

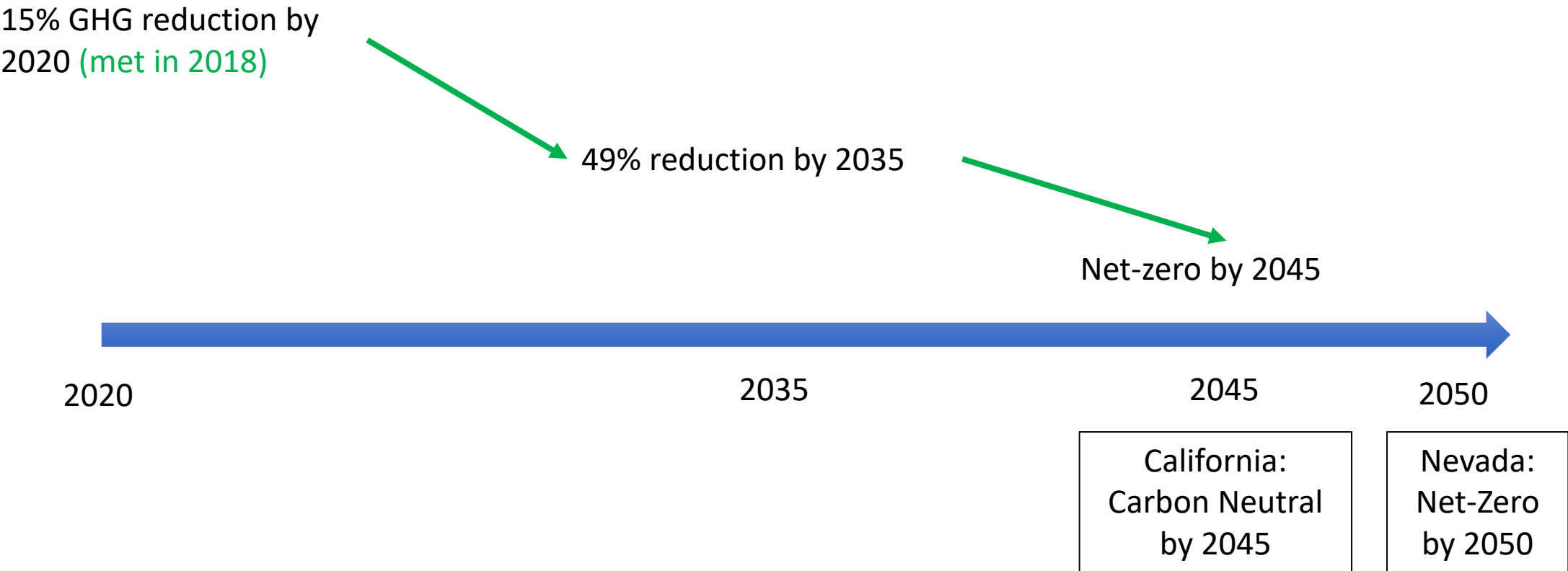
Governing Board Meeting

October 26, 2022

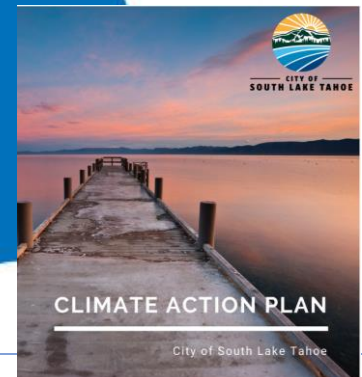
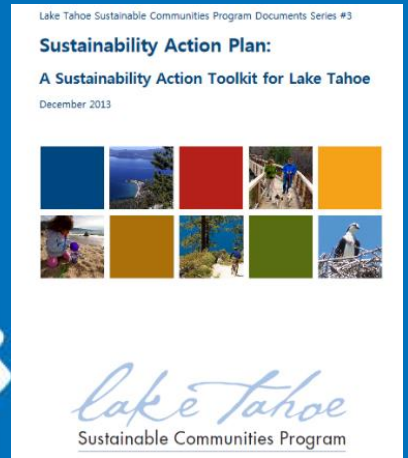
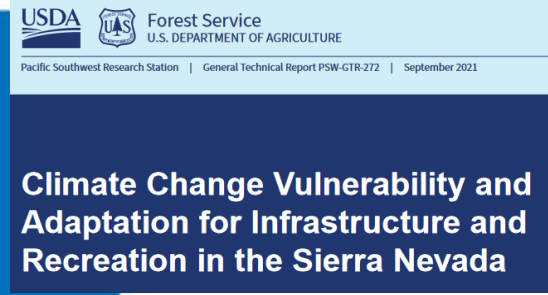
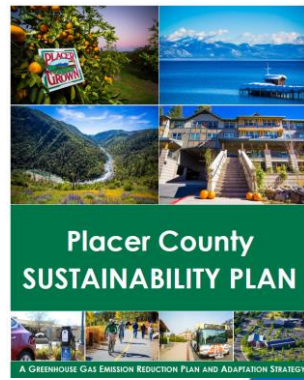
AGENDA ITEM VII.A

