

INLAND EMPIRE GRADE



Aviation:
C



Drinking Water:
C



Parks, Open Space
and Recreation:
C



Urban
Runoff:
B



Local
Streets:
C-



Solid Waste:
B-



Flood Control:
C



Wastewater:
C+



G.P.A.

About the Grades

Infrastructure is graded based on eight criteria: **capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation.** ASCE grades on the following scale and defines these grades as:



**Exceptional,
Fit for the
Future**



**Good,
Adequate
for Now**



**Mediocre,
Requires
Attention**



**Poor,
At Risk**



**Failing/Critical,
Unfit for Purpose**

5 STEPS WE CAN TAKE

1

Protect water resources in the Inland Empire. Support future Statewide water bonds that include Integrated Regional Water Management (IRWM) grant programs that authorize funding for water infrastructure, groundwater supply and storage, dam repairs, habitat protection and restoration, and improve water quality in our streams and lakes. For example, Proposition 84 funded \$5 million towards the construction of Heacock Storm Channel, Bautista Groundwater Recharge Basin and Beaumont Line 16 stormdrain in Riverside County, and \$1 million towards Cactus Basin in San Bernardino County.

2

Resurfacing our local streets and roads. Support legislation similar to Senate Bill 1 - Road Repair and Accountability Act, and local measures that provide direct funding to Inland Empire cities and local governments for the maintenance of local streets and roads, and also enhances pedestrian and bike safety in our communities. Some cities, such as Menifee in Riverside County, have taken the initiative by passing a 1 cent sales tax increase through Measure DD to leverage state funds to reduce traffic congestion and repair road surfaces and potholes.

3

Increase drinking water and wastewater treatment system capacities. The Inland Empire region continues to develop at a rapid rate. Support funding initiatives and capital improvement projects that will allow water agencies to keep up with system demands over the next couple decades, and also ensure that water and wastewater networks will continue to be properly maintained.

4

Increase public awareness of solid waste resources. In January 2018, China cut back on importing nonindustrial plastic waste from other countries, including the United States. This change impacts the way San Bernardino and Riverside County residents dispose of solid waste, such as recyclable materials (plastics, paper, and metal) and organic materials (food waste). Support programs that better inform residents about how to separate organic materials for composting and recyclable materials for processing, and how to turn solid waste into resources and reduce the amount of materials buried at landfills.

5

Provide consistent and reliable funding for trail construction. People in the Inland Empire love their trails. Studies have shown a positive trend in hiking and trail running. A comprehensive trail plan should be prepared in Riverside and San Bernardino County to provide detailed trail inventories and implementation strategies for trail design and construction. We need to make trails a priority by highlighting the environmental and personal health benefits to our elected officials.

About the San Bernardino-Riverside Branch Section

The American Society of Civil Engineers (ASCE) was founded in 1852 and has a current membership of 146,000 nationally. ASCE is the oldest national professional engineering society in the United States. ASCE is dedicated to the advancement of the individual civil engineer and the advancement of the science and profession of civil engineering through education.

The San Bernardino and Riverside Counties Branch was formed in 1953. It is one of the seven branches located within the Los Angeles Section of ASCE. The purpose of the San Bernardino and Riverside Counties Branch is to support local civil engineering professionals through networking opportunities, social events, recognition of civil engineering achievements, educational and informational seminars, awareness of employment opportunities, and education and community outreach.

We have a Younger Member Forum, Stormwater Committee, SoCal Inland Empire Geoinstitute and two student chapters: Cal Poly Pomona and Cal Baptist University.

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REPORT CARD FOR RIVERSIDE AND SAN BERNARDINO COUNTIES INLAND EMPIRE INFRASTRUCTURE

2020

Infrastructure Matters

Riverside and San Bernardino (Inland Empire) Counties are among the fastest growing areas in California. Not only is commercial and industrial development in the region booming, but these counties continue to provide affordable housing to families moving east from high-cost coastal cities.

Riverside County is now the fourth largest County by population in California with more than two million people taking advantage of nearby mountains, hiking, bike trails, the Temecula wine country, and desert resorts.

