

Sustaining America's Desert Cities

A conversation with leaders in
Albuquerque, Las Vegas and Phoenix



Sustaining America's Desert Cities

Learn how three, large LEED certified cities in the Southwest are adapting to a changing climate, leading with equity and putting into place long-range plans toward a more sustainable future.



Moderator: Hilari
Varnadore, USGBC



Rosanne Albright
City of Phoenix, AZ



Marco Velotta
City of Las Vegas, NV



Kelsey Rader
City of Albuquerque, NM

This program is hosted by the U.S. Green Building Council's LEED for Cities and Communities program.



Certified LEED Cities



City of Albuquerque
LEED Silver | September 2020
LEED v4.1 for Cities: Existing



City of Las Vegas
LEED Gold | August 2020
LEED v4.1 for Cities: Existing



City of Phoenix
LEED Platinum | 2018
LEED for Cities pilot

Agenda

- Welcome
- Introduction of Speakers
- Opening Remarks
- Stories from local leaders in Phoenix, Las Vegas and Albuquerque
- Questions from Audience





Kelsey Rader
City of Albuquerque, NM



Albuquerque Sustainability

Kelsey Rader, Sustainability Officer
Sustaining Desert Cities
October 28, 2020



Current Projects



Energy Efficiency



Renewable Energy



Transportation



Climate Planning

Progress Markers

**Albuquerque named
top 3 U.S. city for most
solar per capita**

**Secured \$3.5 million in
FTA grant funding for
electric buses**

**Albuquerque LEED
Silver certified**

**Updated to 2018
International Energy
Conservation Code**

**On track for 80%
renewable energy use
by end of 2021**

**Provided 300 low
income homes with
free energy audits and
upgrades**

**5th most improved city
in 2020 ACEEE
Scorecard**

**Updated to ZEV First
Fleet Procurement
Policy**

**Expanding EV charging
network**

Energy Efficiency

Complete

- Citywide LED Street Light Conversion
- Mayor's Energy Challenge
- 2018 IECC Adoption

Ongoing

- 3% CIP City Building Upgrades
- Low Income Home Energy Audits and Upgrades

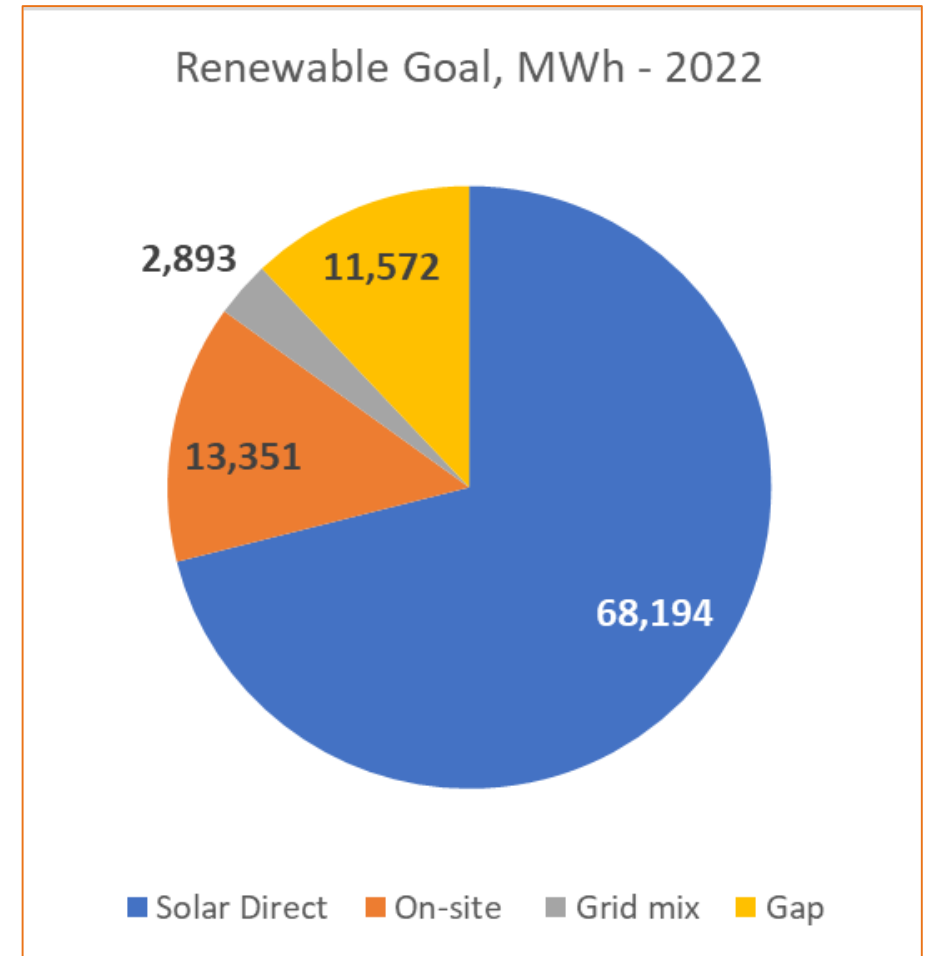
Upcoming

- Energy Savings Performance Contract



Renewable Energy

- On track to achieve 100% renewable use for municipal operations by 2030
- PNM Voluntary Solar Program (Solar Direct) providing 71% RE use by Fall 2021
- 38 city-owned solar arrays meeting 14% of energy needs



Transportation



Complete

- Added 14 EV charging stations in 2019
- Secured \$300,000 grant funding for 22 EV charging stations
- Updated City vehicle policy to “ZEV First”

Upcoming

- Bringing on 40 EV and hybrids over next fiscal year
- Transitioning to LEV and ZEV in transit and heavy duty
- Completing construction on new EV charging network



CLIMATE ACTION PLAN UPDATE

- Center equity in planning process
- Support green economic recovery
- Address broad range of issues:



**SUSTAINABLE
BUILDINGS**



**RENEWABLE
ENERGY**



**CLIMATE CONSCIOUS
NEIGHBORHOODS**



**RECYCLING &
ZERO WASTE**



**CLEAN
TRANSPORTATION**

Planning Process



Climate Planning Progress

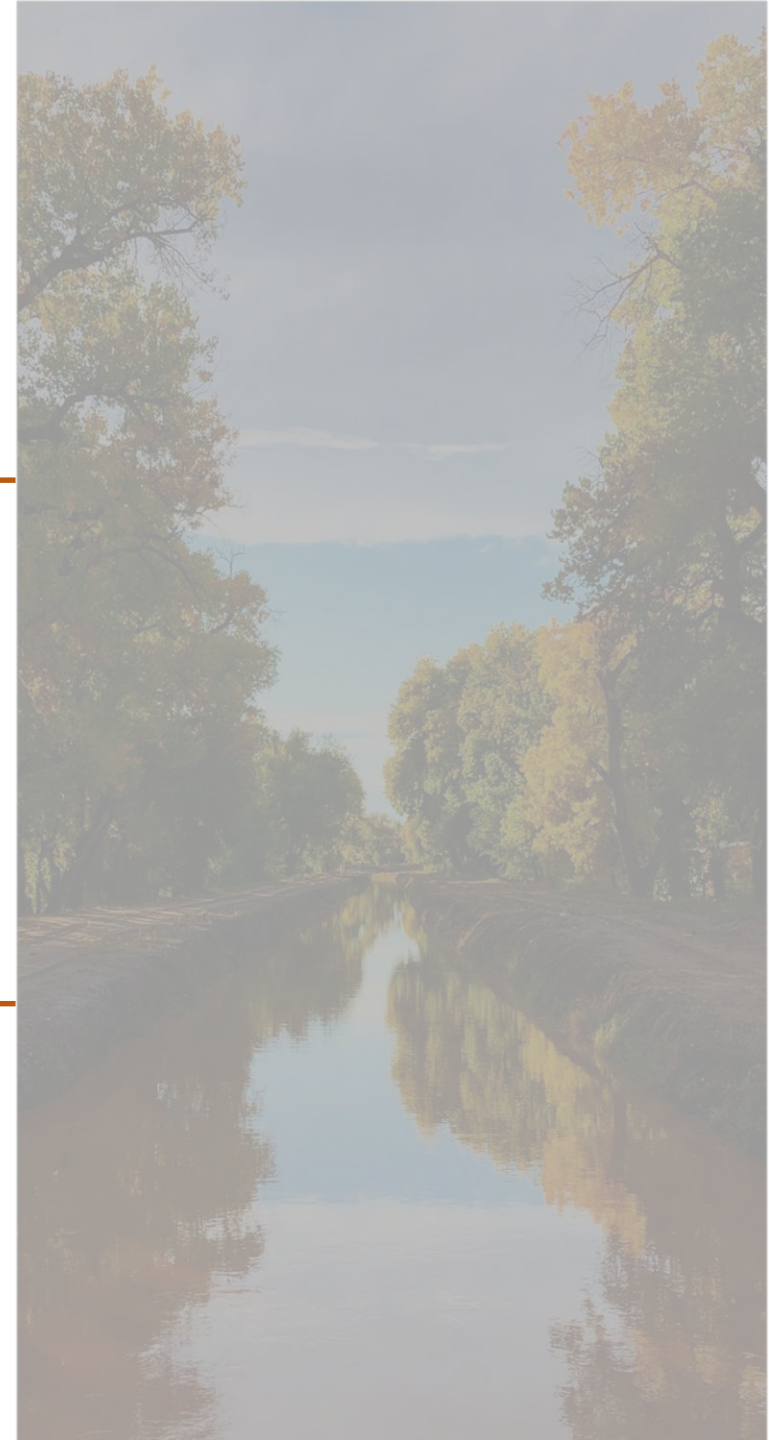


Complete Public Outreach

- Over 3,000 survey responses from across city
- Responses published in Climate Survey Report
- Selected task force representing frontline communities

Ongoing Plan Development

- Foster and empower new and diverse climate leaders
- Prioritize frontline community challenges
- Develop planning goals and actions



Future Projects



Climate Action Plan Implementation



Green House Gas Inventory



Micro Grid Feasibility



Climate Adaptation

Questions?