Briefing on Climate Resilience Strategic Initiative

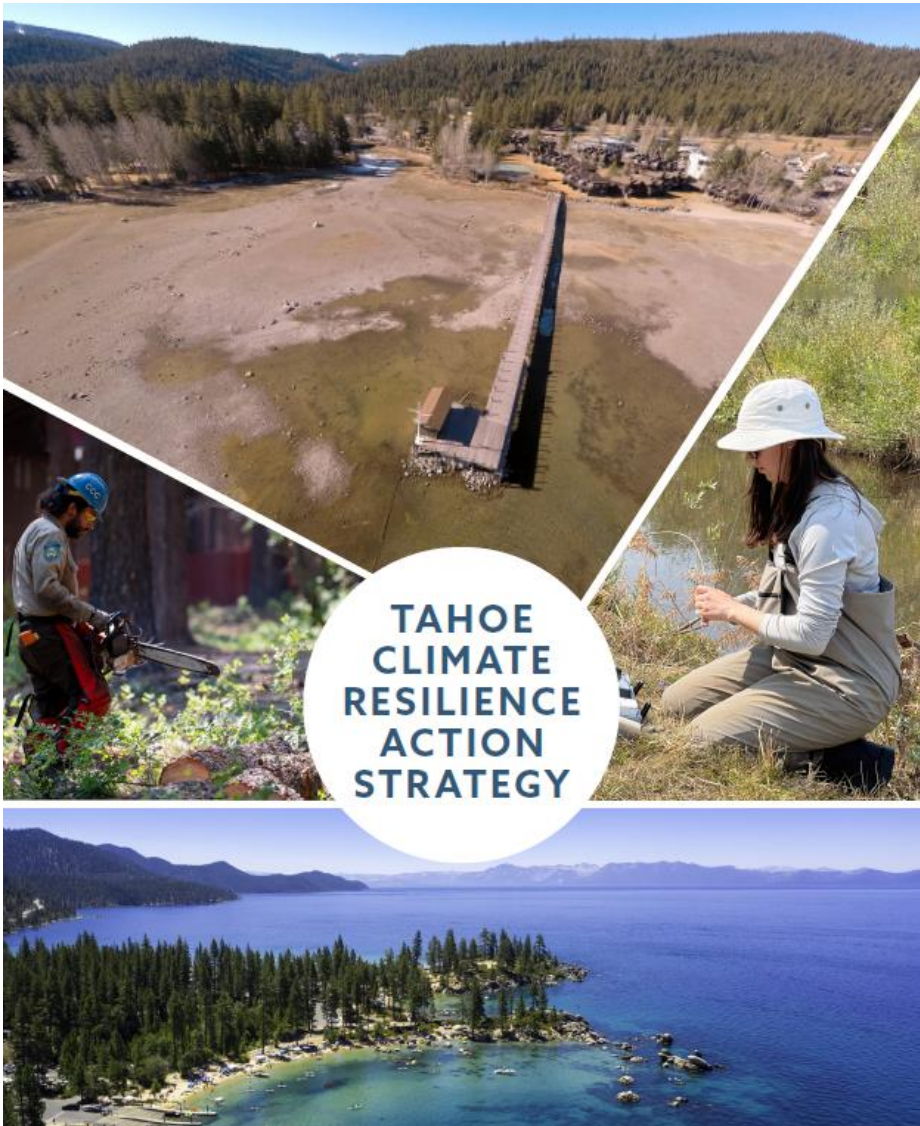
Greenhouse Gas Reduction Targets



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Climate Resilience Action Strategy



Top photo by Aerial Flight Productions (CC BY 2.0), middle photos by California Tahoe Conservancy, bottom photo by Lake Tahoe Water Trail



Photo: California Department of Transportation



Photo: CALFIRE



Photo: Tahoe Regional Planning Agency

TAKING AN INTEGRATED APPROACH TO BUILDING RESILIENCE



LAKE TAHOE

including its chemistry, hydrology, water quality, and native fish.



FORESTED UPLANDS

including vegetation, wildlife, and groundwater.



COMMUNITIES

including cultural landscapes, public health and safety, recreation, and water, power, communication, and transportation infrastructure.

