-0.58	-0.78	-0.25	-1.03	-0.85	-0.28	-0.48	-0.78	-0.25	-1.03				
West Covina	0.08	0.03	0.14	0.11	0.03	0.22	0.03	0.22	0.08	0.25	1.29	0.91	1.30	1.81	0.89	0.32	2.18	2.18	8.74	-0.33	-0.11	-0.33	-0.48	-0.16	-0.84	-0.33	-0.11	-0.48	-0.16	-0.84					
West Covina	0.15	0.06	0.28	0.21	0.07	0.31	0.07	0.31	0.32	0.25	1.22	0.87	1.41	1.93	0.85	0.31	2.00	2.00	8.00	-0.58	-0.21	-0.58	-0.78	-0.25	-1.03	-0.85	-0.28	-0.48	-0.78	-0.25	-1.03				
West Covina	0.18	0.07	0.34	0.25	0.09	0.37	0.09	0.37	1.17	0.47	1.86	1.32	0.58	2.54	1.52	0.58	3.25	-2.80	-0.78	-2.80	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59	-2.09	-2.59				
West Covina	0.11	0.04	0.21	0.16	0.05	0.35	0.11	0.05	0.35	1.02	0.37	1.82	1.24	0.64	2.84	1.47	0.48	3.25	-1.82	-0.37	-1.82	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65	-2.32	-0.88	-3.32				
West Covina	0.23	0.08	0.43	0.32	0.10	0.66	0.10	0.66	2.05	0.75	3.85	2.72	0.84	5.94	2.85	0.88	6.89	-1.82	-0.37	-1.82	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65	-2.32	-0.88	-3.32					
West Covina	0.09	0.03	0.17	0.12	0.04	0.24	0.04	0.24	0.80	0.28	1.51	1.07	0.34	2.24	1.16	0.38	2.54	-0.72	-0.28	-0.72	-0.98	-0.34	-1.04	-0.34	-0.14	-0.64	-0.34	-0.14	-0.64	-0.34	-0.14				
West Covina	0.30	0.11	0.56	0.42	0.14	0.88	0.42	0.13	0.87	2.88	0.98	5.04	3.58	1.15	7.46	3.86	1.28	8.49	-2.38	-0.87	-2.38	-3.15	-1.02	-4.60	-5.31	-1.64	-2.31	-3.15	-1.64	-2.31	-3.15				
West Covina	1.50	0.36	2.81	2.11	0.71	4.78	1.11	4.86	14.08	5.11	20.39	18.86	6.02	38.03	20.10	6.00	44.41	-12.40	-4.56	-12.40	-16.48	-5.31	-18.84	-21.49	-6.85	-9.42	-12.40	-6.85	-9.42	-12.40	-6.85				
West Covina	0.77	0.28	1.45	1.08	0.35	2.23	1.64	2.54	6.87	2.54	13.10	9.37	3.19	19.39	10.25	3.18	22.34	-2.84	-1.04	-2.84	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59	-2.09	-2.59				
West Covina	0.57	0.20	1.02	0.72	0.25	1.61	0.25	1.61	5.04	1.81	8.42	6.17	2.18	14.03	7.28	2.37	16.61	-4.48	-1.64	-4.48	-5.31	-1.64	-6.85	-7.71	-2.49	-3.43	-4.48	-2.49	-3.43	-4.48	-2.49	-3.43			
West Covina	0.78	0.27	1.45	1.07	0.35	2.21	1.04	2.54	6.84	2.53	13.94	9.22	3.19	19.39	10.25	3.18	22.34	-2.84	-1.04	-2.84	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59	-2.09	-2.59				
West Covina	1.30	0.50	2.83	1.98	0.64	4.03	1.89	4.04	12.64	4.80	23.74	18.84	5.42	115.49	59.72	18.54	131.46	-36.88	-13.48	-36.88	-48.77	-15.73	-52.25	-53.52	-17.49	-21.05	-36.88	-17.49	-21.05	-36.88	-17.49	-21.05			
West Covina	4.39	1.94	8.95	8.43	2.10	12.25	2.04	12.44	41.54	15.13	78.01	55.20	17.82	115.49	59.72	18.54	131.46	-36.88	-13.48	-36.88	-48.77	-15.73	-52.25	-53.52	-17.49	-21.05	-36.88	-17.49	-21.05	-36.88	-17.49	-21.05			
West Covina	0.11	0.04	0.20	0.15	0.05	0.31	0.11	0.05	0.31	0.87	0.35	1.60	1.28	0.42	2.70	1.40	0.48	3.08	-0.84	-0.32	-0.84	-1.14	-0.37	-2.39	-1.14	-0.37	-2.39	-1.14	-0.37	-2.39	-1.14	-0.37	-2.39		
West Covina	0.08	0.03	0.17	0.12	0.04	0.24	0.04	0.24	0.80	0.28	1.51	1.07	0.34	2.24	1.16	0.38	2.54	-0.72	-0.28	-0.72	-0.98	-0.34	-1.04	-0.34	-0.14	-0.64	-0.34	-0.14	-0.64	-0.34	-0.14	-0.64			
West Covina	0.15	0.06	0.28	0.21	0.07	0.31	0.07	0.31	0.32	0.25	1.22	0.87	1.41	1.93	0.85	0.31	2.00	2.00	8.00	-0.58	-0.21	-0.58	-0.78	-0.25	-1.03	-0.85	-0.28	-0.48	-0.78	-0.25	-1.03	-0.85	-0.28	-0.48	
West Covina	0.18	0.07	0.34	0.25	0.09	0.37	0.09	0.37	1.17	0.47	1.86	1.32	0.58	2.54	1.52	0.58	3.25	-2.80	-0.78	-2.80	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59	-2.09	-2.59				
West Covina	0.11	0.04	0.21	0.16	0.05	0.35	0.11	0.05	0.35	1.02	0.37	1.82	1.24	0.64	2.84	1.47	0.48	3.25	-1.82	-0.37	-1.82	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65
West Covina	0.23	0.08	0.43	0.32	0.10	0.66	0.10	0.66	2.05	0.75	3.85	2.72	0.84	5.94	2.85	0.88	6.89	-1.82	-0.37	-1.82	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65	-2.32	-0.88	-3.32	-3.83	-1.25	-0.45	-1.65	
West Covina	0.09	0.03	0.17	0.12	0.04	0.24	0.04	0.24	0.80	0.28	1.51	1.07	0.34	2.24	1.16	0.38	2.54	-0.72	-0.28	-0.72	-0.98	-0.34	-1.04	-0.34	-0.14	-0.64	-0.34	-0.14	-0.64	-0.34	-0.14	-0.64	-0.34	-0.14	
West Covina	0.30	0.11	0.56	0.42	0.14	0.88	0.42	0.13	0.87	2.88	0.98	5.04	3.58	1.15	7.46	3.86	1.28	8.49	-2.38	-0.87	-2.38	-3.15	-1.02	-4.60	-5.31	-1.64	-2.31	-3.15	-1.64	-2.31	-3.15	-1.64	-2.31	-3.15	
West Covina	1.50	0.36	2.81	2.11	0.71	4.78	1.11	4.86	14.08	5.11	20.39	18.86	6.02	38.03	20.10	6.00	44.41	-12.40	-4.56	-12.40	-16.48	-5.31	-18.84	-21.49	-6.85	-9.42	-12.40	-6.85	-9.42	-12.40	-6.85	-9.42	-12.40	-6.85	
West Covina	0.77	0.28	1.45	1.08	0.35	2.23	1.64	2.54	6.87	2.54	13.10	9.37	3.19	19.39	10.25	3.18	22.34	-2.84	-1.04	-2.84	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59	-2.09	-2.59	-1.09	-1.59		
West Covina	0.57	0.20	1.02	0.72	0.25	1.61	0.25	1.61	5.04	1.81	8.42	6.17	2.18	14.03	7.28	2.37	16.61	-4.48	-1.64	-4.48	-5.31	-1.64	-6.85	-7.71	-2.49	-3.43	-4.48	-2.49	-3.43	-4.48	-2.49	-3.43	-4.48	-2.49	-3.43
West Covina	0.78	0.27	1.45	1.07	0.35	2.21	1.04	2.54	6.84	2.53	13.94	9.22	3.19	19.39	10.25	3.18	22.34	-2.84	-1.04	-2.84	-3.43	-1.11	-4.58	-5.09	-1.49	-2.09	-2.59	-1.09	-1.59	-2.09	-2.59	-1.09	-1.59		
West Covina	1.30	0.50	2.83	1.98	0.64	4.03	1.89	4.04	12.64	4.80	23.74	18.84	5.42																						

City and CDP

City and CDP	Simulated Effects						Impacts of Nonresidential Expenditures Reduction						Net Impacts						
	CASE I		CASE II		CASE III		CASE I		CASE II		CASE III		CASE I		CASE II		CASE III		
	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	Scenario I	Scenario II	
Alhambra Valley	0.21	0.08	0.46	0.34	0.11	0.71	0.80	4.18	0.86	4.12	3.17	1.73	32.06	-0.13	-0.23	-0.46	-0.19	0.03	-0.73
Alhambra Valley	0.01	0.00	0.02	0.01	0.00	0.03	0.15	0.13	0.03	0.23	0.14	0.04	0.25	-0.21	-0.24	-0.48	-0.10	0.03	-0.31
Alhambra Valley	0.02	0.01	0.04	0.03	0.01	0.06	0.18	0.17	0.06	0.30	0.20	0.09	0.51	-0.08	-0.03	-0.26	-0.05	0.04	-0.21
Alhambra Valley	0.03	0.01	0.05	0.04	0.02	0.08	0.25	0.24	0.09	0.42	0.30	0.12	0.63	-0.12	-0.10	-0.34	-0.08	0.05	-0.29
Alhambra Valley	0.04	0.02	0.06	0.05	0.03	0.10	0.30	0.29	0.12	0.50	0.37	0.15	0.75	-0.15	-0.14	-0.40	-0.10	0.06	-0.34
Alhambra Valley	0.05	0.03	0.07	0.06	0.04	0.12	0.35	0.34	0.14	0.55	0.42	0.18	0.85	-0.18	-0.17	-0.46	-0.12	0.08	-0.38
Alhambra Valley	0.06	0.04	0.08	0.07	0.05	0.14	0.40	0.39	0.16	0.60	0.47	0.20	0.95	-0.20	-0.19	-0.50	-0.14	0.10	-0.42
Alhambra Valley	0.07	0.05	0.09	0.08	0.06	0.16	0.45	0.44	0.18	0.65	0.52	0.22	1.05	-0.22	-0.21	-0.54	-0.16	0.12	-0.46
Alhambra Valley	0.08	0.06	0.10	0.09	0.07	0.18	0.50	0.49	0.20	0.70	0.59	0.24	1.15	-0.24	-0.23	-0.58	-0.18	0.14	-0.50
Alhambra Valley	0.09	0.07	0.11	0.10	0.08	0.20	0.55	0.54	0.22	0.75	0.64	0.26	1.25	-0.26	-0.25	-0.62	-0.20	0.16	-0.54
Alhambra Valley	0.10	0.08	0.12	0.11	0.09	0.22	0.60	0.59	0.24	0.80	0.67	0.28	1.35	-0.28	-0.27	-0.66	-0.22	0.18	-0.58
Alhambra Valley	0.11	0.09	0.13	0.12	0.10	0.24	0.65	0.64	0.26	0.85	0.71	0.30	1.45	-0.30	-0.29	-0.70	-0.24	0.20	-0.62
Alhambra Valley	0.12	0.10	0.14	0.13	0.11	0.26	0.70	0.69	0.28	0.90	0.77	0.32	1.55	-0.32	-0.31	-0.74	-0.26	0.22	-0.66
Alhambra Valley	0.13	0.11	0.15	0.14	0.12	0.28	0.75	0.74	0.30	0.95	0.82	0.34	1.65	-0.34	-0.33	-0.78	-0.28	0.24	-0.70
Alhambra Valley	0.14	0.12	0.16	0.15	0.13	0.30	0.80	0.79	0.32	1.00	0.87	0.36	1.75	-0.36	-0.35	-0.82	-0.30	0.26	-0.74
Alhambra Valley	0.15	0.13	0.17	0.16	0.14	0.32	0.85	0.84	0.34	1.05	0.92	0.38	1.85	-0.38	-0.37	-0.86	-0.32	0.28	-0.78
Alhambra Valley	0.16	0.14	0.18	0.17	0.15	0.34	0.90	0.89	0.36	1.10	0.97	0.40	1.95	-0.40	-0.39	-0.90	-0.34	0.30	-0.82
Alhambra Valley	0.17	0.15	0.19	0.18	0.16	0.36	0.95	0.94	0.38	1.15	1.02	0.42	2.05	-0.42	-0.41	-0.94	-0.36	0.32	-0.86
Alhambra Valley	0.18	0.16	0.20	0.19	0.17	0.38	1.00	0.99	0.40	1.20	1.07	0.44	2.15	-0.44	-0.43	-0.98	-0.38	0.34	-0.90
Alhambra Valley	0.19	0.17	0.21	0.20	0.18	0.40	1.05	1.04	0.42	1.25	1.12	0.46	2.25	-0.46	-0.45	-1.02	-0.40	0.36	-0.94
Alhambra Valley	0.20	0.18	0.22	0.21	0.19	0.42	1.10	1.09	0.44	1.30	1.17	0.48	2.35	-0.48	-0.47	-1.06	-0.42	0.38	-0.98
Alhambra Valley	0.21	0.19	0.23	0.22	0.20	0.44	1.15	1.14	0.46	1.35	1.22	0.50	2.45	-0.50	-0.49	-1.10	-0.44	0.40	-1.02
Alhambra Valley	0.22	0.20	0.24	0.23	0.21	0.46	1.20	1.19	0.48	1.40	1.27	0.52	2.55	-0.52	-0.51	-1.14	-0.46	0.42	-1.06
Alhambra Valley	0.23	0.21	0.25	0.24	0.22	0.48	1.25	1.24	0.50	1.45	1.32	0.54	2.65	-0.54	-0.53	-1.18	-0.48	0.44	-1.10
Alhambra Valley	0.24	0.22	0.26	0.25	0.23	0.50	1.30	1.29	0.52	1.50	1.37	0.56	2.75	-0.56	-0.55	-1.22	-0.50	0.46	-1.14
Alhambra Valley	0.25	0.23	0.27	0.26	0.24	0.52	1.35	1.34	0.54	1.55	1.42	0.58	2.85	-0.58	-0.57	-1.26	-0.52	0.48	-1.18
Alhambra Valley	0.26	0.24	0.28	0.27	0.25	0.54	1.40	1.39	0.56	1.60	1.47	0.60	2.95	-0.60	-0.59	-1.30	-0.54	0.50	-1.22
Alhambra Valley	0.27	0.25	0.29	0.28	0.26	0.56	1.45	1.44	0.58	1.65	1.52	0.62	3.05	-0.62	-0.61	-1.34	-0.56	0.52	-1.26
Alhambra Valley	0.28	0.26	0.30	0.29	0.27	0.58	1.50	1.49	0.60	1.70	1.57	0.64	3.15	-0.64	-0.63	-1.38	-0.58	0.54	-1.30
Alhambra Valley	0.29	0.27	0.31	0.30	0.28	0.60	1.55	1.54	0.62	1.75	1.62	0.66	3.25	-0.66	-0.65	-1.42	-0.60	0.56	-1.34
Alhambra Valley	0.30	0.28	0.32	0.31	0.29	0.62	1.60	1.59	0.64	1.80	1.67	0.68	3.35	-0.68	-0.67	-1.46	-0.62	0.58	-1.38
Alhambra Valley	0.31	0.29	0.33	0.32	0.30	0.64	1.65	1.64	0.66	1.85	1.72	0.70	3.45	-0.70	-0.69	-1.50	-0.64	0.60	-1.42
Alhambra Valley	0.32	0.30	0.34	0.33	0.31	0.66	1.70	1.69	0.68	1.90	1.77	0.72	3.55	-0.72	-0.71	-1.54	-0.66	0.62	-1.46
Alhambra Valley	0.33	0.31	0.35	0.34	0.32	0.68	1.75	1.74	0.70	1.95	1.82	0.74	3.65	-0.74	-0.73	-1.58	-0.68	0.64	-1.50
Alhambra Valley	0.34	0.32	0.36	0.35	0.33	0.70	1.80	1.79	0.72	2.00	1.87	0.76	3.75	-0.76	-0.75	-1.62	-0.70	0.66	-1.54
Alhambra Valley	0.35	0.33	0.37	0.36	0.34	0.72	1.85	1.84	0.74	2.05	1.92	0.78	3.85	-0.78	-0.77	-1.66	-0.72	0.68	-1.58
Alhambra Valley	0.36	0.34	0.38	0.37	0.35	0.74	1.90	1.89	0.76	2.10	1.97	0.80	3.95	-0.80	-0.79	-1.70	-0.74	0.70	-1.62
Alhambra Valley	0.37	0.35	0.39	0.38	0.36	0.76	1.95	1.94	0.78	2.15	2.02	0.82	4.05	-0.82	-0.81	-1.74	-0.76	0.72	-1.66
Alhambra Valley	0.38	0.36	0.40	0.39	0.37	0.78	2.00	1.99	0.80	2.20	2.07	0.84	4.15	-0.84	-0.83	-1.78	-0.78	0.74	-1.70
Alhambra Valley	0.39	0.37	0.41	0.40	0.38	0.80	2.05	2.04	0.82	2.25	2.12	0.86	4.25	-0.86	-0.85	-1.82	-0.80	0.76	-1.74
Alhambra Valley	0.40	0.38	0.42	0.41	0.39	0.82	2.10	2.09	0.84	2.30	2.17	0.88	4.35	-0.88	-0.87	-1.86	-0.82	0.78	-1.78
Alhambra Valley	0.41	0.39	0.43	0.42	0.40	0.84	2.15	2.14	0.86	2.35	2.22	0.90	4.45	-0.90	-0.89	-1.90	-0.84	0.80	-1.82
Alhambra Valley	0.42	0.40	0.44	0.43	0.41	0.86	2.20	2.19	0.88	2.40	2.27	0.92	4.55	-0.92	-0.91	-1.94	-0.86	0.82	-1.86
Alhambra Valley	0.43	0.41	0.45	0.44	0.42	0.88	2.25	2.24	0.90	2.45	2.32	0.94	4.65	-0.94	-0.93	-1.98	-0.88	0.84	-1.90
Alhambra Valley	0.44	0.42	0.46	0.45	0.43	0.90	2.30	2.29	0.92	2.50	2.37	0.96	4.75	-0.96	-0.95	-2.02	-0.90	0.86	-1.94
Alhambra Valley	0.45	0.43	0.47	0.46	0.44	0.92	2.35	2.34	0.94	2.55	2.42	0.98	4.85	-0.98	-0.97	-2.06	-0.92	0.88	-1.98
Alhambra Valley	0.46	0.44	0.48	0.47	0.45	0.94	2.40	2.39	0.96	2.60	2.47	1.00	4.95	-1.00	-0.99	-2.10	-0.94	0.90	-2.02
Alhambra Valley	0.47	0.45	0.49	0.48	0.46	0.96	2.45	2.44	0.98	2.65	2.52	1.02	5.05	-1.02	-1.01	-2.14	-0.96	0.92	-2.06
Alhambra Valley	0.48	0.46	0.50	0.49	0.47	0.98	2.50	2.49	1.00	2.70	2.57	1.04	5.15	-1.04	-1.03	-2.18	-0.98	0.94	-2.10
Alhambra Valley	0.49	0.47	0.51	0.50	0.48	1.00	2.55	2.54	1.02	2.75	2.62	1.06	5.25	-1.06	-1.05	-2.22	-1.00	0.96	-2.14
Alhambra Valley	0.50	0.48	0.52	0.51	0.49	1.02	2.60	2.59	1.04	2.80	2.67	1.08	5.35	-1.08	-1.07	-2.26	-1.02	0.98	-2.18
Alhambra Valley	0.51	0.49	0.53	0.52	0.50	1.04	2.65	2.64	1.06	2.85	2.72	1.10	5.45	-1.10	-1.09	-2.30	-1.04	1.00	-2.22
Alhambra Valley	0.52	0.50	0.54	0.53	0.51	1.06	2.70	2.69	1.08	2.90	2.77	1.12	5.55	-1.12	-1.11	-2.34	-1.06	1.02	-2.26
Alhambra Valley	0.53	0.51	0.55	0.54	0.52	1.08	2.75	2.74	1.10	2.95	2.82	1.14	5.65	-1.14	-1.13	-2.38	-1.08	1.04	-2.30
Alhambra Valley	0.54	0.52	0.56	0.55	0.53	1.10	2.80	2.79	1.12	3.00	2.87	1.16	5.75	-1.16	-1.15	-2.42	-1.10	1.06	-2.34
Alhambra Valley	0.55	0.53	0.57	0.56	0.54	1.12	2.85	2.84	1.14	3.05	2.92	1.18	5.85	-1.18	-1.17	-2.46	-1.12	1.08	-2.38
Alhambra Valley	0.56	0.54	0.58	0.57	0.55	1.14	2.90	2.89	1.16	3.10	2.97	1.20	5.95	-1.20	-1.19	-2.50	-1.14	1.10	-2.42
Alhambra Valley	0.57	0.55	0.59	0.58	0.56	1.16	2.95	2.94	1.18	3.15	3.02	1.22	6.05	-1.22	-1.21	-2.54	-1.16	1.12	-2.46
Alhambra Valley	0.58	0.56	0.60	0.59	0.57	1.18	3.00	2.99	1.20	3.20	3.07	1.24	6.15	-1.24	-1.23	-2.58	-1.18	1.14	-2.50
Alhambra Valley	0.59	0.57	0.61	0.60	0.58	1.20	3.05	3.04	1.22	3.25	3.12	1.26	6.25	-1.26	-1.25	-2.62	-1.20	1.16	-2.54
Alhambra Valley	0.60	0.58	0.62	0.61	0.59	1.22	3.10	3.09	1.24	3.30	3.17	1.28	6.35	-1.28	-1.27	-2.66	-1.22	1.18	-2.58
Alhambra Valley	0.61	0.59	0.63	0.62	0.60	1.24	3.15	3.14	1.26	3.35	3.22	1.30	6.45	-1.30	-1.29	-2.70	-1.24	1.20	-2.62
Alhambra Valley	0.62	0.60	0.64	0.63	0.61	1.26	3.20	3.19	1.28	3.40	3.27	1.32	6.55	-1.32	-1.31	-2.74	-		

Table A16. Annual Direct Impacts for years 1 - 15 (El Monte, Inglewood, Pasadena, Pomona, Torrance)

(Millions of \$ 1999)

Scenario			El Monte	Inglewood	Pasadena	Pomona	Torrance
Stimulus Effect	CASE I	Scenario I	34.4	58.6	54.7	77.2	32.5
		Scenario II	10.2	21.0	31.2	31.3	40.7
		Scenario III	61.6	69.4	86.5	123.8	75.2
	CASE II	Scenario I	0.0	0.0	64.7	23.5	0.0
		Scenario II	0.0	0.0	18.4	9.5	0.0
		Scenario III	0.0	0.0	125.5	47.2	0.0
	CASE III	Scenario I	35.7	18.3	15.6	50.3	53.5
		Scenario II	17.1	9.5	8.0	26.3	20.4
		Scenario III	72.9	39.0	37.0	108.7	109.7
Impacts of Household Expenditure Reduction	CASE I	Scenario I	60.9	76.1	146.7	64.1	185.4
		Scenario II	22.2	27.7	53.4	23.4	67.5
		Scenario III	114.5	142.9	275.5	120.5	348.1
	CASE II	Scenario I	81.0	101.1	194.9	85.2	246.3
		Scenario II	26.2	32.7	63.0	27.5	79.5
		Scenario III	169.4	211.6	407.9	178.4	515.4
	CASE III	Scenario I	87.6	109.4	210.9	92.2	266.5
		Scenario II	28.7	35.8	69.0	30.2	87.2
		Scenario III	192.9	240.9	464.4	203.1	586.8
Net Impacts	CASE I	Scenario I	-26.5	-17.5	-92.0	13.1	-152.9
		Scenario II	-12.0	-6.7	-22.3	7.9	-26.8
		Scenario III	-52.9	-73.5	-189.0	3.3	-272.9
	CASE II	Scenario I	-81.0	-101.1	-130.3	-61.8	-246.3
		Scenario II	-26.2	-32.7	-44.5	-18.0	-79.5
		Scenario III	-169.4	-211.6	-282.4	-131.1	-515.4
	CASE III	Scenario I	-51.9	-91.1	-195.3	-41.9	-213.0
		Scenario II	-11.6	-26.3	-61.0	-3.9	-66.8
		Scenario III	-120.0	-201.9	-427.4	-94.3	-477.2

