



**LOS ANGELES COUNTY
GEOGRAPHIC INFORMATION SYSTEM**

LONG RANGE PLAN

PREPARED BY: PLANGRAPHICS, INC.

JULY 1990

SECTION III
CURRENT COUNTY-WIDE GIS
ENVIRONMENT

**TABLE III-1
CURRENT AND PLANNED GIS APPLICATIONS**

Agency/ Application	Status	Description	Management Environment
<u>Office of the Assessor</u>			
AS1. Automated Production and Maintenance of Property Database	C	The Assessor's staff maintains a property database as the basis for the annual assessment role, and a repository for information associated with the Assessment Maps. This database resides in the IMS environment on the corporate IBM 3090, and is intensively maintained using recorded documents (deeds, plats, etc.) as the source of updates. Updates are applied via a user-written COBOL program.	I
AS2. Automated Production and Maintenance of Assessment Maps	C	The Assessor's staff is in the process of automating the production and maintenance of the Assessment Maps. Maps are converted into computer form which allows easier updating and handling. Staff use a ComputerVision system. This process also involves registering parcel data to accurate control provided by the Public Works base map.	A
AS3. Query by Parcel Characteristics	C	The parcel database maintained in application AS1 can be queried on an ad hoc basis for information about parcels. Query requests are submitted by a variety of users via terminals in the Assessor's Office, Public Works, etc. Geographic indices that support queries include the Assessor's ID number, and the site address. Ad hoc queries are serviced by user-written COBOL programs, and hard copy results are produced. Special or elaborate queries may require custom programs.	A
AS4. Required Reporting	C	The Assessor's Office uses the parcel database maintained in application AS1 to generate all required reports, including the Tax Roll. Most required reporting is based on a fixed, periodic schedule.	A

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TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Chief Administrative Office</u>			
CO1. Capital Projects Tracking System	P	This application tracks budget allocations, expenditures, and status of L.A. County Capital Projects, referenced by County Supervisorial District. The application will be implemented in ORACLE, a relational database management system (RDBMS) on networked microcomputers. Status of project budgets is updated interactively as information becomes available. Reporting is interactive and flexible. The database supporting this application covers the entire county. Board of Supervisors receives scheduled and ad hoc reports on request.	A
<u>Office of Education</u>			
ED1. Automated Door-to-Door Bussing Services for Handicapped Students	C	Transportation Services uses a geocoding system based on links and nodes to model bus routes. Application uses the Edulog automated Bussing System. Links and nodes are based on the Registrar-Recorder's GIF street file as of 1978. Students attending a specific site are entered along with route parameters such as maximum run time, distance, size of bus, and special student requirements. Number of busses, load, pickup times, and optimal routes for busses, including specific street directions, are then computed. Temporary closures and other conditions can be entered into the database interactively.	A
<u>Forester & Fire Warden</u>			
FF1. Support for Strategic Plans and Preparedness Plans	C	The Forester & Fire Warden uses Landtrak with a DIME map base and a custom-developed Resource Allocation Model as decision support tools in allocating resources and developing Strategic and Preparedness plans. The map base is obsolete and is difficult to maintain.	A
FF2. Fire Command and Control	P	The FFW is buying a new dispatch facility, including a new building, telecommunications, and a new dispatch system, which uses the Etak map base. The Etak map base is currently being verified and updated.	A

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TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Forester & Fire Warden (continued)</u>			
FF3. Emergency Dispatch	C	The FFW currently uses two IBM 8150s with a unique home-grown dispatch file to dispatch emergency equipment. This system is due to be replaced by the FCCF (FF2) in June of 1991.	A
<u>Health Services</u>			
HS1. Health Financial Information Systems	P	This application captures patient-related financial information and information related to patient identification. Outputs are financial and operating reports for hospital and central management. When implemented, this will replace an existing application.	C
HS2. Hospital Information System	C	This application captures patient admitting and discharge medical information. It will duplicate some of the information in the system above. It provides information necessary for meeting reporting requirements for Joint Commission on Accreditation of Health Care Organizations.	A
HS3. Trauma and Emergency Medical Information System (TEMIS)	C	This application tracks the location of Trauma/Emergency facilities throughout L.A. County with related trauma data for management use and sharing with other departments (e.g., Forester & Fire Warden, ambulance companies, etc.)	A
HS4. Clinical Control Report (CCR)	C	This application provides management with activity/workload statistics by Health Center/Health District location by clinic type.	A
HS5. Population Estimation and Projection System	C	This application produces population estimates by applying a series of multiple regression algorithms to various administrative files (e.g., birth, death, DMV, and voter files) which are first assigned to Census Tracts.	M

