

# Chapter 4

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# MOBILITY ELEMENT

## I. INTRODUCTION

The Mobility Element provides an overview of the transportation infrastructure and multimodal strategies for the movement of people and goods in and around Los Angeles County. The purpose of this element is to set the policy direction for the development of a coordinated multimodal transportation system that efficiently moves people, goods, and services in an environmentally and socially responsible manner.

The Mobility Element includes a discussion of the planning agencies responsible for transportation in the County, along with maps that illustrate the transportation policy for freeways, rail transit, aviation, and freight movement. All modes of transit and transportation infrastructure are included. Central to this element is the idea that existing and proposed transportation infrastructure can be made more efficient by curbing sprawl, encouraging transit-oriented development, promoting alternative modes of transportation, and enhancing system management.

The Mobility Element also contains three sub-elements, which establish the policies for a roadway, bikeway and pedestrian system in the unincorporated County that are coordinated with the networks in the County's 88 incorporated cities. The sub-elements are:

- The Los Angeles County Highway Plan;
- The Bikeway Plan; and,
- The Pedestrian Plan.

## II. BACKGROUND

The Mobility Element for the Los Angeles County General Plan provides a broad overview of transportation policy, planning, and service provision in the County. This element summarizes the challenges and constraints of our current transportation system, and offers policy guidance and strategies to reach the County's long-term transportation goals.

The mobility needs for Los Angeles County are determined by analyzing the existing multimodal transportation system, which includes freeways, arterial highways, bus and rail transit systems, airports and terminals, and non-motorized transportation modes such as bicycles and walking. The transportation infrastructure in Los Angeles County is enormous, and the condition of the transportation system is prone to dramatic and constant changes due to the size of the region's population and economic activity.

In terms of transportation planning, Los Angeles County has tough choices ahead. It is widely accepted that our current transportation system is operating beyond its capacity. Yet, population projections suggest the County will be seeing an additional two to three million residents over the next 30 years, and economists are predicting an increase of up to 400% in cargo/goods movement in that same timeframe. New proposals, such as tolling major freeways, double-decking highways, or raising the gas tax, all have varying levels of political and popular support. However, paying for transportation infrastructure will remain a critical planning issue.

“ We are rapidly building a new functional unit, the metropolitan region, but we have yet to grasp that this new unit, too, should have its corresponding image

–Kevin Lynch

### The County Role in Transportation Planning

The County is not directly responsible for overall transportation planning or service provision in Los Angeles County. However, the Department of Public Works is responsible for the design, construction, operation, maintenance, and repair of roads in the unincorporated County, as well as in a number of jurisdictions that contract with the County for these services. Additionally, all of the policies contained in this Mobility Element are consistent with and supportive of the policy directions of the Southern California Association of Governments (SCAG), the Los Angeles County Metropolitan Transportation Authority (Metro), and the plans of other agencies charged with transportation planning in the County. The Mobility Element sets policy direction to alleviate transportation problems in the unincorporated areas of the County.

To support the programs that are implemented by the various transportation and governmental agencies in the County, the Department of Regional Planning (DRP) actively pursues land use strategies that help contribute to improved transportation systems and air quality. These land use strategies are as varied as promoting transit-oriented development (TOD), infill development, mixed uses, and the provision of residential density bonuses.

### Existing Conditions

Los Angeles County’s transportation systems are heavily burdened. According to SCAG, over 10 million people currently reside in the County, with estimates projecting a further climb to 12.2 million persons by 2030. In addition to being densely populated, the

County is also a major employment center. SCAG estimates that in 2005, businesses and organizations in the County employed over 4 million people.

SCAG produces an annual report entitled *The State of the Region* that tracks and evaluates Southern California’s progress and performance in a number of areas such as the economy, housing, and transportation. The following statistical summary is based on SCAG’s most recent report, *The State of the Region 2007*.

### Commuting Times and Congestion

The dominant characteristic of transportation in the County continues to be the single-occupant driver. For example, in 2005 74.7% of all people drove alone to work in the Southern California region. This is problematic because it is recognized that single-occupant vehicle use is associated with the highest level of land consumption among all transportation modes, and it also generates the highest level of environmental impacts.

Good indicators of a transportation system’s performance are the average time it takes a commuter to get to their workplace, and the level of congestion on the area’s highways and roads. Long commute times have implications on land use development and growth patterns, while highway congestion is a major source of environmental degradation.



The Use of Rail Transit is Increasing in the County



Metro Gold Line

Between 2005 and 2006, the average travel time for people in the SCAG region was 28.4 minutes, higher than both the state and national averages.

Annual statistics show that Los Angeles workers experience some of the longest commutes in the nation, and the County's congestion, a major contributor to the region's poor air quality, regularly ranks as the highest in the nation. Highway congestion results in major social costs to County residents. Long travel times and congestion increases energy and oil usage, exacerbates automobile emissions, and diminishes the region's quality of life.

Congestion also results in significant economic costs to the County. For example, goods movement activity from the Ports of Long Beach and Los Angeles, which combined constitute the world's 5th busiest container port, is a primary economic engine for the County and the Southern California region. SCAG estimates that the three major freeways out of the Ports, I-710, I-605 and SR 91, carry as much as 40,000 trucks on an average weekday. Long delays and congestion negatively affect the economy, and in 2003, total costs incurred due to congestion were estimated at almost \$12 billion, significantly higher than any other area in the U.S.

### Transit Use

SCAG reports that transit use in the region and in the County increased by 6% (or 44 million boardings) from July 2005 to July 2006. Metro, the County's transit provider, recorded an increase of 38 million boardings for 2006, reaching a total of 493 million boardings in one year. Increasing transit use in the County, which has significant implications for countywide energy savings and for improving the County's environmental conditions, is a primary goal of the County and this General Plan.

### Goods Movement

The County, with its two large ports and major aviation hub at LAX, is a key player in the movement of goods in the region. Approximately 75% of the region's air cargo traffic goes through LAX, ranking 2nd in the U.S. in value of freight shipments. When combined, the Ports of Los Angeles and Long Beach handle a majority of the nation's imports. Almost 85% of the imports coming through the Los Angeles Customs District (LACD) arrive at the region's seaports. By 2006, total traffic at the ports has increased to over 210.4 million tons, and officials expect total traffic to more than double by 2020. Although the ports are major economic forces in the regional economy, they have also been identified as one of the largest polluters, creating unique planning challenges for County officials.



Port of Long Beach - Source: LAEDC

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A2



Los Angeles Metropolitan Transportation Authority Headquarters, Downtown Los Angeles

Many transportation-related statistics cannot accurately portray conditions specifically related to the unincorporated areas of the County. However, it is important to recognize trends in the County as a whole. For example, according to the Metro Congestion Management Program for Los Angeles County (2002), the largest percentage increase in daily trips is projected to occur in urban fringe areas of the County, most notably in the cities of Lancaster, Palmdale, Santa Clarita, and the unincorporated areas of north Los Angeles County. Although the General Plan cannot directly resolve many of the transportation issues in unincorporated areas of the County, it does provide strong policy direction for individual communities in coping with this significant planning issue.

### Regulatory Framework

Transportation planning in Los Angeles County is a complex system of inter-jurisdictional networks and responsibilities. There are several federal and state policy mandates and funding directives that guide a coordinated planning process between designated Southern California agencies at all levels of government.

For consistency purposes, all local agencies responsible for transportation planning and implementation coordinate their activities to comply with the goals and policies of SCAG and Metro. Respectively, these are the federal and state designated regional and county-level transportation planning agencies that establish the Regional Transportation

Plan (RTP) and the Long Range Transportation Plan (LRTP). The County, the 88 incorporated cities in the County, and other transportation agencies engage in transportation planning activities by participating in the development and implementation of the RTP and LRTP.

### Transportation Planning Agencies

The following sections describes the primary agencies that coordinate transportation planning, provide transportation services, and maintain the transportation infrastructure in the County:

#### Southern California Association of Governments (SCAG)

SCAG is the regional Metropolitan Planning Organization (MPO) for the six-county region of Imperial, Orange, Riverside, San Bernardino, Ventura, and Los Angeles counties. As the MPO, SCAG is mandated by the federal government to research and prepare plans for transportation, growth management, hazardous waste management, and air quality. SCAG is also responsible for developing the RTP, which is a long-range (minimum 20-year) plan that provides a blueprint for future transportation improvements and investments based on specific transportation goals, objectives, policies, and strategies. More information on SCAG's programs can be found on the SCAG website, located at <http://www.scag.ca.gov/>.

