



City of Arts & Innovation



GreenRiverside .com

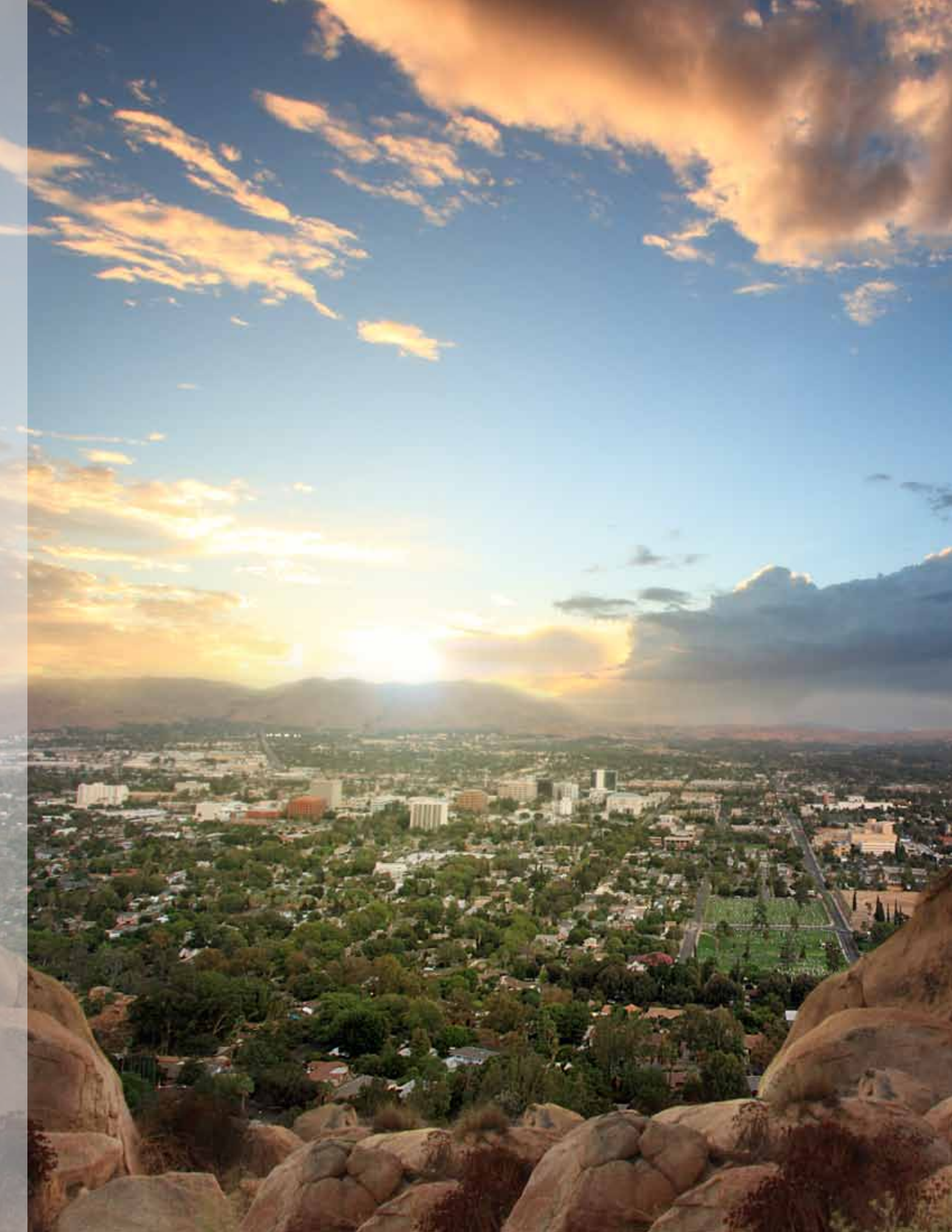
City of Riverside
3900 Main Street
Riverside, CA 92522
Riversideca.gov
GreenRiverside.com



Please consider downloading an electronic
version of the document located at:
GreenRiverside.com/About-Green-Riverside-4

Green
Action Plan

Riverside



This **Green Action Plan** is aimed at solidifying Riverside, California as a **leader** in clean and green practices. It began with a committee of citizens, and has helped transform the City into an **innovative, sustainable** urban center.

