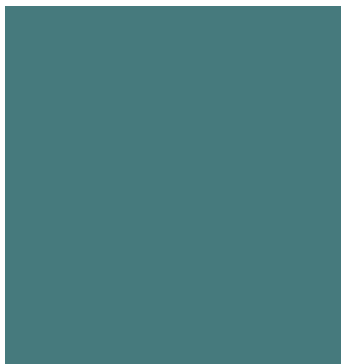
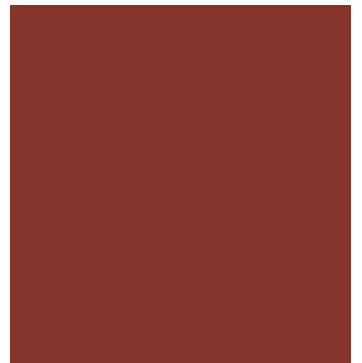


2020  
Colorado

# RESILIENCY

Framework





December 14, 2020

Colorado has endured exceptional disruptions testing the resiliency of our great state. From the COVID-19 pandemic to the largest fires in the state’s history, recovery from such events is a formidable task. Enduring these disruptions requires innovation, collaboration, and significant contributions from the State as well as local governments and other partners to support our communities. Assuredly, Coloradans come together in the face of such challenges to identify solutions, implement changes, and track progress so we can recover from disruptions to conditions better than before and anticipate future threats. I am pleased to announce the **2020 Colorado Resiliency Framework** to provide fresh ideas, new approaches, and actionable strategies that reduce our risk and meet our common goals.

The Colorado Department of Local Affairs Colorado Resiliency Office (CRO) has led this exhaustive effort to integrate resiliency into the work we do in Colorado through this updated Framework. With this document, our state can move forward based on successes and lessons from over the last five years since the release of the first Framework, using innovative new ideas to address a broad range of risks and vulnerabilities. Emerging challenges and the realities of interrelated and cascading impacts underscore the need for collective and coordinated action.

This Framework examines and addresses risks and vulnerabilities across four themes: adapting to our changing climate, understanding risks from natural and other hazards, addressing social inequities and unique community needs, and pursuing economic diversity and vibrancy. It provides strategies that State agencies and partners will implement over the next five years that will address our changing environmental, social, and economic conditions and have the biggest impact in providing long-term resiliency for our state.

The Framework is the result of CRO’s bold leadership and strategic coordination with State and local partners. The Colorado Resiliency Working Group, whose members and invested stakeholders participated in sector teams and three Summits as part of this update, will form new and leverage existing partnerships, combining resiliency resources from throughout the state to collaboratively implement this roadmap.

Colorado will continue to capture, share, and apply lessons learned to this living document to decrease vulnerability and improve resiliency across our state. With the continued participation of State agencies, local governments, and other partners, Colorado can effectively utilize the Colorado Resiliency Framework to ensure a more sustainable, safe, and resilient future for every Coloradan.

Sincerely,

Jared Polis  
Governor



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Colorado Resiliency Framework

# EXECUTIVE SUMMARY

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## History and Context

In 2015, the Colorado Resiliency Office (CRO) released the inaugural Colorado Resiliency Framework against a backdrop of the historic 2012 wildfires and 2013 floods that impacted communities in 24 of Colorado’s 64 counties. It was an award-winning, nationally recognized Framework that showcased Colorado’s ability and determination to bounce forward from adversity with a resiliency strategy.

Five years later, we face similar challenges of wildfires and other natural disasters, along with new ones such as a global pandemic. While we had hoped to be updating the Framework in better times, we’ve learned that we need to practice resiliency while simultaneously planning for a more resilient future. For example, while updating this Framework in 2020, the COVID-19 pandemic necessitated statewide stay-at-home orders just before the first Resiliency Summit was scheduled to take place in April. We quickly embraced technology, which helped us connect with more residents across the state, and fostered opportunities for meaningful dialogue and interaction.

Building a better future amid current crises and changing environmental, social, and economic conditions has only reinforced that it takes everyone working together to protect each other and rebound better than before.

## Reimagining Resiliency

Despite the adversity it brought, 2020 has provided insights and real-life experience in personal, community, and statewide resiliency, helping us conduct the Framework update uniquely and perhaps even better than was initially planned. We have been agile and adaptable to rapidly changing conditions.

Through the collaborative engagement process, we’ve aligned around an updated vision for resiliency:

*Colorado creatively implements forward-thinking solutions that are sustainable and resilient to changing conditions and result in strong, equitable communities that can adapt to and thrive in the face of adversity.*

In this Framework, we purposefully link resiliency to regenerative recovery, climate action, and building a more equitable future to advance this vision.



## Looking at Risks and Vulnerabilities Holistically

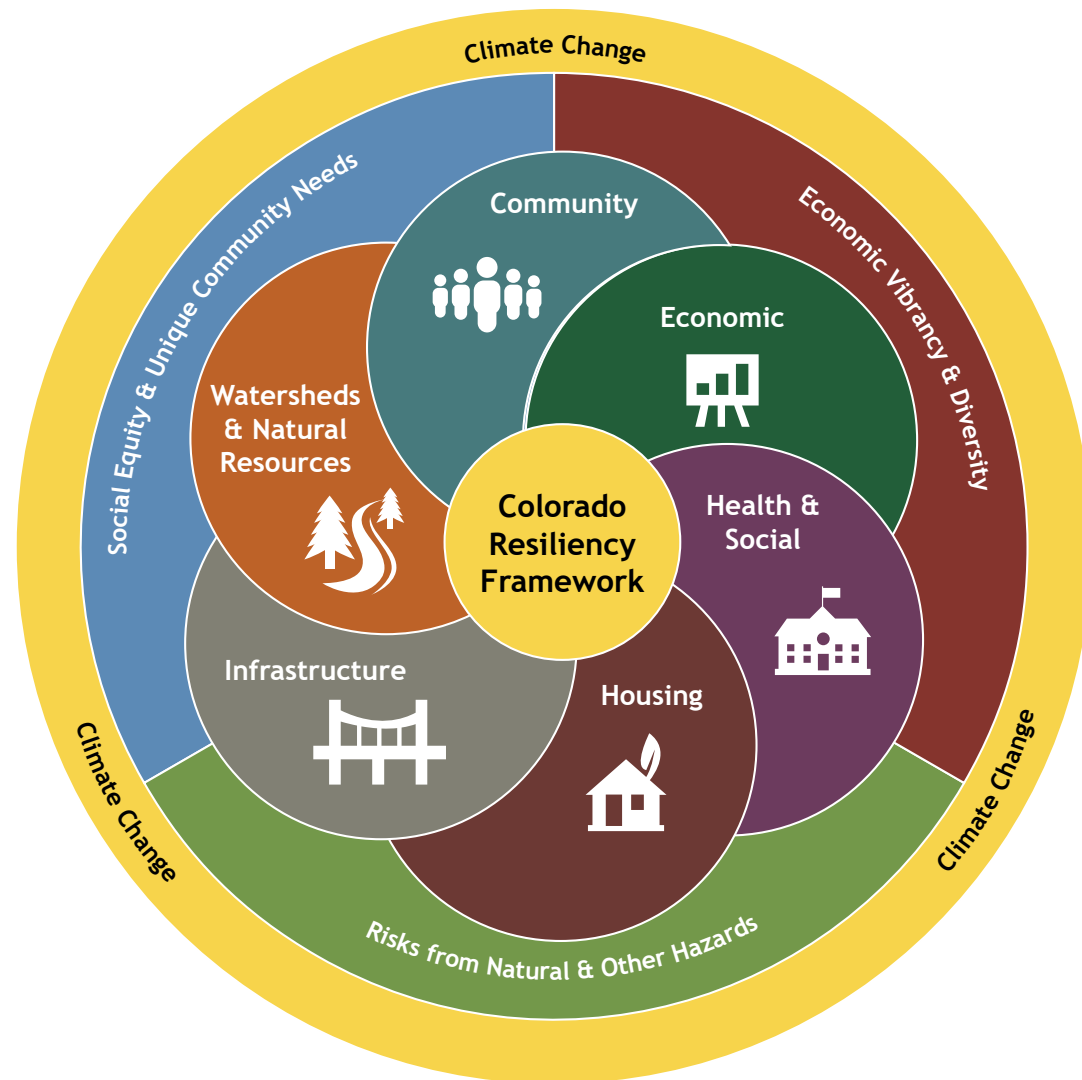
We've been through enough to realize that the worst can even happen here in Colorado. We've learned to manage and adapt to multiple risks at the same time.

This updated Framework is based on successes and lessons from the last five years, plus new ideas to address a broader range of potential risks and vulnerabilities. Emerging challenges and the realities of interrelated and cascading impacts underscore the need for collective and coordinated action.

This Framework examines and addresses risks and vulnerabilities across four themes:

- Adapting to our changing climate
- Understanding risks from natural and other hazards
- Addressing social inequities and unique community needs
- Pursuing economic diversity and vibrancy

In the spirit of holistic thinking, we tapped into the expertise of six sector teams to identify emerging challenges and new opportunities for Colorado. The sector teams provided invaluable perspectives about how to think bigger and address our most pressing challenges.



## Our Shared Responsibility: Six Priorities for Advancing Resiliency

To achieve our resiliency vision, the updated Framework elevates and draws attention to six resiliency priorities:

- 
**Future-Ready Economy & Workforce**  
 Fortify Colorado's workforce to support a future-ready, regenerative, circular economy.
- 
**Climate & Natural Hazard Resiliency**  
 Reduce Colorado's risk from climate change and natural hazards through integrated land use, ecosystem, and natural resource planning, management, and investment.
- 
**Building & Infrastructure Sustainability**  
 Reimagine and modernize Colorado's built environment to be both climate and hazard resilient and environmentally sustainable.
- 
**Agriculture & Food Security**  
 Cultivate a robust state and local food system, from agriculture to distribution and consumption.
- 
**Housing Attainability**  
 Increase the supply of attainable housing throughout Colorado, including affordable housing options for workforce populations and those who most experience marginalizing.
- 
**Community Capacity**  
 Empower Colorado communities to improve local resiliency, equity, and capacity.

The Framework details 29 strategies that will move these priorities forward. Two overarching strategies – establishing a statewide resilient and sustainable community/regional program and attracting and leveraging resiliency funding opportunities are foundational activities that will connect and strengthen all the resiliency priorities.

## Our Success Depends on Collaboration and Collective Action

The extensive public and stakeholder engagement process to update the Framework marks the beginning of Colorado's renewed commitment to resiliency. The same level of mass collaboration and collective action is needed to successfully implement the Framework.

This 2020 Framework establishes a scaffolding of priorities and strategies we can share and move forward at multiple levels to build a more resilient state. All Coloradans are encouraged to take an active role in elevating the resiliency priorities and implementing resiliency strategies in their community, organization, or household.

The Colorado Resiliency Office will continue to lead the charge by convening and coordinating diverse stakeholders across the state; creating opportunities for education and sharing information, progress and lessons learned; and inspiring and supporting others in the work ahead. The CRO and the Colorado Resiliency Working Group (CRWG) will serve as stewards of the 2020 Framework and will actively seek opportunities for collaboration, partnership, and capacity-building to enhance resiliency in all facets of our wonderful state. Chapter 5 identifies how communities and organizations across Colorado can partner with CRO and engage in advancing resiliency.

*We invite you to read on and to get involved!*





Photo Credit: Colorado Division of Homeland Security and Emergency Management



Chapter 1: About the

# COLORADO RESILIENCY FRAMEWORK

In the wake of the 2012 wildfires and 2013 flood events – which caused more than \$5 billion in damages, destroyed over 3,000 homes, and tragically took 17 lives – we recognized as a State the need to proactively and holistically address future shock events and stressors to protect lives, property, and livelihoods.

Now in 2020, we’re experiencing another series of complex and interrelated events – the COVID-19 pandemic, record-breaking wildfires, protests and rallies, economic uncertainty, and more – that are further testing Colorado’s resiliency and resolve. We now understand that being resilient is not an option for Colorado, it is a necessity. Our state is experiencing rapidly changing environmental, social, and economic

conditions. It is critical for us to anticipate and adapt to these changes so we can protect and preserve our people, our vibrant communities, our way of life, and our natural environment.