Table A17. Annual Direct Impacts for years 16 - 20 (El Monte, Inglewood, Pasadena, Pomona, Torrance)

(Millions of \$ 1999)

Scenario		El Monte	Inglewood	Pasadena	Pomona	Torrance	
Stimulus Effect	CASE I	Scenario I	5.7	10.0	9.2	12.7	5.6
		Scenario II	1.6	3.5	5.0	5.0	6.7
		Scenario III	10.4	12.0	14.7	20.7	13.1
	CASE II	Scenario I	0.0	0.0	11.7	4.4	0.0
		Scenario II	0.0	0.0	3.4	1.7	0.0
		Scenario III	0.0	0.0	22.7	8.8	0.0
	CASE III	Scenario I	6.0	3.1	2.8	8.2	9.3
		Scenario II	2.7	1.5	1.3	4.0	3.3
		Scenario III	12.1	6.5	6.3	17.5	18.4
Impacts of Household Expenditure Reduction	CASE I	Scenario I	60.9	76.1	146.7	64.1	185.4
		Scenario II	22.2	27.7	53.4	23.4	67.5
		Scenario III	114.5	142.9	275.5	120.5	348.1
	CASE II	Scenario I	81.0	101.1	194.9	85.2	246.3
		Scenario II	26.2	32.7	63.0	27.5	79.5
		Scenario III	169.4	211.6	407.9	178.4	515.4
	CASE III	Scenario I	87.6	109.4	210.9	92.2	266.5
		Scenario II	28.7	35.8	69.0	30.2	87.2
		Scenario III	192.9	240.9	484.4	203.1	586.8
Net Impacts	CASE I	Scenario I	-55.2	-66.1	-137.5	-51.5	-179.8
		Scenario II	-20.6	-24.2	-48.4	-18.4	-60.8
		Scenario III	-104.0	-130.9	-260.8	-99.8	-335.0
	CASE II	Scenario I	-81.0	-101.1	-183.3	-80.9	-246.3
		Scenario II	-26.2	-32.7	-59.6	-25.8	-79.5
		Scenario III	-169.4	-211.6	-385.2	-169.5	-515.4
	CASE III	Scenario I	-81.6	-106.3	-208.1	-84.0	-257.3
		Scenario II	-26.0	-34.3	-67.7	-26.1	-83.8
		Scenario III	-180.8	-234.4	-458.1	-185.6	-568.4

Table A18. Annual Indirect Impacts for years 1 - 15 (El Monte, Inglewood, Pasadena, Pomona, Torrance)

(Millions of \$ 1999)

Scenario		El Monte	Inglewood	Pasadena	Pomona	Torrance	
Stimulus Effect	CASE I	Scenario I	8.5	8.3	29.9	8.8	25.7
		Scenario II	3.2	3.1	11.1	3.3	9.6
		Scenario III	15.8	15.4	55.6	16.4	47.7
	CASE II	Scenario I	12.1	11.8	42.6	12.6	36.7
		Scenario II	3.9	3.8	13.7	4.0	11.8
		Scenario III	25.7	25.1	90.4	26.8	77.8
	CASE III	Scenario I	13.4	13.1	47.1	13.9	40.6
		Scenario II	4.4	4.3	15.3	4.5	13.2
		Scenario III	30.1	29.4	105.7	31.3	91.1
Impacts of Household Expenditure Reduction	CASE I	Scenario I	9.9	9.8	31.7	11.3	30.3
		Scenario II	3.6	3.6	11.6	4.1	11.0
		Scenario III	18.7	18.3	59.6	21.3	56.8
	CASE II	Scenario I	13.2	13.0	42.2	15.1	40.2
		Scenario II	4.3	4.2	13.6	4.9	13.0
		Scenario III	27.7	27.2	88.2	31.5	84.2
	CASE III	Scenario I	14.3	14.0	45.6	16.3	43.5
		Scenario II	4.7	4.6	14.9	5.3	14.2
		Scenario III	31.5	30.9	100.5	35.9	95.8
Net Impacts	CASE I	Scenario I	-1.5	-1.5	-1.9	-2.5	-4.6
		Scenario II	-0.5	-0.5	-0.4	-0.8	-1.5
		Scenario III	-2.9	-3.0	-4.0	-4.9	-9.1
	CASE II	Scenario I	-1.1	-1.1	0.4	-2.5	-3.6
		Scenario II	-0.4	-0.4	0.0	-0.8	-1.2
		Scenario III	-1.9	-2.0	2.1	-4.8	-6.3
	CASE III	Scenario I	-0.9	-1.0	1.4	-2.4	-3.0
		Scenario II	-0.3	-0.3	0.4	-0.8	-1.0
		Scenario III	-1.3	-1.5	5.2	-4.6	-4.7

Table A19. Annual Indirect Impacts for years 16 - 20 (El Monte, Inglewood, Pasadena, Pomona, Torrance)

(Millions of \$ 1999)

Scenario		El Monte	Inglewood	Pasadena	Pomona	Torrance	
Stimulus Effect	CASE I	Scenario I	0.9	0.9	4.4	1.1	3.2
		Scenario II	0.3	0.3	1.6	0.4	1.1
		Scenario III	1.8	1.8	8.4	2.1	6.0
	CASE II	Scenario I	1.4	1.3	6.2	1.6	4.5
		Scenario II	0.4	0.4	2.0	0.5	1.5
		Scenario III	2.8	2.8	12.8	3.3	9.3
	CASE III	Scenario I	1.2	1.2	6.0	1.5	4.3
		Scenario II	0.4	0.4	2.0	0.5	1.4
		Scenario III	2.7	2.7	12.9	3.2	9.3
Impacts of Household Expenditure Reduction	CASE I	Scenario I	9.9	9.8	31.7	11.3	30.3
		Scenario II	3.6	3.6	11.6	4.1	11.0
		Scenario III	18.7	18.3	59.6	21.3	56.8
	CASE II	Scenario I	13.2	13.0	42.2	15.1	40.2
		Scenario II	4.3	4.2	13.6	4.9	13.0
		Scenario III	27.7	27.2	88.2	31.5	84.2
	CASE III	Scenario I	14.3	14.0	45.6	16.3	43.5
		Scenario II	4.7	4.6	14.9	5.3	14.2
		Scenario III	31.5	30.9	100.5	35.9	95.8
Net Impacts	CASE I	Scenario I	-9.0	-8.8	-27.3	-10.2	-27.1
		Scenario II	-3.3	-3.2	-10.0	-3.7	-9.9
		Scenario III	-16.9	-16.6	-51.3	-19.2	-50.8
	CASE II	Scenario I	-11.9	-11.6	-36.0	-13.5	-35.7
		Scenario II	-3.8	-3.7	-11.6	-4.3	-11.5
		Scenario III	-24.9	-24.4	-75.4	-28.3	-74.9
	CASE III	Scenario I	-13.0	-12.8	-39.7	-14.8	-39.2
		Scenario II	-4.3	-4.2	-13.0	-4.8	-12.8
		Scenario III	-28.8	-28.2	-87.5	-32.7	-86.5

Table A20. Annual Induced Impacts for years 1 - 15 (El Monte, Inglewood, Pasadena, Pomona, Torrance)

(Millions of \$ 1999)

Scenario			El Monte	Inglewood	Pasadena	Pomona	Torrance
Stimulus Effect	CASE I	Scenario I	12.5	14.7	27.9	15.7	33.0
		Scenario II	4.6	5.5	10.4	5.8	12.3
		Scenario III	23.2	27.4	51.9	29.1	61.4
	CASE II	Scenario I	17.8	21.0	39.8	22.3	47.1
		Scenario II	5.7	6.7	12.8	7.2	15.1
		Scenario III	37.8	44.5	84.5	47.4	99.9
	CASE III	Scenario I	19.7	23.2	44.0	24.7	52.0
		Scenario II	6.4	7.6	14.3	8.0	17.0
		Scenario III	44.2	52.1	98.9	55.5	116.8
Impacts of Household Expenditure Reduction	CASE I	Scenario I	16.3	19.2	36.5	20.5	43.1
		Scenario II	5.9	7.0	13.3	7.5	15.7
		Scenario III	30.6	36.1	68.5	38.4	80.9
	CASE II	Scenario I	21.7	25.5	48.5	27.2	57.3
		Scenario II	7.0	8.2	15.7	8.8	18.5
		Scenario III	45.3	53.5	101.4	56.9	119.8
	CASE III	Scenario I	23.4	27.6	52.4	29.4	62.0
		Scenario II	7.7	9.0	17.2	9.6	20.3
		Scenario III	51.6	60.9	115.5	64.8	136.4
Net Impacts	CASE I	Scenario I	-3.8	-4.5	-8.5	-4.8	-10.1
		Scenario II	-1.3	-1.5	-2.9	-1.6	-3.4
		Scenario III	-7.4	-8.7	-16.6	-9.3	-19.6
	CASE II	Scenario I	-3.9	-4.6	-8.6	-4.8	-10.2
		Scenario II	-1.3	-1.5	-2.9	-1.6	-3.4
		Scenario III	-7.6	-8.9	-16.9	-9.5	-20.0
	CASE III	Scenario I	-3.8	-4.4	-8.4	-4.7	-9.9
		Scenario II	-1.3	-1.5	-2.8	-1.6	-3.3
		Scenario III	-7.4	-8.7	-16.6	-9.3	-19.6

Table A21. Annual Induced Impacts for years 16 - 20 (El Monte, Inglewood, Pasadena, Pomona, Torrance)

(Millions of \$ 1999)

Scenario		El Monte	Inglewood	Pasadena	Pomona	Torrance	
Stimulus Effect	CASE I	Scenario I	1.8	2.1	4.0	2.3	4.7
		Scenario II	0.6	0.8	1.4	0.8	1.7
		Scenario III	3.4	4.0	7.6	4.3	9.0
	CASE II	Scenario I	2.5	3.0	5.6	3.2	6.7
		Scenario II	0.8	1.0	1.8	1.0	2.2
		Scenario III	5.2	6.1	11.6	6.5	13.7
	CASE III	Scenario I	2.4	2.9	5.4	3.1	6.4
		Scenario II	0.8	0.9	1.8	1.0	2.1
		Scenario III	5.3	6.2	11.8	6.6	13.9
Impacts of Household Expenditure Reduction	CASE I	Scenario I	16.3	19.2	36.5	20.5	43.1
		Scenario II	5.9	7.0	13.3	7.5	15.7
		Scenario III	30.6	36.1	68.5	38.4	80.9
	CASE II	Scenario I	21.7	25.5	48.5	27.2	57.3
		Scenario II	7.0	8.2	15.7	8.8	18.5
		Scenario III	45.3	53.5	101.4	56.9	119.8
	CASE III	Scenario I	23.4	27.6	52.4	29.4	62.0
		Scenario II	7.7	9.0	17.2	9.6	20.3
		Scenario III	51.6	60.9	115.5	64.8	136.4
Net Impacts	CASE I	Scenario I	-14.5	-17.1	-32.5	-18.2	-38.3
		Scenario II	-5.3	-6.2	-11.8	-6.6	-14.0
		Scenario III	-27.2	-32.1	-60.9	-34.2	-72.0
	CASE II	Scenario I	-19.1	-22.6	-42.8	-24.0	-50.6
		Scenario II	-6.2	-7.3	-13.8	-7.7	-16.3
		Scenario III	-40.1	-47.3	-89.8	-50.3	-106.1
	CASE III	Scenario I	-21.0	-24.8	-47.0	-26.4	-55.5
		Scenario II	-6.9	-8.1	-15.4	-8.6	-18.2
		Scenario III	-46.3	-54.6	-103.7	-58.1	-122.5

Table A22. Present Value of Net Impact Impacts by County by Scenario

(Millions of \$ 1999)

County		CASE I			CASE II			CASE III		
		Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Los Angeles County	Arroyo Verdugo	-3,985.5	-1,161.4	-8,592.5	-7,005.8	-2,288.5	-14,831.7	-8,369.9	-2,686.0	-18,436.2
	City of Los Angeles	-19,434.4	-7,841.9	-37,606.0	-22,189.1	-7,366.3	-46,321.3	-29,858.2	-9,741.0	-65,073.6
	North Los Angeles County	101.7	271.8	7.4	7,472.9	1,943.9	18,140.3	14,006.5	3,325.3	34,364.4
	San Gabriel Valley	-4,560.4	-976.4	-7,843.7	-6,709.4	-2,075.9	-13,559.9	-10,964.0	-2,943.1	-24,751.8
	Southeast Los Angeles County	-3,753.3	-1,990.7	-7,286.0	-680.7	-201.6	-1,396.6	3,657.2	1,368.0	7,973.1
	South Bay	-6,136.4	-2,333.3	-11,327.7	-9,019.6	-2,893.7	-19,066.6	-9,991.2	-2,866.3	-22,668.9
	Westside Cities	-4,470.8	-1,690.0	-8,929.1	-6,631.4	-2,141.5	-13,875.3	-7,167.8	-2,343.4	-15,781.0
	Other Los Angeles County	4,136.3	2,233.4	9,143.1	-915.4	125.0	-2,742.7	464.1	138.3	1,429.6
	Los Angeles County Total	-38,103.0	-13,488.4	-72,434.5	-45,678.4	-14,898.6	-93,653.9	-48,223.4	-15,848.1	-102,944.6
	Orange County	-1,793.7	-653.5	-3,369.7	-2,385.2	-770.2	-4,990.9	-2,581.0	-844.2	-5,682.5
Riverside County	-107.1	-39.0	-201.2	-142.3	-46.0	-297.8	-154.0	-50.4	-339.1	
San Bernardino County	-900.6	-328.1	-1,691.6	-1,196.9	-386.5	-2,504.3	-1,295.0	-423.5	-2,851.2	
Ventura County	-403.7	-145.0	-759.6	-540.4	-174.0	-1,131.6	-587.8	-192.2	-1,294.5	
Total	-41,308.1	-14,654.0	-78,456.5	-49,943.1	-16,275.1	-102,578.6	-52,841.3	-17,358.4	-113,111.9	

Table A23. Present Value of Indirect Impacts by County by Scenario

(Millions of \$ 1999)

County		CASE I			CASE II			CASE III		
		Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Los Angeles County	Arroyo Verdugo	-374.9	-130.0	-718.6	-418.2	-137.5	-842.8	-430.4	-142.3	-893.2
	City of Los Angeles	-2,392.0	-830.5	-4,582.1	-2,677.6	-879.9	-5,403.8	-2,764.8	-913.9	-5,749.9
	North Los Angeles County	-94.5	-33.0	-180.8	-107.3	-35.2	-217.4	-111.5	-36.8	-233.4
	San Gabriel Valley	-662.8	-231.8	-1,266.0	-762.1	-249.7	-1,547.6	-793.5	-261.8	-1,667.2
	Southeast Los Angeles County	-880.3	-306.3	-1,684.9	-994.2	-326.4	-2,010.4	-1,028.8	-339.9	-2,146.5
	South Bay	-434.1	-149.6	-834.0	-473.1	-156.0	-948.3	-483.4	-160.1	-993.9
	Westside Cities	-247.2	-84.6	-476.3	-262.4	-86.8	-522.4	-265.4	-88.1	-539.2
	Other Los Angeles County	-446.8	-155.8	-854.5	-507.9	-166.6	-1,028.8	-527.2	-174.1	-1,103.2
	Los Angeles County Total	-5,532.7	-1,921.6	-10,597.3	-6,202.7	-2,038.2	-12,521.4	-6,405.0	-2,117.0	-13,326.5
Orange County	-1,953.8	-678.4	-3,742.6	-2,189.3	-719.5	-4,418.6	-2,259.1	-746.8	-4,698.8	
Riverside County	-498.8	-173.7	-854.3	-563.3	-184.9	-1,140.0	-585.2	-193.3	-1,222.5	
San Bernardino County	-619.6	-216.2	-1,184.4	-705.5	-231.3	-1,430.5	-734.6	-242.5	-1,539.4	
Ventura County	-443.1	-154.6	-847.2	-505.3	-165.7	-1,024.1	-524.6	-173.2	-1,098.6	
Total	-9,047.9	-3,144.6	-17,325.8	-10,166.1	-3,339.6	-20,534.7	-10,508.5	-3,472.7	-21,885.9	

Table A24. Present Value of Net Induced Impacts by County by Scenario

(Millions of \$ 1999)

County	CASE I			CASE II			CASE III			
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	
Los Angeles County	Arroyo Verdugo	-553.2	-193.5	-1,056.8	-637.3	-208.9	-1,294.0	-662.0	-218.5	-1,390.8
	City of Los Angeles	-3,375.2	-1,180.2	-6,447.4	-3,888.3	-1,274.3	-7,894.7	-4,038.9	-1,332.8	-8,484.9
	North Los Angeles County	-208.8	-73.0	-398.8	-240.5	-78.8	-488.3	-249.8	-82.4	-524.8
	San Gabriel Valley	-983.6	-343.9	-1,879.0	-1,133.2	-371.4	-2,300.7	-1,177.0	-388.4	-2,472.8
	Southeast Los Angeles County	-1,259.8	-440.5	-2,406.6	-1,451.3	-475.6	-2,946.8	-1,507.5	-497.5	-3,167.1
	South Bay	-733.7	-256.5	-1,401.5	-845.2	-277.0	-1,716.1	-877.9	-289.7	-1,844.4
	Westside Cities	-451.5	-157.9	-862.5	-520.2	-170.5	-1,056.2	-540.3	-178.3	-1,135.1
	Other Los Angeles County	-606.2	-212.0	-1,157.9	-698.3	-228.9	-1,417.8	-725.4	-239.4	-1,523.9
	Los Angeles County Total	-8,172.1	-2,857.5	-15,610.5	-9,414.2	-3,085.2	-19,114.6	-9,779.0	-3,226.9	-20,543.7
Orange County	-2,689.3	-940.4	-5,137.2	-3,098.1	-1,015.3	-6,290.3	-3,218.1	-1,061.9	-6,760.6	
Riverside County	-1,098.7	-384.2	-2,098.8	-1,265.7	-414.8	-2,569.9	-1,314.8	-433.8	-2,762.0	
San Bernardino County	-1,244.5	-435.2	-2,377.2	-1,433.6	-469.8	-2,910.8	-1,489.2	-491.4	-3,128.5	
Ventura County	-665.6	-232.7	-1,271.5	-766.8	-251.3	-1,556.9	-796.5	-262.8	-1,673.3	
Total	-13,870.2	-4,850.0	-26,495.2	-15,978.5	-5,236.5	-32,442.5	-16,597.5	-5,476.8	-34,868.1	

Table A25. Present Value of Net Fiscal Impacts by Place by Scenario

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Acton	9.1	3.3	14.2	-0.4	-0.1	-0.8	-0.7	-0.2	-1.8
Agoura Hills	39.2	-34.2	59.2	-100.6	-20.2	-232.1	-127.6	-30.6	-311.0
Alhambra	-552.4	-314.6	-1,109.0	-1,133.1	-366.6	-2,362.1	-1,121.2	-348.7	-2,495.9
Alondra Park	-46.7	98.6	-87.9	-61.0	-19.7	-127.3	212.3	121.7	468.4
Altadena	-242.7	-88.2	-264.3	-318.2	-102.9	-663.8	-342.9	-112.3	-751.7
Arcadia	-764.7	-75.2	-1,239.3	-1,137.2	-367.7	-2,371.7	-976.2	-284.6	-2,182.9
Artesia	-317.1	-116.2	-497.7	-419.2	-135.6	-874.4	-451.1	-147.6	-988.7
Avocado Heights	56.0	-60.6	-27.2	-216.9	-70.2	-451.7	-233.0	-76.2	-509.4
Azusa	-38.8	-140.8	-608.6	4,669.1	1,419.9	10,283.2	-546.8	-179.0	-1,198.2
Baldwin Park	14.7	88.3	-449.1	-536.1	-173.3	-1,118.3	-562.2	-181.0	-1,234.7
Bell	-204.1	-113.3	-215.6	-407.8	-131.9	-850.3	-263.5	-52.1	-627.0
Bellflower	-176.8	20.6	-816.9	-783.9	-253.5	-1,635.2	-843.2	-275.8	-1,848.0
Bell Gardens	-153.8	-93.1	-276.2	-336.0	-108.7	-700.9	-292.3	-82.2	-677.6
Beverly Hills	-1,335.7	-483.3	-2,404.7	-1,736.2	-561.9	-3,617.0	-1,863.6	-609.7	-4,076.8
Bradbury	-2.0	1.6	182.3	-17.3	-5.6	-36.0	-18.6	-6.1	-40.8
Burbank	-805.7	-557.0	-2,380.7	-2,011.0	-650.6	-4,191.8	-1,758.0	-557.8	-3,881.5
Calabasas	245.0	84.9	368.7	0.3	12.4	-32.3	43.2	36.6	58.8
Carson	-797.8	-350.5	-1,076.0	-1,256.0	-406.6	-2,615.4	-760.5	-233.1	-1,781.5
Ceritos	-217.0	-33.3	-479.9	-977.4	-316.2	-2,037.2	-480.7	-49.3	-1,014.0
Charter Oak	8.6	-30.1	-7.6	-108.8	-35.2	-227.1	-117.3	-38.4	-257.3
Citrus	-12.2	-15.8	61.0	-60.5	-19.5	-126.2	-61.9	-20.1	-135.8
Claremont	-58.6	-41.8	39.4	-365.1	-97.1	-802.8	-517.5	-169.4	-1,133.2
Commerce	-376.5	-53.7	-774.2	-622.3	-201.6	-1,294.0	-516.0	-139.9	-1,129.0
Compton	-166.3	-237.0	-484.1	-854.7	-276.5	-1,781.6	-818.3	-248.1	-1,848.0
Covina	-132.1	-28.2	-890.2	-937.0	-303.0	-1,954.7	-444.1	-109.4	-994.2
Cudahy	-130.9	-48.5	-146.0	-175.2	-56.7	-365.7	-185.9	-60.3	-408.5
Culver City	-1,015.8	-414.9	-2,151.1	-1,496.8	-484.1	-3,121.4	-1,612.4	-527.9	-3,532.4
Del Aire	-114.1	-41.2	-214.7	-148.8	-48.1	-310.1	-160.2	-52.5	-350.7
Desert View Highlands	-14.8	-5.4	-27.9	-19.6	-6.3	-40.9	-21.2	-6.9	-46.5
Diamond Bar	-229.4	-111.4	-226.7	-334.6	-96.0	-700.7	-289.8	-78.9	-647.8
Downey	-351.0	-122.4	-929.7	-1,290.6	-417.5	-2,690.1	-1,193.9	-353.2	-2,711.7
Duarte	74.9	144.6	-6.5	-154.5	-52.1	-309.0	-237.1	-64.4	-561.4
East Compton	-22.5	-8.1	22.7	-29.3	-9.5	-61.2	-30.0	-9.5	-66.6
East La Mirada	-42.0	-15.2	-79.0	-54.9	-17.8	-114.5	-59.2	-19.4	-129.6
East Los Angeles	-219.1	126.5	-457.7	-818.3	-264.9	-1,704.6	-725.1	-208.1	-1,594.1
East Pasadena	-242.7	-88.4	-457.7	-319.6	-103.3	-667.2	-342.6	-112.1	-751.8
East San Gabriel	-149.4	33.2	-179.3	-196.3	-63.5	-409.8	624.7	224.2	1,287.0
El Monte	-548.4	-225.1	-1,069.0	-1,232.2	-398.7	-2,568.8	-915.0	-237.6	-2,063.9
El Segundo	-233.3	-129.1	-676.6	2,129.1	705.9	4,269.4	-387.6	-108.2	-892.5
Florence-Graham	93.6	41.2	88.2	-285.6	-92.4	-595.4	-306.4	-100.1	-671.6
Gardena	-427.4	-278.3	-1,337.9	-1,003.6	-324.6	-2,093.3	-962.6	-292.8	-2,120.9
Glendale	-2,171.5	-534.9	-4,256.8	-3,159.8	-1,020.3	-6,646.5	-3,968.6	-1,299.0	-8,694.9
Glendora	79.2	27.9	-261.5	-395.5	-133.4	-791.6	-777.0	-254.4	-1,703.0
Hacienda Heights	69.2	-127.4	-69.7	-459.5	-148.6	-958.4	-495.2	-162.1	-1,085.0
Hawaiian Gardens	-78.7	-4.5	-1.7	-103.3	-33.4	-215.3	-110.5	-36.0	-242.1
Hawthorne	-685.0	-251.5	-935.0	-954.1	-308.6	-1,990.2	-973.7	-308.6	-2,124.3
Hermosa Beach	-377.4	-137.1	-710.4	-495.3	-160.2	-1,033.6	-408.2	-110.9	-941.9
Hidden Hills	49.3	-5.0	33.6	-19.5	-6.3	-40.5	-4.5	1.6	-18.2
Huntington Park	-443.0	-199.0	-700.1	-718.0	-232.2	-1,497.8	-773.7	-253.3	-1,695.6
Industry	-839.5	-338.1	-1,412.8	-1,112.9	-339.0	-2,300.8	-937.6	-259.8	-2,088.1
Inglewood	-489.0	-179.9	-1,391.6	-1,522.0	-492.3	-3,174.1	-1,427.9	-427.4	-3,142.7
Irwindale	-83.5	-26.4	-53.4	11.0	23.5	-33.7	141.8	96.7	276.4
La Canada Flintridge	-112.2	174.0	-115.8	-307.2	-99.4	-641.1	-332.2	-108.7	-728.0
La Crescenta-Montrose	5.6	144.1	-253.7	-231.6	-74.9	-483.3	-249.7	-81.7	-547.5
Ladera Heights	-63.9	-23.2	-10.3	-83.3	-26.9	-173.5	-89.6	-29.3	-196.1
La Habra Heights	69.2	96.0	21.7	151.6	64.2	319.8	-58.3	-17.6	-131.9
Lake Los Angeles	-7.9	-2.9	-14.8	-10.4	-3.3	-21.6	-11.2	-3.7	-24.5
Lakewood	-375.9	-233.8	-630.8	-1,210.7	-391.5	-2,526.4	-1,026.4	-282.3	-2,319.4
La Mirada	-98.8	-110.3	39.3	-395.1	-127.9	-822.6	-424.7	-139.1	-928.2
Lancaster	-1,492.5	-541.7	-2,804.8	-1,966.6	-635.7	-4,107.2	-2,122.7	-694.7	-4,660.6
La Puente	-27.4	27.0	78.4	-317.6	-102.7	-662.7	-224.9	-52.8	-548.3
La Verne	-240.6	98.6	-14.5	179.4	85.9	346.7	-419.8	-137.2	-920.6
Lawndale	-279.5	-100.0	-211.5	-366.2	-118.4	-764.0	-321.2	-91.6	-735.2