CONTENTS

Energy	4
Green Gas Emissions	8
Waste	12
Urban Design	16
Urban Nature	22
Transportation	26
Water	30
Healthy Communities	34
Read The Plan	38



ENERGY

Riverside Public Utilities currently generates more than 385,000 MWH of power from renewable resources including local wind energy from the Palm Springs region.

Riverside is committed to providing safe, reliable and affordable power that achieves a balance between high quality, low cost energy and the environmental impacts of providing energy resources.

The city is equipped with its own municipal utility, which allows it the ability to select energy sources and partially control emissions. The State has adopted and implemented a policy to increase the use of renewable energy to meet 33 percent of its electric load by 2020. Riverside is working to secure new sources of renewable power and non-greenhouse gas emitting sources.

Every energy goal and associated task in this plan is aimed at focusing our City's power resources mix at reliable renewable energy or using less energy. By reducing consumption, it creates energy savings for residents, business and government alike.



Goal 1

Increase the use of non-greenhouse gas (GHG) emitting energy by 2020 to 50% with at least 33% coming from renewable sources.

- a. Provide an annual update of the entire energy portfolio to RPU Board.
- b. Provide 20 MW of regional non-emitting sources by 2020.
- c. Create a Renewable Energy Credit (REC) rate or database for organizations looking to contribute to renewable energy.



Geothermal is the City's largest renewable resource coming from the Salton Sea region because of its consistent power production regardless of rain, clouds or lack of wind that pose challenges to other renewable sources.

Riverside has produced more than 5 MW of local solar energy, enough energy to power close to 10,000 homes in Southern California.



Goal 2

Save 1% of communities load annually based on a 2004 baseline, and reduce the City's peak electrical load demand by 10% overall.

- a. Increase commercial direct install programs.
- b. Add a program to improve low-income energy efficiency.
- c. Increase the energy efficiency of local residential and commercial structures.
- d. Develop a Demand Response Integration Plan.
- e. Develop an electric vehicle rate for residential and business customers.
- f. Assess City facility usage through a more thorough monitoring mechanism in the new billing system.
- g. Create a rate for demand response customers.
- h. Shift 10% of peak load to alternative periods by 2020 through cost-effective programming.

Goal 3

Install at least 20 MW of photovoltaic (PV) systems by 2020.

- a. Continue to offer \$2.5 million towards residential and commercial PV installations annually.
- b. Provide financing mechanisms for residential/commercial customers to install PV by 2010 and thereafter.
- c. Issue a Request for Proposal for a 5 MW Tequesquite landfill solar project.
- d. Develop solar incentives to encourage multiple housing PV systems for developers.
- e. Review existing programs designed to make solar available to low and moderate incomes.
- f. Expedite all solar PV projects through the plan review and permitting process.
- g. Keep plan check and permit fees for solar PV systems affordable and reasonable by assessing fees based on actual and/or estimated cost of service rather than the typical valuation based fee.
- h. Develop solar photovoltaic system installation guidelines according to the National Electrical Code and provide to contractors and designers in order to assist in streamlining and simplifying the design and installation process.





GREENHOUSE GAS EMISSIONS

Riverside is situated in a semi-arid region of Southern California where water resources are dependent on local snow pack and rainfall. As regional temperatures rise and the threat of reduced local precipitation exists, Riversiders are reminded that doing their part to reduce global warming is a local issue.

Additionally, Riverside experiences an above-average level of air pollution given its proximity east of Los Angeles and west of the San Bernardino Mountains that essentially “locks-in” smog in the region’s basin. While the City continues to make efforts to reduce pollution through emission reduction measures, additional steps must be created and implemented to improve air quality. Electric Utility greenhouse gas emission targets will meet those jointly developed at state and federal levels as resources cover much of the Western United States.

More than 40% of the communities GHG emissions come from transportation related items. The City has completed two GHG inventories and has taken on initiatives in order to plan a better community.





Goal 4

Establish the GHG emissions baseline for the City of Riverside.