## RESILIENCY DEFINED

*The ability of communities to rebound, positively adapt to, or thrive amidst changing conditions or challenges – including human-caused and natural disasters – and to maintain quality of life, healthy growth, durable systems, economic vitality, and conservation of resources for present and future generations.*

– Colorado House Bill 18-1394

## RESILIENCY AND SUSTAINABILITY

Resiliency and sustainability are related concepts that are sometimes confused with one another. The [2017 City of Boulder Resilience Strategy](#) provides a helpful comparison of the two concepts:

*Resilience is a new way of thinking about the community in a holistic way that adds to and deepens the way we already plan for a sustainable future. Resilience and sustainability represent complementary values and ways of managing urban systems. Where sustainability is about actively and thoughtfully managing resources to achieve environmental, social, and economic goals that preserve or enhance quality of life, resilience is about anticipating the inevitable events that cause disruption and then developing the strategies to reduce their impacts to the greatest extent possible.*

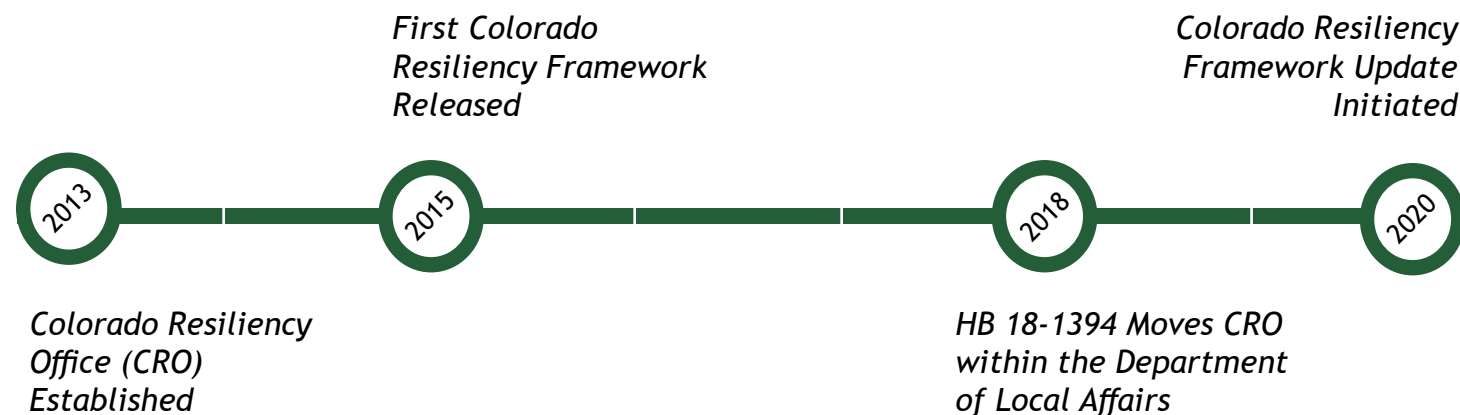


# FRAMEWORK HISTORY

In response to the 2013 flooding, then-Governor Hickenlooper created the Colorado Resiliency Office to coordinate State recovery efforts and create pathways for developing long-term resiliency to future disruptive events.

With this charge, the CRO convened the Colorado Resiliency Working Group (CRWG) to examine existing conditions, analyze risks and vulnerabilities, and develop strategies to provide for resilient benefits across multiple sectors. These efforts culminated in the Colorado Resiliency Framework (Framework). Released in 2015, the Framework put Colorado at the forefront of resiliency efforts in the nation.

## Framework History



In 2018, HB 18-1394 cemented Colorado’s commitment to resiliency, permanently housing the CRO within the Department of Local Affairs’ Division of Local Government and laying out the office’s roles and responsibilities.

The CRO’s work today extends beyond the 24 counties impacted by the 2012 fires and 2013 floods, supporting and helping empower Colorado communities statewide become stronger, safer, and more resilient in the face of natural disaster and other major challenges, and building resiliency into State investments, operations, and programs.

## AWARD-WINNING FRAMEWORK

In recognition of the State’s trailblazing work, the Framework received a 2016 American Council of Engineering Gold award and 2017 American Planning Association National Planning Achievement Award for Environmental Planning Gold Award.



## Sector-Based Approach

The 2015 Framework efforts coordinated across six resiliency sectors that we continue with this 2020 Framework update.



*“Through these last tough months, the Colorado Resiliency Summit process was the most rewarding and inspiring endeavor I was a part of.”*

*Resiliency Summit participant*



## CRO ROLES AND RESPONSIBILITIES

### State Agency Coordination

- Provide technical assistance to implement resilience policies and procedures.
- Institutionalize resiliency practices across departments.
- Build resiliency criteria into State competitive grants.

### Local Community Support

- Provide technical assistance to local governments for developing and implementing resiliency activities (e.g., developing resiliency frameworks, risk and vulnerability profiles, and economic development strategies).
- Help secure needed resources and funding to implement resiliency activities.
- Support long-term community recovery work and resource navigation after disasters.

### Other Leadership Activities

- Develop a plan to improve coordination between State agencies and local communities - to help in community and economic recovery work, reducing risks and vulnerabilities.
- Create metrics and targets to track and measure success.

CRS 24-32-122



## 2020 FRAMEWORK UPDATE

In the five years since the original Framework, the State of Colorado and local communities have made considerable progress in implementing the initial strategies.

With this update to the Framework, the CRO is establishing a 5-year review cycle to:

- Assess new and emerging risks and vulnerabilities.
- Demonstrate leadership, innovation, and proactive action.
- Gain stakeholder and public input to shape the Framework’s goals and strategies.
- Track and report metrics and targets that demonstrate progress on strategy implementation and resiliency.
- Maintain the Framework as a living document, enabling Colorado to be responsive as conditions change.

This first Framework 5-year update builds on the successes and momentum of the original Framework, providing refreshed ideas and innovative approaches to keep it relevant and actionable.

Colorado continues to demonstrate national leadership in resiliency and make advancements in addressing future challenges during perhaps one of the most critical times ever. As a state, we continue to face many of the same challenges we did five years ago (e.g., fires, floods, climate change, housing affordability, population shifts) in addition to new threats such as the COVID-19 pandemic.

### Accomplishments

Resiliency accomplishments following the 2015 Framework:

- [Colorado Resiliency Playbook](#) (DOLA)
- [Colorado Resiliency Resource Center](#) (DOLA)
- [Planning for Hazards: Land Use Solutions for Colorado Guide](#) (DOLA)
- [Colorado Hazard Mapping Program](#) (DNR)
- [I-70 Risk and Resilience Pilot](#) (CDOT)
- [Integration of Resiliency Prioritization Criteria into grant review](#) (CDPS)
- [Watershed Resilience Program](#) (DOLA)
- [Workforce Resilience Task Force](#) (CDPHE & CDHS)

Times like these demonstrate the need for coordinated action and collaboration between government, local communities, businesses, and other key stakeholders. This updated Framework lays out the course of action for key strategies to be implemented over the next five years.

We know that the future will continue to deliver challenges; but as a state we are not defined by those challenges and losses, but rather by our collective strength and determination to take the action needed and face them head on.

## PROCESS SUMMARY

Throughout the Framework planning process, we engaged diverse stakeholders from all parts of Colorado. This work followed three phases, each including a virtual Resiliency Summit. More than 115 people attended each Resiliency Summit.

In addition to the Resiliency Summits, the public engagement process garnered targeted input from sector team meetings, roundtable discussions, and two stakeholder surveys. A draft of the Framework was available to the public for review and comment prior to finalization. For more information on the planning and engagement process, see Appendix D.

### PHASE 1: GROUND

**Ground** focused on aligning stakeholders to the purpose of updating the Framework. Activities included reviewing the 2015 Framework and its accomplishments, establishing a shared understanding of potential risks and vulnerabilities, and identifying opportunities for future action.

### PHASE 2: EXPLORE

**Explore** focused on exploring potential resiliency strategies and opportunities and centered around a scenario-based planning approach.

### PHASE 3: ALIGN

**Align** focused on aligning around resiliency priorities and strategies and confirming implementation roles and details.

### Expanding Lessons Learned

The 2020 Framework update was funded through the U.S. Department of Housing and Urban Development with Community Development Block Grant - Disaster Recovery funds.

The updated Framework offers insights and lessons learned from the flood recovery work since 2013, expands the types of risks analyzed, and will impact not only communities in federally-declared disaster areas but communities statewide.

### Engagement By-The-Numbers



## FRAMEWORK ORIENTATION

The Framework includes a hierarchy of components to drive action and progress toward expanding Colorado’s resiliency. This section provides a summary of each major Framework component.

### VISION

Colorado creatively implements forward-thinking solutions that are sustainable and resilient to changing conditions and result in strong, equitable communities that can adapt to and thrive in the face of adversity.

### GUIDING PRINCIPLES

Expand Knowledge

Build Community

Be an Advocate

Provide Flexibility & Creativity

### GOALS

Identify and mitigate risk to Colorado communities.

Enhance resiliency planning and capacity in Colorado communities through equitable engagement and regional collaboration.

Develop, align, and streamline policies to empower resiliency.

Create a culture of diversity, inclusivity, and equity that fosters resiliency, engagement, and holistic solutions, and an inherent sense of responsibility to one’s community.

Ingrain equity and resiliency into investments in Colorado.

### RESILIENCY PRIORITIES



Economy & Workforce



Climate & Natural Hazards



Building & Infrastructure



Agriculture & Food



Housing Attainability



Community Capacity

## Vision

The vision establishes the ideal future for resiliency in Colorado. All ideas in the Framework are intended to support and advance the vision (updated in 2020):

*Colorado creatively implements forward-thinking solutions that are sustainable and resilient to changing conditions and result in strong, equitable communities that can adapt to and thrive in the face of adversity.*



Photo Credit: Colorado Division of Homeland Security and Emergency Management

## Guiding Principles

The 2020 Framework expands the four guiding principles from the original Framework. These guiding principles helped shape the conversations and public engagement processes which led to the development of the Framework’s goals, priorities, and strategies.

- **Expand Knowledge:** Resiliency requires an informed, forward-thinking populace and government that continuously learns, improves, and adapts to changing conditions. Knowledge comes from every community and every sector. Equitable processes with resilient outcomes gather knowledge from all communities, especially those that face structural barriers.
- **Build Community:** Connected and engaged communities are resilient communities. Well-developed and networked communities foster social cohesion, trust, security, and adaptability.
- **Be an Advocate:** The State needs to equitably support and engage all communities, especially those who experience most marginalizing, to become partners. This includes providing venues to amplify community voices and working as an advocate to create a more equitable, resilient future for all of Colorado.
- **Provide Flexibility and Creativity:** Policies, projects, and programs must apply best practices of resiliency, be evaluated for equity, and adjust as external forces shift and solutions evolve. Innovation is necessary and welcomed; historic approaches need to be re-examined and modernized with creative and adaptable solutions.



## Goals

The Framework has five overarching goals by which we will measure success. Meeting these goals requires collaboration, among diverse partners, to implement a wide range of strategies over the next five years.

- Identify and mitigate **risk** to Colorado communities.
- Enhance resiliency **planning and capacity** in Colorado communities through equitable engagement and regional collaboration.
- Develop, align, and streamline **policies** to empower resiliency.
- Create a **culture** of diversity, inclusivity, and equity that fosters resiliency, engagement, holistic solutions, and an inherent sense of responsibility to one's community.
- Ingrain equity and resiliency into **investments** in Colorado.

Metrics to support tracking and reporting of progress toward the resiliency goals and priorities are detailed in Appendix C: Resiliency Metrics.

## Risks & Vulnerabilities

Colorado faces wide-ranging risks and vulnerabilities including climate change, natural hazards, housing needs, economic downturns, and aging infrastructure. The Risks & Vulnerabilities section provides an update to the 2015 Framework's summary of key hazards and their associated risks and vulnerabilities organized across four themes:

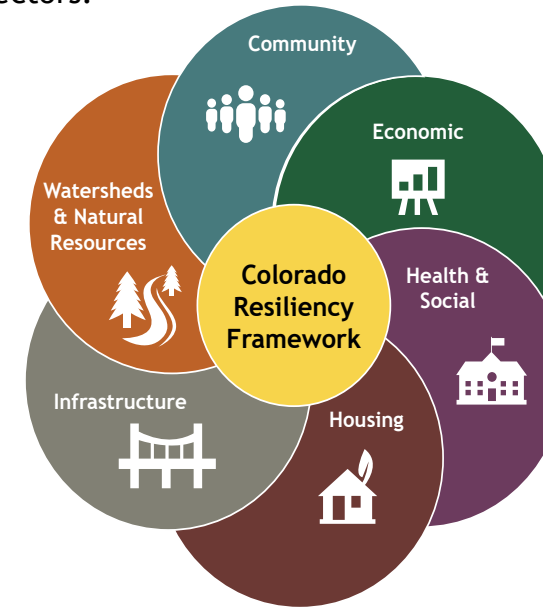
- Climate Change Adaptation
- Risks from Natural & Other Hazards
- Social Equity & Unique Community Needs
- Economic Diversity & Vibrancy



Photo Credit: Brendle Group

## Sectors

Six interconnected resiliency sectors served to organize stakeholder teams for the Framework development and update process: Community, Economic, Health and Social, Housing, Infrastructure, and Watersheds and Natural Resources. These sectors are the lenses through which we view resiliency throughout Colorado; we seek to implement solutions that provide benefits across multiple sectors.



## Resiliency Priorities

Six priority areas of focus emerged through the stakeholder engagement process:

- Future-Ready Economy & Workforce
- Climate & Natural Hazard Resiliency
- Building & Infrastructure Sustainability
- Agriculture & Food Security
- Housing Attainability
- Community Capacity

These represent the priority areas to focus action in order to achieve the resiliency vision and goals. They purposefully span across sectors to address a mix of risks and vulnerabilities as well as build on our assets.

