County of Orange

GENERAL PLAN

APPENDIX 2005

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APPENDIX III-1
GROWTH MANAGEMENT PROGRAM GUIDELINES

A. BACKGROUND

The Growth Management Program implements the Phased Development and Land Use/Transportation Integration policies of the LUE by requiring proponents of major land use projects to submit annual reports which project future development activity, identify public service (infrastructure) deficiencies, and provide mitigation measures. These reports, called annual monitoring reports (AMR's), have been required of major land use projects since 1979. The following guidelines provide uniform procedures for AMR preparation, describe a standard report format, and clarify the relationship between AMR's and growth management objectives.

B. ANNUAL MONITORING REPORTS

1. Overview

The annual monitoring reports (AMR's) will evaluate the balance between proposed development and public service capacities. Projects which would result in the deterioration of service levels may be modified or deferred by the Board of Supervisors until adequate service levels can be provided. In addition to serving as a growth management program, AMR's serve several related purposes. Specifically, they monitor:

- Cumulative impacts of South County development;
- Compliance with the adopted 1995 SEOCCS population ceiling of 711,000;
- Compliance with adopted public service policies requiring specific actions or additional agreements or plans;
- On-going compatibility between project implementation and fiscal impact report assumptions.

2. Projects Subject to AMR Requirements

All land use projects which create or have the potential of creating infrastructure imbalances will be subject to the AMR requirement. These include:

- All developments presently required to submit annual monitoring reports as a

condition of approval;

- All future major LUE amendments;
- All major revisions to planned communities with more than 100 acres and/or 25 percent vacant land remaining;
- All zone changes and other projects for residential projects cumulatively larger than 100 units or commercial/employment projects of 100,000 square feet or more.

Proponents of projects subject to the AMR requirement will be contacted in the spring of each year in order to determine the specific data requirements for each project's AMR. In certain cases, this annual AMR requirement may be waived due to a lack of project development activity or other factors. However, ownership changes or property divisions will not eliminate the AMR requirement for a project.

3. Annual Monitoring Report Procedure

The following outline summarizes the content and format of annual monitoring reports. The AMR's will be prepared by project proponents and submitted to Resources and Development Management Department, Advance Planning in the summer of each year. Information from and analysis of the AMR's is used in the annual update of the Development Monitoring Program.

The report format and data specifications are as follows:

I. <u>Introduction</u>

A. Each AMR should include a brief statement of the report's purpose as follows:

1. To provide data that allows comprehensive review of the balance between the physical infrastructure and growth within the subject community;
2. To document implementation of the Board-adopted plan(s) for the subject community; and
3. To verify satisfaction of Board-established conditions of approval through discussion of compliance with these conditions for the subject community.

B. A brief description of the project should be provided, including:

- Land use mix overview
- Location
- Size
- Phasing summary (existing, one-year, three-year, and buildout projections.
- Special characteristics (e.g., balanced community concept, open space amenities).

II. Background

AMR's should include brief descriptions of:

- Project history
- Board of Supervisors approval(s)
- Authority for report requirement

III. Data Presentation

This section of each AMR should present specific data requested for the project, consistent with specified data needs developed by the Resources and Development Management Department and the County Executive Office. The data should be organized into the following key categories or data groups:

- Population
- Housing
- Employment
- Land Use
- Resource Conservation
- Public Services and Facilities
- Other Issues

Specific data items will be negotiated on a case-by-case basis to fit the unique characteristics of each project. Generally, the data should present the current status of existing development plus one-year, three-year, and buildout development projections.

IV. Significant Findings

This section should discuss significant positive and negative trends regarding the achievement of each project's plan expectations and adopted policy. The order of discussion should generally follow the order of the purposes listed in Section I above, and should include, if appropriate, an analysis of:

- Positive or negative achievements toward the balanced community concept, including affordable housing and employment opportunities;
- The balance between growth and public services and facilities;
- Policy compliance and implementation;
- Positive or negative fiscal implications to the County and appropriate service districts.

V. Current Development Program and Policies

This section should discuss the developer's policies regarding the continued development of the project. Of particular importance is information dealing with:

- Alterations in phasing;
- Company-offered incentives to attract certain land use types;
- Evolving developer programs to assure General Plan policy compliance.

VI. Proposed Mitigation Measures

This section of the AMR should detail the measures under consideration by the developer that could reverse any identified negative trends and/or enhance positive trends identified in Item IV above. It is anticipated that each developer will propose solutions to problems identified through the data collection and analysis specified in Items IV and V above, including public sector actions.

VII. Documentation

This section should include:

- Methodology and sources utilized in data collection
- Bibliography
- Persons contacted

AMR Review Process

AMR's will be submitted to the Orange County, Resources and Development Management Department (RDMD), Land Use Planning during the month of July each year. The material will be distributed to other appropriate County agencies for review and comment. RDMD and the CEO will review and comment, and prepare an analysis to be presented to the Board of Supervisors as part of each year's update to the County's Development Monitoring Program.

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TRANSPORTATION ELEMENT

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GROWTH MANAGEMENT PLAN
TRANSPORTATION IMPLEMENTATION MANUAL

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C O U N T Y O F O R A N G E

TRANSPORTATION IMPLEMENTATION MANUAL

Adopted by the Board of Supervisors

March 15, 1994

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APPENDIX IV-1
GROWTH MANAGEMENT PLAN
TRANSPORTATION IMPLEMENTATION MANUAL

I. INTRODUCTION

The Transportation Implementation Manual is intended to clarify the intent of the "Traffic Level of Service Policies" of the Growth Management (GM) Element. The manual describes how the "Traffic Level of Service Policies" of the GM Element are to be implemented on a site or project specific basis. It includes a listing of projects which are exempt from GM Element traffic requirements, acceptable traffic analysis methodologies, minimum requirements of GM traffic reports, and the traffic monitoring surveys the County will conduct to determine system performance.

This manual and the provisions contained in the GM Element apply to Santiago Canyon Road and the Circulation Plan intersections under the sole control of the County.

II. DEFINITIONS

In addition to those terms defined in the GM Element, for the purposes of this manual, the following terms are defined below:

A. CRITICAL MOVEMENT: In the case of signalized intersections, any of the conflicting through or turning movements which determine the allocation of green signal time. In the case of Santiago Canyon Road, that direction of any two way peak hour flow which is greater.

B. DEFICIENT INTERSECTION FUND (DIF): A trust fund established to collect fees and implement the maximum improvements deemed feasible by the County to existing signalized intersections which do not meet the Traffic Level of Service Policy for reasons beyond the County's control. All projects contributing measurable traffic to intersections on the Deficient Intersection List shall contribute to this fund on a pro-rata basis.

C. DEFICIENT INTERSECTION LIST (DIL): A list of intersections within the jurisdiction of the County which currently do not meet the Traffic Level of Service Policy for reasons which are beyond the control of the County (e.g., ramp metering effects, traffic generated outside the County's jurisdiction, etc.), and where there are seemingly no opportunities for making any conventional geometric improvement within the current seven-year "measure

M" Growth Management Program's Capital improvement Program which will achieve the LOS standards. The current list is included as Section VI of this manual. Additional intersections may be added by the County only as a result of conditions which are beyond the control of the County and after a public hearing.

D. EXEMPT INTERSECTION: An unsignalized intersection or an intersection not under the sole control or jurisdiction of the County of Orange or on the Deficient Intersection List.

E. LEVEL OF SERVICE (LOS): A measure of the operational quality of a road or intersection ranging from Level of Service A (best) to Level of Service F (worst).

F. MAXIMUM FEASIBLE INTERSECTION (MFI): The maximum condition an existing intersection may be widened or improved to, while still providing reasonable operational characteristics, given the nature of the surrounding land use. The MFI concept will apply specifically to the DIL and the determination will be made by the County.

G. MEASURABLE TRAFFIC: A traffic volume resulting in a 1% increase in the volume/capacity ratio of the sum of all critical movements.

Example: If the V/C of an intersection is 0.860, measurable traffic will be any addition of trips which will raise the V/C to 0.860+ (0.01 x 0.860), i.e., 0.869. For an intersection operating at V/C = 0.860 (C= 1700), measurable traffic would then be any increase in traffic which adds (0.869 - 0.860) x 1700 = 15.3 or 15 or more vehicles to the critical movements.

H. SPHERE OF IMPACT: That area to which a project contributes measurable traffic.

I. TRAFFIC LEVEL OF SERVICE POLICY: Within three years of the issuance of the first use and occupancy permit for a development project or within five years of the issuance of a finished grading permit or building permit for said project, whichever occurs first, all necessary improvements to the highway system within the County's jurisdiction to which the project contributes measurable traffic shall be constructed and completed to attain Level of Service (LOS) "D" or better. LOS "C" shall be maintained on all uninterrupted links of three miles in length or more on Santiago Canyon Road until such time as uninterrupted segments (i.e. between major signalized intersections) are reduced to less than three miles.

III. PROJECTS EXEMPT FROM THE GM REQUIREMENTS

The following development projects have been deemed to have significant public benefit or little traffic impact and are exempt from the requirements of the GM Element:

A. Any development on an existing lot resulting in a total daily traffic generation of less than 200 trips. The following amounts of land use will each generate 200 trips. For other land uses, see "Daily Vehicle Trip Generation Rates" prepared by Orange County.

Multifamily residential	29 Dwelling Units
Single Family Detached	17 Dwelling Units
Single Family Detached-Estate	13 Dwelling Units
Mobile Home	40 Dwelling Units
Light Industrial	15,400 square feet
Hotel/Motel	20 Rooms
General Office	13,300 square feet
Medical Office	2,600 square feet
Neighborhood Commercial	1,480 square feet
Convenience Market	360 square feet
Fast Food Restaurant	222 square feet

B. Any agricultural, open space, conservation, or passive park use.

C. Any rebuilding of an existing development damaged or destroyed by fire or natural disaster if uses and square footage remain substantially the same.

D. Public health & safety facilities such as hospitals, police, fire & safety facilities, and schools.

E. Government-owned facilities or utilities shall be exempt to the extent the facilities will not be used for generating revenue or commercial purposes. Examples of exempt public uses are city halls, park buildings, and other public buildings. Privately owned utilities will not be exempt from growth management requirements. Notwithstanding property tax exemptions, governmental-owned or constructed facilities (including but not limited to counties, cities and redevelopment agencies) which will generate revenue or be leased for commercial purposes shall be required to prepare the necessary reports and mitigate impacts as appropriate. Examples of this include the revenue generating portions of airports, train stations, stadiums, sports arenas, convention centers, bus terminals, hotels,

or concessions on public lands.

F. Minor alterations and remodeling of existing structures resulting in no substantial change in traffic generation as determined by the Director, RDMD.

G. Places of worship, colleges, welfare, etc. to the extent such facilities are exempt from property tax levies.

IV. TRAFFIC ANALYSIS METHODOLOGIES

There are a wide variety of traffic analysis methodologies available to traffic engineers. They range from specific procedures required by individual municipalities to standardized techniques used nationwide. In order to ensure all GM Element analyses are consistent, accurate, and generally reproducible, the County of Orange has adopted a set of procedures and acceptable methodologies that are representative of travel behavior in Southern California. For the analysis of GM Element traffic impacts at intersections, the County of Orange requires that the Intersection Capacity Utilization (ICU) methodology be used.

This manual assumes traffic engineers are familiar with the analysis techniques and need only be provided with the necessary assumptions regarding flow rates, clearance times, adjustment factors, etc., to calculate level of service.

The following is a list of the assumptions to be used for GM Element intersection analysis. Any individuals attempting a GM Element traffic analysis without a full understanding of the procedure or assumptions are urged to contact RDMD/Transportation Review Section for clarification prior to performing any work.

A. LEVELS OF SERVICE

The Level Of Service (LOS) of a signalized intersection shall be based upon the sum of the volume-capacity ratios (V/C) of the critical movements. The County's definition of the overall LOS of an intersection is as follows:

Level Of Service	V/C Range
A	0.00 - 0.60
B	0.61 - 0.70
C	0.71 - 0.80
D	0.81 - 0.90

Level Of Service	V/C Range
E	0.91 - 1.00
F	1.00+

B. FLOW RATES AND ADJUSTMENT FACTORS

The saturation flow rate for intersections (also known as lane capacity) shall be 1700 vehicles per hour of green time per lane. This rate is the result of research done on intersections in Orange County during peak periods. This rate may be utilized on left, through, and right turn lanes. Generally, no adjustment will be necessary for dual left turn lanes. However, the County reserves the right to require the use of adjustment factors where, in the County's opinion, unusual conditions exist. In these cases, the adjustment factors for such items as lane width, trucks, grade, or pedestrian activity shall be as stated in the 1997 "Highway Capacity Manual" or any subsequent revisions.

C. LOST TIME

Lost time (also known as "yellow time" or "clearance interval" in some analyses) is given a value of 0.05 (five percent) in GM analyses.

D. LANE DISTRIBUTION

In most cases, approach traffic may be assumed to be distributed evenly among all lanes serving a given movement (i.e., left, through, or right). An exception to this may occur in the case of split signal phasing which is further discussed below. In certain locations where unusual attractions may occur such as a freeway ramp entrance or entrance to a shopping center, an unusually skewed distribution may occur. In such cases, the County shall specify the distribution to be used.

E. RIGHT TURNING TRAFFIC

If the distance from the inside edge of the outside through travel lane is at least 19 feet and no observable parking demand exists during the peak period, or parking is prohibited, right turning vehicles may be assumed to utilize this "unofficial" right turn lane. Otherwise, all right turn traffic shall be assigned to the outside through lane. If an exclusive right turn lane exists and right turn on red is permitted at that location, a 15 percent increase in capacity of the right turn lane may be assumed. If a free right turn exists (right turns do not have to stop for the signal) a flow rate of 1700 vehicles per hour

may be assumed for it. The analysis shall account for all right turning traffic, none shall be ignored. Any need for signal overlaps shall be clearly stated.

F. SIGNAL PHASING

At some intersections, split signal phasing may exist. At such locations optional through/left or through/right lanes may be present. Any analysis done for these situations must reflect the true distribution of the approach traffic into these optional lanes. This type of operation is often more difficult to analyze and additional care should be taken to ensure correct results.

G. SANTIAGO CANYON ROAD

The majority of the road miles within the United States consist of two lane roadways. As a result, a great deal of work has been done throughout the country regarding the capacity of two lane roads. The most current information and practice are reflected in the 1997 "Highway Capacity Manual".

For GM Element traffic analyses of Santiago Canyon Road, the methodology described in the 1997"Highway Capacity Manual" (or any subsequent revisions) for rural two lane highways shall be used, based upon peak hour volumes. The directional splits shall be as measured during the peak hours. All other adjustment factors shall be as described in the manual.

V. MINIMUM REQUIREMENTS OF GM ELEMENT TRAFFIC ANALYSES

In order to ensure adequate information is provided to the County to judge the impacts of new development, the following minimum requirements are set forth for all traffic analyses of GM Element traffic impacts. While the County does not seek to cause preparation of volumes of unnecessary reports, each application must pass a test of timeliness and content. Reports prepared at earlier levels of review may be used only if the information they contain is still representative of the project under consideration.

A. GENERAL

The report shall be prepared by, or under the supervision of, a Traffic Engineer registered by the State of California. The report shall bear the stamp of the responsible Traffic Engineer. No report shall be accepted for review if it does not bear the appropriate signature, stamp and expiration date. The report shall be divided into the following

sections:

1. Project Description
2. Existing Conditions
3. Future Conditions
4. Project Trip Generation
5. Project Trip Distribution
6. Intersection Analysis
7. Santiago Canyon Road Analysis (if applicable)
8. Summary of Impacts
9. Mitigation

The following is an elaboration of each section describing in more detail what should be covered.

1. PROJECT DESCRIPTION

The project should be clearly described, stating the acreage, number of units or gross and net floor area, points of access, and planned usage. A location map should be included showing the project's relationship to the regional and local circulation systems. A feature plan, plot plan or site plan showing detail commensurate with the level of approval sought, including all pertinent transportation elements (e.g. arterials, streets, access locations, parking, driveways, etc.) must be part of the project description.

2. EXISTING CONDITIONS

All existing traffic conditions within the project's sphere of impact must be clearly described and presented in a graphical manner. Base condition traffic volumes, levels of service, critical movements, and Deficient Intersections will be available from the County. Tabular presentations may be used in addition to the graphical displays. These include:

- AM and PM peak hour, and daily traffic volumes.
- AM and PM peak level of service of all signalized intersections and identification of all critical movements.
- Deficient intersections.

3. FUTURE CONDITIONS

The future conditions within the project's sphere of impact shall be described in a graphical manner consistent with the level of entitlements for project plus existing, and project plus an interim year projection as directed by the County. In addition, a buildout evaluation to establish general plan consistency when appropriate will be required. The County will direct and assist the project applicant to establish the necessary background volume projections.

The traffic projections shall be based upon the level of information available for the levels of service of all signalized intersections will be presented. Any planned road or intersection improvements scheduled within the upcoming five years time included in the analysis shall be described and accounted for in the analysis.