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Lennox	-29.4	54.4	-5.3	-176.5	-57.1	-368.2	-190.2	-62.3	-417.0
Littlerock	-2.2	-0.8	-4.1	-2.9	-0.9	-6.0	-3.1	-1.0	-6.8
Lomita	-269.5	-98.2	-403.4	-355.0	-114.8	-741.0	-382.0	-124.9	-838.2
Long Beach	-834.1	-523.1	-1,069.3	3,880.1	1,237.5	8,230.3	13,536.3	4,132.2	30,550.6
Los Angeles	-25,196.4	-9,800.6	-48,507.2	-29,837.7	-9,958.4	-61,552.8	-36,972.9	-12,141.9	-79,875.8
Lynwood	12.7	7.5	-379.9	-407.0	-131.7	-848.8	-435.4	-142.0	-955.6
Malibu	41.1	-8.4	106.4	497.4	240.7	868.2	751.9	273.1	1,577.6
Manhattan Beach	-427.1	-246.9	-735.0	-881.7	-285.0	-1,840.5	-788.3	-227.3	-1,789.0
Marina del Rey	-253.2	-91.7	-476.0	-329.1	-106.5	-686.1	-355.6	-116.4	-778.7
Mayflower Village	-22.2	-8.1	28.2	-29.1	-9.4	-60.8	-7.8	2.1	-32.6
Maywood	-61.4	-60.3	-119.5	-216.8	-70.2	-451.9	-136.6	-25.2	-361.6
Monrovia	-527.5	-187.9	-555.4	-536.0	-140.5	-1,065.5	-747.5	-240.8	-1,649.4
Montebello	-440.7	-274.9	-1,216.7	-949.3	-306.9	-1,980.7	-1,067.0	-349.1	-2,338.0
Monterey Park	-580.3	30.3	-258.5	-758.5	-245.4	-1,581.3	-663.0	-188.0	-1,459.9
North El Monte	-19.1	-6.9	0.6	-24.9	-8.0	-51.8	63.7	29.8	134.7
Norwalk	-237.5	-4.1	-116.0	-868.7	-281.0	-1,811.6	-930.4	-304.4	-2,038.7
Palmdale	-1,117.3	-404.5	-2,111.7	-1,795.5	-578.6	-3,752.2	-1,947.5	-636.0	-4,282.6
Palos Verdes Estates	54.5	-24.1	200.8	-87.0	-28.2	-181.4	62.7	49.3	66.2
Paramount	-124.1	-3.3	92.3	-445.4	-144.1	-928.1	-83.4	49.1	-251.2
Pasadena	-1,626.5	-458.1	-3,252.4	-2,187.6	-736.5	-4,664.2	-2,977.7	-941.8	-6,483.1
Pico Rivera	-37.3	-166.8	-138.6	6,800.5	2,204.8	14,188.4	35.6	1.3	-11.2
Pomona	-133.3	-10.4	-499.3	-1,060.6	-321.3	-2,229.8	-854.3	-167.4	-1,886.8
Quartz Hill	-49.0	-17.8	-92.3	-64.3	-20.8	-134.3	-69.4	-22.7	-152.2
Rancho Palos Verdes	94.5	-128.6	-402.4	-465.2	-150.4	-971.1	-254.6	-37.9	-665.9
Redondo Beach	-925.7	-211.3	-1,408.6	-1,212.2	-392.0	-2,528.6	-1,203.7	-375.4	-2,684.7
Rolling Hills	-5.3	-2.5	-10.6	-9.2	-3.0	-19.1	-6.4	-1.5	-15.6
Rolling Hills Estates	-66.4	-40.2	20.1	-145.4	-47.0	-303.6	-156.7	-51.3	-343.9
Rosemead	-389.6	-142.9	-331.9	-513.0	-166.0	-1,069.2	-197.2	2.6	-521.6
Rowland Heights	-230.2	-42.0	-624.4	-579.9	-187.6	-1,209.4	-624.7	-204.6	-1,368.7
San Dimas	-104.3	-5.8	-509.9	-290.2	-66.5	-588.5	-364.5	-93.4	-812.0
San Fernando	-340.6	-123.5	-637.2	604.5	191.1	1,137.5	-479.6	-157.0	-1,050.7
San Gabriel	-425.6	-166.1	-552.3	-599.6	-193.9	-1,251.0	-529.0	-152.7	-1,200.9
San Marino	-104.0	-37.2	-89.4	-135.9	-44.0	-283.2	-129.3	-41.8	-284.7
Santa Clarita	2,408.2	1,112.1	4,344.4	10,887.1	3,044.2	25,293.9	17,715.4	4,536.9	42,549.5
Santa Fe Springs	-239.2	-42.3	-375.3	-466.9	-151.4	-968.8	-104.6	-18.2	-261.9
Santa Monica	-1,815.0	-669.2	-3,919.8	-2,866.2	-927.4	-5,974.2	-3,082.5	-1,008.9	-6,747.2
Sierra Madre	3.4	-36.1	-86.1	-132.5	-42.9	-276.5	-142.4	-46.5	-312.2
Signal Hill	-187.2	-66.3	-252.2	-243.4	-78.8	-506.2	-260.8	-85.4	-569.5
South El Monte	-34.6	9.6	-133.1	-185.8	-60.2	-386.6	-107.8	-17.5	-265.4
South Gate	-384.5	-215.7	-700.9	-780.6	-252.5	-1,628.0	-636.5	-168.6	-1,506.7
South Pasadena	-197.7	-108.8	-362.2	-395.7	-128.0	-825.1	-425.9	-139.4	-932.9
South San Gabriel	-43.7	-15.7	-82.2	-57.1	-18.5	-119.0	-61.5	-20.1	-134.7
South San Jose Hills	-34.7	-18.5	113.6	-66.9	-21.6	-139.5	-41.4	-8.1	-88.9
South Whittier	-45.1	171.9	201.6	-323.2	-104.5	-674.0	-348.2	-114.0	-762.7
Temple City	-222.1	-85.7	-585.9	-429.2	-138.8	-895.5	-387.0	-119.2	-852.7
Torrance	-2,469.6	-561.1	-4,485.1	-3,714.0	-1,201.4	-7,744.6	-3,381.8	-1,074.6	-7,497.1
Valinda	-104.0	-42.9	-5.4	-154.9	-50.1	-323.3	-167.1	-54.7	-366.5
Val Verde	1.0	0.4	1.9	4.0	1.3	8.0	-0.2	-0.1	-0.4
Vernon	-69.0	-98.5	-394.0	-347.5	-112.8	-720.3	-371.3	-121.8	-805.8
View Park-Windsor Hills	-80.8	-28.8	-151.9	-105.4	-34.1	-219.7	-113.5	-37.2	-248.4
Vincent	-16.8	-40.8	-213.9	-180.4	-58.3	-376.4	-190.0	-61.3	-416.8
Walnut	-143.4	-51.0	-251.8	-187.6	-60.6	-390.8	-199.0	-64.7	-435.5
Walnut Park	-82.7	-30.8	151.1	-111.2	-36.0	-232.0	-119.8	-39.2	-262.7
West Athens	-36.9	-15.2	25.8	-54.6	-17.7	-113.9	-58.8	-19.3	-128.8
West Carson	-206.0	-75.3	-179.2	-270.9	-87.6	-564.7	-291.6	-95.5	-638.5
West Compton	-58.6	-21.2	32.3	-75.0	-24.3	-155.7	-80.3	-26.3	-174.7
West Covina	-418.9	-40.9	-680.4	-1,391.2	-449.9	-2,902.9	-1,154.7	-316.5	-2,526.8
West Hollywood	-1,003.1	-365.1	-1,792.3	-1,314.8	-425.4	-2,741.2	-1,415.0	-463.2	-3,099.0
Westlake Village	235.2	279.5	533.1	20.2	20.8	-2.7	22.7	24.2	-1.4
Westmont	-120.8	-44.5	-19.1	-160.8	-52.0	-335.3	-173.3	-56.7	-379.7
West Puente Valley	27.6	-14.3	25.3	-64.6	-20.9	-134.6	367.1	146.7	756.7
West Whittier-Los Nietos	-66.1	-55.3	-64.2	-202.8	-65.6	-423.0	-218.5	-71.5	-479.0
Whittier	-270.5	-41.2	-815.8	-938.6	-297.7	-1,956.3	-986.4	-300.5	-2,221.2
Willowbrook	-31.9	65.5	26.7	-199.6	-64.6	-415.7	-214.8	-70.3	-469.4

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Aliso Viejo	-46.8	-16.4	-89.5	-53.9	-17.7	-109.5	-56.1	-18.5	-117.8
Anaheim	-692.1	-245.1	-1,315.4	-833.4	-271.8	-1,709.3	-878.6	-289.0	-1,876.0
Brea	-133.0	-47.3	-252.4	-162.8	-53.0	-335.0	-172.2	-56.6	-369.6
Buena Park	-252.0	-90.2	-476.8	-315.5	-102.5	-652.4	-336.2	-110.3	-726.9
Costa Mesa	-359.1	-125.7	-685.6	-415.2	-136.0	-843.7	-431.8	-142.5	-908.5
Coto de Caza	-6.1	-2.1	-11.6	-7.1	-2.3	-14.4	-7.4	-2.4	-15.6
Cypress	-189.4	-67.7	-358.5	-236.6	-76.9	-488.8	-251.6	-82.6	-543.6
Dana Point	-56.2	-19.6	-107.4	-64.1	-21.0	-130.0	-66.6	-22.0	-139.6
Foothill Ranch	-1.3	-0.5	-2.5	-1.6	-0.5	-3.2	-1.6	-0.5	-3.5
Fountain Valley	-134.0	-47.3	-255.1	-159.5	-52.1	-326.2	-167.4	-55.1	-355.9
Fullerton	-385.0	-137.1	-730.0	-473.5	-154.1	-975.3	-501.7	-164.8	-1,078.6
Garden Grove	-299.8	-106.2	-569.8	-361.2	-117.8	-740.8	-380.6	-125.2	-812.8
Huntington Beach	-371.1	-131.0	-706.2	-442.0	-144.3	-904.3	-464.1	-152.8	-986.9
Irvine	-355.4	-123.2	-681.4	-395.0	-129.9	-795.6	-406.6	-134.5	-843.0
Laguna Beach	-66.0	-23.1	-126.0	-76.6	-25.1	-155.8	-79.8	-26.3	-168.3
Laguna Hills	-59.2	-20.7	-113.1	-68.1	-22.3	-138.3	-70.7	-23.3	-148.6
Laguna Niguel	-84.5	-29.6	-161.4	-97.6	-32.0	-198.4	-101.5	-33.5	-213.5
Laguna Woods	-41.0	-14.4	-78.3	-47.8	-15.6	-97.3	-49.8	-16.4	-105.1
La Habra	-235.7	-84.6	-445.4	-299.2	-97.1	-620.1	-319.5	-104.8	-693.6
Lake Forest	-93.5	-32.6	-178.8	-107.0	-35.1	-216.9	-111.0	-36.6	-232.6
La Palma	-55.7	-19.9	-105.4	-69.3	-22.5	-143.0	-73.0	-23.9	-157.4
Las Flores	-2.2	-0.8	-4.1	-2.5	-0.8	-5.1	-2.6	-0.9	-5.5
Los Alamitos	-79.1	-28.3	-149.8	-98.6	-32.1	-203.7	-104.9	-34.4	-226.4
Mission Viejo	-116.2	-40.7	-221.8	-134.8	-44.1	-274.2	-140.4	-46.3	-295.7
Newport Beach	-276.3	-96.4	-528.4	-315.7	-103.5	-639.7	-327.0	-108.0	-684.8
Newport Coast	-6.0	-2.1	-11.5	-7.1	-2.3	-14.5	-7.4	-2.4	-15.7
Orange	-356.2	-125.6	-678.1	-423.1	-138.2	-865.0	-443.9	-146.2	-943.2
Placentia	-77.5	-27.4	-147.4	-92.8	-30.3	-190.2	-97.7	-32.1	-208.2
Portola Hills	-0.5	-0.2	-1.0	-0.7	-0.2	-1.3	-0.7	-0.2	-1.5
Rancho Santa Margarita	-19.4	-6.8	-37.0	-22.5	-7.4	-45.9	-23.5	-7.7	-49.5
Rossmoor	-20.0	-7.2	-37.9	-25.4	-8.2	-52.7	-27.2	-8.9	-59.0
San Clemente	-92.1	-32.3	-175.8	-107.0	-35.0	-217.9	-111.9	-36.9	-236.0
San Joaquin Hills	-2.2	-0.8	-4.1	-2.6	-0.8	-5.2	-2.7	-0.9	-5.7
San Juan Capistrano	-70.4	-24.8	-134.1	-82.8	-27.1	-169.2	-87.0	-28.6	-184.3
Santa Ana	-546.1	-191.9	-1,041.2	-639.9	-209.3	-1,304.5	-668.6	-220.4	-1,413.6
Seal Beach	-104.0	-37.2	-196.8	-130.4	-42.3	-269.7	-138.9	-45.6	-300.5
Stanton	-61.1	-21.7	-116.1	-74.3	-24.2	-152.7	-78.4	-25.8	-168.0
Tustin	-164.6	-57.8	-313.9	-192.4	-62.9	-391.9	-200.9	-66.2	-424.3
Tustin Foothills	-22.6	-8.0	-43.2	-26.6	-8.7	-54.1	-27.7	-9.1	-58.7
Villa Park	-7.1	-2.5	-13.4	-8.5	-2.8	-17.3	-8.9	-2.9	-18.9
Westminster	-213.0	-75.7	-404.2	-259.7	-84.6	-533.9	-274.4	-90.2	-588.1
Yorba Linda	-70.4	-24.9	-133.8	-84.9	-27.7	-174.2	-89.5	-29.4	-191.1
Banning	-17.6	-6.2	-33.6	-20.3	-6.7	-41.3	-21.2	-7.0	-44.5
Beaumont	-11.3	-4.0	-21.6	-13.0	-4.3	-26.4	-13.5	-4.5	-28.3
Bermuda Dunes	-2.6	-0.9	-4.9	-3.0	-1.0	-6.2	-3.2	-1.0	-6.7
Cabazon	-0.8	-0.3	-1.6	-1.0	-0.3	-2.0	-1.0	-0.3	-2.1
Calimesa	-5.9	-2.1	-11.2	-6.8	-2.2	-13.8	-7.1	-2.3	-14.8
Canyon Lake	-1.9	-0.6	-3.6	-2.1	-0.7	-4.3	-2.2	-0.7	-4.6
Cathedral City	-47.5	-16.6	-90.7	-54.2	-17.8	-109.8	-56.2	-18.6	-117.8
Cherry Valley	-1.5	-0.5	-2.9	-1.7	-0.6	-3.5	-1.8	-0.6	-3.7
Coachella	-21.3	-7.5	-40.6	-25.1	-8.2	-51.2	-26.3	-8.7	-55.8
Corona	-147.4	-51.8	-280.8	-173.0	-56.6	-353.0	-181.2	-59.7	-383.6
Desert Hot Springs	-7.6	-2.7	-14.6	-8.7	-2.8	-17.5	-9.0	-3.0	-18.8
East Hemet	-12.8	-4.5	-24.4	-14.7	-4.8	-29.8	-15.3	-5.0	-32.0
El Cerrito	-2.4	-0.8	-4.5	-2.8	-0.9	-5.8	-3.0	-1.0	-6.3
Glen Avon	-21.0	-7.4	-40.0	-25.1	-8.2	-51.5	-26.5	-8.7	-56.4
Hemet	-68.5	-24.0	-130.9	-79.0	-25.9	-160.6	-82.3	-27.1	-173.0
Highgrove	-1.4	-0.5	-2.6	-1.5	-0.5	-3.0	-1.6	-0.5	-3.2
Home Gardens	-7.1	-2.5	-13.4	-8.5	-2.8	-17.3	-8.9	-2.9	-19.1
Homeland	-1.1	-0.4	-2.0	-1.3	-0.4	-2.6	-1.3	-0.4	-2.9
Idyllwild-Pine Cove	-0.1	0.0	-0.2	-0.1	0.0	-0.1	-0.1	0.0	-0.1
Indian Wells	-10.8	-3.7	-20.9	-11.0	-3.7	-21.7	-11.0	-3.7	-22.0
Indio	-45.8	-16.1	-87.5	-53.2	-17.4	-108.3	-55.5	-18.3	-116.9

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Lake Elsinore	-32.2	-11.3	-61.4	-37.4	-12.2	-76.0	-39.0	-12.9	-82.1
Lakeland Village	-2.5	-0.9	-4.7	-2.9	-0.9	-5.9	-3.0	-1.0	-6.5
Lakeview	-1.3	-0.5	-2.4	-1.6	-0.5	-3.2	-1.6	-0.5	-3.5
La Quinta	-9.9	-3.4	-19.2	-10.3	-3.4	-20.4	-10.3	-3.4	-20.8
March AFB	-1.4	-0.5	-2.6	-1.6	-0.5	-3.2	-1.6	-0.5	-3.5
Mecca	-0.1	0.0	-0.2	-0.1	0.0	-0.2	-0.1	0.0	-0.3
Mira Loma	-13.5	-4.8	-25.7	-16.2	-5.3	-33.1	-17.0	-5.6	-36.2
Moreno Valley	-97.6	-34.1	-186.3	-112.4	-36.8	-228.2	-116.8	-38.5	-245.4
Murrieta	-22.7	-8.0	-43.4	-26.3	-8.6	-53.5	-27.4	-9.0	-57.8
Murrieta Hot Springs	-0.7	-0.2	-1.3	-0.8	-0.3	-1.6	-0.8	-0.3	-1.7
Norco	-24.4	-8.5	-46.9	-27.1	-8.9	-54.6	-27.9	-9.2	-57.8
Nuevo	-2.1	-0.7	-4.0	-2.5	-0.8	-5.2	-2.7	-0.9	-5.8
Palm Desert	-103.4	-36.2	-197.4	-119.7	-39.2	-243.4	-124.8	-41.2	-262.8
Palm Springs	-101.5	-35.3	-194.3	-114.4	-37.6	-231.2	-118.2	-39.1	-246.5
Pedley	-12.2	-4.3	-23.3	-14.5	-4.7	-29.5	-15.2	-5.0	-32.2
Perris	-29.9	-10.4	-57.2	-34.2	-11.2	-69.3	-35.5	-11.7	-74.3
Quail Valley	-0.5	-0.2	-0.9	-0.6	-0.2	-1.1	-0.6	-0.2	-1.2
Rancho Mirage	-25.6	-8.8	-49.3	-27.8	-9.2	-55.8	-28.4	-9.4	-58.2
Riverside	-427.3	-149.8	-815.4	-496.0	-162.4	-1,009.2	-517.1	-170.5	-1,090.0
Romoland	-1.4	-0.5	-2.6	-1.5	-0.5	-3.0	-1.6	-0.5	-3.2
Rubidoux	-17.1	-6.0	-32.7	-20.2	-6.6	-41.1	-21.1	-6.9	-44.7
San Jacinto	-16.9	-5.9	-32.2	-19.7	-6.4	-40.0	-20.5	-6.8	-43.3
Sedco Hills	-3.4	-1.2	-6.5	-3.9	-1.3	-7.9	-4.0	-1.3	-8.5
Sun City	-20.5	-7.2	-39.0	-23.9	-7.8	-48.7	-24.9	-8.2	-52.6
Sunnyslope	-1.4	-0.5	-2.6	-1.6	-0.5	-3.3	-1.7	-0.6	-3.6
Temecula	-55.2	-19.3	-105.5	-63.8	-20.9	-129.8	-66.6	-22.0	-140.2
Thousand Palms	-0.8	-0.3	-1.5	-0.9	-0.3	-1.8	-0.9	-0.3	-1.9
Valle Vista	-3.2	-1.1	-6.1	-3.7	-1.2	-7.5	-3.8	-1.3	-8.0
Wildomar	-8.5	-3.0	-16.2	-9.8	-3.2	-19.8	-10.2	-3.3	-21.3
Winchester	-3.0	-1.1	-5.8	-3.6	-1.2	-7.3	-3.8	-1.2	-8.0
Woodcrest	-8.6	-3.0	-16.4	-9.8	-3.2	-19.9	-10.2	-3.4	-21.4
Camarillo	-79.0	-27.6	-150.9	-91.0	-29.8	-184.8	-94.6	-31.2	-198.7
Casa Conejo	-3.6	-1.3	-6.9	-4.3	-1.4	-8.9	-4.6	-1.5	-9.7
Channel Islands Beach	-4.8	-1.7	-9.1	-5.5	-1.8	-11.3	-5.8	-1.9	-12.1
El Rio	-5.9	-2.0	-11.2	-6.7	-2.2	-13.7	-7.0	-2.3	-14.7
Fillmore	-6.0	-2.1	-11.4	-6.9	-2.3	-13.9	-7.1	-2.4	-14.9
Meiners Oaks	-2.9	-1.0	-5.5	-3.3	-1.1	-6.6	-3.4	-1.1	-7.1
Mira Monte	-7.4	-2.6	-14.2	-8.5	-2.8	-17.2	-8.8	-2.9	-18.4
Moorpark	-26.1	-9.2	-49.7	-31.1	-10.2	-63.6	-32.7	-10.8	-69.5
Oak Park	-0.6	-0.2	-1.1	-0.8	-0.2	-1.6	-0.8	-0.3	-1.8
Oak View	-2.9	-1.0	-5.5	-3.3	-1.1	-6.7	-3.4	-1.1	-7.2
Ojai	-6.0	-2.1	-11.5	-6.8	-2.2	-13.6	-7.0	-2.3	-14.5
Oxnard	-185.0	-64.7	-353.3	-213.5	-69.9	-433.7	-222.1	-73.3	-467.1
Piru	-0.2	-0.1	-0.4	-0.3	-0.1	-0.5	-0.3	-0.1	-0.6
Port Hueneme	-18.8	-6.6	-36.0	-21.6	-7.1	-43.9	-22.5	-7.4	-47.2
San Buenaventura (Ventura)	-169.2	-59.0	-323.6	-192.6	-63.2	-390.1	-199.5	-65.9	-417.3
Santa Paula	-29.7	-10.4	-56.5	-35.0	-11.4	-71.5	-36.7	-12.1	-77.8
Simi Valley	-220.7	-78.3	-418.7	-269.2	-87.7	-553.6	-284.7	-93.6	-610.4
Thousand Oaks	-496.2	-176.1	-939.5	-617.7	-200.7	-1,275.2	-656.5	-215.5	-1,416.1
Adelanto	-9.6	-3.4	-18.3	-11.4	-3.7	-23.4	-12.0	-4.0	-25.6
Apple Valley	-34.4	-12.1	-65.6	-40.1	-13.1	-81.8	-42.0	-13.8	-88.6
Barstow	-20.0	-6.9	-38.2	-22.4	-7.4	-45.2	-23.1	-7.6	-48.1
Big Bear City	-0.3	-0.1	-0.7	-0.4	-0.1	-0.8	-0.4	-0.1	-0.9
Big Bear Lake	-10.4	-3.6	-19.9	-11.7	-3.8	-23.7	-12.1	-4.0	-25.3
Bloomington	-15.2	-5.3	-29.0	-17.7	-5.8	-35.9	-18.4	-6.1	-38.8
Chino	-184.6	-65.9	-349.8	-228.2	-74.2	-470.8	-242.4	-79.6	-522.0
Chino Hills	-79.2	-28.5	-149.7	-100.7	-32.7	-208.9	-107.7	-35.3	-233.9
Colton	-67.5	-23.7	-128.9	-78.4	-25.7	-159.6	-81.8	-27.0	-172.4
Crestline	-3.9	-1.4	-7.4	-4.5	-1.5	-9.2	-4.8	-1.6	-10.1
Fontana	-121.1	-42.5	-230.9	-141.5	-46.3	-288.4	-147.9	-48.8	-312.6
Grand Terrace	-39.9	-14.0	-76.1	-46.5	-15.2	-94.8	-48.6	-16.0	-102.5
Hesperia	-43.2	-15.1	-82.4	-50.0	-16.4	-101.8	-52.2	-17.2	-110.0
Highland	-27.4	-9.7	-52.3	-32.4	-10.6	-66.0	-33.8	-11.1	-71.7