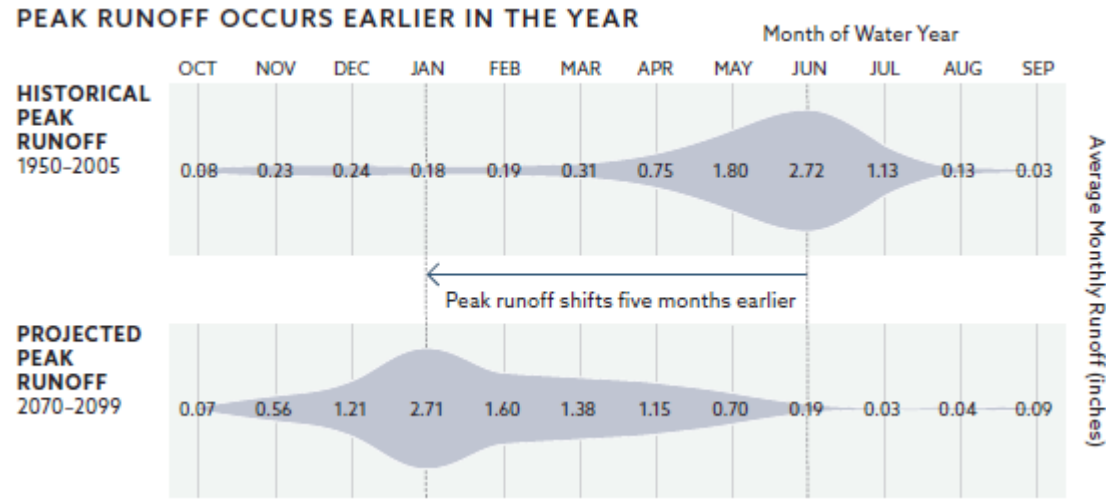


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Focus Areas

1. Build Sustainable Recreation and Transportation Systems
2. Reduce Wildfire Risk and Build Forest Resilience
3. Increase Watershed Resilience and Biodiversity
4. Upgrade Infrastructure and Protect Vulnerable Communities
5. Advance Science, Stewardship, and Accountability

Stormwater Management



Stormwater Basin Construction, US Hwy 50 at South Lake Tahoe

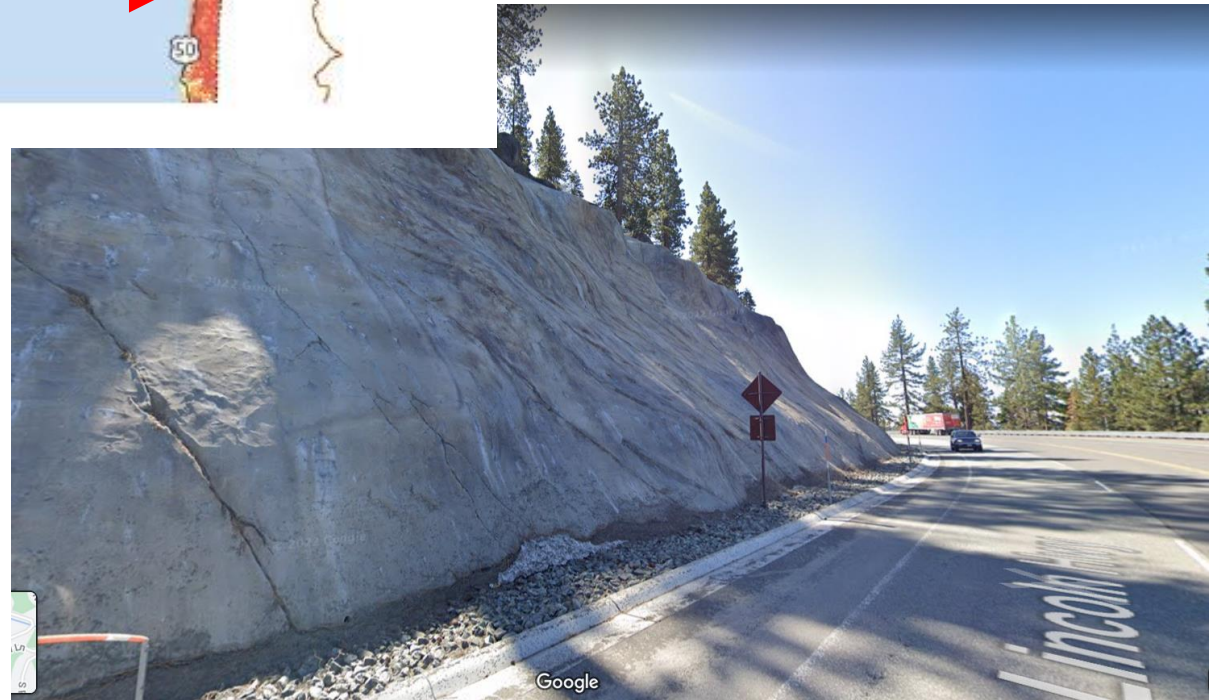
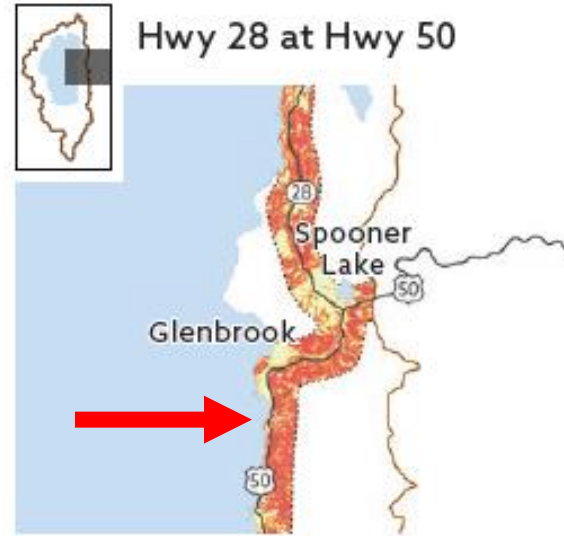


Kahle Drive drainage and pavement issues (Douglas County, NV)

Landslides

LANDSLIDE RISK

- High (slope 18 to 31 degrees)
- Moderate (slope 12 to 17 and 32 to 37 degrees)
- Low