## Taking Action

Getting to a more resilient future requires coordinated engagement, participation, collaboration, and communication between the State, local communities, and key stakeholders. This section provides the key actions to be implemented over the next five years, to reduce future risks and vulnerabilities and to build adaptive capacity.

## Appendices

Four appendices provide additional information:

- Appendix A - Acknowledgments
- Appendix B - Abbreviations, Initials, & Acronyms
- Appendix C - Resiliency Metrics
- Appendix D - Planning & Engagement Process
- Appendix E - Exploring Risks & Vulnerabilities through Scenario Planning



Photo Credit: DOLA Main Street Program





Photo Credit: Colorado Division of Homeland Security and Emergency Management

## RESILIENCY PRIORITIZATION CRITERIA

The 2015 Framework defined nine resiliency prioritization criteria designed to enable State departments and agencies to prioritize resiliency efforts that produce multiple benefits while using limited available resources. The nine criteria can be used for a variety of activities, including helping design and develop projects and programs. The State of Colorado is also using these criteria to review competitive grant proposals to help ensure projects produce resilient outcomes.

These criteria were adapted and applied to the dozens of strategies that emerged during the Framework update process. This evaluation process allowed each strategy to be individually considered and assessed, and the results informed the Framework’s priorities and strategies development.

- **Co-Benefits:** Provide solutions that address problems across multiple sectors – including the community, economic, health and social, housing, infrastructure, and watersheds and natural resources sectors – to create maximum benefit.
- **Innovation:** Advance creative approaches and techniques that provide new solutions and encourage continual improvement and advancement of best practices – serving as models for others in Colorado and beyond.
- **High Risk and Vulnerability:** Ensure that strategies identify risk and vulnerability, and directly address the reduction of risk to human well-being, physical infrastructure, and natural systems. Strategies should consider impact to those who most experience marginalizing.
- **Adaptive Capacity:** Include flexible and adaptable measures that consider future unknowns of changing climate, and economic and social conditions.
- **Economic Benefit-Cost:** Make financial investments that can sustain changes and have the potential for economic benefit to the investor and the broader community – through both direct and indirect returns.
- **Harmonize with Existing Activity:** Expand, enhance, or leverage work being done to build on existing efforts. Engage relevant stakeholders to maximize these efforts and reduce potential conflicts.
- **Social Equity:** Provide solutions that are inclusive, with consideration to populations that are often most impacted by disruptions. Address inequities, remove barriers, and benefit populations by providing access or meeting functional needs. Equitably distribute economic benefits.
- **Long-Term and Lasting Impact:** Create long-term gains to the community with solutions that are replicable and sustainable, creating benefits for present and future generations.
- **Technical Soundness:** Identify solutions that reflect best practices that have been tested and proven to work in similar regional context. Identify measurable indicators to assess performance and success.





Photo Credit: Carol Dollard



Chapter 2: Understanding Colorado's  
**RISKS & VULNERABILITIES**

The 2015 Framework placed emphasis on evaluating natural hazards because the state was recovering from a series of natural disasters. This update to the Framework expands the types of risks and hazards analyzed and is more inclusive of a full spectrum of potential future shocks and stressors.

The table below summarizes the risks and vulnerabilities covered within each theme. Note, though climate change is introduced separately, this Framework emphasizes the interrelated and significant impacts of climate change across all risks and vulnerabilities. Furthermore, the other themes are also highly connected and interrelated.

The updated Framework explores risks and vulnerabilities across four themes:

- Climate Change Adaptation
- Risks from Natural & Other Hazards
- Social Equity & Unique Community Needs
- Economic Diversity & Vibrancy

The following pages provide further detail about these risks and vulnerabilities. Knowledge and awareness of these risks and vulnerabilities not only helps us respond and recover, but perhaps more importantly, helps us proactively mitigate potential impacts and prepare our communities.

Climate Change		
<ul style="list-style-type: none"> <li>• Temperature rise and periods of drought</li> <li>• More frequent and intense natural hazard events</li> </ul>	<ul style="list-style-type: none"> <li>• Disproportionate impacts on industries and communities that most experience structural inequities</li> <li>• Population growth stressors due to climate-induced migration</li> </ul>	<ul style="list-style-type: none"> <li>• Externalized social costs of greenhouse gas emissions</li> </ul>
Risks from Natural & Other Hazards	Social Equity & Unique Community Needs	Economic Diversity & Vibrancy
<ul style="list-style-type: none"> <li>• Drought</li> <li>• Flood</li> <li>• Wildfire</li> <li>• Winter storm</li> <li>• Hail</li> <li>• Pandemic</li> <li>• Cybersecurity</li> </ul>	<ul style="list-style-type: none"> <li>• Systemic racism</li> <li>• Income inequality</li> <li>• Aging population and disability</li> <li>• Different rural and urban needs</li> <li>• Disparate access to health care</li> </ul>	<ul style="list-style-type: none"> <li>• Growth pressure</li> <li>• Housing affordability and availability</li> <li>• Recession and other economic crises</li> <li>• Strained fiscal resources</li> </ul>



## ADAPTING TO OUR CHANGING CLIMATE

Colorado is taking swift action to reduce our contributions to a warming climate – with a roadmap to define the policies and pathways to meet ambitious greenhouse gas reduction targets (Colorado Energy Office, 2020).

At the same time, our state is already feeling the immense impact of climate change. This section defines our expected future climate and explores how climate change interacts with natural hazards, social inequities, and economic diversity.



Photo Credit: Brendle Group



### COMMITMENT TO MITIGATING IMPACTS

In 2019, Colorado set the following targets to reduce our contribution to climate change (Colorado General Assembly, 2019):

- **100%** renewable energy by 2040
- **90%** reduction in greenhouse gas emissions (GHG) pollution by 2050

### A Warmer Future, A Drier Climate

Colorado has warmed 2°F over the last 30 years. We expect to see another 2.5-5.0°F of warming over the next 30 years, mostly during summer (Lukas, 2018).

Warmer average temperatures will put more Coloradans at risk for heat-related illness, and will likely result in a cascading effect that could produce far-reaching impacts to our public health, economy, and ecosystems. Heat waves can disproportionately impact outdoor workers and laborers, people experiencing homelessness, and those without cooling systems or who cannot afford to run them.

A warmer climate also means a drier climate. One of the highest risks of a warmer, drier climate will be to our watersheds and surface water supplies. Climate models predict that droughts will become more frequent and last longer (Colorado Department of Public Safety, 2020).

This could result in more frequent and widespread wildfires, which in turn can lead to an increased risk of flooding, pest infestation, and air and water pollution (Colorado State Forest Service, 2020).

## ADAPTING TO OUR CHANGING CLIMATE

### More Storms, But Less Snowpack

Climate models vary on how precipitation will change over the next 30 years, but most agree that winter storms will worsen.

At the same time, Colorado’s mountains are expected to accumulate less snowpack, and snowmelt is likely to occur one to three weeks earlier (Colorado Department of Public Safety, 2020). Ultimately, this could impact water supplies for people and wildlife. It could also mean shorter seasons for key tourism industries such as the ski, fishing, and rafting industries.

### Climate Change Exacerbates Inequities

As Colorado continues to experience the effects of climate change – more hot days, worsening air and water quality, more frequent flooding, and more widespread wildfires – those who most experience structural inequities will be hit first and worst (Colorado Health Institute, 2019c).

Furthermore, climate change will force some community members to relocate, further exacerbating impacts and inequities. Addressing inequities will mean paying close attention to the social cost of greenhouse gas emissions and working to replace systemic inequities with policies and investments that lift up all communities.



### One Thing Leads to Another

The impacts of climate change aren’t static or contained. On the contrary, in many cases one risk leads directly to another.



Warmer temperatures can lead to drier conditions.



Drier conditions allow fires to start and spread more easily.



Forests impacted by wildfire are less able to naturally manage floods.

This is just one example of what are sometimes called “cascading risks,” and the links don’t end there. Identifying strategies that bolster resilience in multiple ways was key when developing this Framework (Colorado State Forest Service, 2020).



### THE REALITIES OF CLIMATE MIGRATION

**1 in 12** Americans in the southern half of the country will move toward California, the Mountain West, or Northwest over the next 45 years because of climate influences alone (Qin Fan, 2018).



## ADAPTING TO OUR CHANGING CLIMATE

### Putting a Price Tag on Climate Change

The future costs associated with climate change are vast and significant. They include social costs such as injury and death, mental health decline, and even climate-induced migration. They also include environmental costs such as the loss of biodiversity or the loss of key ecosystem functions.

While social and environmental costs can be challenging to measure, we can measure some of the basic economic impacts of climate change, such as: loss of crops, loss of tourism, and disaster response and recovery. The direct impacts of drought, flood, and wildfires already cost Colorado approximately \$620 million annually in total damages (CWCB, DHSEM, FEMA, 2020). This is equivalent to 2% of the FY 2019-2020 State budget (Colorado General Assembly, 2020). Under conditions of high population growth and significant warming, climate change could cost the state up to \$2.2 billion dollars annually by 2050 (nearly 7% of today's State budget) (CWCB, DHSEM, FEMA, 2020).



### Survey Says

In the 2019 Resiliency Planning in Colorado's Local Government survey, respondents were mixed in their concern and perception of risk related to climate change. High concern exists about flooding, wildfires, and drought; but, agreement that these changes are linked to climate change was lower than agreement that the risk is increasing for each.

When asked if climate change increases risks such as drought, flooding, and wildfires, drought saw higher levels of agreement, followed by wildfire and flooding (Colorado Resiliency Office, 2019).



Photo Credit: Brendon Rockey



### EXPLORING ECONOMIC IMPACTS FROM HAZARDS

The [Future Avoided Cost Explorer](#) (FACE: Hazards) is a new statewide study and planning resource for Colorado. It quantifies the direct impacts of flood, drought, and wildfire on select sectors of the Colorado economy. The [interactive explorer](#) displays study results as an interactive dashboard to support policy and decision-making (CWCB, DHSEM, FEMA, 2020).

## ANTICIPATING RISKS FROM NATURAL & OTHER HAZARDS

The original Colorado Resiliency Framework focused primarily on cultivating resilience in the face of risks associated with natural hazards, and for good reason. Events such as droughts, wildfires, and floods occur frequently and have an enormous and tangible impact on our communities.

This updated Framework seeks to recognize the importance of looking beyond natural hazards. Pandemics and cyber security are two examples of other hazards that have and will continue to put our communities at risk. This section briefly summarizes baseline conditions and future trends for key hazards, natural and otherwise, that Coloradans are likely to face over the next 20 years.

Note, there are more hazards our State faces than are summarized in this Framework. Ultimately, this Framework seeks to establish a pathway for responding to any shock or stressor, even ones we don't see coming. For a more comprehensive discussion of potential hazards, review the [State of Colorado Enhanced State Hazard Mitigation Plan \(E-SHMP\)](#).



Photo Credit: Colorado Division of Homeland Security and Emergency Management

### Natural Hazards Will Continue to Present Risks to Our Communities

Each year, natural hazards create immense impacts on public health and safety, infrastructure, and our economy. These impacts are often worse for those who most experience marginalizing. Policy decisions such as where we locate key infrastructure can exacerbate risk (Colorado Health Institute, 2019c).

Five of the most common natural hazards we experience in Colorado are summarized in the following section. Though we sometimes think of natural hazards in isolation, they should be viewed as interrelated. Further, the occurrence of natural hazards is linked, and climate change can ignite a chain reaction.



### One Thing Leads to Another



Increase in greenhouse gases leads to a warmer climate.



Warmer climate increases frequency and severity of fires.



Fires release greenhouse gases, contributing to rise in global temperatures while also reducing forests' ability to sequester carbon.

(Colorado State Forest Service, 2020)



# ANTICIPATING RISKS FROM NATURAL & OTHER HAZARDS

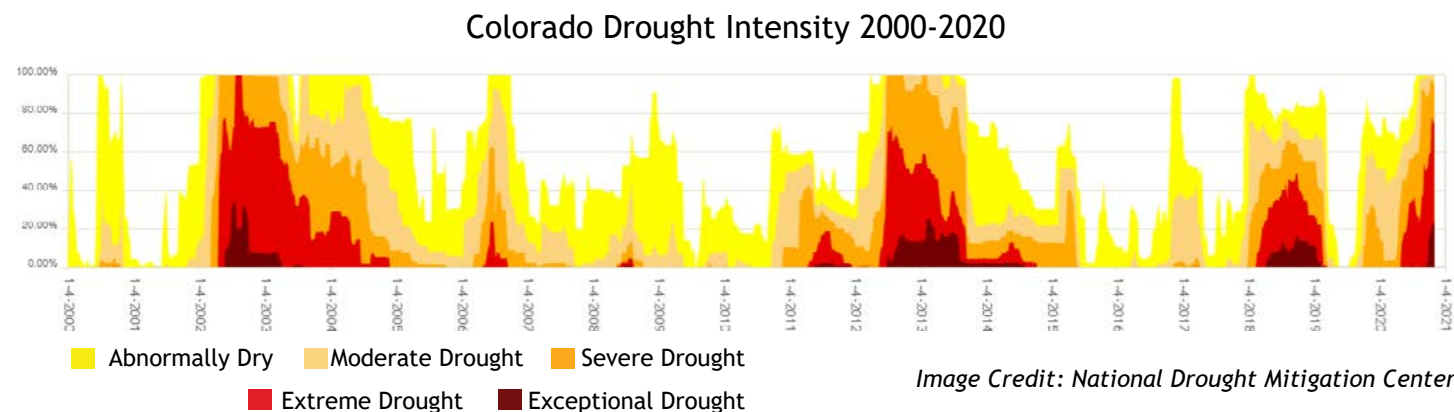
## Droughts Will Become More Frequent and More Intense

Colorado is uniquely exposed to drought, even compared with other Western states (U.S. Department of Agriculture, 2020). In fact, droughts occur somewhere in Colorado nine out of every ten years (Colorado Department of Public Safety, 2020). While short droughts may feel commonplace in our dry climate, more intense and longer-lasting droughts can do real damage to key industries, namely tourism and agriculture.

