RESILIENT COUNTY OPERATIONS

GOALS

- Ensure that County operations are resilient to the impacts of climate change.
- Design all Clark County-developed infrastructure to support community resilience to future climate conditions.

CLARK COUNTY IS ALREADY EXPERIENCING THE IMPACTS OF CLIMATE CHANGE IN MANY WAYS. AS OF THE WRITING OF THIS PLAN, 100% OF NEVADA'S POPULATION IS EXPERIENCING DROUGHT AND LAS VEGAS IS THE FASTEST WARMING CITY IN THE COUNTRY.[1,2]

As a county set in the desert southwest, Clark County has much at stake with regard to water and energy supply and intensifying urban heat island impacts. Further, projections estimate that southern Nevada could experience a 3-5°F temperature increase by 2030-2050 (relative to 1976-2005) and an estimated 40-50 more days above 100°F by 2050.[12] Clark County is not new to the climate conditions of desert-living. However, what the County will need to prepare for is more extreme climate conditions – higher temperatures for more extended periods of time, extreme flooding events, exacerbated ***urban heat island*** effects, and the subsequent impacts to the community it serves, energy and water demand, and infrastructural stress. Targeted emergency plans, knowledgeable employees, and resilient infrastructure will be required for the County to operate, and more nimbly, as it provides services to the community in more extreme and never-before experienced conditions.

Urban Heat Island
noun

Significantly hotter conditions in urban areas compared to surrounding rural areas, due largely to the presence of surfaces that absorb and retain heat (such as dark pavement, concrete, and asphalt) in cities.

DID YOU KNOW?

437

Heat-related deaths in Southern Nevada between 2007 and 2016

104°F

Average daytime high during summer months in Southern Nevada between 2015 and 2019

23

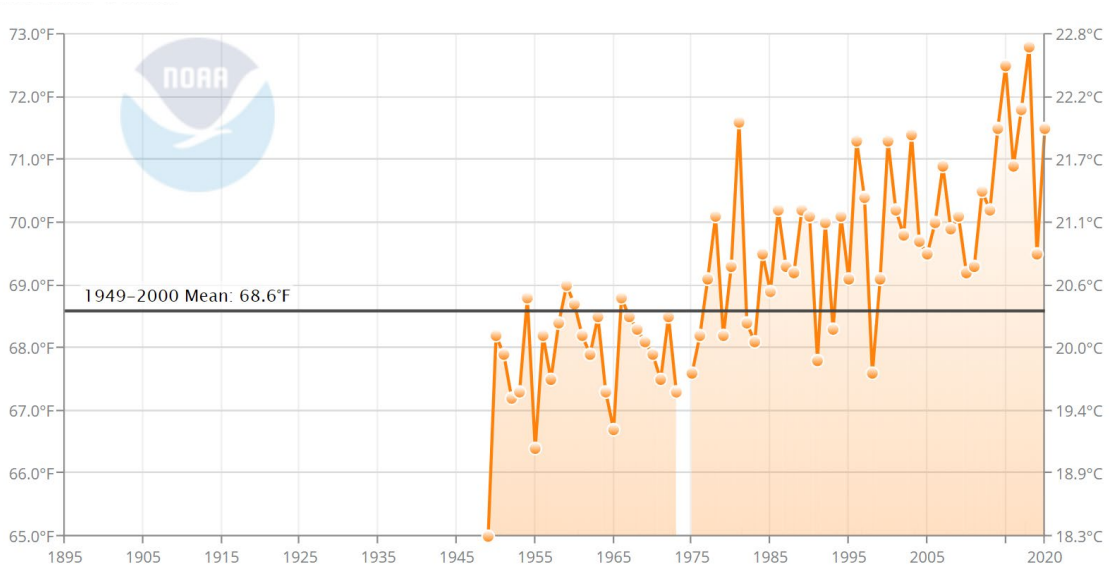
Excessive heat warnings issued in Southern Nevada between 2015 and 2019

84

Days exceeding 100°F in Southern Nevada in 2019

According to a recent analysis completed by Southern Nevada Strong and the Regional Transportation Commission of Southern Nevada.

LAS VEGAS, NEVADA AVERAGE TEMPERATURE
12-MONTH AVERAGE (NOVEMBER-OCTOBER)



Rising average temperatures in Las Vegas, NV. Powered by **ZingChart**[13]

Operational resilience for the County starts with planning. In 2018, eleven jurisdictions within Clark County came together to assess the region's vulnerability to a wide range of hazards and identify strategies for mitigation,[14] and in 2019, the County released an emergency response plan. However, neither provides Clark County with an operations-focused vulnerability assessment and contingency plan for targeted emergencies and threats due to events such as prolonged extreme heat or extreme winds (not previously addressed as a hazard). A complete County operations vulnerability assessment can position the County to make informed decisions for building and infrastructure resilience, as well as inform climate-specific emergency responses within and across its many departments.

