

Greenhouse Gas Inventory Report & Climate Resiliency Initiative Update

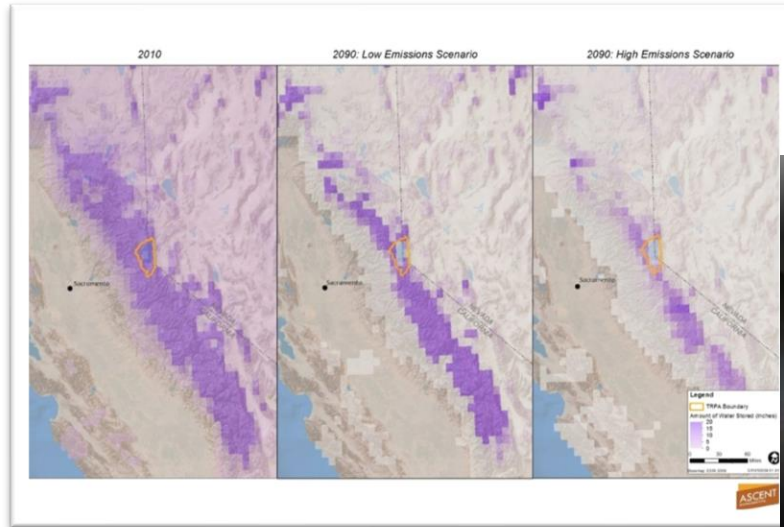
<https://www.trpa.gov/programs/climate-resiliency/>

Governing Board

June 2021



Sustainable Communities Program



Water Quality	Water Supply	Wildfire Hazard Reduction	Flooding Hazard Reduction	Emergency Response	Forest Resources	Biological Resources	Air Quality	Enhanced Economic Activity	Job Generation Potential
Energy Supply	Greenhouse Gas Emissions Reduction	Mobility & Goods Movement	Solid Waste & Recycling	Community Health & Education	Social Equity	Public Health & Safety	Recreation Resources	Community Noise Reduction	



Lake Tahoe Sustainable Communities Program Documents Series #3

Sustainability Action Plan:

A Sustainability Action Toolkit for Lake Tahoe

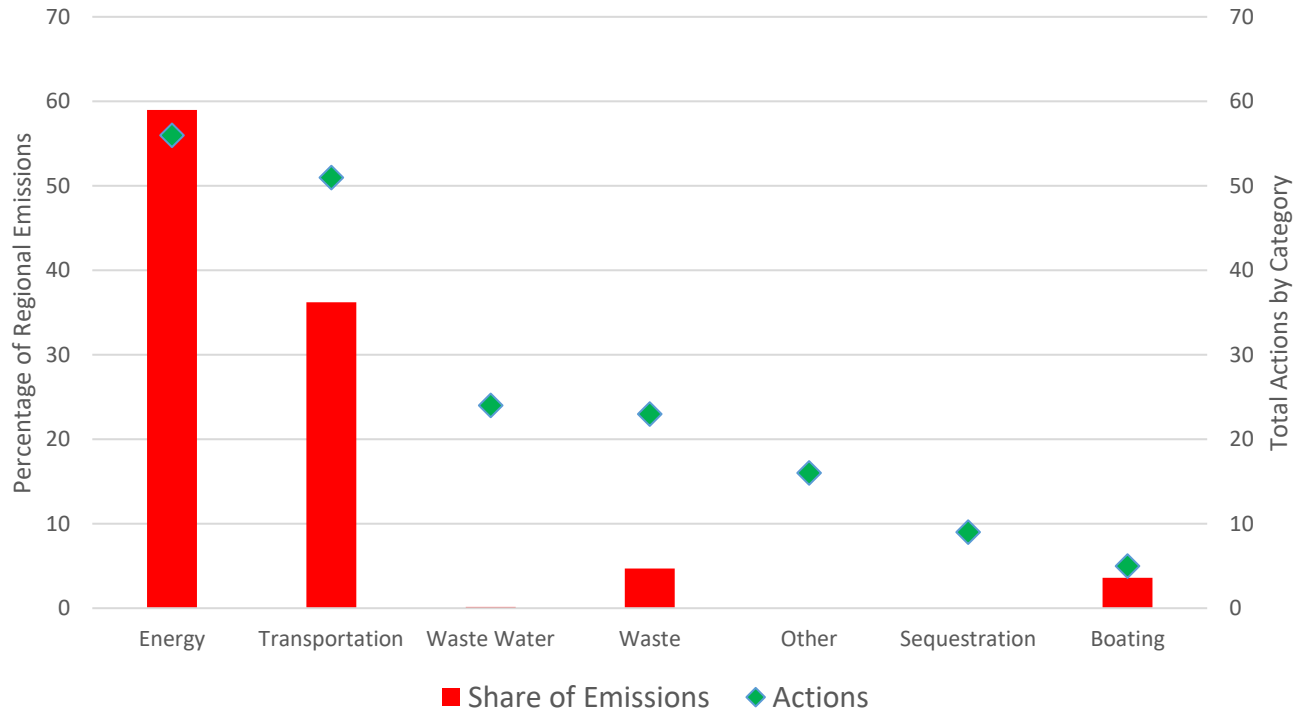
December 2013



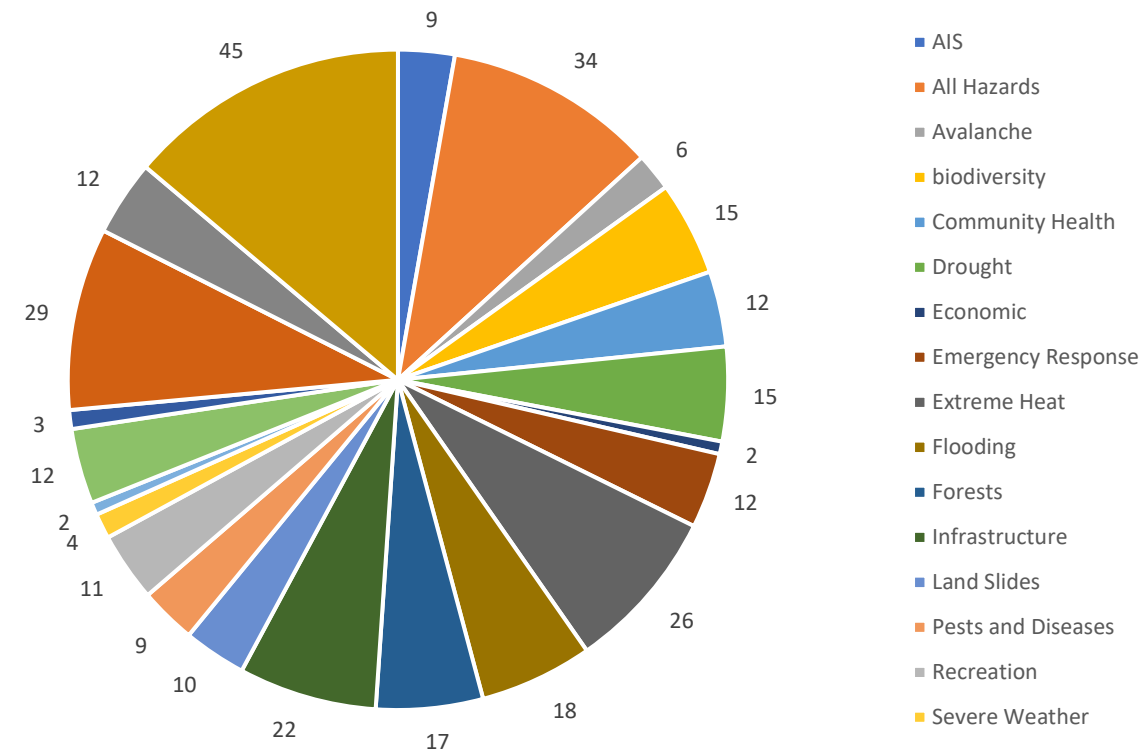
Lake Tahoe
 Sustainable Communities Program