### Los Angeles County Metropolitan Transportation Authority (Metro)

Metro is the transportation planning, coordinating, designing, building, and operating agency for its 1,433-square-mile service area in the County. Metro operates over 2,000 peak-hour buses on an average weekday, and also operates 87.6 miles of Metro Rail/Fixed Guideway service. The Metro Rail/Fixed Guideway system currently consists of the Metro Red Line subway system, the Metro Blue Line, the Metro Green Line, the Metro Gold Line, and the metro Orange Line Bus Rapid Transit. Metro also programs funds for 16 municipal bus operators and a wide array of transportation projects including bikeways and pedestrian facilities, local roads and highway improvements, goods movement, Metrolink, and the Freeway Service Patrol and Call Box system. In addition to operations, Metro is responsible for the development of the Long Range Transportation Plan, a 20-year blueprint for transportation planning in the County, the Los Angeles County Congestion Management Program, and the Call for Projects program, which is a competitive process that distributes discretionary capital transportation funds to regionally significant projects. More information on Metro's services and programs can be found on their website at <http://www.mta.net/>.

### The California Department of Transportation (CalTrans)

CalTrans has jurisdiction over the construction and maintenance of highways and freeways in the County. CalTrans also coordinates several statewide transportation programs that directly impact the transportation system in the County. These include: the State Transportation Improvement Program (STIP), the Congestion and Mitigation and Air Quality Program (CMAQ), and the Traffic Congestion Relief Program (TCRP). More information can be found at the CalTrans website at <http://www.dot.ca.gov/hq/transprog/>.

### Los Angeles County Department of Public Works (DPW)

The Department of Public Works is responsible for the maintenance, repair, and construction of County roadways, parkways, and bridges as well as implementing improvements to relieve traffic congestion. It maintains

over 3,100 miles of major roads and local streets in the unincorporated areas of the County, and over 1,700 miles in 22 incorporated cities. This includes over 1,300 signalized intersections, 6,000 miles of striping, 170,000 traffic signs, 5,000 street lights, and 78,000 street name signs as well as pavement markings, painted curbs, and raised traffic markers. The Department of Public Works also administers recreational transportation services, community shuttles, the Hollywood Bowl Shuttle Program, and over 90 miles of bicycle trails throughout the County. More information on Department of Public Works projects and services can be found on their website at <http://ladpw.org/services/roads/>.

### Southern California Air Quality Management District (SCAQMD) and the Antelope Valley Air Quality Management District (AVAQMD)

Mandated by state law, the SCAQMD and the AVAQMD develop plans and regulations for their representative air basins to achieve and maintain healthy air quality. To control emissions from cars, trucks, buses, and other mobile sources, the Districts have a comprehensive program to meet the emissions standards established by the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (EPA).

The Federal and State Clean Air Acts require areas with unhealthy levels of air pollutants, such as Los Angeles County, to contribute to the development of a State Implementation Plan (SIP). The SIP is a compilation of plans,



Department of Public Works Road Maintenance Crew



A Multi-Modal Transportation System Provides Options

programs, district rules, state regulations, and federal control measures to improve air quality in a given region. With regulatory responsibility for the County, the SCAQMD and the AVAQMD contribute to the SIP by indicating how national and state air quality standards will be met through the development of air quality management plans. Included in these plans are strategies to reduce tailpipe emissions by promoting the use of cleaner fuels and vehicles, and reducing the number of cars on the road with alternatives such as old-vehicle scrapping, carpools, and transit. More information on SCAQMD and AVAQMD can be found on their websites at <http://www.aqmd.gov/> and <http://www.avaqmd.ca.gov/> respectively.

### Level of Service

The County's goal is to have a transportation system that operates efficiently with a minimum impact on air quality, natural resources, and communities. Levels of congestion are important indicators of how well transportation systems are performing. The Department of Public Works employs a common method for assessing the congestion of roadways in the transportation system known as level of service (LOS). Based on a roadway's volume-to-capacity ratio (the number of vehicles currently using the roadway compared to the ideal maximum number of vehicles that can efficiently use the roadway), a letter designation is assigned that represents the traffic flow conditions, or LOS. Letter designations "A" through "F" represent progressively declining traffic flow conditions. The letter "A" indicates

excellent maneuverability and stable speeds, while the letter "F" indicates a breakdown of flow and unstable, erratic speeds. LOS designations indicate whether the roadways in the County are operating in excess of the capacity for which they were designed.

**Table 4.1** provides the definitions of LOS A-F. **Figure 4.1** is a graphic representation of LOS thresholds. For further information on the LOS in your community, contact the Department of Public Works or visit their website at <http://ladpw.org/>.

## III. TRANSPORTATION SYSTEMS IN LOS ANGELES COUNTY

Los Angeles County has one of the largest and most extensive transportation systems in the world. Despite continuing efforts to increase transportation services and build transportation infrastructure, County transportation systems are impacted by the demands of a growing population and wide-ranging economic activities. This section describes the individual networks that together form the multimodal County transportation system.

### Multimodal Transportation System

In Los Angeles County, where traffic congestion is annually ranked among the worst in the nation, a multimodal transportation system offers people more choices. An effective multimodal transportation system focuses on increasing the choice to travel by any of the four primary transportation modes: pedestrian, bicycle, transit and automobile. To foster a multimodal transportation system, the following objectives are important:

- Emphasize pedestrian, transit, and bicycle linkages;
- Provide safe and convenient access for all travelers; and,
- Reduce dependency on the automobile.

The key to achieving a functional multimodal transportation system is providing efficient connections between different modes. For example, most transit trips start and end with a walk, ideally along paved, well-lit, and wide sidewalks. Streets can be designed not only to move cars, but also to be safe and inviting for pedestrians, cyclists, and

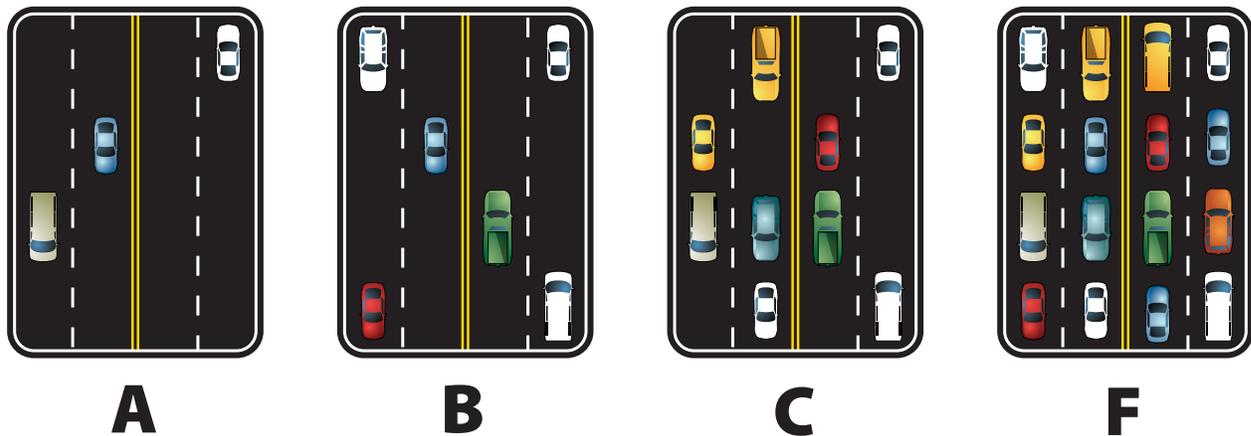


Figure 4.1: Level of Service Diagram

Table 4.1: Department of Public Works Level of Service Definitions

LOS	Type of Flow	Delay	Maneuverability
A	Free flow	Little or no delay	Users are unaffected by other traffic; freedom of speed and movement, level of comfort, convenience and safety are excellent.
B	Stable flow	Short traffic delays	Users begin to notice other traffic; freedom of speed continues, but freedom to maneuver declines slightly.
C	Stable flow	Average traffic delays	Traffic may back up behind turning vehicles. Most drivers feel somewhat restricted. Traffic signals operate at maximum efficiency.
D	Approaching unstable flow	Long traffic delays	Maneuverability is severely limited during short periods when traffic backs up temporarily. Comfort, convenience, and safety are affected. Users wait one signal cycle to pass through a signalized intersection.
E	Unstable flow	Very long traffic delays	Traffic volumes are at or near capacity; users wait several cycles to pass through a signalized intersection.
F	Forced flow	Excessive delay	Traffic volumes exceed the capacity of the street and traffic queues develop. Stop-and-go traffic conditions predominate.

Source: Los Angeles County Department of Public Works

transit users. If bicyclists have the option of bringing their bikes on board the transit system, it is more convenient for them to travel to farther destinations.

Multimodal transportation planning helps the County meet its goal of offering residents an interconnected network of streets, alleys, paths, greenways, and waterways where people can choose to walk, bicycle, take transit or, drive, when necessary. The goals and policies of the Mobility Element offer residents a framework for an accessible, efficient, environmentally sensitive, safe, and reliable multimodal system.

This section summarizes the following multimodal systems in the County:

- Freeway, Highway, and Local Road Networks;
- Public Transportation (Bus and Rail);
- Aviation Network;
- Harbors;
- Rail Networks and Goods Movement;
- Terminals;
- Bicycles;
- Pedestrians; and,
- Mobility Management.