Droughts can reduce water availability, impacting human health, the health of aquatic ecosystems, and even damaging key water infrastructure.

Droughts can also precipitate other hazards, such as wildfires and floods. These hazards can cause significant harm to public health and safety, property, and infrastructure (Colorado Department of Public Safety, 2020).

For more information on drought and drought planning in Colorado, see the [Colorado Drought Mitigation and Response Plan](#), visit the [CWCB drought visualization Story Map](#), or check out the [Technical Update to the Colorado Water Plan](#).



## Quantifying Future Impacts

Prolonged periods of dry conditions are bad for Colorado’s tourism and agricultural industries. A lack of precipitation can stress crops and cattle, reduce snowpack at ski-resorts, and reduce river flows that can hurt the rafting industry.

Drought is expected to cause **\$830 million** in annual damages by 2050 to the tourism and agriculture industries. Counties that rely heavily on these industries, such as Weld and Summit County, will be hit the worst (CWCB, DHSEM, FEMA, 2020).

## One Thing Leads to Another

“Colorado has already seen the cascading disturbance effects of extreme drought conditions – including increased fire, areas burned, and forest insect outbreaks – leading to widespread tree mortality. Tree mortality leads to soil erosion, which negatively impacts water quality and watershed health. The longer dead trees stand on the landscape, the less they are worth to the forest products industry. Tree mortality also affects aesthetics and property values” (Colorado State Forest Service, 2020).

# ANTICIPATING RISKS FROM NATURAL & OTHER HAZARDS

## Earlier Floods and More People in Harm’s Way

Colorado experiences dozens of floods annually, from heavy rain fall, rapid snow melt, and even dam failures. Every county in Colorado has flood-prone areas, and major flood disasters occur an average of every five years (Colorado Department of Public Safety, 2020).

Floods pose major risks to property and human life and have caused some of the largest disasters in Colorado history. Additionally, major floods can cause billions of dollars in property and infrastructure damage. Buildings and infrastructure located in floodplains are most vulnerable to flooding, making floodplains risky areas to build.



## FLOOD RECOVERY LESSONS LEARNED

Since the last Framework, Colorado has made considerable progress in developing resources and tools to support flood hazard mitigation and recovery efforts and resources. They leverage and build upon lessons learned from the 2013 floods. A few notable resources include:

- [Planning for Hazards](#)
- [Disaster Recovery Planning](#)
- [CDOT Resilience Program](#)
- [Colorado Hazard Mapping](#)
- [Colorado Watershed Resilience programs](#)

## Quantifying Future Impacts

Severe floods frequently cause damage to Colorado’s transportation infrastructure and buildings. Between now and 2050, floods could cause up to **\$930 million** in annual damages to bridges and buildings. Counties with fast-growing populations that are building in or near flood plains are at the greatest risk (CWCB, DHSEM, FEMA, 2020).

Policy that makes it easy to build structures in the floodplain can exacerbate this risk. Inequitable policies can worsen risk for populations that most experience structural inequities. This can result in concentrations of community members living in floodplains who may be less able to relocate in the event of a flood and may find it more difficult to recover and repair damage after a flood.



# ANTICIPATING RISKS FROM NATURAL & OTHER HAZARDS

## Spreading Like Wildfire:

### More Frequent and More Extreme

Wildfires are pervasive across Colorado, with over 2,400 events per year (Colorado Department of Public Safety, 2020). Many areas in Colorado experience regular “natural” wildfires, as fire is part of the regeneration cycle of many forests and grasslands. However, humans cause, either voluntarily or accidentally, numerous wildfires that would not otherwise occur.

The Wildland-Urban Interface (WUI) is defined as areas where human developments meet or intermingle with wildland vegetation (Colorado State Forest Service, 2020). Population growth within the WUI, in conjunction with more frequent and extreme wildfires, is expected to increase wildfire risk over time. In some counties (e.g., Douglas, Garfield), the WUI overlaps with some of the fastest growing development areas in the state (Colorado Department of Public Safety, 2020).

Wildfire risks are exacerbated by long-term environmental stresses such as drought, low relative humidity, dry understory fuels, and past suppression of fires which result in an accumulation of combustible material. Wide-ranging forest insect epidemics may also result in a higher risk of wildfire (Colorado State Forest Service, 2020).

Wildfires pose major risk to human life, property, and the environment. Wildfires may also affect critical infrastructure lifelines and may impact the ability of local and State government to provide public services. Additionally, wildfires result in air and water pollution which can impact public health and damage ecosystems (Colorado Department of Public Safety, 2020).



### LARGEST WILDFIRES IN COLORADO HISTORY

1. Cameron Peak (2020)  
**208,913 acres**
2. East Troublesome (2020)  
**193,812 acres**
3. Pine Gulch (2020)  
**139,007 acres**
4. Hayman (2002)  
**137,760 acres**
5. West Fork (2013)  
**110,405 acres**

(InciWeb, 2020)

### Wildfire Risk By the Numbers



**2.9 million** Coloradans (over half of the State’s population) lived in the Wildland Urban Interface in 2017 (Colorado State Forest Service, 2017).



**11%** of Coloradans lived in high wildfire risk areas in 2017 (Colorado State Forest Service, 2020).



The WUI could grow to **9 million** acres by 2040 (Theobald, 2015).

# ANTICIPATING RISKS FROM NATURAL & OTHER HAZARDS



### Quantifying Future Impacts

Considering damage to buildings and the cost of fire suppression alone, wildfires are expected to cause **\$440 million** in damage annually by 2050 (Colorado State Forest Service, 2020).



Photo Credit: Colorado Division of Homeland Security and Emergency Management

### Winter Storms Will Worsen

Winter storms occur across the state and can result in heavy snowfall, blowing snow, and extreme cold. Particularly harsh or persistent winter storms may cause transportation disruptions, power outages, and/or damage to building structures as well as damage to utility lines and domestic water pipes.

Winter storms may also result in death and injury from various causes including transportation incidents and exposure to low temperatures. Winter storms are expected to worsen and become more frequent in the future. Based on total previous deaths and injuries, and projected future growth rate, Garfield County is expected to be most at risk for impacts of severe winter storms (Colorado Department of Public Safety, 2020).



Photo Credit: Colorado Division of Homeland Security and Emergency Management

### Winter Storm Risk By the Numbers



**1.87 million structures** in winter storm hazard areas



**13,357 critical facilities** identified in winter storm hazard areas

(Colorado Department of Public Safety, 2020)



# ANTICIPATING RISKS FROM NATURAL & OTHER HAZARDS

## Hail Will Continue to Cause Property Damage

Colorado is one of the most hail-prone states in the nation. Hailstorms frequently cause injuries and, in certain rare cases, death. However, the primary impact of hail is property damage. Typical damage in urban areas include roof, vehicle, and landscape damage. In rural parts of the state, storms regularly destroy or severely damage outdoor crops. Eastern Colorado and the Front Range experience the most hail events and damages, a trend expected to continue (Colorado Department of Public Safety, 2020).



Photo Credit: Brendle Group

## Hailstorm Risk By the Numbers



Hailstones as large as **4.5 inches** in diameter have been reported in Colorado



Most years involve at least one catastrophic hailstorm that causes **\$25 million** or more in insured damage



The 2017 Denver hailstorm is the costliest to date, causing **\$2.3 Billion** in damage

(Colorado Department of Public Safety, 2020)



Photo Credit: Colorado Division of Homeland Security and Emergency Management

# ANTICIPATING RISKS FROM NATURAL & OTHER HAZARDS

## Other Hazards are Occurring Too

Though natural hazards may be what most people think of when discussing hazards, there are also other hazards that present risk to Colorado's communities. Pandemics and cyber security are expected to be some of the most pressing vulnerabilities in the coming decades.

## Global Pandemics Can Have Far-Reaching Impact

Pandemic events cause sudden, pervasive illness in all age groups on a global scale. The exact size and extent a pandemic is dependent on how easily the illness is spread, the mode of transmission, and the amount of contact between infected and non-infected persons (Colorado Department of Public Safety, 2020).

Pandemics impact those who most experience marginalizing – older residents, immune-compromised individuals, those without health care, and lower income residents – the most. Climate change may impact the location of vector-borne disease prevalence, as well as the extent and intensity – increasing the overall risk to pandemics (Colorado Department of Public Safety, 2020).



Photo Credit: Colorado Division of Homeland Security and Emergency Management



## GLOBAL COVID-19 PANDEMIC

The COVID-19 pandemic has been an incredibly disruptive event, impacting every facet of Coloradans' lives and work. It has reinforced how interconnected our public health, economy, housing, education system, food supply, and natural environment are, and how critical it is to take a systems-wide approach to reducing the risk and vulnerability to future shock events and stressors.

The pandemic has further illuminated and exacerbated the systemic race, age, health, economic, geographic, housing, and employment disparities along with other inequities many Coloradans face. It has also brought to light the need for a strong relationship between local public health agencies and the public, leading to improved public health outcomes.



# ANTICIPATING RISKS FROM NATURAL & OTHER HAZARDS

## Cyber Security Increasingly Important as Reliance on Technology Grows

A cyber-attack is deliberate exploitation of computer systems, technology-dependent enterprises, and computer networks. Cyber-attack events can occur and/or impact virtually any location in the state where computing devices are used, including critical infrastructure such as power plants, water supply systems, and fuel lines.

The vulnerability of computer systems to attacks is a growing concern as people and institutions become more dependent upon networked technologies, and attacks become more sophisticated (Colorado Department of Public Safety, 2020).



### CYBER-ATTACK HITS COLORADO

In 2018, the Colorado Department of Transportation (CDOT) experienced two consecutive ransomware attacks impacting roughly half of the department's computers. Though this event disrupted activities, CDOT's Continuity of Operations Plan allowed them to continue executing their core mission of providing multimodal transportation (CDOT, 2018).



Photo Credit: Colorado Division of Homeland Security and Emergency Management

# ASSESSING SOCIAL INEQUITIES AND UNIQUE COMMUNITY NEEDS

Prioritizing equity can reduce the disparate harm experienced by those hit first and worst during shocks and natural disasters – increasing the resilience and adaptive capacity of all Coloradans.



### Quick Facts...

From 2010-2017, individuals who identify as mixed race or other race (not White, Black, Latino, Asian, Pacific Islander, or Native American) had the highest growth rate in Colorado, at **29%** (National Equity Atlas, 2020).

### Inequitable Risk By the Numbers



Since 1979, income for full-time Colorado workers at the 10th percentile decreased **5%** while income for those at the 90th percentile increased **20%** (National Equity Atlas, 2020). In 2017, for workers in Colorado the median wage for Black, Indigenous, and people of color (BIPOC) workers was **\$7 less** than the median wage for white workers (National Equity Atlas, 2020).



### Quick Facts...

Colorado's Latino community is expected to grow substantially, from **21%** in 2020 to **28%** by 2030 (Colorado Department of Local Affairs, 2020c).


## Structural and Intersecting Inequities Exacerbate Risk

Under-resourced community members are less able to prepare for, respond to, and recover from shocks and stressors. For example, low-income households may be unable to afford unexpected expenses in the wake of disruptions such as natural disasters or when faced with health crises.