Existing Climate Actions

Existing Mitigation Actions (184 identified) vs Regional Emissions (2018)

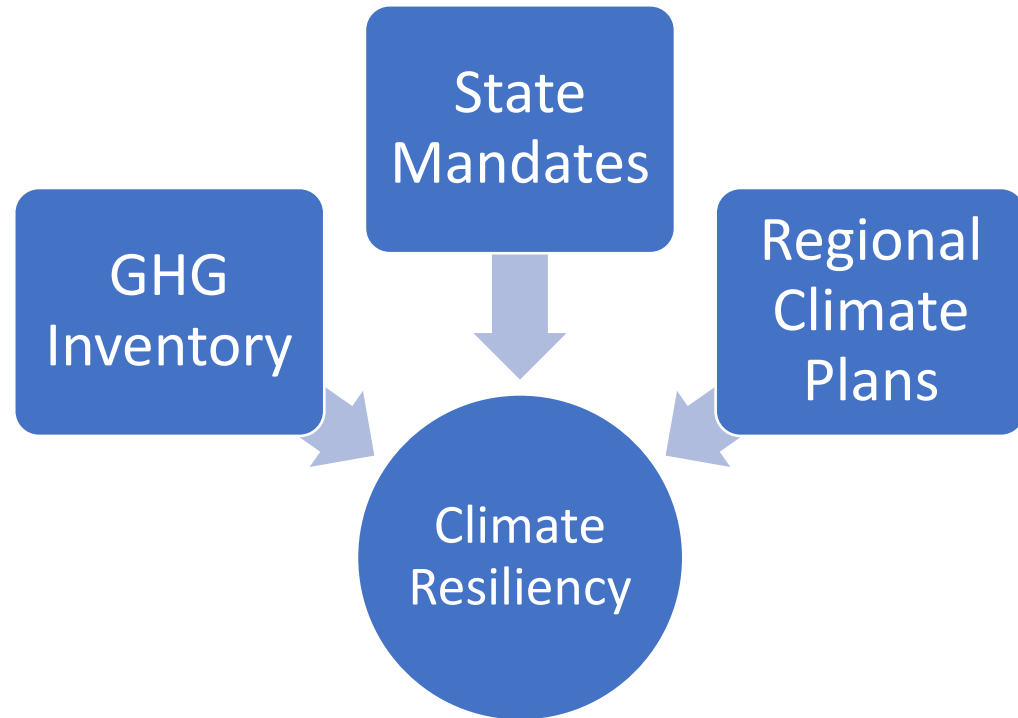


Total Adaptation Actions (325 identified)



Many of which have been implemented

Advancing Climate Action



2014 Interim Target: 15% GHG reduction by 2020 (met in 2018)

Measuring Tahoe's Greenhouse Gas Emissions

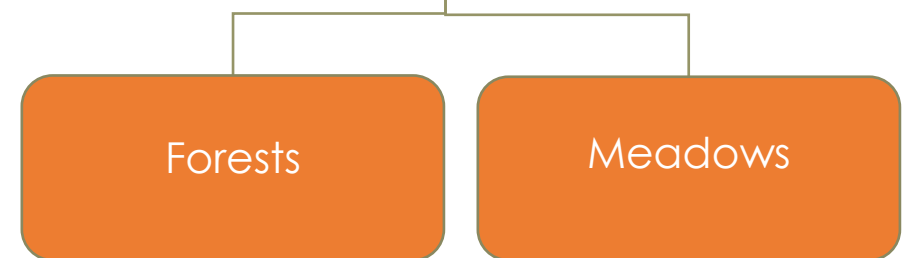


What are we measuring?