US Hwy 50 at Logan Shoals Before and After (Douglas County, NV)

Project List

Tag **Climate Resilience**

BASICS

Tag Name Climate Resilience
Tag Description Projects identified as contributing to the Tahoe Climate Resilience Action Strategy
Viewable By Public



PROJECTS

Currently viewing 198 of 198 Projects with this Tag

[Download Table](#)

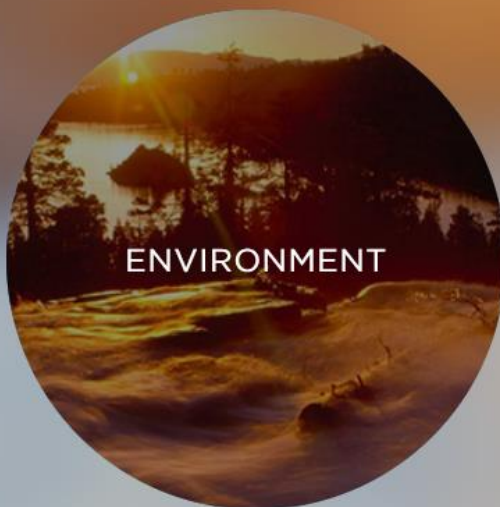
Project #	Project Name	Lead Implementer	Stage	EIP Project?	Lake Clarity Project?	Transportation Project?	Planning / Design Start Year	Implement Start Year
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
01.01.01.0005	U.S. Highway 50 Water Quality Improvement Project - "Y" to Tr	California Department of Tra	Implementation				2012	
02.01.01.0118	California Tahoe Conservancy Land Management Program	California Tahoe Conservanc	Implementation				2012	
01.02.01.0005	Sunset Stables Upper Truckee River Reach 6 Restoration Proje	California Tahoe Conservanc	Planning/Design				2004	
01.02.02.0001	Environmentally Sensitive Lands Acquisition Program	California Tahoe Conservanc	Implementation				2007	
01.02.01.0010	Upper Truckee River Floodplain Restoration and Golf Course R	California Department of Pa	Planning/Design				2008	

Climate Resilience Dashboard

Measuring what matters

Sustainability Indicators for the Lake Tahoe Region

Below is a dashboard of sustainability aspects for the Lake Tahoe Region. Click on a category for greater detail on the current status of the economic, environmental, and community health of the Lake Tahoe Region.



[VIEW ALL INDICATORS
ABOUT THE SUSTAINABILITY DASHBOARD](#)

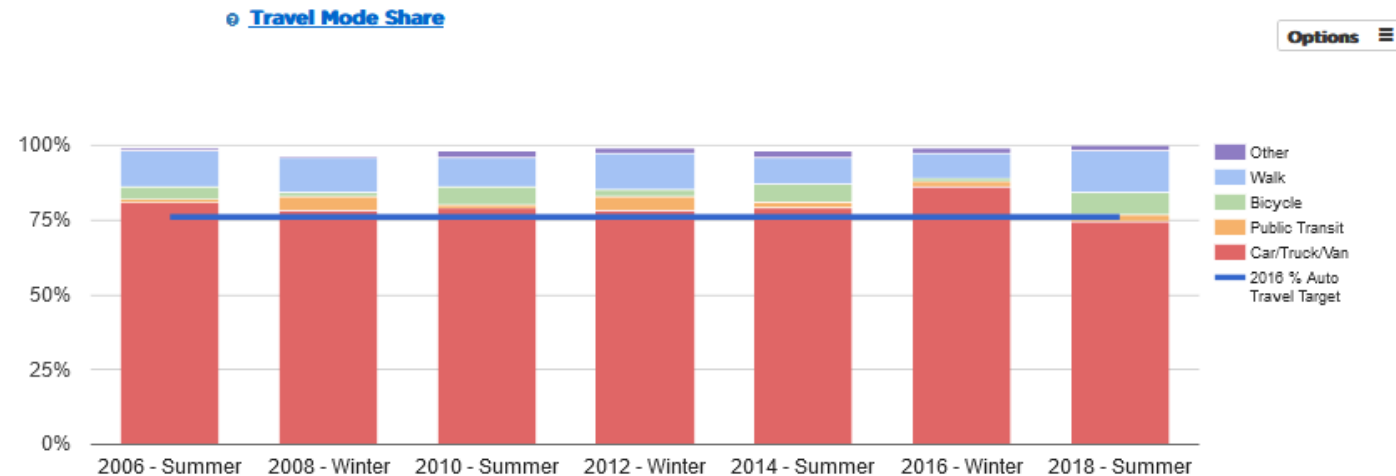
How Tahoe Measures Transportation

TRPA uses data-driven decision making and performance-based planning to assess our transportation system and identify projects and programs that will achieve regional goals.

Travel Mode Share

Increasing non-auto mode share is a primary goal of transportation planning and programs in the Lake Tahoe Region because of the economic, human health and environmental benefits created when residents and tourists use other modes of transportation. Transportation policies and programs in the Lake Tahoe Region aim to provide a successful multi-modal transportation system that appeals to users, supports mobility needs and decreases dependency on the private automobile. Mode share measures the degree to which land-use patterns and policy and funding decisions in the region influence residents and visitors to use non-auto modes for travel.