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TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Internal Services</u>			
IS1. Facilities Project Design	C	This is a computer-aided architectural, engineering, and construction design system.	I
IS2. Area and Facility Location	C	This application inventories location and descriptive information for County-owned and leased facilities.	I
IS3. 911 Emergency Dialing System	C	This application allocates emergency calls to PSAPs, using Pacific and General Telephone reference files.	I
IS4. Streets on a Disk	C	This application utilizes maps, routes, and building information to assist in emergency management and planning.	I
<u>Public Works</u>			
PW1. Creation and Maintenance of the Precise Geographic Database	C	Surveying techniques and analysis are used to establish control point and control lines. If good maps exist at a scale of 1:1200 or less, they are digitized and adjusted to the control lines. If these maps do not exist, the base is created by explicit input. Base data is to the lot line (not parcel) level.	A
PW2. Maintenance of the Intelligent Database	C	Schematic representation of the street pattern, political boundaries, and some natural features covering the entire County. This base contains attribute information for census tracts, city, name, precinct number, and community. (See RR7.)	A
PW3. House Numbering	C	Uses the entire precise base and adds setback, zoning, house numbering, and sewer reference data.	A
PW4. Maintenance of Record Index Maps	C	Uses a portion of precise database for a record index type application.	A
PW5. Sewer, Drainage, and Streetlight Location Maps	C	Uses precise or intelligent base to show the location of facilities. Adds attribute data to generate inventory and schedule data.	A

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TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Public Works (continued)</u>			
PW6. Right-of-Way and Acquisition Mapping	C	Uses existing survey and property data and direct survey data input to produce calculations needed for precise alignment of construction projects. Also produces maps required for court use in eminent domain proceedings. With digital terrain models, this base is also used in feasibility studies.	A
PW7. Layout of Design Plans	C	Uses the R/W and Acquisition base and adds the design data. After the project is completed, data becomes part of the precise base and part of any other appropriate base.	A
PW8. Airport Layout and Emergency Response Route Mapping	C	Includes existing and planned airport facilities. Also shows routes and facilities to be used by emergency response vehicles and personnel.	A
PW9. Creation and Maintenance of Substructure Maps	C	Uses precise base and shows precise X, Y location of underground facilities and their ownership.	A
PW10. Maintenance of Topographic Maps	C	A three dimensional model based on USGS data. Specific sites also may include more precise data needed for design and construction. This base is often combined with the precise base for applications such as drainage areas and studies, etc.	A
PW11. Creation of County Surveyor Maps	C	Mandated record of some surveys made by the County. This may take data from the precise base and/or may modify the precise base.	A
PW12. 3-D Modeling of Debris Basin	C	Three dimensional models of debris basins as designed and as they currently exist. Volume calculations from this application are used to determine required maintenance of the basins.	A

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TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Public Works (continued)</u>			
PW13. Creation of County Key Maps	C	A combination of the precise and intelligent bases used in various types of studies and for display purposes. Specific applications may include attribute data used for report generation, e.g., major drainage system and attributes, Thomas Guide Index, political boundaries and service areas.	A
PW14. Street Sign and Traffic Signal Inventory	C	Location and type of street signs, including traffic signals. An overlay on the Precise database street pattern.	A
PW15. Street Sweeping	C	Routing capabilities to provide time, distance, and pattern of street sweeper routes.	A
PW16. Underground Tank Monitoring	C	Location, size, and type of material/chemical stored in underground tanks. Radius maps to show proximity to surrounding properties. Precise database.	A
PW17. Industrial Waste/Hazardous Materials	C	Location and type of waste or material being stored at a site. Attributes attached to designate responsible agency(s).	A
PW18. Street Excavation Permits	C	Real-time display of active street excavations.	A
PW19. Inspections	C	Real-time display of current inspections for all DPW activities.	A
PW20. Classification of Road Surfaces	C	Pavement Management. Currently running as a tabular database on IBM mainframe.	A
PW21. Bus Service Scheduling	C	DPW operates several bus services throughout the County. Routing capabilities to provide time, distance, ridership counts and bus line routes.	A