Email Albuquerque's Sustainability Officer,
Kelsey Rader at krader@cabq.gov



**ONE
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climate
action plan

f @CABQEHD



@CABQEHD



@CABQEHD



www.cabq.gov/CAP



Marco Velotta
City of Las Vegas, NV



SUSTAINING DESERT CITIES



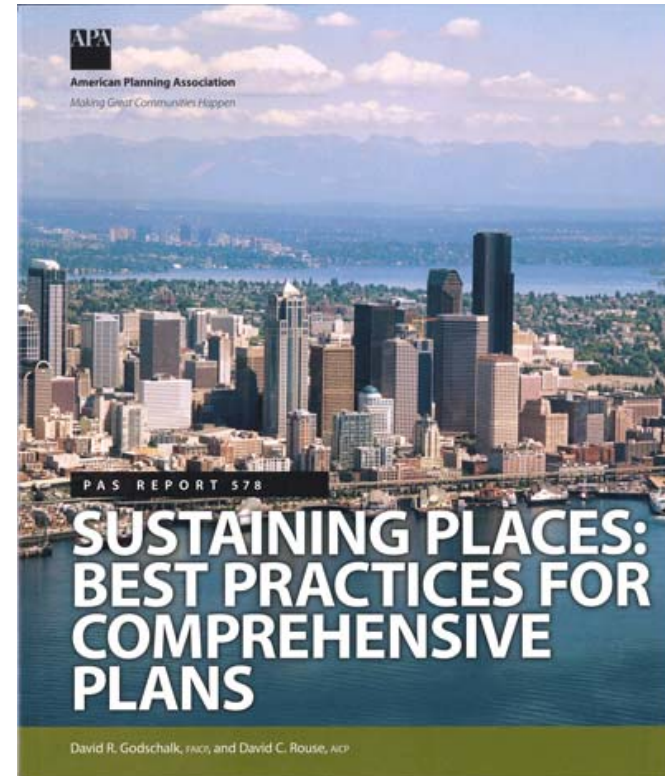
CITY SUSTAINABILITY EFFORTS

- Historic successes in Municipal and Community sustainability
 - City sustainability programs
 - 100% renewable energy
 - 6.2 MW of solar at 40 facilities
 - Recycling at all facilities
 - LEED certified buildings
 - LED streetlights
 - Energy efficiency and renewable energy programs
 - LEED certified green buildings
 - RTC Transit / On Board high capacity transit
 - Carpooling / demand management
 - Urban forestry
 - Transportation electrification
 - Single stream recycling
 - Efficient land use / TOD
- 4 STAR Community Rating
- Resolution to develop new Master Plan



SUSTAINABLE COMMUNITIES

- Key trends for future plans:
 - Resilience
 - Frequency and impacts of natural disasters
 - Economic downturns
 - Systems thinking
 - Plan topics are complex systems
 - Community engagement
 - Digital revolution vs reaching under-represented groups
 - Equity
 - Socio economics
 - Quality of Life
 - Health outcomes and vulnerabilities
 - Implementation
 - Prioritize, Strategize, assign responsibility
 - Adaptation
 - Prepare for changing conditions





CITY OF LAS VEGAS

2050 Master Plan

A COMPREHENSIVE THIRTY-YEAR PLAN PREPARED
FOR THE RESIDENTS AND BUSINESSES OF
LAS VEGAS TO PROVIDE FOR THEIR HEALTH,
SAFETY, PROSPERITY, SECURITY, COMFORT,
AND GENERAL WELFARE

DRAFT



USING STAR / LEED FOR CITIES



Integrative Planning Process upfront

- Intentional alignment with LEED for Cities based on statutory requirements
- Use of LEED to evaluate, existing conditions and assessment of overall community sustainability
- Specific credits, outcomes, performance scores, and metrics from STAR/LEED are emphasized based on priority
- Better understanding of where the City stands and has success....and what we need to work on.....
- Unique sustainability factors specific to Southern Nevada
 - Mojave Desert climate
 - Water
 - Renewable energy and GHG emissions
 - Climate threats: extreme heat, drought, flash floods
 - Tourism/service based economy

City of Las Vegas, Nevada

Project ID: 1000112324
 Rating System & version: LEED v4.1 Cities: Existing
 Project Registration Date: 10/23/2018



Gold Certified

CERTIFIED: 40-49, SILVER: 50-59, GOLD: 60-79,
 PLATINUM: 80+



LEED v4.1 CITIES: EXISTING

ATTEMPTED: 77, DENIED: 11, PENDING: 0, AWARDED: 66 OF 110 POINTS

INTEGRATIVE PROCESS 3 OF 3	ENERGY AND GREENHOUSE GAS EMISSIONS 18 OF 26
Integrative Planning and Leadership 1/1	Power Access, Reliability and Resiliency Y
Green Building Policy and Incentives 2/2	Energy and Greenhouse Gas Emissions Management 14/14
	Energy Efficiency 0/2
NATURAL SYSTEMS AND ECOLOGY 8 OF 8	Renewable Energy 0/4
Ecosystem Assessment Y	Low Carbon Economy 2/4
Green Spaces 2/2	Grid Harmonization 2/2
Natural Resources Conservation and Restoration 2/2	
Light Pollution Reduction NA	MATERIALS AND RESOURCES 5 OF 10
Resilience Planning 4/4	Solid Waste Management N
	Waste Performance 4/4
TRANSPORTATION AND LAND USE 10 OF 12	Special Waste Streams Management 1/1
Transportation Performance 4/6	Responsible Sourcing for Infrastructure NA
Compact, Mixed Use and Transit Oriented Development 1/1	Material Recovery NA
Access to Quality Transit 1/1	Smart Waste Management Systems NA
Alternative Fuel Vehicles NA	
Smart Mobility and Transportation Policy 2/2	QUALITY OF LIFE 9 OF 11
High Priority Sites 2/2	Demographic Assessment Y
	Quality of Life performance 2/2
WATER EFFICIENCY 6 OF 11	Trend Improvement 4/4
Water Access and Quality N	Distributional Equity 1/3
Water Performance 5/6	Environmental Justice 1/1
Integrated Water Management 1/1	Housing and Transportation Affordability NA
Stormwater Management NA	Civic and Community Engagement 1/1
Smart Water Systems NA	Civil and Human Rights NA
	INNOVATION 3 OF 6
	Innovation 3/6
	REGIONAL PRIORITY 4 OF 4
	Regional Priority 4/4

IN 2050, LAS VEGAS WILL LIKELY HAVE:

300,000+

New Residents

- A total city population of approximately 900,000+
- A total regional population of 3 million (in line with UNLV estimates)

9,500+

Acres of New Parks Needed

- Tule Springs National Monument included

100,000+

New Housing Units in the City

- 550,000+ total housing units in the region

72 MILLION

Square Feet of New Commercial Space

And at least:

600

New LVMPD Officers

2,500

New Teachers

30

New CCSD Schools

450

New Public Safety Employees

1,100

New City Employees

TOP CHALLENGES



GUIDING PRINCIPLES

THE FOUNDATION OF STRATEGIES TO ACHIEVE 2050 VISION

- Measure success
- Weigh recommendations
- Foster community-driven implementation
- Improve quality of life for all residents



EQUITABLE

inclusive, fair, welcoming



RESILIENT

**sustainable, adaptable,
flexible**



HEALTHY

strong, accessible, well



LIVABLE

unique, complete, enjoyable



INNOVATIVE

smart, diverse, bold



LAND USE AND ENVIRONMENT



Land Use



—2050 General Plan



Areas of the City

—Division of city into 16 areas with specific



Environment

—**Natural Features**

—**Urban Forestry**

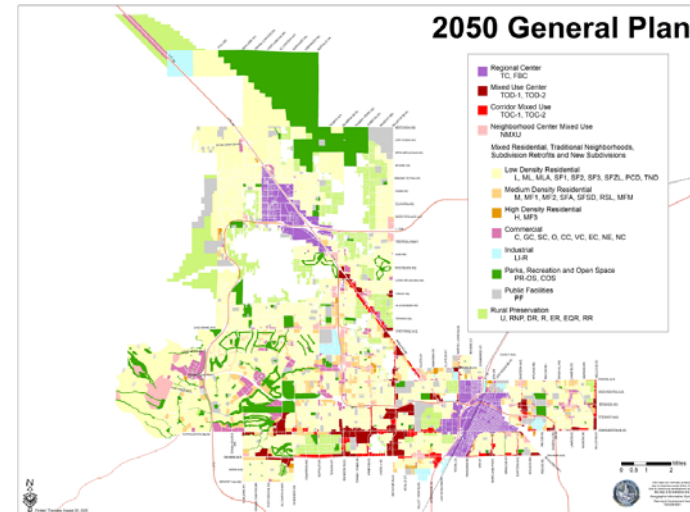
—Parks

—Park Connectivity

—Food and Urban Agriculture



—**Environmental Justice**



LAND USE AND ENVIRONMENT

PROTECT, ENHANCE, AND RESTORE NATURAL FEATURES AND RESOURCES OF THE MOJAVE DESERT

✓ NRS 278.160.1(b)(1)