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Joshua Tree	-0.6	-0.2	-1.2	-0.7	-0.2	-1.4	-0.7	-0.2	-1.6
Lake Arrowhead	-2.6	-0.9	-5.1	-2.5	-0.8	-4.9	-2.5	-0.8	-4.7
Lenwood	-0.3	-0.1	-0.6	-0.3	-0.1	-0.6	-0.3	-0.1	-0.6
Loma Linda	-15.9	-5.6	-30.3	-18.4	-6.0	-37.4	-19.1	-6.3	-40.3
Mentone	-3.0	-1.1	-5.7	-3.6	-1.2	-7.4	-3.8	-1.2	-8.1
Montclair	-349.9	-126.1	-660.1	-448.7	-145.4	-932.4	-481.0	-157.7	-1,048.0
Morongo Valley	-0.1	0.0	-0.2	-0.1	0.0	-0.3	-0.1	0.0	-0.3
Mountain View Acres	-4.7	-1.7	-9.0	-5.7	-1.8	-11.6	-6.0	-2.0	-12.7
Muscoy	-7.7	-2.7	-14.5	-9.3	-3.0	-19.1	-9.8	-3.2	-21.0
Nebo Center	-0.1	0.0	-0.3	-0.1	0.0	-0.3	-0.2	-0.1	-0.3
Ontario	-397.8	-141.2	-755.3	-483.1	-157.4	-992.8	-510.5	-167.9	-1,093.3
Rancho Cucamonga	-189.0	-66.7	-359.7	-224.7	-73.4	-459.7	-236.0	-77.7	-501.8
Redlands	-88.5	-30.9	-169.3	-101.0	-33.1	-204.7	-104.7	-34.6	-219.2
Rialto	-68.5	-24.0	-130.7	-79.7	-26.1	-162.4	-83.2	-27.4	-175.6
Running Springs	-0.1	0.0	-0.2	0.1	0.0	0.4	0.2	0.1	0.6
San Antonio Heights	-2.5	-0.9	-4.8	-3.1	-1.0	-6.5	-3.3	-1.1	-7.2
San Bernardino	-280.7	-98.3	-535.7	-325.3	-106.5	-661.5	-339.1	-111.8	-714.4
Twentynine Palms	-8.9	-3.1	-17.1	-10.3	-3.4	-20.9	-10.7	-3.5	-22.5
Twentynine Palms Base	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1
Upland	-215.3	-77.0	-407.6	-268.2	-87.2	-554.0	-285.2	-93.6	-615.8
Victorville	-117.8	-41.6	-224.2	-140.0	-45.7	-286.4	-147.2	-48.5	-313.0
Wrightwood	-1.1	-0.4	-2.1	-1.0	-0.3	-2.0	-1.0	-0.3	-2.0
Yucaipa	-28.1	-9.8	-53.5	-32.7	-10.7	-66.5	-34.1	-11.2	-71.9
Yucca Valley	-10.3	-3.6	-19.8	-11.8	-3.9	-23.9	-12.3	-4.0	-25.7
LOS ANGELES - UNINCOR	5,472.0	2,044.1	10,400.8	5,041.2	2,019.7	9,814.3	5,011.6	1,439.9	11,748.1
ORANGE - UNINCOR	-212.4	-75.0	-405.4	-253.5	-82.7	-518.5	-266.3	-87.7	-566.0
RIVERSIDE - UNINCOR	-219.6	-77.1	-418.6	-256.7	-84.0	-523.3	-268.6	-88.5	-567.7
SAN BERNARDINO - UNINCOR	-314.1	-111.4	-597.0	-379.5	-123.7	-779.2	-400.8	-131.8	-857.1
VENTURA - UNINCOR	-247.5	-86.3	-473.3	-294.4	-95.7	-602.1	-311.6	-102.6	-661.4
Total	-64,226	-22,649	-122,277	-76,088	-24,851	-155,556	-79,947	-26,308	-169,866

Table A26. Present Value of Net Impacts by Place by Scenario

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Acton	9.1	3.3	14.4	-0.3	0.0	-0.7	-0.7	-0.2	-1.6
Agoura Hills	62.0	-26.3	102.6	-74.4	-11.6	-178.8	-100.3	-21.6	-253.7
Alhambra	-441.5	-275.9	-896.7	-1,007.1	-325.2	-2,107.3	-991.1	-305.7	-2,224.1
Alondra Park	-41.8	100.3	-78.5	-55.5	-17.9	-116.2	217.9	123.6	480.1
Altadena	-222.0	-81.0	-224.6	-295.7	-95.5	-618.6	-319.9	-104.6	-704.3
Arcadia	-655.3	-37.0	-1,030.5	-1,010.6	-326.2	-2,114.5	-844.7	-241.2	-1,906.3
Artesia	-279.3	-103.0	-425.4	-375.8	-121.4	-786.4	-406.1	-132.7	-894.3
Avocado Heights	101.2	-44.6	58.6	-162.9	-52.6	-340.7	-175.6	-57.3	-386.8
Azusa	11.6	-123.1	-512.5	4,727.3	1,439.0	10,401.6	-486.1	-159.0	-1,070.3
Baldwin Park	69.6	107.5	-344.3	-472.7	-152.5	-989.4	-496.2	-159.2	-1,095.7
Bell	-162.0	-98.6	-135.2	-359.7	-116.1	-752.5	-213.5	-35.6	-522.2
Bellflower	-111.6	43.3	-692.2	-709.4	-229.1	-1,484.3	-766.1	-250.3	-1,686.5
Bell Gardens	-120.5	-81.4	-212.8	-297.0	-95.9	-621.4	-251.5	-68.8	-591.4
Beverly Hills	-1,144.5	-416.9	-2,038.6	-1,520.9	-491.2	-3,182.3	-1,641.9	-536.4	-3,615.1
Bradbury	-0.1	2.2	185.9	-15.0	-4.8	-31.4	-16.3	-5.3	-35.9
Burbank	-571.7	-475.0	-1,933.9	-1,739.5	-561.7	-3,639.7	-1,475.2	-464.5	-3,285.9
Calabasas	256.2	88.8	390.3	12.9	16.6	-6.9	56.2	40.9	85.8
Carson	-630.8	-292.2	-756.5	-1,066.2	-344.3	-2,230.8	-563.4	-168.0	-1,369.2
Cerritos	-110.8	3.9	-276.8	-855.4	-276.2	-1,789.8	-354.2	-7.5	-748.5
Charter Oak	16.5	-27.4	7.4	-99.9	-32.3	-209.0	-108.1	-35.4	-238.0
Citrus	-7.7	-14.2	69.7	-55.2	-17.8	-115.4	-56.4	-18.3	-124.2
Claremont	-16.8	-27.3	119.6	-318.9	-81.9	-709.9	-470.2	-153.7	-1,035.3
Commerce	-243.1	-6.8	-520.0	-465.6	-150.4	-974.2	-352.0	-85.9	-781.8
Compton	-73.4	-204.5	-306.5	-748.0	-241.5	-1,565.0	-707.3	-211.5	-1,615.0
Covina	-53.6	-0.9	-740.3	-847.4	-273.6	-1,773.2	-351.3	-78.8	-799.8
Cudahy	-117.4	-43.8	-120.1	-159.8	-51.6	-334.4	-169.9	-55.0	-374.9
Culver City	-865.8	-362.4	-1,864.6	-1,322.9	-427.2	-2,768.1	-1,431.5	-468.3	-3,151.7
Del Aire	-102.0	-37.0	-191.4	-135.6	-43.8	-283.7	-146.7	-48.0	-323.0
Desert View Highlands	-14.1	-5.1	-26.5	-18.7	-6.0	-39.2	-20.3	-6.6	-44.6
Diamond Bar	-181.3	-94.6	-134.9	-279.4	-77.9	-588.5	-232.3	-59.9	-527.2
Downey	-239.5	-83.9	-715.5	-1,167.9	-377.1	-2,443.6	-1,068.1	-311.6	-2,452.0
Duarte	96.8	152.2	35.6	-129.7	-44.0	-258.9	-211.4	-56.0	-508.0
East Compton	-20.5	-7.5	26.5	-27.2	-8.8	-56.9	-27.8	-8.8	-62.1
East La Mirada	-37.1	-13.5	-69.6	-49.3	-15.9	-103.2	-53.4	-17.5	-117.5
East Los Angeles	-128.7	157.8	-284.6	-717.1	-231.6	-1,500.4	-620.9	-173.6	-1,377.6
East Pasadena	-222.3	-81.2	-418.5	-296.3	-95.7	-620.0	-318.4	-104.1	-701.3
East San Gabriel	-136.2	37.8	-154.0	-181.0	-58.5	-378.7	640.6	229.4	1,320.5
El Monte	-431.6	-184.4	-845.3	-1,100.6	-355.4	-2,302.9	-779.1	-192.7	-1,781.0
El Segundo	-148.0	-99.7	-512.7	2,222.5	736.6	4,456.6	-292.5	-76.6	-696.8
Florence-Graham	122.5	51.3	143.5	-252.7	-81.6	-528.8	-272.4	-88.9	-600.3
Gardena	-333.0	-245.2	-1,157.6	-894.7	-288.9	-1,872.0	-849.3	-255.4	-1,882.5
Glendale	-1,807.0	-407.3	-3,561.0	-2,737.4	-882.0	-5,787.8	-3,529.1	-1,154.1	-7,769.6
Glendora	142.2	50.0	-141.1	-323.2	-109.7	-644.8	-701.8	-229.6	-1,545.1
Hacienda Heights	109.2	-113.5	6.7	-414.0	-133.7	-866.3	-448.0	-146.5	-986.4
Hawaiian Gardens	-69.0	-1.1	16.8	-92.2	-29.8	-192.9	-99.0	-32.3	-218.1
Hawthorne	-608.1	-224.8	-787.9	-867.0	-280.0	-1,814.0	-883.6	-278.8	-1,936.1
Hermosa Beach	-341.4	-124.5	-641.4	-454.2	-146.7	-950.5	-365.7	-96.9	-853.2
Hidden Hills	52.8	-3.8	40.2	-15.8	-5.1	-33.1	-0.8	2.9	-10.6
Huntington Park	-379.4	-176.8	-578.5	-645.0	-208.3	-1,349.6	-697.9	-228.3	-1,536.6
Industry	-686.1	-284.4	-1,120.0	-934.8	-280.7	-1,938.6	-752.0	-198.5	-1,696.8
Inglewood	-358.3	-134.4	-1,141.3	-1,374.1	-443.7	-2,875.2	-1,275.1	-376.9	-2,823.9
Irwindale	-22.2	-4.7	63.2	84.9	47.5	117.7	219.5	122.2	442.1
La Canada Flintridge	-82.8	184.4	-59.6	-273.0	-88.2	-571.4	-296.5	-96.9	-652.8
La Crescenta-Montrose	23.2	150.3	-219.9	-211.5	-68.3	-442.6	-228.9	-74.9	-503.9
Ladera Heights	-54.9	-20.0	7.0	-73.0	-23.6	-152.7	-79.0	-25.8	-173.9
La Habra Heights	74.5	97.9	31.9	157.7	66.2	332.1	-52.0	-15.5	-118.6
Lake Los Angeles	-7.4	-2.7	-13.8	-9.8	-3.2	-20.5	-10.6	-3.5	-23.3
Lakewood	-278.2	-199.7	-444.2	-1,098.1	-354.6	-2,297.5	-909.1	-243.6	-2,072.9
La Mirada	-39.2	-89.4	153.1	-326.1	-105.3	-682.3	-352.8	-115.4	-776.8
Lancaster	-1,389.6	-505.8	-2,608.1	-1,848.9	-597.1	-3,868.6	-2,000.6	-654.4	-4,404.6
La Puente	-2.0	35.9	127.0	-288.2	-93.1	-603.0	-194.3	-42.7	-484.0
La Verne	-210.0	109.2	44.1	214.0	97.2	416.8	-384.0	-125.3	-845.9
Lawndale	-251.7	-90.4	-158.4	-334.5	-108.0	-699.9	-288.4	-80.8	-666.5

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Lennox	-14.7	59.5	22.7	-159.9	-51.6	-334.6	-173.0	-56.6	-381.0
Littlerock	-2.0	-0.7	-3.8	-2.7	-0.9	-5.6	-2.9	-0.9	-6.4
Lomita	-244.2	-89.4	-355.0	-326.2	-105.3	-682.5	-352.1	-115.0	-775.6
Long Beach	-358.0	-357.9	-156.9	4,412.5	1,412.5	9,303.9	14,084.6	4,313.5	31,689.5
Los Angeles	-19,498.8	-7,814.2	-37,610.4	-23,351.8	-7,830.4	-48,416.6	-30,252.3	-9,922.7	-65,815.6
Lynwood	47.8	19.7	-312.8	-367.4	-118.7	-768.8	-394.6	-128.5	-870.5
Malibu	50.5	-5.1	124.3	508.2	244.2	890.0	763.0	276.8	1,601.0
Manhattan Beach	-367.2	-226.1	-620.0	-814.6	-263.0	-1,705.2	-719.3	-204.4	-1,645.5
Marina del Rey	-228.5	-83.2	-428.5	-302.5	-97.7	-633.1	-328.6	-107.5	-723.5
Mayflower Village	-20.0	-7.3	32.4	-26.6	-8.6	-55.7	-5.2	3.0	-27.1
Maywood	-40.9	-53.2	-80.2	-194.0	-62.7	-405.9	-113.2	-17.4	-312.9
Monrovia	-468.1	-167.3	-441.6	-469.8	-118.7	-932.1	-679.4	-218.3	-1,508.1
Montebello	-343.2	-240.7	-1,030.5	-836.7	-270.0	-1,752.0	-949.9	-310.5	-2,091.8
Monterey Park	-496.9	59.5	-99.4	-661.7	-213.7	-1,384.6	-562.3	-154.8	-1,247.7
North El Monte	-16.5	-6.0	5.6	-21.9	-7.1	-45.9	66.8	30.8	141.1
Norwalk	-152.4	25.7	46.6	-770.9	-248.9	-1,612.9	-828.6	-270.8	-1,824.9
Palmdale	-1,041.0	-377.9	-1,965.9	-1,708.3	-550.0	-3,575.4	-1,857.0	-606.1	-4,092.9
Palos Verdes Estates	64.4	-20.7	219.6	-75.8	-24.5	-158.7	74.3	53.1	90.5
Paramount	-73.0	14.6	190.1	-387.0	-125.0	-809.7	-22.8	69.1	-124.3
Pasadena	-1,363.0	-367.4	-2,745.9	-1,901.6	-642.2	-4,091.7	-2,686.0	-845.2	-5,884.4
Pico Rivera	16.3	-148.2	-36.0	6,860.1	2,224.4	14,308.4	96.8	21.6	115.8
Pomona	18.2	42.6	-209.7	-886.7	-264.3	-1,877.0	-673.6	-107.7	-1,507.6
Quartz Hill	-45.0	-16.4	-84.6	-59.8	-19.3	-125.2	-64.7	-21.2	-142.5
Rancho Palos Verdes	124.8	-118.1	-344.3	-430.7	-139.1	-901.2	-218.9	-26.1	-591.3
Redondo Beach	-837.6	-180.8	-1,239.7	-1,114.2	-359.8	-2,331.3	-1,103.0	-342.1	-2,476.0
Rolling Hills	-4.6	-2.3	-9.3	-8.4	-2.7	-17.6	-5.7	-1.2	-14.0
Rolling Hills Estates	-56.3	-36.7	39.5	-133.7	-43.2	-279.8	-144.6	-47.3	-318.4
Rosemead	-298.7	-110.7	-159.3	-403.8	-130.4	-844.9	-81.1	40.8	-273.5
Rowland Heights	-174.0	-22.4	-517.0	-515.1	-166.3	-1,077.7	-557.3	-182.3	-1,227.1
San Dimas	-55.3	11.3	-416.3	-233.9	-48.0	-474.1	-305.8	-74.0	-688.8
San Fernando	-295.1	-107.5	-550.4	657.4	208.4	1,245.2	-424.3	-138.8	-934.3
San Gabriel	-375.8	-148.6	-457.0	-542.3	-175.1	-1,134.7	-469.4	-133.1	-1,075.8
San Marino	-87.1	-31.3	-57.1	-116.1	-37.5	-242.8	-108.6	-35.0	-241.2
Santa Clarita	2,532.3	1,155.5	4,581.4	11,030.1	3,091.0	25,584.3	17,864.1	4,585.9	42,861.9
Santa Fe Springs	-126.5	-2.9	-160.0	-337.3	-108.9	-705.8	30.1	26.2	21.0
Santa Monica	-1,558.1	-580.3	-3,427.0	-2,581.9	-833.8	-5,402.3	-2,790.7	-912.4	-6,143.5
Sierra Madre	13.7	-32.5	-66.3	-121.0	-39.1	-253.2	-130.4	-42.6	-287.4
Signal Hill	-148.0	-52.7	-177.3	-198.9	-64.2	-416.1	-214.7	-70.1	-472.9
South El Monte	2.6	22.7	-62.3	-142.1	-45.9	-297.3	-62.0	-2.4	-168.5
South Gate	-309.0	-189.2	-556.7	-693.3	-223.9	-1,450.7	-545.7	-138.7	-1,315.6
South Pasadena	-161.1	-96.1	-292.1	-354.2	-114.4	-741.2	-383.1	-125.3	-843.6
South San Gabriel	-39.0	-14.1	-73.3	-51.8	-16.7	-108.5	-56.1	-18.4	-123.5
South San Jose Hills	-29.3	-16.6	123.9	-60.7	-19.6	-127.1	-35.0	-6.0	-75.6
South Whittier	-15.6	182.2	258.0	-289.5	-93.5	-605.8	-313.3	-102.5	-689.7
Temple City	-187.9	-73.7	-520.4	-389.9	-125.9	-815.7	-346.2	-105.8	-767.1
Torrance	-2,144.6	-448.1	-3,862.6	-3,347.7	-1,081.1	-7,004.7	-3,004.1	-949.7	-6,710.5
Valinda	-92.9	-39.0	15.8	-142.2	-45.9	-297.5	-153.9	-50.3	-338.8
Val Verde	1.0	0.4	2.0	4.1	1.3	8.1	-0.1	0.0	-0.3
Vernon	62.7	-52.0	-143.6	-189.6	-61.2	-396.8	-205.2	-67.1	-451.7
View Park-Windsor Hills	-72.8	-26.0	-136.4	-96.7	-31.2	-202.3	-104.6	-34.2	-230.3
Vincent	-3.0	-35.9	-187.5	-164.4	-53.1	-344.0	-173.4	-55.9	-381.9
Walnut	-124.1	-44.3	-214.9	-165.9	-53.5	-347.1	-176.7	-57.3	-389.0
Walnut Park	-74.0	-27.8	167.8	-101.2	-32.7	-211.9	-109.6	-35.8	-241.2
West Athens	-31.1	-13.1	37.0	-47.9	-15.5	-100.2	-51.8	-17.0	-114.1
West Carson	-184.8	-68.0	-138.4	-248.0	-80.1	-518.9	-268.4	-87.8	-590.8
West Compton	-36.8	-13.5	73.8	-49.2	-15.9	-103.0	-53.3	-17.4	-117.3
West Covina	-308.5	-2.4	-469.4	-1,264.6	-408.4	-2,646.0	-1,023.3	-273.2	-2,251.2
West Hollywood	-902.5	-330.4	-1,598.9	-1,205.6	-389.3	-2,522.6	-1,303.8	-426.3	-2,870.8
Westlake Village	242.7	282.2	547.5	28.9	23.7	15.1	31.8	27.2	17.7
Westmont	-109.5	-40.6	2.6	-148.2	-47.9	-310.1	-160.4	-52.5	-353.1
West Puente Valley	35.2	-11.6	39.9	-55.7	-18.0	-116.5	376.4	149.8	776.2
West Whittier-Los Nietos	-47.3	-48.7	-28.2	-181.0	-58.4	-378.7	-195.8	-64.1	-431.2
Whittier	-180.4	-9.8	-643.4	-836.0	-264.0	-1,748.4	-880.1	-265.4	-1,998.7
Willowbrook	1.3	77.1	89.9	-160.8	-51.9	-336.5	-174.0	-56.9	-383.1