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TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Public Works (continued)</u>			
PW22. Water Service	C	Water distribution systems within Department-operated water service districts.	A
PW23. Drainage Maintenance	C	Location of all catch basins in the Department's drainage responsibility area, attached to a maintenance scheduling program.	A
PW24. Subdivision Plan Checking	P	Input digital data from outside source, check data, and incorporate into the Precise database, et al.	A
PW25. Drainage Study	C	Map hydrology studies of areas, large and small, throughout the County. Application of the topographic (contour) database.	A
<u>Regional Planning</u>			
RP1. Maintenance of County-wide General Plan (Land Use Policy Maps)	C	This application is used to maintain a County-wide database summarizing the General Plan in both incorporated cities and unincorporated areas. It permits ad hoc inquiries and map production.	A
RP2. Maintenance of Census Database	C	Update of census enumeration units as boundaries change and new enumeration units are created.	A
RP3. Maintenance of Highway General Plan	C		A
RP4. Development Monitoring	C		A

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TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Regional Planning (continued)</u>			
RP5. Maintenance of Area-wide General Plan	C	This application is used for preparing General Plans, and is based on various GIS databases (ETAK for Antelope Valley, DPW for SCV, HNM for Malibu Coastal Planning).	A
RP6. Case Tracking System (CTRK)	C	This application monitors 2,000 Planning cases for operational purposes. It is strictly alphanumeric, but coordinate data may be added in the future.	A
RP7. Maintenance and Production of Zoning Maps	C	This application is used for updating zoning boundaries (including those in DPW's HNM database).	A
RP8. Zoning Consistency Studies	C	This application is based on a parcel-oriented database developed for selected areas of the County (SCV, Ventura Freeway Corridor, and County Islands). It assists in solving problems of inconsistency between the General Plan, Zoning, and current land use.	A
RP9. Maintenance of Current Land Use Database	C	This application, developed in cooperation with SCAG, will develop a land use database based on aerial photos from April 1990.	A
RP10. Preparation of Special Case Maps, Zone Change Maps, and Ordinance Maps	C	This application is used for producing maps for various public hearings.	A

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TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Registrar-Recorder</u>			
RR1. Precinct Inquiry	C	This application allows address data inquiry to determine and display precinct district information for that address. Districts displayed include Congress, Senate Assembly, Supervisorial, Municipal Court, City, Councilmanic, Community College School, and other districts which regularly conduct elections.	A
RR2. Precinct Consolidation	C	This application generates a file of election precincts by reading established precinct punch cards which had been manually consolidated by Ballot Group and reporting district codes.	A
RR3. USPS Address Matching	C	This application processes voter files to produce postal carrier route address label data for voters involved in a certain election. Label data is sent on magnetic tape to a vendor.	C
RR4. Voter/Precinct Assignment	C	This application assigns voter addresses to specific precincts by matching address to GIF segment numbers.	A
RR5. Facility Address Matching	P	This application assigns facility addresses to specific precincts by matching addresses to GIF segment numbers.	I
RR6. LACES	C	This application is used for maintaining street segments (GIF), districts by precinct (PIF), and district-census tract combinations (MAP) with district code assignments (DIF) in ADABAS and rental files.	A
RR7. Automated Precinct Mapping	P	This application will produce County street maps at a scale of 1" = 400', dividing the County into regular grid cells of 7,500' x 10,000'.	A
RR8. Recordable Documents	C	This application provides an alphabetical name index to all documents recorded or filed by the Registrar-Recorder.	A

TABLE III-1 (continued)
CURRENT AND PLANNED GIS APPLICATIONS

Agency/ Application	Status	Description	Management Environment
<u>Registrar-Recorder (continued)</u>			
RR9. Routing	C	This application routes deliveries of election supplies to and from election precincts, including voter ballot return to headquarters. Can be used in poll recruitment and data control deliveries and pickups.	A
<u>Sheriff</u>			
SH1. Mobile Digital Communications	C	Resource allocation dispatches law enforcement personnel. Receives data from deputy regarding log of activities for calls. Provides computer-aided dispatching and radio communications for dispatchers, field units, and patrol stations. Locates incidents and tracks response.	A, C, I
SH2. County-wide Warrant System	C	This application assigns the arresting agency number to warrants.	I
SH3. Patrol Car Allocation Model (PCAM)	P	Model uses input from RAPS (similar to MDCS) to project the number of patrol cars required in an area based on the number and types of calls received.	A
SH4. Population Estimating	C	This is the PEPS application also used by Health Services.	M
SH5. Crime Analysis	P	This application will provide statistical summary information related to traffic and criminal activity in assigned areas.	M

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SECTION IV
TARGET GIS APPLICATIONS