- Natural Features
 - Opportunities and Challenges
 - Collaboration between County, State, Federal agencies
 - Tule Springs NM as an open space asset
 - SNPLMA
 - MSHCP
 - Inventory and Assessment
 - Ecosystems
 - Vegetation, Wildlife, Invasive species
 - Climate
 - Precipitation, climate, impacts of climate change
 - Natural Systems
 - Topography, Hydrology
 - Minerals, Soils, Geology

OUTCOMES

- The number of threatened species identified by the Clark County MSHCP is reduced by 2031
- The number of endangered species identified by the Clark County MSHCP is reduced over times
- No net loss of identified habitat areas of threatened or endangered species
- No net loss of identified wetlands or desert areas
- Identified natural areas and arroyos have been restored
- Existing and new identified invasive species have been eradicated or contained to prevent population growth and expansion

KEY ACTIONS

- SNPLMA must continue to be supported as it has proven to be an effective tool for concentrating urban growth, while providing funding for open space.
- Utilize Tule Springs National Monument to its potential as a valuable open space asset for the City.
- Preserve and maintain open space as a balance to man-made development.
- Preserve and protect areas of important environmental/ecological consideration, and incorporate such areas into the park and recreation system.
- Use native and adaptive plants to meet environmental objectives and reduce maintenance requirements.
- Continue to partner with agencies, organizations, and businesses to enhance natural resource access and management.
- Reclaim areas of environmental/ecological deterioration using available resources from the public, quasi-public and private sectors.

EQUITABLE	RESILIENT	HEALTHY	LIVABLE	INNOVATIVE
Improved natural features that blur boundaries provides cleaner air, water and health outcomes for all, especially when prioritized for those with the most needs	Environmental protections for Mojave plant and animal species ensure continued resilience for the sensitive ecosystem.	Access and provision of open space areas allow for additional opportunities for recreation.	Protecting and enhancing the Mojave Desert helps conserve and preserve natural amenities for current and new residents.	SNPLMA continues to be an innovative tool of protecting open spaces and providing funding for parks and recreational facilities.
				

III.C URBAN FORESTRY

NRS 278.160.1(b)(1)

PRIORITIZE INCREASING TREE CANOPY ACROSS ALL AREAS OF THE CITY FOR MULTIPLE PUBLIC HEALTH AND ENVIRONMENTAL BENEFITS



As one of the fastest warming cities in the country, extreme heat, including heat waves of greater intensity, frequency, and duration is one of three current and long-term hazard vulnerabilities to the city that must be mitigated. Among the top methods to reduce the urban heat island effect, mitigate extreme heat, and reduce overall temperatures is through the City's urban forest and other forms of green infrastructure. Trees help cool cities by providing shade, lowering the need to cool buildings, decreasing the amount of heat absorbed by asphalt areas like streets or parking lots, and creating overall cooler environment through which people can walk and bike. Urban forests, the collection of urban trees throughout the urban environment, should be considered a capital asset, much like a public building. Trees and urban forests also have the benefit of providing the City with a wide range of physiologic, economic, sociologic, and aesthetic benefits, including:

- Help treat stormwater runoff
- Provide shade that help cool and mitigate the urban heat island
- Help reduce air pollution and sequester greenhouse gas emissions by providing health benefits and environmental justice to urban neighborhoods
- Provide wildlife habitat
- Increase property values and property marketability.

KEY ACTIONS

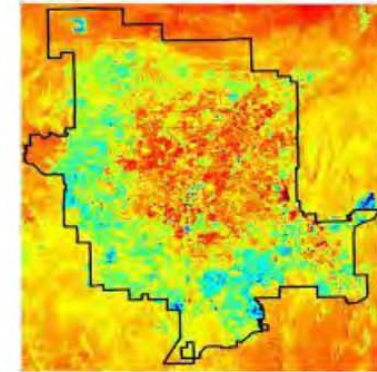


- In keeping with Tree City USA and urban forestry commitments, plant 60,000 "Bulletproof" native and adaptive trees on public and private property that are tolerant heat, cold, and wind tolerant; water efficient; low maintenance; non-invasive, and pest and disease resistant.
- To further reduce extreme heat and the urban heat island effect, support and accent trees with heat and water efficient native and adaptive plants, including shrubs, groundcover, vines, agaves, cacti, succulents, yuccas, ornamental grasses, and perennials.
- Strengthen landscaping requirements within LVMC Title 19 to ensure trees and landscaping are not lost due to exceptions or waivers of codified standards.
- Institute resilient best management urban design practices to ensure high quality landscape architecture for public facilities and private developments.

URBAN HEAT ISLAND CONTEXT

Average annual high and low temperatures have continually increased over time. Between 2006 and 2019, temperatures increased in Las Vegas nearly three to four degrees. July monthly daytime average temperatures have exceeded 105° in ten of the past 14 years. The Las Vegas office of the National Weather Service determines extreme heat events; heat advisories are issued when daytimes highs are expected to be 100° or higher for at least two days and nighttime temperatures do not drop below 75°. An excessive heat warning is similarly issued when temperatures reach above 105°. Over the next 30 years, barring no major reversal of global climatic temperature trends, it is anticipated that the average annual number of days when temperatures exceed 100° will increase to 70°. Extreme heat is further exacerbated by the urban heat island effect, the phenomenon of urban areas being hotter than rural areas, which can be mitigated by reducing asphalt and concrete surfaces while weaving in green infrastructure and shade. The urban heat island effect can cause the following:

- Health issues, especially for heat-susceptible populations like children, the elderly, homeless individuals, and low-income and minority populations.
- Delays, business risks, and health concerns for employees that work outside, especially at the City's resorts, construction and development labor.
- Increased energy and water demand for air conditioning and cooling, as well as increased building operational costs, employee needs, and goods requiring refrigeration.
- Poorer air quality through the greater incidences of inversion layers



OUTCOMES



- Plant and maintain Plant 60,000 "Bulletproof" native and adaptive trees on public and private property by 2050
- The City's tree canopy increases to 20% by 2035 and 25% by 2050 utilizing native and adaptive drought tolerant tree species.
- 85% of the City's population lives within a 1/3 mile from green infrastructure features that provide localized cooling through park space, tree canopy cover, or vegetative surfaces.

EQUITABLE	RESILIENT	HEALTHY	LIVABLE	INNOVATIVE
Tree canopy coverage must be distributed throughout the City to ensure all residents, as well as members of vulnerable populations, have access to the benefits of trees	Utilizing water-efficient, drought tolerant native and adaptive tree and plant species help the City further mitigate and adapt against the hazard of extreme heat.	Trees help reduce the urban heat island effect and overall temperatures, improve the quality of stormwater and air, and provide visual aesthetics that improve personal wellness.	Parks, trees, and green infrastructure enhance the sense of place in the community and provide areas that are enjoyable to walk, bike, and recreate by all.	Designing structures and architectural features that provide shade as well as green space

2-186

LAS VEGAS MASTER PLAN

2-187

02. LAND USE + ENVIRONMENT

LAND USE AND ENVIRONMENT

- Environmental Justice
 - “Maximum Tolerable Air Quality”
 - Assess, Mitigate, and Reduce the Number of Brownfields using TOD, infill, and redevelopment
 - Wastewater treatment and stormwater pollution prevention standards
 - Increase awareness of environmental justice and work with community groups

AIR QUALITY INDEX (AQI) REPORT-LAS VEGAS	2019	2018	2017
Days “Good” (AQI 0-50)	154	122	136
Days “Moderate” (AQI 51-100)	206	194	200
Days “Unhealthy for Sensitive Groups” (AQI 101-150)	5	48	28
Days “Unhealthy” (AQI 151-200)	0	1	1
Days “Very Unhealthy” (AQI 201-300)	0	0	0

ENVIRONMENTAL JUSTICE RISK	AREA/LOCATION	DESCRIPTION
Ozone	East Las Vegas, West Las Vegas	High concentrations of ozone in low income Latino and black neighborhoods
Traffic	East Las Vegas, Downtown Las Vegas, Charleston, West Las Vegas, Twin Lakes	Widespread noise, air pollution, and emissions concerns for neighborhoods along US 95, I-15, and I-515
Lead Paint	East Las Vegas, Downtown Las Vegas, Downtown South, West Las Vegas, Twin Lakes	Older homes containing lead-based paints
Brownfields	Downtown Las Vegas	Concentration of several brownfields in Downtown’s Historic Westside district