## Freeway, Highway, and Local Road Networks

The highway network is comprised of the State Highway System, which includes U.S. Interstate Freeways, and California maintained freeways and highways, High Occupancy Vehicle (HOV) lanes, and County and City highways. This network spans Los Angeles County and provides access to much of the mainland area, connecting all 88 cities and most unincorporated areas. The State Highway System in the County consists of 915 freeway and highway miles, and Caltrans estimates that on average there is more than 100 million vehicle miles traveled per day in Los Angeles County via the State Highway System (see Caltrans website for District 7 data [www.dot.ca.gov/dist07](http://www.dot.ca.gov/dist07)).

County and local roads contribute to the specific transportation needs of cities and all unincorporated areas. The Department of Public Works maintains over 3,100 miles of major roads and local streets in the unincorporated areas and over 1,700 miles in 22 incorporated cities. **Figure 4.2** is a map of the County’s Freeway and Highway System, along with the County’s airports.

## Public Transportation (Bus and Rail)

Buses provide the majority of public transit service in the County. The Metro bus system is the largest service provider in the U.S. with more than 2,000 buses operating on 185 routes. Metro also operates the Metro Rapid Bus service, which, runs on select surface street corridors with fewer stops and electronic signal switching devices to expedite traffic flow, and the Metro Express bus service, which are bus routes that are express for a portion of the route and then run either local or limited routes in other areas. The Orange Line, opened in 2005, is a landscaped fixed guideway bus rapid transitway and bike path on a 14.5 route along an east-west corridor in the southern San Fernando Valley.

At the community level there are several municipal operators that provide bus services around the County. Examples of these operators include the City of Los Angeles DASH system, the City of Santa Monica’s Big Blue Bus, and the Antelope Valley Transit Authority. Additionally, shuttle fleet operators routinely provide public transit services. The County operates two shuttle services in unincorporated areas: the

Kenneth Hahn Trolley in Willowbrook, and the East Los Angeles shuttle. Elsewhere in the unincorporated areas, demand-responsive paratransit contractors are used to meet the needs of senior citizens and mobility-impaired individuals.

Metro also operates the Metro Rail system, which is exclusively within Los Angeles County. It consists of 17.4 miles of subway and 55.7 miles of light rail. The Metro Rail system currently consists of four lines: Red, Blue, Green and Gold. The hub of the system is in downtown Los Angeles at Union Station. The Red Line subway extends west along Wilshire Avenue in the City of Los Angeles, and north to the San Fernando Valley ending at North Hollywood. The 22-mile Blue Line light rail extends south from the 7th Street and Metro station in downtown Los Angeles to the City of Long Beach. The Blue Line was the first section of the Metro Rail system to begin operation and it includes stations in unincorporated areas at intersections with Slau-son Avenue, Florence Avenue, Firestone Boulevard, and Imperial Highway. The Green Line is a 20-mile light rail line



Figure 4.2: L.A. County Highways, Freeways and Airports



Los Angeles County Freeway Interchange

that serves the Los Angeles Basin from the City of Norwalk to the City of El Segundo. The Green Line has stations within unincorporated areas at the intersections of Vermont Avenue and Hawthorne Boulevard. In 2003, the 13.7-mile Gold Line light rail opened, connecting Union Station to downtown Pasadena. Construction is underway to extend the Gold Line another 6 miles from Union Station to unincorporated East Los Angeles by 2009, as well as from Pasadena to Claremont by 2015. A new Metro light rail line, the Exposition line, which will run from the 7th Street and Metro Station through Exposition Park to Culver City, began construction in 2006, and is expected to be completed by 2015.

Two additional rail service operators that provide services in Los Angeles County are Metrolink and Amtrak. The Southern California Regional Rail Authority (SCRRA) operates the 416-mile Metrolink commuter rail system, which has its hub at Union Station in downtown Los Angeles and extends to Ventura, San Bernardino, Riverside, Orange, and San Diego Counties. The Metrolink commuter rail service has operated since 1992. As the national passenger rail service, Amtrak provides interstate

service from points around the nation to Union Station as well as regional service between major cities throughout California.

Though the County offers very limited direct public transportation service, it plays an important role in establishing policies, promoting specific projects, and funding for these services; all five County Board of Supervisors participate as voting members on the 13-member MTA Board of Directors. Two members of the County Board of Supervisors are also on the SCRRA Board of Directors. **Figure 4.3** is a map of the County's public rail systems.

### Aviation Network

There are 15 public-use and joint-use airports located in the County. The majority of passenger air transportation is serviced through Los Angeles International Airport (LAX), Burbank-Glendale-Pasadena Airport (BUR, also called the Bob Hope Airport), and the Long Beach Airport (LGB). Another commercial airport, the Palmdale

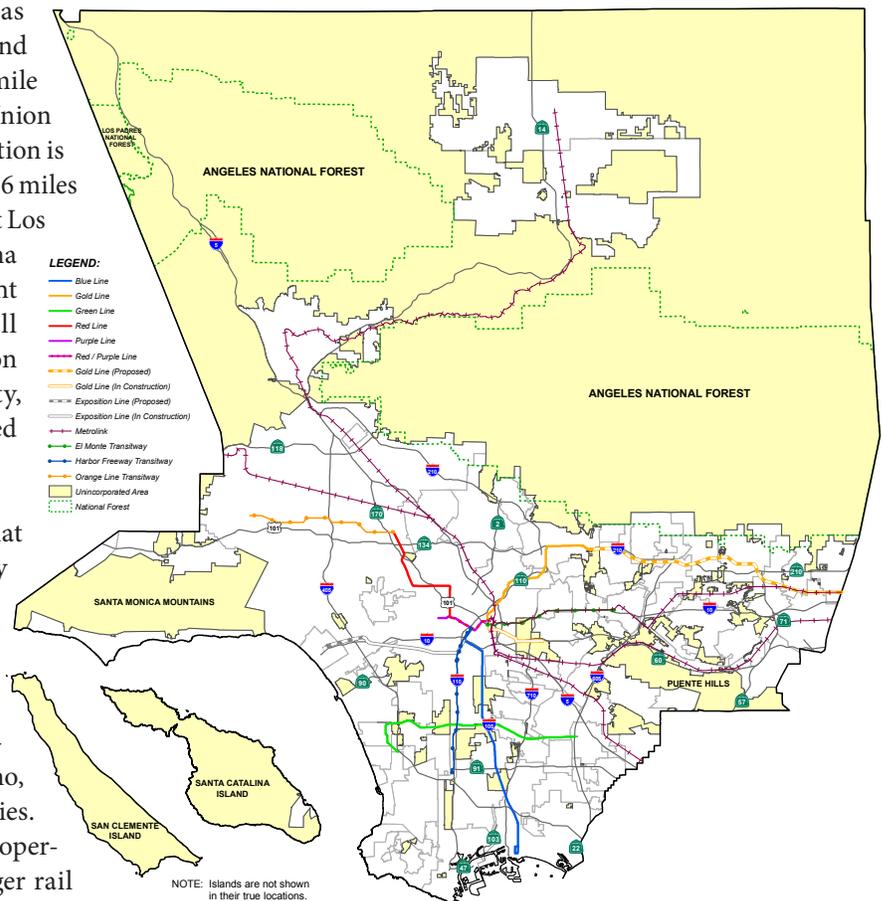
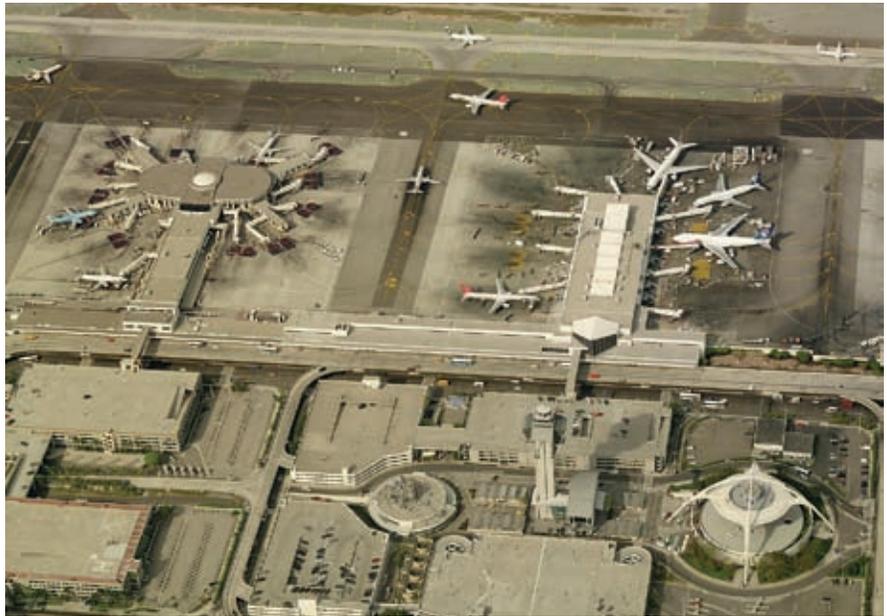


Figure 4.3: Major Public Transit Systems in L.A. County

Regional Airport, is owned and operated by the Los Angeles World Airports (LAWA), which is the aviation authority for the City of Los Angeles. LAWA, which also operates LAX, is currently preparing a new Master Plan for the Palmdale Regional Airport, as commercial flights resumed in June 2007. **Table 4.2** is a list of the airports and owners in the County, and these airports are shown in **Figure 4.2**.