A RESIDENT ENJOYS THE BREEZE AT A COOLING CENTER IN LAS VEGAS.

Source: Rachel Aston, Las Vegas Review Journal

Clark County has a significant responsibility to serve not only its community, but its nearly 10,000 employees. The County plays a critical role in educating and equipping its employees to manage extreme heat and poor air quality conditions, both as it relates to ensuring employee well-being as well as in outlining how employees should adapt their County roles and responsibilities during times of stress to conduct their jobs safely.

POTENTIAL ACTIONS

To ensure the County can better serve its employees and the community, particularly in times of emergency, the following set of actions have been identified.

ACTION	DESCRIPTION
Conduct a climate vulnerability assessment of all County critical assets and operational functions.	By assessing the strengths and vulnerabilities of critical assets and operational functions, the County can prioritize upgrades and outline contingency operational procedures needed prior to an emergency event occurring.
Assess existing County operations emergency management plans for increased hazards associated with climate change.	Emergency management plans that address hazards related to climate change can position Clark County to be proactive in addressing such hazards and have a suite of well-planned responses and trained employees ready for implementation when needed. By assessing existing plans, such as Clark County's 2018 hazard mitigation plan and 2019 basic emergency response plan, Clark County can identify additional gaps and opportunities to further strengthen its emergency management planning and increase its resilience to potential hazards associated with changing climate conditions.
Enhance existing emergency communication protocols and ensure communication is accessible to all County staff.	An internal County emergency communication protocol, such as a text notification system, can ensure all employees receive emergency communications, whether in the office or out in the field, and understand how to act accordingly. The County rolled out the Startup in Residence Program's August 2020 call for solutions for employee emergency notifications. The outcomes of this could serve as a starting point for enhancing emergency communications.
Adopt criteria for ensuring that all County capital projects are screened for resilience to climate change-related hazards.	Integrating resilience criteria into County capital projects allows the County to build in preparedness features and resilient design for its facilities. While the County currently aligns with FEMA's 100-year criteria for infrastructure design, the County will want to consider additional resilience criteria to adjust for potential impacts informed by more recent climate change projections. This gives the County the opportunity to modify project design as needed in its earlier stages before it becomes too costly to do so later on. This minimizes the County's need for reactive "band-aid" solutions when impacts occur in the future.

ACTION	DESCRIPTION
Assess number of cooling stations provided by Clark County and continue to ensure equitable distribution.	Cooling stations provide shelter and water to the public during extreme heat days. By offering these stations and distributing them equitably across the county, Clark County can increase the community's resilience to the impacts of climate change. The County should also consider the type of buildings best suited for cooling centers and how they are operated.
Ensure County infrastructure equitably minimizes contributions to urban heat islands.	Urban heat island is an increasing issue in Clark County. While the County's Title 30 regulations currently mandate it to build using materials and colors that complement the natural landscape, further minimizing the use of dark surfaces can aid in reducing urban heat island. Increasing the use of green infrastructure, as well as high albedo pavement and roofing across County facilities, can reduce elevated temperatures, infrastructure stress, and cooling demands, and improve community well-being. Using criteria such as a social vulnerability index can help the County prioritize project areas so that they are equitably distributed.
Preserve and enhance tree canopy and green infrastructure throughout Clark County, ensuring equitable distribution of such assets across all neighborhoods.	Trees and green infrastructure, such as low-maintenance and drought-tolerant roadside vegetation, reduce urban heat islands, provide shading, improve air quality, and provide stormwater management benefits, particularly in urban areas. Preserving and enhancing these systems throughout the county is one low-cost solution the County can pursue to ensure all residents receive its benefits.

METRICS AND TARGETS

To ensure the County can track its progress towards operational resilience the following metrics and targets have been identified. Note, where possible, ***All-In Clark County*** has aligned its metrics and targets with existing County, state, or regional plans to ensure efforts for sustainability and climate resilience are coupled. In the case of resilience, tracking progress often means establishing new metrics and defining them, which will be an important outcome of a County operations vulnerability assessment.

Metric	Baseline	2030 Target	2050 Target
# of County assets vulnerable* to climate risks	New Metric	Downward trend	Zero
$ value of resilience investments (compared to property loss risk $)	New metric	TBD	TBD
% of County property area shaded or vegetated	New metric	Upward trend	
# of trees planted on County property	24,552 in 2013 (only accounts for parks)	25% increase	50% increase
# of cooling stations	New metric	TBD (based on future needs assessment)	
% of capital projects meeting resilience guidelines	New metric	50%	100%

*Level of vulnerability to be defined for tracking purposes.