ECONOMY AND WORKFORCE



Education

- Equitable Education
- Schools



Economy

- Economic and Workforce Development



Redevelopment

- Public Finance



Housing



Housing choice

- Homelessness



SYSTEMS AND SERVICES

- Transportation

-  Complete Streets

-  Transit

-  Smart Systems

- Resource Conservation

-  Water

-  Energy

-  Waste

-  Greenhouse Gas Emissions

- Public Facilities and Services

-  Public Facilities

-  Public Health and Social Services

- Safety

-  Hazards

-  Public Safety



SYSTEMS AND SERVICES



Safety: Hazards

—Hazard and vulnerability assessment

- Resilience
- Adaptive Capacity
- Sensitivity
- Vulnerability

—Drought

- Risk of reduced snowpack in Rockies
- Additional SNWA intake and lake infrastructure insulates community
- Continued conservation efforts

—Severe storms

- More active monsoonal seasons
- Proactive flood control efforts by CCRFCD
- Opportunities for low impact development

—Extreme Heat

- Higher risks for more intense heat for longer durations
- Nexus with urban heat island effect and vulnerable communities
- Increase tree canopy and native and adaptive species

		Sensitivity				
		S0	S1	S2	S3	S4
Adaptive Capacity	AC0	V2	V3	V4	V5	V5
	AC1	V1	V2	V3	V4	V5
	AC2	V1	V1	V2	V3	V4
	AC3	PO	V1	V1	V2	V3
	AC4	PO	PO	PO	V1	V2

ASSESSED HAZARDS & RISK

- CLIMATE CHANGE: Drought – VERY HIGH
Addressed by Water Goal
- CLIMATE CHANGE: Extreme Heat – VERY HIGH
Addressed by Urban Forestry goal
- CLIMATE CHANGE: Severe Storms and Flash Flooding – HIGH
Addressed by Flooding Goal
- Civil Disobedience, Riots, and Social Disturbances – MODERATE
- Dam Failure – VERY LOW
- Earthquakes and Seismic Activity – HIGH
- Hazardous Materials – HIGH
- Infectious Disease – HIGH
- Infestation – LOW
- Subsidence – LOW
- Terrorism – VERY HIGH
- Wildfire – LOW

SYSTEMS AND SERVICES



Resource Conservation: Energy

—Stationary sources are cleaner but must continue to diversify

- What's after 50% RPS by 2030?

—Energy efficiency improvements and green buildings continue to be needed

—Power access must equitable, secure, reliable and resilient

- What about Summer 2020?

—Mobile sources (VMT) is steadily growing

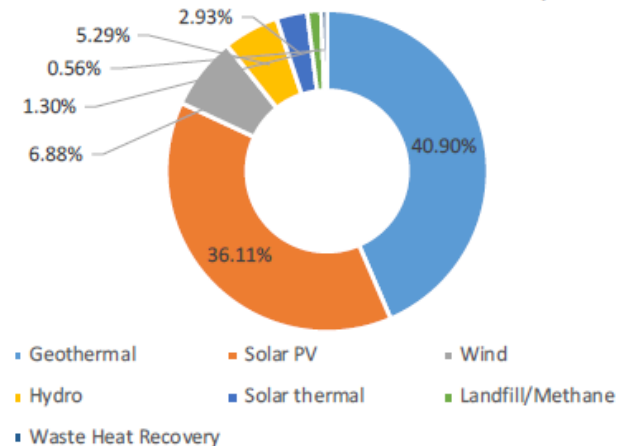


Resource Conservation: Waste

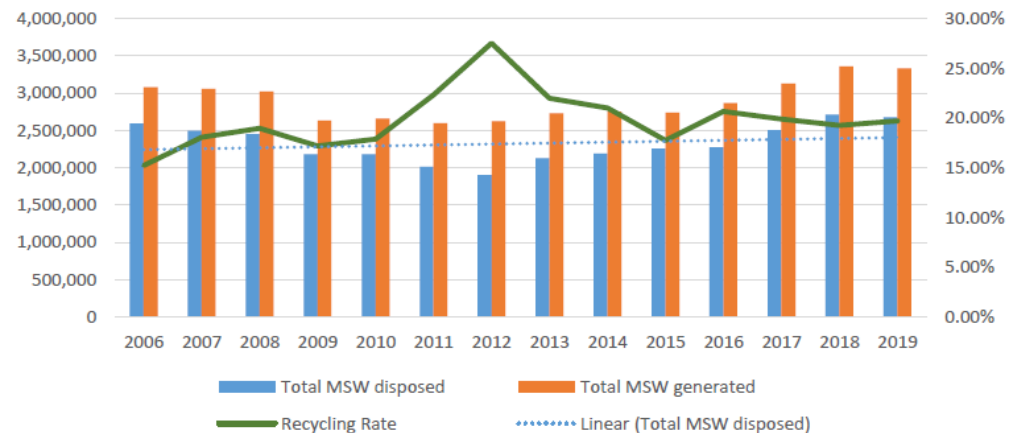
—Recycling rate has been slowly increasing

—Changes in global markets

Renewable Resources - Southern Nevada (2019 RPS)



Clark County Solid Waste Disposal

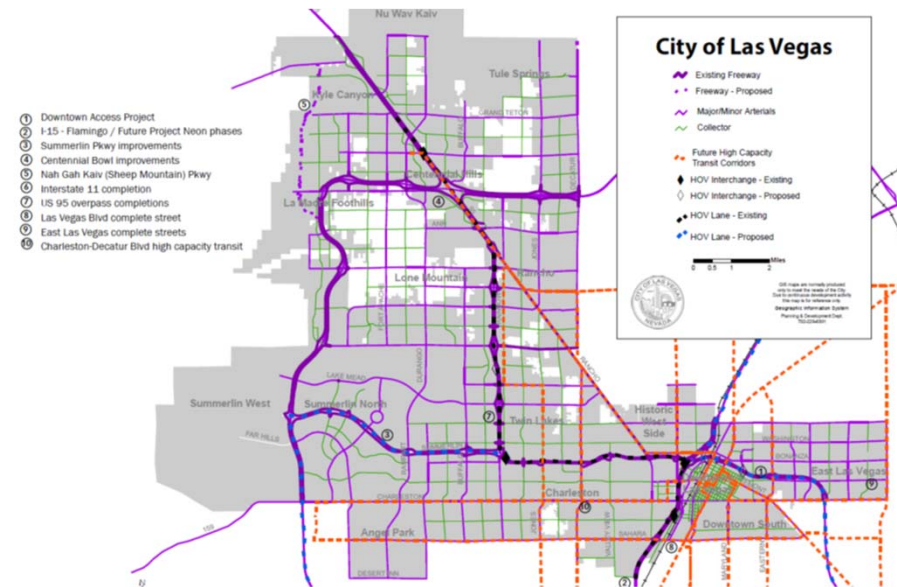
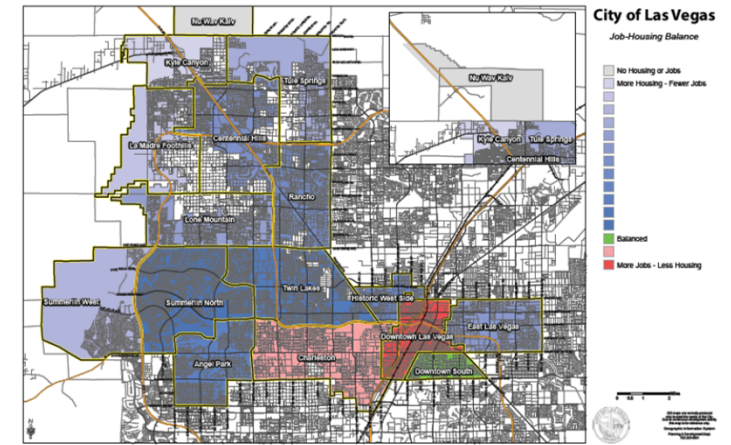


SYSTEMS AND SERVICES



Transportation

- Reduce VMT through a layered complete street network
 - Trails
 - Bike Streets
 - Local, collector streets
 - Transit streets
 - Major and minor arterials
 - Freeways and highways
- Modal shift must dramatically change to reduce congestion, improve air quality, and reduce emissions
- TOD critical to jobs-housing balance
- Some critical projects needed, such as I-11 and Downtown Access Project
- Focus on freight and logistics, but provide options for interstate travel
- Improve overall safety of transportation