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Aliso Viejo	-3.2	-1.1	-5.9	-4.2	-1.4	-8.8	-4.5	-1.5	-10.0
Anaheim	-229.1	-83.4	-430.2	-304.4	-98.3	-636.9	-329.4	-107.7	-725.2
Brea	-53.8	-19.6	-101.0	-71.5	-23.1	-149.6	-77.4	-25.3	-170.3
Buena Park	-139.8	-50.9	-262.4	-185.8	-60.0	-388.8	-201.1	-65.8	-442.7
Costa Mesa	-60.2	-21.9	-113.0	-80.0	-25.8	-167.4	-86.6	-28.3	-190.6
Coto de Caza	-0.4	-0.2	-0.8	-0.6	-0.2	-1.2	-0.6	-0.2	-1.3
Cypress	-103.9	-37.9	-195.2	-138.1	-44.6	-289.0	-149.5	-48.9	-329.1
Dana Point	-1.7	-0.6	-3.3	-2.3	-0.7	-4.9	-2.5	-0.8	-5.5
Foothill Ranch	-0.1	0.0	-0.2	-0.2	-0.1	-0.3	-0.2	-0.1	-0.4
Fountain Valley	-28.0	-10.2	-52.6	-37.2	-12.0	-77.8	-40.2	-13.2	-88.6
Fullerton	-187.7	-68.4	-352.5	-249.4	-80.5	-521.8	-269.9	-88.3	-594.1
Garden Grove	-97.4	-35.5	-183.0	-129.5	-41.8	-270.9	-140.1	-45.8	-308.5
Huntington Beach	-104.3	-38.0	-196.0	-138.7	-44.8	-290.1	-150.0	-49.1	-330.3
Irvine	-19.8	-7.2	-37.1	-26.3	-8.5	-54.9	-28.4	-9.3	-62.6
Laguna Beach	-5.0	-1.8	-9.4	-6.7	-2.2	-14.0	-7.2	-2.4	-15.9
Laguna Hills	-3.5	-1.3	-6.6	-4.6	-1.5	-9.7	-5.0	-1.6	-11.1
Laguna Niguel	-4.4	-1.6	-8.3	-5.9	-1.9	-12.3	-6.4	-2.1	-14.0
Laguna Woods	-2.8	-1.0	-5.2	-3.7	-1.2	-7.7	-4.0	-1.3	-8.7
La Habra	-128.5	-46.8	-241.5	-170.9	-55.2	-357.5	-184.9	-60.5	-407.2
Lake Forest	-5.3	-1.9	-10.0	-7.1	-2.3	-14.9	-7.7	-2.5	-16.9
La Palma	-31.0	-11.3	-58.1	-41.4	-13.4	-86.6	-44.4	-14.4	-97.7
Las Flores	-0.1	0.0	-0.2	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4
Los Alamitos	-38.9	-14.2	-73.0	-51.6	-16.7	-108.0	-55.9	-18.3	-123.0
Mission Viejo	-6.3	-2.3	-11.8	-8.4	-2.7	-17.5	-9.1	-3.0	-20.0
Newport Beach	-42.2	-15.4	-79.2	-56.0	-18.1	-117.2	-60.6	-19.8	-133.5
Newport Coast	-1.2	-0.4	-2.2	-1.6	-0.5	-3.3	-1.7	-0.6	-3.7
Orange	-82.7	-30.1	-155.3	-109.9	-35.5	-229.9	-118.9	-38.9	-261.7
Piacentia	-25.4	-9.2	-47.7	-33.7	-10.9	-70.6	-36.5	-11.9	-80.4
Portola Hills	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.2
Rancho Santa Margarita	-1.2	-0.4	-2.3	-1.6	-0.5	-3.4	-1.8	-0.6	-3.9
Rossmore	-14.0	-5.1	-26.3	-18.6	-6.0	-39.0	-20.1	-6.6	-44.4
San Clemente	-2.4	-0.9	-4.5	-3.2	-1.0	-6.6	-3.4	-1.1	-7.5
San Joaquin Hills	-0.5	-0.2	-0.9	-0.6	-0.2	-1.3	-0.7	-0.2	-1.4
San Juan Capistrano	-2.4	-0.9	-4.6	-3.2	-1.0	-6.8	-3.5	-1.1	-7.7
Santa Ana	-83.5	-30.4	-156.8	-110.9	-35.8	-232.1	-120.1	-39.3	-264.3
Seal Beach	-77.4	-28.2	-145.3	-102.8	-33.2	-215.1	-111.2	-36.4	-244.9
Stanton	-24.8	-9.0	-46.6	-33.0	-10.6	-69.0	-35.7	-11.7	-78.5
Tustin	-20.5	-7.5	-38.5	-27.3	-8.8	-57.0	-29.5	-9.6	-64.9
Tustin Foothills	-3.9	-1.4	-7.3	-5.2	-1.7	-10.8	-5.6	-1.8	-12.3
Villa Park	-2.0	-0.7	-3.8	-2.7	-0.9	-5.6	-2.9	-0.9	-6.3
Westminster	-88.5	-32.2	-166.3	-117.6	-38.0	-246.2	-127.3	-41.6	-280.3
Yorba Linda	-18.8	-6.9	-35.4	-25.0	-8.1	-52.4	-27.1	-8.9	-59.6
Banning	-0.8	-0.3	-1.5	-1.0	-0.3	-2.2	-1.1	-0.4	-2.5
Beaumont	-0.5	-0.2	-1.0	-0.7	-0.2	-1.5	-0.8	-0.2	-1.7
Bermuda Dunes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cabazon	-0.1	0.0	-0.2	-0.1	0.0	-0.2	-0.1	0.0	-0.3
Calimesa	-0.3	-0.1	-0.6	-0.4	-0.1	-0.9	-0.5	-0.2	-1.1
Canyon Lake	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	0.0	-0.2
Cathedral City	-1.6	-0.6	-3.1	-2.2	-0.7	-4.6	-2.4	-0.8	-5.2
Cherry Valley	-0.1	0.0	-0.2	-0.2	0.0	-0.3	-0.2	-0.1	-0.4
Coachella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Corona	-14.0	-5.1	-26.3	-18.6	-6.0	-38.9	-20.1	-6.6	-44.3
Desert Hot Springs	-0.4	-0.1	-0.7	-0.5	-0.2	-1.0	-0.5	-0.2	-1.1
East Hemet	-0.2	-0.1	-0.3	-0.2	-0.1	-0.4	-0.2	-0.1	-0.5
El Cerrito	-0.3	-0.1	-0.6	-0.4	-0.1	-0.9	-0.5	-0.2	-1.0
Glen Avon	-4.2	-1.5	-7.8	-5.5	-1.8	-11.6	-6.0	-2.0	-13.2
Hemet	-1.2	-0.4	-2.2	-1.6	-0.5	-3.3	-1.7	-0.6	-3.7
Highgrove	-0.1	0.0	-0.3	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4
Home Gardens	-0.4	-0.1	-0.7	-0.5	-0.2	-1.0	-0.5	-0.2	-1.2
Homeland	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Idyllwild-Pine Cove	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Indian Wells	-0.1	0.0	-0.3	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4
Indio	-0.1	0.0	-0.2	-0.1	0.0	-0.3	-0.1	0.0	-0.3

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenano II	Scenario III	Scenano I	Scenano II	Scenario III	Scenario I	Scenano II	Scenario III
Lake Elsinore	-1.5	-0.6	-2.9	-2.0	-0.7	-4.2	-2.2	-0.7	-4.8
Lakeland Village	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	0.0	-0.3
Lakeview	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
La Quinta	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	0.0	-0.2
March AFB	-0.1	0.0	-0.2	-0.1	0.0	-0.3	-0.1	0.0	-0.3
Mecca	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mira Loma	-3.2	-1.2	-6.0	-4.2	-1.4	-8.8	-4.6	-1.5	-10.1
Moreno Valley	-5.1	-1.9	-9.6	-6.8	-2.2	-14.2	-7.4	-2.4	-16.2
Murrieta	-0.6	-0.2	-1.2	-0.8	-0.3	-1.7	-0.9	-0.3	-2.0
Murrieta Hot Springs	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1
Norco	-4.3	-1.6	-8.0	-5.7	-1.8	-11.9	-6.2	-2.0	-13.6
Nuevo	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	0.0	-0.2
Palm Desert	-2.2	-0.8	-4.1	-2.9	-0.9	-6.0	-3.1	-1.0	-6.9
Palm Springs	-4.8	-1.8	-9.1	-6.4	-2.1	-13.4	-6.9	-2.3	-15.3
Pedley	-2.2	-0.8	-4.1	-2.9	-0.9	-6.1	-3.1	-1.0	-6.9
Perris	-1.3	-0.5	-2.5	-1.8	-0.6	-3.7	-1.9	-0.6	-4.2
Quail Valley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Rancho Mirage	-0.8	-0.3	-1.5	-1.1	-0.3	-2.2	-1.2	-0.4	-2.6
Riverside	-34.5	-12.6	-64.9	-45.9	-14.8	-96.0	-49.7	-16.2	-109.3
Romoland	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	0.0	-0.2
Rubidoux	-2.7	-1.0	-5.1	-3.6	-1.2	-7.5	-3.9	-1.3	-8.6
San Jacinto	-0.3	-0.1	-0.6	-0.4	-0.1	-0.9	-0.5	-0.2	-1.0
Sedco Hills	-0.1	0.0	-0.2	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4
Sun City	-0.9	-0.3	-1.6	-1.1	-0.4	-2.4	-1.2	-0.4	-2.7
Sunnyslope	-0.2	-0.1	-0.4	-0.3	-0.1	-0.5	-0.3	-0.1	-0.6
Temecula	-0.6	-0.2	-1.2	-0.8	-0.3	-1.7	-0.9	-0.3	-2.0
Thousand Palms	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1
Valle Vista	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1
Wildomar	-0.3	-0.1	-0.5	-0.4	-0.1	-0.8	-0.4	-0.1	-0.9
Winchester	-0.1	0.0	-0.2	-0.1	0.0	-0.3	-0.2	-0.1	-0.4
Woodcrest	-0.6	-0.2	-1.2	-0.8	-0.3	-1.8	-0.9	-0.3	-2.0
Camajillo	-8.7	-3.2	-16.3	-11.5	-3.7	-24.1	-12.5	-4.1	-27.5
Casa Conejo	-1.0	-0.4	-1.8	-1.3	-0.4	-2.7	-1.4	-0.5	-3.1
Channel Islands Beach	-0.1	-0.1	-0.3	-0.2	-0.1	-0.4	-0.2	-0.1	-0.5
El Rio	-0.4	-0.1	-0.7	-0.5	-0.2	-1.0	-0.5	-0.2	-1.1
Fillmore	-0.7	-0.2	-1.3	-0.9	-0.3	-1.9	-1.0	-0.3	-2.1
Meiners Oaks	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1
Mira Monte	-0.1	0.0	-0.2	-0.1	0.0	-0.3	-0.1	0.0	-0.3
Moorpark	-7.9	-2.9	-14.8	-10.4	-3.4	-21.8	-11.3	-3.7	-24.9
Oak Park	-0.4	-0.1	-0.8	-0.5	-0.2	-1.1	-0.6	-0.2	-1.3
Oak View	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1
Ojai	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.2
Oxnard	-4.8	-1.8	-9.0	-6.4	-2.1	-13.4	-6.9	-2.3	-15.2
Piru	-0.1	0.0	-0.2	-0.1	0.0	-0.2	-0.1	0.0	-0.3
Port Hueneme	-0.5	-0.2	-0.9	-0.6	-0.2	-1.3	-0.7	-0.2	-1.5
San Buenaventura (Ventura)	-5.4	-2.0	-10.2	-7.2	-2.3	-15.0	-7.8	-2.5	-17.1
Santa Paula	-0.2	-0.1	-0.4	-0.3	-0.1	-0.6	-0.3	-0.1	-0.7
Simi Valley	-86.0	-31.3	-161.4	-114.6	-37.0	-239.9	-124.2	-40.6	-273.4
Thousand Oaks	-255.4	-92.0	-479.4	-341.2	-110.1	-714.0	-369.1	-120.7	-813.0
Adelanto	-3.6	-1.3	-6.8	-4.8	-1.5	-10.0	-5.2	-1.7	-11.4
Apple Valley	-2.4	-0.9	-4.5	-3.2	-1.0	-6.6	-3.4	-1.1	-7.5
Barstow	-0.5	-0.2	-0.9	-0.7	-0.2	-1.4	-0.7	-0.2	-1.6
Big Bear City	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Big Bear Lake	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bloomington	-2.5	-0.9	-4.7	-3.3	-1.1	-6.9	-3.6	-1.2	-7.9
Chino	-92.3	-33.6	-173.4	-122.7	-39.6	-256.7	-132.7	-43.4	-292.2
Chino Hills	-52.3	-19.1	-98.3	-69.7	-22.5	-145.8	-75.4	-24.6	-165.9
Colton	-6.3	-2.3	-11.8	-8.4	-2.7	-17.5	-9.0	-3.0	-19.9
Crestline	-0.1	0.0	-0.2	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4
Fontana	-18.1	-6.6	-34.0	-24.0	-7.8	-50.3	-26.0	-8.5	-57.3
Grand Terrace	-5.2	-1.9	-9.7	-6.9	-2.2	-14.4	-7.4	-2.4	-16.4
Hesperia	-3.5	-1.3	-6.6	-4.7	-1.5	-9.8	-5.1	-1.7	-11.1
Highland	-1.4	-0.5	-2.6	-1.9	-0.6	-3.9	-2.0	-0.7	-4.4

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Joshua Tree	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lake Arrowhead	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1
Lenwood	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loma Linda	-1.2	-0.4	-2.3	-1.6	-0.5	-3.4	-1.7	-0.6	-3.8
Mentone	-0.2	-0.1	-0.3	-0.2	-0.1	-0.4	-0.2	-0.1	-0.5
Montclair	-261.6	-95.3	-491.3	-347.6	-112.3	-727.3	-376.1	-123.0	-828.1
Morongo Valley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mountain View Acres	-1.2	-0.4	-2.3	-1.6	-0.5	-3.4	-1.7	-0.6	-3.8
Muscoy	-0.3	-0.1	-0.5	-0.4	-0.1	-0.8	-0.4	-0.1	-0.9
Nebo Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ontario	-148.3	-54.0	-278.6	-197.1	-63.7	-412.4	-213.3	-69.8	-469.6
Rancho Cucamonga	-40.7	-14.8	-76.5	-54.1	-17.5	-113.2	-58.5	-19.2	-128.9
Redlands	-6.0	-2.2	-11.2	-7.9	-2.6	-16.6	-8.6	-2.8	-18.8
Rialto	-6.7	-2.4	-12.5	-8.9	-2.9	-18.6	-9.6	-3.1	-21.1
Running Springs	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1
San Antonio Heights	-1.3	-0.5	-2.5	-1.7	-0.6	-3.6	-1.9	-0.6	-4.1
San Bernardino	-21.3	-7.8	-40.1	-28.3	-9.2	-59.3	-30.7	-10.0	-67.5
Twentynine Palms	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Twentynine Palms Base	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upland	-113.7	-41.4	-213.5	-151.1	-48.8	-316.1	-163.4	-53.5	-359.9
Victorville	-19.4	-7.1	-36.4	-25.8	-8.3	-53.9	-27.9	-9.1	-61.4
Wrightwood	-0.8	-0.3	-1.5	-1.0	-0.3	-2.1	-1.1	-0.4	-2.4
Yucaipa	-1.6	-0.6	-3.0	-2.1	-0.7	-4.4	-2.3	-0.7	-5.0
Yucca Valley	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	0.0	-0.2
LOS ANGELES - UNINCOR	5,831.7	2,170.0	11,087.4	5,457.6	2,156.1	10,661.0	5,445.5	1,583.0	12,661.9
ORANGE - UNINCOR	-47.1	-17.2	-89.4	-63.7	-20.5	-133.5	-69.4	-22.7	-152.8
RIVERSIDE - UNINCOR	-15.7	-5.7	-29.5	-20.9	-6.7	-43.6	-22.6	-7.4	-49.7
SAN BERNARDINO - UNINCOR	-88.0	-32.1	-165.6	-117.0	-37.7	-244.8	-126.6	-41.3	-278.6
VENTURA - UNINCOR	-32.0	-10.8	-61.9	-44.3	-13.8	-93.4	-51.0	-16.7	-112.2
Total	-41,308	-14,654	-78,457	-49,943	-16,275	-102,579	-52,841	-17,358	-113,112

Table A27. Present Value of Net Impacts by Place by Scenario

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Action	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Agoura Hills	-11.2	-3.9	-21.4	-13.0	-4.2	-26.3	-13.5	-4.4	-28.4
Alhambra	-40.4	-13.9	-77.4	-44.6	-14.7	-89.7	-45.6	-15.1	-94.3
Alondra Park	-1.3	-0.4	-2.4	-1.3	-0.4	-2.6	-1.3	-0.4	-2.6
Altadena	-2.9	-0.9	-5.8	-2.1	-0.7	-3.6	-1.8	-0.6	-2.7
Arcadia	-44.2	-15.5	-84.4	-51.5	-16.9	-104.8	-53.5	-17.7	-112.9
Artesia	-7.9	-2.7	-15.1	-8.9	-2.9	-18.0	-9.2	-3.0	-19.1
Avocado Heights	-34.1	-12.1	-64.6	-41.3	-13.4	-85.0	-44.1	-14.5	-94.7
Azusa	-19.6	-6.9	-37.4	-22.8	-7.5	-46.5	-23.9	-7.9	-50.5
Baldwin Park	-21.6	-7.6	-41.3	-25.1	-8.2	-51.1	-26.3	-8.7	-55.5
Bell	-16.0	-5.6	-30.6	-18.1	-6.0	-36.7	-18.8	-6.2	-39.3
Bellflower	-13.8	-4.8	-26.5	-15.2	-5.0	-30.6	-15.6	-5.2	-32.2
Bell Gardens	-11.9	-4.2	-22.6	-14.4	-4.7	-29.6	-15.2	-5.0	-32.6
Beverly Hills	-92.0	-31.7	-176.7	-101.0	-33.3	-202.6	-103.1	-34.1	-212.3
Bradbury	-0.9	-0.3	-1.6	-1.1	-0.3	-2.2	-1.1	-0.4	-2.4
Burbank	-115.9	-40.7	-221.0	-135.3	-44.3	-275.7	-141.3	-46.6	-298.5
Calabasas	-7.3	-2.5	-14.1	-8.1	-2.7	-16.2	-8.3	-2.7	-17.1
Carson	-94.1	-32.7	-180.2	-105.9	-34.8	-214.1	-109.8	-36.3	-229.0
Cerritos	-38.2	-13.3	-73.0	-43.5	-14.3	-88.2	-45.1	-14.9	-94.3
Charter Oak	-1.4	-0.5	-2.7	-1.5	-0.5	-3.0	-1.5	-0.5	-3.1
Citrus	-0.9	-0.3	-1.7	-1.0	-0.3	-2.1	-1.1	-0.4	-2.3
Claremont	-6.3	-2.1	-12.5	-5.3	-1.8	-9.9	-4.9	-1.7	-8.8
Commerce	-98.7	-34.8	-187.9	-116.8	-38.2	-238.6	-122.5	-40.3	-260.0
Compton	-42.1	-14.7	-80.4	-48.1	-15.8	-97.6	-50.1	-16.5	-105.1
Covina	-22.2	-7.7	-42.5	-24.8	-8.2	-50.0	-25.5	-8.4	-53.0
Cudahy	-2.0	-0.7	-3.8	-2.2	-0.7	-4.4	-2.2	-0.7	-4.6
Culver City	-58.7	-20.6	-111.9	-68.5	-22.4	-139.6	-71.5	-23.6	-151.0
Del Aire	-3.4	-1.1	-6.7	-3.2	-1.1	-6.2	-3.1	-1.0	-5.9
Desert View Highlands	-0.1	0.0	-0.2	-0.1	0.0	-0.2	-0.1	0.0	-0.2
Diamond Bar	-20.7	-7.2	-39.6	-23.8	-7.8	-48.2	-24.7	-8.2	-51.9
Downey	-30.5	-10.2	-59.3	-29.3	-9.8	-56.8	-28.7	-9.6	-55.7
Duarte	-4.5	-1.5	-8.7	-4.7	-1.6	-9.4	-4.8	-1.6	-9.6
East Compton	-0.1	0.0	-0.2	0.0	0.0	0.1	0.1	0.0	0.3
East La Mirada	-0.5	-0.2	-0.9	-0.5	-0.2	-1.1	-0.5	-0.2	-1.1
East Los Angeles	-36.0	-12.3	-69.3	-38.7	-12.8	-77.2	-39.2	-13.0	-79.9
East Pasadena	-1.9	-0.6	-3.7	-1.9	-0.6	-3.8	-1.9	-0.6	-3.8
East San Gabriel	-1.7	-0.6	-3.3	-2.0	-0.7	-4.1	-2.1	-0.7	-4.5
El Monte	-38.5	-13.2	-74.2	-41.4	-13.7	-82.7	-42.1	-14.0	-86.1
El Segundo	-62.2	-21.3	-119.7	-66.7	-22.0	-133.1	-67.5	-22.4	-137.5
Florence-Graham	-10.6	-3.7	-20.3	-11.8	-3.9	-23.9	-12.2	-4.0	-25.3
Gardena	-36.0	-12.6	-68.8	-41.7	-13.7	-84.8	-43.5	-14.4	-91.7
Glendale	-144.8	-50.8	-276.2	-169.3	-55.4	-344.8	-176.6	-58.2	-373.0
Glendora	-20.8	-7.2	-39.7	-23.7	-7.8	-48.0	-24.6	-8.1	-51.7
Hacienda Heights	-12.4	-4.3	-23.8	-13.8	-4.5	-27.8	-14.2	-4.7	-29.5
Hawaiian Gardens	-0.9	-0.3	-1.8	-1.0	-0.3	-1.9	-1.0	-0.3	-2.0
Hawthorne	-19.3	-6.6	-37.0	-20.7	-6.8	-41.5	-21.2	-7.0	-43.3
Hermosa Beach	-7.5	-2.6	-14.4	-8.1	-2.7	-16.3	-8.3	-2.7	-17.0
Hidden Hills	-2.3	-0.8	-4.5	-2.4	-0.8	-4.8	-2.4	-0.8	-4.9
Huntington Park	-15.9	-5.6	-30.5	-18.1	-5.9	-36.6	-18.7	-6.2	-39.1
Industry	-76.2	-26.8	-145.3	-89.1	-29.2	-181.7	-93.3	-30.7	-197.3
Inglewood	-38.4	-13.2	-73.8	-41.4	-13.7	-82.9	-42.3	-14.0	-86.7
Irwindale	-59.0	-20.9	-112.1	-71.1	-23.2	-145.8	-74.8	-24.6	-159.8
La Canada Flintridge	-13.4	-4.7	-25.6	-15.8	-5.2	-32.2	-16.5	-5.4	-34.9
La Crescenta-Montrose	-4.8	-1.7	-9.2	-5.3	-1.7	-10.7	-5.5	-1.8	-11.3
Ladera Heights	-4.7	-1.6	-9.0	-5.2	-1.7	-10.6	-5.4	-1.8	-11.2
La Habra Heights	-1.0	-0.3	-1.8	-1.1	-0.4	-2.2	-1.1	-0.4	-2.4
Lake Los Angeles	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Lakewood	-19.9	-7.0	-37.9	-23.0	-7.5	-46.8	-24.1	-7.9	-50.8
La Mirada	-29.9	-10.5	-57.0	-34.8	-11.4	-70.8	-36.3	-12.0	-76.7
Lancaster	-31.8	-11.0	-60.8	-35.7	-11.7	-72.2	-37.0	-12.2	-77.1
La Puente	-5.6	-2.0	-10.7	-6.6	-2.2	-13.4	-6.9	-2.3	-14.6
La Verne	-6.4	-2.2	-12.4	-6.8	-2.2	-13.5	-6.9	-2.3	-13.9
Lawndale	-5.7	-2.0	-11.0	-6.3	-2.1	-12.6	-6.4	-2.1	-13.3