GHG Emissions



Carbon Sequestration

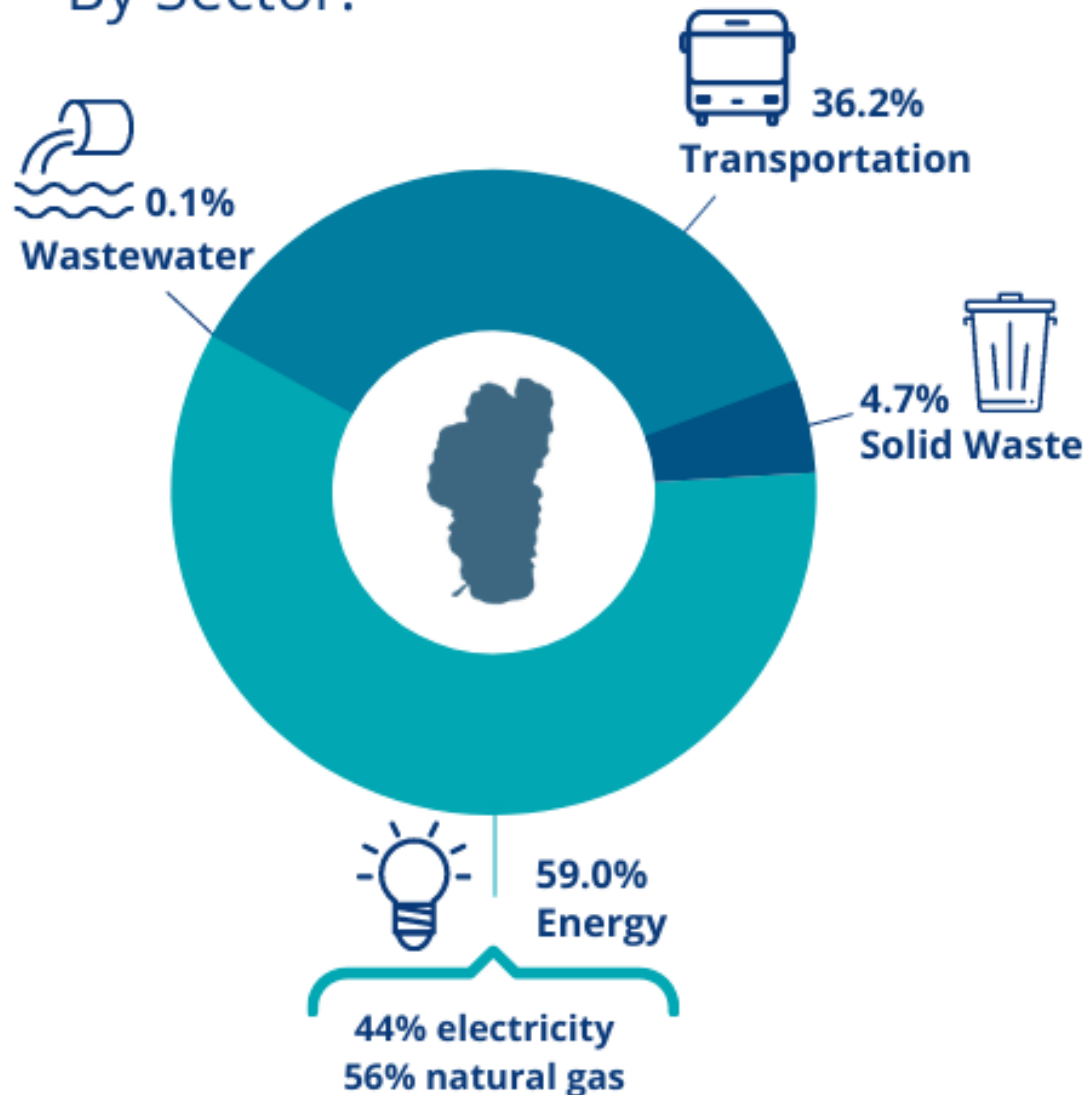


Carbon Dioxide Equivalent (CO₂e)

Metric to compare emissions from various GHG sources; carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O)

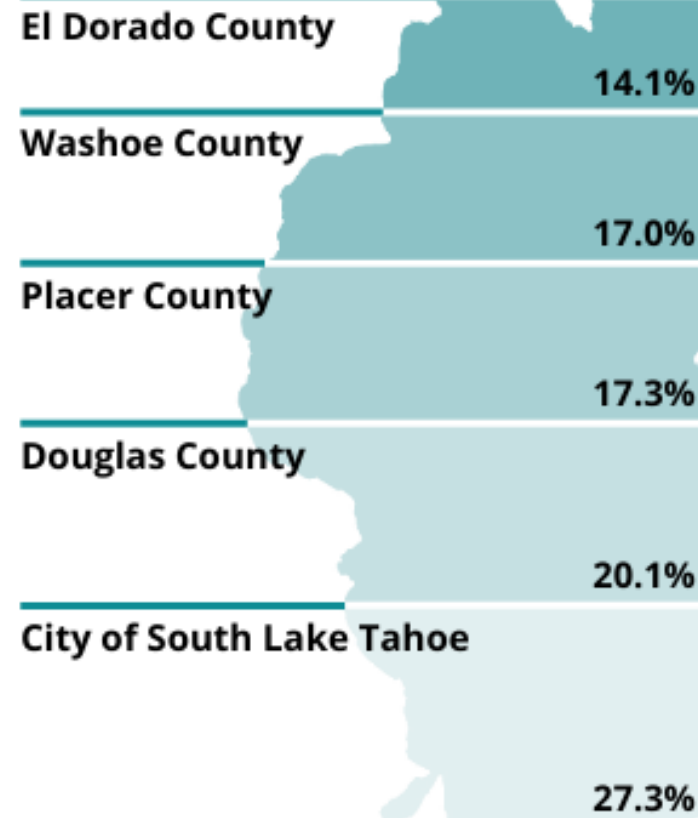
2018 EMISSIONS BREAKDOWN

By Sector:

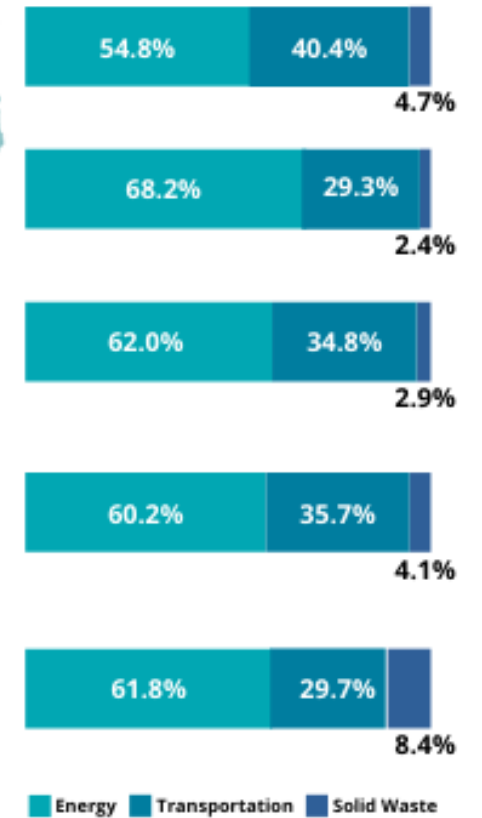


By Jurisdiction:

Carson City* 0.7%
 Boating (Unattributed) 3.6%



Emissions Breakdown by Sector

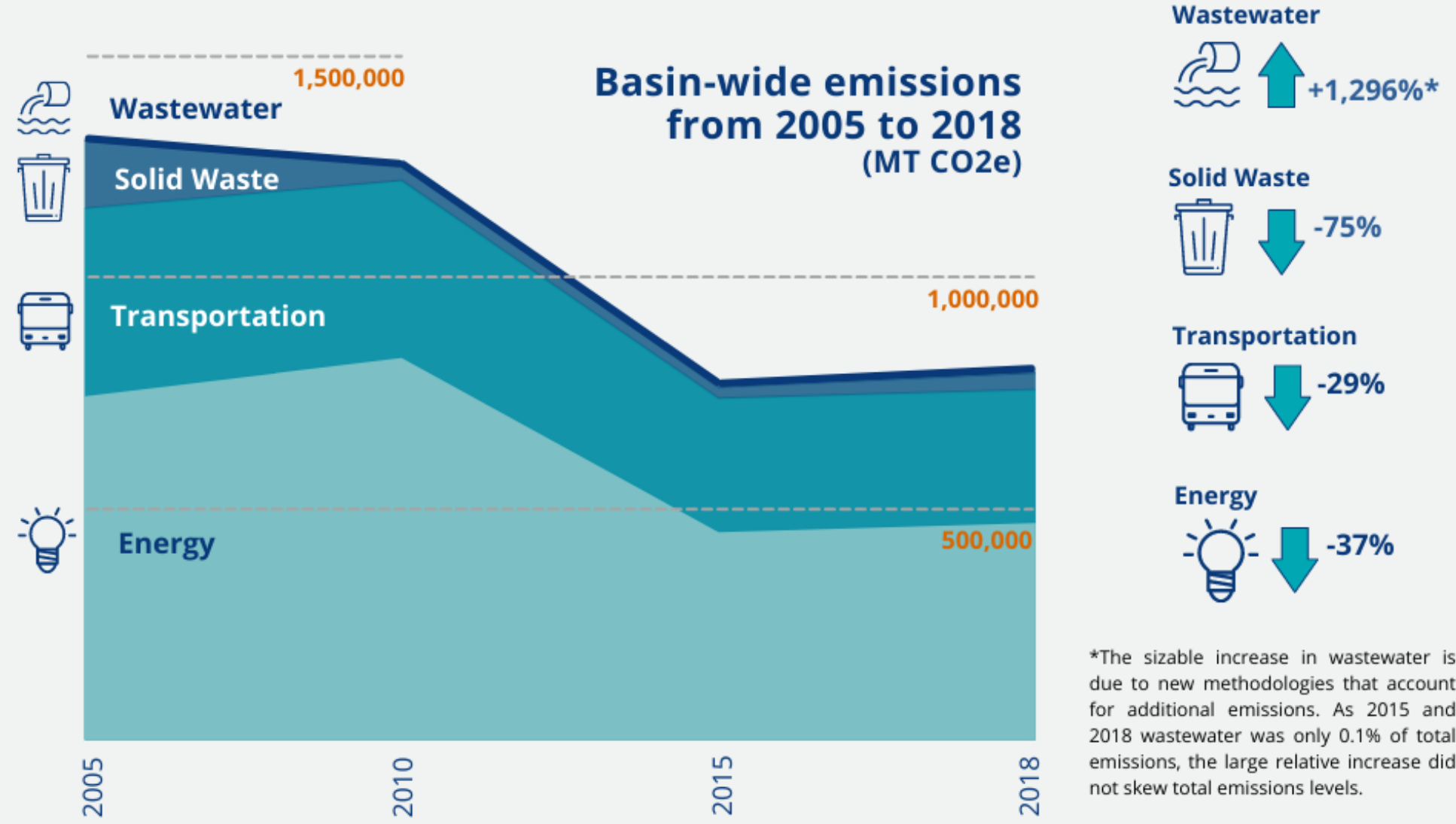


*The rural portion of Carson City's emissions (within the Tahoe Basin) all come from the Transportation sector.

TOTAL 2018 GREENHOUSE GAS EMISSIONS: ~800,000 MT CO2e

Over half of the emissions in the Lake Tahoe Basin come from energy. Energy + transportation account for over 95% of total emissions in the basin.

Emissions decreased from 2005 to 2018, but slightly increased from 2015 to 2018.



2014-2018 CARBON SEQUESTRATION

Forest Sequestration in the Tahoe Basin:

Resilient forests are carbon sinks.

Fire-suppressed forests are carbon sources.



175,000 acres of healthy forests sequestered
300,000 to 900,000 MT CO₂e per year
(2014-2018 average)

Carbon Sequestration is an emerging science

The wide range in carbon values for the Tahoe Basin is a result of the variation in forest carbon model outputs, as well as unknown meadow condition status.

Meadow Sequestration in the Tahoe Basin:

Meadows sequester more carbon per acre than forests, but meadows are a diminishing resource as they dry out and are converted into forests.



5,000 acres of meadows could have sequestered
up to **40,000 MT CO₂e per year** OR emitted **-30,000 MT CO₂e per year**
(2014-2018 average)



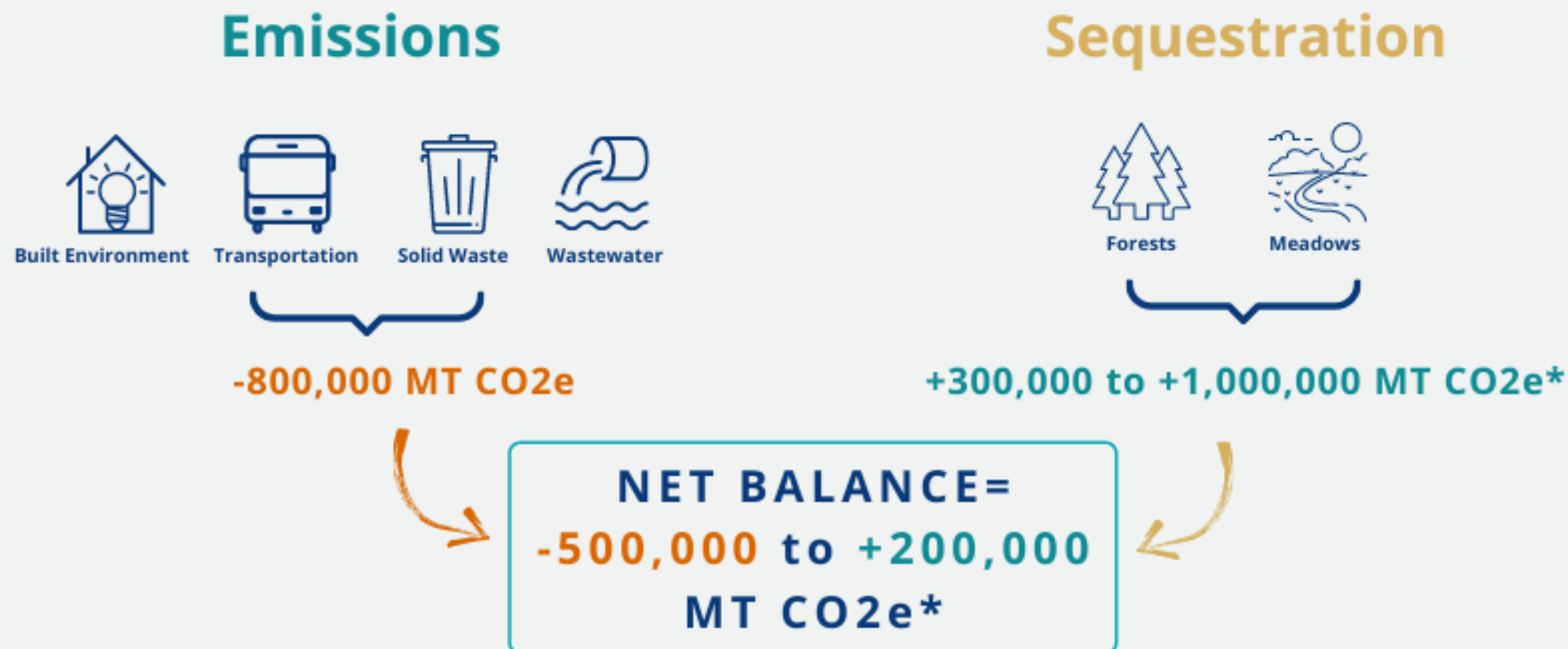
Meadows have the potential to play a very important role in carbon sequestration.