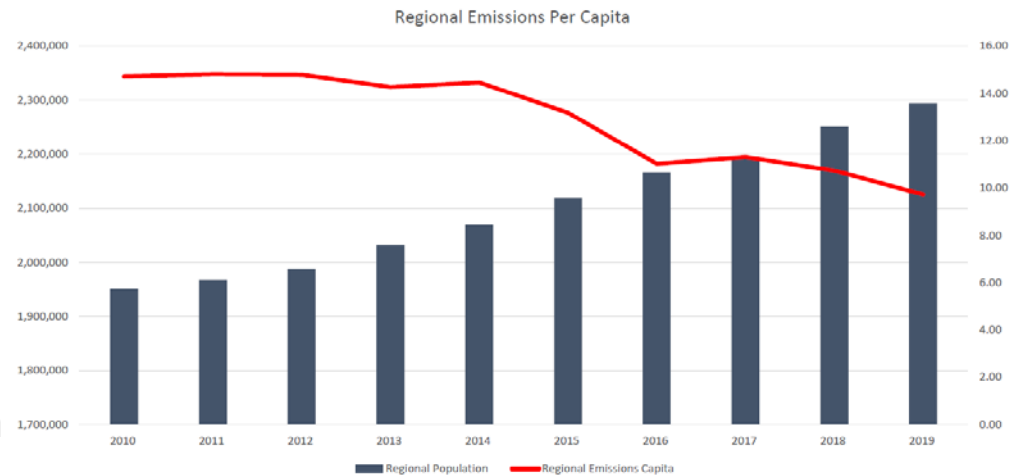


SYSTEMS AND SERVICES



Resource Conservation: GHG Emissions

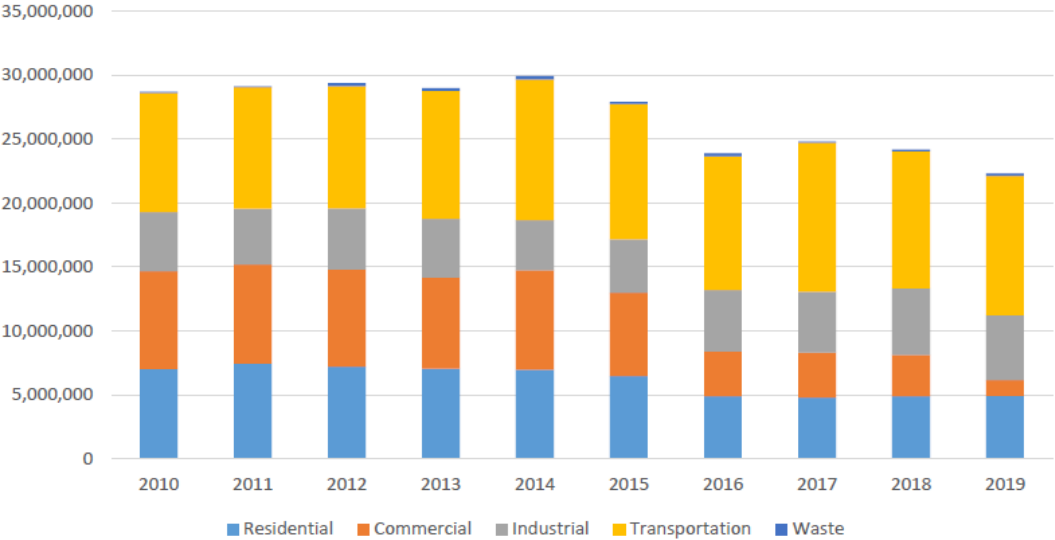
- Desired outcome: carbon neutrality for municipal operations and community
- Clean energy efforts have already resulted in dramatic emission reductions in many sectors
- Energy portfolio has changed dramatically with coal retirement
 - Fort Mohave (2005) – Laughlin
 - Reid Gardner (2019) – Moapa
 - Navajo (2020) – Page, AZ
- Mitigation and adaptation efforts have shown success
- Transportation-based emissions can be reduced through electrification, modal shift, and VMT reduction
- NDEP / NGOE and regional collaboration on emissions



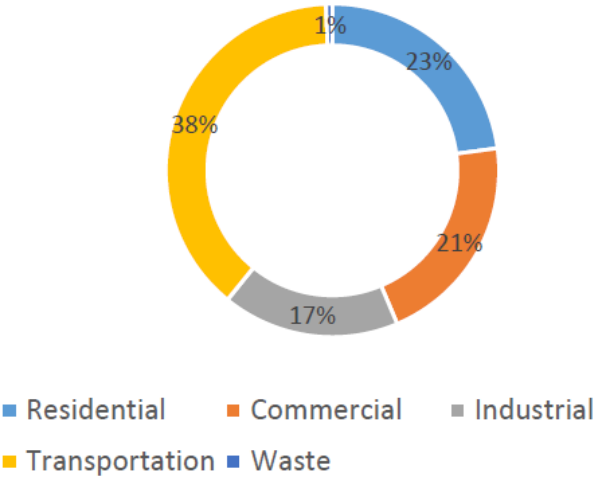
SYSTEMS AND SERVICES

- Resource Conservation: GHG Emissions

Southern Nevada Regional Emissions (tons³ CO₂e)



Emissions by Sector

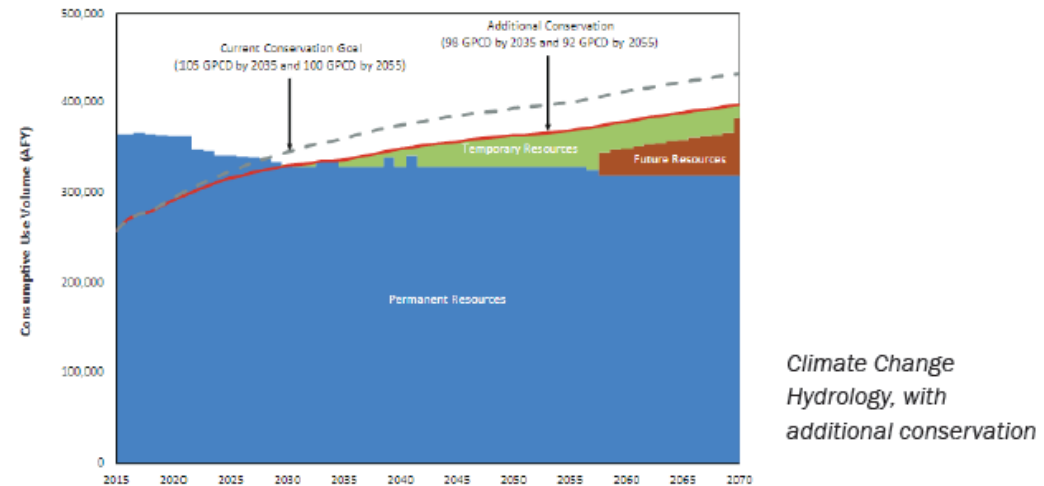


SYSTEMS AND SERVICES

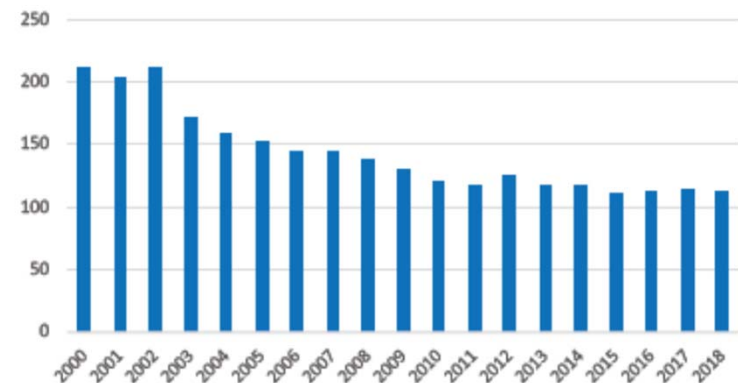


Resource Conservation: Water

- Outcome: 90 GPCD by 2050
- SNWA's portfolio of consists of 300,000 AFY apporioned from Colorado River, which is 90% of supply
- Basin is susceptible to drought, and is to threat Las Vegas must confront and ada to
- Further drops in lake elevation will trigger additional cuts in allocation for all basin states
- SNWA's strategies have proven effective
 - Regulation, pricing, incentives, education
- Land use and housing strategy can lead to greater water efficiency



GALLONS PER PERSON, PER DAY (GPCD)