San Bernardino County is the largest county by area and in the United States (excluding boroughs in Alaska) with 20,105 square miles. The county is commonly divided into the valley, mountain, and desert regions, three distinct areas with different characteristics. The valley region contains most of the county's incorporated areas and population, whereas the mountain region is primarily comprised of public lands and summer and winter resort towns such as Big Bear. The desert region is the largest region (approximately 93% of the county's land area) and includes parts of the Mojave Desert.

A sustainably constructed and well maintained infrastructure network is vital to supporting the entire Inland Empire and its varied industries and growing population. Thanks to major investments over the past 10 years, the regional transportation network has received some attention and improved levels of service. However, sustainable funding is needed to maintain these upgraded assets and also to shift attention to our deteriorating local streets. Meanwhile, solid waste collection, processing, and diversion, which are critical to maintaining a healthy environment in the Inland Empire, require continued maintenance. New waste diversion laws mandating increased organic diversion and composting will require an influx of investment in infrastructure for the collection, processing, and composting of organic materials. Finally, wastewater and drinking water infrastructure in the region is in good shape, water agencies are finding creative ways to optimize and maximize system capacity but aging infrastructure still needs some attention.

The 2019 Inland Empire Report Card is designed to help residents and decision-makers understand the state of our infrastructure and prioritize necessary maintenance and sustainable improvements. This Report Card serves as a tool to start the conversation on how we can continue to improve our existing streets, airports, landfills, drinking water, wastewater and stormwater systems, and be better prepared for future growth and climate change impacts to our region.

How You Can Get Involved

1

Get the full story behind this Report Card at www.infrastructurereportcard.org/sbrivcounties.

2

Find out the condition of the infrastructure near you on the Save America's Infrastructure app available on iTunes and,

3

Ask your elected leaders what they're doing to make sure your infrastructure is reliable for the future. Use your zip code to find your list of elected officials at www.infrastructurereportcard.org/get-involved.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

2020 RIVERSIDE AND SAN BERNARDINO COUNTIES INLAND EMPIRE'S INFRASTRUCTURE REPORT CARD

The 2020 Report Card on Inland Empire's Infrastructure evaluates eight infrastructure categories. Of those eight, two infrastructure categories are in good condition and six are in mediocre condition.

The good news is there are solutions to all these challenges, and we can raise Inland Empire's infrastructure grades. By learning more today about the conditions of the infrastructure you use every day, you too can help raise the grade.

AVIATION

The aviation infrastructure in San Bernardino and Riverside counties consists of three major international airports (Ontario, San Bernardino, and Palm Springs International Airports), five mid-size airports, and numerous smaller general aviation airports. Aviation infrastructure is immensely important to the Inland Empire and the international airports are investing millions of dollars to accommodate increased air travel volumes.

- Ontario International Airport (ONT) received \$11.8 million in grants from the Federal Aviation Administration in 2018 to repair taxiways, build an additional taxiway, install runway lighting, and develop an Airport Pavement Management Program, among other improvements.
- Palm Springs International Airport (PSP) is in the middle of a \$122 million, 20-year expansion plan, with funds coming from Federal Aviation Administration grants, airport rents and landing/service fees, and other funding. Traffic at PSP has increased 33% since 2009.
- San Bernardino International Airport (SBD) continues to serve as a major West Coast freight hub. FedEx renewed a 30-year lease with the SBD in 2018 and is in the middle of a \$100 million investment in the facility, including revitalization of airport parking areas, construction of a new sorting facility, and more. SBD also announced a new partnership with UPS in 2018 that allows for additional weekly cargo flights to their Memphis hub to accommodate growing freight volumes.

Generally speaking, the condition of the infrastructure for airports falls into three major categories: pavement, navigational aids, and support facilities. Pavement and navigational aids are in good to fair condition. However, when it comes to support facilities, such as maintenance buildings and aircraft parking, most appear to be in a weathered state, with ages between 15 and 30 years. Without additional funding for support facilities – over \$100 million for both counties through 2023 – aviation infrastructure will deteriorate, and new facilities will not be designed or constructed to support the existing and future needs. It is critical that airports have a plan to fund continued operation and maintenance of existing facilities and new support facilities, as necessary.