This indicator measures the percentage of travelers in the Lake Tahoe Region that drive in a car/truck/van, use public transit, ride a bike, walk, or use another form of transportation. TRPA's 2018 Summer Travel Survey was conducted in late-August of 2018. Since 2006 TRPA has conducted basin-wide travel surveys every two years in order to better understand basic travel characteristics of both residents and visitors. The data collected - which includes data points such as mode share, origin-destinations, and trip purpose - is used for a variety of purposes at TRPA including regional performance metrics, project planning, and travel demand modeling. The report highlights development, methodology, logistics, and data results of the 2018 Summer Travel Survey. For the full report, please visit http://www.trpa.org/wp-content/uploads/travel_survey_report.html

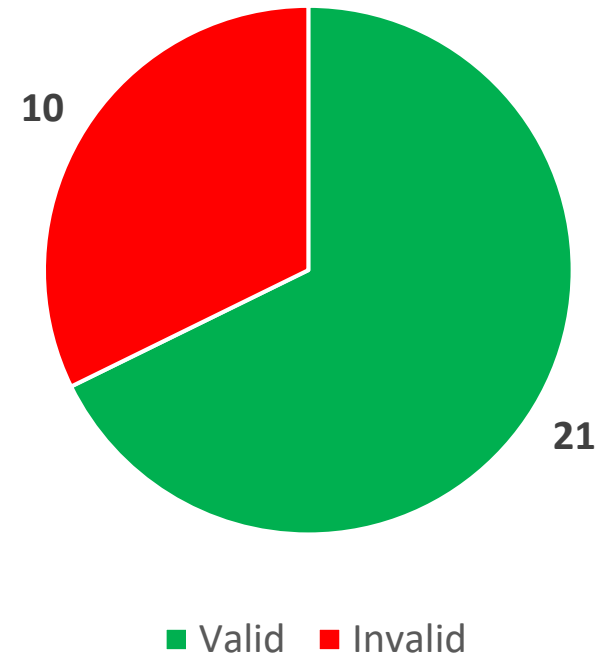


Last Updated: 01/30/2019

Existing Metrics

- Environment
 - Aquatic Invasive Species
 - Forest Health
 - Greenhouse Gas Emissions
 - Water Quality
- Community
 - Education
 - Healthy Lifestyle
 - Housing
 - Transportation
- Economy
 - Business Environment
 - Employment
 - Income