4. PROJECT TRIP GENERATION

The AM and PM peak hour and daily total traffic generation of the project shall be calculated using rates as specified by the County of Orange. In the event a land use is proposed for which no reliable generation rate is available from the County, the generation rate used may be derived from independent empirical studies subject to approval by the County. If the proposed project contains mixed land uses (such as commercial, residential, office or industrial) resulting in expected trips wholly internal to the project, the percentage of internal trips shall be approved by the County prior to proceeding with the analysis.

5. PROJECT TRIP DISTRIBUTION

The project's trip distribution shall be presented in graphical form showing both the number of trips generated by the project and the percentage of the project's total generation on each arterial link to the limit of the project's sphere of impact. In the case of a project containing mixed land uses, a separate distribution shall be presented for each land use, in addition to the summation of the individual distributions.

6. INTERSECTION ANALYSIS

Any intersection to which the project contributes measurable traffic, either in the present or in the interim year projections, must be further analyzed using the methodologies

previously discussed. The levels of service for such impacted intersections shall be calculated and reviewed to determine if any mitigation is required under the conditions of the GME.

If a project contributes measurable traffic to a Deficient Intersection, the analysis should show the project's total daily traffic contribution to the Deficient Intersection as well as the total traffic entering that intersection.

7. SANTIAGO CANYON ROAD ANALYSIS

Projects which increase the existing (at the time the project is proposed) critical movement (the higher of the two directional movements) by one percent or more during the AM or PM peak hour on Santiago Canyon Road shall perform a level of service analysis using the previously specified methodology. The analysis shall address project plus existing, project plus an interim year projection, as determined by the County, in addition to buildout analyses required for general plan consistency evaluation.

8. SUMMARY OF IMPACTS

The report shall contain a listing of all adverse impacts created by the project. These include intersections presently operating at better than LOS D and projected to operate at worse than LOS D as a result of the project, intersections already operating at LOS D to which additional traffic is added by the project, and traffic added to Deficient Intersections.

9. MITIGATION MEASURES

If mitigations are required, their implementation feasibility shall be determined. It is important to classify which mitigations:

- are solely in the control of the project proponent (such as widening adjacent to the proposed project);
- require approval of others or participation in a program (such as FCPP intersection widenings) or intersections within other jurisdictions or shared with them);
- require participation or regulatory action on the part of the County (such as prohibiting parking for intersection restripings);

- require development participation in mitigation cost (see attachment A).

The last section of the report shall contain a detailed description of mitigation measures proposed by the project. A list of these measures shall also be included in a summary at the beginning of the report. The rough cost estimates and potential funding sources of all the mitigation measures (either within the County or outside the County's jurisdiction) shall be provided in the report.

VI. DEFICIENT INTERSECTION LIST

A. GENERAL

A deficient intersection is one that is under the sole control of the County which is currently operating at worse than LOS "D" as a result of factors outside the control of the County and where there are seemingly no opportunities for making any conventional geometric improvements within the current seven-year measure "M" Growth Management Program's Capital Improvement Program (CIP). Each intersection must be studied to determine the Maximum Feasible Intersection (MFI) that could be reasonably expected to be built at the location if funding were available. This will serve as the basis for a cost estimate and the associated fee to be paid by development which contributes measurable traffic to the intersection. The MFI is anticipated to be an at-grade intersection for purposes of this analysis.

As part of the MFI study for each of the intersections on the Deficient Intersection List, the County will prepare cost estimates to modify the existing intersection to its MFI configuration. Any non-exempt development contributing measurable traffic to an intersection on the Deficient Intersection List shall contribute to the Deficient Intersection Fund in an amount equal to the amount of the project's traffic entering the intersection divided by the total traffic entering the intersection as measured in the 1990 Baseline traffic counts, multiplied by the estimated cost to improve the intersection to its MFI condition as shown below:

(Project Traffic I 1990 Baseline Traffic Volume) x (Total Improvement Cost)

The collected fees could be spent on either the deficient intersection or alternative mitigation measures that will relieve congestion on the impacted deficient intersection(s).

B. DEFICIENT INTERSECTIONS

There are no deficient intersections at this time.

C. PROCEDURE TO MODIFY DEFICIENT INTERSECTIONS LIST

Any additional intersections may be placed on the Deficient Intersection List through a noticed public hearing by the Board of Supervisors. The Board will be asked to make specific findings with respect to intersections proposed for inclusion on or exclusion from the list.

Those findings will require that:

1. The intersection operates at level of service E or F as defined by the County traffic level of service policy.

2. The contribution to the critical movement(s) which determines the level of service at the intersection is a direct result of actions or factors over which the County has no control (e.g., ramp metering, adverse signal timing by state or neighboring city, city trip generation which uses County roadways as primary access routes, emergency services activities, etc.). Such contribution shall be identified by traffic counts and origin/destination data as appropriate.

3. The intersection has been annexed or incorporated and is no longer within unincorporated County area.

Removal of an intersection from the Deficient Intersection List requires the Board of Supervisors find that one of the three above conditions no longer exists and is not expected to resume.

VII. COUNTY TRAFFIC MONITORING PROGRAM

In addition to the County's administration of the GME, the County will be an active participant of the GME by providing base condition traffic counts and levels of service. The County will also make available forecasts as part of the Development Monitoring Program (DMP).

Biennially; from January through April, the RDMD/Road and Traffic Programs Section will take AM and PM peak hour turning movement counts at all intersections that may be considered by the

GME. These will be analyzed to determine the base level of service and critical movements for the upcoming calendar year.

The RDMD/Road and Traffic Programs Section will also take 24 hour directional traffic counts on Santiago Canyon Road. Due to the sensitivity of this road and the rapidly increasing traffic volumes, counts will be taken every six months, in April and October. After completion of all traffic counts, they will be incorporated into the County's latest Development Monitoring Report each January. The DMP will include existing volumes and levels of service and projections of traffic volumes and levels of service for an interim period from present. It is from this basis project proponents should proceed with their analyses of the traffic impacts of their projects.

ATTACHMENT A
COUNTY OF ORANGE: FAIR-SHARE FORMULA FOR TRAFFIC IMPACTS

One of the goals of the County's Transportation Element and the Growth Management Program is to ensure that new development pays its fair share for transportation improvements commensurate with the impacts created by said development. In order to ensure that a uniform method is applied to assess traffic impacts of each development, a Task Force consisting of representatives of the development community and traffic engineers was established to develop a fair share formula to assess traffic impacts of a development. The Task Force acknowledged that there was a need to establish not only a fair–share formula but also a procedure to implement it. The procedure should allow for flexibility in the implementation of any mitigation. After working for more than a year, the Task Force developed a fair share formula with the following goals and procedure. This fair-share formula is to be applied to all development in the County unincorporated areas.

Goals

1. It should be consistent with County's GMP in that it uses Intersection Capacity Utilization (ICU) methodology to identify impacted intersections and is consistent with the County's level of service (LOS) "D" policy

2. It should provide positive values not exceeding 100%.

Procedure

1. Identify intersections that will experience a significant adverse impact by a proposed project ($\geq$ 1% change in AM or PM Peak hour LOS). This should be done by comparing the with and without project impact for the near-term and long-term horizon years pursuant to the County GMP. This analysis should use the ICU methodology.

2. Determine a project's share of the intersection improvement(s). This is based on a project's total trips approaching an intersection, in the peak hour most impacted, as a percentage of new trips (Future- Existing) at that location. To determine a project's approach trips, at any location a 'select zone' analysis (modeled or manual) as appropriate, should be utilized.

3. Project proponent and the County shall cooperate in determining a feasible mitigation program and associated cost. The project's share of the mitigation cost shall be based on the cost of the mitigations needed to bring the intersection condition to LOS 'D' or better.

4. A cost cap of a project's total obligation should be established, once all the fair share mitigation costs of a project are determined.

5. County and project proponent shall cooperate in developing a mitigation implementation program. In recognition of possible operational and/or financial constraints of implementing an improvement at a specific location, the County and the project proponent can mutually agree on implementing an equivalent improvement, at another location impacted by the project, to satisfy the project's obligation.

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TRANSPORTATION ELEMENT

APPENDIX IV-2
PLANNING CRITERIA FOR DETERMINING
ARTERIAL HIGHWAY CLASSIFICATIONS

APPENDIX IV-2:
PLANNING CRITERIA FOR ARTERIAL HIGHWAY CLASSIFICATIONS

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APPENDIX IV-2
PLANNING CRITERIA FOR
DETERMINING ARTERIAL HIGHWAY CLASSIFICATIONS

In order to evaluate the arterial classifications needed to serve current and future traffic conditions, certain criteria and assumptions are made regarding roadway capacities. The concept of capacity, and the relationship between capacity and traffic volumes is expressed by means of "levels of service". These recognize that, while there is an absolute limit to the amount of traffic that can travel through a given corridor (the "capacity"), conditions rapidly deteriorate as traffic reaches that level. As traffic approaches capacity, congested conditions are experienced. There is general instability in the traffic flow whereby small disruptions can cause considerable fluctuations in speeds and delays.

Levels of Service (LOS) are usually defined as categories 'A' through 'F'. Beyond level of service 'E', capacity has been exceeded, and arriving traffic will exceed the ability of a given street to accommodate it. A description of the meaning of the six Levels of Service follows:

Level of Service 'A' indicates no physical restriction on operating speeds

Level of Service 'B' indicates stable flow with few restrictions on operating speed

Level of Service 'C' indicates stable flow, higher volume, and more restrictions on speed and lane changing

Level of Service 'D' indicates approaching unstable flow, little freedom to maneuver, and conditions intolerable for short periods

Level of Service 'E' indicates unstable flow, lower operating speeds than LOS 'D', and some momentary stoppages

Level of Service 'F' indicates forced flow operation at low speeds where the highway acts as a storage area and there are many stoppages

Tables IV-2-A and IV-2-B show the roadway capacity volumes the County utilizes for its circulation analysis for each type of facility. The data shown in both tables are intended to apply to General Plan level link volumes. (A link is the portion of the roadway between two arterial intersections.) Intersection capacities usually control overall roadway capacities; therefore, the County uses LOS 'C' for General Plan analysis purposes. Although LOS 'D' is more consistent

with urban land uses, it has been found that using it uniformly tends to overload intersections (usually resulting in LOS 'E' or LOS 'F' at the intersections themselves). Therefore, the practice of the County when planning the arterial system is to use LOS 'C' for link capacities, with the intent of maintaining LOS 'D' through intersections.

ROADWAY DESIGN STANDARDS
Road Capacity Values*

Table IV-2A: Freeway/Transportation Corridors

Freeway Sizes	At Level of Service D
4 lanes	65,000
6 lanes	115,000
8 lanes	145,000
10 lanes	175,000
12 lanes	205,000

*Maximum Average Daily Traffic (ADT)

Table IV-2B: Arterial Highways

Type of Arterial	Level of Service					
	A	B	C	D	E	F
8 Lanes Divided	45,000	52,500	60,000	67,500	75,000	---
6 Lanes Divided	33,900	39,400	45,000	50,600	56,300	---
4 Lanes Divided	22,500	26,300	30,000	33,600	37,500	---
4 Lanes (Undivided)	15,000	17,500	20,000	22,500	25,000	---
2 Lanes (Undivided)	75,000	8,800	10,000	11,300	12,500	---

These roadway capacities are approximate figures only, and are used at the General Plan level. They are affected by such factors as intersections (numbers & configuration), degree of access control, roadway grades, design geometrics (horizontal & vertical alignment standards), sight distance, level of truck and bus traffic, and level of pedestrian and bicycle traffic. Average daily traffic (ADT) is used by the County as a long range planning tool to assist in determining arterial highway classification (number of through lanes) needed to meet traffic demand.

TRANSPORTATION ELEMENT

APPENDIX IV-3
BIKEWAY DESIGNATION PLANNING GUIDELINES

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APPENDIX IV-3
BIKEWAY DESIGNATION PLANNING GUIDELINES

The following are basic guidelines which are used to plan the appropriate bikeway class designation. These guidelines, combined with safety factors, development feasibility, cost, and aesthetics are used to evaluate each route and assure the most compatible class of bikeway is developed. It is, however, to be recognized that constraints as to the amount of right-of-way available, topographic considerations, and other factors do not always permit strict conformance with these guidelines.

CLASS I BIKEWAY (BIKE PATH OR TRAIL):

1. Motor vehicle average daily traffic (ADT) greater than 5,000 in the outside travel lane.

2. Bicycle volume very high.

3. Criteria for shared route or bicycle lane are not met.

4. Availability of space for development.

5. Serves schools and playgrounds in urban areas, if right-of-way is available.

6. Serves a bicycle demand which would otherwise have to be served by a high speed arterial with heavy traffic volumes.

7. Bypasses constructed areas where right-of-way constraints preclude the development of bicycle lanes.

8. Along natural or man-made features which have few cross roads, such as streams, flood control channels, abandoned railroad rights-of-way, utility easements, etc., where these features correspond, to a reasonable degree, with desired routes for bicycle travel.

Class I Bikeway Width

The minimum paved width of the two-way Class I bikeway shall be 10 feet with a 2-foot-wide graded area immediately adjacent to each side of the trail pavement. In instances where there is restricted right-of-way due to physical limitations, such as narrow bridge or severe topography, an 8-foot-wide bike path may be allowed as necessary. In such instances the graded area adjacent to

the bike path may be reduced as necessary from the required 2 feet.

CLASS II BIKEWAY (BIKE LANES):

1. Motor vehicle ADT in the outside lane between 2,000 - 5,000.

2. Bicycle volume high.

3. 85th percentile speed of arterial of 40 mph or more.

4. Heavy truck traffic of arterial at 5% of ADT or more.

5. Adequate outside lane dimension.

Class II Bikeway Widths

A bicycle lane must be a minimum of 5 feet wide and should provide at least 3 feet between the traffic lane and the longitudinal joint at the concrete gutter, since the transition between the gutter and street may not be smooth. On arterial highways without curbs and gutters a minimum of 4 feet is required.

Where parking is permitted, a minimum width of 12 feet is required to accommodate both the parking lane and the bike lane. The bike lane must be at least 4 feet wide and located between the motor vehicle travel lane and the parking lane. If bike lanes are to be located on one-way streets, they should be placed on the right side of the street minimizing left-turn conflicts with motorists.

CLASS III BIKEWAY (BIKE ROUTES):

1. Motor vehicle (ADT) in the outside lane less than 2,000.

2. Bicycle volume moderate.

3. 85th percentile speed on adjacent lane of 32 mph or less.

4. Adequate space available in the outside lane dimension.

TRANSPORTATION ELEMENT

APPENDIX IV-4
COUNTY DESIGNATED SCENIC
HIGHWAYS AND CANDIDATE CORRIDORS

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APPENDIX IV-4
COUNTY DESIGNATED SCENIC HIGHWAYS AND CANDIDATE CORRIDORS

The following routes are County designated scenic highways:

TYPE 1: VIEWSCAPE CORRIDORS

Carbon Cyn Rd.	From	Carbon Canyon Regional Park	To	San Bernardino County Line
Chapman Ave.	From	Newport Blvd.	To	Weir Canyon
El Toro Rd.	From	SJHTC	To	Laguna Canyon Rd.
	From	Santa Margarita Pkwy.	To	Live Oak Canyon Rd.
Laguna Canyon Rd.	From	Big Bend	To	Lake Forest Dr.
Live Oak Canyon Rd.	From	Santiago Canyon Rd.	To	O'Neill Park
Newport Blvd.	From	Crawford Canyon Rd.	To	Santiago Canyon Rd.
Ortega Hwy.	From	La Pata Ave.	To	Riverside County Line
Oso Pkwy.	From	2,000' e/o Olympiad Rd.	To	Coto de Caza Dr.
PCH/San Diego Fwy.	From	Los Angeles County Line	To	San Diego County Line
Plano Trabuco Rd.	From	Rose Canyon Rd.	To	Coto de Caza Dr.
Riverside Fwy. (SR-91)	From	Newport-Costa Mesa Fwy. (SR-55)	To	Riverside County Line
Santa Margarita Pkwy.	From	Melinda Rd.	To	Avenida Empresa
Santiago Canyon Rd.	From	Jamboree Rd.	To	Live Oak Canyon Rd.
Trabuco Canyon Rd.	From	Live Oak Canyon Rd.	To	Antonio Parkway
Trabuco Creek Rd.	From	San Diego Fwy.	To	Crown Valley Pkwy.

Weir Canyon Rd.	From	Santiago Canyon Rd.	To	Riverside Fwy.

TYPE 2: <u>LANDSCAPE CORRIDORS</u>

Alicia Pkwy.	From	Aliso Creek Rd.	To	Paseo de Valencia
Antonio Pkwy.	From	Avenida Empresa	To	Ortega Hwy.
Camino del Avion	From	Crown Valley Pkwy.	To	Del Obispo St.
Crown Valley Pkwy.	From	San Diego Fwy.	To	PCH
El Toro Rd.	From	SJHTC	To	Santa Margarita Pkwy.
La Paz Rd.	From	Crown Valley Pkwy.	To	Paseo de Valencia
Moulton Pkwy.	From	Crown Valley Pkwy.	To	San Diego Fwy.
Niguel Road	From	Crown Valley Pkwy.	To	PCH
Ortega Hwy.	From	Antonio Pkwy.	To	San Diego Fwy.
Oso Pkwy.	From	Alicia Pkwy.	To	2,000' e/o Olympiad Rd.
San Joaquin Hills Rd.	From	MacArthur Blvd.	To	Newport Coast Drive
Santa Margarita Pkwy.	From	El Toro Rd.	To	Melinda Rd.
	From	Avenida Empresa	To	Plano Trabuco Rd.
Street of the Golden Lantern	From	Crown Valley Pkwy.	To	Dana Point Harbor Dr.
Avenida Empresa	From	Santa Margarita Pkwy.	To	Antonio Pkwy.