- a. Establish the 1990 GHG emission baseline on a per capita basis, utilizing the City of Riverside, as a geographical locale, by the end of 2010 and every 5 years after.
- b. Develop and incorporate mitigation measures in the Green Action Plan that provide verifiable GHG savings by 2010.
- c. Begin an audit of the existing inventories to determine their adequacy for implementing a Climate Action Plan.
- d. Work with Western Riverside Council of Government's (WRCOG) Climate Action Plan (CAP) Team to begin updating the inventories in compliance with the audit leveraging off the WRCOG Regional CAP Grant.



Riverside has installed 11 Electric Vehicle (EV) charging stations throughout the city to encourage local EV purchases as a means of transportation.

Goal 5

Create a climate action plan to reduce GHG emissions to 7% below the 1990 City baseline utilizing the City boundaries as defined in 2008.

- a. Establish programs that comply with South Coast Air Quality Management District (AQMD) and the City's General Plan 2025 to improve the quality of air in Riverside.
- b. Aggressively support programs at the AQMD that reduce GHG and particulate matter generation in the Los Angeles and Orange County regions to improve air quality and reduce pollution in Riverside.
- c. Monitor relevant organizations and the Governor's Office of Planning and Research as they begin to explore setting thresholds for GHG reduction over the next six months.
- d. Identify mitigation measures completed in GAP and GAP2.
- e. Assess mitigation impacts of completed GAP goals.
- f. Create a list of CAP mitigation to meet GHG reduction goal.
- g. Integrate CAP mitigation measures with California Environmental Quality Act (CEQA) for compliance with SB-375.
- h. Create a tier structure of most cost effective mitigation measures and implementation timeline.
- i. Identify staff committee dedicated to CAP implementation from Planning, Public Utilities, Parks and Recreation, and Public Works.





WASTE

The City separates its waste and runs it through a MRF, Material Recycling Facility, to reuse recyclable materials and green waste.

Solid waste prevention and recycling can help reduce climate change impacts as less solid waste decreases the amount of heat-trapping GHG emissions linked to everyday trash.

Riverside is committed, through programs like CURE (Clean Up Riverside's Environment) and Keep Riverside Clean and Beautiful (KRCB), to promote the basic principles of recycle, reduce, reuse. Since August 2007, the City has been implementing a Green Purchasing Policy to promote city purchasing of environmentally preferable products.

 [GreenRiverside.com](https://www.GreenRiverside.com)



Goal 6

Implement programs to reduce waste, based on the 2007 per capita baseline, by 75% by 2020.

- a. Develop measures to encourage that a minimum of 90% of recoverable waste from all construction sites be recycled throughout Riverside by 2015, beginning with 40% in 2010 and increasing by 10% each year thereafter.
- b. Encourage the reduction of any disposable, toxic, or nonrenewable products by 5%.
- c. Expand the City's Green Waste program to capture 75% of the green waste generated by City facilities annually.
- d. Expand the City's existing recycling program to recycle at least 15% from all municipal facilities annually.
- e. Explore a 'Zero Waste Ordinance' by 2012.
- f. Implement the City's Environmentally Preferable Purchasing Policy.
- g. Enforce the 2010 California Green Code provisions concerning construction and demolition waste reduction, disposal and recycling.
- h. Implement the AB 341 program to all commercial businesses and multi-family units of 5 or more to increase recycling in the City to a measurable goal of 75%. AB 341 has been developed to encourage recycling at commercial businesses.
- i. Update website to make it more informative to residents and commercial and multi family businesses.
- j. Increase use of free mulch on city properties.
- k. Increase recycling awareness and opportunities to recycle at city facilities. All facilities are practicing recycling. The next step is to increase recycling at the corporation yard and city parks.
- l. Increase collection of hazardous waste materials in the City by 5% by 2014.



Solar trash compactors will continue to spring up around the city. These "big bellies" notify haulers when they are full, eliminating unnecessary stops.

Goal 7

Implement educational programs throughout the community to encourage green practices.

