



Infrastructure Constraints

The expansion of supporting infrastructure systems is a critical component contributing to the cost of construction and subsequent prices to the owner or renter. Development places demands on all public services. It is the County's policy that infrastructure for roads, water, sewer and drainage should be in place before urban development occurs. Required levels of improvement vary on the location and land use designation of the subject property. One method for controlling the pace of growth is incremental, logical extension of the backbone system necessary to support urban development. If the capacity is not available, private developers will be required to construct the backbone facilities or incremental improvements to the existing system to serve large developments. In many cases some form of County financing may be required to assist in the financing of large front-end capital improvement projects.

The network of man made and public owned facilities, such as roads, water, drainage and sewage facilities form the internal framework of communities in Riverside County. The timing and pattern of the improvement and/or extension of these facilities impacts the distribution and density of land uses. Some infrastructure improvements, most notable roadways, water, and sewer systems, play a major role in the determination of the location, intensity and timing of future development. The General Plan Land Use Element requires that capital facilities be made available to future housing sites. The implementation program of the Housing Element must identify adequate sites that will be made available through appropriate land use designation and zoning/development standards, with adequate supporting public services and facilities to promote and encourage the development of a variety of housing for all income levels. The location of major circulation systems, sewer facilities, water trunk lines and pumping stations, etc. within the County can impact communities and cities both within and adjacent to the County by encouraging or impeding the direction of growth.

The infrastructure required in Riverside County varies widely from region to region. Development in the majority of the western portion of the County and the Coachella Valley is typical of suburban Southern California. Infrastructure requirements in more rural areas of the County, typically on properties with lots over 5 acres, are more flexible. However, large tracts and developments in rural areas are generally required to have urban levels of service.

Supporting infrastructure for farmworker housing presents a special challenge for the County. Mobile homes provide some of the most affordable housing options for farmworkers, but wastewater disposal is often a problem due to the lack of access to sewage trunk lines and treatment facilities. Many of these developments rely on septic systems, which can cause health risks. Wastewater "package plants" may be an option in some instances. The County has a variety of programs that could be of assistance in providing adequate wastewater treatment (see Five-Year Action Plan).

The majority of improvements in the infrastructure backbone systems in the County have been occurring within and adjacent to cities in response to growth pressures. Connections to infrastructure systems are most effectively expanded within and adjacent to existing urbanized areas, usually within the spheres of influence of cities. Areas within a County's sphere of influence have generally been analyzed as part of their General Plans, specific plans, or master plans for infrastructure. Development under a specific plan typically requires plans for infrastructure to be prepared and methods of financing for both on and off-site



improvements identified and incorporated into the conditions of approval. In some instances, unincorporated communities and/or areas may be contained within a service area, most often sewer services, operated by a City.

In primarily developed areas, upgrading of such systems is sometimes necessary to accommodate new development or as a redevelopment/infill improvement. New development in the currently undeveloped areas within the “urban” land use designations will entail the provision of, at a minimum, the following infrastructure: major and local streets; curbs, gutters and sidewalks (if development standards require); water and sewer lines; storm drainage; and street lighting. Such improvements may constitute up to 10% or more of the building permit valuation. In many cases, these improvements may be dedicated to the County, which is then responsible for their maintenance. The costs of such facilities is usually borne by developers, and is typically added to the cost of the new housing units and is eventually passed on to the homebuyer, tenant, or property owner. If these improvements are maintained by a homeowner’s association, the cost of such maintenance is typically assessed to the homeowner on a monthly basis. While these costs do not render a project infeasible, they contribute to the range of factors which affect the affordability of a project.

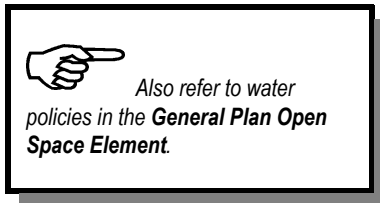
Water and Sewer

The operation of community water and wastewater distribution, collection and treatment systems is typically undertaken by public agencies. Public water and wastewater services are carried out by a combination of:

- Regional agencies which serve several communities and cities;
- City operated collection and treatment facilities serving the area within the city and sometimes adjacent cities and unincorporated areas;
- Special districts serving unincorporated communities.