In 2006, SCAG estimated that air travel in the region reached approximately 88 million annual passengers, and approximately 75% of the region's cargo traffic went through LAX in 2005. SCAG expects that the County will continue to have population growth, an increase in air travel passengers, and continued increases in air cargo traffic. In terms of airport planning, these trends are problematic. By 2000, LAX had far exceeded its design capacity of 40 million annual passengers, and by 2005 it was serving 61.5 million passengers, or about 70% of all regional air passenger travelers. LAX, BUR, and LGB are located in built-out urbanized areas with little opportunity for capacity enhancement. Additionally, due to air quality concerns over capacity enhancement and noise restrictions, communities around these airports



Los Angeles International Airport - Source: Pictometry International Corp

have organized political opposition to airport expansion efforts. As such, airport expansion and planning efforts face considerable challenges.

#### Airport Land Use Commission

The California Legislature enacted the State Aeronautics Act (Division 9, Part 1, of the California Public Utilities Code) to assure orderly development of each public use airport and the surrounding areas in order to promote the objectives of airport noise standards and to prevent the creation of new noise and safety problems. The Act also designated the Regional Planning Commission (RPC) as the Airport Land Use Commission (ALUC) for the County.

The ALUC is required to adopt a comprehensive Airport Land Use Compatibility Plan (ALUCP) for public use airports within its jurisdiction. It is, however, the responsibility of each city to ensure compatible land uses in the vicinity of airports using the uniform policies and standards contained in the ALUCP. The ALUC also reviews local plans and land use activities proposed within each airport's planning boundary, including actual airport area and ownership, as well as areas subject to noise impacts and safety hazards, such as the approach and runway protection zones. The ALUC has no jurisdiction over the operation of airports or authority over any land uses regardless of compatibility with airport activities. However, the General Plan is consis-



LAX - Source: LA Inc.

tent with all airport land use policy including all ALUCPs that effect public use airports in unincorporated areas of the County.

Realizing the need for a more comprehensive set of airport land use compatibility policies for the County, the ALUC began a process in 2002 to update its plans. More information on the Los Angeles County Airport Land Use Commission can be found on the Department of Regional Planning's website at <http://planning.county.gov/spALUC.htm>.

### Harbors

The Ports of Long Beach and Los Angeles are key links in the global economy and can handle a wide variety of cargoes including containers, bulk products, and automobiles, as well as passenger cruise ships. Combined, they are one of the largest and most efficient international shipping ports in North America, and the fifth busiest container port in the world. The Southern California Association of Governments reports that in 2005, the two ports combined for a total traffic of 210 million tons, including over 15.8 million twenty-foot equivalent units (TEU).



Alameda Corridor

Source: ACTA (Alameda Corridor Transportation Authority)

**Table 4.2: Los Angeles County Public and Private-Use Airports.**

Airport	Location	Ownership
Agua Dulce	Agua Dulce	Private
Burbank (Bob Hope)	City of Burbank	Airport Authority
Brackett Field	La Verne	Los Angeles County
Catalina	Catalina Island	Private
Compton/Woodley Field	City of Compton	Los Angeles County
El Monte Field	City of El Monte	Los Angeles County
General William J. Fox Airfield	City of Lancaster	Los Angeles County
Jack Northrup Field (Hawthorne Municipal)	City of Hawthorne	City of Hawthorne
Long Beach Municipal	City of Long Beach	City of Long Beach
Los Angeles International	City of Los Angeles	City of Los Angeles (LAWA)
Santa Monica Municipal	City of Santa Monica	City of Santa Monica
Palmdale Regional Airport	City of Palmdale	City of Los Angeles (LAWA)
Van Nuys Airport	Van Nuys (Los Angeles)	City of Los Angeles (LAWA)
Whiteman Field	Pacomia (Los Angeles)	Los Angeles County
Zamperini Field	City of Torrance	City of Torrance

The Ports of Long Beach and Los Angeles are heavily investing in infrastructure to handle a projected doubling of container volumes by 2010. However, the Ports have also been identified as one of the largest sources of air pollution in the region. In response, the Ports have created a Clean Air Action Plan in conjunction with the US Environmental Protection Agency, the California Air Resources Board, and the South Coast Air Quality Management District to reduce emissions related to port operations. Balancing the economic need for the efficient movement of goods in and out of the Ports, and the desire for a clean and healthy environment is a primary planning challenge.

### Rail Networks and Goods Movement

The County has an extensive rail network that is focused on ensuring the efficient and safe movement of goods throughout the region. An effective goods movement system requires the elimination of at-grade crossings, and the creation and operation of new rail networks, such as the Alameda Corridor. **Figure 4.4** presents the freight and passenger rail lines that run through the County.

### Alameda Corridor

The Alameda Corridor is a 20-mile rail cargo corridor with a 10-mile below-grade “trench” between the Ports of Los Angeles and Long Beach and the central Los Angeles freight yard transfer stations. The Alameda Corridor has been instrumental in efficiently transporting goods from the ports to inland transfer stations. A continuation of the Alameda Corridor Project from central Los Angeles eastward 35 miles through the San Gabriel Valley past Pomona and onward to the transcontinental rail network began in 1999. Known as the Alameda Corridor East (ACE) Project, the \$910 million eight-year endeavor of mobility and safety improvements includes signalization upgrades, roadway widening, and twenty (20) grade separations.

### Terminals

Terminal facilities provide multiple uses, from park-and-ride lots for daily commuter vehicles to the heavily used freight terminals that serve the County’s ports. Terminal operations and attendant infrastructure are very consumptive land uses, have varying degrees of activity, intensity and density, and are often characterized as having heavily polluting activities. Land use decisions related to terminals are impacted by the need to appropriately site facilities that efficiently serve the large goods movement infrastructure in the County, and by the need to construct and enhance existing County terminal facilities.

The County’s goods movement network is reliant on efficient terminal operations. Fierce competition among west coast cities for international trade business has led to the planning and construction of an efficient terminal network in the County. The most notable terminal facilities are the inter-modal terminal networks located in and around the Ports of Los Angeles and Long Beach, the goods transfer stations located near downtown Los Angeles, and several freight and trucking facilities in the City of Industry.

### Bicycles

In 2006, Metro released its Bicycle Transportation Strategic Plan (BTSP). The BTSP coordinates the countywide bicycle transportation planning efforts of the cities, the County, and other transportation agencies.

The intent of the BTSP is to include bicycles in all transportation planning efforts in order to develop regionally significant bicycle facilities, improve mobility and fill in the gaps of the inter-jurisdictional bikeway network. The BTSP argues that the use of bicycles as an alternative to the automobile will relieve congestion, improve air quality, reduce vehicle miles traveled (VMT) and vehicle trips, and increase transit viability. The BTSP is a compilation of the existing bike plans, facilities, and bikeways from all of the jurisdictions within the County. The data provided within the BTSP includes the location of existing and proposed bicycle facilities, activity centers, transit facilities and bicycle parking, estimates on future bicycle ridership based on current trends, and estimates of future expenditures based on past allocations. By providing this regional information to local transportation agencies Metro intends to increase inter-jurisdictional cooperation and coordination in the development of an effective countywide bicycle transportation system.