- a. Encourage the reduction of any disposable, toxic, or nonrenewable products by 5% through program creation by 2010 and thereafter.
- b. Develop and implement State Standards based curriculum for K-12 educational facilities by 2010 and thereafter.
- c. Evaluate and implement online resources by 2010 and thereafter.



Nearly 70 percent of city-wide waste is diverted from landfills.



A photograph of a modern, two-story house with a dark grey facade and large, multi-paned windows. The house is partially obscured by a lush garden in the foreground, featuring tall grasses, various shrubs, and a large tree on the right. The scene is captured at dusk, with warm interior and exterior lighting visible. The text 'URBAN DESIGN' is overlaid in a light blue, sans-serif font.

URBAN DESIGN

Building orientation and groundcover choices can significantly reduce energy and water uses.

 [GreenRiverside.com](https://www.GreenRiverside.com)

Goal 8

Increase green development throughout Riverside.

- a. Adopt voluntary standards and programs for residential and commercial projects with incentives for excellence in sustainable design and development that encourage green building by 2011 and thereafter.
- b. Encourage programs to establish green operations and maintenance for public and private sector businesses by 2012.
- > c. Develop annual programming that provides incentives for residential and commercial green building efforts with an emphasis on the retrofit of existing facilities by 2012.
- d. Adopt and enforce the provisions of the 2010 California Green Building Code.
- e. Develop easy to understand forms and handout literature that will enable designers and contractors to implement green building standards on projects in Riverside, and streamline the plan review and inspection related functions of the Green Building Code.

The City has a total of 651.67 acres of open space lands that are part of recorded maps.



Goal 9

Use specific plans along the Bus Rapid Transit (BRT) corridors and on the transportation hubs to address infrastructure systems, revitalization of urban and community centers, and promote infill and compact development.

- a. Amend the Downtown Specific Plan to create incentives for high density and mixed-use opportunities along the BRT corridor that include greater densities for greener design.
- b. Amend the Marketplace Specific Plan to create incentives for high density and mixed-use opportunities along the BRT corridor and in the area of the Metrolink Station that include greater densities for greener design.
- > c. Amend the University Avenue Specific Plan to create incentives for high density and mixed-use opportunities along the BRT corridor that include greater densities for greener design.



Goal 10

Meet the environmentally sensitive goals of the General Plan 2025 specified in the Mitigation Monitoring Program of the Environmental Impact Report, and the Implementation Plan following the timelines set forth in each.

- a. Apply urban planning principles that encourage high density, mixed-use, walkable/bikeable neighborhoods, and coordinate land-use and transportation with open space systems.
- > b. Review older specific plans for consistency with the General Plan 2025 and add sustainable policies as funding permits.