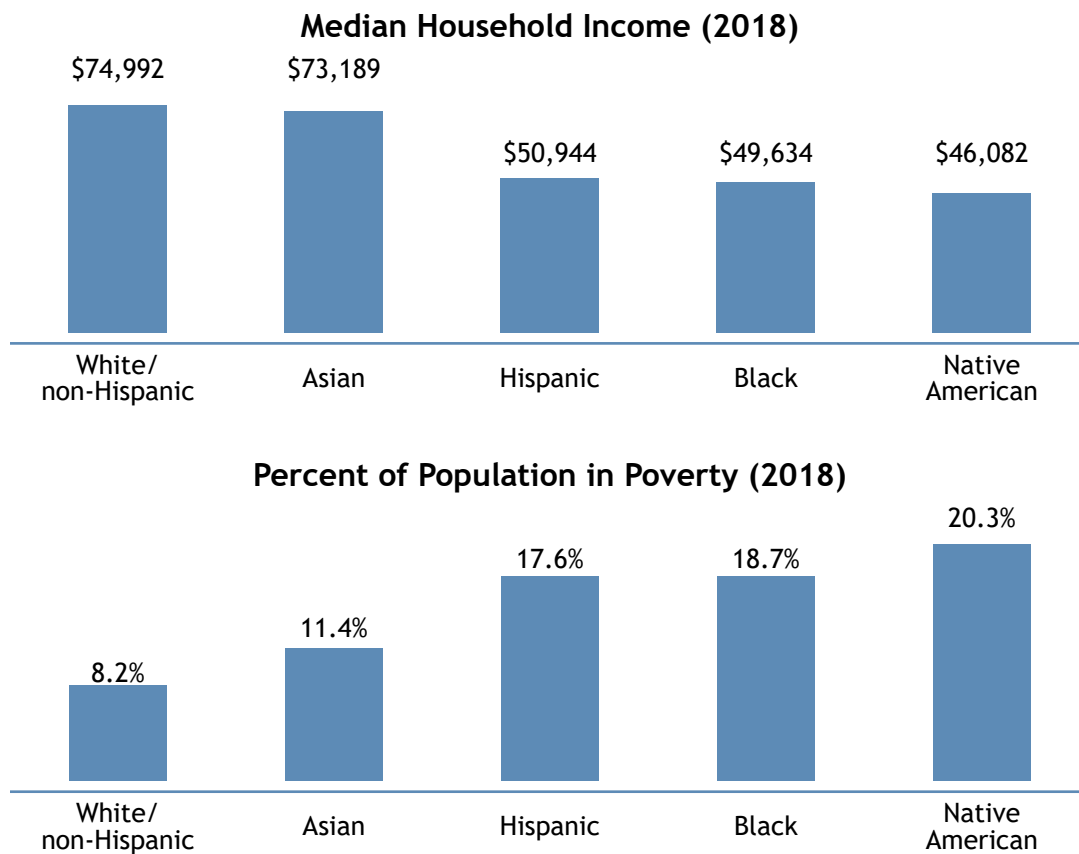
Further, structural and persistent inequities such as racism have made it more difficult for some groups to access resources such as healthy food, housing, and jobs. The persistence of these issues challenge long-term resilience for communities. Systemic inequities in policymaking and planning have, in some cases, worsened the barriers described above. Under-resourced community members are frequently displaced or pushed to undesirable locations – near floodplains, industrial zones, or other hazards – reducing their access to goods and services and increasing exposure to environmental pollutants (Colorado Health Institute, 2019c).

Intersecting identities such as race, income, and gender are common and can magnify the severity and longevity of impacts associated with shocks and stressors. For instance, many older adults and adults with disabilities are on fixed incomes, making it even harder to prepare for and rebound from shocks and stressors. Given the income inequalities in Colorado, these intersections are often experienced even more deeply in BIPOC communities.



Comparing  Contrasting

In Colorado, BIPOC community members experience a significant income equality gap and experience disproportionate rates of poverty (U.S. Census Bureau, 2018).



Language Barriers Present Communication Challenges

Language barriers can add yet another resiliency hurdle for some of Colorado’s communities. In Colorado, 17% of the population speaks a language other than English at home (U.S. Census Bureau, 2018h). Failure to provide resources, messaging, and bilateral communication opportunities in multiple languages can prevent community members – including immigrant and tribal communities – from participating in civic processes. Importantly, failing to provide multi-lingual resources also makes it more challenging for non-native speakers to prepare for, adapt to, and respond to shocks and stressors.

 Quick Facts...

Primarily as a result of the aging of the Baby Boomer generation, the population of people age 65 and older in Colorado will be **37%** larger in 2030 than it was in 2020 (Colorado Department of Local Affairs, 2020b).

Aging Population and People with Disabilities Experience Health and Mobility Challenges

Other factors such as age and disability status can contribute to a person’s ability to adapt to and recover from shocks and stressors. For instance, people with a disability may be less able to evacuate during an emergency; older adults may experience mobility or other health complications that present similar challenges.

Colorado currently has the second-fastest growing age 65-plus population in the United States (State Demography Office, 2020), and expanding the adaptive capacity of this community will become an increasingly important priority.

 Survey Says

In the 2019 Resiliency Planning in Colorado’s Local Governments survey, respondents agreed that public health is a central aspect of resiliency (Colorado Resiliency Office, 2019).





Disparate Access to Health Care

The number one thing the Polis administration heard from Coloradans before the pandemic was that health care costs were too high. The COVID-19 pandemic has further highlighted the shortfalls of our health care system and has demonstrated that every Coloradan needs access to quality, affordable health care. Our health depends on everyone’s ability to access the health care they need. Before the pandemic, nearly one in five Coloradans went without needed health care because it cost too much. One in three Coloradans couldn’t afford their prescription drugs (Colorado Health Institute, 2020b). We know the pandemic and the associated economic challenges it has presented for Colorado families has worsened this reality.

But we also know that COVID-19 has not affected all Coloradans equally. Black people, Indigenous people, people of color, low income people, and people with pre-existing conditions have been disproportionately impacted by the virus. We must continue to work on ensuring health equity so that we rectify these disparities.

COVID-19 was an example of the ways systemic inequities in social determinants of health caused by historical injustices such as systemic racism and ableism, discrimination, and geographic or linguistic isolation have profound impacts on health outcomes that can be measured on a population level. For example, across Colorado, communities of color tend to receive worse access to health care than white populations. (Colorado Health Institute, 2019a).

Rural residents often find themselves facing higher insurance premiums and a limited choice of providers (Colorado Health Institute, 2019a). Local public health agencies play a critical role in bridging these gaps to health care access. We have seen this need play out during the COVID-19 pandemic in Colorado, with people of color having disproportionately higher rates of infection.

Additionally, rural communities often lack access to broadband and access to critical health information exchange, which is known to improve health and reduce costs. Although efforts are underway to expand access to technology, common infrastructure still remains a barrier to virtual health care for physical and mental health, emergency and crisis medical needs, and ongoing remote monitoring for certain chronic conditions.

Comparing **Contrasting**

**19.4%** of Hispanic/Latino Coloradans and **18.3%** of Black (non-Hispanic/Latino) Coloradans report fair or poor health. By comparison, **13.0%** of white (non-Hispanic/Latino) Coloradans describe their health as fair or poor (Colorado Health Institute, 2019b).

**66.2%** of rural Coloradans believe the health care system meets the needs of their families, compared with **75.2%** of urban residents (Colorado Health Institute, 2019a).

Individuals with incomes below the federal poverty line are twice as likely as other Coloradans to report fair or poor health (Colorado Health Institute, 2019b).

Health Risk **By the Numbers**



In 2018, Colorado had the **7th highest suicide rate** in the nation (Colorado Health Institute, 2020).



Suicide is the **second leading cause of death** among Colorado youth (Colorado Behavioral Health Task Force, 2020).



Chronic diseases account for **7 of 10** leading causes of death in Colorado (Colorado Department of Public Health and Environment, 2018).

Rural and Urban Needs Differ

Statewide, Colorado is projected to have a 14% increase in population from 2020 to 2030 – to a population of 6.69 million (Colorado Department of Local Affairs, 2020b). The largest population growth is forecast for the urban Front Range. The population of rural communities, such as those in the Eastern Plains and the San Luis Valley, is expected to decline (Colorado Department of Public Safety, 2020).

Population change is just one example of the differing needs and opportunities of rural and urban communities in Colorado. Locally-based solutions present more opportunity to build and sustain capacity, reduce risk, and increase resiliency capacity than a one-size-fits-all approach.



Photo Credit: Brendle Group



## PURSUING ECONOMIC DIVERSITY & VIBRANCY

Maintaining and growing a strong economy is critical to the functioning of the State and local communities. This section explores some of Colorado's greatest challenges and, therefore, our greatest areas of opportunity to promote a resilient economy.

### Survey Says

In the 2019 Resiliency Planning in Colorado's Local Governments survey, respondents were less likely to view various economic and social stressors as related to resilience, even though communities had coped with economic and social stressors more often (Colorado Resiliency Office, 2019).

### Benefits and Challenges of Growth

While growth can be a sign of a healthy and robust economy, it can also yield significant challenges. When growth is synonymous with intense resource consumption, it collides with the priorities to protect and enhance our environment.

Unrestrained growth can also detract from valued components of our economy, such as agriculture. Increasing demands for land and water have made it hard for agriculture to remain viable in many Colorado communities. Finally, even as our population and economy grows, local governments may continue to face fiscal constraints that make it challenging to keep up with demands on infrastructure. Ultimately, responsible growth can ensure that resources such as land, water, and infrastructure are used efficiently.



Photo Credit: Brendon Rockey

### Water Risk By the Numbers

Approximately **154,000 acres** of farmland in Colorado could come out of production by 2050 due to planned agriculture-to-urban water transfers (Department of Natural Resources, 2019).

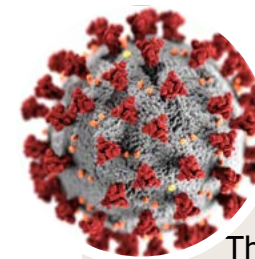
## PURSUING ECONOMIC DIVERSITY & VIBRANCY

### Limited Housing Affordability and Availability

Colorado's environment and economy continue to attract people to the state while encouraging existing households to grow deeper roots. The largest source of change in Colorado's population is migration (Colorado State Demography Office, 2018).

Already, Colorado residents are feeling the effects of a constrained housing market. In 2019 the Resiliency Planning in Colorado's Local Governments survey, local governments ranked housing availability and affordability as their biggest concern (Colorado Resiliency Office, 2019).

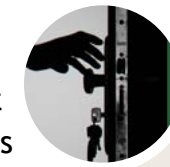
Note that Colorado renters are disproportionately cost-burdened, compared to homeowners. This is consistent with national trends but presents an imperative to craft and implement policies that alleviate this burden. This is especially relevant for BIPOC households which make up a higher percentage of the renter population (U.S. Census Bureau, 2018b) not necessarily by choice but due to historic, systemic, and racist policies such as redlining.



### INDUSTRY IMPACTS OF COVID-19

The global COVID-19 pandemic has had a profound and sudden impact on Colorado's economy. As the nation entered an economic recession, so did our state. The unemployment rate in February 2020 was just **2.5%**; by May the unemployment rate jumped to **10.2%** (U.S. Bureau of Labor Statistics, 2020).

With stay-at-home public health orders in the spring, many businesses were forced to close their doors, and the unemployment rate climbed. More than 16% of Colorado workers filed for unemployment claims shortly following these orders. Low-wage industries and the mountain and western portions of the state did so at disproportionately high rates (Colorado Office of State Planning and Budgeting, 2020).



### HOUSING COST BURDEN

In the 2019 Resiliency Planning in Colorado's Local Governments survey, housing affordability was rated as one of the most experienced stressors to date, and was ranked as the greatest future concern for our state (Colorado Resiliency Office, 2019).

In Colorado, **28%** of homeowners and **51%** of renters are cost-burdened — spending more than **30%** of their gross annual income on housing (U.S. Census Bureau, 2018e).



## PURSuing ECONOMIC DIVERSITY & VIBRANCY

### Uncertainty of Recessions and Other Economic Crises

Though the cycle of economic growth and recession is well documented, economic recessions still serve as major disruptions. Most recently, the far-reaching and precipitous impacts of the COVID-19 pandemic serves as a call to action for the State and local communities to build additional resilience in the face of great economic uncertainty.

Industry decline (or even collapse) is yet another shock Colorado may continually encounter as local, national, and global markets shift in response to ever-changing needs. Climate change is expected to influence economic changes over the next decade, especially in the tourism and agricultural sectors. Colorado boasts 7.7% of the nation's tourism jobs, but climate change is anticipated to have significant negative impacts on Colorado's tourism industry – especially the ski and rafting businesses (Colorado Office of Economic Development and International Trade, 2020).

Other drivers of industry decline could include technological innovation, impacts of hazards, or even climate action. The oil and gas industry contributes significantly to our economy; however, the mining and burning of fossil fuels also contributes to our emissions. Though moving toward a clean energy economy is an essential climate action, it is crucial to ensure a just and equitable transition for our energy industry workers as well as communities dependent on resource-based economies.



### Quantifying Future Impacts

The fiscal impacts of the recession caused by the COVID-19 pandemic are expected to last for multiple years. Although Colorado's economy is improving and projections of state operating revenue have increased since forecasts earlier in the recession, the Governor's Office of State Planning and Budgeting projects annual operating deficits through the state fiscal year 2022-23. General Fund revenue is projected to decrease by **4.7%** in FY 2020-21 before growing by **4.7%** in FY 2021-22 (Colorado Economic and Fiscal Outlook, OSPB, September 2020).

