

# Infrastructure and Public Services

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### INTRODUCTION

As Los Angeles approaches the 21st century, any population growth is expected to be primarily a result of resident births. To support population growth, Los Angeles needs a strong, expanding economy, healthy neighborhoods, and a tax base that can support the basic public services necessary to maintain and improve its quality of life. In order for the City to provide services that the public expects, it must embrace the vision of becoming a sustainable city: one which manages its infrastructure and public services in a manner that avoids depletion or permanent damage of its natural resources. The City must then take four interrelated actions: (a) reexamine the viability of the existing infrastructure relative to its sustainability (Is it cost effective from a maintenance and life-cycle perspective?); (b) maintain a balance between the rate of population and economic growth and the infrastructure and public services necessary to support that growth; (c) correct deficiencies in these support systems (as identified in part in (a) above); and (d) coordinate the work of policy implementing agencies so they may better support each other.

Infrastructure improvements will be required to support the needs of the City's growth and, at the same time, to replace existing facilities that have deteriorated due to age or have become obsolete. The costs for such improvements will be shared by new development and existing residents and businesses. New development's share of these costs will be in proportion to the demands that it generates.

The policies of the Framework Element in all instances are to seek solutions to public infrastructure and service deficiencies, including their expansion commensurate with the levels of demands experienced. Solutions that take advantage of interrelationships between individual infrastructure systems should be considered prior to embarking on costly single purpose centralized capital improvement projects. Where source reduction within one infrastructure system can significantly increase the volume of a much needed resource within another infrastructure system, such an opportunity should be given priority consideration. Market mechanisms should be identified and facilitated where possible and appropriate to increase the productivity of such resource transfers.

Population growth may not be directly proportional to increased demand on these facilities, as is evidenced by the reduction in service demands that can be achieved through conservation techniques. Consequently, the linkage between future growth and services will occur through the implementation of a monitoring program that provides information regarding "real" demands and service levels in order to guide public decisions regarding infrastructure and service investments. Successful application of this system would mitigate the need to restrict development to ensure adequate level of service.

The goals, objectives and policies found within this section address thirteen infrastructure and public service systems, many of which are interrelated, and all of which will help support the City's population and economy as it moves into the 21st century. The systems include:

1. [Wastewater](#)
2. [Stormwater](#)
3. [Water](#)
4. [Solid Waste](#)
5. [Police](#)
6. [Fire](#)
7. [Libraries](#)
8. [Parks](#)
9. [Power](#)
10. [Schools](#)
11. [Telecommunications](#)
12. [Street Lighting](#)
13. [Urban Forest](#)

While the streets are also part of the infrastructure system, they are addressed in Chapter 8 which deals with all transportation infrastructure.

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## STATUS OF INFRASTRUCTURE SYSTEM/FACILITIES

### Wastewater

#### *Treatment Facilities*

For its wastewater treatment needs, Los Angeles utilizes the Hyperion Treatment Plant (HTP), the Tillman Water Reclamation Plant (TWRP), the Los Angeles Glendale Water Reclamation Plant (LAGWRP), and the Terminal Island Treatment Plant (TITP). Two contract agency plants also treat some City flows: the Burbank Water Reclamation Plant, and the Los Angeles County Joint Water Pollution Control Plant (JWPCP). The Hyperion Treatment System, which consists of the HTP and the upstream TWRP and LAGWRP, provides the majority of Los Angeles' treatment needs. In this system, the upstream flows are partially treated at the two upstream plants and the remaining flows are routed to and treated at the HTP.

Wastewater generated from businesses and residences in Los Angeles, as well as from outside contract agencies, are treated at these facilities. The City has planned increases in plant capacities by the year 2010 for LAGWRP, from 20 million gallons per day (mgd) to 50 mgd, and HTP, from 420 mgd to 90% mgd. Though the former has received regulatory approval, it has not been funded by the 10-year Capital Improvements Program, and expansion at this location may or may not prove necessary by 2010. Although it is planned that the treatment plant capacities should be sufficient to sustain wastewater treatment needs in the year 2010, the unused capacities of the wastewater treatment facilities will be less than current unused capacities. To sustain growth, Los Angeles must continue to plan for increases in total treatment capacities beyond 2010.

#### *Wastewater Collection*

The City's wastewater collection and conveyance systems consists of over 6,000 miles of sewer pipelines, approximately 100,000 maintenance holes, and 55 pumping plants. Almost 50 percent of the sewers are older than 50 years, with a normal life expectancy of 50-100 years. With aging the system is experiencing structural deterioration and hydraulic deficiencies. Approximately 30 percent of the primary sewers are currently flowing above their design capacity during normal dry weather conditions. These volumes often double during a rainstorm, leading to periodic overflows from the system to the Santa Monica Bay and other receiving water bodies. It is anticipated that the hydraulic deficiencies will worsen if population growth and development occur.

The deteriorating physical condition and hydraulic capacity deficiencies of portions of the collection system will necessitate the rehabilitation or replacement of existing facilities, new sewers, new storage facilities, pumping plant modification and rehabilitation, and development of accessory and control structures. The results of ongoing assessment and inspection programs and the availability of funding will determine the scope and timing of system improvements. Estimates indicate a 20-30 year program with a cost of approximately \$2 billion.

#### *Wastewater Management Options*

The reuse of gray water offers an opportunity for demand side management. Gray water, as well as reclaimed water, can be used to supplant potable water for irrigation purposes in the urban forest. Recent legislation allowing residential use of gray water should be supported through streamlining of the permitting process. Gray water systems can reduce the wastewater stream, although the extent of this potential is unknown. Every effort must be made to ensure that gray water does not enter the stormwater system through any means.

### Stormwater

The 1994 Los Angeles Regional Water Quality Control Board's Basin Plan is the document that outlines the regulatory process for the protection of the beneficial uses of all regional waters. According to the Basin Plan, the City is located within three of the four major watersheds that make up the Los Angeles-San Gabriel Hydrologic Unit: the Ballona Creek, Dominguez Channel and the Los Angeles River. The revised Basin Plan also recognized the Santa Monica Bay Watershed Management Area which is comprised of the Ballona Creek and Malibu Creek watersheds (consistent with the Santa Monica Bay Restoration Project boundary). Storm drains within the City are constructed by both the City and the Los Angeles County Flood Control District (LACFCD), managed by the Los Angeles County Department of Public Works. The LACFCD constructs the major storm drains and open flood control channels, and the City constructs local interconnecting tributary drains. The City designs the storm drain system so that flows from a 10-year event will not exceed the curb height, and flows from a 50-year event will be within the street right-of-way, while the County designs for a 50-year storm event and the Federal government (Army Corps of Engineers) designs for a 100-year event.