WWW.MASTERPLAN.VEGAS

2050 Draft Master Plan Feedback

Name

First Name

Last Name

Comments *

Phone

Email

Submit Form



City of Phoenix

A CARBON-NEUTRAL CITY BY 2050

Vision: to be the most sustainable desert city on the planet

A CARBON-NEUTRAL CITY BY 2050

2050 ENVIRONMENTAL SUSTAINABILITY GOALS

Improving the
quality of life
for all, while
enhancing
nature

TRANSIT IN
EVERY PHOENIX
NEIGHBORHOOD



ZERO WASTE



CLEAN AND RELIABLE
100-YEAR SUPPLY
OF WATER



A CARBON
NEUTRAL CITY



CLEAN AIR



PARKS AND GREENWAYS
IN EVERY PHOENIX
NEIGHBORHOOD



A THRIVING
LOCAL FOOD
SYSTEM



A CARBON-NEUTRAL CITY BY 2050

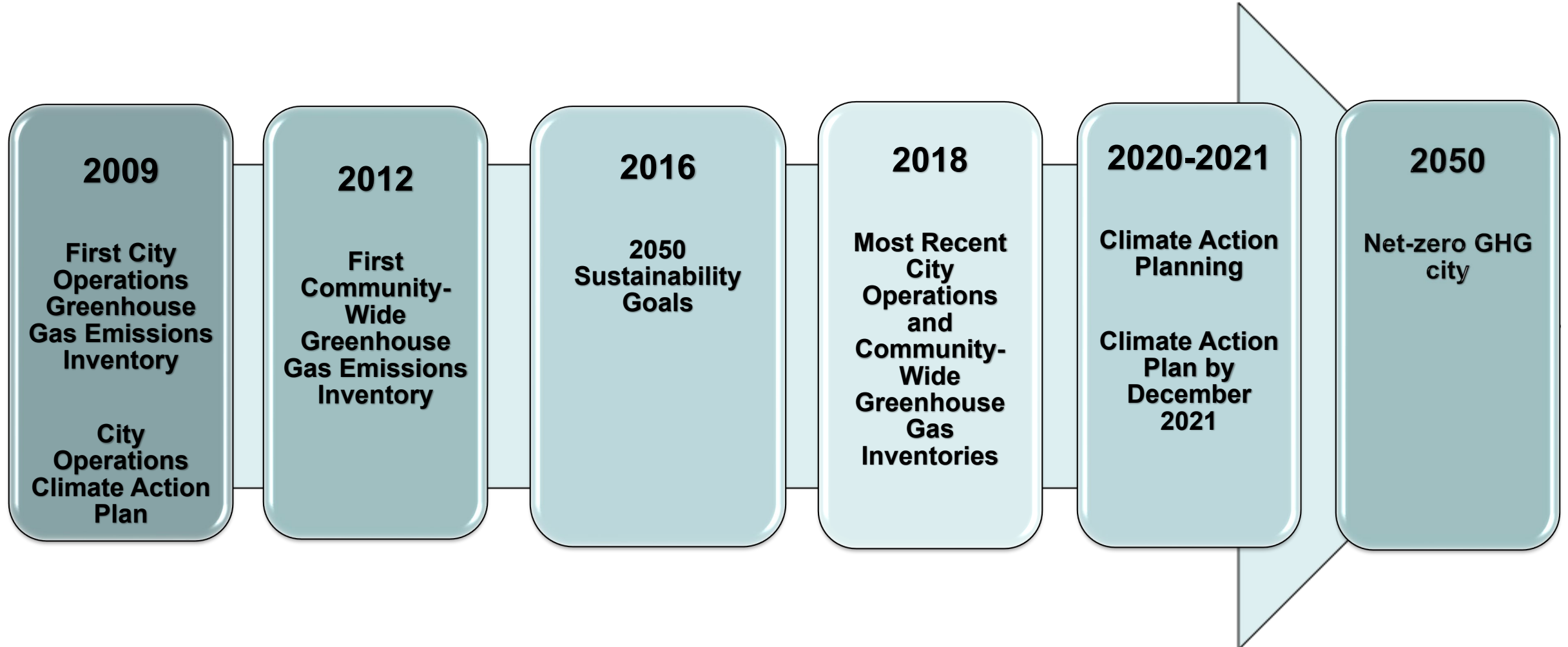
Vision: to be the most sustainable desert city on the planet



- Phoenix received LEED Platinum certification from USGBC in 2017
- Phoenix joined C40 Cities in Feb. 2020
 - Create C40-compliant Climate Action Plan
 - Net-zero GHG emissions by 2050

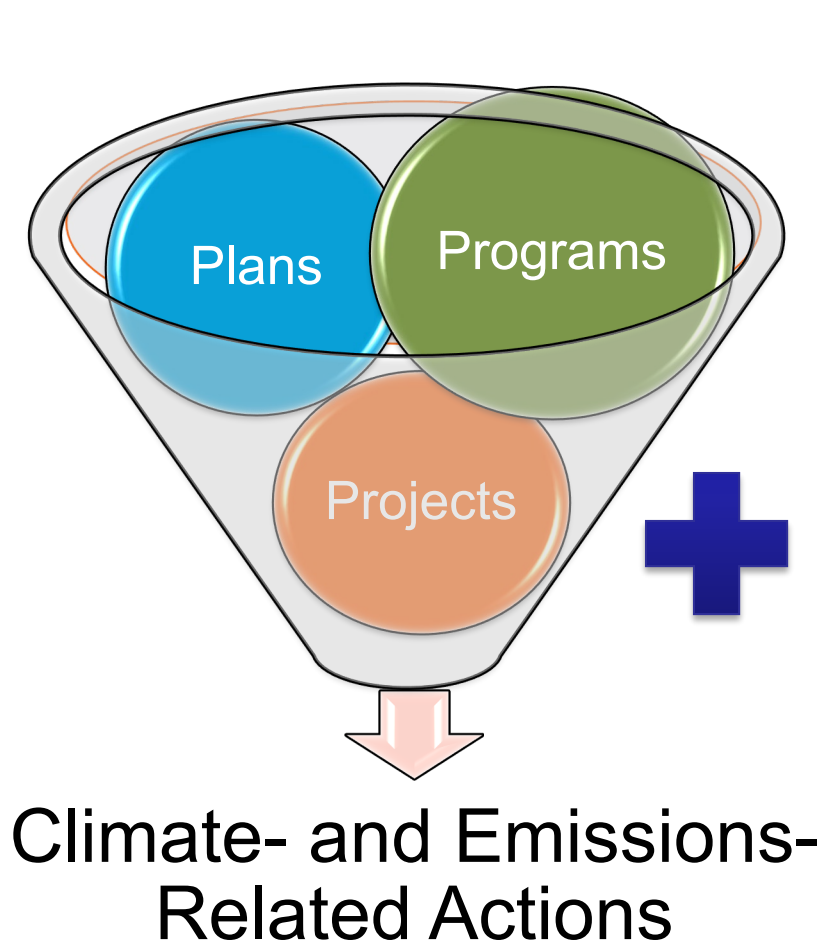
A CARBON-NEUTRAL CITY BY 2050

CLIMATE ACTION PLANNING

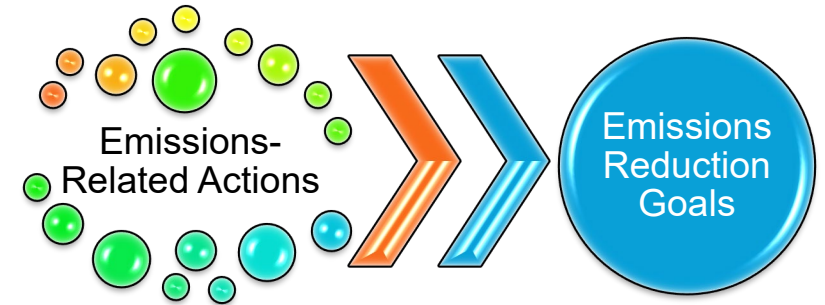


A CARBON-NEUTRAL CITY BY 2050

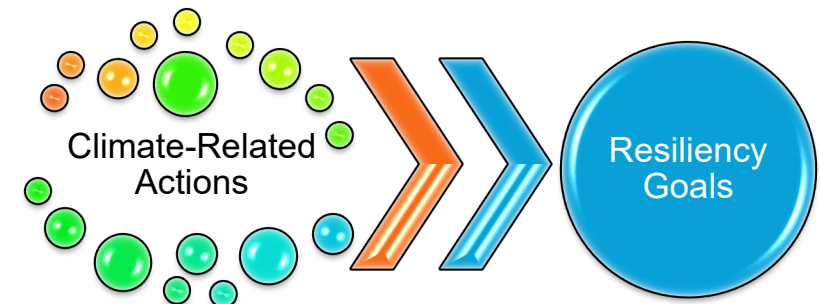
CLIMATE ACTION PLANNING



- C40 Pathways Modeling
- Data Verification
- Community Input



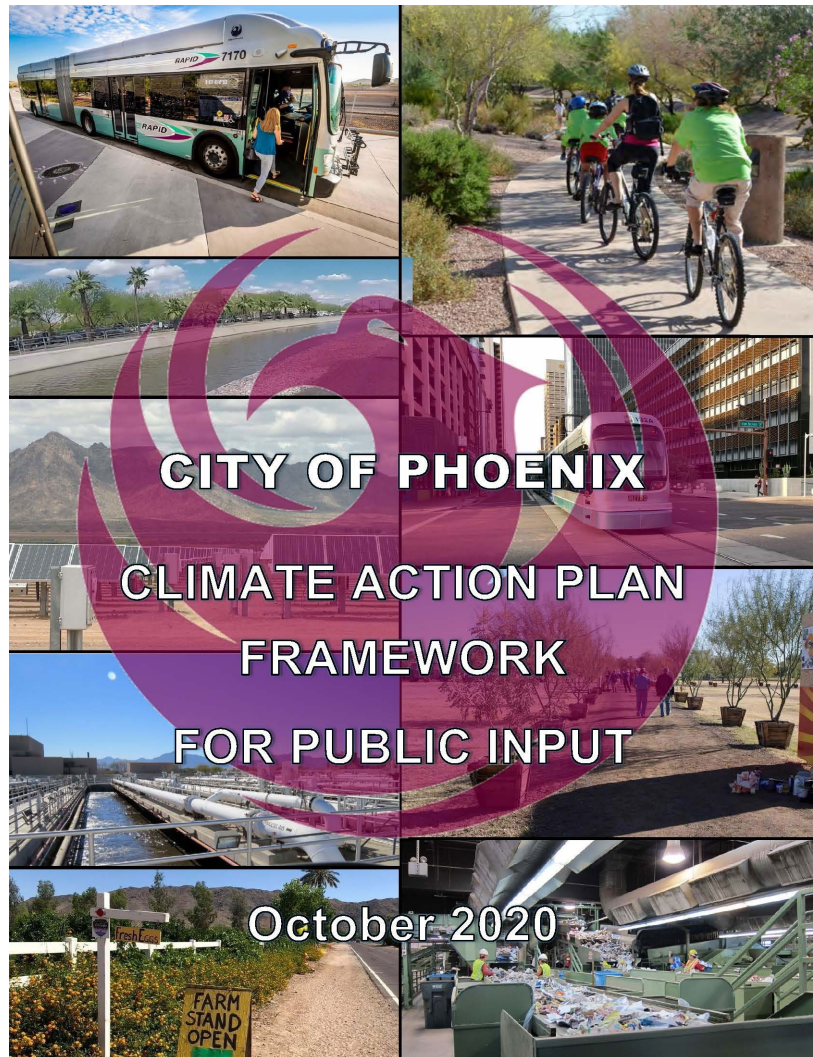
- **Stationary Energy Sector**
- **Transportation Sector**
- **Waste Sector**