More than a decade of progress...a lifetime of benefits

June 2001 Traffic lights converted to LED lights to save energy consumption. October 2003 Clean Up Riverside's Environment (CURE)Program launched.	July 2005 Clean and Green Taskforce assembled.  July 2006 The Grease to Gas project that converts restaurant grease into energy produces approximately 1 megawatt annually.	June 2007 Riverside Green Builder Program becomes first in the state! July 2007 GreenRiverside.com is launched. December 2007 First Riverside Green Action Plan approved by City Council.	May 2008 BlueRiverside.com is launched. Green Power Premium introduced: Utility customers can contribute voluntarily and help the city purchase green power.  September 2008 Orange Terrace Community Center installs a 90 kilowatt PV system, the park is LEED certified. December 2008 Riverside's 1st Greenhouse Gas emissions baseline is underway.	April 2009 Installation of a 54 kilowatt PV system at Casa Blanca Community Center takes Riverside to over 1 megawatt of solar power. 	September 2009 The city reaches 1.5 megawatts of solar power when 100th photovoltaic system is installed. The City of Riverside unveiled Emerald City logo for the State Department of Conservation. Introduced the Green Action Plan – Emerald City update.	October 2010 Spent American Recovery and Reinvestment Act funds through the distribution of 248 RPU Whole House Program rebates, which put \$1.6 million back into the community and saved over 530,000 kilowatt hours of electricity. Riverside reaches 2 megawatts of solar power when the LEED certified, University Ave. McDonald's Restaurant opens. 	November 2011 Riverside wins an award from the National League of Cities for their green communication strategy. December 2011 Riverside Public Utilities finalizes partnership agreement with So. Cal. Gas to create a more robust low-income weatherization program. 	January 2012 Actress Amy Smart visited Riverside to name it one of the first Silver communities in the California Green Communities Challenge.  March 2012 Riverside wins the 2011 Sustainability Showcase Award for Local Government. June 2012 The 21.3 acre Doty-Trust park has its ground breaking providing more open space to the community. 	September 2012 Riverside hits 5 megawatts of solar power with more than 450 systems within the City's boundaries. 
July 2001 Tree Power Program campaign launched offering Riverside residents their 1st FREE shade tree.	June 2006 Riverside installs hydrogen fueling site - one of only 23 in the state.  April 2004 Weather-Based Irrigation Controller Pilot Project at White Park saves 40% on water consumption.	August 2007 City Council directs implementation of a Green Purchasing Policy. February 2007 The "Green Power Report," Riverside's radio show on conservation and "Green" living goes on the air. Clean and Green Taskforce report completed and the City Council adopted the Sustainable Riverside Policy Statement (SRPS).	July 2008 5.4 kilowatt photovoltaic system donated to Habitat for Humanity's LEED platinum house.	February 2009 State Department of Conservation Director Bridgett Luther introduces Riverside as California's First Emerald City.  January 2009 City Fleet Management reports non-emergency fleet is 55% clean vehicles.	July 2009 The City of Riverside becomes a member of the U.S. Green Building Council (USGBC).  June 2009 RPU reaches the 75,000 mark of trees planted through Tree Power Program rebates. 	August 2010 A newly developed GreenRiverside.com wins the Digital Government Award for a second time! July 2010 U.S. Department of Energy, Annual Award for Sustainable Development.	June 2011 California Municipal Utilities Association (CMUA) - Best Management Practices Award, Precision Sprinkler Nozzles Water Conservation Program.  March 2011 Arbor Day Foundation – Tree Line City USA Designation.	April 2012 One of three Inland Empire winners - Riverside's "Seizing Our Destiny" plan wins for the Best of Best Awards – Vision category. EV chargers installed in the city.  February 2012 CA Association for Local Economic Development – Award of Merit, Environmental and Economic Effectiveness Effort (E4) Plan.	July 2012 The Historic Mission Inn's music room lights were replaced by efficient LED lighting showing the aesthetics and cost benefits of new lighting technology.





URBAN NATURE

The City's Parks and Recreation Department has increased park land ratio to 2.49 acres/1000 population; more than a 30% increase in the last five years.

Preservation, expansion, and protection of our open spaces are of the utmost importance in maintaining the quality of life for Riverside residents.

The parks system is comprised of 51 parks totaling 2,500 acres. Riverside was recognized by the American Public Power Association (APPA) with the Golden Tree Award. The award recognizes municipal utilities that have planted at least one tree per customer (111,000). To guarantee Riverside remains a green city, we must continue to plant trees and preserve park and natural habitat for future generations.

 [GreenRiverside.com](https://www.greenriverside.com)

Goal 11

Ensure that 90% of City residents have access to a park, recreational or public open space within half a mile of home.

- a. Strengthen the City's existing trail inventory while providing a 75% increase of passive recreation and multi-use trails by 2015.
- b. Coordinate trail connections with the County of Riverside as opportunities arise.
- c. Ensure that there is an accessible park, recreational or public open space within a 1/2 mile of 90% of City residents by 2015.
- d. Create a City park/recreation/open space map.

Goal 12

Increase the City's urban forest.

- a. Plant at least 1,000 trees in City parks and right-of-ways annually.
- b. Encourage the planting of at least 3,000 shade trees on private property annually.



The city has planted and given away more than 100,000 trees over the last ten years.



Goal 13

Provide non-accessible open space areas for the protection of natural habitat that also provides green space buffers that add to the City's viewshed for the enjoyment of all residents.

- a. Inventory and map areas currently preserved as open space easements under recorded maps and add to community map.
- b. Acquire 200 acres of open space lands for use as passive parks by 2015.
- c. Continue to partner with the Riverside Conservation Agency to implement the Multiple Species Habitat Conservation Plan (MSHCP).