While a comprehensive list of local storm drain deficiencies has not been compiled for the Framework Element, the current list of capital improvements provides some understanding as to where problems exist. Most significantly, two large district-proposed

drainage projects would reduce existing flood hazard areas. The Army Corps of Engineers/County "LACDA" project would provide flood reduction benefits along the Los Angeles River, largely outside of the City limits. The County's Hollyhills drain project would reduce/eliminate existing flood hazards in the West Los Angeles area from the Ballona Creek northwards into West Los Angeles and the City of Beverly Hills. The County's Project 9250 would reduce the large 100-year flood plain area that lies north of Wentworth Street and south of Foothill Boulevard.

### *Stormwater Management Options*

Onsite capture of stormwater runoff through improved management of the urban forest offers still another source reduction within one infrastructure system (stormwater) that results in a transfer of a usable volume of material to another infrastructure system (water supply).

In urban areas barren of trees, rainfall runoff builds up more quickly, requiring more expensive drainage systems, to prevent local flooding and soil erosion. In neighborhoods where trees are well established, this process can be slowed, thereby allowing the stormwater a greater chance to soak into the soil, replenishing both surface moisture levels and underground water tables, and potentially reducing the flood hazard caused by the rapid flow of runoff into the stormwater catch basins and channels.

### **Water Supply**

The Department of Water and Power manages the water supply for Los Angeles. Its goal is to insure that the City's water quality and demand are met by available water supplies. The City obtains its water from the Los Angeles Aqueduct, local wells, purchases from the Metropolitan Water District, and use of reclaimed wastewater. The quantities of water obtained from these sources vary from year to year and are dependent on weather conditions and water demand.

In recent years, the long-term water supply available from the Los Angeles Aqueduct has become uncertain, and the City has committed itself to increasing the reliability of its water supply. Future increases in the use of reclaimed wastewater will help make the total water supply more reliable. The Los Angeles City Council has established a goal for the reuse of 40 percent of its wastewater by the year 2010. Reclaimed wastewater will be used for groundwater recharge, agriculture, recreation, landscaping, industry, sea water intrusion barriers, and environmental enhancement. The use of reclaimed wastewater will displace or supplement potable water supplies and therefore increase the reliability of the City's water supply.

Through a combination of continued demand side management and increased use of reclaimed wastewater, Los Angeles' future water demands can be reliably met with available water supplies.

### **Solid Waste Facilities**

The City of Los Angeles generates and disposes of a significant amount of solid waste both within and outside its borders. This waste is collected by both City staff, which service residential customers in all single and some multi-family housing, and private waste management companies, which service the remaining residential and all commercial and industrial firms. In 1990, approximately 12,000 tons of waste per day was produced in the City. In 1989, the California legislature passed the Integrated Waste Management Act (AB939), which requires all cities to divert 25 percent of their waste by 1995 and 50 percent by the year 2000. Although the actions which help the City achieve the AB939 targets will significantly reduce landfill disposal, the City will still require landfill capacity to dispose of the remaining waste.

The City has implemented many programs to divert waste from disposal facilities. These include source reduction programs such as home composting, recycling programs such as Curbside Recycling Program, and composting programs that produce the City's TopGro soil amendment. For these programs to succeed, the City should site businesses at appropriate locations within its borders that handle, process, and/or manufacture recyclable commodities to allow a full circle recycling system to develop. Recycling Market Development Zones and other Development zone areas should be utilized to bring these beneficial businesses into Los Angeles. Development and support of recyclable materials markets is one of the City's challenges in the years ahead.

For the solid waste remaining after diversion, the City will have a continuing need for solid waste transfer and disposal facilities. Currently, 26 facilities within the City have Solid Waste Facilities permits. Two are landfill disposal facilities and ten are privately operated transfer stations. The remaining are city facilities such as maintenance yards. As the capacity of the landfills located in Los Angeles is very limited, more transfer facilities will be needed to transfer waste from the collection vehicles and transport it to other, more remote landfill facilities. Capacity must be provided for the waste collected by both City agencies and private collection companies. The City, through a Request for Proposals (RFP) issued in August, 1994, has identified several landfill disposal facilities that may be accessed by truck and others that would require the City to ship its solid waste by train. After 2001, when both of the local facilities are projected to close, transportation costs are projected to increase the cost of waste disposal for

the residents and businesses in the City.

### *Solid Waste Options*

Recognition of the urban forest as infrastructure provides an incentive to manage this resource as a commodity that is a net revenue generator. Nowhere is this better exemplified than in the area of solid waste management. Currently trees are not selected for planting based on their perceived market value. Through the use of sustainable species selection and utilization of urban forest residues, tree maintenance operations can be financially sustainable.

Coordinated with the emerging Open Space policies of the City, wood mulch from chipping operations could be distributed on lands such as power line right-of-ways, railroad right-of-ways, median and parkway planting areas. Source reduction and diversion benefits from these opportunities can be maximized by coordinating the management of the urban forest with other infrastructure systems.

### **Police**

Primary police and law enforcement services are provided by the City of Los Angeles Police Department (LAPD); supplemental services are provided by the Los Angeles County Sheriff, the California Highway Patrol, the Federal Bureau of Investigation, and the Drug Enforcement Administration. The LAPD operates 18 stations within four bureaus with two new stations proposed. In 1990, the Department was staffed by a total of 8,817 sworn officers and 2,754 non-sworn support personnel citywide.

### **Fire**

Fire prevention, fire protection and Emergency Medical Service (EMS) for the City of Los Angeles is provided by the Los Angeles Fire Department (LAFD). Fire Department services are based on the community's needs, as determined by ongoing evaluations. When an evaluation indicates increased response time, the acquisition of equipment, personnel, and/or new stations is considered. As development occurs, the Fire Department reviews environmental impact reports and subdivisions applications for needed facilities. Where appropriate, construction of new facilities is required as a condition of development.