DRINKING WATER

Drinking water supply networks are designed to deliver potable water to residential communities, commercial establishments, industrial operators and institutions in the region. The major components of water supply infrastructure generally include pipes, wells, storage facilities and treatment facilities. Agencies are focused on funding projects to improve access to reliable sources of water. For example, the Western Municipal Water District in Riverside invested \$36 million into the La Sierra Regional Conveyance System project to provide access to more local supply. Additionally, drinking water infrastructure owners and operators are investing in regular operation and maintenance in order to provide consistent service to residents. For example, the San Bernardino Municipal Water Department reported in 2018 they repaired 154 water main leaks and replaced 4.3 miles of pipe. Across the two counties, a significant portion of water rates go towards the fixed costs of operating the system and most water agencies are deferring some of their scheduled maintenance. In general, existing pipeline capacity in the Inland Empire is adequate for the next 15 years and the region's water infrastructure is considered adequate. Continued investment is needed to provide additional infrastructure, replace aging infrastructure and provide the continuous maintenance that is required for this important infrastructure.

FLOOD CONTROL

Flood control systems in the Inland Empire were constructed over the last century. Approximately 40% of the dams, 20% of the levees, and 10% of the open channels were constructed prior to the mid-1960s and are over 50 years old, meaning many are at the end of their lifespan and need significant maintenance or replacement. The remaining portion of existing systems were constructed after the 1970s in parallel with land development trends in both counties. Due to significant changes in urbanization and climate change, some of these systems are no longer sized to convey the entire volume of stormwater runoff being generated within their respective watershed and will require retrofitting to bring them to today's standards. However, a large portion of these systems are in good physical condition and will continue to provide significant flood protection for many years to come. In Riverside County, there are about 50 master drainage plans in place, 17 of which have associated funding mechanisms such as drainage fees. Many of the master planned projects are built by flood control districts, while other projects are completed by developers. There is still a need for new drainage infrastructure in the region and current available funding is not sufficient. The flood districts have been trying to partner with the private sector where feasible, but further collaboration is needed in the Inland Empire.

LOCAL STREETS

As the population in the Inland Empire region continues to grow at a rapid rate, increased vehicular traffic will have a significant impact on the condition and capacity of the existing roadway system. To prepare, there must be a holistic strategy that considers all road users and all modes of transportation. This approach should incorporate roadways, commuter railways, and transit systems, sidewalks and bikeways. Funding for transportation infrastructure comes from federal, state, and local sources. Local revenue is currently available through Measure I, a half-cent sales tax in San Bernardino County, and is secure until 2040. Riverside County has a similar half-cent sales tax for transportation purposes through Measure A, which will continue to fund projects until 2039. However, current funding is insufficient to address increasing road maintenance costs. The Pavement Condition Index (PCI), a scale of 0 to 100, is a standard means of measuring the condition of asphalt concrete pavement. Statewide PCI averages have been declining according to reports published by Save California Streets. Reports from 2008, 2010, and 2016 show average statewide PCI scores of 68, 66, and 65 respectively. Although San Bernardino and Riverside Counties' average PCI remained slightly better than the state average during the same time period, 78% of major locally and state-maintained roads in the Inland Empire were classified as being in poor or mediocre condition, costing the average motorist an additional \$795 each year in extra vehicle operating costs.

PARKS, RECREATION AND OPEN SPACE

Parks, recreation and open space opportunities are essential to every urban community. These facilities promote physical activity and encourage the public to connect with nature. Currently, much of the parks acreage in the Inland Empire is in a natural undeveloped state. Regional parks systems such as the Santa Ana River Trail create a system of interconnected parks, trails, and wildlife habitat supported by both Riverside and San Bernardino Counties. The drought conditions over the last decade have significantly impacted local park aesthetics. Landscaping with hardscape or drought tolerant plants has been encouraged, which has resulted in more sustainable long-term operation and maintenance. However, the ability to manage or maintain parks, recreation, and open space acreage continues to be very challenging due to the limited available funding. Thanks to California Proposition 68, the Parks, Environment, and Water Bond approved in June 2018, \$1.5 billion in additional funding will be available towards the improvement and maintenance of state and local parks. While Prop 68 funding will be insufficient to support local needs entirely, it will provide enough funding for some improvement projects in our communities. For example, Grand Terrace in San Bernardino County will receive approximately \$212,000 from Proposition 68 to build approximately 5,000 linear feet of trail, a trailhead with a restroom, parking and interpretive signage at the Blue Mountain Trailhead.