CANDIDATE CORRIDORS

SJHTC	From	Bonita Canyon Dr.	To	I-5
Laguna Canyon Rd.	From	Existing	To	Pacific Coast Hwy.
Crown Valley Pkwy.	From	Trabuco Creek Rd.	To	Wagon Wheel Regional Park
Antonio Pkwy.	From	Ortega Highway	To	Southward of Avenida Pico
Foothill TC	From	Eastern TC	To	San Diego County Line
Jeffrey Rd.	From	Irvine Blvd.	To	Santiago Canyon Rd.
Orange Fwy. (SR-57)	From	Imperial Highway	To	L.A. County Line
Tonner Canyon Rd.	From	SR-57	To	Carbon Canyon Road
Eastern TC	From	I-5	To	SR-91

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TRANSPORTATION ELEMENT

APPENDIX IV-5
SCENIC HIGHWAYS CORRIDOR IMPLEMENTATION PLANNING GUIDE

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APPENDIX IV-5
SCENIC HIGHWAY CORRIDOR IMPLEMENTATION PLANNING GUIDELINES

Scenic Highway Corridor implementation plans shall include, but not be limited to the following points:

- A description of the location of the highway and reasonable boundaries of the scenic corridor and the scenic features to which the plan and development standards apply.

- A description of how the scenic highway is integrated with the other General Plan Elements and on-going planning studies.

- Specification of the treatment and protection the highway and corridor are to receive, i.e. land use controls, land acquisition needs, construction standards, and type and location of complementary facilities. Where applicable, establishment of regulations and guidelines regarding building heights and setbacks; signs and outdoor advertising; placement of utilities and undergrounding of utility lines; cover and screening of earthwork operations; erosion control; preservation of the natural conditions of bodies of water: preservation and restoration of plant material; clearing for views; site planning, and architectural and landscape design in private developments; property maintenance; and public uses within the corridor.

- Identification of vista points, and roadside rest and parking areas which may be appropriate for development in the scenic corridor.

- Specification of measures to be implemented to preserve outstanding scenic features within the scenic highway corridor which help to define the character of the corridor.

- Specification of responsibility for implementing the features of the specific plan.

- Specification of the source(s) of funding.

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TRANSPORTATION ELEMENT

APPENDIX IV-6
LIST OF ACRONYMS/ABBREVIATIONS

APPENDIX IV-6:
TRANSPORTATION ELEMENT LIST OF ACRONYMS/ABBREVIATIONS

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APPENDIX IV-6
LIST OF ACRONYMS/ABBREVIATIONS

ADT	Average Daily Traffic
AHRP	Arterial Highway Rehabilitation Program
AMR	Annual Monitoring Report
AQMD	Air Quality Management District
AVR	Average Vehicle Ridership
CAA	Community Analysis Area
CALTRANS	State of California Department of Transportation
CARITS	Coastal Area Road Improvements and Traffic Signals
CBP	County Bikeway Plan
CBSP	Commuter Bikeway Strategic Plan
CE	Circulation Element
CENTROCCS	Central Orange County Circulation Study
CIP	Capital Improvement Program
CMAQ	Congestion Mitigation/Air Quality
CMP	Congestion Management Plan
CP	Circulation Plan
CRP	Combined Road Program
CTC	California Transportation Commission
DMP	Development Monitoring Program
DOT	Department of Transportation
ETC	Eastern Transportation Corridor
FAS	Federal Aid Secondary
FAU	Federal Aid Urban
ETLAS	El Toro/Laguna Hills Traffic Study
FCPP	Foothill Circulation Phasing Plan
FHWA	Federal Highway Administration
FTC	Foothill Transportation Corridor
GMA	Growth Management Area
GMP	Growth Management Plan
HBRR	Highway Bridge Replacement and Rehabilitation Program
HOV	High Occupancy Vehicle
ISTEA	Intermodel Surface Transportation Efficiency Act
LOS	Level of Service
MFI	Maximum Feasible Intersection
MMTS	Multi-Modal Transportation Study

MOU	Memorandum of Understanding
MTAC	Modeling Technical Advisory Committee
MPAH	Master Plan of Arterial Highways
NEOCCS	Northeast Orange County Circulation Study
NETTS	Northern El Toro Traffic Study
NOCCS	North Orange County Circulation Study
NSCOCCS	North/South Central Orange County Circulation Study
OCCTFP	Orange County Combined Transportation Funding Programs
OCP	Orange County Preferred
OCTAM	Orange County Transportation Analysis Model
OCTA	Orange County Transportation Authority
OCUTT	Orange County Unified Transportation Trust
RDMD	Resources and Development Management Department
RCFPP	Regional Circulation Financing and Phasing Program
ROW	Right-of-Way
RSA	Regional Statistical Area
RTP	Regional Transportation Plan
SATCAA	Santa Ana Transportation Corridor Alternatives Analysis
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEOCCS	Southeast Orange County Circulation Study
SHP	Scenic Highways Plan
SJHTC	San Joaquin Hills Transportation Corridor
SR	State Route
STIP	State Transportation Improvement Plan
STP	Surface Transportation Program
TAZ	Traffic Analysis Zone
TCA	Transportation Corridor Agencies
TE	Transportation Element
TDA	Transportation Development Act
TDM	Transportation Demand Management
TMA	Transportation Management Association
TSM	Transportation Systems Management
UMTA	Urban Mass Transportation Administration

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PUBLIC SERVICES AND FACILITIES ELEMENT

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RESOURCES ELEMENT

APPENDIX VI-1
LIST OF ACRONYMS/ABBREVIATIONS

APPENDIX VI-1:
RESOURCES ELEMENT LIST OF ACRONYMS/ABBREVIATIONS

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APPENDIX VI-1
LIST OF ACRONYMS/ABBREVIATIONS

af	acre-foot
AFIS	Areawide Fiscal Impact System
AQMP	Air Quality Management Plan
CAA	Community Analysis Area
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
DMP	Development Monitoring Program
EIR	Environmental Impact Report
HBP	Harbors, Beaches and Parks
HC	Hydrocarbons
LCP	Local Coastal Program
maf	million acre feet
M & I	Municipal and Industrial
mcf	million cubic feet
mmcfd	million-million cubic feet per day
MMTS	Multi-Modal Transportation System
MWD	Metropolitan Water District
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_X	Oxides of Nitrogen
OCP	Orange County Projections
OCTA	Orange County Transportation Authority
O & M	Operation and Maintenance
ppm	parts per million
PV	Photovoltaic
RHC	Reactive Hydrocarbon
SCAG	Southern California Association of Governments
SCE	Southern California Edison Company
SCG	Southern California Gas Company
SDG&E	San Diego Gas & Electric
SHPO	State Historic Preservation Office
SO_X	Oxides of Sulfur
SMARA	Surface Mining and Reclamation Act
SWP	State Water Project

Taf	thousand acre feet
TDS	Total Dissolved Solids
THC	Total Hydrocarbon
TSP	Total Suspended Particles

RECREATION ELEMENT

APPENDIX VII-1
LOCAL PARK IMPLEMENTATION PLAN CRITERIA:
PRIVATE PARKS, FACILITIES AND IMPROVEMENTS

APPENDIX VII-1:
LOCAL PARK IMPLEMENTATION CRITERIA

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APPENDIX VII-1

LOCAL PARK IMPLEMENTATION PLAN CRITERIA: PRIVATE PARKS, FACILITIES AND IMPROVEMENTS

BACKGROUND:

The County Local Park Code requires the provision of local park land, or the payment of in lieu fees, or a combination of both as a means of meeting the local park and recreation needs of present and future county residents. Pursuant to the Local Park Code, any person may apply for a modification of methods used in fulfilling requirements of the Code. A Park Implementation Plan approved pursuant to this Component and the Code may serve as a master park modification.

In some instances, private parks and recreation facilities serve the local park needs of residents and may be provided in lieu of public parks. In this context, private parks and recreation facilities may satisfy up to 100% of the County's Local Park Code requirements subject to the criteria described in this Appendix VII-1.

For a private local park to receive full credit, it must meet all County criteria and there must be an offer of a private local park easement, the terms and conditions of which shall be approved by the Director, RDMD, made to and accepted by the County or its successor. In order for a private park to receive more than 50% Local Park Code credit, it must include the private local park easement. In a Planned Community at least 75% of the Local Park Code requirement shall be met by public parks, or in lieu fees, or a combination of both. At least 1/3 of the Local Park Code requirement for the Coto de Caza Specific Plan shall be met by public parks, or in lieu fees or a combination of both.

The following criteria shall be used by the Subdivision Committee to review applications for park implementation plans and park modifications. Further, they shall be used to determine the amount of Local Park Code credit that shall be established and be allocated upon approval of future park modification requests/amendments by the Subdivision Committee.

For planned communities, the planned community development plan map designates, among other important information, the general location of local parks. As such, the development plan map may function as a park implementation plan when supported by information describing the general size, status (public or private) and types of facilities planned for the local park.

APPENDIX VII-1:
LOCAL PARK IMPLEMENTATION CRITERIA

CRITERIA:

1. In order for private park acreage and facilities to receive a maximum of 100% park credit, it shall:

    a) Meet County Local Park Code acreage requirements (less acreage than County requirements results in less credit);

    b) Be fully improved (no credit for improvement costs; less than full improvements results in proportionately less acreage credit);

    c) Be maintained by the developer or his assigns (for example, homeowners' association); and

    d) Include an offer of a private local park easement, made to and accepted by the County or its successor, the terms and conditions which shall be approved by the Director, RDMD (required when a private park receives more than 50% Local Park Code credit);

2. RDMD, Planning is responsible for reviewing and approving plans and specification in accordance with plans and development schedule acceptable to Director, RDMD or designee.

3. Private park acreage and facilities shall be developed in accordance with Appendix VII-3, Local Park Site Criteria.

4. Residential membership in a homeowners' association and payment towards private recreation facilities is mandatory.

5. Covenants, Conditions, and Restrictions (CC&Rs) include procedures for operation and maintenance of private open space and recreation facilities, and provision for Director, RDMD to exercise full veto power over any proposal for dissolution or reduction in facilities, activities or maintenance.

6. The following uses may be considered for Local Park Code credit:

    a) Open turf areas (including but not limited to baseball and softball fields, soccer fields, football fields, field hockey, bowling greens);

b) Pools (swimming and wading) large enough to accommodate water sports activities;

c) Game courts (including but not limited to handball courts, tennis courts, badminton courts, paddle tennis courts, squash courts, volleyball courts);

d) Jacuzzis and spas when connected and integral to a swimming pool facility; and

e) Swimming areas in lakes in conjunction with a shoreline beach area of equal size.

7. The following uses shall not be considered for Local Park Code credit:

a) Golf courses;

b) Boating and fishing lakes;

c) Archery ranges;

d) Equestrian centers;

e) Saunas and hot tubs; and

f) Community activity buildings.

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RECREATION ELEMENT

APPENDIX VII-2
LOCAL PARK GUIDELINES: SITE CHARACTERISTICS, ACQUISITION, DESIGN, MAINTENANCE, & FUNDING

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APPENDIX VII-2
LOCAL PARK GUIDELINES:
SITE CHARACTERISTICS, ACQUISITION, DESIGN, MAINTENANCE AND FUNDING

The following guidelines are provided to assist in providing individual local parks:

PLANNED COMMUNITIES

1. Planned Communities shall be the basic unit for detailed local park planning.

2. Plans for local parks and site plans for individual parks shall be prepared in close cooperation with Municipal Advisory Councils, interested and Board-designated homeowners'/community service associations, and landowners and developers, as applicable. Plans may also be coordinated with the Orange County Harbors, Beaches and Parks Commission, as appropriate.

3. Plans for local parks shall identify existing and future park sites, acquisition and development procedures, schedules, operational and maintenance responsibilities and financing plans with alternatives. Where practicable, alternatives to future sites shall be identified.

4. Community and specific land use plans within or partially within County Service Areas or Park and Recreation Districts shall include a local park component consistent with the local parks plan for the County Service Area or Park and Recreation District.

ACQUISITION

1. Excess publicly held lands shall be designated and acquired for local park use when need and feasibility have been demonstrated.

2. Gifts of land shall be accepted and tax delinquent land shall be acquired for local park use when need and suitability for local park purposes have been demonstrated and found superior to need and suitability for other public uses.

LOCATION

1. Local park sites shall be strategically distributed throughout unincorporated area communities giving due regard for the availability of other recreational facilities in the area.

2. Local parks, to the extent practicable, shall be centrally located within the residential areas they serve.

3. Local park sites shall be located adjacent to school sites, whenever practicable, and in a manner enhancing the open space and recreational opportunities of the school grounds.

4. Where practicable, local park sites shall be located adjacent to existing or designated open spaces and on existing or designated trails. Trail rest stops shall be provided in local parks located on trail systems consistent with the trail system plans.

5. Local park sites shall be located so that hiking, bicycle and equestrian trails may provide linkages between local parks except where clearly not appropriate.

6. Local park sites shall not be located within high noise areas as per the Noise Element, or air pollution impact areas hazardous to the health of the users.

7. Local park sites shall have potable water supply, electricity and sewage service available, as appropriate.

8. Archaeological, geological, historical and paleontological features may be included within a park site when provisions for their preservation are made.

9. Local park sites shall include existing trees and other plant material of particular value in park development and use.

10. Facilities within a 25-year frequency flood plain (Orange County Flood Control District Hydrology Manual) will receive no Local Park Code credit. Facilities located within a 25- to 50-year flood plain may receive up to 50% of the required Local Park Code credit if it is located in a multi-use flood control (retention basin)/recreation facility. If credit is to be given for improvements located within a retention basin, a plan of the improvements shall first be approved by the Director of RDMD.

Any recreation facilities within flood plains shall be planned to accommodate the additional risk. No Local Park Code credit shall be given for any flood control improvements within local park sites.

MEETING COMMUNITY NEEDS

1. Neighborhood parks shall generally provide recreational facilities consistent with small service radii having primarily pedestrian access. Typical amenities include children's play areas, court games, multi-purpose play areas and landscaping.

2. Community parks shall generally provide recreation facilities consistent with communitywide activities, and shall furnish adequate parking and good access to transportation routes. A community building, swimming pool, ample court and large field areas (which may be lighted) may be provided, with landscaping and picnic areas for passive activities.

3. Special use parks may be designated where unique environmental opportunities, historical landmarks, important archaeological and paleontological finds, or special user needs justify deviating from the more conventional local park.

4. Local park sites shall be of a size and shall contain usable areas suitable for efficient operation and maintenance. (See Appendix VII-3, Local Park Site Criteria.)

5. Regional park and regional open space areas shall not be used to meet developer acreage requirements for local parks.

6. An optimum variety of recreation facilities shall be provided to meet the specific needs of the user population.

7. Local parks shall be designed to provide facilities complementary with the recreation, educational and conservation opportunities in the area.

8. Improvement of local parks by developers, whenever required, shall be phased with the anticipated completion of one-half of the residential units to be constructed in the area; or may be phased in accordance with an approved park modification.

9. Municipal Advisory Councils or Board-designated community/homeowners' associations shall be invited to play an advisory role in the design and development of local parks, as appropriate.

10. Developers, interested property owners, and civic groups shall be encouraged to donate time,

materials and funds toward the early implementation of local park development.

11. Local park sites shall be located and designed so that the development and maintenance may provide high visibility and accessibility for law enforcement efforts consistent with the basic recreation purposes of the facility.

MAINTENANCE

1. Developers (their assigns or successors) shall maintain the local parks which they construct until such time as the parks are accepted by the County or its designee.

2. Cooperative recreation and maintenance agreements may be pursued with school districts, developers, and/or homeowners' associations when local parks are adjacent to public schools and when such agreements maximize the recreation potential of both facilities.

3. Communities and other organizations (e.g., YMCA, school districts) throughout the unincorporated area may have the opportunity for providing recreation programs at local parks.

FUNDING

1. Maintenance and operating costs are to be kept consistent with the ability and willingness of the local residents to pay.

2. Cooperative maintenance agreements shall be arranged with other public agencies when economies can be achieved.

3. Local area beneficiaries shall assume the majority of the costs required to provide recreational facilities and programs.

4. Outside sources of funding, such as grants, to acquire and develop local parks shall be aggressively pursued.

5. RDMD/HBP funds may be used for development and maintenance of those areas of local parks determined to be of regional significance (e.g., historical facility, regional trail) after a public hearing conducted pursuant to the State Harbors and Navigation Code.

6. Gifts of land and money for local park purposes shall be accepted provided they are consistent with stated County policies.

COUNTY ASSISTANCE

1. Those provisions of the Local Park Code, adopted pursuant to State enabling legislation, and relating to the private development of land, shall be administered by the County for local park maintenance agencies at no cost to the maintenance agencies and in cooperation with local park maintenance agencies.