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Lennox	-3.7	-1.3	-7.1	-4.0	-1.3	-8.1	-4.2	-1.4	-8.6
Littlerock	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.2
Lomita	-5.3	-1.8	-10.2	-5.8	-1.9	-11.7	-6.0	-2.0	-12.3
Long Beach	-157.5	-53.8	-303.7	-165.3	-54.7	-328.3	-167.0	-55.5	-337.9
Los Angeles	-2,361.1	-819.7	-4,523.1	-2,642.1	-868.3	-5,331.9	-2,727.9	-901.7	-5,672.5
Lynwood	-9.7	-3.3	-18.7	-10.4	-3.4	-20.7	-10.5	-3.5	-21.3
Malibu	-3.7	-1.3	-7.1	-4.3	-1.4	-8.6	-4.4	-1.5	-9.3
Manhattan Beach	-11.5	-3.8	-22.2	-11.2	-3.8	-21.9	-11.0	-3.7	-21.5
Marina del Rey	-5.5	-1.8	-10.9	-4.5	-1.5	-8.2	-4.0	-1.4	-7.0
Mayflower Village	-0.4	-0.2	-0.8	-0.5	-0.2	-1.0	-0.5	-0.2	-1.0
Maywood	-6.0	-2.0	-11.6	-6.1	-2.0	-12.1	-6.1	-2.0	-12.3
Monrovia	-15.9	-5.4	-30.8	-16.2	-5.4	-31.9	-16.2	-5.4	-32.2
Montebello	-34.7	-12.2	-66.3	-40.3	-13.2	-81.9	-42.0	-13.8	-88.4
Monterey Park	-37.1	-13.0	-70.8	-43.4	-14.2	-88.5	-45.3	-14.9	-95.8
North El Monte	-1.1	-0.4	-2.2	-1.3	-0.4	-2.5	-1.3	-0.4	-2.7
Norwalk	-27.2	-9.5	-52.0	-31.1	-10.2	-63.2	-32.5	-10.7	-68.3
Palmdale	-21.6	-7.5	-41.4	-24.2	-7.9	-48.8	-25.1	-8.3	-52.2
Palos Verdes Estates	-6.1	-2.1	-11.7	-6.9	-2.3	-13.9	-7.1	-2.4	-14.9
Paramount	-24.1	-8.4	-46.1	-27.3	-9.0	-55.3	-28.3	-9.3	-59.0
Pasadena	-88.3	-29.4	-171.7	-84.0	-28.2	-162.6	-82.0	-27.5	-158.1
Pico Rivera	-14.6	-4.9	-28.2	-14.7	-4.9	-28.9	-14.7	-4.9	-29.1
Pomona	-53.3	-18.6	-101.9	-60.7	-19.9	-123.0	-63.1	-20.8	-132.2
Quartz Hill	-1.6	-0.5	-3.0	-1.7	-0.5	-3.3	-1.7	-0.6	-3.5
Rancho Palos Verdes	-8.2	-2.8	-15.8	-9.0	-3.0	-18.1	-9.2	-3.1	-19.0
Redondo Beach	-18.2	-6.1	-35.4	-17.4	-5.8	-33.8	-17.0	-5.7	-32.9
Rolling Hills	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4
Rolling Hills Estates	-3.3	-1.2	-6.4	-3.9	-1.3	-7.9	-4.0	-1.3	-8.5
Rosemead	-62.8	-22.4	-119.0	-76.9	-25.0	-158.6	-82.4	-27.1	-177.6
Rowland Heights	-17.1	-6.0	-32.6	-19.7	-6.5	-40.1	-20.5	-6.8	-43.2
San Dimas	-21.3	-7.4	-40.7	-24.4	-8.0	-49.6	-25.5	-8.4	-53.6
San Fernando	-17.5	-6.2	-33.3	-20.6	-6.7	-42.2	-21.7	-7.1	-46.1
San Gabriel	-13.0	-4.5	-24.8	-14.9	-4.9	-30.2	-15.4	-5.1	-32.4
San Marino	-9.9	-3.5	-18.9	-11.7	-3.8	-24.0	-12.2	-4.0	-25.9
Santa Clarita	-41.2	-14.4	-78.6	-47.4	-15.5	-96.4	-49.5	-16.3	-104.0
Santa Fe Springs	-86.2	-30.1	-164.6	-99.0	-32.5	-201.0	-103.0	-34.0	-216.2
Santa Monica	-79.9	-27.0	-154.7	-80.4	-26.7	-157.9	-80.0	-26.7	-158.6
Sierra Madre	-2.5	-0.9	-4.9	-2.6	-0.9	-5.1	-2.6	-0.9	-5.3
Signal Hill	-24.9	-8.7	-47.6	-28.1	-9.2	-56.7	-29.1	-9.6	-60.6
South El Monte	-26.7	-9.4	-50.9	-31.8	-10.4	-65.0	-33.3	-11.0	-70.8
South Gate	-26.5	-9.3	-50.5	-30.7	-10.1	-62.6	-32.1	-10.6	-67.8
South Pasadena	-12.6	-4.3	-24.1	-13.8	-4.5	-27.6	-14.0	-4.6	-28.8
South San Gabriel	-1.1	-0.4	-2.1	-1.1	-0.4	-2.1	-1.1	-0.4	-2.1
South San Jose Hills	-0.9	-0.3	-1.8	-1.0	-0.3	-2.1	-1.1	-0.3	-2.2
South Whittier	-6.9	-2.4	-13.3	-7.6	-2.5	-15.3	-7.9	-2.6	-16.2
Temple City	-8.2	-2.8	-15.6	-9.3	-3.0	-18.8	-9.6	-3.2	-20.0
Torrance	-118.0	-40.6	-226.9	-127.7	-42.2	-255.5	-129.9	-43.0	-266.0
Valinda	-1.6	-0.6	-3.1	-1.8	-0.6	-3.6	-1.9	-0.6	-3.9
Val Verde	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Vernon	-117.7	-41.7	-223.6	-141.8	-46.2	-290.7	-149.3	-49.1	-318.8
View Park-Windsor Hills	-1.9	-0.6	-3.8	-1.6	-0.6	-3.0	-1.5	-0.5	-2.7
Vincent	-2.7	-0.9	-5.2	-3.1	-1.0	-6.4	-3.3	-1.1	-6.8
Walnut	-8.0	-2.7	-15.3	-8.7	-2.9	-17.3	-8.8	-2.9	-18.0
Walnut Park	-1.2	-0.4	-2.4	-1.3	-0.4	-2.6	-1.3	-0.4	-2.7
West Athens	-2.7	-0.9	-5.1	-3.1	-1.0	-6.3	-3.2	-1.1	-6.8
West Carson	-4.8	-1.6	-9.5	-4.0	-1.4	-7.5	-3.7	-1.3	-6.5
West Compton	-18.5	-6.5	-35.2	-22.0	-7.2	-44.9	-23.1	-7.6	-49.1
West Covina	-25.1	-8.7	-48.1	-28.4	-9.3	-57.5	-29.4	-9.7	-61.3
West Hollywood	-16.7	-5.3	-33.1	-12.5	-4.3	-22.2	-10.8	-3.7	-17.2
Westlake Village	-2.7	-0.9	-5.1	-3.1	-1.0	-6.3	-3.2	-1.1	-6.8
Westmont	-1.5	-0.5	-2.9	-1.2	-0.4	-2.2	-1.1	-0.4	-1.9
West Puente Valley	-3.8	-1.3	-7.2	-4.4	-1.5	-9.1	-4.6	-1.5	-9.8
West Whittier-Los Nietos	-5.9	-2.1	-11.3	-6.9	-2.3	-14.1	-7.3	-2.4	-15.4
Whittier	-22.7	-7.9	-43.6	-24.9	-8.2	-50.1	-25.6	-8.5	-52.9
Willowbrook	-22.3	-7.9	-42.5	-26.3	-8.6	-53.9	-27.8	-9.1	-59.0

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Aliso Viejo	-10.2	-3.5	-19.5	-11.1	-3.7	-22.4	-11.4	-3.8	-23.6
Anaheim	-220.2	-76.7	-421.3	-249.2	-81.8	-504.3	-258.6	-85.4	-540.3
Brea	-45.9	-16.0	-87.6	-52.9	-17.3	-107.4	-54.9	-18.1	-115.4
Buena Park	-51.5	-18.1	-98.3	-59.7	-19.6	-121.6	-62.4	-20.6	-131.6
Costa Mesa	-99.3	-34.0	-191.3	-105.3	-34.8	-209.5	-106.4	-35.3	-216.2
Coto de Caza	-1.0	-0.3	-1.9	-1.1	-0.4	-2.3	-1.2	-0.4	-2.5
Cypress	-40.9	-14.3	-78.2	-47.1	-15.5	-95.7	-48.9	-16.1	-102.6
Dana Point	-15.8	-5.5	-30.3	-17.3	-5.7	-34.8	-17.9	-5.9	-36.9
Foothill Ranch	-0.5	-0.2	-1.0	-0.7	-0.2	-1.4	-0.7	-0.2	-1.5
Fountain Valley	-39.8	-13.9	-76.0	-46.0	-15.1	-93.4	-47.9	-15.8	-100.8
Fullerton	-69.3	-24.0	-133.0	-76.6	-25.2	-154.2	-78.7	-26.0	-162.7
Garden Grove	-67.3	-23.4	-128.7	-76.1	-25.0	-153.9	-78.9	-26.0	-164.7
Huntington Beach	-69.9	-24.1	-134.3	-76.6	-25.2	-153.8	-78.5	-26.0	-161.9
Irvine	-241.0	-82.9	-463.6	-259.7	-85.7	-519.3	-264.9	-87.8	-542.5
Laguna Beach	-21.0	-7.3	-40.2	-23.8	-7.8	-48.3	-24.8	-8.2	-51.8
Laguna Hills	-18.2	-6.3	-35.0	-20.3	-6.7	-40.9	-20.9	-6.9	-43.3
Laguna Niguel	-16.4	-5.7	-31.5	-18.4	-6.1	-37.2	-19.0	-6.3	-39.5
Laguna Woods	-12.7	-4.4	-24.2	-14.7	-4.8	-29.8	-15.2	-5.0	-32.1
La Habra	-65.7	-23.3	-124.6	-80.5	-26.2	-165.5	-84.8	-27.9	-182.0
Lake Forest	-33.1	-11.4	-63.5	-36.4	-12.0	-73.2	-37.4	-12.4	-77.1
La Palma	-16.4	-5.7	-31.4	-18.3	-6.0	-36.8	-18.7	-6.2	-38.6
Las Flores	-0.5	-0.2	-1.0	-0.6	-0.2	-1.2	-0.6	-0.2	-1.3
Los Alamitos	-25.8	-9.1	-49.2	-30.3	-9.9	-61.9	-31.7	-10.4	-67.1
Mission Viejo	-33.9	-11.8	-64.7	-38.9	-12.7	-78.9	-40.4	-13.3	-84.7
Newport Beach	-83.8	-28.5	-161.9	-86.4	-28.7	-170.7	-86.4	-28.8	-173.2
Newport Coast	-0.8	-0.3	-1.6	-0.9	-0.3	-1.8	-0.9	-0.3	-1.9
Orange	-121.1	-42.2	-231.6	-137.6	-45.2	-278.7	-142.7	-47.1	-298.3
Placentia	-21.7	-7.5	-41.6	-24.0	-7.9	-48.4	-24.8	-8.2	-51.3
Portola Hills	-0.2	-0.1	-0.4	-0.3	-0.1	-0.6	-0.3	-0.1	-0.7
Rancho Santa Margarita	-2.7	-0.9	-5.2	-3.1	-1.0	-6.3	-3.2	-1.1	-6.8
Rossmore	-2.9	-1.0	-5.6	-3.2	-1.1	-6.5	-3.3	-1.1	-6.8
San Clemente	-43.9	-15.4	-83.7	-51.1	-16.7	-104.0	-53.6	-17.7	-113.2
San Joaquin Hills	-0.1	0.0	-0.3	-0.1	0.0	-0.3	-0.1	0.0	-0.3
San Juan Capistrano	-33.0	-11.7	-62.7	-39.3	-12.8	-80.6	-41.6	-13.7	-88.7
Santa Ana	-223.8	-78.0	-428.2	-253.9	-83.3	-513.8	-262.8	-86.8	-549.0
Seal Beach	-4.3	-1.2	-8.8	-1.8	-0.7	-2.2	-0.9	-0.4	0.7
Stanton	-10.7	-3.7	-20.5	-11.8	-3.9	-23.7	-12.1	-4.0	-24.9
Tustin	-64.5	-22.5	-123.3	-73.4	-24.1	-148.7	-76.1	-25.1	-159.3
Tustin Foothills	-7.7	-2.7	-14.8	-8.7	-2.9	-17.5	-8.9	-3.0	-18.6
Villa Park	-1.2	-0.4	-2.2	-1.3	-0.4	-2.6	-1.3	-0.4	-2.8
Westminster	-24.9	-8.6	-47.7	-27.3	-9.0	-54.8	-27.9	-9.2	-57.5
Yorba Linda	-19.9	-7.0	-37.8	-23.3	-7.6	-47.6	-24.4	-8.0	-51.7
Banning	-4.2	-1.5	-8.0	-4.7	-1.5	-9.6	-4.9	-1.6	-10.3
Beaumont	-3.0	-1.1	-5.8	-3.4	-1.1	-6.8	-3.5	-1.2	-7.2
Bermuda Dunes	-1.5	-0.5	-2.8	-1.7	-0.6	-3.6	-1.8	-0.6	-3.9
Cabazon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calimesa	-1.8	-0.6	-3.5	-2.0	-0.7	-4.1	-2.1	-0.7	-4.4
Canyon Lake	-0.4	-0.1	-0.7	-0.4	-0.1	-0.8	-0.4	-0.1	-0.8
Cathedral City	-10.6	-3.7	-20.5	-11.5	-3.8	-23.0	-11.8	-3.9	-24.2
Cherry Valley	-0.4	-0.1	-0.7	-0.4	-0.1	-0.8	-0.4	-0.1	-0.8
Coachella	-9.4	-3.3	-17.9	-11.4	-3.7	-23.4	-12.1	-4.0	-25.8
Corona	-55.5	-19.5	-105.7	-64.7	-21.1	-131.8	-67.8	-22.4	-143.4
Desert Hot Springs	-1.2	-0.4	-2.4	-1.2	-0.4	-2.4	-1.2	-0.4	-2.5
East Hemet	-1.6	-0.5	-3.0	-1.7	-0.6	-3.5	-1.8	-0.6	-3.7
El Cerrito	-0.9	-0.3	-1.7	-1.1	-0.4	-2.2	-1.1	-0.4	-2.4
Glen Avon	-7.9	-2.8	-15.0	-9.3	-3.0	-18.9	-9.7	-3.2	-20.6
Hemet	-17.1	-6.0	-32.7	-19.6	-6.4	-39.9	-20.5	-6.8	-43.1
Highgrove	-0.6	-0.2	-1.1	-0.6	-0.2	-1.2	-0.6	-0.2	-1.2
Home Gardens	-4.3	-1.5	-8.1	-5.2	-1.7	-10.7	-5.5	-1.8	-11.9
Homeland	-0.5	-0.2	-0.9	-0.6	-0.2	-1.3	-0.7	-0.2	-1.4
Idyllwild-Pine Cove	-0.1	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Indian Wells	-4.1	-1.3	-8.0	-3.2	-1.1	-5.9	-2.9	-1.0	-5.0
Indio	-15.9	-5.6	-30.3	-18.7	-6.1	-38.2	-19.6	-6.5	-41.6

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenano I	Scenano II	Scenario III	Scenano I	Scenano II	Scenano III	Scenano I	Scenano II	Scenano III
Lake Elsinore	-8.5	-3.0	-16.3	-9.8	-3.2	-20.0	-10.3	-3.4	-21.6
Lakeland Village	-0.8	-0.3	-1.5	-0.9	-0.3	-2.0	-1.0	-0.3	-2.2
Lakeview	-0.8	-0.3	-1.4	-1.0	-0.3	-2.0	-1.0	-0.3	-2.2
La Quinta	-1.6	-0.5	-3.3	-0.7	-0.3	-0.9	-0.4	-0.2	0.1
March AFB	-0.4	-0.1	-0.8	-0.5	-0.2	-1.0	-0.5	-0.2	-1.0
Mecca	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0	-0.1
Mira Loma	-1.9	-0.7	-3.7	-2.2	-0.7	-4.5	-2.3	-0.8	-4.9
Moreno Valley	-13.4	-4.6	-25.8	-14.6	-4.8	-29.2	-14.9	-4.9	-30.6
Murrieta	-11.5	-4.0	-22.0	-13.3	-4.3	-27.0	-13.8	-4.6	-29.1
Murrieta Hot Springs	-0.3	-0.1	-0.5	-0.3	-0.1	-0.6	-0.3	-0.1	-0.7
Norco	-4.4	-1.4	-8.6	-3.2	-1.1	-5.7	-2.8	-1.0	-4.6
Nuevo	-1.1	-0.4	-2.1	-1.4	-0.5	-2.9	-1.5	-0.5	-3.3
Palm Desert	-34.3	-12.0	-65.5	-39.7	-13.0	-80.7	-41.6	-13.7	-87.6
Palm Springs	-21.0	-7.1	-40.7	-20.8	-6.9	-40.8	-20.8	-6.9	-41.0
Pedley	-2.4	-0.8	-4.6	-2.7	-0.9	-5.6	-2.9	-0.9	-6.0
Perris	-5.6	-1.9	-10.8	-5.9	-2.0	-11.9	-6.1	-2.0	-12.3
Quail Valley	-0.1	0.0	-0.2	-0.1	0.0	-0.1	-0.1	0.0	-0.1
Rancho Mirage	-2.7	-0.8	-5.5	-1.3	-0.5	-1.8	-0.8	-0.3	-0.1
Riverside	-128.5	-44.8	-245.7	-145.7	-47.8	-295.0	-151.2	-49.9	-316.3
Romoland	-0.2	0.0	-0.3	-0.1	0.0	-0.2	-0.1	0.0	-0.2
Rubidoux	-3.2	-1.1	-6.0	-3.6	-1.2	-7.2	-3.7	-1.2	-7.7
San Jacinto	-6.2	-2.2	-11.9	-7.3	-2.4	-15.0	-7.7	-2.5	-16.3
Sedco Hills	-0.5	-0.2	-1.0	-0.5	-0.2	-1.0	-0.5	-0.2	-1.1
Sun City	-2.9	-1.0	-5.6	-3.6	-1.2	-7.3	-3.8	-1.2	-8.0
Sunnyslope	-0.6	-0.2	-1.1	-0.7	-0.2	-1.4	-0.7	-0.2	-1.5
Temecula	-25.5	-9.0	-48.7	-29.5	-9.7	-60.1	-30.9	-10.2	-65.1
Thousand Palms	-0.3	-0.1	-0.6	-0.3	-0.1	-0.6	-0.3	-0.1	-0.7
Valle Vista	-0.7	-0.2	-1.3	-0.8	-0.2	-1.5	-0.8	-0.3	-1.6
Wildomar	-2.1	-0.7	-4.0	-2.4	-0.8	-4.7	-2.4	-0.8	-5.1
Winchester	-0.9	-0.3	-1.7	-1.1	-0.4	-2.3	-1.2	-0.4	-2.5
Woodcrest	-1.7	-0.6	-3.4	-1.8	-0.6	-3.7	-1.9	-0.6	-3.8
Camarillo	-25.7	-8.9	-49.4	-28.1	-9.3	-56.3	-28.7	-9.5	-59.1
Casa Conejo	-0.9	-0.3	-1.7	-1.0	-0.3	-2.0	-1.0	-0.3	-2.1
Channel Islands Beach	-0.7	-0.3	-1.4	-0.8	-0.3	-1.7	-0.9	-0.3	-1.8
El Rio	-0.4	-0.1	-0.8	-0.4	-0.1	-0.8	-0.4	-0.1	-0.8
Fillmore	-1.8	-0.6	-3.5	-2.0	-0.6	-3.9	-2.0	-0.7	-4.1
Meiners Oaks	-0.6	-0.2	-1.2	-0.7	-0.2	-1.4	-0.7	-0.2	-1.4
Mira Monte	-1.0	-0.3	-1.9	-1.1	-0.4	-2.1	-1.1	-0.4	-2.2
Moorpark	-5.4	-1.9	-10.5	-5.9	-2.0	-11.8	-6.0	-2.0	-12.4
Oak Park	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	0.0	-0.2
Oak View	-0.3	-0.1	-0.5	-0.3	-0.1	-0.5	-0.3	-0.1	-0.5
Ojai	-1.3	-0.4	-2.5	-1.4	-0.4	-2.7	-1.4	-0.5	-2.7
Oxnard	-69.9	-24.4	-133.5	-80.0	-26.2	-162.3	-83.2	-27.4	-174.5
Piru	-0.1	0.0	-0.2	-0.1	0.0	-0.2	-0.1	0.0	-0.3
Port Hueneme	-3.8	-1.3	-7.3	-4.3	-1.4	-8.6	-4.4	-1.5	-9.2
San Buenaventura (Ventura)	-63.5	-21.9	-121.9	-69.9	-23.0	-140.4	-71.7	-23.7	-148.0
Santa Paula	-12.6	-4.5	-24.0	-15.4	-5.0	-31.6	-16.2	-5.3	-34.8
Simi Valley	-38.5	-13.4	-73.7	-43.8	-14.4	-88.8	-45.6	-15.0	-95.4
Thousand Oaks	-91.9	-32.1	-175.7	-105.0	-34.4	-213.0	-109.2	-36.0	-228.9
Adelanto	-2.5	-0.8	-4.7	-2.5	-0.8	-5.1	-2.6	-0.9	-5.2
Apple Valley	-8.8	-3.1	-16.8	-10.3	-3.4	-20.9	-10.8	-3.6	-22.8
Barstow	-6.8	-2.3	-13.2	-7.1	-2.4	-14.2	-7.3	-2.4	-14.7
Big Bear City	-0.2	-0.1	-0.3	-0.2	-0.1	-0.4	-0.2	-0.1	-0.5
Big Bear Lake	-5.3	-1.8	-10.2	-5.8	-1.9	-11.8	-6.0	-2.0	-12.5
Bloomington	-2.4	-0.8	-4.6	-2.5	-0.8	-5.0	-2.5	-0.8	-5.1
Chino	-37.1	-12.9	-71.0	-42.0	-13.8	-85.0	-43.6	-14.4	-91.0
Chino Hills	-6.1	-2.1	-11.7	-7.1	-2.3	-14.4	-7.4	-2.4	-15.6
Colton	-20.1	-7.0	-38.4	-22.6	-7.4	-45.8	-23.5	-7.8	-49.0
Crestline	-2.5	-0.9	-4.7	-2.9	-0.9	-5.9	-3.0	-1.0	-6.4
Fontana	-26.6	-9.2	-51.0	-29.5	-9.7	-59.5	-30.5	-10.1	-63.4
Grand Terrace	-2.6	-0.9	-5.0	-2.6	-0.9	-5.2	-2.7	-0.9	-5.3
Hesperia	-11.5	-4.0	-22.0	-12.9	-4.2	-26.1	-13.4	-4.4	-28.0
Highland	-10.5	-3.7	-19.9	-12.6	-4.1	-25.7	-13.2	-4.3	-28.1

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Joshua Tree	-0.1	0.0	-0.3	-0.2	-0.1	-0.3	-0.2	-0.1	-0.3
Lake Arrowhead	-1.7	-0.6	-3.3	-1.4	-0.5	-2.7	-1.3	-0.5	-2.4
Lenwood	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4
Loma Linda	-5.2	-1.8	-10.0	-5.9	-1.9	-12.0	-6.2	-2.0	-12.9
Mentone	-2.0	-0.7	-3.9	-2.4	-0.8	-5.0	-2.6	-0.8	-5.5
Montclair	-11.0	-3.8	-21.2	-12.1	-4.0	-24.3	-12.4	-4.1	-25.7
Morongo Valley	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Mountain View Acres	-0.3	-0.1	-0.5	-0.3	-0.1	-0.6	-0.3	-0.1	-0.7
Muscoy	-6.1	-2.2	-11.6	-7.4	-2.4	-15.3	-7.9	-2.6	-16.9
Nebo Center	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ontario	-99.8	-34.8	-190.9	-113.6	-37.3	-230.3	-118.2	-39.0	-247.5
Rancho Cucamonga	-56.2	-19.7	-107.4	-64.6	-21.2	-131.1	-67.3	-22.2	-141.4
Redlands	-21.0	-7.2	-40.4	-22.1	-7.3	-44.0	-22.4	-7.4	-45.5
Rialto	-15.2	-5.3	-29.1	-17.2	-5.6	-34.7	-17.8	-5.9	-37.2
Running Springs	0.2	0.1	0.3	0.4	0.1	0.9	0.5	0.2	1.2
San Antonio Heights	-0.5	-0.2	-1.0	-0.6	-0.2	-1.1	-0.6	-0.2	-1.2
San Bernardino	-85.8	-29.9	-164.2	-97.0	-31.8	-196.4	-100.8	-33.3	-210.7
Twentynine Palms	-1.8	-0.6	-3.5	-2.1	-0.7	-4.3	-2.2	-0.7	-4.7
Twentynine Palms Base	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0	-0.1
Upland	-28.7	-10.0	-54.8	-33.1	-10.8	-67.2	-34.5	-11.4	-72.5
Victorville	-33.5	-11.8	-63.8	-39.4	-12.9	-80.6	-41.6	-13.7	-88.3
Wrightwood	0.2	0.1	0.3	0.6	0.2	1.3	0.7	0.2	1.7
Yucaipa	-7.9	-2.8	-15.0	-9.1	-3.0	-18.6	-9.6	-3.2	-20.2
Yucca Valley	-3.1	-1.1	-5.9	-3.4	-1.1	-6.9	-3.6	-1.2	-7.4
LOS ANGELES - UNINCOR	-202.5	-71.0	-386.4	-235.3	-77.0	-479.1	-245.9	-81.1	-518.7
ORANGE - UNINCOR	-70.2	-24.5	-134.2	-80.1	-26.3	-162.3	-83.0	-27.4	-173.9
RIVERSIDE - UNINCOR	-73.7	-25.9	-140.5	-86.0	-28.1	-175.3	-90.3	-29.7	-190.9
SAN BERNARDINO - UNINCOR	-96.7	-34.0	-184.1	-113.4	-37.1	-231.7	-119.4	-39.3	-253.1
VENTURA - UNINCOR	-124.5	-43.7	-237.4	-145.2	-47.5	-295.7	-151.7	-50.0	-320.3
Total	-9.048	-3.145	-17.326	-10.166	-3.340	-20.535	-10.509	-3.473	-21.886