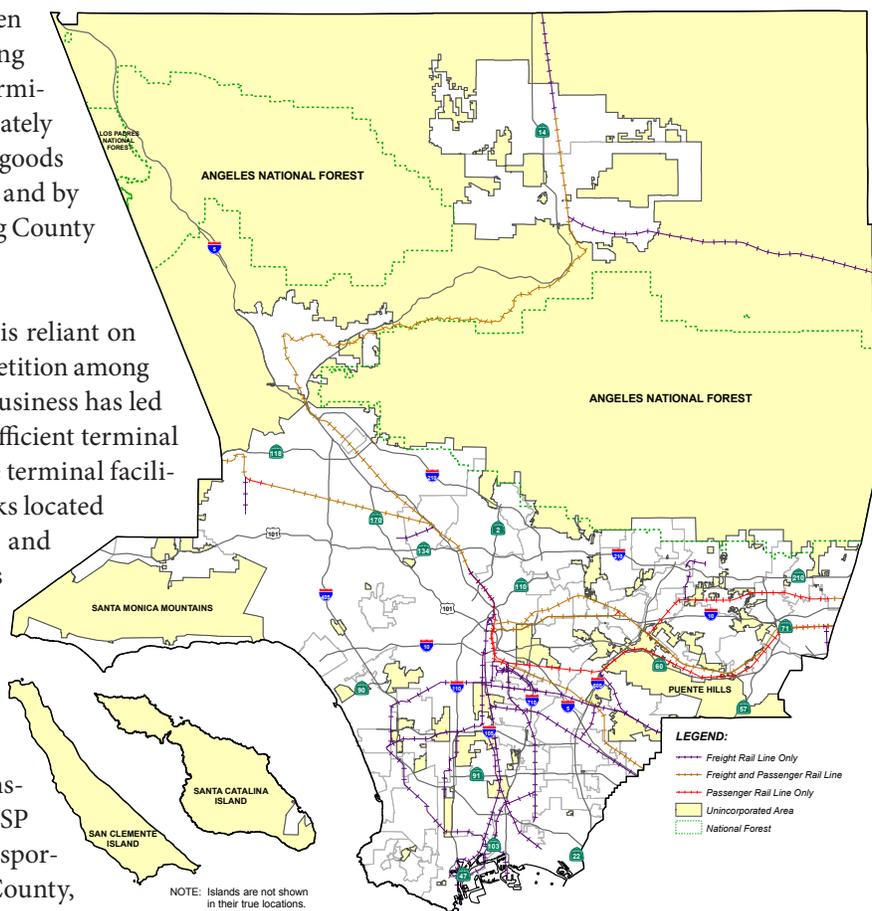


Figure 4.4: Freight and Passenger Rail Lines in L.A. County



Pedestrian Infrastructure is Lacking in Los Angeles

Additionally, the County is beginning the process of creating a Bicycle Master Plan, a collaborative effort between the Departments of Public Works, Regional Planning, and Parks and Recreation. The Bicycle Master Plan will update the County's 1975 Bicycle Plan and will provide policy guidance for building a comprehensive bicycle network throughout the unincorporated County. The Bicycle Plan sub-element of the Mobility Element contains more detailed information on the existing County Bicycle Plan.

### Pedestrians

The use of the automobile as the primary mode of travel has had a detrimental effect on alternative modes of transportation, and in particular, walking. An automobile-oriented community increases distances between buildings, decreases the density and intensity of land uses, and expands the roadway network, all neglecting pedestrians.

Making a community walkable calls for more than just adding sidewalks. The ease of street crossings, sidewalk continuity, street connectivity, and topography all play a role in making a community walkable. Older neighborhoods in the County share a historic development pattern that is conducive to walking: a grid of connected streets with sidewalks on both sides and a dense mix of land uses.

In the County, the way subdivisions and projects are designed will play a significant role in the improvement of pedestrian mobility. The expansion of the transit system,

increased land use densities, the promotion of alternative modes of transportation, and development oversight are all means the County can pursue to heighten the role of walking to personal mobility.

The latest federal transportation funding act, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and its predecessors, have endorsed and funded the development of alternative modes of transportation with an emphasis on pedestrians. Federal programs with pedestrian funding for local authorities can be found in the Surface Transportation Fund, which includes Transportation Enhancement Activities and Hazard Elimination and Railway-Highway Crossing Programs, the Congestion Mitigation and Air Quality Improvement Program, the Recreational Trails Program, the National Scenic Byways Program, Job Access and Reverse Commute Grants, High Priority Projects, and Designated Transportation Enhancement Activities.

### Mobility Management

Mobility Management refers to various strategies that can improve the efficiency of transportation resources. In Los Angeles County, where building new highways is too expensive and widening roads is politically difficult, mobility management is an especially important strategy for reducing congestion.



Metrolink Reduces VMTs

Mobility management emphasizes the movement of all people and goods through planning activities related to all modes of transportation, whether it is auto, transit, or pedestrian-focused. Mobility management is also most effective in exceptionally congested regions, such as Los Angeles County. There are different mobility management strategies that are designed to address a variety of impacts, such as:

- Increasing transportation options to reduce VMT or to relieve traffic congestion;
- Developing incentives that change travel behavior, such as offering employer-based transit passes or increasing transit availability; and,
- Reducing the need to travel through efficient land uses, such as encouraging TODs and infill development over sprawl.

Mobility management strategies are designed to be used alone, or as a program of policies that have a cumulative effect on improving the efficiency of the transportation system. The General Plan promotes several mobility management policies and supports

other County agencies with transportation authority to implement strategies that improve the countywide multi-modal transportation system.

### Rideshare

Commute Smart (<http://www.commutessmart.info/>), funded by Metro, the Orange County Transportation Authority, the Ventura County Transportation Commission, and San Bernardino and Riverside Counties, is an example of a mobility management program that encourages an alternative to driving alone. Commute Smart promotes and coordinates carpooling, vanpooling, transit use, and walking as well as “smart work” strategies such as telecommuting, flextime, or compressed work schedules.

### Traffic Calming

Traffic calming refers to the various strategies and transportation design techniques that can be implemented to reduce traffic speeds and improve pedestrian safety on a particular roadway. Projects that utilize traffic calming designs can range from small changes, such as raising the elevation of crosswalks, to larger strategies that re-design entire roads by reducing lanes and adding landscaped medians. Some of the most popular traffic calming strategies include:



Metro Red Line



Traffic Circle or Round About - Source: DPW

- Curb extensions, which includes planted medians and sidewalk expansions planters that narrow traffic lanes, provide pedestrian refuges in the middle of a street, and reduce the overall distance that pedestrians must cross at an intersection;
- Bulb outs on residential streets, which narrow intersections and increase the visibility of pedestrians;
- Roundabouts (or traffic circles);
- Raised, tabled, or colored crosswalks with special pavement treatments, such as cobblestone or brick; and,
- Speed bumps.

When properly designed and implemented, traffic calming measures have been proven to positively impact traffic speeds, traffic volumes, and pedestrian safety. These impacts have resulted in increased pedestrian and bicycle activity, reduced noise, and in many neighborhoods, initiated further community beautification programs. Due to the many benefits of traffic calming, the Department of Regional Planning, in conjunction with the Department of Public Works, is promoting the implementation of a traffic calming program in unincorporated areas throughout the County.

## IV. HIGHWAY PLAN

The Los Angeles County Highway Plan (formerly known as the Master Plan of Highways) was initially adopted on February 27, 1940. It has been amended numerous times in response to the changing transportation environment in the unincorporated areas of the County. The Highway Plan initially served as the transportation plan for the County, but with the adopted General Plan and Transportation Element of 1980, the Highway Plan became a sub-element. The Highway Plan remains a sub-element, with modifications and amendments in this updated General Plan.

### Purpose

The purpose of the Highway Plan is: 1) to depict the general location of planned highway routes throughout the County, 2) to provide a means for protecting highway right-of-way within the unincorporated area, 3) to establish a plan and process for coordinating highway policies with neighboring cities and counties, and 4) to provide for a system of highways that are consistent with other policies of the General Plan. The Interdepartmental Engineering Committee (IEC) composed of the Director of Planning, Road Commissioner, and County Engineer, is the organization charged with maintaining the County Highway Plan.



Highway 101 Soon After It's Opening, Near Downtown

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Highway Congestion is Worsening

### Development Process

An updated version of the Highway Plan Map was developed in conjunction with the updated General Plan. Though the County has virtually no jurisdiction over roads in the 88 cities, or the freeways and other state routes administered by CalTrans, these roadways were added to the Plan for reference and visual continuity. Since many of these government entities have different classification systems for roads within their boundaries, descriptions of roadway widths were used to convert all roadways to the County system.

A comprehensive review and evaluation of the County Highway Plan map revealed that many changes were necessary to improve existing conditions on the County highway system. The Highway Plan proposes to correct misalignments of highways between the County and adjacent cities to ensure that movement efficiencies are achieved between jurisdictions. The plan also proposes to both correct certain problems that affect specific locations and generally enhance the highway system within unincorporated areas.