2. Upon request of a local park maintenance agency, the County may by formal agreement provide services such as surveying, right-of-way engineering, plans and contract documents preparation, and construction and contract administration. Such services shall be reimbursable.

3. Maintenance and/or operation of local packs within a regional park may be performed by the County upon request of a local park maintenance agency. Such services shall be reimbursable.

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RECREATION ELEMENT

APPENDIX VII-3
LOCAL PARK SITE CRITERIA

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APPENDIX VII-3
LOCAL PARK SITE CRITERIA

A. SITE CRITERIA

Local park land is generally intended for active recreation, but may accommodate passive recreation in special cases. In general, however, both public and private park sites for which Local Park Code credit is granted shall conform to following site criteria:

1. Size

Minimum parcel size is normally two acres for economy of scale in maintenance costs.

2. Shape

Site must generally be consolidated parcels that are independently developable. However, in unusual circumstances, Subdivision Committee and/or Planning Commission may approve linear configurations or oddly-shaped parcels of land to accommodate trail connections or provide uniquely valuable wooded open space additions and/or views to local park sites, as credit against Local Park Code requirements, by park implementation plan or park modification. (See Appendix VII-1, Local Park Implementation Plan Criteria.)

3. Slope

Active recreational pursuits, such as team field sports, game courts, and activity buildings require predominantly level (maximum 1% slope) land. Sloping land up to 20% may be acceptable where it has utility for picnicking or other passive recreation activities when it complements usable park area (maximum 1% slope) or when it appears consistent with uses proposed for a special purpose park site as provided in Item #5 below. All parks improved for active recreation purposes (i.e., ballfields, court sports, etc.) shall be graded to a maximum 1% slope within areas proposed for active recreational uses. Sites that are not required to be improved by the developer shall be rough graded to a maximum 2% unless a greater slope is approved by Director of RDMD.

4. Flood Plains

Up to one-half of the total Local Park Code acreage requirement may be met within flood plains.

(See Appendix VII-2, Local Park Guidelines, page 80 #10).

5. Outstanding Topographic Features and Natural Resources

In exceptional cases, land containing outstanding natural resources of scenic features with obvious potential for enjoyment by local residents or for recreation pursuits appropriate thereto may be considered for partial credit.

Examples include park sites containing rare, unique and/or representative natural vegetation (e.g., riparian forests, oak woodland, and chaparral areas), unusual topography or peculiar geological formations, relatively significant archaeological, paleontological, and/or historical resources, and viewpoints. Recreational desires and/or needs of area residents, if known, together with potential opportunities identified in any approved master plans shall weight heavily in determining suitability of such land.

6. Utilities

Utilities determined to be necessary to support the recreational facilities designated (i.e., water, sewer, gas, electricity, telephone, storm drains, etc.) shall be stubbed out to the park site.

7. Location Criteria

a) Provide easy access to pedestrians, bicyclists, and maintenance and public safety vehicles to the extent practicable.

b) Avoid separation of park from user population by major highways, railroads or untraversable obstacles.

c) Observe following criteria in determining maximum distance between site and service area population:

Park Type	Service Area Radius
Local, Mini-park	.25 Mile
Neighborhood	.50 mile
Community	3.0 miles
View Park	No Requirement

d) Situate local park site adjacent to of near public schools, green- belts, open space corridors, or other community open space/recreation facilities to promote harmonious land use relationships, increasing neighborhood efficiency and amenity.

8. Private Recreation Facilities - Affordable Housing Communities

In projects with 100% affordable housing , Subdivision Committee may, upon receipt of Park Implementation Plan request, grant credit under Local Park Code for private recreation facilities where public access is not permitted. In formulating recommendations to the Subdivision Committee, RDMD's policy is to evaluate proposals in light of criteria established by Board of Supervisors Resolution 61-291, dated March 3, 1981, and the following:

a) Proposed site meets Board criteria outlined in this Appendix 3.

b) Credit is not to exceed 100% of Local Park Code requirement regardless of amount of private recreation facilities provided. Valid facilities eligible for credit are: open turf areas, swimming pools, and game courts. Excess area credits are not transferable to other sites.

c) RDMD, Design Division is responsible for reviewing and approving plans and specifications, in accordance with plans and development schedule acceptable to Director, RDMD or designee.

d) Residential membership in a homeowners' association and payment towards private recreation facilities is mandatory.

e) Covenants, Conditions and Restrictions (CC&Rs) include procedures for operation and maintenance of private open space and recreation facilities, and provision for Director, RDMD to exercise full veto power over any proposal for dissolution or reduction in facilities, activities or maintenance.

9. Private Recreation Facilities - Other Communities

Private park acreage and facilities shall be developed in accordance with the site criteria established herein. Also, see Appendix VII-1, Local Park Implementation Plan Criteria: Private Parks, Facilities and Improvements.

10. Encumbrances

Fee title to the property shall be free and clear of liens, leases, easements, encumbrances and use restrictions including any unrecorded encumbrances such as per acre assessment fees against the land for the availability of roads, bridges, water and sewer services, except those approved by the Director, RDMD. Said offer shall be in a form that can be accepted for transfer of fee title at any time by the County.

Site shall be free and clear of surface and overhead utility line easements which contain design, maintenance of operation constraints or which may intensify public exposure to hazards at the recreation facility, or render site ineligible for federal or State recreational grant consideration.

B. DEDICATION AND ACCEPTANCE

All offers of dedication shall be irrevocable and are to be offered to the County or its designee no later than the recordation of the final subdivision map of by separate recorded instrument.

Irrevocable offers of dedication for all local park sites shall be made in perpetuity to the County of Orange (or its designee), be recorded and run with the land. Acceptance may occur at time offers are tendered or may be delayed until such time as fiscal considerations permit a public agency to develop, operate, and maintain park sites. Maintenance and other liabilities of local park sites offered but not yet accepted by the County shall, in the meantime, rest with the developer or his assigns and successors unless otherwise approved by the Director, RDMD. The Subdivision Committee, as a condition of approval of a subdivision, may require developer to develop a park site when local pack site development was a condition of the associated general plan amendment, zone change, area plan and/or feature plan approval. Tract improvement plans will include details of park facilities subject to approval of Director, RDMD.

RECREATION ELEMENT

APPENDIX VII-4
POLICY FOR ALLOCATING FUNDS FOR TRAIL DEVELOPMENT

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APPENDIX VII-4
POLICY FOR ALLOCATING FUNDS FOR TRAIL DEVELOPMENT

1. The trail priority groups should be re-evaluated and amended as appropriate within five years or when 80% of the trails in Group A have been developed.

2. Implementation plans for trail development should be prepared annually.

3. The trails in Group A should receive priority considerations for allocation of development funding. However, if it is later determined that the development costs for a specific trail relative to other trails is high, that trail should not receive priority for funding unless other trails are not eligible for the same funding.

4. Any trail in Group B or C should receive priority consideration for allocation of development funding if any such trail is uniquely qualified for special funding. For example, a special grant or matching funds available for a specific trail only.

5. Implementation of trails should be distributed throughout Orange County on a basis that services existing user groups as a priority objective.

Group A

Chino Hills Trail	Santa Ana River North Trail
Fullerton Trail	Santa Ana River South Trail
Live Oak Canyon Trail	Serrano Creek Trail
Salt Creek Trail	Wagon Wheel Trail

Group B

Aliso Creek South Trail	Lucas Canyon Trail
Aliso-Serrano Trail	Newport Boulevard Trail
Anaheim Hills Trail	Niguel Trail
Bell Canyon South Trail	San Juan Creek Trail
Colinas Bluffs Trail	Skyline Trail
Hicks Canyon Trail	Tijeras Canyon Trail
Irvine Coast Trail	Vulture Crags Trail
Lake View Trail	Wood Canyon Trail

Group C

Aliso Creek North Trail	Holy Jim Trail	San Juan Trail
Arroyo Trabuco Trail	Huntington Beach Trail	Santa Ana Heights Trail
Bell Ridge Trail	Joplin Trail	Santiago Creek Trail
Chiquita Trail	Ladd Canyon Trail	Santiago Oaks Trail
Coal Canyon-Gypsum	Los Piños Trail	Santiago Truck Trail
Canyon Trail	Main Divide Trail	Sitton Peak Trail
Cristianitos Trail	Modjeska Canyon Trail	Telegraph Canyon Trail
Diamond Bar Trail	Nellie Gail Trail	Trabuco Canyon Trail
El Cajon Trail	Oso Creek Trail	Weir Canyon Trail
Emerald Canyon Trail	Peters Canyon Trail	West Horse Thief Trail
Four Corners Trail	Prima Deshecha Trail	

RECREATION ELEMENT

APPENDIX VII-5
TRAIL DESCRIPTIONS

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APPENDIX VII-5
TRAILS DESCRIPTIONS

The trail descriptions herein are largely based on the Report on Riding and Hiking Trails produced by the Riding and Hiking Trails Advisory Committee. That report contains valuable supplementary information and maps for implementation of each trail including the ownership/development status of each trail segment, the identification of problem areas, and a listing of actions necessary for trail development. These trail descriptions are illustrated on the Regional Riding and Hiking Trails Maps at the back of the Element. A statistical summary of each trail is presented in Chapter VII, the Recreation Element.

The trail alignments described herein and illustrated on the Trails Map are conceptual. Precise alignments will be determined when the trail is actually developed and factors such as public safety, environmental impacts and development cost are considered.

1. Aliso Creek Trail

The Aliso Creek Trail commences northwest of the intersection of Ridgeline Road and Santiago Canyon Road at the Santiago Creek Equestrian Center. The trail is proposed to head southeast along Santiago Canyon Road past Cook's Corner to the intersection of El Toro Road and Ridgeline Road. From Ridgeline Road the trail parallels El Toro Road a short distance south and then enters the Aliso Creek open space. It travels south through the open space and then follows the old El Toro Road right-of-way to the boundary of the Foothill Ranch Planned Community (PC). The trail is proposed to travel south on the west side of Aliso Creek through the Foothill Ranch PC. It then travels through the Rancho de los Alisos PC to the point where El Toro Road crosses the creek. The trail continues south on the west side of the creek to Jeronimo Road. South of Jeronimo Road the trail travels through the El Toro Community Golf Center, where it crosses to the east side of the creek utilizing a low-water crossing. The trail continues south along the edge of the golf course to Muirlands Boulevard. The trail goes under Muirlands and travels through a small park to the point where Los Alisos Boulevard crosses the creek. The trail crosses back to the west side of the creek and heads south to Sycamore Park and goes underneath the I-5 Freeway. The trail then enters a large open space area south of the I-5 Freeway. The trail is proposed to head south through this open space area on the west side of Aliso Creek. At the point where the creek goes under Paseo de Valencia, the trail turns south and parallels Paseo de Valencia to Laguna Hills Drive. It crosses Paseo de Valencia and goes west along Laguna Hills Drive to join Aliso Creek near Moulton Parkway. From the undercrossing of Laguna Hills Drive the trail is proposed to head south along the east side of the creek to the entrance of Aliso and

Wood Canyons Regional Park. Once in the regional park the trail is proposed to extend to the park's southerly boundary in Aliso Canyon. The trail is approximately 15 miles long.

2. Aliso-Serrano Trail

The Aliso-Serrano Trail commences just northwest of the Aliso Creek Trail at the intersection of Glenn Ranch Road and El Toro Road. The trail is proposed to travel northwest across the proposed bridge at Glenn Ranch Road and head westerly toward Saddleback Ranch Road. It will then cross Saddleback Ranch Road at a proposed signalized intersection, travel a short distance northwest and enter the open space of the Portola Hills Planned Community. The trail continues north through the Whiting Ranch Regional Park to its final connection with the Serrano Creek Trail at Serrano Creek. The total length of the trail is approximately 0.8 miles.

The Aliso-Serrano Trail is proposed to utilize a staging area within Whiting Ranch Regional Park as well as connect with the Aliso Creek and Serrano Creek Trails.

3. Anaheim Hills Trail

The Anaheim Hills Trail commences where the El Cajon Trail is proposed to join the Santa Ana River Trail at Fairmont Avenue adjacent to Yorba Regional Park. The trail is proposed to extend southerly along Fairmont Avenue across the Santa Ana River and the Riverside Freeway to Santa Ana Canyon Road. It then extends easterly along Santa Ana Canyon Road to Deer Canyon just east of Eucalyptus Drive. The trail then turns southerly along Deer Canyon to the Metropolitan Water District (MWD) Santiago Lateral Pipeline easement in Anaheim Hills. Once on the MWD easement, the trail extends southerly to Canyon Rim Road. It crosses Canyon Rim Road at its intersection with The Highlands and continues south on the easement just easterly of the Walnut Canyon Reservoir, to Serrano Avenue. The trail crosses Serrano Avenue near Hidden Canyon Road and travels south along the east side of Hidden Canyon Road. It crosses to the west side of Hidden Canyon Road at Avenida de Santiago. The trail continues south into the Anaheim Hills open space. Here it turns westerly and extends along an existing trail in an Edison easement for approximately 2.5 miles where it turns sharply northeasterly along another trail in an Edison easement to a terminus at Stage Coach Road near Nohl Ranch Road. This trail is approximately 9 miles long.

4. Arroyo Trabuco Trail

The Arroyo Trabuco Trail commences in Trabuco Canyon at the Cleveland National Forest boundary, where it connects to the Trabuco Canyon Trail. It extends southwesterly along an existing gravel road within the Arroyo Trabuco to O'Neill Regional Park. Entering O'Neill Regional Park, the trail is proposed to cross Trabuco Canyon Road, and then follow the gravel levee along the creek bed towards the park headquarters. From there, the trail extends southerly through the park along an existing ranch road within the Arroyo Trabuco. At the southern end of O'Neill Regional Park, the Tijeras Canyon Trail joins the Arroyo Trabuco Trail. Just beyond, the trail passes under the Oso Parkway bridge and enters an extensive sand and gravel operation. The trail is proposed to extend southerly along one of the dirt roads that exist within the nearly four mile long operation. Leaving this area, the trail continues southerly along Trabuco Creek Road, then under the I-5 Freeway. The trail is proposed to proceed along the east side of Trabuco Creek, soon passing under a railway bridge and then connect to the Oso Creek Trail. Beyond, the trail passes through an extensive stables area and connects to the Salt Creek Trail. Following this connection, Trabuco Creek becomes channelized, with the trail utilizing the western levee southerly to join the San Juan Creek Trail. The terrain, for the most part is relatively flat. Most of the trail runs through open space/parkland or undeveloped areas. The approximate length of this trail is 15.5 miles.

5. Bell Canyon Trail

The Bell Canyon Trail commences at Caspers Regional Park, and extends northerly along the west ridgeline of Bell Canyon to the northwest corner of the park. The trail then travels through a corner of the Audubon Starr Ranch Sanctuary and into Coto de Caza. The trail continues north through Coto de Caza on the ridge separating Coto de Caza from the Audubon Sanctuary. The trail then enters the southern portion of the Dove Canyon Planned Community (PC). In Dove Canyon PC the trail continues north along Dove Canyon's western boundary with Coto de Caza. At the entrance of Dove Canyon PC the trail intersects with Dove Canyon Road. It then heads east on Dove Canyon Road and crosses Dove Canyon Road in front of an entrance gate and guardhouse. The trail heads north into Rancho Cielo PC, turns east and heads into the Robinson Ranch PC where it connects to an unfinished staging area in Robinson Ranch off of Heritage Drive. The trail continues north through the Robinson Ranch PC open space and then leaves the PC to descend into Trabuco Canyon and connect to the Arroyo Trabuco Trail. The trail is approximately 10 miles long.

6. Bell Ridge Trail

The Bell Ridge Trail commences at the Bell Canyon Trail in the Robinson Ranch development open space. It extends easterly along the ridgeline that separates Bell Canyon and Trabuco Canyon to join the Los Piños Trail at Los Piños Peak. Presently, this trail is neither on the Cleveland National Forest's Trail Inventory, nor is it completely constructed to Los Piños Peak. This trail is approximately 6 miles long and is almost entirely within the Cleveland National Forest.

7. Chino Hills Trail

The Chino Hills Trail commences at the junction of the Fullerton Trail and the El Cajon Trail at Carbon Canyon Dam (flood control) along an existing bike path. The trail travels in a northern direction on the bike path alongside the dam and around the eastern perimeter of Carbon Canyon Regional Park. The trail joins the main park road and travels east through the park along the road, past the main park entry, and alongside the pinewood grove. Paralleling Carbon Canyon Road through the pinewood grove, the trail continues traveling east to Telegraph Canyon Road within Chino Hills State Park. The trail continues southeasterly along Telegraph Canyon Road for about two miles where it connects with the Telegraph Trail. It climbs to the south along an existing trail to another existing trail along the ridge (South Ridge). Along the ridge the trail resumes its southeasterly direction for about three miles. Near San Juan Hill, the trail crosses the Orange County Border and enters into San Bernardino County (still within Chino Hills State Park). From San Juan Hill, the trail continues south through a small canyon then southeasterly onto a narrower trail. From this point the trail continues in the same direction but along a ridgeline above Brush Canyon and Aliso Canyon. Upon descending the ridgeline to the south, the trail follows a series of switchbacks leading to Brush Canyon and into a residential area. The trail travels south through the southern tip of Brush Canyon across the Santa Fe Railroad tracks to an existing trail that connects to the Santa Ana River Trail. It then continues west along the Santa Ana River Trail to the intersection of La Palma Avenue and Gypsum Canyon Road. The trail travels both south along the Gypsum Canyon Bridge and also underneath the bridge into Featherly Regional Park. As the trail passes along the County boundary it provides opportunities for connections to trails within the County of San Bernardino and the easterly portion of future Chino Hills State Park. This trail is approximately 12 miles long.