### Strained Fiscal Resources

The impacts of recessions and other economic crises can be magnified when they occur in the context of strained fiscal resources. Across Colorado, governmental entities and special districts continue to experience financial shortfalls compared to budget needs. Results of these shortfalls are varied but include an underinvestment in transportation projects, schools, workforce development, and more.



Photo Credit: Brendle Group



Photo Credit: Brendle Group





Photo Credit: Brendle Group



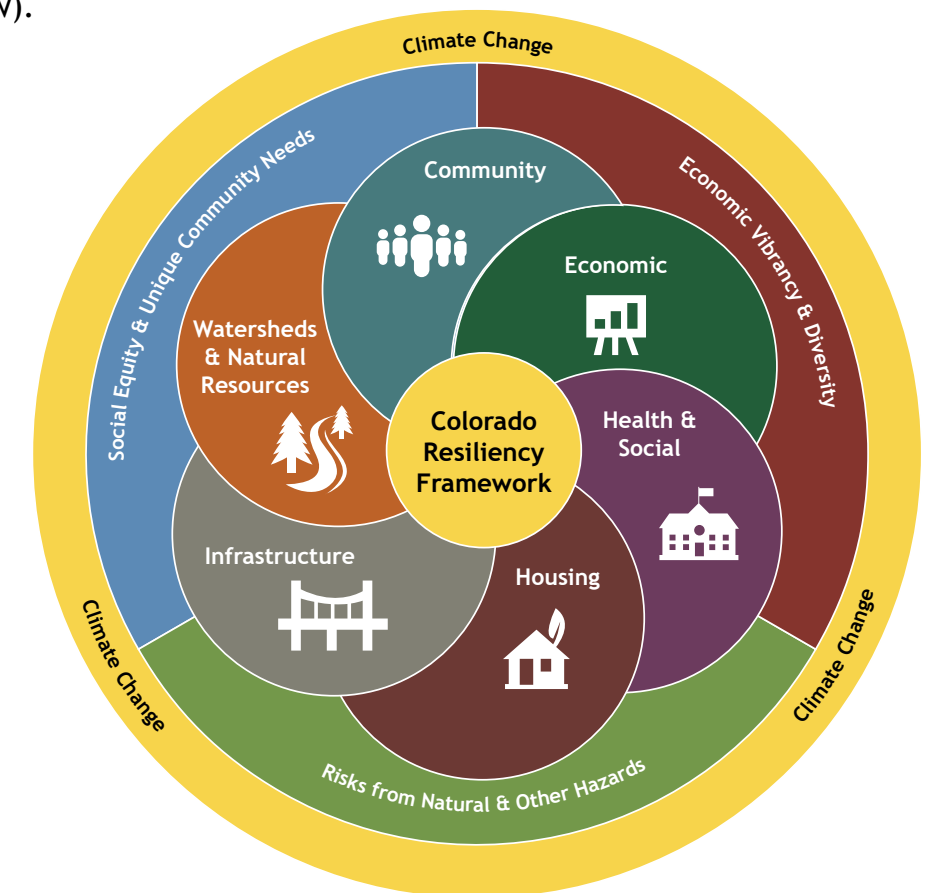
## Chapter 3: Advancing RESILIENCY ACROSS SECTORS

Six sector teams provided valuable technical expertise and perspectives to shape the Framework update. Each resiliency sector offers a unique lens to view and spotlight resiliency considerations and opportunities. While the sector groupings provide a platform to explore resiliency, it will be vital for sectors to work collaboratively to address Colorado’s most pressing risks and vulnerabilities (including the four themes detailed in Section 2 and displayed in the outer rings of the diagram below).

The following pages summarize background information for each sector, including each sector’s resiliency mission statement, important resiliency considerations, and noteworthy resources. The resiliency considerations help frame the most pressing challenges and opportunities facing Colorado from a sector-based perspective. They were used to develop the resiliency priorities and strategies in Section 4 of this Framework.

*“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.”*

Margaret Mead







## COMMUNITY SECTOR

Colorado communities are unique and include mountain and plain, urban and rural, and incorporated and unincorporated localities, and they are diverse in terms of race, ethnicity, gender, and age. The Community Sector focuses on supporting local self-governance in Colorado through collaboration and capacity building.

### Mission Statement

*Build community capabilities and resources that coordinate and integrate resiliency, equity, and disaster recovery planning efforts and facilitate social connectivity and empowerment, especially focusing on marginalized populations.*

### Sector Considerations

Each community’s ability to anticipate, accommodate, and more quickly recover from disruptions is critical for collective statewide resiliency. The following resiliency considerations are important from a Community Sector perspective.

#### Strengthening Local Planning

Colorado’s collection of diverse communities creates a tapestry of unique needs and opportunities. Supporting local and regional planning efforts helps create climate-adaptable and disaster-prepared communities. Through planning, communities can create more cost-effective and resilient land use patterns, manage growth in equitable and responsible ways, and ensure that development reduces risks to hazards.

#### Coordinating Preparation, Response, and Recovery

When disaster hits, communities need to know how to access and distribute recovery resources. Spending time to ensure every community in Colorado is prepared for disruptions through capacity building can improve statewide response and recovery.



Photo Credit: CRO

### Stimulating Resilient and Equitable Policies in Local Government

Once a community has set a certain policy direction, it can be difficult to switch course even if the policy is outdated or detrimental to the community. Examples include land use policies that push growth into wildland urban interface (WUI) areas, and development regulations that limit creative housing types. To help the transition toward a resilient future, diverse stakeholders can come together and encourage local governments to review existing policies for opportunities to increase resilience and ensure equitable outcomes. This includes breaking down silos within State and local governments and finding opportunities for local policy alignment.

#### Building Civic Muscle

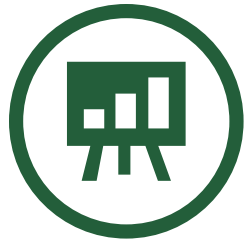
Creating opportunities for community engagement and empowerment strengthens our social fabric, increasing overall community resilience. By providing local governments with tools, resources, and training around equitable engagement, power can shift to residents and community-based organizations so they can identify their own needs and develop solutions specific to their community.



Photo Credit: Brendle Group

*“I have been impacted by climate change related shocks and stressors, which have negatively impacted my region by worsening air quality and increasing incidents of high heat. I am working to bring more electric vehicles and clean transportation on the road to reduce carbon and other GHG emissions, improve air quality, and improve public health. I also contribute personally to gardening, tree planting, and garbage cleanup.”*  
2020 Individual Survey participant





## ECONOMIC SECTOR

Colorado is routinely rated one of the nation’s best places to live, explore, work, and conduct business. The Economic Sector focuses on maintaining Colorado’s economic success, supporting the workforce, and increasing the ability of the State and local economies to maintain function, absorb, and rebound from immediate stress or shock.

### Mission Statement

*Address Colorado’s toughest challenges through regionally diverse, coordinated education and capacity-building that generates a skilled workforce and overall innovation economy that is adaptive and agile.*

### Sector Considerations

The Economic Sector is closely tied to the Framework theme of economic vitality and focuses on resilient industries and businesses as well as workers’ needs for personal, family, and community resilience. The following considerations are important from the Economic Sector perspective.

#### Navigating Economic Transitions

The boom-and-bust cycle is an inevitable characteristic of our nation’s economy, and future automation in some industries may lead to labor force shifts. To build a resilient state economy that can weather change, we can look at the entire economic ecosystem – including policies, physical infrastructure, telecommunications, health care, food supply, housing, and natural resources. A diversified base of healthy industries, coupled with business continuity planning and increased labor force participation are key to improving economic resilience.



Photo Credit: Devon Balet

#### Promoting Industry Health

Economic resiliency is a public-private endeavor. As private industries face transitions in small and rural communities, the public sector can provide support connecting businesses to local needs, growing industries, and providing supply chain solutions. In the face of disruption, public and private agencies can work together to support creative adaptations and innovations.

#### Establishing a Resilient Workforce

A healthy, mobile, and trained workforce enables an economy to accommodate change. By investing in job retraining, work-based learning, immigration reform, innovative education models, and regional workforce development initiatives, Colorado can design an equitable workforce system that prioritizes Coloradans.



*“I’ve watched my entire artist community suffer because of the pandemic shutting down all of our normal sales venues. I’ve worked with my Artists Guild to provide an online alternative to in-person art shows, which has helped replace some of that lost income for participating artists. The Guild also provides a platform for moral support for our members.”*

*2020 Organization Survey participant*



Photo Credit: Brendle Group





## HEALTH & SOCIAL SECTOR

Colorado is one of the healthiest and fastest growing states in the nation, with people relocating to Colorado for its lifestyle, career, and recreational opportunities. At the same time, extreme health and social inequities permeate across the state. The Health & Social Sector focuses on sharing responsibility across all levels of society to address the health and well-being of all community members.

### Mission Statement

*Dismantle structural inequities and integrate efforts across health and social service networks to empower communities, expand access, and improve health outcomes and wellness for all Colorado residents.*

### Sector Considerations

The Health & Social Sector identifies equity as an overarching element that significantly challenges and shapes community and statewide resiliency. The following considerations are important from the Health & Social Sector perspective.

#### Achieving Whole Health

To build a healthier state, all threats to community well-being including social isolation, physical inactivity, police brutality, substance abuse, climate change impacts, and stress should be addressed. Achieving whole health includes investing in our caring workforce, expanding resources for conflict resolution and stress management, designing built environments that support human health, and advancing community-based solutions determined and led by each community.

#### Providing Accessible and Affordable Services to All

A wide network of services is important to support and sustain health and social well-being. Along with healthcare, this network includes transportation, technology, childcare, food supply, insurance, and housing. Building this strong network will involve reducing racial and income disparities, increasing access to services, and improving preparedness and continuity of operations for care facilities and providers.



Photo Credit: CHFA, Scott Dressel-Martin

#### Normalizing Social Equity

Despite the struggle to obtain limited resources, and while finally beginning to face structural, societal inequities, governmental entities and organizations across the state are actively working toward embedding and prioritizing equity in their work. To maintain this momentum, we can make community-led decision-making the norm by engaging and empowering community members to help identify unmet needs and co-create solutions – with the support of data and inclusion mapping to inform decision-making. All organizations can and should integrate equity into their work.

#### Supporting Communities During Pandemics

As seen during the COVID-19 pandemic, collaboration between the federal government, state government, local public health agencies, the medical community, the business community, and the public is critical for effectively addressing the spread of diseases. The local public health systems in Colorado support informed decision-making regarding hospital capacity, testing, vaccination, and public health orders that help curb transmission while addressing local needs to maintain quality of life and business continuity.



*“I am young, with a pre-existing condition that puts me in the high-risk category. I’ve been strictly quarantined for the last 7 months. I’ve realized how important community support and mental health supports are.”*

*2020 Individual Survey participant*

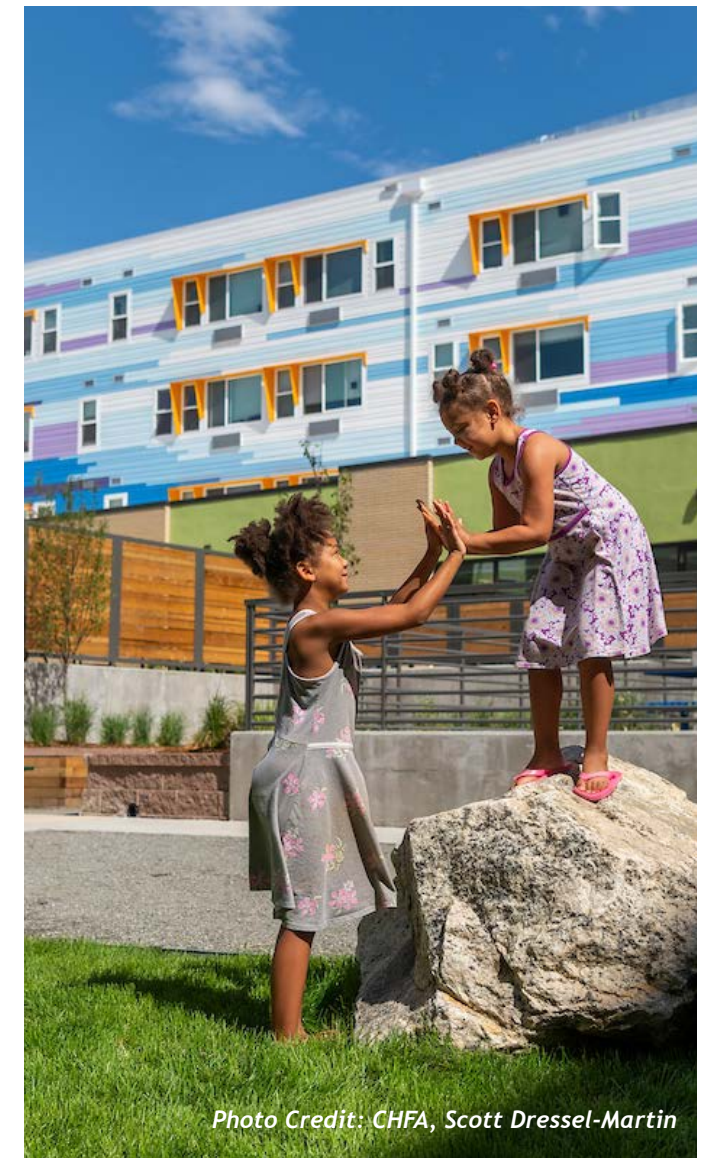


Photo Credit: CHFA, Scott Dressel-Martin





## HOUSING SECTOR

Colorado’s housing market faces many intertwined resiliency considerations including rapid price escalation and supply shortages in urban and mountain communities, vulnerability to natural hazards, growing distances between place of residence and employment, and the unique housing needs and inequities of different demographic groups. The Housing Sector focuses on housing supply and stability as critical elements of resilient housing.