### Route Classifications

The Highway Plan illustrates the existing and proposed location of major arterial highways throughout the County. It is intended to provide a highway system consistent with the distribution of land uses as depicted in the Land Use Element by providing adequate highways to serve residential and commercial needs. The routes shown on the Highway Plan Map are classified according to the following system:

- **Major Highways:** These highways in urban areas and some rural areas are of countywide significance and are, or are projected to be, the most heavily traveled routes. These roads generally require four or more lanes of moving traffic, center medians and, to the extent possible, access control and limits on intersecting streets. The standard right-of-way width for a major highway is 100 feet, but this width may vary to meet extenuating circumstances. Key inter-urban connectors, non-urban access ways and recreational roads are also classified as major highways. The bulk of these routes are not planned for urban type improvement. However, the full major highway right-of-way width of 100 feet or more is generally required to maintain adequate safety and noise standards.
- **Secondary Highways:** These urban routes and some rural routes serve or are planned to serve an area-wide or countywide function, but are less heavily traveled than



State Highway 2, Driving into Downtown Los Angeles



Interstate Highway 105 On Ramps

major highways. In a few cases, routes that carry major highway levels of traffic are classified as secondary highways because it is impractical to widen them to major highway standards. In addition to the county-wide function, secondary highways frequently act as oversized collector roads feeding the countywide system. In this capacity the routes serve to remove heavy traffic from local streets, especially in residential areas. In urban areas, secondary highways normally have four moving lanes of traffic on 80 feet of right-of-way, but configuration and width may vary with traffic demand and conditions on the ground. Access control, especially to residential property and minor streets, is desirable along these roads. The secondary highway classification also applies to connector highways to and between non-urban communities. In the flat lands of the Antelope Valley, acquisition or retention of 80 feet of right-of-way for many of the non-urban access routes is required for traffic safety and/or to allow for multiple uses of the right-of-way. In non-urban areas, secondary highways are ordinarily improved with only two lanes of moving traffic. Additional traffic lanes, left-turn pockets and other facilities may be provided where traffic conditions or the nature of development on adjacent property warrants it.

- **Limited Secondary:** These routes are typically located in remote foothill, mountain and canyon areas. Their primary function is to provide access to low-density

settlements, ranches and recreational areas. The standard improvement for limited secondary routes is two traffic lanes on 64 feet of right-of-way. Typically, such improvements consist of 28-30 feet of pavement with graded shoulders. Left-turn pockets and passing lanes may be provided when required for traffic safety. The right-of-way may be increased to 80 feet for additional improvements where traffic or drainage conditions warrant. The measurement of the 20 feet uniform building setback shall begin 40 feet from the centerline of all limited secondary highways in order to preserve proper sight distances. This setback shall be in addition to any yard requirement contained in the Zoning Ordinance, Title 22 of the County Code.

- **Parkways:** These apply to urban and non-urban routes having park-like features either within or adjacent to the roadway. The width of right-of-way varies as necessary to incorporate these features, but shall not be less than 80 feet. Roadway improvements vary depending upon the composition and volume of traffic carried.
- **Freeways and Expressways:** These are State of California designations that apply to some routes shown on the County Highway Plan. A freeway is a high-speed, high-capacity, limited-access road serving regional and countywide travel. Freeways are generally used for long trips between major land use generators. Major streets cross at a different grade level. An expressway



Hawthorne Boulevard, a Major Highway

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is a divided multi-lane major arterial street for through traffic with partial control of access and with grade separations at major intersections.

**Figure 4.5** is a map depicting the Los Angeles County Highway Plan. For further information of the Highway Plan, please contact the Department of Public Works or the Department of Regional Planning.

## V. BIKEWAY PLAN

There are a number of trails, paths, and transportation systems in the County that are available for use by bicyclists, such as roadways with bike lanes or routes, dedicated bike paths, decommissioned rail rights-of-way, and river channel embankments. Together, these systems constitute a comprehensive grid network for accommodating bicycle transportation throughout the County.

Promoting bicycle use in the County is important because bicycles are a non-polluting, quiet form of transportation. They do not consume energy and are very economical to purchase, operate, and maintain. Since they are so economical, they are readily available to most segments of the population, and they contribute to the general health of the users by keeping them physically active.

The Los Angeles County Bikeway Plan was first adopted in 1975. Today, it exists as a sub-element of the Mobility Element of the General Plan. In 2008, the County began the process of creating a Bicycle Master Plan, a collaborative effort between the Departments of Public Works, Regional Planning, and Parks and Recreation. The Bicycle Master Plan will update the County's 1975 Bicycle Plan and will provide policy guidance for building a comprehensive bicycle network throughout the unincorporated County. For further information on the existing Bicycle Plan adopted in 1975, please contact the Department of Regional Planning.

## Bikeway Planning Obstacles

Bicycle use has not become a viable alternative to the automobile, in part due to the insufficient designation and construction of bike paths, lanes, and routes. Because of the County's dependence on motor vehicles as the primary means of transportation, many of the existing roadways in the County are congested with excessive motor vehicle traffic, leaving no room to accommodate bicycle infrastructure and facilities. Additionally, much of the urban development along many of the arterial roadways presents problems for biking due to the high parking demand along roadways as well as insufficient space adjacent to the road to accommodate widening for bike lanes.

In addition to the lack of bike lanes in the County, a frequent complaint of bicyclists is the absence of adequate facilities to secure their bicycles at public buildings or facilities. To alleviate this situation, local governmental agencies must take the initiative to ensure that adequate bike racks, lockers or other devices are provided for the convenience of the

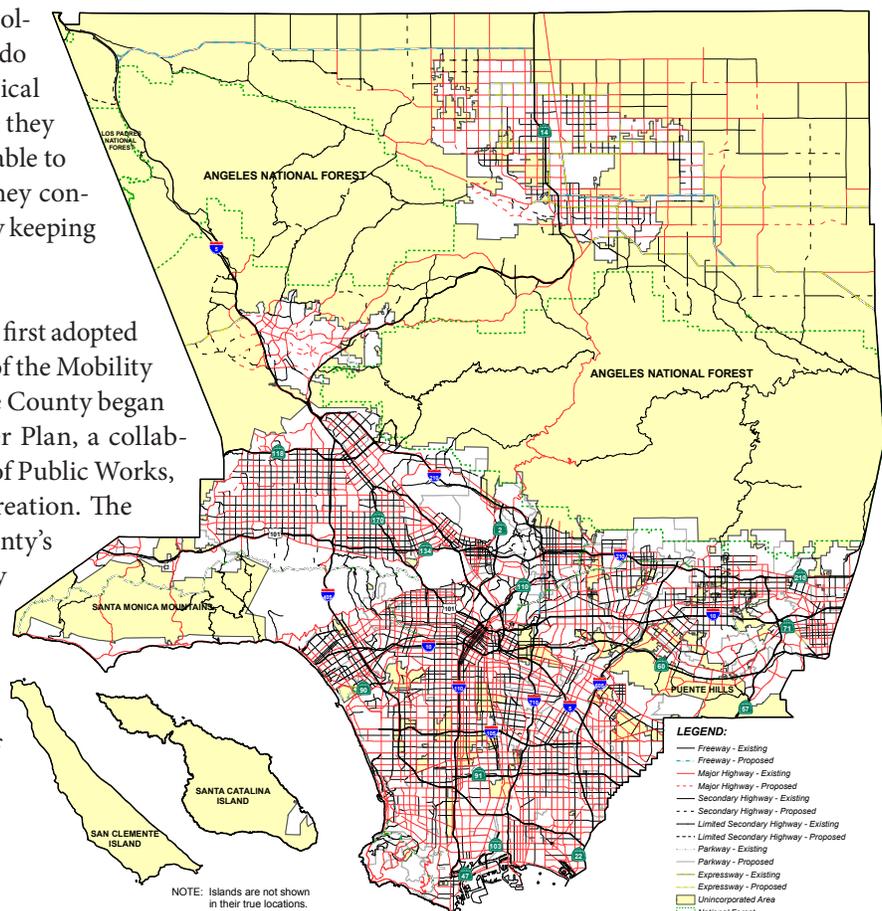


Figure 4.5: L.A. County Highway Plan

bicycling public. For any bicycle facility to effectively attract bicycle usage by the general public, it must also be properly maintained.

### Bikeway Plan Map

The entirety of surfaced roadways in Los Angeles County is used by the bicycling public even though they are not all identified as bikeways. The Vehicle Code allows this use and it is anticipated that this Code will continue to allow roadways to be used by bicyclists in the future. However, the lack of public awareness and the safety concerns associated with road sharing create a need for the development of bicycle routes with a grade separation, lane delineation, or designated trail/path construction for bicycle users throughout the County.

The Bikeway Plan Map depicts bike routes of regional importance throughout the County as well as routes of local importance in the unincorporated areas. The plan focuses on routes for both recreational use and commuter travel. Detailed information on the bikeway categories contained on the map can be found in the Mobility Element of the Technical Appendix to the General Plan.

The Bikeway Plan Map shown in **Figure 4.6** is the 1975 County Bicycle Plan map, which will remain in effect until a new one is created with the County's Bicycle Master Plan update.

## VI. PEDESTRIAN PLAN

Los Angeles County is characterized by urban, suburban, and rural communities. This diversity in the built environment creates several distinct conditions, opportunities, and challenges for pedestrians. There are a number of trails and paths in the County that are available for use by pedestrians, such as sidewalks, hiking trails, over and under passes, and skywalks. Together, these systems constitute a network for accommodating pedestrian travel throughout the County, but the system is far from adequate. The automobile has been the primary means of transportation in the County over the past 60 years, and this has created many barriers to pedestrian safety and travel.