Existing Metric Status



Alignment with other metrics

Tahoe Central Sierra Initiative



MEASURING FOR PROSPERITY

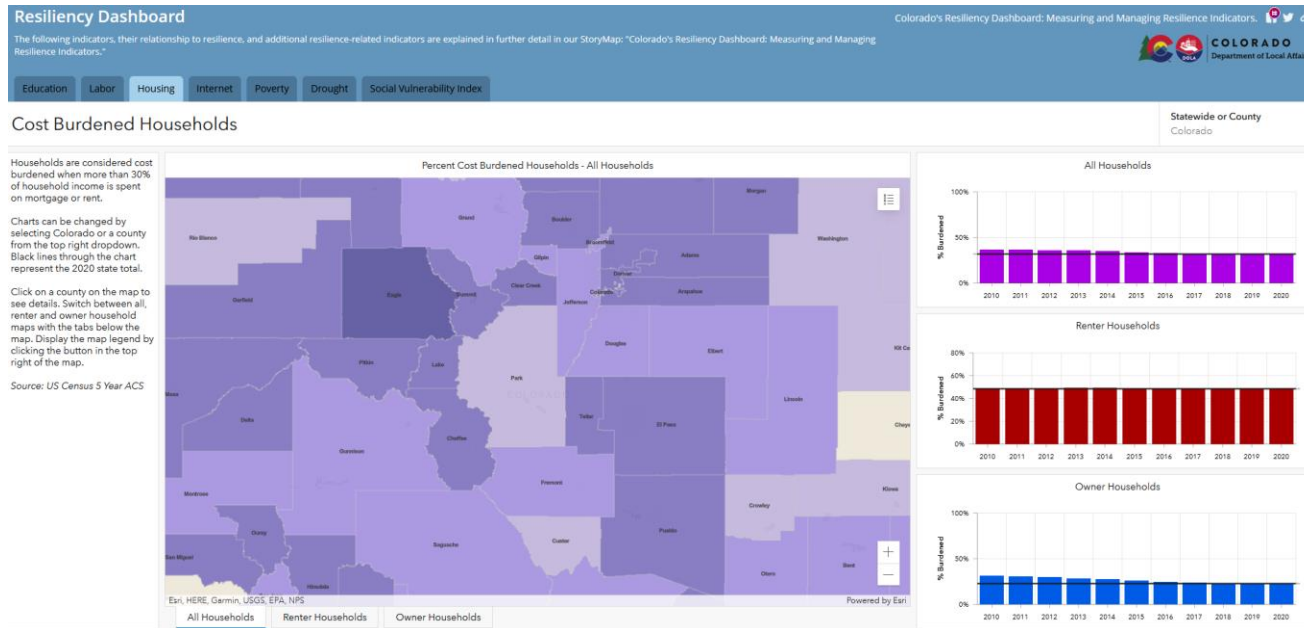
Indicators Report 2020



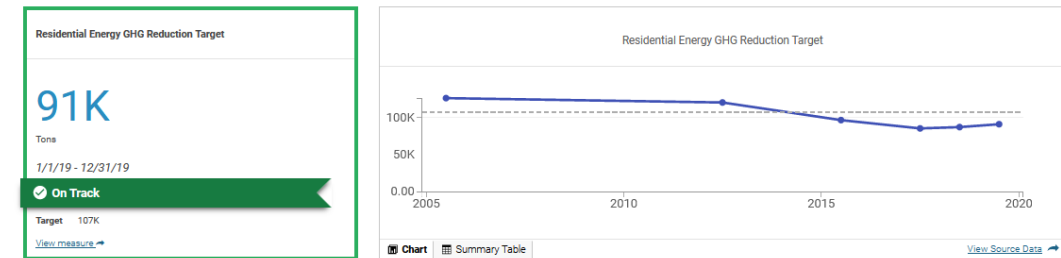
Governor's Office of
Planning and Research



Case Studies



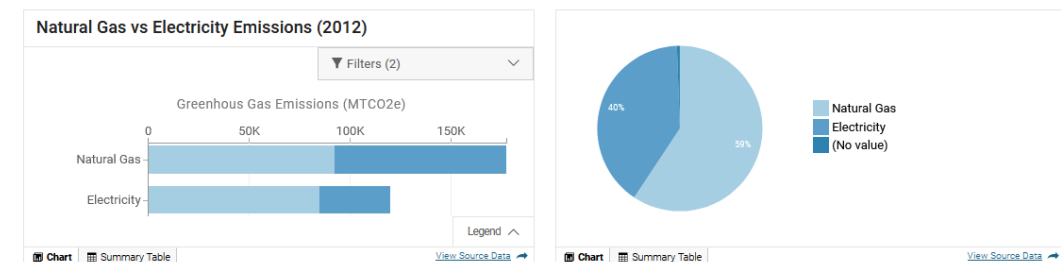
Residential Greenhouse Gas Emissions and Goals



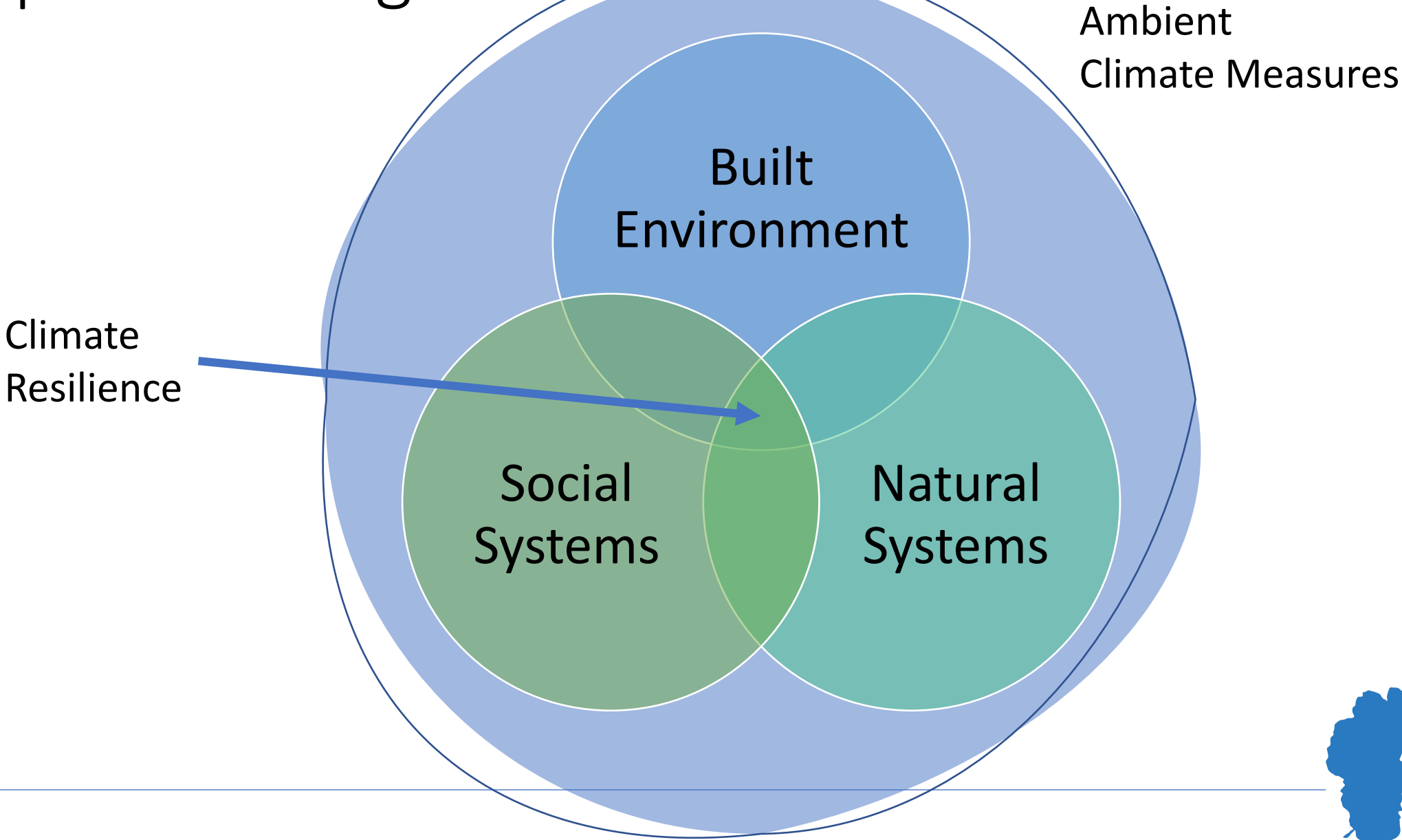
Note: The performance measure above is only measuring residential energy emissions as we do not currently have data on commercial/industrial energy usage; we cannot currently track our progress on commercial/industrial energy emissions reduction.