### Mission Statement

*Implement a collaborative strategy to create sustainable affordable housing solutions that address the needs of the whole community while preparing for and responding to changing environmental, social, and economic conditions.*

### Sector Considerations

Colorado’s extremely tight housing supply means that many individuals and families struggle to find quality, affordable housing options. The following considerations are important address from the Housing Sector perspective.



*“A primary stressor that has been on my mind the last couple years is finding a suitable residence I can afford. I work locally in a mountain resort area. There is the obvious problem of housing prices being ridiculously inflated by buyers who have way more money that they earned somewhere else and/or who work remotely.”*

*2020 Individual Survey participant*

### Accelerating an Affordable and Diverse Housing Supply

Colorado’s housing crisis has extended to all parts of the state. By focusing on strategies that result in diverse housing types, we can increase affordable options and increase opportunities for co-housing, universal design, temporary housing, and housing that provides supportive services.



Photo Credit: CHFA, Scott Dressel-Martin

### Building Housing for the Future

The high demand for new home construction provides an opportunity to build housing that is resilient to natural and economic hazards. Updating local land and building development standards helps limit construction in hazardous areas, fortify structures for future weather events, and reduce energy and water costs. Local standards can also be adjusted to address threats of displacement.

### Providing Flexibility in Emergency Housing Solutions

Flexible housing solutions, both temporary and permanent, enable communities to rebound from disasters faster and stronger. To address shocks, solutions include facilities that can be adapted to provide occupancy and critical services during a crisis. For longer-term stressors, solutions include rent and mortgage relief, utility assistance, and connecting wrap-around services (e.g., job training, counseling, etc.) to those in need.



Photo Credit: CHFA, Scott Dressel-Martin





## INFRASTRUCTURE SECTOR

Colorado has a vast network of infrastructure that spans transportation, energy, water, waste, safety, health care, and more. Much of this infrastructure is critical to maintaining community function, health, and safety during emergencies. The Infrastructure Sector supports strengthening and reinforcing critical infrastructure and calls for ushering in a new era of resiliency-focused infrastructure maintenance and investment across the state.

### Mission Statement

*Improve the resiliency and sustainability of infrastructure in Colorado by prioritizing resilience and integrating social equity, investment, planning, mitigation and recovery efforts across jurisdictions.*

### Sector Considerations

The Infrastructure Sector focuses on a resilient built environment that withstands shocks and stressors over time, while continuing to provide critical services that allow communities to remain or to return after a shock event. The following considerations are important from the Infrastructure Sector perspective.

#### Resiliency from an Early Stage

Resilient infrastructure systems begin with an integrated and cross-sector planning processes – including State and local planning for: hazards, land use, transportation, and climate action. To guide these planning processes, we should find alignment on hazards and climate change models as well as implement social equity frameworks. This approach can help prioritize projects, support fair and just procurement processes, and inform asset and risk management.

### Designing and Funding Equitable and Resilient Systems

We can coordinate and establish standards, codes, and guidelines that support equitable and resilient infrastructure design and development. Advancing natural infrastructure solutions<sup>1</sup> in addition to traditional “hard” infrastructure can help position us for more resilient infrastructure systems. This requires a common risk model, comprehensive stakeholder engagement, methods to evaluate and prevent disproportionate impacts on community members, and an advanced approach to funding. Future-oriented benefit cost analyses and key resiliency indicators can demonstrate the benefit of resilient construction – encouraging public-private partnerships and other creative funding mechanisms.



Photo Credit: Brendle Group

<sup>1</sup> Natural infrastructure, sometimes called blue-green infrastructure, uses natural landscapes and systems to provide benefits such as flood control, water quality improvements, and stormwater runoff reduction.



### Developing Robust Infrastructure Management Systems

We can promote resiliency in existing infrastructure through robust infrastructure management systems. These systems consider vulnerabilities, inspection results, and investment needs to inform data-driven decision making. In addition to emergency planning, maintenance and operations of infrastructure should budget for resiliency-informed practices and explore opportunities for multi-purpose operations.

*“Our town has a failing physical infrastructure due to previous budget management and limited funds. The current town board has now decided to face these issues by taking on the much-needed projects of implementing sewer/water upgrades. Residents are dissatisfied with this as there is an increased cost in their rates.”*

2020 Organization Survey participant



Photo Credit: Brendle Group





## WATERSHEDS & NATURAL RESOURCES SECTOR

Colorado’s watersheds and the cultural and natural resources within them – including streams, lakes, aquifers, forests, riparian areas, wetlands, agricultural lands, recreation areas, minerals, fuels and energy sources, artifacts and historical sites, soils, and air – provide the foundation and sustenance for our communities, livelihoods, and well-being. The Watersheds & Natural Resources Sector emphasizes retaining the structure, function, and ecosystem services of watersheds and natural and cultural resources over time, as well as their ability to rebound from disturbances such as wildfire, drought, and flooding.

### Mission Statement

*Protect, enhance, and restore Colorado’s watersheds and natural resources, consistent with scientific understanding, community priorities, and environmental laws.*

### Sector Considerations

The Watersheds & Natural Resources Sector focuses on resiliency in the natural environment, where many hazards originate – demanding active management to improve resilience in terms of readiness, response, and recovery. The following considerations are important from the Watersheds & Natural Resources Sector perspective.

### Creating a Common Understanding

To address threats to our environment, we should establish scientific standards to define resilient watersheds, and cultural and natural resources. Agreed-upon standards can support local, State, and Tribal planning efforts, and will create opportunities to educate communities and leaders about the value of resiliency and the need to invest proactively in risk reduction and preparedness.

### Building Effective Coalitions

Colorado has a strong history of collaboration to protect, restore, and enhance our watersheds and natural resources. Based on successful grassroots activity currently working to address flooding, debris, and wildfire hazards, Colorado has a great opportunity to build on past successes and continue communication and alignment across organizations.



Photo Credit: Visit Colorado



### Cross-Cutting Implementation Techniques

While each natural resource has its own unique challenges, we can leverage all available implementation techniques (e.g., market-based solutions, dedicated funding sources, innovative technology, incentives, and regulations) to achieve improved outcomes in watershed and natural resource resiliency. New projects can be evaluated with consideration of social and environmental benefits, in addition to financial considerations, to help promote the long-term resiliency of watershed, cultural, and natural resources.

*“Wildfires in my area led to many tourism layoffs, which led to a downturn in the local economy and made us realize we can’t be so dependent on tourism. We work diligently to diversify our employment and economic bases.”*

*2020 Organization Survey participant*



Photo Credit: DOLA





Photo Credit: Brendle Group



Chapter 4:

# COLORADO'S RESILIENCY PRIORITIES

Six resiliency priorities emerged through a collaborative, cross-sector stakeholder engagement approach. These priorities came up repeatedly in conversations and represent big ideas Colorado must plan for and advance in coming years in order to achieve its resiliency vision. Each priority spans multiple sectors and aims to address a range of risks and vulnerabilities.



**Future-Ready Economy & Workforce (EW)**

Fortify Colorado's workforce to support a future-ready, regenerative, circular economy.



**Climate & Natural Hazard Resiliency (CN)**

Reduce Colorado's risk from climate change and natural hazards through integrated land use, ecosystem, and natural resource planning, management, and investment.



**Building & Infrastructure Sustainability (BI)**

Reimagine and modernize Colorado's built environment to be both climate and hazard resilient and environmentally sustainable.



**Agriculture & Food Security (AF)**

Cultivate a robust state and local food system – from agriculture to distribution and consumption.



**Housing Attainability (HA)**

Increase the supply of attainable housing throughout Colorado, including affordable housing options for workforce populations and those who most experience marginalizing.



**Community Capacity (CC)**













Empower and support Colorado communities to improve local resilience, equity, and capacity.

The following pages explain each resiliency priority and summarize the strategies that support each priority. Refer to the Action Plan in Chapter 5 for strategy details.



## OVERARCHING STRATEGIES (OA)

While most of the strategies closely align with one priority, several strategies are broad and relate to all the resiliency priorities.

Strategy Name	Strategy Description	Resiliency Priorities Supported
<b>OA1. Establish a Statewide Resilient &amp; Sustainable Community/Regional Program</b>	Facilitate coordination across jurisdictions on resiliency and sustainability issues. Develop and manage a program for communities to take concrete steps to improve their resiliency and sustainability performance.	 Economy & Workforce  Climate & Natural Hazards  Building & Infrastructure  Agriculture & Food  Housing Attainability  Community Capacity
<b>OA2. Attract &amp; Leverage Resiliency Funding Opportunities</b>	Integrate resiliency criteria into State competitive grant programs and investments. Secure additional resources and investment to implement resiliency solutions.	 Economy & Workforce  Climate & Natural Hazards  Building & Infrastructure  Agriculture & Food  Housing Attainability  Community Capacity



Economy & Workforce

## FUTURE-READY ECONOMY & WORKFORCE (EW)

Fortify Colorado's workforce to support a future-ready, regenerative, circular economy.

### Sector Linkages



Economic

#### Primary



Health & Social



Community

#### Supporting



Housing



Infrastructure



Watersheds & Natural Resources

### Overview

A future-ready economy positions Colorado and its communities to withstand economic disruptions and industry transitions with innovation and agility. Disruptions could include economic losses or recession caused by stressors such as the COVID-19 pandemic or hazard events, transition of major industries such as tourism and agriculture due to climate change, or transition of extraction-based economies to other industries.

This priority focuses on supporting communities and industries through change and increasing economic diversification through expanded access to technology, putting the economy to work in mitigating risks from natural hazards, and building community capabilities to address local needs. It includes a vision of a regenerative<sup>2</sup> and circular<sup>3</sup> economy that reinvests in businesses, communities, and the environment – building prosperity while reclaiming and repurposing materials, strengthening natural systems and processes, and expanding opportunity for all Coloradans.

<sup>2</sup> A circular economy focuses on eliminating waste and continually using resources.  
<sup>3</sup> A regenerative economy focuses on redistributing resources and strengthening natural systems.

Like the economy, Colorado's workforce faces myriad risks and vulnerabilities, including: inequities and barriers related to race, age, gender, ability, educational attainment, region, wages, childcare, benefits, and more. This priority aims to remove barriers to securing employment, improve equitable hiring practices, and modernize benefits at the State and local levels. In the spirit of regenerative and circular principles, this priority also focuses on increasing the capacity of Colorado's workforce to support natural resource protection, and hazard and disaster response and recovery.

































### Survey Says

In the 2020 surveys, **57%** of individual respondents and **75%** of organizations placed economic stress in their top five risk concerns.



## Supporting Strategies

Strategy Name	Strategy Description	Resiliency Priorities Supported		
<b>EW1. Expand Digital Equity, Access &amp; Preparedness</b>	Address regional digital inequities through targeted efforts prioritizing the most pressing needs: access to high speed internet, access to and affordability of web-enabled technology, and access to skill development.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity
<b>EW2. Advance Equitable Hiring &amp; Modern Benefits</b>	Advance equitable hiring practices through skills-based practices, increased access to training, and the removal of barriers such as drivers' licenses, lifting requirements, prescriptive experience, and extensive job histories. Promote modernization of employment benefits and worker protections.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity
<b>EW3. Develop Rural Economic Diversification Roadmaps &amp; Strategies</b>	Identify viable economic diversification opportunities in rural Colorado and create community roadmaps and strategies to develop opportunities. Utilize rural hubs <sup>4</sup> as a model to implement diversification strategies.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity
<b>EW4. Support Communities &amp; Industries in Economic Transition</b>	Prepare for industry and workforce transition due to market shifts, globalization, climate change, and digital transformation through diversification of economies and workforce development planning. Attract the workforce of the future by developing strategic mentorship, education, and training opportunities.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity
<b>EW5. Promote Resiliency Jobs &amp; Workforce Development</b>	Promote workforce training and development programs that help businesses become more resilient to climate change and disasters. Focus on programs that develop career pathways, build partnerships across sectors and with educational institutions, and grow a statewide resiliency job corps program.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity

<sup>4</sup> Rural hubs are place-based collaborative models that work to advance community and economic development through partnership and innovation.