The Los Angeles County Pedestrian Plan is a new sub-element of the Mobility Element which promotes safe and reliable pedestrian activity. As a new sub-element, the County Pedestrian Plan will be implemented in coordination with other County Departments over time and updated with each General Plan review.

### Purpose

The County recognizes that pedestrian mobility is a cost-effective and healthy transportation alternative to driving. Additionally, creating walkable communities is a critical component of the County's greenhouse gas reduction goals. The Pedestrian Plan was created to plan for and to implement an interconnected network of countywide pedestrian paths to accommodate pedestrian transportation in the County. The Pedestrian Plan sets forth specific design guidelines and characteristics that both new developments and redevelopments can utilize to better create pedestrian environments throughout the County.

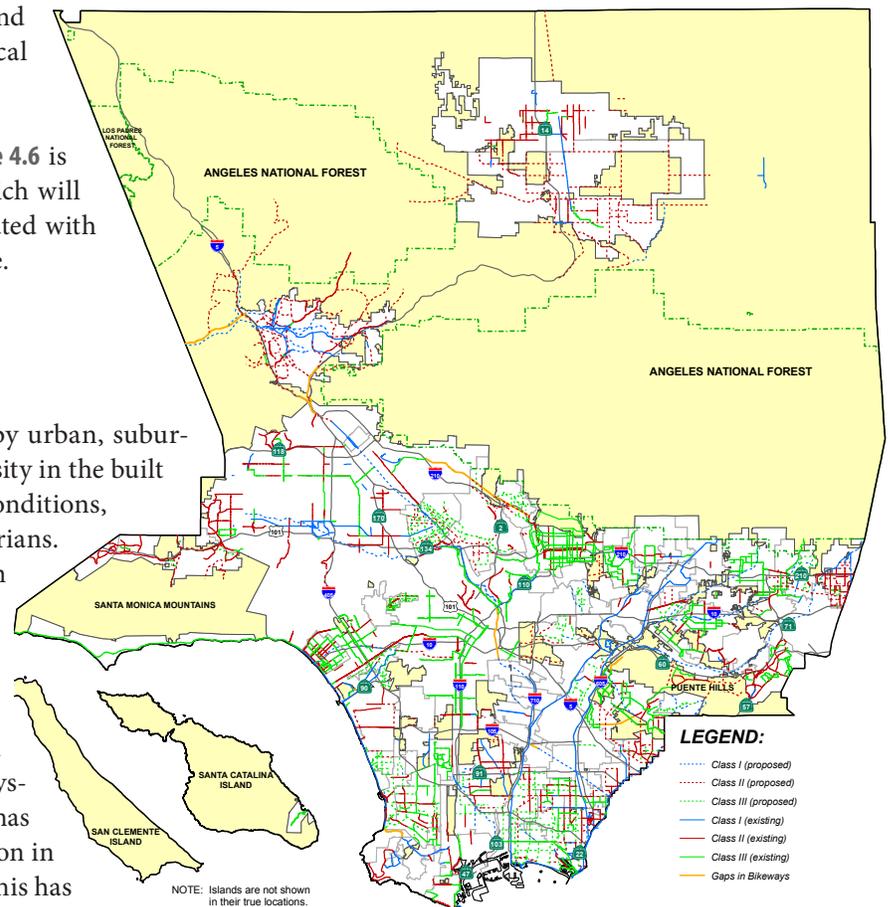


Figure 4.6: L.A. County Bikeway Plan Map



Both Bicycles and Automobiles Must Follow the California Vehicle Code

The Pedestrian Plan puts an emphasis on increasing the connectivity of pedestrian paths to and from public transportation, major employment centers, shopping centers, and government buildings, eliminating the gaps in the system, building communities that facilitate walking behavior, and breaking down the barriers to pedestrian travel both physically and psychologically. Special attention must be afforded to the elderly and people with disabilities to ensure accessibility and ease of movement for all who use the pedestrian network.

### Design Guidelines

The following guidelines were developed in fall 2007 in conjunction with a Masters class on Transportation Policy at the University of California Irvine's School of Social Ecology; Planning, Policy and Design. Students were asked to develop a Pedestrian Plan for Los Angeles County, and a set of guidelines was produced to provide specific specifications to make the myriad County communities more pedestrian friendly. The following design elements and standards are considered important components of pedestrian planning in the County and should be incorporated into all projects and development plans:

- Improving the Pedestrian Environment;
- Security, Lighting and Heightened Visibility;
- Providing Adequate Space for Pedestrians and Bicycles;
- Limitations on Curb Cuts;
- Building Orientation and Setbacks;
- Weather Protection Availability;
- Providing Transit Centers, Waiting Areas and Seating;
- Avoiding Blank Facades; and
- Providing Trees, Landscaping, and Open Spaces.

### Improving the Pedestrian Environment

Creating a pleasant environment for walking or bicycling can greatly influence the number of people willing to walk or ride as an alternative to driving. People are likely to walk or ride further and more often when the streetscape offers more attractions and when they feel comfortable, and secure. The primary goal of the County Pedestrian Plan is to create and improve the pedestrian environment in unincorporated County communities.

The following guidelines provide policy direction for pedestrian-level planning in future development opportunities in the County.



Cluttered Sidewalks and a Lack of Bicycle Infrastructure Deter Pedestrians



Pedestrian-Friendly Sidewalks

### Security, Lighting, and Heightened Visibility

Lighting for pedestrian pathways should provide adequate illumination to ensure personal safety with increased illumination around building entrances and transit stops. Lighting should be integrated into the architectural character in terms of both illumination and fixtures. Lighting should not produce glare or negatively influence off-site uses or traffic on adjacent streets.

### Provide Adequate Space for Pedestrians and Bicycles

Sidewalks and bike paths or lanes must be wide enough to accommodate the existing and projected volume of pedestrian and bicycle activity if they are to offer a quick and convenient means of travel. In setting standard sidewalk widths, communities should consider both the paved width and the unobstructed width available for walking. This is especially important for curbside sidewalks because obstructions (e.g., light poles, parking meters) are more likely to be located in the sidewalk.

In general, a uniformly wide sidewalk is preferable to a narrow sidewalk that is widened around obstructions. Activities or conditions that impede pedestrian and bicycle travel should be minimized. Sidewalks must also accommodate the needs of people with disabilities. For example, excessive slopes can create problems for those with disabilities, and sidewalk slopes exceeding 8.3 percent are not considered “accessible.” A minimum 48-inch clearance is needed to provide an “accessible route of travel” for a wheelchair.

Where feasible, designate adequate road allowance widths along arterial and collector roads to permit sufficiently wide sidewalks to accommodate street furniture, bus shelters, and other pedestrian amenities. Sidewalks should be constructed to meet the following minimum widths:

Curb sidewalks should maintain a minimum unobstructed width of two feet less than the required sidewalk width. The entire required width of setback sidewalks should be unobstructed. Curb sidewalks should be a minimum of eight feet wide at transit stops. A setback sidewalk should be separated from the curb by a planting strip at least four feet in width. The planting strip may be paved in neighborhood commercial areas and should be paved at transit stops.

### Limitations on Curb Cuts

Curb-cut restrictions can reduce vehicle-pedestrian conflict points and preserve on-street parking. Driveways crossing the Pedestrian System should be minimized and joint use of driveways encouraged to separate vehicles and pedestrians. Curb cuts for off-street parking facilities should comply with the following standards when possible:

- In residential districts, the maximum width of a curb cut should be 20 feet at the street line.
- In business and industrial districts, the maximum width of a curb cut should be 30 feet.



Walkable Streetscape



Complete Streets for Pedestrians and Transit

No more than one curb cut per lot for lots with less than 100 feet of frontage should be allowed. A maximum of one curb cut for every 100 feet of street frontage or portion thereof should be allowed for lots having frontage in excess of 100 feet.

#### **Building Orientation and Setbacks**

Include provisions to reduce building setbacks, which add to pedestrian comfort by enclosing, defining, and providing a sense of continuity to the streetscape. Buildings with display windows directed toward the sidewalk provide added activity and interest to attract pedestrians. Primary ground floor building entrances should have an entrance oriented to streets, plazas, and/or open space. Buildings should abut the street front sidewalk and orient the primary entrance, or entrances, toward the street. Buildings, excluding parking structures and accessory structures, should be located as close to the street lines of the lot as practicable while complying with the setback. Anchor retail buildings may have their entries from off-street parking lots; however, on-street entries are strongly encouraged. Building setbacks from public streets should be minimized. “Build-to” lines should be established which reflect the desired character of the area and bring buildings close to the sidewalk.

#### **Weather Protection Availability**

Automobile travel offers protection from inclement weather as well as the opportunity to sit while traveling. Pedestrian and bicycle travel involve, by their very nature, some

exposure to the elements. However, simple facilities can afford basic protection from wind, rain, and intense sun that can discourage pedestrians and cyclists. Buildings should be designed to provide for weather and wind protection at the ground level. Buildings fronting a street should provide pedestrian weather protection by way of awnings, or overhangs, a minimum of 48 inches in depth. The elements should be complementary to the building’s design and the design of contiguous weather protection elements on adjoining buildings. Materials and design should engender qualities of permanence and appeal.