Greenhouse Gas Emissions - Natural Gas vs Electricity

2012 data is shown below to compare natural gas vs electricity emissions because industrial data is not currently available to the City for 2015-2019 data due to California regulations.



Proposed Categories



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Dashboard Activity

What comes to mind when you think of a resilient:

- Built Environment
- Natural Systems
- Social Systems

Next Steps

- Stakeholder Engagement
- Draft and Final Metrics
- Data Collection
- Dashboard Development

Climate Resiliency Policy & Code Review

Purpose

Lake Tahoe Sustainable Communities Program Documents Series #3

Sustainability Action Plan:

A Sustainability Action Toolkit for Lake Tahoe

December 2013



Lake Tahoe
Sustainable Communities Program

- Traffic congestion (VMT reduction)
- Energy conservation
- Energy generation
- Zero-emissions vehicles
- Waste diversion
- Sustainable construction and development
- Water conservation
- Carbon sequestration, forestry practices, and vegetation
- Adaptation and resiliency
- Affordable Housing

Research

External



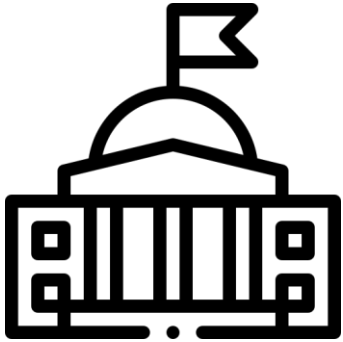
Internal



Research

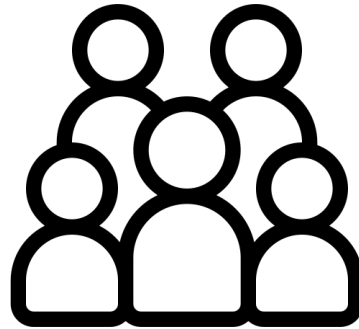
Idea: Require benchmarking, auditing, and retrofitting of existing structures	
Priority: TBD	
Examples (Codes, Programs, Resources)	<ul style="list-style-type: none"> • Seattle Municipal Code 22.920 - owners of nonresidential and multifamily buildings of 20,000 sf or larger are required to track energy performance and annually report to the city. Then the city annually publishes the data for transparency using a data visualization site (85) • Seattle Municipal Code 22.930 The Building Tune-Ups Ordinance - required every 5 years for commercial buildings 50,000 sf or larger excluding parking. Compliance deadlines are phased in by building size, and there are qualified Tune-Up Specialists. For energy and water efficiency. (86) • Washington DC Clean Energy DC Act - established a minimum energy performance for commercial and multifamily buildings. "Buildings below the threshold will be required to improve their energy performance by 20% over the 5-year compliance period or take other prescriptive actions" (130) • City of LA Ordinance 183893 - requires retrofit of pre-1978 wood frame soft-story buildings and non-ductile concrete buildings, mostly for earthquake retrofitting (29)
Survey Results	TBD
Alternatives	<ol style="list-style-type: none"> 1. No action 2. Amend 60.4.4 to require commercial and multifamily buildings to track energy performance and report to TRPA annually (including gaming, tourist, resorts). 3. Establish a Tune-Ups ordinance to require commercial and multifamily buildings (including gaming, tourist, resorts) to meet the minimum energy performance measures that will be set forth from the energy reach codes

Survey - Stakeholders



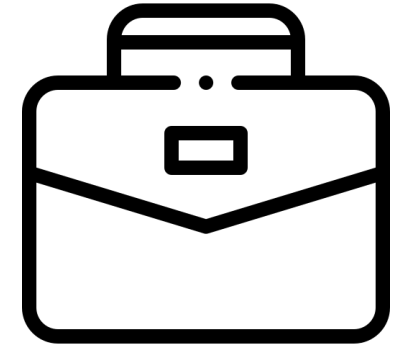
Local governments
Public services

10



Nonprofits (NGOs)
Community-based
organizations (CBOs)

3



Private organizations
Development
organizations

11

Methodology for Survey

Rate each idea on feasibility, impact, and level of support.