- **Air Quality**
- **Local Food Systems**
- **Heat**
- **Water**

A CARBON-NEUTRAL CITY BY 2050

CLIMATE ACTION PLANNING



Sector Goals

2050 Goal

**Quickstart Action
Examples**

**Short, Mid, Long-term
Goals**

Key Achievement

A CARBON-NEUTRAL CITY BY 2050

Vision: to be the most sustainable desert city on the planet



A CARBON-NEUTRAL CITY - ENERGY

LEADING BY EXAMPLE

Solar on 48 City Properties



***Rental Car Center Solar
Installation: 4.2 Mega-watts***



Burton Barr Library: 148 KW



***Lake Pleasant Water
Treatment Plant – 7.5 MW***

A CARBON-NEUTRAL CITY - TRANSPORTATION

MAKE WALKING, CYCLING AND TRANSIT
COMMONLY USED AND ENJOYED
IN EVERY PHOENIX NEIGHBORHOOD

LEADING BY EXAMPLE



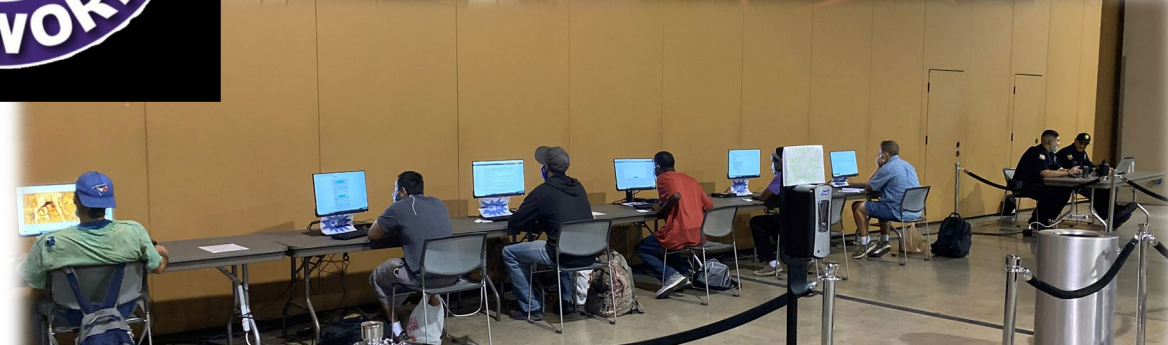
ADAPTATION & RESILIENCE

Heat Relief

LEADING BY EXAMPLE

COVID-19 Heat Respite Station Phoenix Convention Center

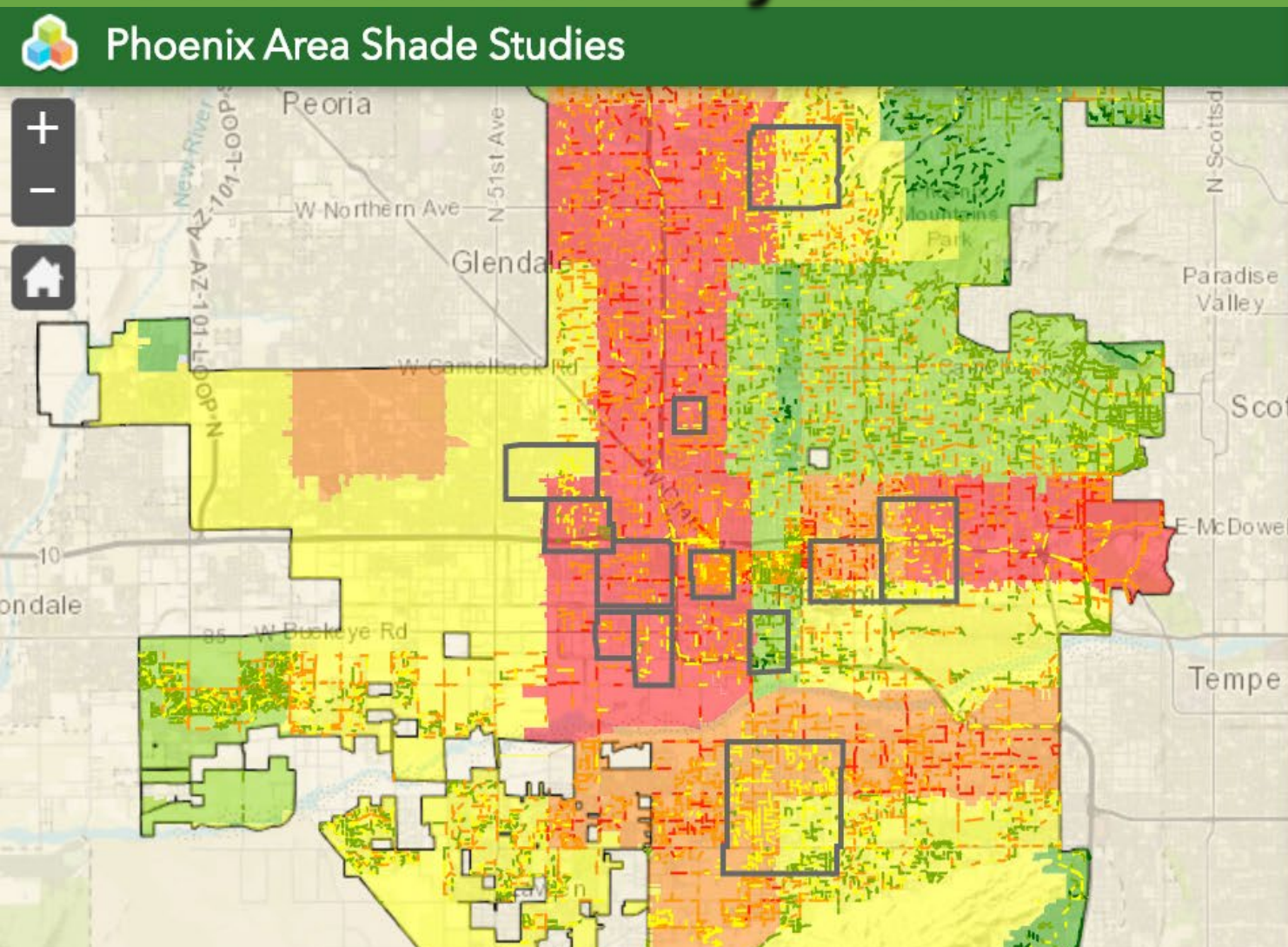
- Operational from June to September
- Offered 2 meals a day
- Computer stations
- Resources and service providers
- 27,189 guests visited the center



ADAPTATION & RESILIENCE

“Cool Corridors” by 2030

LEADING BY EXAMPLE



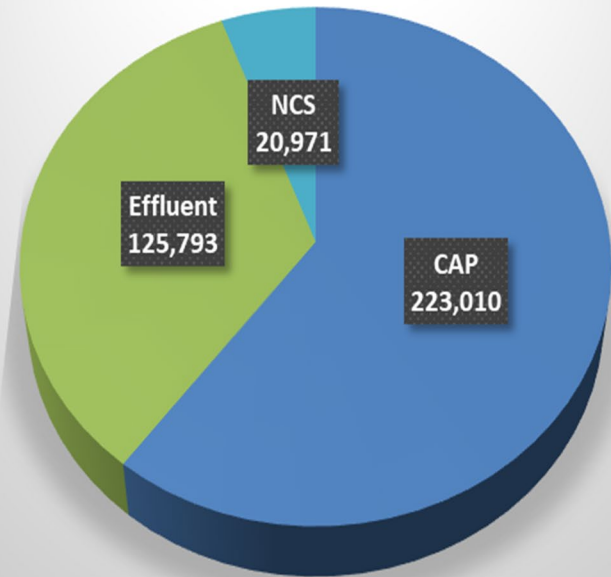
ADAPTATION & RESILIENCE

100-year Water supply

1.7 million customers receive tap water

2.5 million residents in 5 cities get wastewater treatment

LEADING BY EXAMPLE



Aquifer water storage creating a drought supply of long-term storage credits.