There are a number of water and wastewater facilities located throughout the County allowing most of the urban areas to be served by sewers. Exceptions occur in the more rural desert and mountain areas. As demands for sewer service increase, providing an adequate level of wastewater treatment will become more costly. New State water quality requirements and wastewater treatment limitations may have impacts on development potential and costs. In order to coordinate land use planning with wastewater facilities, many agencies at state, regional and local levels must successfully interact and exchange information. Interagency coordination may become complicated due to the variety of State, regional and local agencies and independent districts involved.

The County’s ability to absorb growth in the more urbanized areas has been facilitated by the ability of wastewater agencies to respond to demands for service. In the more rural areas within Riverside County designated as Agricultural, Rural Residential, Rural Mountainous, or Rural Desert, as well as some areas designated for VLDR or LDR, public collection and treatment of wastewater may not be available, and other methods such as septic system, package wastewater treatments plants or alternative systems may be required. The County generally does not require an individual unit which is proposed to be located more than 200 feet from an existing sewer line to connect to the existing system, and instead it is permitted to use a septic system. Residential tracts, however, are generally required to be hooked up to a sewer system unless the costs of system extension are prohibitive to development. In some areas of the County, industrial, commercial and agricultural wastewater may be incompatible





with the treatment of domestic wastewater and may require separate collection and treatment, which compounds service needs. The following sections summarize the service providers in various subareas of the County.

Northwestern Riverside County - The Northwest Riverside County Analysis Area includes the cities of Corona, Norco, Moreno Valley, and Perris. Significant unincorporated areas include Meade Valley, El Cerrito, and Jurupa.

The principal water and sewer agencies in northwestern Riverside County are EMWD, and WMWD, Home Gardens Sanitary District, and West San Bernardino County Water District. In addition, the Rubidoux Community Service District (CSD), Edgemont CSD, and Jurupa CSD also provide water and sewer services. Both EMWD and WMWD are municipal water districts, and comply with the California Water Conservation Council and Best Management Practices (BMP). Within this area, WMWD provides only water services and does not operate a Sewer Treatment Plant or sewer collection facilities. Storm water runoff and drainage services within their respective service areas are also handled by these districts/agencies.

Water and sewer usage factors vary widely between the different agencies, due to variations in household size, and landscaping patterns within the various districts. Each of the water and sewer districts and CSDs have the current capacity to meet demand, and adequate capacity to expand to meet projected demand. Both the Rubidoux and Edgemont CSDs have already sized their current facilities to meet future development needs. It is reported that current facilities and/or infrastructure are in good operating condition.

Southwestern Riverside County - The Southwest Riverside County Analysis Area encompasses the cities of Lake Elsinore, Murietta, and Temecula. Significant unincorporated areas include Temescal Canyon, El Cerrito and French Valley.

Primary water and sewer providers include EMWD, WMWD, Rancho California Water District, Elsinore Valley Municipal Water District, and Lee Lake Water District. Both EMWD and WMWD comply with the California Water Conservation Council and Best Management Practices (BMP). Within this area, WMWD provides only water services and does not operate a Sewer Treatment Plant or sewer collection facilities. All of the service districts stated that they have adequate current capacity to meet demand and adequate capacity to expand to meet projected development. The current facilities and/or infrastructure are reported to be in good operating condition.

Central Riverside County - The Central Riverside County analysis area covers the western portion of the County from the Lakeview/Nuevo and Menifee communities on the west and southwest to the cities of San Jacinto and Hemet on the north and east. Significant unincorporated areas include Winchester, Lakeview/Nuevo, Sun City and Menifee.