It is easily accessed through several different staging areas all of which are within state and regional parks. They include Carbon Canyon Regional Park, Chino Hills State Park, and Featherly Regional Park. This trail also connects with five regional trails. They are the

Fullerton Trail, the El Cajon Trail, the Diamond Bar Trail, the Telegraph Canyon Trail, and the Santa Ana River Trail.

8. Chiquita Trail

The Chiquita Trail extends from the San Juan Trail southeasterly along Lion Canyon to the Riverside County line northwest of Ortega Highway where it extends southerly to join trails within the Cleveland National Forest. This trail is approximately 2.5 miles long and is entirely within the Cleveland National Forest.

9. Coal Canyon-Gypsum Canyon Trail

The Coal Canyon-Gypsum Canyon Trail commences at the Santa Ana River Trail opposite Coal Canyon Road. It extends southerly on the westerly side of Coal Canyon Road and crosses under the Riverside Freeway. It enters Coal Canyon and travels southerly to climb up to the westerly ridgeline along an existing ranch road. It follows southerly along the existing ranch road to a point where the Main Divide Trail extends southeasterly into the Cleveland National Forest. From this point, the Coal Canyon-Gypsum Canyon Trail extends southwesterly along existing ranch roads to connect with the Weir Canyon Trail. The total length of the trail is approximately 7 miles.

The trail will connect with the Santa Ana River, Main Divide and Weir Canyon Trails. It will also have a connection with the Cleveland National Forest. There is a proposed staging area at Coal Canyon Road and the Riverside Freeway as well as within Featherly Regional Park.

10. Colinas Bluffs Trail

The Colinas Bluffs Trail, commencing at the Oso Creek Trail, south of Paseo de Colinas, extends westerly up to the Colinas Bluffs. The trail generally follows the ridgeline southerly adjacent to the Colinas de Capistrano Planned Community to link with the Salt Creek Trail about 1/2 mile south of Camino Los Padres. The entire trail is mostly hilly with some flat sections on the ridges. The approximate length of the trail is 3 miles.

11. Cristianitos Trail

The Cristianitos Trail commences north of the San Onofre State Park expansion at approximately Avenida Pico and Cristianitos Road. Also at this approximate location,

Cristianitos Trail connects with the Prima Deshecha Trail at the proposed Avenida Pico undercrossing. It then travels in a northbound direction, gently winding along the outskirts of the Talega Valley/Rolling Hills Planned Community and through the Talega Valley Open Space Reserve until it reaches Cristianitos Road. At Cristianitos Road, the trail travels north, paralleling the road on the west side for about one-half mile. The trail crosses Cristianitos Road to the east side and continues traveling north until it terminates at Ortega Highway. At Ortega Highway it is proposed that the Cristianitos Trail connect with the San Juan Creek Trail. Presently the trail is undeveloped, but 90% of the trail has been dedicated. If Cristianitos Road is incorporated as part of the Foothill Transportation Corridor, there is a possibility of the trail crossing the corridor along the northern part of Cristianitos Road. This trail is approximately 5 miles long.

12. Diamond Bar Trail

The Diamond Bar Trail extends northerly from Carbon Canyon Road at the westerly end of Carbon Canyon Regional Park in the City of Brea. The trail follows a service road along a canyon to the Los Angeles County boundary in the proposed northern section of the Chino Hills State Park. At this point, it can be connected to Los Angeles County's Skyline Trail and trails leading to the Diamond Bar area to the north. This trail is approximately 2.12 miles long.

13. El Cajon Trail

The El Cajon Trail commences at the junction of Fullerton Trail with the Chino Hills Trail and extends southerly across Rose Drive and runs along the Carbon Canyon Flood Control Channel for over one mile crossing Imperial Highway and Bastanchury Road. Just south of Bastanchury Road it joins the old El Cajon canal right-of-way within which it extends easterly along an existing equestrian trail to Imperial Highway. It then crosses Imperial Highway and extends southeasterly along the old canal right-of-way to Grandview Avenue. From Grandview Avenue it is proposed to extend through a low-density residential area to Kellogg Drive. Due to development on the proposed alignment, trail users currently use the separated bicycle trail on Grandview Avenue and Mountain View Avenue to reach Kellogg Drive. After following Kellogg Drive southerly a short distance, it extends easterly through a low-density residential area around the Yorba Linda Country Club to Fairlynn Boulevard. The trail turns south along Fairlynn Boulevard to Esperanza Road. The trail then extends easterly along Esperanza Road to Fairmont Avenue where it is then proposed to follow southeasterly across the AT&SF Railway and La Palma Avenue to join the Santa Ana River

Trail. The area contains numerous private stables as well as a formalized staging area. The trail, as proposed, is 6.8 miles long.

14. Emerald Canyon Trail

The Emerald Canyon Trail commences at the junction of the Wood Canyon Trail and Irvine Coast Trail on a ridgeline within the future Irvine Coast Wilderness Park. The trail extends southwesterly down into Emerald Canyon following the bottom of the canyon to the private community of Emerald Bay where it is proposed to turn northwesterly and climb over the hills into Crystal Cove State Park. Once in the State Park the trail could follow existing trails to the Moro Canyon Staging area. Special consideration should be given to finding a connection to Crystal Cove State Park that would not require much construction. An old fire access road located close to the headwaters of Emerald Canyon should be considered. Also, the possibility of accessing the park from the Irvine Coast Trail and not the Emerald Canyon Trail should also be considered. This trail is approximately 4 miles long.

15. Four Corners Trail

The Four Corners Trail extends from the Anaheim Hills Trail in Deer Canyon easterly along the Four Corners Pipeline easement. (The Four Corners Pipeline carries jet fuel which is a highly flammable substance located approximately 40 feet below the surface of the trail.) It then heads southerly along the easement to join the Weir Canyon Trail. The main purpose of this trail is to link the Anaheim Hills and Weir Canyon Trails. The approximate length of the trail is 1 mile.

16. Fullerton Trail

The Fullerton Trail commences within Ralph B. Clark Regional Park, across from the main entrance, on the north side of Rosecrans Avenue where the softball field annex is located. The trail extends easterly along the northerly side of Rosecrans Avenue on an existing trail to just westerly of Camino Centro Loma where it extends northerly and easterly along an existing trail through and around Coyote Hills development to Euclid Street. It extends northerly along the easterly side of Euclid Street and travels in a northern direction for about 100 yards to the intersection of Euclid Street and Laguna Road. The trail crosses Euclid Street and continues northeasterly through Laguna Lake Park to an abandoned railroad right-of-way along which it extends south to the existing Union Pacific Railroad. The trail extends easterly along the southerly side of the Union Pacific Railroad and under Harbor Boulevard to the Fullerton Municipal Golf Course where it extends south along an existing trail and

under Bastanchury Road through a culvert. The trail then travels east, paralleling Bastanchury Road on the south side, continuing through the intersection of Brea Boulevard and onto State College Boulevard. The trail then crosses Bastanchury Road and continues on the east side of State College Boulevard in a northern direction towards Craig Regional Park. At Rolling Hills Drive, the trail heads east along an existing bike trail that leads into Craig Regional Park. Within Craig Regional Park, the trail follows an existing equestrian trail through the park to the east side of Associated Road. Traveling north for a short distance, it crosses Associated Road again within the park and follows the west side of the road, traveling in a northern direction to the park boundary. The trail continues north along the westerly side of Associated Road north across Imperial Highway to the Loftus Channel right-of-way (flood control). It follows the maintenance road of the flood control channel northerly and easterly to the end of the channel just west of Surveyor Avenue and south of Voyager Avenue in a commercial area. It then extends north along the east side of Voyager Avenue to the northerly side of Birch Street. The trail continues east along Birch Street, crosses Valencia Avenue, and then onto Rose Drive still on the north side traveling in a southeasterly direction. The trail terminates at the junction of the Chino Hills Trail and the El Cajon Trail which is at a bike trail that leads into Carbon Canyon Regional Park at Vesuvius Drive. The trail is complete from Clark Regional Park to Bastanchury Road. From Bastanchury Road to Carbon Canyon Regional Park the trail is fragmented and incomplete. This trail is approximately 10.5 miles long.

Special Study should be made of the Harbor Boulevard crossing along the Union Pacific Railroad and the approaches on the east and west ends. Structural solutions will be necessary here to provide a trail which meets safe trail standards. The route for the trail easterly of Craig Regional Park through the cities of Fullerton and Brea should also be investigated further.

The Fullerton Trail encounters many staging areas, regional and local parks, and regional and local trails. Some of these staging areas, parks, and trails include Ralph B. Clark Regional Park, Coyote Hills Park, Laguna Lake Park & Equestrian Center, Craig Regional Park, Carbon Canyon Regional Park, the Chino Hills Trail, the El Cajon Trail, and the Bud Turner Trail.

17. Hicks Canyon Trail

The Hicks Canyon trail commences near the intersection of Jamboree Road and Irvine Boulevard. From this point, the trail extends east and connects to a segment of existing trail between Culver Drive and Yale Avenue. From the northern terminus of Yale Avenue, the

trail continues east following Ridge Ranch Road located just west of Bee Canyon Road. The trail then enters and extends through Limestone Canyon Regional Park ending at Santiago Canyon Road. The total length of the trail is approximately 7.0 miles.

18. Holy Jim Trail

The Holy Jim Trail commences at the mid-point of the Trabuco Canyon Trail and extends upstream in Holy Jim Canyon and up and along the west and north face of the canyon to join the Main Divide Trail near Bear Springs. This trail is approximately 3 miles long and is entirely within the Cleveland National Forest.

19. Huntington Beach Trail

The Huntington Beach Trail commences at the intersection of Golden West Street and Ellis Avenue and extends west along the southerly side of Ellis Avenue to the proposed Bolsa Chica Linear Regional Park at Edwards Street. Within the linear regional park, the trail extends southwesterly along the bluff to a point near Pacific Coast Highway and may include an extended trail loop within the park to enhance trail use. The total length of the trail is approximately 2 miles.

The trail is close to several staging areas and will have a connection with the Bolsa Chica Linear Regional Park.

20. Irvine Coast Trail

The Irvine Coast Trail commences at Upper Newport Bay Regional Park and heads east on the north side of the San Diego Creek Channel passing under Jamboree Road, MacArthur Boulevard and Campus Drive. Approximately one-half mile beyond Campus Drive the trail will need to cross to the southeast side of the creek. Once on the southeast side of the creek the trail will parallel an existing bike path a short distance to the intersection of University Drive and Harvard Avenue. The trail crosses Harvard and University and enters Mason Regional Park at the park's western boundary. Once in Mason Regional Park the trail heads east on the south side of the Sand Canyon Wash and crosses Culver Drive and Ridgeline Drive as it continues east. After crossing Ridgeline Drive, the trail turns south and travels between Ridgeline Drive and Sand Canyon Wash to the boundary of Mason Regional Park at the base of the Sand Canyon Reservoir. The trail continues south around the east side of the reservoir to the vicinity of Bonita Canyon Road where it turns west for approximately one-half mile to Bommer Canyon. The trail turns south into Bommer Canyon and ascends to the

ridgeline at the top of the canyon. Once on the ridgeline the trail heads west where it connects to Crystal Cove State Park and just beyond the state park to a connection with the Emerald Canyon Trail and Wood Canyon Trail. The trail is approximately eight miles long.

21. Joplin Trail

The Joplin Trail commences at the Santiago Truck Trail at Old Camp within the Cleveland National Forest and extends in a northerly direction along upper Santiago Canyon to the Main Divide Trail. This trail is approximately 2 miles long and is entirely within the Cleveland National Forest.

22. Ladd Canyon Trail

The Ladd Canyon Trail commences at the Santiago Creek Trail near Silverado Canyon Road and extends easterly along Silverado Canyon Road, then northeasterly along Ladd Canyon to join the Main Divide Trail at the headwaters of Ladd Canyon. Special consideration will need to be given to constructing the trail along Silverado Canyon Road. This trail is approximately 7 miles long and is almost entirely within the Cleveland National Forest.

23. Lake View Trail

The Lake View Trail commences at the southeast corner of Canyon View Avenue and Newport Boulevard. It extends one third of a mile east along the south side of Canyon View Avenue. It continues east to the intersection of Canyon View Avenue and Skylark Place. Trail users can then access Peters Canyon Regional Park through the main entrance on Canyon View Avenue or the gated access adjacent to Skylark Place.

From its entrance to Peters Canyon Regional Park, the trail continues south, then east along the westerly side of Peters Canyon Reservoir and Peters Canyon Trail near the south side of the Reservoir's dam. The total length of the trail is approximately 1.5 miles.

24. Live Oak Canyon Trail

The Live Oak Canyon Trail commences inside the main entrance to O'Neill Regional Park and west of the Arroyo Trabuco Trail. The trail travels in a northwest direction along a paved park road until it breaks off in a northeast direction along a dirt path. The trail continues heading north to a park summit-vista. On the downward slope, the trail continues northwesterly, near the Ramakrishna portion of O'Neill Regional Park, to the edge of the

park boundary. At the edge of the park boundary, the trail continues through Rancho Trabuco Planned Community and Hidden Ranch residential area, until it meets El Toro Road. At El Toro Road, the trail travels north, following the road along Saddleback Meadows Planned Community until it reaches the Aliso Creek Trail undercrossing about one-half mile downstream from Cook's corner. The trail is approximately 3 miles long.

This trail is located within a staging area and connects with 2 regional trails and several park trails.

25. Los Piños Trail

The Los Piños Trail commences at the San Juan Creek Trail at San Juan Hot Springs and extends northerly along a ridge on an existing trail to join the Main Divide Trail within the Cleveland National Forest. This trail is approximately 10 miles long and is entirely within the Cleveland National Forest.

26. Lucas Canyon Trail

The Lucas Canyon Trail commences at the San Juan Creek Trail in Ronald W. Caspers Regional Park and extends easterly towards Ortega Highway. The trail crosses under the highway utilizing an existing cattle crossing. The trail continues east and then turns north to travel a short distance to Lucas Canyon. The trail travels east up Lucas Canyon to the Riverside County line where it connects with trails within the Cleveland National Forest in Riverside County and San Diego County to the east and south. A future connection between the Lucas Canyon Trail and the Sitton Peak Trail is possible on the northwesterly side of Lucas Canyon just inside the Cleveland National Forest and when implemented will provide an alternate trail connection into Lucas Canyon from San Juan Hot Springs via the Sitton Peak Trail. The total length of this trail is approximately 3 miles.

27. Main Divide Trail

The Main Divide Trail commences at the ridgeline location of the Coal Canyon-Gypsum Canyon Trail and extends easterly into the Cleveland National Forest. It continues southeasterly along the Main Divide Truck Road, generally along the ridge of the Santa Ana Mountains past Santiago Peak to the Riverside County line northwesterly of Ortega Highway where other trails extend easterly into Riverside County and southerly into San Diego County. This trail is approximately 28 miles long and is almost entirely within the Cleveland National Forest.

28. Modjeska Trail

The Modjeska Trail commences at the Tucker Wildlife Sanctuary and extends up Harding Truck Trail and connects to the Main Divide Trail. This trail provides the most direct route to Saddleback Peak. The trail is approximately 4 miles long and is entirely within the Cleveland National Forest.

29. Nellie Gail Trail

The Nellie Gail Trail commences at the intersection of Pacific Park Drive and Nellie Gail Road, where it connects with the Niguel Trail and Oso Creek Trail. The trail can utilize an existing undercrossing to cross Pacific Park Drive. The trail travels west on the north side of Pacific Park Drive to a point approximately 1/4 of a mile from Moulton Parkway. At this point the trail heads north to an undercrossing of La Paz Road. Once on the north side of La Paz Road the trail heads southwest through an open space area adjacent to La Paz Road. The trail crosses Moulton Parkway using either the signalized intersection of Moulton Parkway and La Paz Road, or an existing undercrossing of Moulton Parkway. The trail then travels a short distance southwest and turns north through the Lomas Laguna development to Alicia Parkway. The trail continues on the other side of Alicia Parkway and heads through the Aliso Creek open space area to a connection with the Aliso Creek Trail. At this point the trail users will have to head north on the sidewalk to the intersection of Moulton Parkway and Alicia Parkway to cross Alicia Parkway. Users will have to head south on the sidewalk to the Aliso Creek open space. A preferred alternative to crossing at this intersection would be the installation of a signalized crossing of Alicia Parkway at Ramona Street. The total length of this trail is approximately 2 miles.

30. Newport Boulevard Trail

The Newport Boulevard Trail commences at the intersection of Newport Boulevard and Cowan Heights Drive. From this location it continues north through the Baldwin Open Space on the east side of Newport Boulevard. Near the intersection of Highcliff Drive, the trail divides. The portion on the east side of Newport Boulevard extends north to Peters Canyon Regional Park while the other crosses to the west side of Newport Boulevard using an existing equestrian/pedestrian bridge. From this location, the trail continues north past Canyon View and Chapman Avenues to Santiago Canyon Road. The trail then crosses Santiago Canyon Road and up a steep but short terraced path. The trail then links to Irvine Regional Park via the Santiago Creek Trail. The length of this trail is approximately 2 miles.