Emergency medical services are provided through the Bureau of Emergency Medical Services. The City standard for EMS is one and one half miles, similar to that of the desirable response distance for engine companies for neighborhood land uses. Most ambulances are accompanied by trained paramedics to provide additional service other than only transport. LAFD considers EMS to be providing adequate service.

### *Fire Management Options*

Proper management of the urban forest can provide tangible benefits for the reduction of fire threat. The greatest fire hazards exist in the hillside areas of the City. Recognition of the urban forest as infrastructure will encourage better utilization of trees as both mitigation against the impacts of fire and as a tool in fire prevention.

Improved management of the urban forest in hillside areas can contribute significantly to better fire prevention and reduction in the destructive force of fires that do occur.

### **Libraries**

Library services are provided by the Los Angeles Public Library. There are 64 public libraries with a cumulative of 940,963 square feet of building area. The LAPL standard for determining the preferred library facility square footage is based upon ranges of population within a designated area. The State of California standard is based upon 0.5 square feet of library facility per capita. When the LAPL standard is applied there are 69,613 square feet of surplus library facilities.

### **Parks**

Recreation services are primarily provided by the City's Recreation and Parks Department. The City owns a total of approximately 14,990 acres of parklands, the largest park being Griffith Park with over 4,000 acres. Included in these parklands are facilities such as horticulture centers, museums, and historic sites. Recreational services are also available to City residents from sites and facilities owned and operated by Los Angeles County (primarily beaches), the State of California, the National Park Service, and the National Forest Service.

Parks are an essential component of the greater urban forest infrastructure. Besides being managed for recreational opportunities, they are critical links in improved watershed management for increasing the local water supply, erosion control, solid waste

management, greater utilization of reclaimed water, and reducing fire hazards.

## **Power**

### *Electricity*

The Los Angeles Department of Water and Power (LADWP), provides electric service to over 1.3 million customers in the City of Los Angeles. LADWP obtains 17 percent of the required power from four municipally- owned power plants within the Los Angeles basin. The remaining LADWP requirements come from sources outside of the Los Angeles Basin. The current emphasis on purchasing power from non-LADWP power systems is to improve fuel diversity, take advantage of low-priced surplus electricity and to minimize the air emissions in the South Coast Air Basin.

Electricity is distributed through an extensive network of receiving stations, distributing stations, overhead lines, and underground lines.

### *Power Management Options*

Research has been shown that for every degree of increased heat, electricity generation rises by 1% to 2%, and smog production increases by 2% to 5%. The urban heat island effect is largely caused by the concentration of buildings and paved surfaces in urban areas. Denuded landscapes, heat generating cars and machines, and pollutants also contribute. This increase in temperatures in urban areas results in a greater number of days when air quality is unhealthy or worse.

Better management of the urban forest can offset these effects considerably. Trees reduce the demand for air-conditioning. Properly planted trees can reduced energy used for cooling in individual building and can block up to 95 percent of the incoming radiation. Standards that encourage greater canopy cover of buildings and paved surfaces should be developed to take advantage of these energy and health cost savings.

## **School**

Education within the City is provided by the Los Angeles Unified School District (LAUSD). LAUSD has jurisdiction over 472 school facilities (357 elementary, 56 intermediate, and 59 high schools). Of these, approximately 18 are presently (1993) closed. Two thirds of the schools operate on the traditional calendar system (nine months of school and three months of summer vacation). One third of existing and all new schools operate on one of three multi- track year-round school calendars to maximize school facility utilization

Schools are funded through State tax revenues funneled through the County. Funds for the development of additional public school facilities are derived from State mandated fees paid by projects constructed within the City.

## **Telecommunications**

Telecommunications is an emerging field with the potential to significantly alter the way Southern Californians communicate, work, and commute. The concentration of business and population in the City of Los Angeles and rapid technological advances offer the opportunity to provide an integrated network serving as the regional hub for public and private users. Following the 1994 Northridge earthquake, the use of telecommunications expanded significantly as traditional travel corridors were closed, demonstrating the potential for such use.

## **Street Lighting**

Street lighting serves many roles in a City of the size, complexity, and history of Los Angeles: 1) a strong component of community safety relative to crime prevention and feelings of well being and safety; 2) significant architectural component of many communities; 3) a significant cultural or historic component of a community; and 4) primary component of nighttime safety for vehicles and pedestrians.

Unregulated, street lighting can contribute to negative factors in the community and the nighttime environment including glare, light trespass, and light pollution.

Two-thirds of the 7,000 miles of the streets in the City of Los Angeles are lighted by approximately 240,000 lights of approximately 300 different styles. Street lighting is not publicly financed in the city but is the direct financial responsibility of the owner of adjoining property which is considered to directly benefit from street lights. Installation of streetlights may be financed in a wide variety of ways. However, the annual operation and maintenance costs, including energy, maintenance, repair, and replacement, are financed by annual assessment to only those properties which benefit therefrom. The goals, objectives, and policies for street lighting services must meet a complex mix of community needs which should be reflected throughout the general plan. Continued emphasis should be placed on the latest technology to keep operating costs low.

## Urban Forest

Trees, singly, and collectively as the urban forest, provide enormous benefits to our city. They

- Provide oxygen and clean the air by absorbing pollution, including carbon dioxide (CO<sub>2</sub>), the principal greenhouse gas
- Reduce moisture loss and increase atmospheric moisture
- Block the wind, and filter noise and dust
- Protect against the sun's ultraviolet rays, reducing glare and heat, lowering surface temperatures by five to nine degrees
- Encourage pedestrian traffic, benefitting neighborhood businesses
- Control erosion, protect the urban watershed and aid stormwater management efforts
- Provide wildlife habitat; and
- Add beauty, unity, identity, pride and value in communities and contribute to the quality of life of the City's residents.

While the urban forest includes all of the trees in the City of Los Angeles on both publicly-owned land and privately-owned land, the portion of this forest that is most vulnerable to the deleterious decisions and operations of other infrastructure systems is street trees.

## Streets

Chapter 8 of the Framework Element discusses Transportation issues, including the local street system, which is a part of the City's infrastructure. The City's street system is designed to meet a variety of needs, including: safe and efficient vehicular transportation, pedestrian access, appropriate interface with businesses and residences, stormwater drainage, and utility accommodation. Responsibility for transportation issues in the City falls jointly to the Department of Transportation, Planning, and Public Works.