TRANSPORTATION

More than 1,000,000 students have taken advantage of the cities "Go Transit" program.

While transportation is crucial to the economy and our personal lives, the environmental impacts of transportation are equally significant and wide ranging. Regionally, transportation is one of the largest emission sources and poses significant challenges to address.

Today's cars and trucks burn fuel 35% more efficiently with 95% less emissions than 30 years ago, but the continuing increase in vehicle miles traveled has slowed the progress toward environmentally sustainable transportation. It is vital that the City adopt strategies that improve regional mobility and vehicle emissions.

The Green Action Plan outlines numerous ways for the city to have a positive impact on transportation and combat mobile emission issues without affecting residents and visitors ability to navigate the City.

 GreenRiverside.com

Goal 14

Decrease vehicle miles traveled 15% by 2015 based on the 2009 baseline.

*Riverside's
"Go Transit"
Program has
seen over
1,000,000
riders in less
than two years.*



- a. Encourage the use of bicycles as an alternative form of transportation, not just recreation, by increasing the number of bike trails by 15 miles and bike lanes by 111 miles throughout the City before 2025.
- b. Implement a regional transit program between educational facilities.
- c. Promote and encourage the use of alternative methods of transportation throughout the community by providing programs to city employees that can be duplicated by local businesses.
- d. Coordinate a plan with local agencies to expand affordable convenient public transit within the City limits.
- e. Keep permits for installing Electric Vehicle Chargers at a minimum and streamline the permitting process by developing easy to understand literature to enable designers, contractors, and home owners to secure permits and correctly install them in compliance with the National Electric Code.



In order to create infrastructure to promote better traffic patterns and reduce idle times, the city has taken on grade separations (pictured left), synchronized traffic lights (pictured opposite page), HOV (carpool) lanes, bus pass incentives, and incentives for alternative fuel vehicles – including electric.

Goal 15

Reduce mobile sources of pollution 5% by 2020.



- a. Encourage the purchase of alternative fuel vehicles or lower emission hybrids and plug-ins for the residential and business community by offering incentives.
- b. Synchronize traffic signals along primary City arterials by the end of 2012.
- c. Implement a program to design, construct or close at least one of the 26 railroad grade separations each year.
- d. Reconstruct at least two freeway/street interchanges by 2012.
- e. Implement an electric vehicle outreach plan.
- f. Install 11 public electric vehicle charging stations at 7 city facilities.
- g. Install a second public CNG fueling station at the Water Quality Control Plant.
- h. Increase the number of clean vehicles in the non-emergency City fleet to at least 60%.

A photograph of four children playing in a garden sprinkler. The children are running and jumping through the water jets. The girl in the foreground is wearing an orange swimsuit. The boy behind her is wearing dark shorts. The girl to the right is wearing a striped swimsuit. The boy on the far right is wearing blue shorts. The background is a lush green lawn and trees.

WATER

Riverside Public Utilities is water independent. More than 67,000 metered customers receive water from local sources.

 **GreenRiverside.com**

Goal 16

Reduce per capita water usage 20% citywide by 2020.

- a. Implement water efficiency, conservation, and education programs to reduce the City's per capita potable water usage by 20% by 2020.
- b. Implement a city-wide water conservation ordinance by 2010.
- c. Create Commercial/Industrial water use efficiency program incentivizing performance.
- d. Implement indoor fixture based replacement programs targeting high density housing.
- e. Enact "Stage 1 - Normal Water Supply" provision of water conservation ordinance enforcing irrigation time restrictions.
- f. Revise design guidelines and qualification for landscaping in new development or major retrofits.
- g. Adopt and enforce the provisions of the 2010 California Green Building Code for water efficiency standards.
- h. Develop easy to understand forms and handout literature that will enable designers and contractors to implement the water efficiency standards of the Green Building Code on their projects in Riverside and streamline the design and plan review process.
- i. Maintain high water quality through appropriate recharge, conservation, and management of sources.
- j. Maintain a high level of water quality through source water protection and contaminated source remediation.