REDUCING EMISSIONS IS CRUCIAL

If no further action is taken to continue reducing emissions, overall emissions in the basin are forecast to increase 5.7% by 2045.

CARBON ACCOUNTING BALANCE (2018)



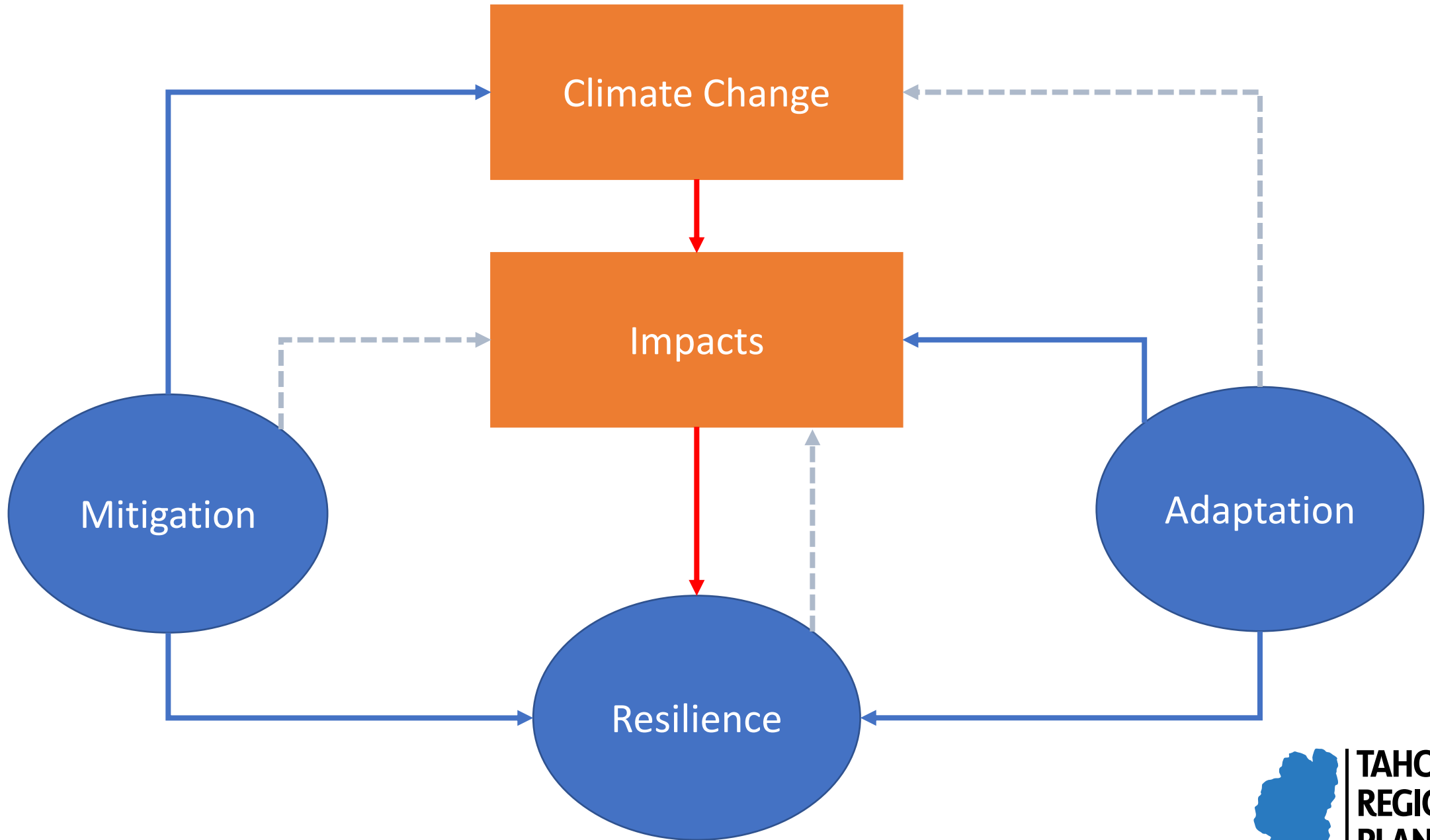
*The wide range in 2018 carbon sequestration values for the Tahoe Basin is a result of the variation in forest carbon outputs compared in this analysis, as well as unknown meadow condition status.

Using the Inventory

- Modeling climate benefits
 - Redevelopment and restoration
- Future science and monitoring
- Setting management priorities