31. Niguel Trail

The Niguel Trail commences at the intersection of Pacific Park Drive and Nellie Gail Road, where it connects with the Nellie Gail Trail and Oso Creek Trail. The trail travels southeast through the Nellie Gail Planned Community to Greenfield Drive. (An alternative beginning point would be at the corner of Rapid Falls Road and Cabot Road with the trail heading west to Greenfield Drive.) It extends south on the west side of Greenfield Drive where it is proposed to go under the San Joaquin Hills Transportation Corridor. The trail then travels behind a shopping center to Rancho Niguel Road. The trail continues on the other side of Rancho Niguel Road on the east side of the Marion Bergeson Elementary School. It goes behind the school and into the Sulphur Creek open space area. It heads southwest through the Sulphur Creek open space area and goes under Moulton Parkway. The trail then extends along the southwest side of Moulton Parkway to a proposed shopping center in the vicinity of Yosemite Road. The trail heads behind the shopping center and southwest along the south side of Yosemite Road and Big Bend Drive. The trail crosses Yosemite Road at Big Bend Drive and heads southwest. It enters Niguel Regional Park utilizing an existing undercrossing of La Paz Road. This trail is approximately 4 miles long.

32. Oso Creek Trail

The Oso Creek Trail commences at the Arroyo Trabuco Trail near the location where Oso Creek flows into Trabuco Creek. The trail extends westerly for a short distance, then joins an existing ranch road that extends northerly along the base of the Colinas Bluffs for about 1+1/2 miles to the end of Avenida Del Caballo. Just beyond, the Colinas Bluffs Trail joins the Oso Creek Trail. From that point, the trail is proposed to continue northward along the hillside, generally west of Cabot Road, to Rapid Falls Road. Here the trail crosses to the east side of Cabot Road and continues northward to Pacific Park Drive. From there, the trail crosses Cabot and runs west along Pacific Park Drive for over one mile before linking with the Niguel Trail and the Nellie Gail Trail. The trail is mostly flat, but it may have some considerably steep grades in the areas yet to be constructed. An alternative alignment would be for the trail to travel east from Avenida Del Caballo and cross Oso Creek. On the east side of Oso Creek the trail would head north to Crown Valley Parkway. At this point, a safe crossing of Crown Valley Parkway would need to be implemented. North of Crown Valley Parkway the trail would need to cross to the west side of Oso Creek and connect to the trail alignment at Cabot Road and Rapid Falls Road. The total length of this trail is approximately 4.8 miles.

33. Peters Canyon Trail

The Peters Canyon Trail commences at the southeast end of Irvine Regional Park where Peters Canyon Road intersects with the park. The trail follows Peters Canyon Road south and crosses Santiago Canyon Road, and then crosses Jamboree Road near the intersection of Jamboree and Canyon View Avenue. The trail then enters the proposed site for Peters Canyon Regional Park and heads south through the park along Peters Canyon Road. When the trail leaves the proposed park site it travels south through the Tustin Ranch Planned Community to Tustin Ranch Road just west of Pioneer Way. The trail heads southwest along Tustin Ranch Road and crosses Tustin Ranch Road at the point where it connects to Portola Parkway. Once along the south side of Portola Parkway the trail heads east to Jamboree Road. At Jamboree Road the trail turns south and travels along the west side of Jamboree Road to the Peters Canyon Channel undercrossing of Jamboree at the Tustin Ranch golf course. The trail goes under Jamboree Road and travels south on the west side of the channel towards the I-5 Freeway. Before it reaches the freeway the trail must cross Irvine Boulevard and Bryan Avenue. On the south side of the freeway the trail continues south on the west side of Peters Canyon Channel crossing Walnut Avenue, the A.T.S.F. railroad, Edinger Avenue, Moffet Drive, Warner Avenue and Barranca Parkway. Just south of Barranca Parkway the Peters Canyon Channel ends and the trail continues south on the west side of the San Diego Creek Channel crossing Alton Parkway, Main Street, Coronado, the I-405 Freeway and Michelson Drive. The trail terminates just north of Campus Drive at the point where the Irvine Coast Trail crosses the San Diego Creek Channel. The trail is approximately 12 miles long.

34. Prima Deshecha Trail

The Prima Deshecha Trail extends northerly from the San Onofre State Park expansion and just south of Avenida Pico where it connects with the Cristianitos Trail. It travels in a westerly direction along the Edison easement. At Avenida Vista Hermosa the trail makes a proposed at-grade crossing where it continues west along the northern side of Avenida Pico. Just east of La Pata, the trail begins to travel north along the open space to the proposed Prima Deshecha Regional Park. The trail continues through the proposed park and along the northeastern ridgeline to the entrance. At the entrance the trail crosses La Pata Road and then again follows along the Edison power line easement heading north to Ortega Highway. The trail terminates at the highway where it connects with the San Juan Creek Trail. This trail is approximately 6 miles long.

There is a possibility for coordinating efforts with a stable off of La Pata Avenue to have the trail go around the stable and connect with the San Juan Creek Trail without having to cross Ortega Highway.

Until the alignment of the Foothill Transportation Corridor has been finalized, it will not be known if the trail will cross the corridor. If Avenida Pico is incorporated as part of the corridor, then there is a possibility of the trail crossing the corridor at Avenida Pico and Avenida Vista Hermosa.

35. Salt Creek Trail

The Salt Creek Trail commences at the Arroyo Trabuco Trail in San Juan Capistrano south of Oso Road and extends northerly for close to 1/2 mile along an old ranch road before turning westerly up the Colinas Bluffs to meet with the Colinas Bluffs Trail. The trail follows south-westerly along the ridge, then crosses the Street of the Golden Lantern to San Juan Community Park. The trail continues westerly down San Juan Canyon through Salt Creek Corridor Regional Park to Niguel Road. From here the trail extends northerly along Niguel Road to Los Arboles Drive, where it turns northeasterly to the vicinity of Niguel Ranch Drive where it will extend northerly over a hill, then easterly through a residen-tial neighborhood to Crown Valley Parkway. The trail then crosses Crown Valley Parkway and passes through Crown Valley Community Park, then norther-l-y along the Sulphur Creek Channel past the regional sewage treatment plant and into Laguna Niguel Regional Park. The trail continues through Laguna Niguel Regional Park and across Alicia Parkway to join the Aliso Creek Trail. The terrain is mostly hilly with gentle grades on the trail. Several staging areas can give them easy access to the trail. The total length of this trail is approximately 7.3 miles.

36. San Juan Trail

The San Juan Trail commences at the San Juan Creek Trail at San Juan Hot Springs and climbs up a series of switchbacks out of the canyon. It extends northeasterly along a ridgeline on an existing trail to join the Main Divide Trail. The total length of this trail is approximately 7 miles and is almost entirely within the Cleveland National Forest.

37. San Juan Creek Trail

The San Juan Creek Trail is proposed to commence at the Los Piños Trail, San Juan Trail and Sitton Peak Trail at San Juan Hot Springs. The trail travels west about a 1/2 mile and

extends along San Juan Creek through Ronald W. Caspers Regional Park. The trail continues in a southerly direction running parallel to Ortega Highway until it reaches La Pata Avenue at which point it crosses under Ortega Highway. The trail travels southwesterly into the City of San Juan Capistrano and continues to parallel San Juan Creek. At La Novia Bridge the trail crosses at-grade and heads south until it crosses under the I-5 Freeway. It then heads southwesterly under the Camino Capistrano Bridge and proceeds over the Atchison, Topeka & Santa Fe Railroad tracks. The trail heads south, passes Descanso Park and separates into northwest and southeast levees. To access the southeast levee, riders must utilize ramps into the creekbed while those wishing to utilize the northwest levee can use the pedestrian footbridge. The trail continues south on both sides of the creekbed under the crossing at Stonehill Drive to its endpoint just before Pacific Coast Highway near Doheny State Beach. The total length of the trail is approximately 15.2 miles.

The portion which runs through Caspers Regional Park is only accessible to hikers and equestrians. The trail is close to several staging areas and connects to many trails and parks.

38. Santa Ana Heights Trail

The Santa Ana Heights Trail begins at the junction of the Irvine Coast Trail in upper Newport Bay Regional Park and heads northwesterly outside the edge of the Upper Newport Bay Ecological Reserve to join the Santa Ana Delhi Channel. It continues north along the flood control channel maintenance road past the Newport Beach Golf Course across Mesa Drive and Irvine Avenue to Santa Ana Avenue. The trail extends southwesterly along the northwesterly side of Santa Ana Avenue and then northwesterly along Mesa Drive to cross Newport Boulevard and the Costa Mesa Freeway to the Orange County Fairgrounds stable facility.

Special attention will need to be given to the trail as it crosses Mesa Drive, Irvine Boulevard and Santa Ana Avenue. The crossing of the two frontage roads at Newport Boulevard and the bridge crossing of the Costa Mesa Freeway will need special attention and coordination with Caltrans and the City of Costa Mesa. Alternate routes may be considered for this trail, and it should have close study before a final route is established between Upper Newport Bay and the County Fairgrounds. This trail is approximately 5 miles long.

39. Santa Ana River Trail

A) Southern Segment

The Santa Ana River Trail commences at Pacific Coast Highway and extends northeasterly along the westerly side of the Santa Ana River Channel to Katella Avenue where the northern segment of the Santa Ana River Trail begins. This is by far the most heavily used trail in the county. However, it lacks formalized staging areas--notably in the far southern portion closer to the beach. The terrain is completely flat outside of the underpass ramps. This segment of the Santa Ana River Trail is approximately 14 miles long.

B) Northern Segment

The Santa Ana River Trail commences at Katella Avenue where it crosses to the easterly bank and extends northerly to Imperial Highway. After crossing to the northerly bank at Imperial Highway via a wet crossing, the trail extends easterly parallel to Yorba Regional Park. At Yorba Linda Boulevard/Weir Canyon Bridge the trail travels easterly through the Anaheim Wetlands (the bike trail travels alongside La Palma Avenue) to Gypsum Canyon Bridge and makes a wet crossing into Featherly Regional Park. At Featherly Regional Park the trail continues traveling east through the park until it meets back up with the existing bike trail. It travels alongside the bike trail for a short distance before heading northeast through the Santa Ana River Channel. It resumes traveling east along the northern perimeter of the Green River Golf Course to the County boundary where it will continue to connect with Riverside and San Bernardino Counties along the river. This segment of the Santa Ana River Trail is approximately 14 miles long.

This trail is very important to Orange County. It is used heavily by all user groups for recreational purposes, and by others as a commuter route. It is a vital connection to a multitude of trails and parks within this county and, also, within Riverside and San Bernardino Counties. With the widening of the Santa Ana River Channel, the trail alignment is expected to change somewhat. Some areas of the trail may become narrower, while other areas may become wider.

40. Santiago Creek Trail

The Santiago Creek Trail commences within the future westerly portion of Santiago Oaks Regional Park near the intersection of Katella and Loma Street. The trail extends easterly

crossing Loma Street and then parallels Santiago Creek in a northeast direction. The trail continues northeast behind the Hidden Creek housing development, crosses Santiago Creek and enters into Santiago Oaks Regional Park. Once within the park, the trail heads southeasterly toward Villa Park Dam. The trail extends south around Villa Park Dam and enters into Irvine Regional Park. The trail heads northeast through Irvine Regional Park and once again parallels Santiago Creek until it reaches Irvine Lake. It passes Irvine Lake on the southwesterly side and extends southerly along Limestone Canyon and Santiago Canyon Road. It continues in this direction until it again joins Santiago Creek near Silverado Canyon Road. The trail heads southerly along Santiago Creek to Modjeska Grade. From Modjeska Grade the trail must cross Santiago Canyon Road to reach its endpoint at the Santiago Creek Equestrian Center. The approximate length of the trail is 15 miles.

The Santiago Creek Trail is close to many staging areas and parks, among which are the Limestone Canyon, Irvine, Santiago Oaks and Whiting Ranch Regional Parks. Also, the Cleveland National Forest and Santiago Creek Equestrian Center can be utilized. The trail will also connect with the Santiago Oaks, Weir Canyon, Ladd Canyon, Santiago Truck, Serrano Creek, Aliso Creek, Live Oak Canyon and Peter's Canyon Trails.

41. Santiago Oaks Trail

The Santiago Oaks Trail commences in Santiago Oaks Regional Park where it intersects with the Santiago Creek Trail approximately 1/3 mile northwest of the Villa Park Dam. The trail heads northeast into the Peralta Hills and almost immediately begins a steep uphill climb. After ascending for approximately one mile the trail leaves the park property. It terminates at its connection with the Anaheim Hills Trail just west of Robbers Peak. This trail is approximately 1 mile long.

42. Santiago Truck Trail

The Santiago Truck Trail commences at the Santiago Creek Trail near the intersection of Santiago Canyon Road and Modjeska Grade Road. The trail extends northeasterly along Modjeska Grade Road and the existing Santiago Truck Trail along a ridgeline and upper Santiago Canyon. It continues to Old Camp within the Cleveland National Forest about one mile north of the national forest boundary and Joplin Ranch where it joins the Joplin Trail. This trail is approximately 6 miles long and is almost entirely within the Cleveland National Forest.

43. Serrano Creek Trail

The Serrano Creek Trail commences at the Serrano Creek Equestrian Center on Trabuco Road. The trail crosses Trabuco Road at Peachwood utilizing an existing traffic signal. It then heads northeast along the west side of Serrano Creek to an area above the Los Alisos Water District property where the trail makes a "wet" crossing of a tributary to Serrano Creek and continues up the west side of the creek to Dimension Drive. The trail travels under the Dimension Drive bridge and crosses to the east side of Serrano Creek. The trail continues northeast and travels under four more road crossings before reaching Whiting Ranch Regional Park. Once in the park, the trail extends past the headwaters of Serrano Creek to the Santiago Creek Equestrian Center where it will connect to the Santiago Creek Trail, Santiago Truck Trail, and Aliso Creek Trail. This trail is approximately 6 miles long.

Special consideration will need to be given to the crossings of Trabuco Road and the Foothill Transportation Corridor.

44. Sitton Peak Trail

The Sitton Peak Trail commences at the San Juan Creek Trail at San Juan Hot Springs and extends easterly along a ridgeline into the Cleveland National Forest in Riverside and San Diego Counties. This trail parallels the boundary of the San Mateo Wilderness and, in the vicinity of Sitton Peak, it enters the Wilderness area. There are special rules governing visitors to the Wilderness area. Visitors should check with the National Forest Service regarding these rules. The total length of the trail is approximately 3 miles and is almost entirely within the Cleveland National Forest.

45. Skyline Trail

The Skyline Trail commences at the lower west portion of Peters Canyon Regional Park near Holly Tree Lane. The trail continues west on the south side of Holly Tree Lane towards Equestrian Drive. From this point it moves northeast along the south side of Equestrian Drive to an area near the intersection of Traventine Place and Cowan Heights Drive. It continues westerly along the south side of Cowan Heights Drive ending at Newport Boulevard. The total length of this trail is approximately 2 miles.

46. Telegraph Canyon Trail

The Telegraph Canyon Trail extends from the Chino Hills Trail along Telegraph Canyon

within Chino Hills State Park to the San Bernardino County boundary. It has opportunities for extension into the easterly portion of Chino Hills State Park and to connect with trails within San Bernardino County. The trail winds easterly along Telegraph Canyon and follows alongside a dry creek bed for the majority of the trail. The trail terminates at the county boundary. This trail is approximately 3.5 miles long.

This is a very scenic and heavily used trail. It is located in a staging area and in close proximity to other staging areas.

47. Tijeras Canyon Trail

The Tijeras Canyon Trail commences at the staging area in Robinson Ranch and shares an alignment with the Bell Canyon Trail traveling south from the staging area and then west into Rancho Cielo. The trail travels west along Rancho Cielo's southern boundary with Dove Canyon to the intersection of Dove Canyon Drive and Plano Trabuco Road. The trail continues on the other side of Plano Trabuco Road and heads southwest behind Santa Margarita Catholic High School. The trail then enters the proposed Chiquita Ridge open space area that separates Coto de Caza from Rancho Santa Margarita. It continues southwesterly through the open space and crosses the entrance of Coto de Caza adjacent to Antonio Parkway. Past the entrance to Coto de Caza the trail descends into Tijeras Canyon and continues to follow the creek south. At the point where Antonio Parkway crosses the creek, the trail travels through a park and under Antonio Parkway. Past Antonio Parkway the trail continues to follow the creek southwest and then rises up from the floor of Tijeras Canyon and follows Antonio Parkway into the Las Flores development. Once in Las Flores the trail follows the blufftop of the arroyo for a short distance. It then descends into the arroyo and connects to the Arroyo Trabuco Trail adjacent to Trabuco Creek. The trail is approximately 6 miles long.

The crossing of Plano Trabuco Road will require special consideration.

48. Trabuco Canyon Trail

The Trabuco Canyon Trail commences at the Arroyo Trabuco Trail at the Cleveland National Forest boundary. It extends easterly in Trabuco Canyon past its junction with the Holy Jim Trail and West Horse Thief Trail to the ridgeline at the Main Divide Trail. The total length of this trail is approximately 6 miles and is entirely within the Cleveland National Forest.