Water and sewer providers include EMWD and Lake Hemet MWD, both of which are organized as municipal water districts. Both districts provide full water distribution and storage facilities. The Lake Hemet MWD has a tiered water rate system in which costs increase for those customers using more water. As well, the Lake Hemet MWD collects sewage but does not have sewage treatment capabilities. The service districts stated that they have adequate current



capacity to meet demand and adequate capacity to expand to meet projected development. The current facilities and/or infrastructure are reported to be in good operating condition.

San Gorgonio Pass Area - The San Gorgonio Pass Area encompasses the cities of Banning, Beaumont, and Calimesa, as well as the unincorporated areas of Cherry Valley and Cabazon. Water service is provided by four districts: Beaumont-Cherry Valley Water District; San Gorgonio Pass Water Agency; High Valley Water District; and the Cabazon County Water District. The Beaumont-Cherry Valley Water District is organized as an irrigation district, and serves a limited amount of customers with a 10 square mile area. The San Gorgonio Pass Water Agency provides water for groundwater recharge, as well as supplemental domestic water supplies to the cities of Banning, Beaumont-Cherry Valley Water District, and Yucaipa Valley Water District. The agency was created to be direct contractor to provide State Water Project water to customers as a wholesale agency. Sewage services are not currently available within the unincorporated portions of the Pass area, therefore septic systems are the primary sewage treatment systems used. Each district or agency also handles their service area's storm water runoff and drainage needs.

Each of the water agencies serving the Pass Area currently have, or are projected to have adequate capacity to meet current and future demand (distribution and storage facilities are proposed but not yet constructed for the San Gorgonio Pass Water Agency). The High Valley Water District reports that its infrastructure is currently in the process of being upgraded. The Cabazon Water District recently incorporated with another water agency with facilities that are less than adequate, and will require upgrading and improvement in the future.

Mountains Area - The Mountains Area generally covers the Santa Rosa Mountains and Anza-Borrego desert areas, located between the Coachella Valley on the east and San Jacinto and Temecula valleys to the west. No incorporated cities are located within this area. The significant unincorporated communities are Idyllwild, Pine Cove, Anza, Aguanga and Pinyon Pines.

The principal water agencies in this area are: the Fern Valley Water District; Idyllwild Water District; Pine Cove Water District; and Pinyon Pines County Water District. No sewer agencies exist in the Mountains area. As such, sewer services are provided through septic systems. The Fern Valley Water District operates as a California Water District which is authorized to produce, store, transmit and distribute water for irrigation and domestic uses, as well as acquire or operate any drainage or reclamation works related to the operation of authorize water services. The other three districts are organized as County Water Districts which provides for furnishing sufficient water, including storage, and for the disposal of storm water.

Coachella Valley - The Coachella Valley encompasses the desert region bounded by the Santa Rosa Mountains to the west and south, and the San Bernardino County line on the north. Included in this area are the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs and Rancho Mirage. Unincorporated communities include Bermuda Dunes, Garnet, Mecca, Thermal, Thousand Palms, and others.

The principal water and sewer agencies serving the Coachella Valley are the Coachella Valley Water District (CVWD), Valley Sanitary District, and the



Desert Water Agency. In addition, a number of small agencies with less than 200 water connections serve portions of the Coachella Valley. CVWD and Mission Springs Water District operate as County Water Districts with authority granted under the California Water Code, and provide both water and sewer services. The Valley Sanitary District provides wastewater collection and treatment to areas in and around Indio. The Desert Water Agency provides full water service and sewer collection service (no treatment facilities) primarily to the Palm Springs area.

All of the water and sewer districts serving the Coachella Valley report that they have the current capacity to meet demand, as well as adequate capacity to expand to meet projected demand. Current facilities and/or infrastructure were reported to be in good operating condition.

Eastern Desert and the Palo Verde Valley - The Eastern Desert and the Palo Verde Valley areas encompasses lands east of the Coachella Valley. The only city in this area is Blythe. The City of Blythe provides domestic water, and wastewater collection and treatment services for the City and surrounding unincorporated areas. The City is considering taking over several County Service Areas that are located in the unincorporated areas of Ripley and Mesa Verde Colonias to provide water and sewer services.