Sustainability Bond Sale for Colorado River Resiliency Projects

- March 2020
- Drought Pipeline Project
 - Supply 400,000 north Phoenix residents
 - Water from Salt and Verde Rivers
 - Addressing future shortages on Colorado River

A CARBON-NEUTRAL CITY BY 2050

phoenix.gov/oep/climate

phoenix.gov/sustainability

climate@phoenix.gov

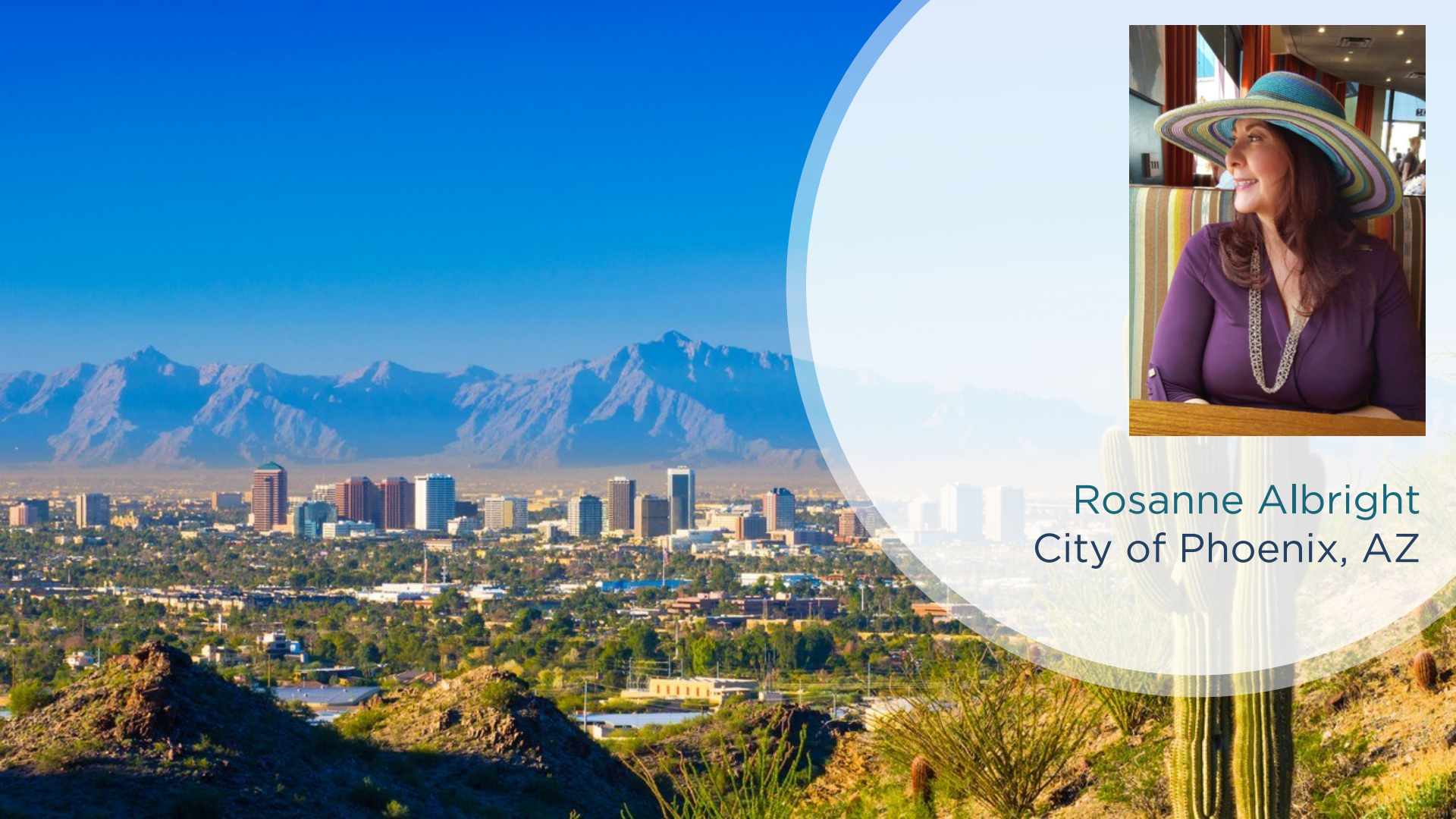
Rosanne Albright

Office of Environmental Programs

rosanne.albright@phoenix.gov



City of Phoenix



Rosanne Albright
City of Phoenix, AZ



DISCUSSION

For more information:

- Explore the rating system at usgbc.org
- Use our LFC planning tools to integrate metrics, align plans, improve processes
- View courses on Education @ USGBC



Interested in aligning a local plan with LEED for Cities?

Best Practices in Planning: Alignment with LEED for Cities and Communities Framework

Background: The framework of LEED for Cities and Communities is comprehensive, addressing topics as diverse as access to green spaces, energy efficiency and civil and human rights. The system is aligned with the UN Sustainable Development Goals and is rooted in the triple bottom line. Issues like social equity, resilience, and climate change weave throughout the content areas. Local governments can use this checklist to assess whether or not certain topics or issues are being addressed at the local level. The Status column is a place where you can type in responses to the questions for tracking purposes. Add columns to the right that will help you in your local decision-making.

CATEGORY: PREREQUISITE OR CREDIT	QUESTION TO CONSIDER	STATUS
INTEGRATIVE PROCESS		
Integrative Planning and Leadership	Do you have a diverse LEED for Cities or Communities team in place? Have you adopted a systems-based comp plan? Do you follow an integrative process for planning and policy making?	
Green Building Policy and Incentives	Does the local government have green building incentives or policies in place?	
NATURAL SYSTEMS AND ECOLOGY		
Ecosystem Assessment	Has the local government evaluated its natural/ecological assets and liabilities?	
Green Spaces	Are green spaces protected in your jurisdiction and do all residents have access?	
Natural Resources Conservation and Restoration	Do you have priority natural resource and conservation areas or assets? Are plans in place to protect and restore them?	
Light Pollution Reduction	Are you addressing pollution from street lighting and reducing its impact on ecosystems?	
Resilience Planning	Have you completed a Vulnerability Assessment and/or Resilience Plan?	
TRANSPORTATION AND LAND USE		
Transportation Performance	Are you or a partner tracking vehicle miles traveled data for the jurisdiction?	
Compact, Mixed Use and Transit Oriented Development	Does the local government prioritize development that is compact, mixed use and transit oriented? Do these areas have access to transit and diverse uses?	
Access to Quality Transit	Does the local government collect and disclose modal split data? Do you have data on transit, transit stops, connections between modes and frequency of trips?	
Alternative Fuel Vehicles	Does the local government support and invest in alternative fuel vehicles and associated infrastructure?	
Smart Mobility and Transportation Policy	Has the local government adopted policies or implemented solutions to support smart and efficient transportation systems?	

<https://www.usgbc.org/resources/aligning-sustainability-plans-leed-cities-and-communities>



LEED for Cities and Communities: Existing

Project Checklist

Y ? N

Cities Communities



0	0	0	INTEGRATIVE PROCESS	POSSIBLE: 5	POSSIBLE: 5
			Credit Integrative Planning and Leadership	1	1
			Credit Green Building Policy and Incentives	4	4



0	0	0	NATURAL SYSTEMS AND ECOLOGY	POSSIBLE: 9	POSSIBLE: 9
			Prereq Ecosystem Assessment	REQUIRED	REQUIRED
			Credit Green Spaces	2	2
			Credit Natural Resources Conservation and Restoration	2	2
			Credit Light Pollution Reduction	1	1
			Credit Resilience Planning	4	4



0	0	0	TRANSPORTATION AND LAND USE	POSSIBLE: 15	POSSIBLE: 15
			Prereq Transportation Performance	6	6
			Credit Compact, Mixed Use and Transit Oriented Development	2	2
			Credit Access to Quality Transit	1	1
			Credit Alternative Fuel Vehicles	2	2
			Credit Smart Mobility and Transportation Policy	2	2
			Credit High-Priority Site	2	2



0	0	0	WATER EFFICIENCY	POSSIBLE: 11	POSSIBLE: 11
			Prereq Water Access and Quality	REQUIRED	REQUIRED
			Prereq Water Performance	6	6
			Credit Integrated Water Management	1	1
			Credit Stormwater Management	2	2
			Credit Smart Water Systems	2	2



0	0	0	ENERGY AND GREENHOUSE GAS EMISSIONS	POSSIBLE: 30	POSSIBLE: 30
			Prereq Power Access, Reliability and Resiliency	REQUIRED	REQUIRED
			Prereq Energy and Greenhouse Gas Emissions Performance	14	18
			Credit Energy Efficiency	4	4
			Credit Renewable Energy	6	6
			Credit Low Carbon Economy	4	-
			Credit Grid Harmonization	2	2

Project Name

Project ID

Date

Y ? N

Cities Communities



0	0	0	MATERIALS AND RESOURCES	POSSIBLE: 10	POSSIBLE: 10
			Prereq Solid Waste Management	REQUIRED	REQUIRED
			Prereq Waste Performance	4	5
			Credit Special Waste Streams Management	1	1
			Credit Responsible Sourcing for Infrastructure	2	2
			Credit Material Recovery	1	-
			Credit Smart Waste Management Systems	2	2



0	0	0	QUALITY OF LIFE	POSSIBLE: 20	POSSIBLE: 20
			Prereq Demographic Assessment	REQUIRED	REQUIRED
			Prereq Quality of Life Performance	6	6
			Credit Trend Improvements	4	4
			Credit Distributional Equity	4	4
			Credit Environmental Justice	1	1
			Credit Housing and Transportation Affordability	2	2
			Credit Civic and Community Engagement	2	2
			Credit Civil and Human Rights	1	1



0	0	0	INNOVATION	POSSIBLE: 6	POSSIBLE: 6
			Credit Innovation	6	6



0	0	0	REGIONAL PRIORITY	POSSIBLE: 4	POSSIBLE: 4
			Credit Regional Priority	4	4

0	0	0	TOTAL	110	110
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40-49

CERTIFIED

50-59

SILVER

60-79

GOLD

80+ Points

PLATINUM