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## SUMMARY OF INFRASTRUCTURE AND PUBLIC SERVICES CONDITIONS

The issues confronting Los Angeles for each of the infrastructure and public service support systems can be summarized by five key questions:

1. *How will the City maintain its existing infrastructure and public service systems?*

To keep its current system functioning, Los Angeles needs to adhere to a scheduled preventative maintenance program, replace outdated or worn out equipment, and make necessary infrastructure repairs in a timely manner. Most of the City's infrastructure is 20 to 100 years old and increasingly at risk of failure. Much of the equipment used for public services, such as police and fire protection, is old and could impair the quality of services available to the public if not upgraded.

2. *How will the City identify where, when, and how many improvements are needed for infrastructure and public service systems?*

Los Angeles needs consistent information concerning its infrastructure and public service systems, for effective capital investing. The City therefore needs to maintain up-to-date inventories of all its systems; computer models capable of evaluating the impacts of proposed projects on City-owned infrastructure; regular forecasts of each infrastructure system's needs, which can be used to guide capital improvement decisions; trigger mechanisms that can warn decision makers when and where future needs will occur; and reporting systems that enable the City to update its models. All of this information should be compiled in an Annual Report on Growth and Infrastructure, which will provide City staff, the City Council, and service providers with information that can facilitate the programming and funding of improvements or making decisions when to take other actions.

3. *How will the City meet its infrastructure and public service needs?*

Los Angeles will require many future improvements to City-owned infrastructure systems to comply with Federal and State laws governing clean air, clean water, and solid waste diversion. These laws establish a minimum quality of service that the City is required to provide. Because of the time that is needed to fund, plan, and build capital improvements, an annual assessment of infrastructure need provides the City options with which to meet demand.

4. *How can the City reduce the demand it places on existing infrastructure systems and provide public services at a neighborhood scale?*

Demand Side Management (DSM) enables existing infrastructure to support more people without increasing capacity. Los Angeles has DSM programs for all its infrastructure. Generally, DSM involves various conservation programs, such as the use of low-flow toilets and shower heads and solid waste recycling. Some benefits in relation to water quality and water conservation could be achieved through the increased use of permeable surfaces in new and re-

developed areas. In order to fully exploit the benefits of the emerging integrated telecommunications infrastructure, the City needs to maximize the quantity of information that the system could carry.

5. How will Los Angeles insure that its infra structure and public services will continue to operate after an earthquake or other emergency and enable the City to quickly recover from such an event?

The City's planned response is focused on three types of activities: prevention, planning and response. Prevention includes regular inspection and monitoring, rehabilitation, repair and retrofit activities. Planning includes a coordinated intergovernmental emergency response network and contingency engineering. Response includes emergency operations procedures such as post-disaster inspections and ad hoc City recovery programs.

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## GOALS, OBJECTIVES, AND POLICIES

The following section presents the goals, objectives, and policies related to infrastructure and public services in the City of Los Angeles. Implementing programs are referenced at the conclusion of each policy. Programs are also referenced after each policy in this document.

### WASTEWATER

#### **GOAL 9A**

Adequate wastewater collection and treatment capacity for the City and in basins tributary to City-owned wastewater treatment facilities.

#### **Objective 9.1**

**Monitor and forecast demand based upon actual and predicted growth.**

##### *Policies*

- 9.1.1 Monitor wastewater generation. ([P42](#), [43](#))
- 9.1.2 Monitor wastewater flow quantities in the collection system and conveyed to the treatment plants. ([P42](#))
- 9.1.3 Monitor wastewater effluent discharged into the Los Angeles River, Santa Monica Bay, and San Pedro Harbor to ensure compliance with water quality requirements. ([P42](#))

#### **Objective 9.2**

**Maintain the wastewater collection and treatment system, upgrade it to mitigate current deficiencies, and improve it to keep pace with growth as measured by the City's monitoring and forecasting efforts.**

##### *Policies*

- 9.2.1 Collect and treat wastewater as required by law and Federal, State, and regional regulatory agencies. ([P7](#))
- 9.2.2 Maintain wastewater treatment capacity commensurate with population and industrial needs. ([P7](#))
- 9.2.3 Provide for additional wastewater treatment capacity in the Hyperion Service Area (HSA), as it becomes necessary. ([P7](#))
- 9.2.4 Continue to implement programs to upgrade the wastewater collection system to mitigate existing deficiencies and accommodate the needs of growth and development. ([P7](#))
- 9.2.5 Review other means of expanding the wastewater system's capacity. ([P7](#))

#### **Objective 9.3**

**Increase the utilization of Demand Side Management (DSM) strategies to reduce system demand and increase recycling and reclamation.**

##### *Policies*

- 9.3.1 Reduce the amount of hazardous substances and the total amount of flow entering the wastewater system. ([P7](#))

- 9.3.2 Consider the use of treated wastewater for irrigation, groundwater recharge, and other beneficial purposes. (P7)

#### **Objective 9.4**

**Ensure continued provision of wastewater collection and treatment after an earthquake or other emergency.**

##### ***Policies***

- 9.4.1 Restore minimal operations as soon as possible after an emergency, and full operations as soon as feasible. (P64)
- 9.4.2 Establish joint cooperation agreements with other jurisdictions for mutual assistance during emergencies. (P64)

## **STORMWATER**

### **GOAL 9B**

A stormwater management program that minimizes flood hazards and protects water quality by employing watershed-based approaches that balance environmental, economic and engineering considerations.