Next Reduction Targets: 49% reduction by 2035, net-zero by 2045

Climate Resiliency Initiative Update

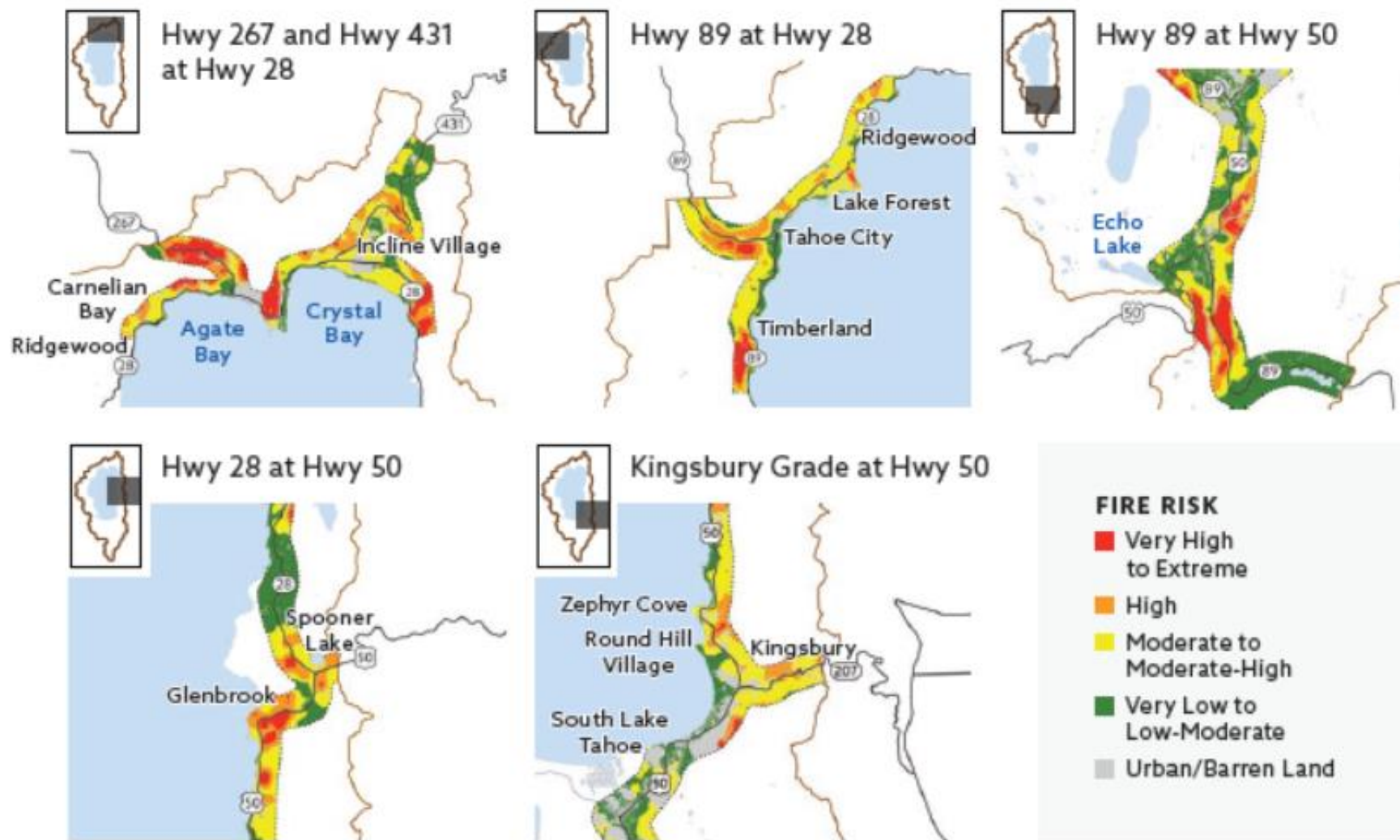


Climate Change Vulnerability Assessment for the Lake Tahoe Basin

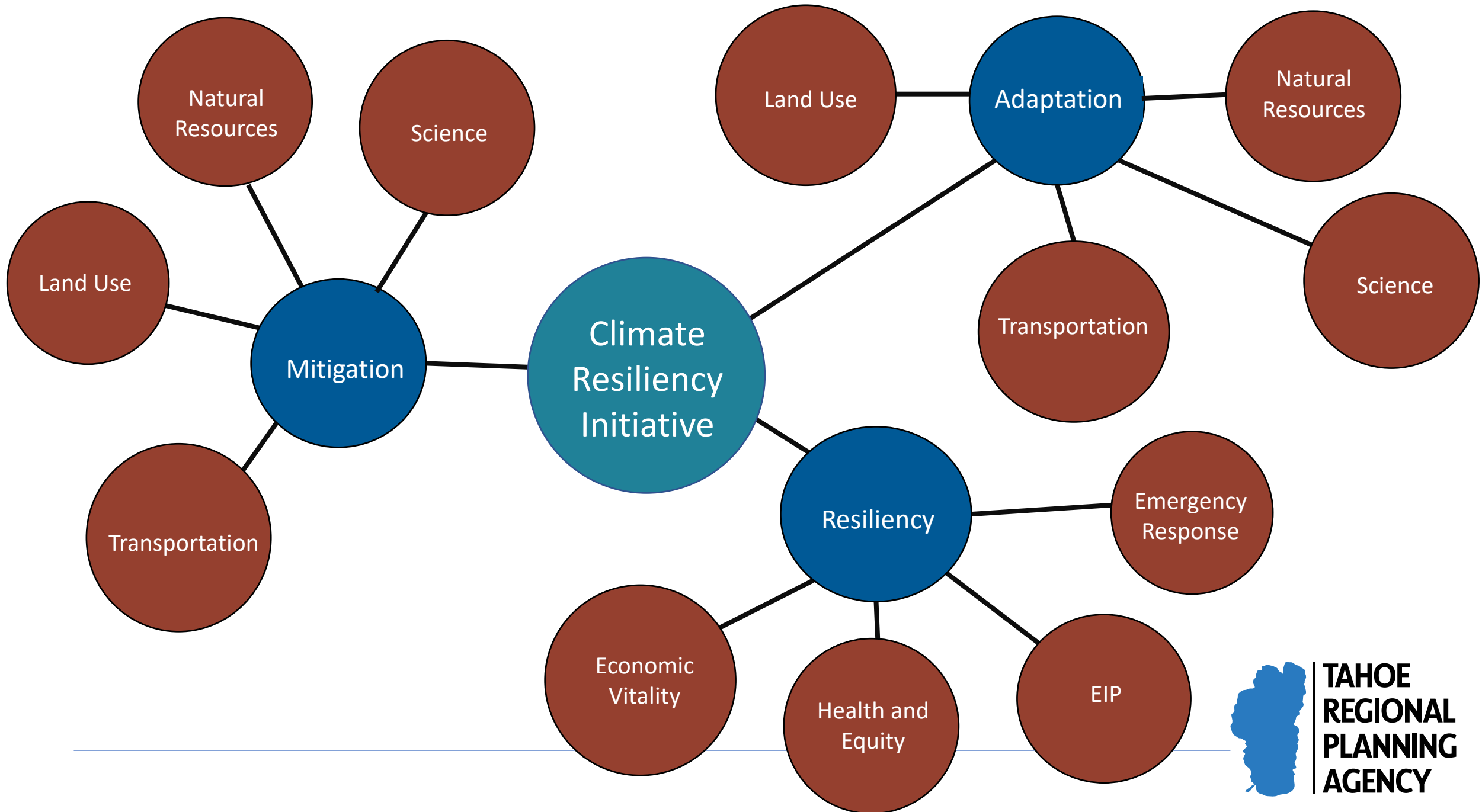
Future Climate Conditions and Effects on the Basin's Natural Resources,
Built Environment, and Communities