SOLID WASTE

The collection, processing, recycling, composting, energy conversion, and disposal of solid waste are components of the complex integrated waste management system. Solid waste infrastructure provides an essential service to sustain the urban environment, protects human life, and preserves the natural environment. San Bernardino and Riverside Counties have sufficient landfill capacity for the next 20 years and have planned for the needs of the next 100 years. In 2017, San Bernardino and Riverside Counties generated about 3.22 million tons of municipal solid waste (MSW). The average resident

disposed 4.12 pounds per day of MSW, or 0.28 pounds per day less than the 2017 national average of 4.40 pounds per day. Both counties have met the mandatory minimum 50% recycling rate requirement and are adapting future education and outreach programs to comply with recent changes in laws and regulations regarding organic diversion rates (SB1383) and recycling requirements (AB 341). The continued operation and maintenance of the solid waste infrastructure is self-funded through collection fees, tipping (landfill disposal) fees at the landfill, and sale of compost or energy produced at the solid waste facilities. Tipping fees for routine refuse are competitive with state and national tipping fees. The state and national average tipping fees, by comparison are \$53.57 and \$51.82/ton, respectively, compared to \$59.94/ton for San Bernardino County and \$39.31/ton for Riverside County.

URBAN RUNOFF

Urban runoff infrastructure includes drainage facilities and improvements aimed at treating surface runoff during small and more frequent storm events, which ultimately drains to regional flood control systems. Municipal Urban Runoff Management Programs, which were first established in the 1990s to address stormwater quality concerns and ultimately enhance water quality in the region, serve as the basis for urban runoff infrastructure. These programs and infrastructure exist to protect our streams and lakes. Collectively, jurisdictions within Riverside and San Bernardino Counties employ hundreds of staff and spend millions of dollars annually, from their General Fund, to implement the Urban Runoff Management Programs in the Inland Empire. These programs are now shifting towards requiring new capital infrastructure investments to address waterbody-specific pollutants as required by the U.S. Environmental Protection Agency, along with new state-mandated water quality regulations to control trash in urban runoff. Riverside County owns and maintains 7,658 catch basins and San Bernardino County owns and maintains over 1,500 catch basins in areas where retrofits will be required. The estimated cost to retrofit catch basins in these regions will be over \$3 million. To address funding and policy issues, the environmental and municipal management communities should continue to work collaboratively to formulate practical approaches to meet water quality standards.

WASTEWATER

Treatment plants were built to clean wastewater for discharge into streams and other receiving waters or for reuse. Sewer connections convey wastewater from homes, businesses, and many industries to plants for treatment. The wastewater agencies in Riverside and San Bernardino Counties currently have between 2,900 to 239,000 connections and service a wide range of populations, from 11,000 to 720,000 customers. Because treatment of wastewater is critical to public health, maintenance of the sewer system and treatment facilities must be a priority. For example, the City of Riverside maintains a comprehensive maintenance program and a typical year includes cleaning over 500 miles of sewer lines, performing video inspections of close to 50 miles, and completing hundreds of service orders. As wastewater infrastructure ages and the population increases in the counties, it is ever more important to replace aging systems to prevent spills and to ensure wastewater infrastructure system can handle increased flow.

Wastewater agencies have many sources of funding from developer fees, grants, bond revenues, monthly charges, and taxes. The current treatment capacity of the plants is considered acceptable for the existing population and the condition of the infrastructure is also slightly above average, but an increased level of funding will be required to prepare for future demands and to improve operation and maintenance. Encouragingly, utilities have been investing in pump station infrastructure over the past 20 to 30 years to better allow for the treatment and recycling of water.