#### **Objective 9.5**

**Ensure that all properties are protected from flood hazards in accordance with applicable standards and that existing drainage systems are adequately maintained.**

##### ***Policies***

- 9.5.1 Develop a stormwater management system that has adequate capacity to protect its citizens and property from flooding which results from a 10-year storm (or a 50-year storm in sump areas). (P8)
- 9.5.2 Assign the cost of stormwater system improvements proportionately to reflect the level of runoff generated and benefits. (P8, P66)
- 9.5.3 Implement programs to correct any existing deficiencies in the stormwater collection system. (P8)
- 9.5.4 Ensure that the City's drainage system is adequately maintained. (P8, P42)

#### **Objective 9.6**

**Pursue effective and efficient approaches to reducing stormwater runoff and protecting water quality.**

##### ***Policies***

- 9.6.1 Pursue funding strategies which link the sources of revenues for stormwater system improvement to relevant factors including sources of runoff and project beneficiaries. (P9)
- 9.6.2 Establish standards and/or incentives for the use of structural and non-structural techniques which mitigate flood-hazards and manage stormwater pollution. (P8)
- 9.6.3 The City's watershed-based approach to stormwater management will consider a range of strategies designed to reduce flood hazards and manage stormwater pollution. The strategies considered will include, but not necessarily be limited to: (P8)
- a. Support regional and City programs which intercept runoff for beneficial uses including groundwater recharge;
  - b. Protect and enhance the environmental quality of natural drainage features;
  - c. Create stormwater detention and/or retention facilities which incorporate multiple-uses such as recreation and/or habitat;
  - d. On-site detention/retention and reuse of runoff;



- e. Mitigate existing flood hazards through structural modifications (floodproofing) or property by-out;
- f. Incorporate site design features which enhance the quality of offsite runoff; and
- g. Use land use authority and redevelopment to free floodways and sumps of inappropriate structures which are threatened by flooding and establish appropriate land uses which benefit or experience minimal damages from flooding.

- 9.6.4 Proactively participate in inter-agency efforts to manage regional water resources, such as the Santa Monica Bay Restoration Project, the Los Angeles River Master Plan, the Los Angeles River Parkway Project and the Los Angeles County Drainage Area Water Conservation and Supply Feasibility Study. ([P8](#), [P65](#))

**Objective 9.7**

**Continue to develop and implement a management practices based stormwater program which maintains and improves water quality.**

**Policy**

- 9.7.1 Continue the City's active involvement in the regional NPDES municipal stormwater permit. ([P8](#), [P65](#))
- 9.7.2 Continue to aggressively develop and implement educational outreach programs designed to foster an environmentally-aware citizenry. ([P8](#))
- 9.7.3 Investigate management practices which reduce stormwater pollution to identify technically feasible and cost effective-approaches, through: ([P8](#))
- a. Investigation of sources of pollution using monitoring, modeling and special studies;
  - b. Prioritization of pollutants and sources;
  - c. Conducting research and pilot projects to study specific management practices for the development of standards; and
  - d. Developing requirements which establish implementation standards for effective management practices.

**WATER SUPPLY**

**GOAL 9C**

Adequate water supply, storage facilities, and delivery system to serve the needs of existing and future residents and businesses.

**Objective 9.8**

**Monitor and forecast water demand based upon actual and predicted growth.**

**Policy**

- 9.8.1 Monitor water usage and population and job forecast to project future water needs. ([P42](#), [P43](#))

**Objective 9.9**

**Manage and expand the City's water resources, storage facilities, and water lines to accommodate projected population increases and new or expanded industries and businesses.**

**Policies**

- 9.9.1 Pursue all economically efficient water conservation measures at the local and statewide level. ([P9](#), [P63](#))

- 9.9.2 Develop reliable and cost-effective sources of alternative water supplies, including water reclamation and exchanges and transfers. (P9)
- 9.9.3 Protect existing water supplies from contamination, and clean up groundwater supplies so those resources can be more fully utilized. (P9)
- 9.9.4 Work to improve water quality and reliability of supply from the State Water Project and other sources. (P9)
- 9.9.5 Maintain existing rights to groundwater and ensure continued groundwater pumping availability. (P9)
- 9.9.6 Identify the needs for land and facilities necessary to provide an adequate and reliable water supply and develop those facilities in an environmentally and socially sensitive way. (P9)
- 9.9.7 Incorporate water conservation practices in the design of new projects so as not to impede the City's ability to supply water to its other users or overdraft its groundwater basins. (P7, P63)
- 9.9.8 Design projects located in hillside areas so as to maintain the City's ability to suppress wildfires. (P18, P24)
- 9.9.9 Clean or replace where necessary, deficient water distribution lines in the City. (P9)

**Objective 9.10**

**Ensure that water supply, storage, and delivery systems are adequate to support planned development.**

**Policies**

- 9.10.1 Evaluate the water system's capability to meet water demand resulting from the Framework Element's land use patterns. (P9)
- 9.10.2 Solicit public involvement, when appropriate, in evaluating options for the construction of new and/or expansion of existing water facilities. (P9)

**Objective 9.11**

**Ensure, to the extent possible, the continued provision of water capacity, quality and delivery after an earthquake or other emergency.**

**Policy**

- 9.11.1 Provide for the prompt resumption of water service with adequate quantity and quality of water after an emergency. (P64)

**SOLID WASTE**

**GOAL 9D**

An integrated solid waste management system that maximizes source reduction and materials recovery and minimizes the amount of waste requiring disposal.

**GOAL 9E**

Adequate Recycling Facility Development - expanded siting of facilities that enhance the City's reduction, recycling and composting efforts using methods and strategies that are economically, socially, and politically acceptable.

**GOAL 9F**

Adequate collection, transfer and disposal of mixed solid waste - the City shall seek to ensure that all mixed solid waste that cannot be reduced, recycled or composted is collected, transferred and disposed of in a manner that minimizes adverse environmental impacts.

**GOAL 9G**

An environmentally sound solid waste management system that protects public health, safety, and natural resources and minimizes adverse environmental impacts.

**GOAL 9H**

A cost-effective solid waste management system that emphasizes source reduction, recycling, reuse, and market development and is adequately financed to meet operational and maintenance needs.

## ***Objective 9.12***

### **Support integrated solid waste management efforts.**

#### ***Policies***

- 9.12.1 Prepare a 30-year policy plan that provides direction for the solid waste management decision-making process. ([P10](#))
- 9.12.2 Establish citywide diversion objectives. ([P10](#))
- 9.12.3 Define specific programmatic tasks, roles, and responsibilities for source reduction, composting, special waste, and public education goals, as well as an implementation schedule. ([P10](#))

## **POLICE**

### ***GOAL 9I***

Every neighborhood in the City has the necessary police services, facilities, equipment, and manpower required to provide for the public safety needs of that neighborhood.