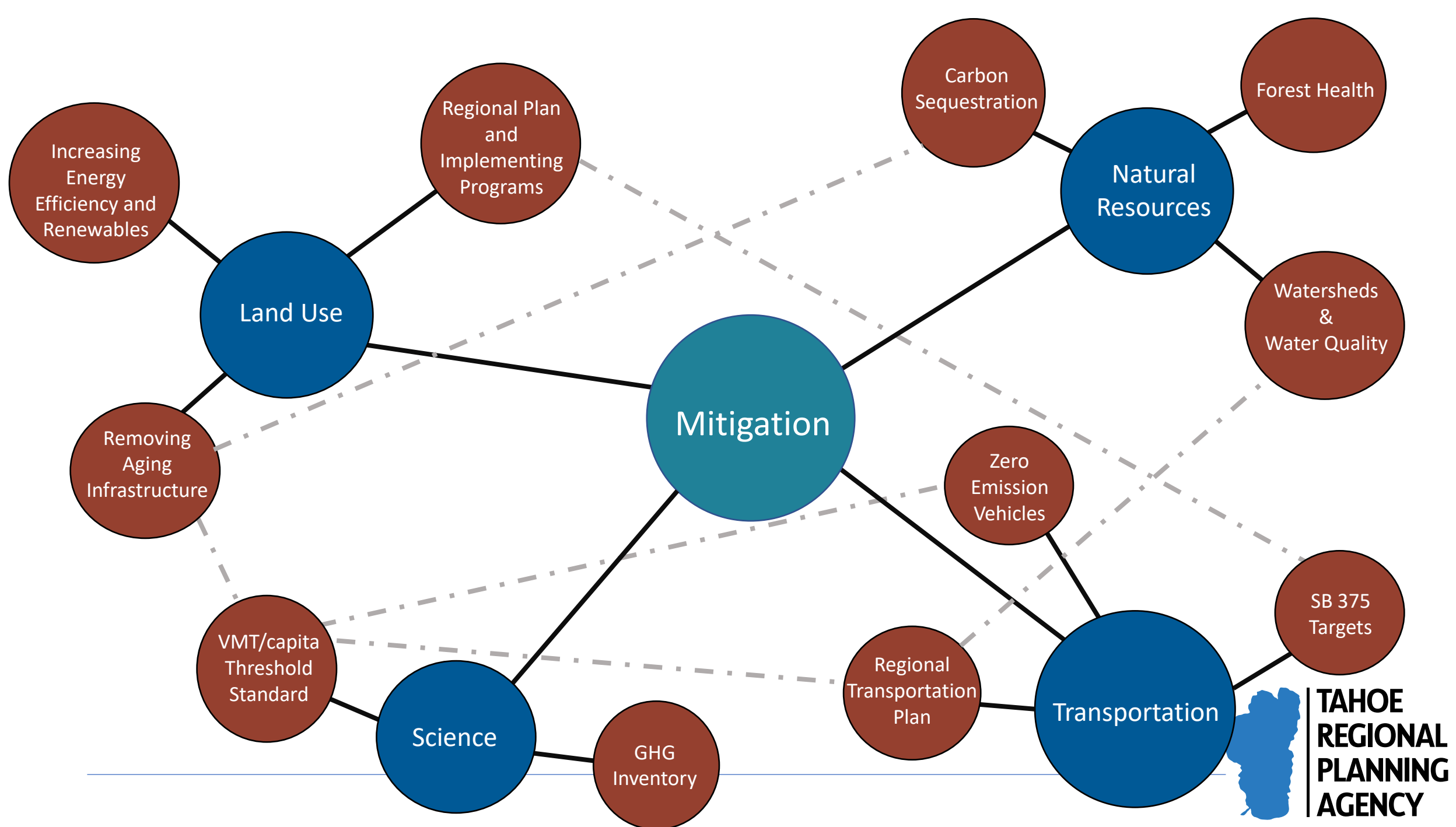


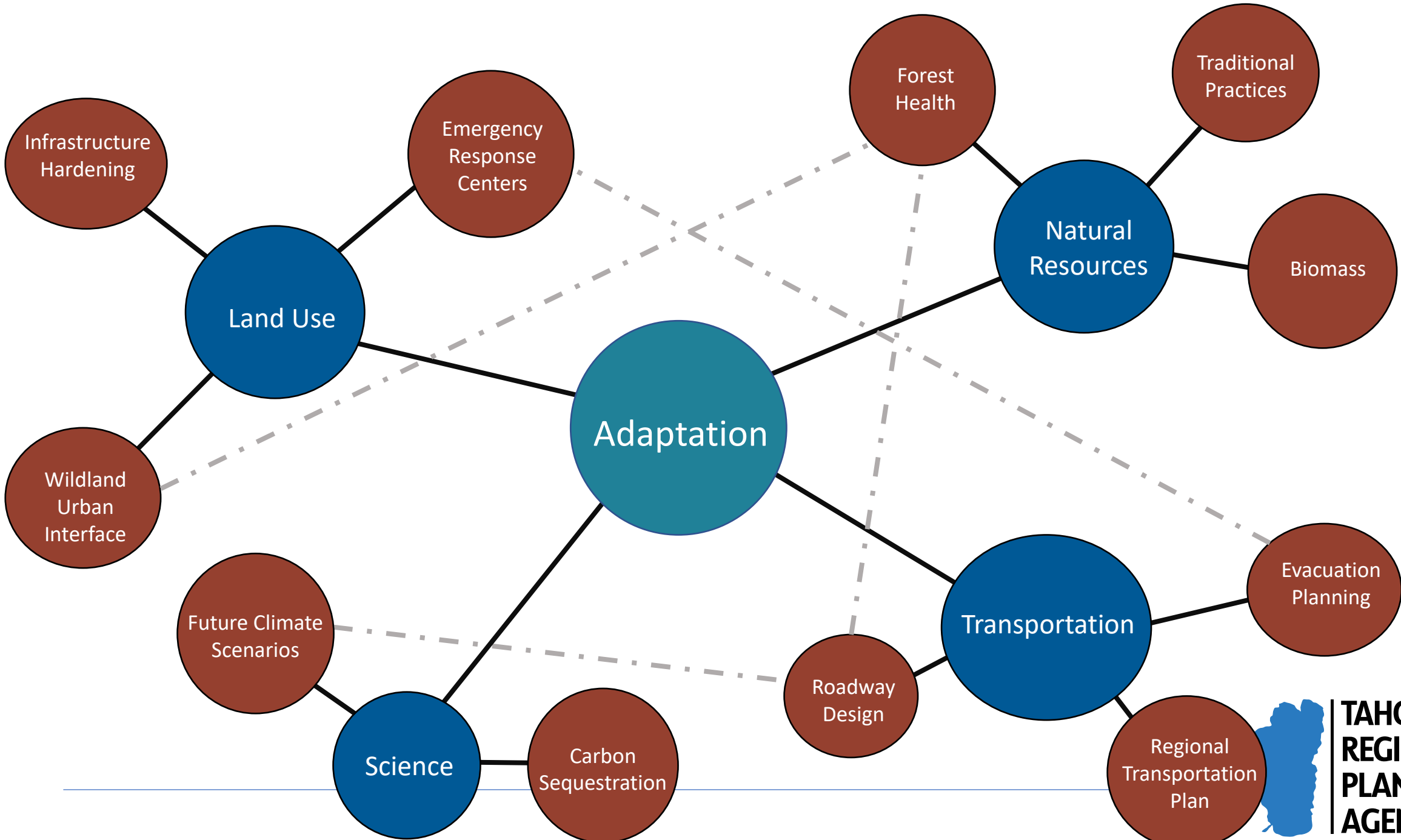
■ Figure 11. Current landslide risk surrounding key highway intersections