Table A28. Present Value of Land Net Impacts by Place by Scenario

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Action	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Agoura Hills	-11.5	-4.0	-22.0	-13.3	-4.4	-27.0	-13.8	-4.6	-29.0
Alhambra	-70.6	-24.7	-134.8	-81.3	-26.6	-165.1	-84.5	-27.9	-177.5
Alondra Park	-3.6	-1.3	-6.9	-4.2	-1.4	-8.5	-4.4	-1.4	-9.1
Altadena	-17.8	-6.2	-33.9	-20.5	-6.7	-41.5	-21.3	-7.0	-44.6
Arcadia	-65.1	-22.8	-124.4	-75.0	-24.6	-152.4	-77.9	-25.7	-163.7
Artesia	-29.9	-10.5	-57.2	-34.5	-11.3	-70.0	-35.8	-11.8	-75.2
Avocado Heights	-11.1	-3.9	-21.2	-12.8	-4.2	-25.9	-13.3	-4.4	-27.9
Azusa	-30.7	-10.8	-58.7	-35.4	-11.6	-71.9	-36.8	-12.1	-77.3
Baldwin Park	-33.2	-11.6	-63.5	-38.3	-12.5	-77.7	-39.8	-13.1	-83.6
Bell	-26.1	-9.1	-49.8	-30.0	-9.8	-61.0	-31.2	-10.3	-65.6
Bellflower	-51.4	-18.0	-98.2	-59.2	-19.4	-120.3	-61.5	-20.3	-129.2
Bell Gardens	-21.3	-7.5	-40.8	-24.6	-8.1	-49.9	-25.5	-8.4	-53.6
Beverly Hills	-99.2	-34.7	-189.5	-114.3	-37.4	-232.0	-118.7	-39.2	-249.3
Bradbury	-1.0	-0.4	-1.9	-1.2	-0.4	-2.4	-1.2	-0.4	-2.6
Burbank	-118.2	-41.3	-225.8	-136.1	-44.6	-276.4	-141.4	-46.7	-297.1
Calabasas	-3.9	-1.4	-7.5	-4.5	-1.5	-9.1	-4.7	-1.5	-9.8
Carson	-72.9	-25.5	-139.3	-84.0	-27.5	-170.6	-87.3	-28.8	-183.3
Cermits	-68.1	-23.8	-130.1	-78.5	-25.7	-159.3	-81.5	-26.9	-171.2
Charter Oak	-6.4	-2.3	-12.3	-7.4	-2.4	-15.1	-7.7	-2.5	-16.2
Citrus	-3.7	-1.3	-7.1	-4.3	-1.4	-8.6	-4.4	-1.5	-9.3
Claremont	-35.5	-12.4	-67.7	-40.8	-13.4	-82.9	-42.4	-14.0	-89.1
Commerce	-34.7	-12.1	-66.3	-40.0	-13.1	-81.2	-41.5	-13.7	-87.2
Compton	-50.9	-17.8	-97.2	-58.6	-19.2	-119.0	-60.9	-20.1	-127.9
Covina	-56.2	-19.7	-107.4	-64.8	-21.2	-131.6	-67.3	-22.2	-141.4
Cudahy	-11.5	-4.0	-22.0	-13.3	-4.3	-26.9	-13.8	-4.5	-29.0
Culver City	-91.4	-32.0	-174.6	-105.3	-34.5	-213.7	-109.4	-36.1	-229.7
Del Aire	-8.7	-3.0	-16.6	-10.0	-3.3	-20.3	-10.4	-3.4	-21.8
Desert View Highlands	-0.7	-0.2	-1.3	-0.8	-0.2	-1.5	-0.8	-0.3	-1.6
Diamond Bar	-27.3	-9.6	-52.2	-31.5	-10.3	-64.0	-32.7	-10.8	-68.7
Downey	-81.1	-28.4	-154.9	-93.4	-30.6	-189.7	-97.1	-32.0	-203.9
Duarte	-17.4	-6.1	-33.3	-20.1	-6.6	-40.8	-20.9	-6.9	-43.8
East Compton	-1.9	-0.7	-3.6	-2.2	-0.7	-4.4	-2.3	-0.7	-4.8
East La Mirada	-4.4	-1.5	-8.4	-5.1	-1.7	-10.3	-5.3	-1.7	-11.0
East Los Angeles	-54.3	-19.0	-103.8	-62.6	-20.5	-127.1	-65.0	-21.5	-136.6
East Pasadena	-18.6	-6.5	-35.5	-21.4	-7.0	-43.4	-22.2	-7.3	-46.7
East San Gabriel	-11.5	-4.0	-22.0	-13.3	-4.3	-26.9	-13.8	-4.5	-28.9
El Monte	-78.3	-27.4	-149.6	-90.2	-29.6	-183.2	-93.7	-30.9	-196.8
El Segundo	-23.1	-8.1	-44.2	-26.7	-8.7	-54.1	-27.7	-9.1	-58.2
Florence-Graham	-18.3	-6.4	-34.9	-21.1	-6.9	-42.8	-21.9	-7.2	-46.0
Gardena	-58.4	-20.4	-111.5	-67.2	-22.0	-136.5	-69.8	-23.0	-146.7
Glendale	-219.7	-76.8	-419.7	-253.1	-82.9	-513.9	-262.9	-86.8	-552.3
Glendora	-42.2	-14.8	-80.7	-48.7	-15.9	-98.8	-50.5	-16.7	-106.2
Hacienda Heights	-27.5	-9.6	-52.6	-31.7	-10.4	-64.4	-32.9	-10.9	-69.2
Hawaiian Gardens	-8.8	-3.1	-16.7	-10.1	-3.3	-20.5	-10.5	-3.5	-22.0
Hawthorne	-57.6	-20.1	-110.1	-66.4	-21.8	-134.8	-68.9	-22.8	-144.8
Hermosa Beach	-28.6	-10.0	-54.6	-32.9	-10.8	-66.8	-34.2	-11.3	-71.8
Hidden Hills	-1.1	-0.4	-2.1	-1.2	-0.4	-2.5	-1.3	-0.4	-2.7
Huntington Park	-47.7	-16.7	-91.1	-54.9	-18.0	-111.5	-57.0	-18.8	-119.8
Industry	-77.2	-27.0	-147.4	-88.9	-29.1	-180.5	-92.4	-30.5	-194.0
Inglewood	-92.4	-32.3	-176.5	-106.4	-34.9	-216.1	-110.5	-36.5	-232.2
Irwindale	-2.4	-0.8	-4.5	-2.7	-0.9	-5.6	-2.8	-0.9	-6.0
La Canada Flintridge	-16.0	-5.6	-30.6	-18.5	-6.1	-37.5	-19.2	-6.3	-40.3
La Crescenta-Montrose	-12.9	-4.5	-24.6	-14.8	-4.9	-30.1	-15.4	-5.1	-32.3
Ladera Heights	-4.4	-1.5	-8.4	-5.1	-1.7	-10.3	-5.2	-1.7	-11.0
La Habra Heights	-4.3	-1.5	-8.3	-5.0	-1.6	-10.1	-5.2	-1.7	-10.9
Lake Los Angeles	-0.5	-0.2	-0.9	-0.5	-0.2	-1.1	-0.6	-0.2	-1.2
Lakewood	-77.8	-27.2	-148.6	-89.6	-29.4	-182.0	-93.1	-30.7	-195.6
La Mirada	-29.7	-10.4	-56.8	-34.3	-11.2	-69.6	-35.6	-11.7	-74.8
Lancaster	-71.2	-24.9	-135.9	-82.0	-26.9	-166.4	-85.2	-28.1	-178.9
La Puente	-19.8	-6.9	-37.8	-22.8	-7.5	-46.3	-23.7	-7.8	-49.8
La Verne	-24.2	-8.5	-46.2	-27.9	-9.1	-56.6	-28.9	-9.6	-60.8
Lawndale	-22.0	-7.7	-42.1	-25.4	-8.3	-51.5	-26.4	-8.7	-55.4

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Lennox	-10.9	-3.8	-20.8	-12.6	-4.1	-25.5	-13.1	-4.3	-27.4
Littlerock	-0.1	0.0	-0.2	-0.1	0.0	-0.3	-0.1	0.0	-0.3
Lomita	-20.0	-7.0	-38.3	-23.1	-7.6	-46.8	-24.0	-7.9	-50.3
Long Beach	-318.6	-111.4	-608.7	-367.1	-120.3	-745.3	-381.3	-125.8	-801.0
Los Angeles	-3,336.6	-1,166.7	-6,373.6	-3,843.7	-1,259.7	-7,804.3	-3,992.6	-1,317.5	-8,387.8
Lynwood	-25.4	-8.9	-48.5	-29.2	-9.6	-59.3	-30.4	-10.0	-63.8
Malibu	-5.6	-2.0	-10.8	-6.5	-2.1	-13.2	-6.7	-2.2	-14.2
Manhattan Beach	-48.5	-17.0	-92.7	-55.9	-18.3	-113.5	-58.1	-19.2	-122.0
Marina del Rey	-19.2	-6.7	-36.6	-22.1	-7.2	-44.9	-23.0	-7.6	-48.2
Mayflower Village	-1.8	-0.6	-3.4	-2.0	-0.7	-4.2	-2.1	-0.7	-4.5
Maywood	-14.5	-5.1	-27.6	-16.7	-5.5	-33.9	-17.3	-5.7	-36.4
Monrovia	-43.4	-15.2	-82.9	-50.0	-16.4	-101.6	-52.0	-17.1	-109.1
Montebello	-62.8	-22.0	-119.9	-72.3	-23.7	-146.8	-75.1	-24.8	-157.8
Monterey Park	-46.3	-16.2	-88.4	-53.3	-17.5	-108.2	-55.4	-18.3	-116.3
North El Monte	-1.5	-0.5	-2.8	-1.7	-0.6	-3.4	-1.8	-0.6	-3.7
Norwalk	-57.9	-20.2	-110.6	-66.7	-21.9	-135.4	-69.3	-22.9	-145.6
Palmdale	-54.7	-19.1	-104.5	-63.0	-20.6	-127.9	-65.4	-21.6	-137.5
Palos Verdes Estates	-3.7	-1.3	-7.1	-4.3	-1.4	-8.7	-4.5	-1.5	-9.4
Paramount	-27.0	-9.4	-51.6	-31.1	-10.2	-63.2	-32.3	-10.7	-67.9
Pasadena	-175.3	-61.3	-334.8	-201.9	-66.2	-409.9	-209.7	-69.2	-440.6
Pico Rivera	-38.9	-13.6	-74.4	-44.9	-14.7	-91.1	-46.6	-15.4	-97.9
Pomona	-98.3	-34.4	-187.7	-113.2	-37.1	-229.9	-117.6	-38.8	-247.1
Quartz Hill	-2.5	-0.9	-4.7	-2.8	-0.9	-5.8	-3.0	-1.0	-6.2
Rancho Palos Verdes	-22.1	-7.7	-42.3	-25.5	-8.4	-51.8	-26.5	-8.7	-55.6
Redondo Beach	-69.9	-24.5	-133.6	-80.6	-26.4	-163.6	-83.7	-27.6	-175.8
Rolling Hills	-0.5	-0.2	-0.9	-0.5	-0.2	-1.1	-0.6	-0.2	-1.2
Rolling Hills Estates	-6.8	-2.4	-13.0	-7.8	-2.6	-15.9	-8.1	-2.7	-17.1
Rosemead	-28.1	-9.8	-53.6	-32.3	-10.6	-65.7	-33.6	-11.1	-70.6
Rowland Heights	-39.2	-13.7	-74.8	-45.1	-14.8	-91.6	-46.9	-15.5	-98.5
San Dimas	-27.7	-9.7	-52.9	-31.9	-10.5	-64.8	-33.2	-10.9	-69.6
San Fernando	-28.0	-9.8	-53.5	-32.3	-10.6	-65.5	-33.5	-11.1	-70.4
San Gabriel	-36.9	-12.9	-70.4	-42.5	-13.9	-86.2	-44.1	-14.6	-92.7
San Marino	-7.0	-2.5	-13.4	-8.1	-2.6	-16.4	-8.4	-2.8	-17.6
Santa Clarita	-82.9	-29.0	-158.4	-95.5	-31.3	-193.9	-99.2	-32.7	-208.4
Santa Fe Springs	-26.5	-9.3	-50.7	-30.6	-10.0	-62.0	-31.7	-10.5	-66.7
Santa Monica	-177.0	-61.9	-338.2	-203.9	-66.8	-414.1	-211.8	-69.9	-445.0
Sierra Madre	-7.8	-2.7	-14.8	-8.9	-2.9	-18.2	-9.3	-3.1	-19.5
Signal Hill	-14.3	-5.0	-27.3	-16.5	-5.4	-33.4	-17.1	-5.6	-35.9
South El Monte	-10.4	-3.6	-19.9	-12.0	-3.9	-24.3	-12.5	-4.1	-26.2
South Gate	-49.1	-17.2	-93.7	-56.5	-18.5	-114.7	-58.7	-19.4	-123.3
South Pasadena	-24.1	-8.4	-46.0	-27.7	-9.1	-56.3	-28.8	-9.5	-60.5
South San Gabriel	-3.6	-1.3	-6.9	-4.2	-1.4	-8.5	-4.3	-1.4	-9.1
South San Jose Hills	-4.4	-1.6	-8.5	-5.1	-1.7	-10.4	-5.3	-1.8	-11.1
South Whittier	-22.6	-7.9	-43.2	-26.0	-8.5	-52.8	-27.0	-8.9	-56.8
Temple City	-26.1	-9.1	-49.8	-30.1	-9.8	-61.0	-31.2	-10.3	-65.6
Torrance	-207.1	-72.4	-395.6	-238.6	-78.2	-484.4	-247.8	-81.8	-520.6
Valinda	-9.5	-3.3	-18.1	-10.9	-3.6	-22.1	-11.3	-3.7	-23.8
Val Verde	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vernon	-14.0	-4.9	-26.8	-16.2	-5.3	-32.8	-16.8	-5.5	-35.3
View Park-Windsor Hills	-6.1	-2.1	-11.7	-7.1	-2.3	-14.4	-7.4	-2.4	-15.5
Vincent	-11.1	-3.9	-21.3	-12.8	-4.2	-26.0	-13.3	-4.4	-28.0
Walnut	-11.3	-3.9	-21.6	-13.0	-4.3	-26.4	-13.5	-4.5	-28.4
Walnut Park	-7.5	-2.6	-14.3	-8.6	-2.8	-17.5	-9.0	-3.0	-18.9
West Athens	-3.2	-1.1	-6.1	-3.7	-1.2	-7.4	-3.8	-1.3	-8.0
West Carson	-16.4	-5.7	-31.3	-18.9	-6.2	-38.3	-19.6	-6.5	-41.2
West Compton	-3.3	-1.2	-6.3	-3.8	-1.2	-7.7	-4.0	-1.3	-8.3
West Covina	-85.3	-29.8	-162.9	-98.2	-32.2	-199.4	-102.0	-33.7	-214.3
West Hollywood	-83.9	-29.4	-160.3	-96.7	-31.7	-196.3	-100.4	-33.1	-211.0
Westlake Village	-4.9	-1.7	-9.4	-5.7	-1.9	-11.5	-5.9	-1.9	-12.3
Westmont	-9.9	-3.4	-18.8	-11.3	-3.7	-23.0	-11.8	-3.9	-24.8
West Puente Valley	-3.9	-1.4	-7.4	-4.4	-1.5	-9.0	-4.6	-1.5	-9.7
West Whittier-Los Nietos	-12.9	-4.5	-24.6	-14.8	-4.9	-30.1	-15.4	-5.1	-32.4
Whittier	-67.5	-23.6	-128.8	-77.7	-25.5	-157.8	-80.7	-26.6	-169.6
Willowbrook	-10.9	-3.8	-20.7	-12.5	-4.1	-25.4	-13.0	-4.3	-27.3

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Aliso Viejo	-33.5	-11.7	-64.0	-38.6	-12.7	-78.4	-40.1	-13.2	-84.2
Anaheim	-242.9	-84.9	-463.9	-279.8	-91.7	-568.1	-290.6	-95.9	-610.5
Brea	-33.4	-11.7	-63.7	-38.4	-12.6	-78.0	-39.9	-13.2	-83.8
Buena Park	-60.7	-21.2	-116.0	-70.0	-22.9	-142.1	-72.7	-24.0	-152.7
Costa Mesa	-199.6	-69.8	-381.2	-229.9	-75.3	-466.8	-238.8	-78.8	-501.7
Coto de Caza	-4.7	-1.6	-8.9	-5.4	-1.8	-10.9	-5.6	-1.8	-11.7
Cypress	-44.5	-15.6	-85.0	-51.3	-16.8	-104.1	-53.3	-17.6	-111.9
Dana Point	-38.6	-13.5	-73.8	-44.5	-14.6	-90.4	-46.2	-15.3	-97.1
Foothill Ranch	-0.6	-0.2	-1.2	-0.7	-0.2	-1.5	-0.7	-0.2	-1.6
Fountain Valley	-66.3	-23.2	-126.6	-76.3	-25.0	-155.0	-79.3	-26.2	-166.6
Fullerton	-128.0	-44.8	-244.5	-147.4	-48.3	-299.4	-153.2	-50.5	-321.8
Garden Grove	-135.1	-47.2	-258.1	-155.7	-51.0	-316.0	-161.7	-53.4	-339.7
Huntington Beach	-196.8	-68.8	-375.9	-226.7	-74.3	-460.3	-235.5	-77.7	-494.7
Irvine	-94.6	-33.1	-180.8	-109.0	-35.7	-221.3	-113.2	-37.4	-237.9
Laguna Beach	-40.0	-14.0	-76.4	-46.1	-15.1	-93.5	-47.9	-15.8	-100.5
Laguna Hills	-37.5	-13.1	-71.6	-43.2	-14.1	-87.6	-44.8	-14.8	-94.2
Laguna Niguel	-63.6	-22.3	-121.6	-73.3	-24.0	-148.9	-76.2	-25.1	-160.0
Laguna Woods	-25.6	-8.9	-48.9	-29.5	-9.7	-59.9	-30.6	-10.1	-64.3
La Habra	-41.5	-14.5	-79.3	-47.8	-15.7	-97.1	-49.7	-16.4	-104.4
Lake Forest	-55.1	-19.3	-105.2	-63.5	-20.8	-128.9	-65.9	-21.8	-138.5
La Palma	-8.4	-2.9	-16.0	-9.6	-3.2	-19.6	-10.0	-3.3	-21.0
Las Flores	-1.5	-0.5	-2.9	-1.7	-0.6	-3.5	-1.8	-0.6	-3.8
Los Alamitos	-14.4	-5.1	-27.6	-16.6	-5.5	-33.8	-17.3	-5.7	-36.3
Mission Viejo	-76.0	-26.6	-145.2	-87.5	-28.7	-177.7	-90.9	-30.0	-191.0
Newport Beach	-150.4	-52.6	-287.3	-173.2	-56.8	-351.8	-180.0	-59.4	-378.1
Newport Coast	-4.0	-1.4	-7.7	-4.6	-1.5	-9.4	-4.8	-1.6	-10.1
Orange	-152.4	-53.3	-291.2	-175.6	-57.5	-356.5	-182.4	-60.2	-383.2
Placentia	-30.4	-10.6	-58.1	-35.0	-11.5	-71.1	-36.4	-12.0	-76.5
Portola Hills	-0.3	-0.1	-0.5	-0.3	-0.1	-0.6	-0.3	-0.1	-0.6
Rancho Santa Margarita	-15.5	-5.4	-29.5	-17.8	-5.8	-36.2	-18.5	-6.1	-38.9
Rossmore	-3.1	-1.1	-5.9	-3.6	-1.2	-7.3	-3.7	-1.2	-7.8
San Clemente	-45.9	-16.0	-87.6	-52.8	-17.3	-107.3	-54.9	-18.1	-115.3
San Joaquin Hills	-1.6	-0.6	-3.0	-1.8	-0.6	-3.7	-1.9	-0.6	-4.0
San Juan Capistrano	-35.0	-12.2	-66.8	-40.3	-13.2	-81.8	-41.8	-13.8	-87.9
Santa Ana	-238.8	-83.5	-456.2	-275.1	-90.2	-558.6	-285.8	-94.3	-600.3
Seal Beach	-22.4	-7.8	-42.7	-25.8	-8.4	-52.3	-26.8	-8.8	-56.2
Stanton	-25.7	-9.0	-49.0	-29.6	-9.7	-60.0	-30.7	-10.1	-64.5
Tustin	-79.6	-27.8	-152.0	-91.7	-30.1	-186.2	-95.2	-31.4	-200.1
Tustin Foothills	-11.0	-3.9	-21.1	-12.7	-4.2	-25.8	-13.2	-4.4	-27.7
Villa Park	-3.9	-1.4	-7.5	-4.5	-1.5	-9.2	-4.7	-1.5	-9.8
Westminster	-99.6	-34.8	-190.2	-114.7	-37.6	-232.9	-119.2	-39.3	-250.4
Yorba Linda	-31.7	-11.1	-60.6	-36.6	-12.0	-74.2	-38.0	-12.5	-79.8
Banning	-12.6	-4.4	-24.1	-14.6	-4.8	-29.6	-15.1	-5.0	-31.8
Beaumont	-7.7	-2.7	-14.8	-8.9	-2.9	-18.1	-9.3	-3.1	-19.5
Bermuda Dunes	-1.1	-0.4	-2.1	-1.3	-0.4	-2.6	-1.3	-0.4	-2.8
Cabazon	-0.7	-0.3	-1.4	-0.9	-0.3	-1.7	-0.9	-0.3	-1.9
Calimesa	-3.7	-1.3	-7.1	-4.3	-1.4	-8.7	-4.4	-1.5	-9.3
Canyon Lake	-1.4	-0.5	-2.7	-1.6	-0.5	-3.3	-1.7	-0.6	-3.6
Cathedral City	-35.2	-12.3	-67.2	-40.5	-13.3	-82.3	-42.1	-13.9	-88.4
Cherry Valley	-1.0	-0.4	-1.9	-1.2	-0.4	-2.4	-1.2	-0.4	-2.5
Coachella	-11.9	-4.2	-22.8	-13.7	-4.5	-27.9	-14.3	-4.7	-29.9
Corona	-77.9	-27.2	-148.8	-89.8	-29.4	-182.2	-93.2	-30.8	-195.9
Desert Hot Springs	-6.0	-2.1	-11.6	-7.0	-2.3	-14.1	-7.2	-2.4	-15.2
East Hemet	-11.1	-3.9	-21.1	-12.7	-4.2	-25.8	-13.2	-4.4	-27.8
El Cerrito	-1.1	-0.4	-2.2	-1.3	-0.4	-2.7	-1.4	-0.5	-2.9
Glen Avon	-9.0	-3.1	-17.1	-10.3	-3.4	-21.0	-10.7	-3.5	-22.5
Hemet	-50.2	-17.6	-95.9	-57.8	-19.0	-117.4	-60.1	-19.8	-126.2
Highgrove	-0.6	-0.2	-1.2	-0.7	-0.2	-1.5	-0.8	-0.2	-1.6
Home Gardens	-2.4	-0.8	-4.6	-2.8	-0.9	-5.6	-2.9	-0.9	-6.0
Homeland	-0.5	-0.2	-1.0	-0.6	-0.2	-1.3	-0.7	-0.2	-1.4
Idyllwild-Pine Cove	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Indian Wells	-6.6	-2.3	-12.6	-7.6	-2.5	-15.4	-7.9	-2.6	-16.6
Indio	-29.9	-10.4	-57.0	-34.4	-11.3	-69.8	-35.7	-11.8	-75.0