## ***Objective 9.13***

### **Monitor and forecast demand for existing and projected police service and facilities.**

#### ***Policy***

- 9.13.1 Monitor and report police statistics, as appropriate, and population projections for the purpose of evaluating police service based on existing and future needs. ([P42](#), [P43](#))

## ***Objective 9.14***

### **Protect the public and provide adequate police services, facilities, equipment and personnel to meet existing and future needs.**

#### ***Policies***

- 9.14.1 Work with the Police Department to maintain standards for the appropriate number of sworn police officers to serve the needs of residents, businesses, and industries. ([P11](#))
- 9.14.2 Support the provision of additional sworn police officers to meet the safety needs of the City. ([P11](#))
- 9.14.3 Pursue State, Federal, and other non-conventional funding sources to expand the number of sworn police officers. ([P11](#))
- 9.14.4 Complete all funded capital facilities in as short a time as possible. ([P11](#))
- 9.14.5 Identify neighborhoods in Los Angeles where facilities are needed to provide adequate police protection. ([P11](#))
- 9.14.6 Minimize the processing required to establish needed facilities and, if necessary, modify facility standards to utilize existing available structures for this purpose. ([P11](#))
- 9.14.7 Participate fully in the planning of activities that assist in defensible space design and utilize the most current law enforcement technology affecting physical development. ([P18](#))

## ***Objective 9.15***

### **Provide for adequate public safety in emergency situations.**

#### ***Policy***

- 9.15.1 Maintain mutual assistance agreements with local law enforcement agencies, State law enforcement agencies, and the National Guard to provide for public safety in the event of emergency situations. ([P55](#))

## **FIRE**

### **GOAL 9J**

Every neighborhood has the necessary level of fire protection service, emergency medical service (EMS) and infrastructure.

#### **Objective 9.16**

**Monitor and forecast demand for existing and projected fire facilities and service.**

##### **Policy**

**9.16.1** Collect appropriate fire and population development statistics for the purpose of evaluating fire service needs based on existing and future conditions. ([P42](#))

#### **Objective 9.17**

**Assure that all areas of the City have the highest level of fire protection and EMS, at the lowest possible cost, to meet existing and future demand.**

##### **Policies**

**9.17.1** Complete all currently funded and, as feasible, programmed fire service capital improvements by the year 2010. ([P12](#))

**9.17.2** Identify areas of the City with deficient fire facilities and/or service and prioritize the order in which these areas should be upgraded based on established fire protection standards. ([P12](#))

**9.17.3** Develop an acquisition strategy for fire station sites in areas deficient in fire facilities. ([P12](#))

**9.17.4** Consider the Fire Department's concerns and, where feasible adhere to them, regarding the quality of the area's fire protection and emergency medical services when developing general plan amendments and zone changes, or considering discretionary land use permits. ([P1](#), [P2](#), [P18](#))

#### **Objective 9.18**

**Phase the development of new fire facilities with growth.**

##### **Policy**

**9.18.1** Engage in fire station development advance planning, acknowledging the amount of time needed to fund and construct these facilities. ([P12](#))

#### **Objective 9.19**

**Maintain the Los Angeles Fire Department's ability to assure public safety in emergency situations.**

##### **Policies**

**9.19.1** Maintain mutual aid or mutual assistance agreements with local fire departments to ensure an adequate response in the event of a major earthquake, wildfire, urban fire, fire in areas with substandard fire protection, or other fire emergencies. ([P56](#))

**9.19.2** Maintain special fire-fighting units at the Port of Los Angeles, Los Angeles International Airport, and Van Nuys Municipal Airport capable of responding to special emergencies unique to the operations of those facilities. ([P56](#))

**9.19.3** Maintain the continued involvement of the Fire Department in the preparation of contingency plans for emergencies and disasters. ([P64](#))

## **LIBRARIES**

#### **Objective 9.20**

**Adopt a citywide library service standard by the year 2000.**

##### **Policies**

**9.20.1** Develop library standards dealing with the facilities' net floor area, the appropriate number of

- permanent collection books per resident, and their service radius. (P13)
- 9.20.2 Develop a citywide policy for locating non-English language permanent collections. (P13)

### **Objective 9.21**

**Ensure library services for current and future residents and businesses.**

#### ***Policies***

- 9.21.1 Seek additional resources to maintain and expand library services. (P13, P57)
- 9.21.2 Encourage the expansion of non-traditional library services, such as book mobiles and other book sharing strategies, where permanent facilities are not adequate. (P13)
- 9.21.3 Encourage the inclusion of library facilities in mixed-use structures in community and regional centers, at transit stations, and in mixed-use boulevards. (P13, P18)

## **RECREATION AND PARKS**

### **GOAL 9L**

Sufficient and accessible parkland and recreation opportunities in every neighborhood of the City, which gives all residents the opportunity to enjoy green spaces, athletic activities, social activities, and passive recreation.

### **Objective 9.22**

**Monitor and forecast demand for existing and projected recreation and park facilities and programs.**

#### ***Policy***

- 9.22.1 Monitor and report appropriate park and recreation statistics and compare with population projections and demand to identify the existing and future recreation and parks needs of the City. (P42, P43)

### **Objective 9.23**

**Complete all currently programmed parks and recreation capital improvements by the year 2010, contingent on available funding.**

#### ***Policies***

- 9.23.1 Develop a strategy to purchase and develop land for parks, which is consistent with the appropriate open space policies found in [Chapter 6: Open Space and Conservation](#). (P14)
- 9.23.2 Prioritize the implementation of recreation and park projects in areas of the City with the greatest existing deficiencies. (P14)
- 9.23.3 Establish joint-use agreements with the Los Angeles Unified School District and other public and private entities which could contribute to the availability of recreation opportunities. (P14)
- 9.23.4 Pursue resources to clean-up land that could be used by the City for public recreation. (P14)
- 9.23.5 Re-evaluate the current park standards and develop modified standards which recognize urban parks, including multi-level facilities, smaller sites, more intense use of land, public/private partnerships and so on. (P14)
- 9.23.6 Identify and purchase, whenever possible, sites in every neighborhood, center, and mixed-use boulevard, and maximize opportunities for the development and/or use of public places and open spaces on private land in targeted growth areas. (P14, P20)
- 9.23.7 Establish guidelines for developing non-traditional public park spaces like community gardens, farmer's markets, and public plazas. (P14)
- 9.23.8 Prepare an update of the General Plan Public Facilities and Services Element based on the new Los Angeles Department of Recreation and Parks standards by 2005. (P2)

### **Objective 9.24**

**Phase recreational programming and park development with growth.**

*Policies*

- 9.24.1 Phase the development of new programs and facilities to accommodate projected growth. ([P14](#))
- 9.24.2 Develop Capital Improvement Programs that take into account the City's forecasted growth patterns and current deficiencies. ([P31](#))

**Objective 9.25**

**Utilize park space in emergency situations.**

*Policies*

- 9.25.1 Continue to actively participate in emergency planning. ([P64](#))
- 9.25.2 Continue to utilize parks and recreation facilities as shelters in times of emergency. ([P64](#))

**POWER**

**GOAL 9M**

A supply of electricity that is adequate to meet the needs of Los Angeles Department of Water and Power electric customers located within Los Angeles.