The City facilities are currently adequate to meet current demand. The City currently operates one secondary wastewater treatment plant. Domestic water is obtained by wells. At present a number of conflicts exist between the use of on-site wells and individual septic systems. For additional development to occur within unincorporated areas, a more centralized water and/or wastewater collection system will need to be employed and additional facilities constructed. The City is in the process of analyzing the needs and projecting potential demand.

Adequacy of Current Facilities - With the majority of growth projected to occur in Western Riverside County and the Coachella Valley Region, strong increased demands will be placed on the water and sewer infrastructure of these areas. These regions are able to meet current demands and are prepared to expand to meet future needs. There are, however, three areas within the County where infrastructure improvements may be required. While water demands are currently being met, the Eastern Desert & Palo Verde Valley Area is in need of more centralized facilities for additional development to occur. Sewer infrastructure within the County is less developed. The San Geronio Pass Area and the Mountains Area currently rely solely on septic tanks and the Eastern Desert & Palo Verde Valley Area is in need of a centralized collection facility. The San Geronio Pass and the Mountains Area are projected to experience low to moderate rates of growth, and will need to develop adequate sewer infrastructure to meet projected demand. These infrastructure conditions may pose a constraint to housing development. The Five-Year Action Plan (Chapter 6) includes policies and actions intended to address infrastructure deficiencies and prioritize capital improvements (see Actions 1.2d and 4.2d).

Drainage

The Riverside County Flood Control and Water Conservation District (RCFCD) has established 17 Area Drainage Plans (ADPs) to collect fees as a condition of subdivision to finance flood control and drainage facilities as authorized by Ordinance No. 460. ADP fees are levied on a per acre basis, and are paid when a



grading permit is issued, or a building permit if no grading permit is necessary. In addition, some of the agencies providing water and sewer system services listed above also provide for drainage systems. In more rural areas, drainage is primarily provided by surface systems and connection to improved systems not warranted.

Circulation

Current transportation conditions are directly related to a combination of economic events and social changes that have occurred over the past two decades. Residential and industrial land in Los Angeles, Orange and San Diego Counties are nearing saturation. As a result, development has spread outward to Riverside County as it is the next region with undeveloped acreage. The County is growing from a collection of small cities and unincorporated communities with a largely agrarian base to an area with multiple centers of economic activity and a large tourism base. The rapid growth in employment and population has increased the number of trips on the freeway and arterial highway systems. This intense travel demand has reduced level of service on significant portions of the system, causing severe congestion and low travel speeds during peak travel hours in the rapidly developing Western Riverside County and portions of the Coachella Valley.

One of the most visible effects of rapid growth has been in the circulation system. The ability to move on streets and highways is projected by regional planning agencies and Caltrans to become substantially worse as more traffic is generated and the ability to finance improvements is uncertain. While additional facilities are needed, the majority of funding for roads and highways is now being spent on maintenance. As a result, developers are often required to install the needed roadway system upgrades to accommodate development and growth, which significantly adds to the costs of the project and is subsequently passed on the homeowner, renter or property owner.

Land Costs

Land costs are one of the major components of housing development costs. Land prices vary to such an extent that it is difficult to give average prices within small geographic regions. Factors affecting the costs of land include overall availability within a given subregion; environmental site conditions and constraints; public service and infrastructure availability; aesthetic considerations such as views, terrain and vegetation; the proximity to urban areas; and parcel size. Generally, more remote areas have less expensive land available and larger tracts of land, while smaller, more expensive parcels are located closer to urbanized areas.

Table H-40 illustrates the raw land costs for a hypothetical 100-unit development of single family detached housing units throughout Riverside County. The data indicates that the cost for a 7,200 square foot lot of raw land ranges from \$6,120 to \$38,150, while a finished lot is valued from \$39,120 to \$78,150. Assuming a density of four units per acre, the value per gross acre (includes four lots plus necessary infrastructure such as roads, sidewalks, and right-of-ways) ranges from \$24,480 to \$152,600.