49. Vulture Crags Trail

The Vulture Crags Trail commences at the entrance of O'Neill Regional Park off Live Oak Canyon Road. Near the park's entrance, it crosses north over Live Oak Canyon Road. As it continues north, the trail meets the Coyote Connector Trail and follows it in a northeasterly direction until it reaches the Trabuco Canyon Trail. From this point, it extends approximately one mile north to the beginning of another local but unnamed connector trail. The trail continues in a southwesterly direction towards Live Oak Canyon Road until it links with the Vulture Crags Local Trail. From this point, the trail extends north paralleling the east side of Live Oak Canyon Road. As Live Oak Canyon Road turns west, the trail branches in a northeast direction eventually linking to the Santiago Truck Trail and the Cleveland National Forest. This trail is approximately 2 miles long.

50. Wagon Wheel Trail

The Wagon Wheel Trail commences in Wagon Wheel Canyon Regional Park and follows an existing ranch road south through Wagon Wheel Canyon. The trail crosses Coto de Caza Drive and Vista del Verde, and continues south through a sliver of the park to the southern boundary of Coto de Caza. The trail turns east and follows an existing ranch road along the property line of Coto de Caza for 1/2 mile. The trail enters the Rancho Mission Viejo property and continues east on an existing ranch road. This ranch road ascends to the west ridge of Bell Canyon and connects to the Bell Canyon Trail within Caspers Regional Park. The trail is approximately 3 miles long.

Special consideration should be given to the crossing to Coto de Caza Drive and Vista del Verde.

51. Weir Canyon Trail

The Weir Canyon Trail commences at the Santa Ana River Trail within Featherly Regional Park and extends southerly under the Riverside Freeway along Gypsum Canyon Road to Santa Ana Canyon Road. At this intersection, the trail travels westerly along the southerly side of Santa Ana Canyon Road to an unnamed creek just east of Weir Canyon Road. The trail extends southerly along ranch roads along the creek until it reaches the intersection of Serrano Avenue and Weir Canyon Road. It crosses this signalized intersection and continues southerly to the headwaters of the creek. The trail continues southwesterly through The Summit Planned Community where it traverses the ridgeline southerly into Weir Canyon. From this point it extends down Weir Canyon and/or along an existing Edison easement, then in Weir Canyon southerly to join the Santiago Creek Trail in Irvine Regional Park. The

approximate length of the trail is 8 miles.

The trail has its endpoints in regional parks which can serve as staging areas, and it connects to the Anaheim Hills, Four Corners and Coal Canyon-Gypsum Canyon Trails.

52. West Horse Thief Trail

The West Horse Thief Trail commences at the Trabuco Canyon Trail and extends northeasterly in upper Trabuco Canyon to its upper watershed where it joins the Main Divide Trail. The total length of this trail is approximately 1 mile and is entirely within the Cleveland National Forest.

53. Wood Canyon Trail

The Wood Canyon Trail commences at the Aliso Creek Trail at the mouth of Wood Canyon, within Aliso and Wood Canyons Regional Park. The trail extends northerly along the bottom of Wood Canyon to its headwaters southeasterly of El Toro Road. It is proposed to cross over the ridge and descend the El Toro Cliffs toward El Toro Road. The trail then would follow southwesterly along El Toro Road for about 1/2 mile to Laguna Canyon Road. Following a crossing of Laguna Canyon Road at the intersection and traveling south for a short distance, the trail joins an existing ranch road that extends up Laurel Canyon to a point on the ridge near the headwaters of Emerald Canyon where it will join the Emerald Canyon Trail and Irvine Coast Trail. Nearly the entire trail is within open space/parkland. The trail as proposed is approximately 5.5 miles long.

RECREATION ELEMENT

APPENDIX VII-6
STAGING AREAS

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APPENDIX VII-6
STAGING AREAS

The following is a list of 48 potential staging areas. They are also shown on the Regional Riding and Hiking Trails Map. Several of these are located within regional parks or other parks and are either existing or identified in park general development plans. Others are identified as potential sites which need further study as to feasibility, land acquisition and implementation requirements. They are listed together here with the intent that each staging area will be studied as trail route implementation planning is accomplished and as adjacent land is developed.

1. Within Ralph B. Clark Regional Park.

2. Within Carbon Canyon Regional Park.

3. Within Yorba Regional Park.

4. Within Featherly Regional Park.

5. At the mouth of Coal Canyon.

6. On the Anaheim Hills Trail at the mouth of Deer Canyon.

7. Along the Santa Ana River downstream of Garden Grove Boulevard near Forrest Paul Park.

8. Within Harriett Wieder Regional Park near Edwards Street.

9. Near the end of the Anaheim Hills Trail about 1/8th mile south of the intersection of Nohl Ranch Road and Stage Coach Road.

10. Near the end of the Santiago Creek Trail near Katella Avenue and Loma Street.

11. Within Irvine Regional Park.

12. Along the Santiago Creek Trail near the Ladd Canyon Trail.

13. Within future Whiting Ranch Regional Park near the junction of the Santiago Creek Trail and the Serrano Creek Trail.

14. At the end of the Serrano Creek Trail at the Serrano Creek Equestrian Center.

15. Along the Aliso Creek Trail near its junction with the Live Oak Canyon Trail within the Aliso Creek open space.

16. Within O'Neill Regional Park.

17. Adjacent to Heritage Drive within the Robinson Ranch open space near the junction of the Tijeras Canyon Trail and Bell Canyon Trail.

18. Within Caspers Regional Park.

19. At or near San Juan Hot Springs adjacent to the San Juan Creek Trail and other trails leading into the Cleveland National Forest.

20. Along the Prima Deshecha Trail near Avenida Pico.

21. Near the San Juan Creek Trail junction with the Prima Deshecha Trail.

22. Within Aliso and Wood Canyons Regional Park.

23. Along the Irvine Coast Trail near Sand Canyon Avenue.

24. At the end of the Emerald Canyon Trail within Crystal Cove State Park.

25. Within Mason Regional Park.

26. Adjacent to the Santa Ana Heights Trail near the intersection of Mesa Drive and Birch Street.

27. At the end of the Santa Ana Heights Trail within the Orange County Fairgrounds.

28. Within Upper Newport Bay Regional Park.

29. Within Huntington Central Park Equestrian Center near Talbert Avenue and Golden West Street.

30. Within Del Obispo Park along the San Juan Creek Trail.

31. Within the proposed Limestone Canyon Regional Park.

32. Within Chino Hills State Park.

33. Near Imperial Highway south of Mountain View Place in Yorba Linda.

34. At Anaheim Stadium.

35. Within Centennial Regional Park.

36. Within Crown Valley Community Park.

37. Adjacent to Laguna Canyon Road on the Wood Canyon Trail.

38. Within Laguna Niguel Regional Park.

39. Within the Salt Creek Corridor Regional Park.

40. Within San Juan Community Park adjacent to Street of the Golden Lantern.

41. On the Arroyo Trabuco Trail south of Oso Road in San Juan Capistrano.

42. Within Descanso Park near the junction of the Arroyo Trabuco Trail and San Juan Creek Trail.

43. Near Carbon Canyon Road adjacent to the Diamond Bar Trail and Chino Hills Trail.

44. Near the junction of the Oso Creek Trail and Colinas Bluffs Trail.

45. Within General Thomas F. Riley Regional Park.

46. At the Modjeska Historic Park.

47. Within Santiago Oaks Regional Park.

48. Within Peters Canyon Regional Park.

The above listing may be added to or diminished depending on future studies of trail requirements, feasibility of staging area location and need for staging areas as the implementation and completion of the trail system is accomplished.

RECREATION ELEMENT

APPENDIX VII-7
TRAIL DESIGN STANDARDS

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APPENDIX VII-7
TRAIL DESIGN STANDARDS

Trails included in the Master Plan of Regional Riding and Hiking Trails should be developed in accordance with the following standards. In special locations where physical constraints preclude the practical implementation of a trail under the following standards, the Director of RDMD, or his designee, may approve a modification of these trail standards if public safety is not jeopardized and the purpose of the Master Plan of Regional Riding and Hiking Trails is carried out.

Additional standards are included in the Regional Riding and Hiking Trails Design Manual.

- **Service Trail**: Multi-use, Unpaved

  This trail type is preferred for multiple use under most conditions. A majority of the Master Plan trails are of this type. Service vehicles could use this trail, if necessary. Typical examples of existing such trails are unimproved fire and cattle ranch access roads.

  Suggested Standards

Trail Tread Width	10.0 feet minimum
Right-Of-Way Easement Width	16.0 feet
Maximum Grade	10%
Suggested Uses	Equestrian, mountain bike, pedestrian
Surface	Packed dirt, decomposed granite
Sample Trail	Telegraph Canyon Trail

- **Single Track Trail**: Unpaved, Narrow Gauge Trail

  This type of trail is for natural areas and steep terrain where environmental or topographic constraints require a minimum impact trail. These trails are not typically used in an urban setting. They are more suitable for mountain areas, ridges, near creeks and other sensitive areas.

  Suggested Standards

Trail Tread Width	4.0 feet minimum
Right-Of-Way Easement Width	16.0 feet
Maximum Grade	10%

Suggested Uses	Pedestrian, equestrian and mountain bike as trail design and conditions permit.
Surface	Packed dirt or gravel, decomposed granite, bark
Sample Trail	Wood Canyon Trail

- **Major Trail**: Paved and unpaved, multi-use trail with shoulder

This serves as a major, multi-use trail where space and topography are not limiting factors. This type is ideal for projected high use trails. It provides adequate space for all three uses in a safe, effective manner. If possible, the equestrian trail could be separated with a landscape buffer or post fence. If construction funds or future maintenance is an issue, the 2 foot shoulder can be eliminated. Service vehicles could use this trail, if necessary.

Suggested Uses

Trail Tread Width	10.0 feet minimum 4.0 feet equestrian tread 2.0 feet pedestrian tread
Right-Of-Way Easement Width	20.0 feet
Maximum Grade	10%
Suggested Uses	All
Surface	Asphalt, decomposed granite
Sample Trail	Santa Ana River Trail-North

RECREATION ELEMENT

APPENDIX VII-8
REGIONAL RECREATION FACILITIES INVENTORY

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APPENDIX VII-8
REGIONAL RECREATION FACILITIES INVENTORY

The following is an inventory of regional recreation facilities in Orange County. It includes recreation facilities but does not exhaust all possible site opportunities.

HARBORS, BEACHES AND PARKS INLAND AND COASTAL RECREATION FACILITY ACREAGE (1999)

• **INLAND REGIONAL RECREATION FACILITIES**	**ACREAGE***
Urban Regional Parks	
Carbon Canyon Regional Park	125
Centennial Regional Park	107
Craig Regional Park	129
Fairview Regional Park	82
Laguna Niguel Regional Park	234
Ralph B. Clark Regional Park	84
Mason Regional Park	344
Mile Square Regional Park	661
Olinda Regional Park	119
Salt Creek Corridor Regional Park	300
Yorba Regional Park	131
Subtotal	2,316

*SOURCES: 1999 RDMD/HBP Land Bank Inventory

APPENDIX VII-8:
REGIONAL RECREATION FACILITIES INVENTORY

Natural Regional Parks

Featherly Regional Park	709
Irvine Regional Park	477
O'Neill Regional Park	3,081
Peters Canyon Regional Park	359
Santiago Oaks Regional Park	384
Upper Newport Bay Regional Park	133
Harriette M. Wieder Regional Park	34
Subtotal	5,177

Wilderness

Aliso & Wood Canyons Wilderness Park	3,240
Laguna Coast Wilderness Park	5,215
Ronald W. Caspers Wilderness Park	7,728
Gen. Thomas F. Riley Wilderness Park	524
Weir Canyon Wilderness Park	210
Limestone - Whiting Wilderness Park	1,594
Subtotal	18,511

Nature Preserve

Modjeska Canyon Nature Preserve		86
Talbert Nature Preserve		211
	Subtotal	297

**** Does not include wilderness areas.***

Historical Sites

Key Ranch		2.2
Arden-The Helena Modjeska Historic House and Gardens		19
Irvine Ranch Headquarters and Homesite		6.5
Old Courthouse		2.0
Peralta Adobe		0.4
Heritage Hill (Serrano Historical Park)		4.0
Yorba Cemetery		1.0
	Subtotal	35.1

- **COASTAL REGIONAL RECREATION FACILITIES**

Aliso and Coast Royale Beaches (3)	21
Bayside Drive (3)	0.5
Capistrano Beach (3)	8
Crescent Bay Point Park (3)	2
Dana Point Harbor (2) (including Lantern Bay Park)	454

11th Street Beach (4)	0.25
Lower Newport Bay (2)	105
Mariners Beach (4)	0.5
Newport Dunes Aquatic Park (1)	71
North Star Beach (3)	16
Poche Beach (4)	1
23rd Street Beach (4)	7
Salt Creek Beach Park (3)	41
Santa Ana River Mouth (4)	5.37
South Laguna Beaches (4) (From Dumond Drive to 10th Avenue excluding Aliso and Coast Royale Beaches)	29
Sunset Marina Harbour (1)	63
Sunset Beach (3)	55
Three Arch Bay (4)	0.3
Subtotal	879.92

INLAND AND COASTAL TOTAL ACREAGE 27,216.02

(1) Aquatic Harbor Park
(2) Multipurpose Harbor
(3) Beach Park
(4) Shoreline Beach

PROPOSED RECREATION FACILITIES

SITE	REMARKS
1. Black Star Canyon	Area includes private inholdings within Cleveland National Forest. Board of Supervisors Resolution No. 78-202 directed RDMD to communicate with the U.S. Forest Service for cooperative planning purposes. Potential exists for joint powers agreement or other mechanism providing for future development and operation as a County wilderness park within the National Forest.
3. Bommer and Shady Canyons	This 4,311-acre site provides a potential opportunity for expansion of the adjacent Laguna Coast Wilderness Park. The Irvine Company has pledged to the City of Irvine to dedicate this site for public use.
5. Hot Springs Canyon	Although hot springs are within Caspers Regional Park, Hot Springs Canyon should be retained for expansion of Caspers and as trail corridor linking to Cleveland National Forest. Presence of County's largest waterfall is a significant feature. Substantial forest of alders is present. Board of Supervisors Resolution No. 78-202 directed RDMD to communicate with the U.S. Forest Service for cooperative planning purposes. Potential exists for joint powers agreement or other mechanism providing for future development and operation as a County wilderness park within the National Forest.
7. Limestone Canyon (Expansion)	The County owns 1,557 acres of the initial park acreage, consisting of the previously designated Whiting Ranch Wilderness Park. Per the 6-20-91 Limestone Canyon Regional Park Irrevocable Offer of Dedication (IOD) by the Irvine Company, the

	+5,360-acre site has been reconfigured to include major portions of Limestone Canyon, Dripping Springs Meadow, Dripping Springs Canyon, Box Springs Canyon, Round Canyon, Upper Agua Chinon Wash and unique geologic formations such as the Sinks. The IOD stipulates conveyance of future regional park acreage in eight phases triggered by development within both the Cities of Irvine and Orange. Together with Whiting Ranch Wilderness Park, the combined watersheds of these two parks represent an opportunity for the second largest wilderness park in Orange County.
8. Los Alamitos Air Station	No indication that the Defense Department will release site in future; however, designation should be maintained for long-term planning options.
9. Marine Corps L.T.A.	An 84.5 acre urban regional park site has been identified including one of the two blimp hangars.
10. Olinda Disposal Site	Site currently owned by County and used for sanitary landfill, with ±100 acres set aside in Brea Canyon. When current use is terminated, recommend conversion of the site to a restored natural regional park.
11. Potrero Los Pinos	Board of Supervisors Resolution No. 78-202 directed RDMD to communicate with the U.S. Forest Service for cooperative planning purposes. Potential exists for joint powers agreement or other mechanism to provide future development and operation as a County regional park within the National Forest.
12. Prima Deshecha	The 1530-acre site is currently owned by the County and is used for a sanitary landfill. The site is also presently the subject of a Landfill Master Plan and General Development Plan (GDP) study for effective management of long-term multiple uses at the landfill

	site. These uses include integrated solid waste management, interim and long-range recreational uses and arterial highway and internal circulation improvements. A County Prima Deshecha Landfill Technical Advisory Committee oversees this planning effort. Environmental documentation is being prepared and processed for the GDP. Ultimate use of the landfill, during and after staged closure, is a regional park. Low, medium and high intensity recreation uses are identified as part of the Recreation Concept Plan. Talega annexation to the City of San Clemente is conditioned to yield an offer of dedication for substantial acreage additions from Rancho Mission Viejo.
14. San Juan Canyon	Principal feature is San Juan Creek with opportunities for fishing and river swimming. Sandy river beaches and rockery dams enhance this potential. Board of Supervisors Resolution No. 78-202 directed RDMD to communicate with the U.S. Forest Service for cooperative planning purposes. Potential exists for joint powers agreement or other mechanism to provide for future development and operation as a County wilderness park within the National Forest.
15. Seal Beach Naval Weapons Station	No indication that the Defense Department will release site in future; however, designation should be maintained for long-term planning options.
16. Upper Trabuco Canyon	Area includes private inholdings within Cleveland National Forest. Site is recognized as the largest forest of alders in Orange County. Board of Supervisors Resolution No. 78-202 directed RDMD to communicate with the U.S. Forest Service for cooperative planning purposes. Potential exists for powers agreement or other mechanism to provide for future development and operation as a County

	wilderness park within the National Forest.
17. Villa Park Basin	Will facilitate expansion of Irvine Regional Park and linkage to Santiago Oaks Regional Park and Weir Canyon.
18. Weir Canyon (Expansion)	The County owns 210 acres of the initial park acreage. This site is recognized as one of the most extensive oak forests in Orange County. Weir Canyon has been recommended for nomination to the National Register of Historical Places by the State Historical Resources Commission. The previously Board-approved Weir Canyon Park Road Study-Alternative VIII configuration (Resolution 84-882) has been superseded in part by an enlarged park configuration as a result of the City of Anaheim-approved Mountain Park Specific Plan. Dedication to the County of an additional 2,823 acres in four phases by the Irvine Company is a condition of the Mountain Park Specific Plan required by the City of Anaheim.
19. Coastline Beaches	All beaches are to be sought for public access.