**Objective 9.26**

**Monitor and forecast the electricity power needs of Los Angeles' residents, industries, and businesses.**

*Policy*

- 9.26.1 The Los Angeles Department of Water and Power (LADWP) shall continue to monitor and forecast its customers' peak load on its system and identify which parts of the system should be upgraded to accommodate expected growth. ([P42](#))

**Objective 9.27**

**Continue to ensure that all electric power customers will receive a dependable supply of electricity at competitive rates.**

*Policy*

- 9.27.1 The LADWP shall continue to generate or purchase electric power to serve its customers. ([P15](#))

**Objective 9.28**

**Provide adequate power supply transmission and distribution facilities to accommodate existing uses and projected growth.**

*Policies*

- 9.28.1 The LADWP shall continue to plan its power supply capability far enough in advance to ensure that it has available capacity to meet customer demand before it is needed. ([P15](#))
- 9.28.2 The LADWP shall continue to ensure that the City's transmission and distribution system is able to accommodate future peak electric demand for its customers. ([P15](#))
- 9.28.3 The LADWP shall continue to advise the Planning and Building and Safety Departments of any construction project that would overload a part of the distribution system during a period of peak demand. ([P15](#))

**Objective 9.29**

**Provide electricity in a manner that demonstrates a commitment to environmental principals, ensures maximum customer value, and is consistent with industry standards.**

***Policies***

- 9.29.1 Develop and deliver services to attract, assist, and retain industries and businesses in Los Angeles. ([P15](#), [P37](#), [P62](#))
- 9.29.2 Promote the responsible use of natural resources, consistent with City environmental policies. ([P15](#))
- 9.29.3 Promote conservation and energy efficiency to the maximum extent that is cost effective and practical, including potential retrofitting when considering significant expansion of existing structures. ([P15](#), [P61](#))
- 9.29.4 Provide incentives for the development of cleaner and more energy-efficient industrial development. ([P15](#))
- 9.29.5 Deliver to all sectors of the economy customer service programs, products and activities that promote satisfaction and value related to the provision of electric power. ([P62](#))
- 9.29.7 Encourage additional markets for electrical energy, such as environmentally friendly alternative fuel for transportation in electric buses and light-duty vehicles. ([P3](#), [P15](#), [P39](#), [P61](#))

***Objective 9.30***

**Ensure continued electric service after an earthquake or other emergency.**

***Policy***

- 9.30.1 The LADWP shall periodically examine its emergency response programs to ensure continued electrical service. ([P64](#))

**SCHOOLS**

***GOAL 9N***

**Public schools that provide a quality education for all of the City's children, including those with special needs, and adequate school facilities to serve every neighborhood in the City so that students have an opportunity to attend school in their neighborhoods.**

***Objective 9.31***

**Work constructively with the Los Angeles Unified School District to monitor and forecast school service demand based upon actual and predicted growth.**

***Policy***

- 9.31.1 Participate in the development of, and share demographic information about, population estimates. ([P42](#))

***Objective 9.32***

**Work constructively with LAUSD to promote the siting and construction of adequate school facilities phased with growth.**

***Policies***

- 9.32.1 Work with the Los Angeles Unified School District to ensure that school facilities and programs are expanded commensurate with the City's population growth and development. ([P16](#))
- 9.32.2 Explore creative alternatives for providing new school sites in the City, where appropriate. ([P16](#))
- 9.32.3 Work with LAUSD to explore incentives and funding mechanisms to provide school facilities in areas where there is a deficiency in classroom seats. ([P16](#))

***Objective 9.33***

**Maximize the use of local schools for community use and local open space and parks for school use.**

***Policy***

- 9.33.1** Encourage a program of decision-making at the local school level to provide access to school facilities by neighborhood organizations. (P16)
- 9.33.2** Develop a strategy to site community facilities (libraries, parks, schools, and auditoriums) together. (P16)

**TELECOMMUNICATIONS**

***GOAL 90***

A networked, integrated telecommunications system that capitalizes on the region's potential as an information - telecommunications hub and is capable of providing advanced information services, which are produced by public and private providers located within the City, to all members of the public.

***Objective 9.34***

**Maintain the City's authority to regulate telecommunications in such a way as to ensure and safeguard the public interest.**

***Policy***

- 9.34.1** Strengthen the principal of local control in matters pertaining to appropriate oversight and regulation of any telecommunications entities using public right-of-ways. (P2)

***Objective 9.35***

**Create an integrated information telecommunications infrastructure system, using existing and privately and publicly-owned networks and systems as a base for growth.**

***Policies***

- 9.35.1** Support the special needs of urban emergency and public safety services and benefit the largest number of people. (P2, P64)
- 9.35.2** Standardize City licensing, franchising, and compensation practices for services related to telecommunications including service providers. (P2)
- 9.35.3** Enhance the information processing and data transfer capabilities of local governments. (P2))
- 9.35.4** Promote the internally and externally cost-efficient delivery of services and exchange of information using telecommunication systems. (P2)
- 9.35.5** Ensure that the City implements state-of-the-art telecommunications technology, consistent with current and future requirements and economic conditions. (P2)
- 9.35.6** Incorporate appropriate telecommunications requirements into all relevant local policies, plans, and ordinances. (P2)
- 9.35.7** Support appropriate initiatives or administrative actions that would provide funding to municipal governments, without jeopardizing existing funding, for telecommunications planning and implementation. (P2)
- 9.35.8** Cooperate with those public/private sector entities seeking knowledge, guidance, and/or assistance in the development of telecommunications services to the extent of the City's ability. (P2)
- 9.35.9** Financially assist and/or participate in demonstration projects that will publicly promote and advance the development of new and expanded public telecommunications services available through an advanced telecommunications infrastructure. (P2)

***Objective 9.36***

**Stimulate economic growth and development through the expanded and improved delivery of advanced telecommunications services.**

***Policies***



- 9.36.1 Encourage City departments and employers to adopt telecommuting, wherever practical, to mitigate traffic congestion and air pollution. ([P2](#), [P47](#))
- 9.36.2 Broaden home-based work regulations and fees within the limits of zoning compatibility, to promote telecommuting as a viable work alternative. ([P2](#))

### **Objective 9.37**

Encourage the development of a wide variety of public and private telecommunications services available to all City residents and businesses.