	How much effort and resources will this idea require to implement?				If implemented, what type of climate resilience impact will this idea have on the region?				What is your/your organization's level of support for this idea?		
	Not sure	Little	Moderate	Significant	Not sure	Negative	Insignificant	Positive	Do not support	Neutral	Support
Require use of 'cool' materials on roofing to reduce heat island effect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Set a maximum energy budget for new residents and require mitigation for energy use beyond that budget	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Require full building electrification in new construction and incentives to convert existing development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Results – By Stakeholder Group

Focus on reducing traffic congestion.



Promote water efficient landscaping.



Promote renewable energy.



Promote zero waste for temporary events.



Continue focusing on workforce housing.



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Results – Additional Comments

- “Better public transportation” (bus, pedestrian, and bike infrastructure)
- “Enforcement is incredibly important.” (temporary events, parking)
- “All electric is very costly, will be met with great resistance, is unrealistic”
- “Energy efficiency is the key element” over requiring all electric”
- “Provide incentives for home generation of renewable power and require the power grid to buy this energy.”
- “I am very unsure about what to do about our existing building stock. Major equity concerns.”
- “Ban use of fertilizers that contribute to algal blooms”

Climate Smart Code

Activity

- Review priority themes and ideas
 - Based on Policy and Code Research
 - Early evaluation of emerging ideas
 - Focus on Code amendments
- Questions on themes and ideas
- Anything missing?
- Vote on priorities for further study in code amendment package

Priority Themes

1. Traffic Congestion and VMT Reduction
2. Energy Generation
3. Energy Conservation
4. Zero Emissions Vehicles
5. Sustainable Construction and Development
6. Carbon Sequestration, Forestry, and Vegetation

Themes addressed by others

- Waste Diversion
 - Existing federal and state legislation
- Water Conservation
 - Priority of the states
- Workforce Housing
 - Addressed through the Housing Initiative

Code Tools

- Remove barriers (roof mounted solar and cool roofs)
- Create incentives (coverage exemptions for EV charging)
- Make requirements (require bike parking)

Non-Code Tools

- Educational programs
- Projects
- Partnerships

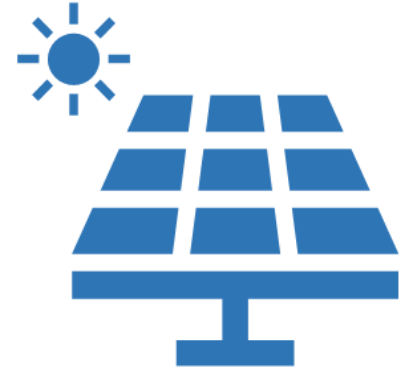
ACTIVITY



Traffic Congestion and VMT Reduction

- Require snow clearing on multiuse trails and sidewalks
- Require traffic reduction measures for temporary events
 - Require bike parking/valet at temporary events
 - Require visitor travel plan as condition of approval for temporary activity permit
- Incentivize walk- and bike-ability in town centers
 - Require bike racks and/or e-bike charging for new development
 - Additional requirements for pedestrian infrastructure like sidewalks and wayfinding
 - Remove barriers to expanded outdoor dining and retail

Energy Generation



- Remove barriers for small-scale energy generation
 - Biomass, wind, solar, storage
- Clarify scenic standards for energy generation
 - Preferred materials, reflectivity, code interpretation
- Provide an additional height allowance incentivizing roof-mounted solar and wind generation facilities
- Require parking lots or buildings of a certain size to include solar panels

Energy Conservation



- Incentivize energy efficient appliances and/or building standards
 - Coverage bonuses or bonus development rights as an incentive for energy-efficient design
 - Require 100 percent electric for all new construction
- Require an excess square footage and/or energy use mitigation fee
- Update exterior lighting requirements for energy efficiency and dark sky standards

Zero Emissions Vehicles



- Incentivize EV charging through coverage exemption
- Design and use guidelines incentivizing appropriate EV charging
 - i.e. signage, parking, snow removal, accessory use
- Require EV charging stations for new construction
- Guidelines for electric watercraft and charging
 - Scenic guidelines
 - Standards for placement, performance, and safety

Sustainable Construction and Development



- Require use of 'cool' materials to reduce heat island effect
- Incentivize area-wide green infrastructure in town centers
- Remove barriers to using recycled construction materials
- Incentivize solar-ready and/or passive solar construction
 - Limited exemptions from coverage and other building standards
- Extend grading season based on new climate science
- Standardize roof drip line BMP design guidelines

Carbon Sequestration, Forestry, and Vegetation



- Remove barriers community gardens and community parks on residential lots
- Remove barriers to forest treatment in riparian zones
- Remove barriers to green roofs
 - Pitch, height, roof materials

Next Steps

- Refine Workplan
 - Consider budget, potential environmental impact, public support
- Research Priority Ideas
- Develop Alternative Regulatory Language
- Facilitate Stakeholder Workshops and Refine Code Language
- Analyze Impacts and Develop Proposal

Closing

Governing Board Meeting

October 26, 2022

Agenda Item No. VII.A

Committee Member Comments

Governing Board Meeting

October 26, 2022

Agenda Item No. VII.A

Public Comment