**TABLE IV-1
RELATIONSHIP BETWEEN
TARGET APPLICATION
CATEGORIES AND AGENCIES**

TARGET APPLICATION CATEGORIES		AGENCIES AND ORGANIZATIONS															
Category Code	Category Description	Ag. 1	Ag. 2	Ag. 3	Ag. 4	Ag. 5	Ag. 6	Ag. 7	Ag. 8	Ag. 9	Ag. 10	Ag. 11	Ag. 12	Ag. 13	Ag. 14	Ag. 15	Ag. 16
DM	Detailed Base Map Maintenance and Production	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
SM	Street Map Maintenance and Production	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
AD	Address-based Geocoding	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
DI	Districting/Administrative Boundary Maintenance	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
AR	Area-based Geocoding	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
IN	Incident Mapping, Tracking, and Reporting	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
DE	Development Review/Impact Assessment	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
LA	Land Ownership/Lease Tracking	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
AS	Asset Management and Facilities Inventory	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
IM	Infrastructure Modeling/Network Analysis	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
EN	Engineering/Architectural Design and Drafting	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
TE	Terrain Analysis	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
EP	Emergency Preparedness Planning	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
ER	Emergency Response	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
LO	Long-range Comprehensive Planning	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

Legend: ● Periodic user with direct system access
 ● Periodic user through receipt of hard copy products
 ▲ Frequent user with direct system access
 ▲ Frequent user through receipt of hard copy products

TABLE IV-7 (continued)
 SPECIFIC TARGET APPLICATIONS FOR COUNTY-WIDE GIS

Specific Target Application	Description	Target Application Category	Related Current Applications ¹
Standardized Street Name and Address File System	Based on automated files that are currently maintained by County agencies, develop a comprehensive file of site addresses with Assessor parcel references.	AD	AS3, RR3
Comprehensive Geographic Reference File System	Based on a standardized street name and address file, create centerline street base with address ranges to block level, a common reference index, and geocoding to all census geographies and other major districts; develop procedures for ongoing maintenance.	SM, AD, AR	
Demographic Mapping System	Develop basic menus and program modules for mapping and analysis of data from 1990 census using comprehensive geographic reference system to accept user-defined parameters for display of demographic data covering any census geographic unit.	AD, LO	FF1, HS5, RP2, SH4
Election Districting and Voter Assignment	Automatic assignment by address, to proper election district and voting precinct; districting capabilities to support modification of precinct and election district boundaries.	AD, AR, DI	RR2, RR4, RR5, RR7
Integrated Land Development Review and Tracking	Comprehensive database management system to track status of land development, permitting, and inspection activities for all County agencies; long-term development project divided into functional modules: sub-division review, site plans, building permits, inspections.	IN, DE	PW24, RP4, RP6
Inventory and Tracking for County Land and Facilities	Mapping and query system for location and status information on all land and buildings owned, leased, or otherwise managed by the County.	LA, AS	
Rights-of-Way Mapping and Management	Mapping and analysis system to track all public rights-of-way and easements and to evaluate ownership for potential Rights-of-Way acquisitions.	LA, AS	PW6
Pavement Management Query and Analysis	Centerline map support and query capability for pavement condition and tracking of maintenance activities on County-maintained streets.	AS	PW20

¹See Table III-1

**TABLE IV-7
SPECIFIC TARGET APPLICATIONS FOR COUNTY-WIDE GIS**

Specific Target Application	Description	Target Application Category	Related Current Applications ¹
Map and Query Support for Trauma Medical System	Interface to Trauma and Emergency Medical Information System database to provide map display and query on health facilities.	IN	HS3
Crime Analysis	Automatic incident mapping by type, time, and other variables for reported incidents with capability for query and analysis by Sheriff reporting districts.	IN	SH6
Fire Incident Analysis and Mapping	Automatic incident mapping and query for fire responses with capability to evaluate fire station location and response districts.	IN	
Zoning Map Maintenance and Production	Based on current maintenance procedures, develop map maintenance and production capability for zoning maps using precise base map as control.	DI	AP7
General and Community Planning	Prepare and maintain General and Community Plans as legally mandated guide for long term physical development in County.	DE	RP8
Map and Routing Support for Emergency Dispatch	Interface to dispatching systems for Forester and Fire Warden and Sheriff to map display call locations based on address or place name and generate optimal route for dispatcher.	IN, ER	
School Attendance Area Analysis	Address matching and districting capability to locate students by age categories and assign to proper attendance area; also includes capability to facilitate analysis of school locations and student loads to redefine attendance area boundaries.	IO, DI, IN	
Extend Coverage of Precise Base Map	Initiate system program using in-house staff, contracted services, and agreements with other jurisdictions to extend coverage to 100 percent of County, including incorporated and unincorporated areas.	DM	PW1, AS2
Assessment Mapping System	Derive property assessment maps for all areas of County from precise base; develop procedures for ongoing update and map production.	DM	PW1, AS2

¹See Table III-1