#### **Policies**

- 9.37.1 Support appropriate initiatives that require the owners of property of multiple-unit residential dwellings (or their agents) to be obligated to grant access to cable television or other telecommunications service providers according to an established due process so that tenants or other lawful occupants in dwelling units with bona fide requests for service, may receive cable/telecommunications services. ([P2](#))
- 9.37.2 Improve the City's existing emergency telecommunications systems so that it can better respond to and mitigate the impacts of various emergency situations. ([P2](#), [P64](#))

## **STREET LIGHTING**

### **GOAL 9P**

Appropriate lighting required to (1) provide for nighttime vision, visibility, and safety needs on streets, sidewalks, parking lots, transportation, recreation, security, ornamental, and other outdoor locations; (2) provide appropriate and desirable regulation of architectural and informational lighting such as building facade lighting or advertising lighting; and (3) protect and preserve the nighttime environment, views, driver visibility, and otherwise minimize or prevent light pollution, light trespass, and glare.

### **Objective 9.38**

**Ensure that street lighting designs meet minimum standards for quality lighting to provide appropriate visibility dependent on the character and usage of streets and sidewalks with minimum impact on the environment and adjoining property.**

#### **Policies**

- 9.38.1 Require that street lighting designs meet the minimum standards adopted by the City to provide nighttime vision required by motorists and pedestrians and to protect the City from liability. ([P26](#))
- 9.38.2 Ensure that the street lighting system is constructed of materials and equipment adequate to ensure the appropriate service life and that adequate maintenance of the street lighting system is provided. ([P24](#))

### **Objective 9.39**

**Ensure that the highest level street lighting services, at the least long-term operating costs, are provided subject to due process decisions by communities for selection of street lighting equipment style and commitment to pay the costs of installation and annual operation.**

#### **Policies**

- 9.39.1 Ensure full disclosure and due process is provided to citizens and communities consistent with City policy for selecting the style and appearance of street lighting equipment and willingness of property owners to pay related costs. ([P17](#))
- 9.39.2 Ensure that the physical components, electrical, and optical operation for selected equipment maximizes street lighting services provided at the least cost possible; and that lighting meets the minimum City standards and minimizes or prevents light pollution, light trespass, or glare. ([P17](#), [P24](#))
- 9.39.3 Prohibit the installation of low-pressure sodium devices. ([P17](#))

### ***Objective 9.40***

**Ensure efficient and effective energy management in providing appropriate levels of lighting for private outdoor lighting for private streets, parking areas, pedestrian areas, security lighting, and other forms of outdoor lighting and minimize or eliminate the adverse impact of lighting due to light pollution, light trespass, and glare.**

#### ***Policies***

- 9.40.1** Require lighting on private streets, pedestrian oriented areas, and pedestrian walks to meet minimum City standards for street and sidewalk lighting. ([P24](#))
- 9.40.2** Require parking lot lighting and related pedestrian lighting to meet recognized national standards. ([P17](#), [P24](#))
- 9.40.3** Develop regulations to ensure quality lighting to minimize or eliminate the adverse impact of lighting due to light pollution, light trespass, and glare for facade lighting, security lighting, and advertising lighting, including billboards. ([P17](#))
- 9.40.4** Establish regulations and standards which eliminate the adverse impacts due to light pollution, light trespass, and glare for the area lighting of rail yards, transit yards, trucking facilities, and similar facilities. ([P17](#))
- 9.40.5** Develop guidelines and regulations that will promote quality lighting for recreational/ sports facilities to ensure appropriate lighting with minimum adverse impact, and to ensure that such lighting facilities are not operated when recreational/sports facilities are not in use. ([P17](#))
- 9.40.6** Placement and location of street trees shall be coordinated with the placement of street lights. ([P17](#))

## **URBAN FOREST**

### ***GOAL 9Q***

A sustainable urban forest that contributes to overall quality of life.

### ***Objective 9.41***

**Ensure that the elements of urban forestry are included in planning and programming of infrastructure projects which involve modification of dedicated parkway, sidewalk and/or raised median islands.**

#### ***Policies***

- 9.41.1** Develop a coordinated public works construction protocol to take into simultaneous consideration street tree placement, paving material selection, below or above ground utilities, etc. ([P24](#))
- 9.41.2** Encourage the use of permeable paving wherever possible. ([P24](#))

### ***Objective 9.42***

**Facilitate the planting of large canopied trees in street parkways. ([P4](#))**

#### ***Policies***

- 9.42.1** Streamline the permitting processing for planting street trees. ([P24](#))

### ***Objective 9.43***

Improve City tree selection, placement and maintenance.

#### ***Policies***

- 9.43.1** Adopt standardized procedures for tree selection that: a) minimizes potential conflicts with City infrastructure, and b) places the appropriate tree in a given site. ([P24](#), [P30](#))
- 9.43.2** Adopt planting standards which provide for sufficient quantity and quality of soil to help trees reach their optimum size. ([P24](#))

- 9.43.3 Develop a uniform care standards with focus on pruning which can be utilized by appropriate City departments. ([P24](#), [P30](#))
- 9.43.4 Revise removal standards to address horticultural problems, aforestration and reforestration. ([P30](#))

***Objective 9.44***

**Ensure trees are adequately maintained within fiscal limitations, and seek additional non traditional revenue sources.**

***Policies***

- 9.44.1 Seek alternative funding sources. ([P30](#))
- 9.44.2 Provide technical assistance for tree planting and maintenance to community organizations that are creating Business Improvement Districts, Neighborhood Improvement/Initiative Districts, etc. ([P24](#))

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