RECREATION ELEMENT

APPENDIX VII-9
LIST OF ACRONYMS/ABBREAVIATIONS

APPENDIX VII-9:
RECREATION ELEMENT LIST OF ACRONYMS/ABBREVIATIONS

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APPENDIX VII-9
LIST OF ACRONYMS/ABBREVIATIONS

AFIS	Areawide Fiscal Impact System
AQMP	Air Quality Management Plan
CAA	Community Analysis Area
CC&R	Convenants, Conditions and Restrictions
CNEL	Community Noise Equivalent Level
CSA	County Service Area
DMP	Development Monitoring Program
EIR	Environmental Impact Report
HBP	Harbor, Beaches & Parks
LCP	Local Coastal Program
MMTS	Multimodal Transportation Study
NEPA	National Environmental Policy Act
RDMD	Resources and Development Management Agency
OCP	Orange County Projections
OCTA	Orange County Transportation Authority
O & M	Operation and Maintenance
SCAG	Southern California Association of Governments
TAZ	Traffic Analysis Zone

NOISE ELEMENT

APPENDIX VIII-1
DEFINITIONS AND ACRONYMS

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APPENDIX VIII-1
NOISE ELEMENT DEFINITIONS AND ACRONYMS

ADD - *Average Daily Departure* - is computed on an annual basis, from April 1 of each year to March 31 of the following year ("the Plan Year"). One ADD is equal to 365 departures by Class A or Class AA aircraft during each Plan Year (or 366 departures in any "leap year"), subject to any adjustments which may result from the implementation or enforcement of any County regulation for JWA or the Judgment of the United States District Central District of California for the Commercial Airline Access Plan for JWA (except that no ADD shall consist of more departures in a Plan Year than there are days in that year).

ADT - *Average Daily Traffic* - Usually an annual average value which reflects the total number of vehicles of all types which travel on a particular link of an arterial highway.

AICUZ - *Air Installation Compatible Use Zone* - Acronym for a study conducted to determine zones in which land uses around aircraft facilities operated by branches of the Department of Defense will be compatible with the long-term average sound levels produced by the various types of aircraft operated from the facility. For MCAS El Toro, the AICUZ study was conducted for the Department of the Navy and yielded contours of community noise equivalent level around the air base.

AIRCRAFT FLYOVER - This term is defined as any aircraft which is measurable by a standard sound level meter using an A-weighted filter, set on a "slow" response.

ALUC - *Airport Land Use Commission*.

A-WEIGHTED SOUND LEVEL - The ear does not respond equally to all frequencies,, but is less efficient at low and high frequencies than it is at medium or speech range frequencies. Thus, to obtain a single number representing the sound level of a noise containing a wide range of frequencies in a manner representative of the ear's response, it is necessary to reduce the effects of the low and high frequencies with respect to the medium frequencies. The resultant sound level is said to be A-weighted, and the units are decibel (dB). A popular method of indicating the A-weighted units is dBA. Sound level meters have an A-weighted network for measuring A-weighted sound level.

CNEL - *Community Noise Equivalent Level* (see below).

APPENDIX VIII-1:
NOISE ELEMENT DEFINITIONS AND ACRONYMSS

COMMUNITY NOISE EQUIVALENT LEVEL - *(CNEL)* The 24-hour average A-weighted sound level, in decibels, obtained after addition of five decibels to those sound levels occurring in the three evening hours from 7:00 P.M. to 10:00 P.M. and ten decibels to those sound levels occurring in the nine nighttime hours from 10:00 P.M. to midnight and from midnight to 7:00 A.M. When Community Noise Equivalent Level is measured, it is not necessary that the measurement period begin at midnight. Thus, CNEL takes into account people's lower tolerance to noise during evening and nighttime periods. The State Department of Aeronautics and the California Commission of Housing and Community Development have adopted the CNEL

DECIBEL *(dB)* - The unit of any acoustical level such as sound pressure level or sound power level, with or without frequency weighting. The decibel is measured on a logarithmic scale with respect to a standard reference value. The symbol for decibel is dB.

dBA - A-weighted sound level (see definition above).

EQUIVALENT SOUND LEVEL - In decibels, time average of instantaneous A-weighted sound pressure over a period of time, the duration of which shall be stated. The Symbol is Leq.

FREQUENCY - The number of times per second that a sound pressure signal oscillates about the prevailing atmosphere pressure. The unit of frequency is the hertz. The abbreviation is Hz.

HABITABLE ROOM - Any room meeting the requirements of the Uniform Building Code or other applicable regulations which is intended to be used for sleeping, living, cooking or dining purposes, excluding such enclosed spaces as closets, pantries, bath or toilet rooms, service rooms, connecting corridors, laundries, unfinished attics, foyers, storage spaces, cellars, utility rooms and similar spaces.

HERTZ - Unit of measurement of frequency, numerically equal to cycles per second.

Hz - *Hertz* (see definition above).

Leq - *Equivalent Sound Level* (see definition above).

Leq(h) - The A-weighted equivalent sound level averaged over a period of "h" hours. An example would be Leq(12), where the equivalent sound level is the average over a specified 12-

hour period (such as 7:00 A.M. to 7:00 P.M.). Typically, time period "h" is defined to match the hours of operation of a given type of use.

LOUDNESS - The judgment of intensity of a sound by a human being. Loudness depends primarily upon the sound pressure of the stimulus. Over much of the loudness range it takes about a threefold increase in sound pressure (approximately 10 decibels) to produce a doubling of loudness.

NOISE - Unwanted sound. The State Noise Control Act defines noise as "...excessive undesirable sound..." (sec. 46022).

NOISE ATTENUATION - The ability of a material, substance, or medium to reduce the noise level from one place to another or between one room and another. Noise attenuation is specified in decibels.

NOISE CONTOUR - A line on a map connecting points of equal noise level.

NOISE REFERRAL ZONE - Such zones are defined as the area within the contour defining a Community Noise Equivalent Level exceeding 60 decibels. It is the level at which either State or Federal laws and standards related to land use become important and, in some cases, supersede local laws and regulations. Any development proposed which may be impacted by a total noise environment from a combination of all noise sources equaling 60 or more decibels CNEL will be evaluated on a project specific basis.

NOISE-SENSITIVE LAND USE - Those specific land uses which have associated indoor and/or outdoor human activities that may be subject to stress and/or significant interference from noise produced by community sound sources. Such human activity typically occurs daily for continuous periods of 24 hours or is of such a nature that noise is significantly disruptive to activities that occur for shorter periods. Specifically, noise sensitive land uses include: residences of all types, hospitals, rest homes, convalescent hospitals, places of worship and schools.

OCP-III - *Orange County Projections* - The Board adopted policy projections of future population, housing, and employment that are used in all County planning projects.

OUTDOOR LIVING AREA - Outdoor spaces that are associated with residential land uses typically used for passive recreational activities or other noise-sensitive uses. Such spaces include patio areas, barbecue areas, jacuzzi areas, etc. associated with residential

uses; outdoor patient recovery or resting areas associated with hospitals, convalescent hospitals, or rest homes; outdoor areas associated with places of worship which have a significant role in services or other noise-sensitive activities; and outdoor school facilities routinely used for educational purposes, which may be adversely impacted by noise. Outdoor areas usually not included in this definition are: front yard areas, driveways, greenbelts, maintenance areas and storage areas associated with residential land uses; exterior areas at hospitals that are not used for patient activities; outdoor areas associated with places of worship and principally used for short-term social gatherings; and, outdoor areas associated with school facilities that are not typically associated with educational uses prone to adverse noise impacts (for example, school play yard areas).

POLICY IMPLEMENTATION LINE (MCAS, El Toro) - A line adopted by the Orange County Board of Supervisors in 1979 which corresponds to the location of the 65-decibel CNEL contour projected for MCAS, El Toro based on a total of 72,000 annual operations.

POLICY IMPLEMENTATION LINE (John Wayne Airport) - A line adopted by the Orange County Board of Supervisors in 1985 which coincides with the predicted location of the 65-decibel CNEL contour for John Wayne Airport based on 73 Class A (100-89.5 decibel level aircraft) Average Daily Departures (ADD).

RETROFIT - Retroactive modification of an existing building to increase its noise attenuation or the modification of an existing machine to reduce its output of noise.

SCAG - *Southern California Association of Governments* - The regional planning agency for our region.

SOUND INSULATION - (1) The use of structures and materials designed to reduce the transmission of sound from one room or area to another or from the exterior to the interior of a building. (2) The degree by which sound transmission is reduced by means of sound insulating structures and materials.

SOUND LEVEL (NOISE LEVEL) - The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

SOUND LEVEL METER - An instrument, comprising a microphone, an amplifier, an output meter, and frequency-weighting networks, that is used for the measurement of noise and sound levels in a specified manner.

WAVELENGTH - For a periodic wave (such as sound in air), the perpendicular distance between analogous points on any two successive waves. The wavelength of sound on air or in water is inversely proportional to the frequency of the sound. Thus, the lower the frequency, the longer the wavelength.

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SAFETY ELEMENT

APPENDIX IX-1
LIST OF ACRONYMS/ABBREVIATIONS

APPENDIX IX-1:
SAFETY ELEMENT LIST OF ACRONYMS/ABBREVIATIONS

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APPENDIX IX-1
LIST OF ACRONYMS/ABBREVIATIONS

AELUP	Airport Environs Land Use Plan
AFIS	Areawide Fiscal Impact System
AICUZ	Air Installation Compatible Use Zone
ALUC	Airport Land Use Commission
AWPC	Aviation Work Program Committee
BMP	Best Management Practices (Agricultural)
CAA	Community Analysis Areas
CDMG	California Division of Mines and Geology
CEO	County Executive Officer
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COE	Corps of Engineers (U.S. Army)
CSA	Community Services Agency
DMP	Development Monitoring Program
DOHS	Department of Health Services
DOT	Department of Transportation
EMC	Emergency Management Council
EMD	Emergency Management Division
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
HMPO	Hazardous Materials Program Office
HMTF	Hazardous Materials Task Force
HWCA	Hazardous Waste Control Act
HWMP	Hazardous Waste Management Plan
INPO	Institute of Nuclear Power Operations
IPC	Interjurisdictional Planning Committee
IPZ	Ingestion Pathway Zone
JWA	John Wayne Airport
MCAS	Marine Corps Air Station
MOU	Memorandum of Understanding
NPL	National Priority List
NRC	Nuclear Regulatory Commission

APPENDIX IX-1:
SAFETY ELEMENT LIST OF ACRONYMS/ABBREVIATIONS

NSAC	Nuclear Safety Analysis Center
OCFA	Orange County Fire Authority
OCHCA	Orange County Health Care Agency
OCP-2000	Orange County Preferred - 2000 (Demographic Projections)
OCSCD	Orange County Sheriff - Coroner Department
OES	Office of Emergency Services
RDMD	Resources and Development Management Department
PEZ	Public Education Zone
PIO	Public Information Officer
PSF	Public Services and Facilities (Element)
RCRA	Resource and Conservation Recovery Act
RSA	Regional Statistical Area
SCAG	Southern California Association of Governments
SCEPP	Southern California Earthquake Preparedness Project
SONGS	San Onofre Nuclear Generating Station
SSA	Social Services Agency
SSC	Seismic Safety Commission
TAZ	Traffic Analysis Zone
UST	Underground Storage Tank

HOUSING ELEMENT

POLICY FOR RHNA REDISTRIBUTION UPON ANNEXATION OR INCORPORATION

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GROWTH MANAGEMENT ELEMENT

[There are no appendices for this element.]

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INTERGOVERNMENTAL COORDINATION

APPENDIX A
LIST OF AGENCIES AND THEIR ROLES

APPENDIX A:
LIST OF AGENCIES AND THEIR ROLES

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APPENDIX A
INTERGOVERNMENTAL COORDINATION:
LIST OF AGENCIES AND THEIR ROLES

I. OVERVIEW

The Intergovernmental Coordination Program facilitates cooperative planning efforts with federal, state, regional, and Orange County agencies which are involved in Land Use Element (LUE) implementation or influence LUE implementation by their actions. The following identifies federal, state, regional and countywide agencies involved in the General Plan Program and describes their respective responsibilities.

II. INTERAGENCY COORDINATION

A. FEDERAL AGENCIES

1) Cleveland National Forest:

Cooperative resource management

Recreation planning

2) Army Corps of Engineers:

Flood control facilities

Major public works projects

Watershed management issues

Federal Aviation Administration:

Airport/land use compatibility

3) Department of Housing and Urban Development:

Development and infrastructure financing

Coordination of socioeconomic data related to housing

4) Fish and Wildlife Service:

Biological resource management

5) Environmental Protection Agency:

Environmental review process

Air quality, hazardous waste, and water quality programs

B. STATE AGENCIES

1) State Office of Planning and Research:

State clearinghouse for environmental impact reports (EIR's)

Prepares guidelines for the preparation of mandatory elements of the General Plan

Coordinates and provides state assistance for land use planning

State Resources Agency: umbrella agency for state's major environmental agencies, including:

2) California Coastal Commission:

Coordinates implementation and administration of the Coastal Act in Orange County

3) Department of Conservation:

Mineral and geologic resource planning

Administration of Williamson Act and open space programs

4) Department of Fish and Game:

Cooperative wildlife management

Protection of special wildlife and ecological preserves

5) Department of Water Resources:

Development and protection of water resources

6) Department of Parks and Recreation:

Administers state park system

Cooperative recreation planning

7) Department of Mines and Geology:

Development of Alquist-Priolo earthquake fault zone maps

8) California Coastal Conservancy:

Land acquisition and management in conformity with the Coastal Act or a Local Coastal Program (LCP)

9) California Water Quality Control Board:

Designates regional boards which are responsible for the maintenance of water quality

10) California Air Resources Board:

State air pollution control agency responsible for implementation of federal air pollution regulations

11) State Lands Commission:

Manages and regulates all state-owned lands

12) California Energy Commission:

Responsible for development and conservation of California's energy resources

Power plant siting activities

13) Department of Transportation (CalTrans)/Division of Highways:

Transportation planning

Development of state highways

Transportation funding and programming

14) Department of Housing and Community Development:

Preparation of criteria and guidelines for the Housing Element of the General Plan

Statewide housing and community development planning assistance

C. Regional Agencies

1) Southern California Association of Governments (SCAG):

Regional air quality, transportation, and housing plans

Regional growth forecast policy

Coordination of regional water quality (208) and energy planning efforts

Transportation improvement plans

Clearinghouse for federally-funded projects

2) South Coast Air Quality Management District:

Air quality management activities

D. Countywide Agencies

1) Orange County Transportation Authority (OCTA):

Transportation funding and programming for Orange County

2) Orange County Council of Governments (OCCOG):

Advisory planning council comprised of some cities and special districts

3) Local Agency Formation Commission (LAFCO):

Coordination of local government and special district organizational activities

Review of city sphere of influence areas and related activities

4) Municipal Water District of Orange County

Coordination of resource planning

INTRACOUNTY COORDINATION

RDMD, Planning is responsible for implementation and administration of the County General Plan Program. Specific components of the General Plan Program are coordinated with the following Orange County functions:

1) RDMD/Transportation Planning Section:

Transportation Element

Transportation and land use studies

2) RDMD/Harbors, Beaches and Parks Division:

Open space and recreation planning and related studies

Resources Element:

Open Space Component

Cultural and Historical Resources Component

Recreation Element

3) RDMD/Building Permit Services:

Noise Element

4) RDMD/Public Projects Section:

Local coastal programs

Community and specific plans

5) RDMD/Advance Planning Section

Land use and demographic studies

Orange County General Plan

Population, housing and employment data

Utilities/Special Districts:

6) Southern California Edison:

Operation of San Onofre Nuclear Generating Station (SONGS)

Water Districts:

7) Metropolitan Water District of Southern California

8) Orange County Water District

9) Municipal Water District of Orange County

10) Southern California Hazardous Waste Management Authority:

Coordination and implementation of hazardous waste management programs and siting of facilities

11) South Coast Air Quality Management District:

Air quality management activities

APPENDIX A:
LIST OF AGENCIES AND THEIR ROLES

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