#### **Provide Transit Shelters, Waiting Areas, and Seating**

Comfortable waiting areas and seating will encourage walking and transit use. At a minimum, transit oriented district transit stops should provide shelter for pedestrian-convenient passenger loading zones, and secure bike storage. Comfortable waiting areas, appropriate for year-round weather conditions, must be provided at all transit stops. Shelters should be designed with passenger safety and comfort in mind, and be easily recognizable, yet blend with the architecture of the transit station and/or surrounding buildings.

#### **Measures to Add Interest and Attractiveness**

People will more readily choose to walk or bike if they perceive advantages that offset the comfort and convenience of an automobile. Moreover, they will travel greater distances by alternative modes when they are in an interesting

environment. Successful pedestrian environments should include environmentally sensitive, interesting design elements, including public art projects, open space/park amenities, and appropriate small-scale commercial or retail services.

### Avoid Blank Facades

A number of communities have developed provisions to reduce the effects of lengthy, featureless facades and building walls lining pedestrian routes. Various approaches can improve building interest, including requiring street-level display windows and emphasizing building modulation (varying the setback of different sections of the building facade) to add variety. Windows should be provided on the street level rather than blank walls to encourage a visual and economic link between the business and passing pedestrians. A minimum of 60 percent of ground-floor facades facing streets should be constructed of non-reflective, transparent glazing. Methods used to create intervals that reflect and promote compatibility and that respect the scale of the building include:

- Façade modulation (i.e. stepping back or extending forward a portion of the façade);
- Repeating the window patterns at intervals equal to the articulation interval;
- Providing a porch, patio, deck, or covered entry to the articulation interval;
- Providing a balcony or bay window for each interval;
- Changing the roofline by alternating dormers, stepped roofs, gables, or other roof elements to reinforce the modulation or articulation interval; and,
- Long facades should be divided into shorter segments a maximum of 40 feet and preferably 25 feet in width. In larger projects with frontages over 100 feet, modules should be separated by such techniques as a deep notch between the modules or varying architectural elements and/or varying the color of individual modules within a harmonious palette of colors.



Whittier Boulevard, East Los Angeles

### Provide Street Trees, Landscaping, and Open Spaces

Street trees and other forms of landscaping provide a good contrast to buildings and pavement and help soften the urban environment. They enliven streetscapes by blending natural features with built features. Street trees, when planted between sidewalks and streets, buffer pedestrians from vehicles. They also offer summer shade for pedestrians.

The following is a list of recommendations for the planting of street trees throughout the County in order to encourage a more pedestrian friendly environment:

- Street trees should be planted on all street frontages and within all median-planting strips;
- Street trees should be spaced no further than 30 feet on center;
- Street trees should be planted within the public right-of-way or the front yard setback;
- Street trees should be placed a minimum of two feet from the curb;
- At planting, street trees should have a minimum height of six feet and a minimum diameter of two inches measured at four feet above the ground at grade level;
- Street trees should be species approved by a reviewing authority; and,
- Where street trees are not already present at the required spacing interval, shade trees should be planted.

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## VIII. GOALS, POLICIES AND IMPLEMENTATION ACTIONS

The following are the goals and policies that apply to the countywide transportation networks:

### Goal M-1

An accessible transportation system that ensures the mobility of people and goods throughout the County.

- **Policy M 1.1:** Expand the availability of transportation options throughout the County.
- **Policy M 1.2:** Encourage a range of transportation services at both the regional and local levels, especially for transit dependent populations.
- **Policy M 1.3:** Sustain an affordable countywide transportation system for all users.
- **Policy M 1.4:** Maintain transportation right-of-way corridors for future transportation uses.
- **Policy M 1.5:** Support the linking of regional and community-level transportation systems.
- **Policy M 1.6:** Create and upgrade pedestrian environments to increase walkability.
- **Policy M 1.7:** Maintain, upgrade, and create new transit facilities.
- **Policy M 1.8:** Ensure the efficient, safe, and environmentally-friendly movement of goods throughout the County.
- **Policy M 1.9:** Maximize aviation system efficiencies for the movement of people and goods.

#### Implementation Action M 1.1

Participate with the Department of Public Works in developing Transit Service Standards that incorporate thresholds for service based on the needs of the community (i.e., density, demographics, etc). See AVTA. Consider adding to our Initial Study checklist.

### Goal M-2

An efficient transportation system that effectively utilizes and expands multimodal transportation options.

- **Policy M 2.1:** Encourage street standards that embrace the complete streets concept, which designs roadways for all users equally including pedestrians, bicyclists, motorists, people with disabilities, seniors, and users of public transit.
- **Policy M 2.2:** Expand transportation options throughout the County that reduce automobile dependence.
- **Policy M 2.3:** Reduce Vehicle Miles Traveled (VMT) and vehicle trips through the use of alternative modes of transportation and various mobility management practices, such as the reduction of parking requirements, employer/institution based transit passes, regional carpooling programs, and telecommuting.
- **Policy M 2.4:** Support smart-growth street design, such as traditional street grid patterns and alleyways.
- **Policy M 2.5:** Expand bicycle infrastructure and amenities throughout the County for both transportation and recreation.
- **Policy M 2.6:** Ensure bike lanes, bike paths, and pedestrian connectivity in all future street improvements.
- **Policy M 2.7:** Reduce parking footprints.
- **Policy M 2.8:** Require a maximum level of connectivity in transportation systems and community-level designs.

#### Implementation Action M 2.1

Establish a task force to study and evaluate the design guidelines and standards for sidewalks, bike lanes and roads in the County.

#### Implementation Action M 2.2

Amend the zoning codes related to parking requirements to establish maximum parking limits.

### Goal M-3

An environmentally sensitive transportation system through the use of innovative programs and technologies.

- **Policy M 3.1:** Encourage the use of emerging technologies in the development of transportation facilities and infrastructure, such as liquid and compressed natural gas and hydrogen gas stations, Intelligent Transportation Systems (ITS), and electric care plug-in ports.
- **Policy M 3.2:** Minimize roadway runoff through the use of permeable surface materials such as porous asphalt and concrete materials wherever possible.
- **Policy M 3.3:** Require “green streets” that enhance bio-retention and minimize pollutants conveyed by runoff.
- **Policy M 3.4:** Increase the use of wildlife underpasses and overpasses, fencing, signage, and other measures to minimize vehicular-wildlife collisions.
- **Policy M 3.5:** Require the use of zero, low emission, biodiesel and hybrid vehicles in the County motor pool.

#### *Implementation Action M 3.1*

Develop a standard for green streets in the construction of new roadways and the maintenance of old roadways. Consider a process that allows for a Pilot Project to be completed.

#### *Implementation Action M 3.2*

Using the countywide employee computer-purchasing program as a model, create a similar program that would allow County employees the opportunity to lease a Zero or Low Emission Vehicle at a reasonable price.

### Goal M-4

A transportation system that ensures the safety of all County residents.

- **Policy M 4.1:** Design roads and intersections that protect pedestrians and bicyclists and reduce motor vehicle accidents.

#### *Implementation Action M 4.1*

Develop a traffic calming initiative to increase the safety and use of alternative modes of transportation that targets intersection improvements and residential streets. Change the County code to allow narrower roads and enhanced sidewalks where appropriate.

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## Goal M-5

A financially sustainable countywide transportation system.

- **Policy M 5.1:** Support dedicated funding streams for the maintenance and improvement of County transportation systems.
- **Policy M 5.2:** Encourage the development of innovative financial programs to fund transportation systems, such as congestion pricing.

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### *Implementation Action M 5.1*

Continue County participation in regional transportation planning activities and committees, (i.e. Metro Technical Advisory Committee, SCAG RTP development) to ensure County projects are identified and funded.

## Goal M-6

Effective inter-jurisdictional coordination and collaboration in all aspects of transportation planning.

- **Policy M 6.1:** Expand inter-jurisdictional cooperation to ensure a seamless, inter-modal, and multimodal regional transportation system.
- **Policy M 6.2:** Maintain the County Highway Plan.
- **Policy M 6.3:** Support the County Bikeway Plan and continue development of a regional coordinated system of bikeways and bikeway facilities.
- **Policy M 6.4:** Encourage local bikeway proposals and community bike plans.
- **Policy M 6.5:** Support and implement the County Pedestrian Plan.

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### *Implementation Action M 6.1*

Develop a TDM Management Ordinance that requires bicycle parking in schools, public buildings, major employment centers, and major commercial districts. This ordinance could also apply to select new developments adjacent to transit centers, major employment centers, and major commercial districts to promote alternatives to the automobile.

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### *Implementation Action M 6.2*

Participate in the creation of the County Bicycle Master Plan Update Program with the Department of Public Works.

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