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Lake Elsinore	-22.2	-7.7	-42.3	-25.5	-8.4	-51.8	-26.5	-8.8	-55.7
Lakeland Village	-1.6	-0.6	-3.1	-1.8	-0.6	-3.7	-1.9	-0.6	-4.0
Lakeview	-0.5	-0.2	-0.9	-0.6	-0.2	-1.1	-0.6	-0.2	-1.2
La Quinta	-8.2	-2.9	-15.7	-9.5	-3.1	-19.2	-9.8	-3.2	-20.7
March AFB	-0.8	-0.3	-1.6	-1.0	-0.3	-2.0	-1.0	-0.3	-2.1
Mecca	-0.1	0.0	-0.1	-0.1	0.0	-0.1	-0.1	0.0	-0.1
Mira Loma	-8.4	-2.9	-16.1	-9.7	-3.2	-19.7	-10.1	-3.3	-21.2
Moreno Valley	-79.0	-27.6	-150.9	-91.0	-29.8	-184.8	-94.5	-31.2	-198.6
Murrieta	-10.6	-3.7	-20.3	-12.2	-4.0	-24.8	-12.7	-4.2	-26.7
Murrieta Hot Springs	-0.4	-0.1	-0.7	-0.4	-0.1	-0.9	-0.5	-0.2	-1.0
Norco	-15.8	-5.5	-30.2	-18.2	-6.0	-36.9	-18.9	-6.2	-39.7
Nuevo	-0.9	-0.3	-1.8	-1.1	-0.3	-2.1	-1.1	-0.4	-2.3
Palm Desert	-67.0	-23.4	-127.9	-77.1	-25.3	-156.6	-80.1	-26.4	-168.3
Palm Springs	-75.6	-26.4	-144.5	-87.1	-28.6	-176.9	-90.5	-29.9	-190.1
Pedley	-7.7	-2.7	-14.6	-8.8	-2.9	-17.9	-9.2	-3.0	-19.3
Perris	-23.0	-8.0	-43.9	-26.5	-8.7	-53.7	-27.5	-9.1	-57.7
Quail Valley	-0.4	-0.1	-0.8	-0.5	-0.2	-0.9	-0.5	-0.2	-1.0
Rancho Mirage	-22.1	-7.7	-42.2	-25.5	-8.3	-51.7	-26.5	-8.7	-55.6
Riverside	-264.3	-92.4	-504.8	-304.5	-99.8	-618.2	-316.2	-104.4	-664.4
Romoland	-1.1	-0.4	-2.2	-1.3	-0.4	-2.7	-1.4	-0.5	-2.9
Rubidoux	-11.3	-3.9	-21.5	-13.0	-4.3	-26.4	-13.5	-4.5	-28.4
San Jacinto	-10.3	-3.6	-19.7	-11.9	-3.9	-24.1	-12.3	-4.1	-25.9
Sedco Hills	-2.8	-1.0	-5.3	-3.2	-1.0	-6.5	-3.3	-1.1	-7.0
Sun City	-16.7	-5.8	-31.8	-19.2	-6.3	-39.0	-19.9	-6.6	-41.9
Sunnyslope	-0.6	-0.2	-1.1	-0.7	-0.2	-1.4	-0.7	-0.2	-1.5
Temecula	-29.1	-10.2	-55.6	-33.5	-11.0	-68.0	-34.8	-11.5	-73.1
Thousand Palms	-0.4	-0.2	-0.9	-0.5	-0.2	-1.0	-0.5	-0.2	-1.1
Valle Vista	-2.5	-0.9	-4.8	-2.9	-1.0	-5.9	-3.0	-1.0	-6.3
Wildomar	-6.1	-2.1	-11.7	-7.0	-2.3	-14.3	-7.3	-2.4	-15.3
Winchester	-2.0	-0.7	-3.9	-2.3	-0.8	-4.7	-2.4	-0.8	-5.1
Woodcrest	-6.2	-2.2	-11.8	-7.1	-2.3	-14.5	-7.4	-2.4	-15.6
Camarillo	-44.6	-15.6	-85.2	-51.4	-16.8	-104.3	-53.4	-17.6	-112.1
Casa Conejo	-1.8	-0.6	-3.4	-2.1	-0.7	-4.2	-2.1	-0.7	-4.5
Channel Islands Beach	-3.9	-1.4	-7.5	-4.5	-1.5	-9.2	-4.7	-1.5	-9.9
El Rio	-5.1	-1.8	-9.7	-5.9	-1.9	-11.9	-6.1	-2.0	-12.8
Fillmore	-3.5	-1.2	-6.6	-4.0	-1.3	-8.1	-4.2	-1.4	-8.7
Meiners Oaks	-2.2	-0.8	-4.2	-2.6	-0.8	-5.2	-2.7	-0.9	-5.6
Mira Monte	-6.3	-2.2	-12.1	-7.3	-2.4	-14.8	-7.6	-2.5	-15.9
Moorpark	-12.8	-4.5	-24.5	-14.7	-4.8	-29.9	-15.3	-5.1	-32.2
Oak Park	-0.1	0.0	-0.2	-0.1	0.0	-0.3	-0.2	0.0	-0.3
Oak View	-2.6	-0.9	-4.9	-3.0	-1.0	-6.1	-3.1	-1.0	-6.5
Ojai	-4.6	-1.6	-8.8	-5.3	-1.7	-10.8	-5.5	-1.8	-11.6
Oxnard	-110.4	-38.6	-210.8	-127.1	-41.7	-258.1	-132.1	-43.6	-277.4
Piru	0.0	0.0	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1
Port Hueneme	-14.5	-5.1	-27.8	-16.7	-5.5	-34.0	-17.4	-5.7	-36.5
San Buenaventura (Ventura)	-100.3	-35.1	-191.6	-115.6	-37.9	-234.6	-120.0	-39.6	-252.2
Santa Paula	-16.8	-5.9	-32.1	-19.3	-6.3	-39.3	-20.1	-6.6	-42.2
Simi Valley	-96.1	-33.6	-183.6	-110.7	-36.3	-224.8	-115.0	-38.0	-241.6
Thousand Oaks	-148.8	-52.0	-284.3	-171.5	-56.2	-348.2	-178.1	-58.8	-374.2
Adelanto	-3.6	-1.2	-6.8	-4.1	-1.3	-8.3	-4.3	-1.4	-8.9
Apple Valley	-23.2	-8.1	-44.3	-26.7	-8.8	-54.2	-27.8	-9.2	-58.3
Barstow	-12.6	-4.4	-24.1	-14.6	-4.8	-29.6	-15.1	-5.0	-31.8
Big Bear City	-0.2	-0.1	-0.3	-0.2	-0.1	-0.4	-0.2	-0.1	-0.4
Big Bear Lake	-5.1	-1.8	-9.7	-5.9	-1.9	-11.9	-6.1	-2.0	-12.8
Bloomington	-10.3	-3.6	-19.6	-11.8	-3.9	-24.0	-12.3	-4.1	-25.8
Chino	-55.2	-19.3	-105.4	-63.6	-20.8	-129.1	-66.0	-21.8	-138.8
Chino Hills	-20.8	-7.3	-39.8	-24.0	-7.9	-48.7	-24.9	-8.2	-52.3
Colton	-41.2	-14.4	-78.7	-47.4	-15.5	-96.3	-49.3	-16.3	-103.5
Crestline	-1.3	-0.4	-2.4	-1.5	-0.5	-3.0	-1.5	-0.5	-3.2
Fontana	-76.4	-26.7	-145.9	-88.0	-28.8	-178.7	-91.4	-30.2	-192.0
Grand Terrace	-32.2	-11.2	-61.4	-37.0	-12.1	-75.2	-38.5	-12.7	-80.8
Hesperia	-28.2	-9.9	-53.8	-32.5	-10.6	-65.9	-33.7	-11.1	-70.8
Highland	-15.6	-5.4	-29.7	-17.9	-5.9	-36.4	-18.6	-6.1	-39.1

(Millions of \$ 1999)

City and CDP	CASE I			CASE II			CASE III		
	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III	Scenario I	Scenario II	Scenario III
Joshua Tree	-0.5	-0.2	-0.9	-0.6	-0.2	-1.1	-0.6	-0.2	-1.2
Lake Arrowhead	-0.9	-0.3	-1.7	-1.0	-0.3	-2.1	-1.1	-0.4	-2.2
Lenwood	-0.1	0.0	-0.2	-0.1	0.0	-0.2	-0.1	0.0	-0.3
Loma Linda	-9.4	-3.3	-18.0	-10.8	-3.6	-22.0	-11.3	-3.7	-23.6
Mentone	-0.8	-0.3	-1.6	-1.0	-0.3	-1.9	-1.0	-0.3	-2.1
Montclair	-77.3	-27.0	-147.6	-89.0	-29.2	-180.7	-92.4	-30.5	-194.2
Morongo Valley	-0.1	0.0	-0.1	-0.1	0.0	-0.2	-0.1	0.0	-0.2
Mountain View Acres	-3.3	-1.1	-6.2	-3.7	-1.2	-7.6	-3.9	-1.3	-8.2
Muscoy	-1.3	-0.4	-2.4	-1.5	-0.5	-2.9	-1.5	-0.5	-3.2
Nebo Center	-0.1	-0.1	-0.3	-0.2	-0.1	-0.3	-0.2	-0.1	-0.4
Ontario	-149.7	-52.3	-285.9	-172.4	-56.5	-350.1	-179.1	-59.1	-376.3
Rancho Cucamonga	-92.1	-32.2	-175.9	-106.1	-34.8	-215.4	-110.2	-36.4	-231.5
Redlands	-61.6	-21.6	-117.7	-71.0	-23.3	-144.2	-73.7	-24.3	-154.9
Rialto	-46.6	-16.3	-89.1	-53.7	-17.6	-109.1	-55.8	-18.4	-117.2
Running Springs	-0.2	-0.1	-0.4	-0.2	-0.1	-0.5	-0.2	-0.1	-0.5
San Antonio Heights	-0.7	-0.3	-1.4	-0.8	-0.3	-1.7	-0.9	-0.3	-1.8
San Bernardino	-173.5	-60.7	-331.4	-199.9	-65.5	-405.8	-207.6	-68.5	-436.2
Twentynine Palms	-7.1	-2.5	-13.5	-8.1	-2.7	-16.5	-8.4	-2.8	-17.8
Twentynine Palms Base	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upland	-73.0	-25.5	-139.4	-84.1	-27.5	-170.7	-87.3	-28.8	-183.4
Victorville	-64.9	-22.7	-124.1	-74.8	-24.5	-151.9	-77.7	-25.6	-163.3
Wrightwood	-0.5	-0.2	-0.9	-0.6	-0.2	-1.2	-0.6	-0.2	-1.2
Yucaipa	-18.6	-6.5	-35.5	-21.4	-7.0	-43.5	-22.3	-7.3	-46.8
Yucca Valley	-7.2	-2.5	-13.7	-8.3	-2.7	-16.8	-8.6	-2.8	-18.1
LOS ANGELES - UNINCOR	-157.2	-55.0	-300.2	-181.1	-59.3	-367.6	-188.1	-62.1	-395.1
ORANGE - UNINCOR	-95.2	-33.3	-181.8	-109.6	-35.9	-222.6	-113.9	-37.6	-239.3
RIVERSIDE - UNINCOR	-130.2	-45.5	-248.6	-149.9	-49.1	-304.4	-155.7	-51.4	-327.2
SAN BERNARDINO - UNINCOR	-129.4	-45.3	-247.2	-149.1	-48.9	-302.7	-154.9	-51.1	-325.4
VENTURA - UNINCOR	-91.1	-31.8	-174.0	-104.9	-34.4	-213.0	-109.0	-36.0	-229.0
Total	-13,870	-4,850	-26,495	-15,978	-5,236	-32,442	-16,597	-5,477	-34,868

**Appendix B:
October 2002, Draft 303(d) Listings in Los Angeles Region**

The LARWQCB 1998 303(d) list significantly follows the NRDC et al. EPA Consent Decree mandating the development of 92 TMDLs for about 550 water body-pollutant units. In the 2002 list draft, many of these units have been split into several contaminants units. Further, water bodies have been merged into a single reach designation, making direct numeric comparisons difficult. However, ignoring the splits and merges, about 70 of those units will be deleted from that list and nearly 100 added. Clearly, this list is in significant flux, and treatment solutions developed based on the 2002 303(d) list will need to be adaptive to the addition of new and potentially difficult to treat contaminants. The middle two columns of Table B.1 were converted from the October 2002 303(d) list. The left column is a numeric list and the right column identifies that level of water treatment that is correlated with the pollutants in the adjacent column that are identified in bold text. Most discharges to the ocean require at least level II treatment and most inland discharges need level III advanced treatment.

- "BMP" indicates that Best Management Practices may be sufficient to reach water quality objectives,
- "Legacy" indicates that any discharge is from a historic source such as sediments
- "Level I" is lower cost physical treatment
- "Level II" is a disinfection treatment (ozone or UV light since chlorination may form other prohibited compounds), with level I pretreatment; and
- "Level III" is an expensive advanced treatment such as reverse osmosis, denitrification, ion exchange, or granulated active carbon, with level I and II pretreatment.

Table B.1: October 2002, Draft 303(d) Listings in the Los Angeles Region

Item #	Water Body Name	303(d) Listed Pollutant/Stressor	Treatment
1	Abalone Cove Beach	Beach Closures, DDT ^S , PCBs ^F	Level II
2	Aliso Canyon Wash	Se	Level III
3	Amarillo Beach	DDT ^F , PCBs ^F	Legacy
4	Arroyo Seco Reach 1	Algae, Coliform, Trash	Level III
5	Arroyo Seco Reach 2	Algae, Coliform, Trash	Level III
6	Ashland Avenue Drain	Coliform, Low DO, Toxicity	Level III
7	Avalon Beach	Bacteria	Level II
8	Ballona Creek	Cd ^S , ChemA, Chlordane, Cu, DDT, Dieldrin, Virus, Coliform, Pb, PCBs, pH, Toxicity ^S , Se, Ag ^S Toxicity, Zinc	Level III
9	Ballona Creek Estuary	Chlordane ^S , DDT ^S , Coliform, Pb ^S , PAHs ^S , PCBs ^S , Toxicity ^S , Shellfish Zn ^S	Level III
10	Ballona Creek Wetlands	Exotics, Altered Habitat, Hydromod., Reduced Tidal, Trash	Level I
11	Bell Creek	Coliform	Level II
12	Big Rock Beach	Beach Closures, DDT ^F , Coliform, PCBs ^F	Level II
13	Bluff Cove Beach	Beach Closures, DDT ^F , PCBs ^F	Level II
14	Brown Barranca/Long Cyn	Nitrate, Nitrite	Level III
15	Burbank Western Channel	Algae, NH ₃ , Cd, Odors, Scum, Trash	Level III
16	Cabrillo Beach (Inner)	Beach Closures, DDT ^F , PCBs ^F	Level II
17	Cabrillo Beach (Outer)	Beach Closures, DDT ^F , Coliform, PCBs ^F	Level II
18	Calleguas Creek Reach 1	Chlordane, Cu, DDT ^S , Endosulfan, Hg, Ni, Nitrogen, PCBs, Toxicity ^S , Sedimentation, Zinc	Level III
19	Calleguas Creek Reach 2	NH ₃ , ChemA, Chlordane, Cu, DDT ^S , Endosulfan, Fecal Coliform, Nitrogen, PCBs, Toxicity ^S , Sedimentation, Toxaphene ^S	Level III
20	Calleguas Creek Reach 3	Cl, NO ₂ , NO ₃ , Sedimentation, TDS	Level III
21	Calleguas Creek Reach 4	Algae, ChemA, Chlordane ^S , DDT ^S , Chlorpyrifos, Endosulfan ^S , Dieldrin, Fecal Coliform, NO ₂ , NO ₃ , Nitrogen, PCBs, Se, Sedimentation, Toxaphene ^S , Toxicity, Trash	Level III

^S=Sediments

^F=Fish Advisory (Normally due to legacy pollutants, requiring sediment treatment).

Item #	Water Body Name	303(d) Listed Pollutant/Stressor	Treatment
22	Calleguas Creek Reach 5	Algae, Chema, Chlordane^S, Chlorpyrifos, Dacthal^S, DDT^S, Dieldrin, Endosulfan^S, Nitrogen, PCBs, Sedimentation, Toxaphene^S, Toxicity, Trash	Level III
23	Calleguas Creek Reach 6	NH₃, Cl, DDT^S, Fecal Coliform, NO₂, NO₃, Sedimentation, Sulfates, TDS	Level III
24	Calleguas Creek Reach 7	NH₃, B, Cl, Fecal Coliform, OP Pesticides, Sedimentation, Sulfates, TDS	Level III
25	Calleguas Creek Reach 8	B, Cl, Sedimentation, Sulfates, TDS	Level III
26	Calleguas Creek Reach 9A	Algae, Chema, DDT, Endosulfan, Fecal Coliform, NO₂, NO₃, Sedimentation, Sulfates, TDS, Toxaphene^S	Level III
26	Calleguas Creek Reach 9B	Algae, NH₃, Chema, Cl, DDT, Endosulfan, Fecal Coliform, Sedimentation, Sulfates, TDS, Toxaphene^S, Toxicity	Level III
27	Calleguas Creek Reach 10	Algae, NH₃, Chema, Cl, DDT, Endosulfan, Fecal Coliform, NO₂, Sedimentation, Sulfates, TDS, Toxaphene^S, Toxicity	Level III
28	Calleguas Creek Reach 11	Algae, NH₃, Chema, Cl, DDT, Endosulfan, Fecal Coliform, Sedimentation, Sulfates, TDS, Toxaphene^S, Toxicity	Level III
29	Calleguas Creek Reach 12	NH₃, Chlordane, DDT, Sedimentation, Sulfates, TDS	Level III
30	Calleguas Creek Reach 13	Algae, NH₃, Chema, Chlordane, Cl, DDT, Dieldrin, Endosulfan, HCH, PCBs, Sedimentation, Sulfates, TDS, Toxaphene^S, Toxicity	Level III
31	Canada Larga (Ventura R)	Fecal Coliform, Low DO	Level II
32	Carbon Beach	Beach Closures, DDT^F, PCBs^F	Level II
33	Castlerock Beach	Bacteria, Beach Closures, DDT^F, PCBs^F	Level II
34	Channel Islands Harbor	Pb^S, Zn^S	Legacy
35	Channel Ilds Harbor Beach	Bacteria	Level II
36	Colorado Lagoon	Chlordane^S, DDT, Dieldrin, Pb^S, PAHs^S, PCBs, Toxicity^S, Zn^S	Level III

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Item #	Water Body Name	303(d) Listed Pollutant/Stressor	Treatment
37	Compton Creek	Cu, Coliform, Pb, pH,	Level III
38	Coyote Creek	Fish Histology, Algae, Cu, Coliform, Pb, Se, Zn	Level III
39	Crystal Lake	Low Do	BMP / Level I
40	Dan Blocker Beach	Coliform	Level II
41	Dockweiler Beach	Beach Closures, Coliform	Level II
42	Dominguez Channel >VT	Aldrin, NH ₃ , Chema, Chlordane, Cr ^S , Cu, DDT ^S , Dieldrin, Coliform, Pb, PAHs ^S , PCBs, Zn ^S	Level III
43	Dominguez Channel <VT	Aldrin, NH ₃ , Benthic, Chema, Chlordane, Cr ^S , Cu, DDT ^S , Dieldrin, Coliform, Pb, PAHs ^S , PCBs, Zn ^S	Level III
44	Dry Canyon Creek	Fecal Coliform, Se	Level III
45	Duck Pond/Mugu Drain	Chema, Chlordane, DDT ^S , Nitrogen, Toxicity ^S , Toxaphene	Level III
46	Echo Park Lake	Algae, NH ₃ , Cu, Eutrophic, Pb, Odors, PCBs, pH	Level III
47	El Dorado Lakes	Algae, NH ₃ , Cu, Eutrophic, Pb, Hg, pH	Level III
48	Elizabeth Lake	Eutrophic, Low DO, pH, Trash	Level III/I
49	Escondido Beach	Beach Closures, DDT ^F , PCBs ^F	Level II
50	Flat Rock Point Beach	Beach Closures, DDT ^F , PCBs ^F	Level II
51	Fox Barranca	B, NO ₂ , NO ₃ , Sulfates, TDS	Level III
52	Hermosa Beach	Beach Closures	Level II
53	Hobie Beach	Bacteria	Level II
54	Hopper Creek	Sulfates, TDS	Level III
55	Inspiration Point Beach	Beach Closures, DDT ^F , PCBs ^F	Level II
56	La Costa Beach	Beach Closures, DDT ^F , PCBs ^F	Level II
57	Lake Calabasas	NH ₃ , DDT, Eutrophic, Odors, Low DO, pH	Level III
58	Lake Hughes	Algae, Eutrophic, Fish Kills, Odors, Trash	Level III
59	Lake Lindero	Algae, Cl, Eutrophic, Odors, EC(TDS), Trash	Level III
60	Lake Sherwood	Algae, NH ₃ , Eutrophic, Hg, Low DO	Level III
61	Las Flores Beach	Coliform, DDT ^F , PCBs ^F	Level II
62	Las Tunas Beach	Beach Closures, DDT ^F , PCBs ^F	Level II
63	Las Virgenes Creek	Coliforms, Nutrients (Algae), Low DO, Scum, Sedimentation, Se, Trash	Level III

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^F=Fish Advisory (Normally due to legacy pollutants, requiring sediment treatment).

Item #	Water Body Name	303(d) Listed Pollutant/Stressor	Treatment
64	Legg Lake	NH ₃ , Cu, Pb, Odors, pH, Trash	Level III
65	Leo Carillo Beach	Beach Closures, Coliform	Level II
66	Lincoln Park Lake	NH ₃ , Eutrophic, Pb, Odors, Low DO	Level III
67	Lindero Creek Reach 1	Algae, Coliform, Scum, Se, Trash	Level III
68	Lindero Creek Reach 2	Algae, Coliform, Scum, Se, Trash	Level III
69	Long Beach Harbor	Benthic, DDT ^F , PAHs ^S , PCBs ^F , Toxicity ^S	Legacy or Level III
70	Long Point Beach	Coliform, DDT ^F , PCBs ^F	Level II
71	Los Angeles Fish Harbor	DDT, PAHs, PCBs	Legacy or Level III
72	LA Hbr Consolidated Slip	Benthic, Cd ^S , Chlorodane ^S , Cr ^S , Cu ^S , DDT ^F , Dieldrin ^S , Pb ^S , Hg ^S , PAHs ^S , PCBs ^F , Toxicity ^S , Zn ^S	Legacy or Level III
73	LA Hbr Inner Breakwater	DDT, PAHs, PCBs	Legacy or Level III
74	LA Hbr Main Channel	Beach Closures, Cu ^S , DDT ^F , PAHs ^S , PCBs ^F , Toxicity ^S , Zn ^S	Level II
75	LA Hbr Southwest Slip	DDT ^F , PCBs ^F , Toxicity ^S	Legacy
76	LA River Estuary	Chlorodane ^S , DDT ^S , Pb ^S , PCBs ^S , Zn ^S	Legacy
77	LA River Reach 1	Al, NH ₃ , Cd, Cu, Coliform, Pb, Nutrients (Algae), pH, Scum, Zn	Level III
78	LA River Reach 2	NH ₃ , Coliform, Pb, Nutrients (Algae), Odors, Oil, Scum	Level III
79	LA River Reach 3	NH ₃ , Nutrients (Algae), Odors, Scum	Level III
80	LA River Reach 4	NH ₃ , Coliform, Pb, Nutrients (Algae), Odors, Scum	Level III
81	LA River Reach 5	NH ₃ , Chema, Nutrients (Algae), Odors, Oil, Scum	Level III
82	LA River Reach 6	1,1-DCE, Coliform, PCE, TCE	Level III
83	Los Cerritos Channel	NH ₃ , Chlordane ^S , Cu, Coliform, Pb, Zn	Level III
84	Lunda Bay Beach	Beach Closures	Level II
85	Machado Lake (Harbor L)	Algae, NH ₃ , Chema, Chlordane, DDT, Dieldrin, Eutrophic, Odors, PCBs, Trash	Level III
86	Malaga Cove Beach	Beach Closures, DDT ^F , PCBs ^F	Level II
87	Malibou Lake	Algae, Chlordane, Eutrophic, Low DO, PCBs	Level III
88	Malibu Beach	Beach Closures, DDT ^F	Level II

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Item #	Water Body Name	303(d) Listed Pollutant/Stressor	Treatment
89	Malibu Creek	Barriers, Coliform, Nutrients (Algae), Scum, Sedimentation, Trash	Level III
90	Malibu Lagoon	Benthic, Virus, Eutrophic, Coliform, pH, Shellfish, REC1	Level III or Level II
91	Malibu Lagoon Beach	Beach Closures, DDT ^F , Coliform, PCBs ^F	Level II
92	Manhattan Beach	Beach Closures	Level II
93	Marina del Rey Basins	Chlordane ^S , Cu ^S , DDT ^S , Dieldrin, Fish Consumption, Coliform, Pb ^S , PCBs ^S , Toxicity ^S , Zn ^S	Level III
94	Marina del Rey Beach	Beach Closures, Coliform	Level II
95	Matilija Creek Reach 1	Barriers	BMP
96	Matilija Creek Reach 2	Barriers	BMP
97	Matilija Reservoir	Barriers	BMP
98	McCoy Canyon Creek	Fecal Coliform, NO ₃ , Se	Level III
99	McGrath Beach	Coliform	Level II
100	McGrath Lake	Chlordane ^S , DDT ^S , Dieldrin ^S , PCBs ^S , Toxicity ^S	Legacy
101	Medea Creek Reach 1	Algae, Coliform, Sedimentation, Se, Trash	Level III
102	Medea Creek Reach 2	Algae, Coliform, Sedimentation, Se, Trash	Level III
103	Mint Canyon Reach 1	NO ₂ , NO ₃	Level III
104	Monrovia Canyon Lake	Pb	Level II or Level III
105	Munz Lake	Eutrophic, Trash	Level III
106	Nicholas Canyon Beach	Beach Closures, DDT ^F , PCBs ^F	Level II
107	Ormond Beach	Bacteria	Level II
108	Palo Comado Creek	Coliform	Level II
109	Palo Verde Shoreline Bch	Pathogens, Pesticides	Level III
110	Paradise Cove Beach	Beach Closures, DDT ^F , Coliform, PCBs ^F	Level II
111	Peck Road Park Lake	Chlordane, DDT, Pb, Odors, Low DO	Level III
112	Peninsula Beach	Bacteria	Level II
113	Pico Kenter Drain	NH ₃ , Cu, Virus, Coliform, Pb, PAHs, Toxicity, Trash	Level III
114	Piru Creek	PH	Level I
115	Point Dune Beach	Beach Closures, DDT ^F , PCBs ^F	Level II

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