Goal 17

Increase the use of recycled water by 30% by 2020, based on the 2008 baseline.

- a. Develop recycling methods and expand existing uses for recycled wastewater by 2015.
- b. Increase the use of recycled water from the Wastewater Treatment Plant (WWTP) to recover 15,000 acre feet or 30% of plant effluent by 2020.
- c. Obtain recycled water permit.
- d. Construct Phase I Recycled Water Project.
- e. Adapt one large water customer to recycled water.
- f. Double the production capacity of recycled water from the WWTP.
- g. Increase the use of recycled water from the WWTP to recover 9,000 acre feet of plant effluent by 2020.
- h. Break ground on Pellisier Ranch Groundwater Recharge Project.
- i. Permit increase production capacity of recycled water at the WWTP.





HEALTHY COMMUNITIES

The Riverside County Department of Public Health has publicly recognized the need to create more livable communities. Riverside is committed to actively promoting sustainable and healthy living for all residents by making it more active, knowledgeable, and garden-friendly.

Riverside now offers multiple farmers markets and community gardens throughout the city, which can be found on the green map on GreenRiverside.com





Goal 18

Create a 5% increase in community participation in sporting, social, and community gardening programs aimed at reducing population obesity.

- a. Conduct a citywide inventory of community gardens and local farmers markets.
- b. Utilize existing relationships with local agencies, such as school districts and non-profit organizations, and increase awareness and participation in community gardens and farmers markets.
- c. Utilizing local resources, create and facilitate "How To..." classes focusing on "green" throughout the city.
- d. Develop strategies and programing which will encourage the reduction of the overweight and obesity rates of Riverside to less than 50 percent.
- e. Develop a citywide campaign to promote a healthy lifestyle.
- f. In coordination with local medical facilities, encourage participation by the Riverside community in annual health and wellness fairs.
- g. Coordinate with local senior centers on a regular basis to ensure that Riverside's growing senior community has access to comprehensive healthy living resources.

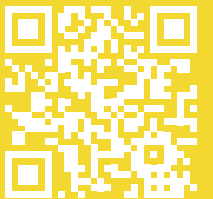


Goal 19

5% reduction in the City's population with asthma by 2020.

- a. Work with county to identify factors contributing to asthma in the city and develop a baseline for reduction.
- b. Use asthma baseline and identified contributing factors to pursue reductions in asthma affected populations.

Fairmount Park in downtown Riverside is an award winning park that includes a universal playground that children of any mental or physical ability can access.



... the plan

From its beginning, Riverside, California, has been a city of **forward-thinking** pioneers and **innovators**. It was founded in 1870 by John W. North, who looked at the rich land bordering the Santa Ana River and envisioned rolling hills of agriculture. A year later, North and other founders built a canal that still brings a dedicated source of water, a crucial step in the **water independence** Riverside celebrates today.

More than 100 years later, Riverside still embraces and honors its strong heritage and takes great care to preserve its natural resources.

Today, Riverside is the 12th largest city in California and is home to more than 300,000 people with diverse cultures and traditions. Riverside, which spans around 85-square miles, is county seat and is home to several prestigious universities. It is made up of more than two dozen unique neighborhoods, each with their own distinctive assets.

Long devoted to increasing residents' quality of life, the city appointed a **Clean & Green Task Force** comprised of community members. The group produced a **Sustainable Riverside Policy Statement** and a detailed report emphasizing how the city could implement **cleaner, greener and more sustainable** practices.

This effort was the beginning of **Riverside's Green Action Plan**, an evolving document that outlines ways to improve air quality, reduce traffic congestion, increase accessibility and use of parks, and otherwise, preserve the environment.

The Green Action Plan is overseen by a committee of **citizen volunteers** who meet quarterly to evaluate progress. The Green Accountability Performance Committee provides continued **participation, interaction, and leadership**.

At its essence, the plan is a **community/city partnership**. Each city department and its respective boards and commissions participate and each has been crucial in the plan's success.

"Now other cities can look at Riverside and see that it is possible to do the things we have been talking about in terms of sustainability."

- Actress Amy Smart