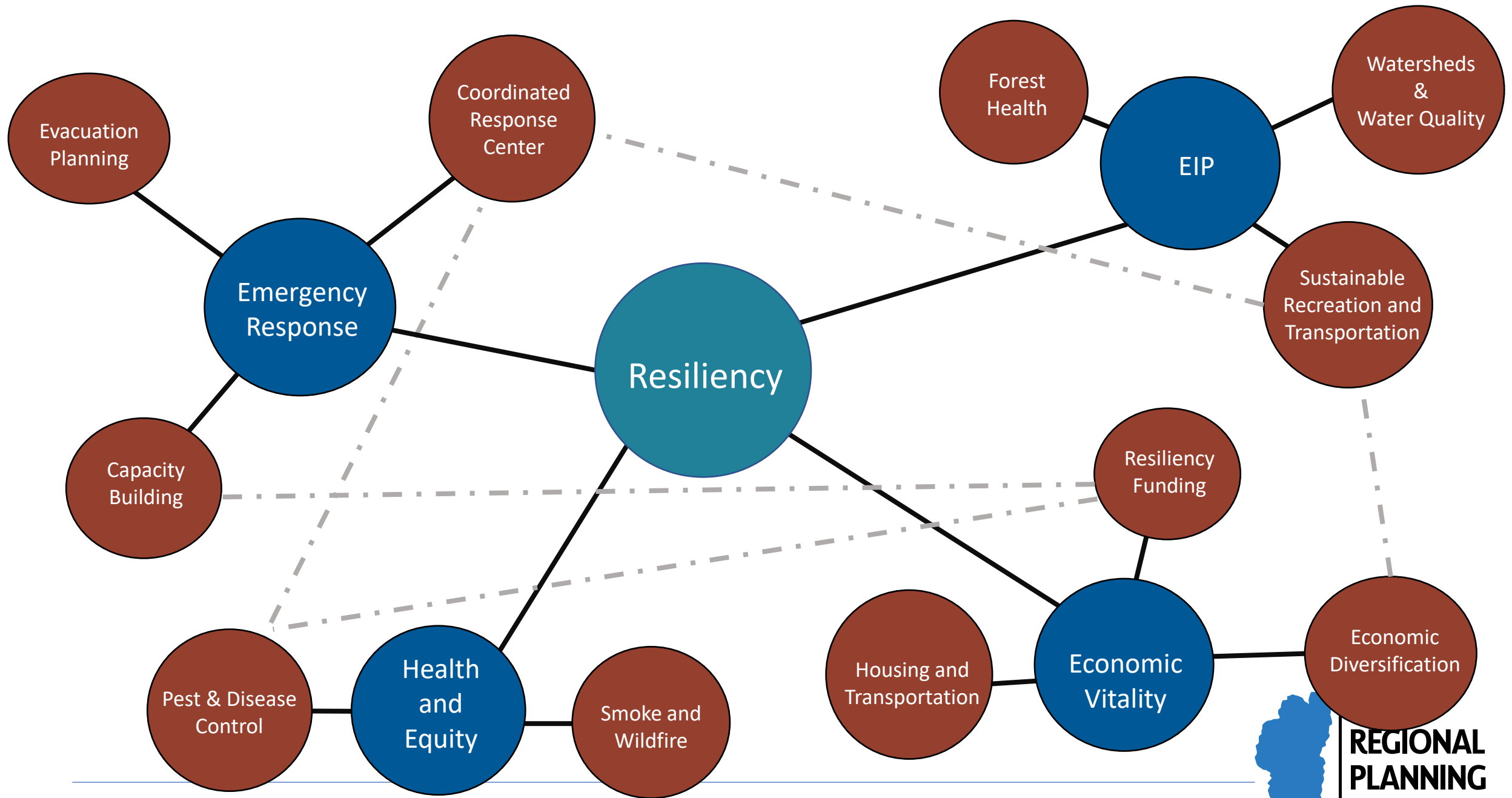
Fires grow faster on steep slopes. Climate change is expected to amplify the risk of wildfires to highways, leading to implications for mobility and evacuation routes.







**TAHOE
REGIONAL
PLANNING
AGENCY**



Integration Across Plans and Implementation



Lake Tahoe Sustainable Communities Program Documents Series #3

Sustainability Action Plan: A Sustainability Action Toolkit for Lake Tahoe

December 2013



PUBLIC LAW 96-551 – DEC. 19, 1980

Public Law 96-551
96th Congress

To grant the consent of the Congress to the Tahoe Secretary of Agriculture and others to cooperate v

Be it enacted by the Senate and House of Represe
assembled, That in order to encourage the wise use
the resources of the area around said lake, the cor
Regional Planning Compact heretofore adopted b
reads as follows:

TAHOE REGIONA

ARTICLE I. - FINDINGS &

(a) It is found and declared that:

(1) The waters of Lake Tahoe an
deterioration or degeneration, which ends
the region.

(2) The public and private interes

(3) The region exhibits unique en
irreplaceable.

(4) By virtue of the special condi
developmental pattern, population distributions and human needs, the region is experiencing
problems of resource use and deficiencies of environmental control.

(5) Increasing urbanization is threatening the ecological values of the region and
threatening the public opportunities for use of the public lands.

(6) Maintenance of the social and economic health of the region depends on maintaining
the significant scenic, recreational, educational, scientific, natural public health values provided
by the Lake Tahoe Basin.

(7) There is a public interest in protecting, preserving and enhancing these values for the
residents of the region and for visitors to the region.

(8) Responsibilities for providing recreational and scientific opportunities, preserving
scenic and natural areas, and safeguarding the public who live, work and play in or visit the
region are divided among local governments, regional agencies, the States of California and
Nevada, and the Federal Government.

Regional Climate Action

Objective 1: Regional Collaboration

Objective 2: Integration and Adaptive Management

Objective 3: Education, Engagement, Equity

Objective 4: Science, Data, and Monitoring

Adaptive Management

	Science	Planning	Implementation	Key Partners
Land Use	<ul style="list-style-type: none"> • Urban Footprint Modeling • Climate impacts 	<ul style="list-style-type: none"> • Regional Plan • Code of Ordinances • Area Plan Framework • Emergency Planning • Infrastructure 	<ul style="list-style-type: none"> • Housing Program • Redevelopment • Resilient Buildings • Energy Efficiency • Renewable Energy 	<ul style="list-style-type: none"> • Tahoe Conservancy • NV State Lands • Local Jurisdictions • Private
Transportation	<ul style="list-style-type: none"> • VMT Update • Transportation Modeling • Natural Disasters 	<ul style="list-style-type: none"> • Regional Transportation Plan • Corridor Plans • Equity Planning • Zero Emission Vehicles 	<ul style="list-style-type: none"> • Zero Emission Vehicles • Project Design • Funding/PIA • Regional Grant Program 	<ul style="list-style-type: none"> • Bi-State Consultation • TTD, TART • Local Jurisdictions • Private
Natural Resources	<ul style="list-style-type: none"> • Carbon Sequestration • Wildfire Emissions • Science to Action Plan 	<ul style="list-style-type: none"> • Environmental Improvement Program • Sustainable Recreation and Tourism • Traditional Practices 	<ul style="list-style-type: none"> • Tahoe West • Upper Truckee • AIS 	<ul style="list-style-type: none"> • EIP Partners • Land Managers • Regulatory Agencies • Utilities • Washoe Tribe

Global Leadership



**FUTURE
OF TOURISM**



**TAHOE
REGIONAL
PLANNING
AGENCY**

Questions?

<https://www.trpa.gov/programs/climate-resiliency/>