## RESILIENCY SPOTLIGHT

The COVID-19 crisis catalyzed the development of the Colorado Regenerative Recovery Coalition, a collaborative partnership between The Alliance Center, Natural Capitalism Solutions, Greener Solutions, the Polis Administration, and thought leaders across the state. The coalition mobilized around a regenerative recovery – “COVID-19 economic recovery efforts that builds a robust, localized economy abundantly meeting human needs while equitably providing clean water, air, energy, and food.” In its Guide to Regenerative Recovery for Colorado, coalition members commit to follow eight fundamental aspects of a Colorado regenerative recovery:

- Transition Rapidly to Renewable, Distributive, Reliable Energy
- Strengthen and Increase Colorado’s Regenerative Food System
- Provide Equitable Access and Opportunities for All
- Build the Industries and Workforce of the Future
- Invest in Natural and Built Infrastructure
- Build Colorado’s Circular Economy
- Preserve and Strengthen Democratic Institutions
- Leverage Diverse Partnerships to Demonstrate Regeneration in Action

By emphasizing a regenerative recovery, Colorado will also advance and strengthen its resiliency.







# CLIMATE & NATURAL HAZARD RESILIENCY (CN)

Reduce Colorado’s risk from climate change and natural hazards through integrated land use, ecosystem, and natural resource planning, management, and investment.

## Sector Linkages



## Overview

Despite significant work to rebound and recover from the natural disasters of the past decade, many communities across Colorado are still highly vulnerable to and at risk of wildfire, drought, and flooding. These risks are, in large part, due to land use patterns and growth that place structures and populations at risk, as well as persistent stress on natural resources as our climate changes.

While much progress has been made, more can be done to proactively reduce hazard vulnerability and mitigate risk. For example, plans and projects should prioritize integrated and multi-benefit outcomes. Communities with high wildfire risk should actively incorporate wildland urban interface mapping and model standards into their master plan and

development codes. Communities that have experienced disasters can recover with future climate impacts in mind.

This priority also elevates and emphasizes the important role of renewing natural system functions and ecosystems – to further reduce risk and improve Colorado’s resiliency. Exploring and expanding new financial solutions will be necessary to fund projects that protect natural systems and functions while also mitigating risk in the built environment.

Finally, this priority seeks to expand knowledge and data-driven decision-making to help communities identify, plan for, and mitigate natural hazards and climate risk at local and regional scale.



Photo Credit: Left Hand Watershed Center

## Supporting Strategies

Strategy Name	Strategy Description	Resiliency Priorities Supported
<b>CN1. Align Climate Change Data, Metrics &amp; Standards</b>	Standardize climate models used for scenario planning, and integrate projected climate change impacts into State, regional, and local planning efforts. Define performance metrics and track results to demonstrate improvement in risk reduction or resiliency improvement to climate change and natural hazards.	Economy & Workforce            Climate & Natural Hazards            Building & Infrastructure            Agriculture & Food            Housing Attainability            Community Capacity
<b>CN2. Resilient Watershed-Based Management &amp; Best Practices Planning &amp; Project Identification</b>	Integrate stream, watershed, and forest management planning efforts, using a holistic watershed approach to identify cross-cutting projects that are high priority, impactful to improving climate and natural hazard resiliency, and provide multiple resiliency benefits.	Economy & Workforce            Climate & Natural Hazards            Building & Infrastructure            Agriculture & Food            Housing Attainability            Community Capacity
<b>CN3. Integrate Forest Health &amp; Wildfire Risk Mitigation into Land Use &amp; Development Processes to Reduce Wildfire Risk &amp; Exposure</b>	Provide tools (e.g., model codes, technical assistance) land use authorities can use in the wildland-urban interface to reduce new development in high risk areas and, therefore, the number of people exposed to high wildfire risk.	Economy & Workforce            Climate & Natural Hazards            Building & Infrastructure            Agriculture & Food            Housing Attainability            Community Capacity
<b>CN4. Build Local Capacity, Resources, &amp; Incentives to Implement Resiliency Projects</b>	Build local capacity, resources, and incentives – to implement projects that improve climate and natural hazard resilience.	Economy & Workforce            Climate & Natural Hazards            Building & Infrastructure            Agriculture & Food            Housing Attainability            Community Capacity





“Woodland Park has experienced the threat of wildfires and drought twice since 2000 (Hayman Fire in 2002 and Waldo Canyon in 2012). The fire districts, local governments, forestry folks and non-profits (CUSP) came to together to educate and build awareness toward wildfire mitigation and preparation with “ready, set, go” scenarios.

One positive adaptation is to require any new development or subdivision to submit and implement a hazard mitigation plan. Because wildfires are an ongoing threat, we must continue to educate and prepare our new residents moving to area, which can be a challenge. If they have not experienced wildfires, then the newcomers are dismissive of the necessity to thin our forests and implement best practices.”

2020 Organization Survey participant

**Accomplished Forest Treatments**

**RESILIENCY SPOTLIGHT**

[From Forests to Faucets](#) is a watershed management partnership between Denver Water the Rocky Mountain Region of the U.S. Forest Service, Colorado State Forest Service, and the Natural Resources Conservation Service. The initiative focuses on the mutual benefits of proactive forest management and wildfire mitigation.

Partners have committed to investing \$33 million in forest management projects to restore more than 40,000 acres of forestland on private and state lands in the watershed. Denver Water has analyzed and ranked “Zones of Concern” as priority areas for hazard reduction treatments. An interactive [Story Map](#) on Denver Water’s website show the Zones of Concern and completed forest treatments.

Photo Credit: Dever Water



**Building & Infrastructure**

**BUILDING & INFRASTRUCTURE SUSTAINABILITY (BI)**

Reimagine and modernize Colorado’s built environment to be both climate and hazard resilient and environmentally sustainable.

**Sector Linkages**



**Overview**

Colorado’s infrastructure is aging and under constant pressure from growth, natural hazards, and a changing climate. Demands to upgrade and build new infrastructure routinely outpace available resources; strategic decisions must be made about what investments are necessary and where. Infrastructure decisions are often based on immediate need (especially following disasters), lowest cost, and continuation of long-established standards and practices.

This priority aims to update the infrastructure decision-making paradigm to elevate responsible, proactive, and multi-benefit infrastructure investments that: mitigate risk, enhance resiliency and adaptability, improve efficiency, reduce environmental and social

impacts, and make long-term economic sense. This priority is based on the recognition that most investments and choices regarding infrastructure and the built environment today will last for generations.

Along with infrastructure challenges, many Colorado communities are experiencing new development, aging and underutilized buildings, or a mix of these characteristics. This priority focuses on providing guidance for designing, constructing, and modernizing the built environment so it will stand the test of time and thrive during challenging conditions. Resources, and examples of new technologies and techniques, will help break down barriers to adoption; model standards or guidelines will help expand knowledge and take the guesswork out of the development code update processes.

























**RESILIENCY SPOTLIGHT**













The [Colorado Post-Fire Playbook](#) was developed in 2020 by a group of volunteers across the state, from the governmental, non-profit, and private sectors. The Playbook provides concise guidance for counties, Tribes, municipalities, and water providers to navigate post wildfire rehabilitation. The Playbook contains usable worksheets that detail specific and critical steps to take before, during, and within 30 days of a fire.

Photo Credit: Carol Dellar



## Supporting Strategies

Strategy Name	Strategy Description	Resiliency Priorities Supported
<b>BI1. Integrate Resiliency in State Infrastructure Funding</b>	Prioritize infrastructure projects that advance resilience principles and reduce climate change impacts – through funding decisions and organizational practices. Promote local infrastructure decisions that further resilience, including green and blue infrastructure and multimodal transportation, through funding, incentives, and the development of resources – to help implement resiliency infrastructure projects.	     
<b>BI2. Improve Infrastructure &amp; Land Use Coordination</b>	Integrate land use, air quality, transportation, water use, equity, and community engagement efforts – to promote regional partnerships for growth and development that consider future risks and conditions. Leverage existing State and federal funding sources, and partner with organizations to establish new funding mechanisms for resilience projects.	     
<b>BI3. Establish Model Climate-Resilient Infrastructure Standards</b>	Assess, develop, and promote adoption of local and State standards that allow and encourage new and existing infrastructure that account for climate change and natural hazards. Leverage existing models to provide a science-based recommended State model.	     
<b>BI4. Ensure Climate-Resilient Critical Infrastructure</b>	Upgrade critical infrastructure across the state, including watershed dams and structures, to be more climate resilient. Establish a State buy-out program to incentivize removing high-risk and repetitive-loss properties such as floodplains. Build support for green and blue infrastructure.	     

Strategy Name	Strategy Description	Resiliency Priorities Supported
<b>BI5. Promote Adaptive Reuse &amp; Retrofitting</b>	Remove barriers to and promote adaptive reuse and retrofit of historic buildings to incorporate energy efficiency and renewable energy. Emphasize preserving historic integrity, while also working toward more equitable and resilient development.	     
<b>BI6. Grow a Network of Resiliency Hubs</b>	Support the development of regional state-of-the-art resiliency hubs that serve as community centers for education, services, and community capacity. Provide access to food, shelter, power, and other critical services during emergencies.	     



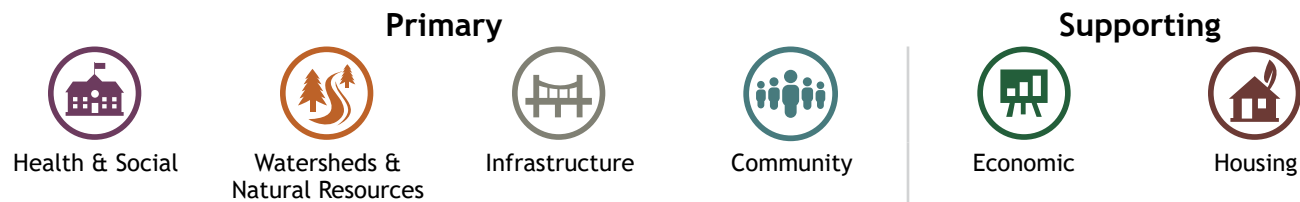




## AGRICULTURE & FOOD SECURITY (AF)

Cultivate a robust state and local food system, from agriculture to distribution and consumption.

### Sector Linkages



### Overview

Food is a fundamental human need; many Coloradans face food insecurity and hunger. Food and nutrition inequities are further exacerbated during times of disaster and economic stress. As food access and quality are major determinants of health and wellness, addressing immediate and long-term food needs of Colorado residents is vital to our resiliency.

Across the state, needs related to food access, production, security, and distribution vary tremendously. This priority focuses on providing flexibility and tools to analyze and adapt to local needs and conditions (in the context of the greater state and national food systems). In urban areas, this might mean tools and resources to launch community gardens, expand farmers' markets, stabilize supply and distribution chains, and connect residents in need with food or meals. It could also include eliminating food swamps,<sup>5</sup> launching food

recovery operations, and supporting local restaurants, food workers, and retailers. In rural or agricultural communities, this might include conserving agricultural land, reducing food deserts,<sup>6</sup> and building connections across sectors (e.g., transportation, processing, waste).

Among its challenges, Colorado's agricultural industry faces a changing climate along with: increasing weather variability, an aging workforce, and unmet labor needs. This priority focuses on keeping land in use for farming and agriculture while also strengthening and supporting the next generation of agriculture and food workers. The strategies link the vital role of agriculture and the food economy with modernization of practices, creation of new markets, and enhanced stewardship and management of Colorado's watersheds and natural resources.

<sup>5</sup> Food swamps are areas with an abundance of unhealthy food options.

<sup>6</sup> Food deserts are areas with limited access to healthy food options.

## Supporting Strategies

Strategy Name	Strategy Description	Resiliency Priorities Supported
<b>AF1. Promote &amp; Protect Working Lands</b>	Promote and protect working lands for generations to come. Focus on providing incentives for local land use, policies, and activities that promote multiple benefits of land and resource conservation, and those that preserve farms and ranches for food production.	Economy & Workforce Climate & Natural Hazards Building & Infrastructure Agriculture & Food Housing Attainability Community Capacity
<b>AF2. Advance Regenerative Farming Practices</b>	Establish frameworks and systems for regenerative farming, across different scales, that employ market-based solutions and produce multiple benefits including: improving soil health, conserving water, and empowering Black, Indigenous, people of color (BIPOC) landowners and agricultural producers.	Economy & Workforce Climate & Natural Hazards Building & Infrastructure Agriculture & Food Housing Attainability Community Capacity
<b>AF3. Support Innovations &amp; New Markets</b>	Advance and promote innovations in the use of forest products that support sustainable and resilient agriculture activities – including the use of biochar, agricultural composting, and processing of agricultural waste.	Economy & Workforce Climate & Natural Hazards Building & Infrastructure Agriculture & Food Housing Attainability Community Capacity



*“During the COVID-19 pandemic, we here in Delta County were not impacted by meat packing plant closure that effected the major meat packing plants across the US. This is attributable to our local farms and ranchers contributing to our local meat packing facilities. Where some dairy farmers were being forced to destroy their product because they were unable to get them to market, our farmers and ranchers had a local network and delivery system.”*

2020 Organization Survey participant



**Strategy Name**   **Strategy Description**

**AF4. Bolster Next Generation Farm & Agriculture Workers**

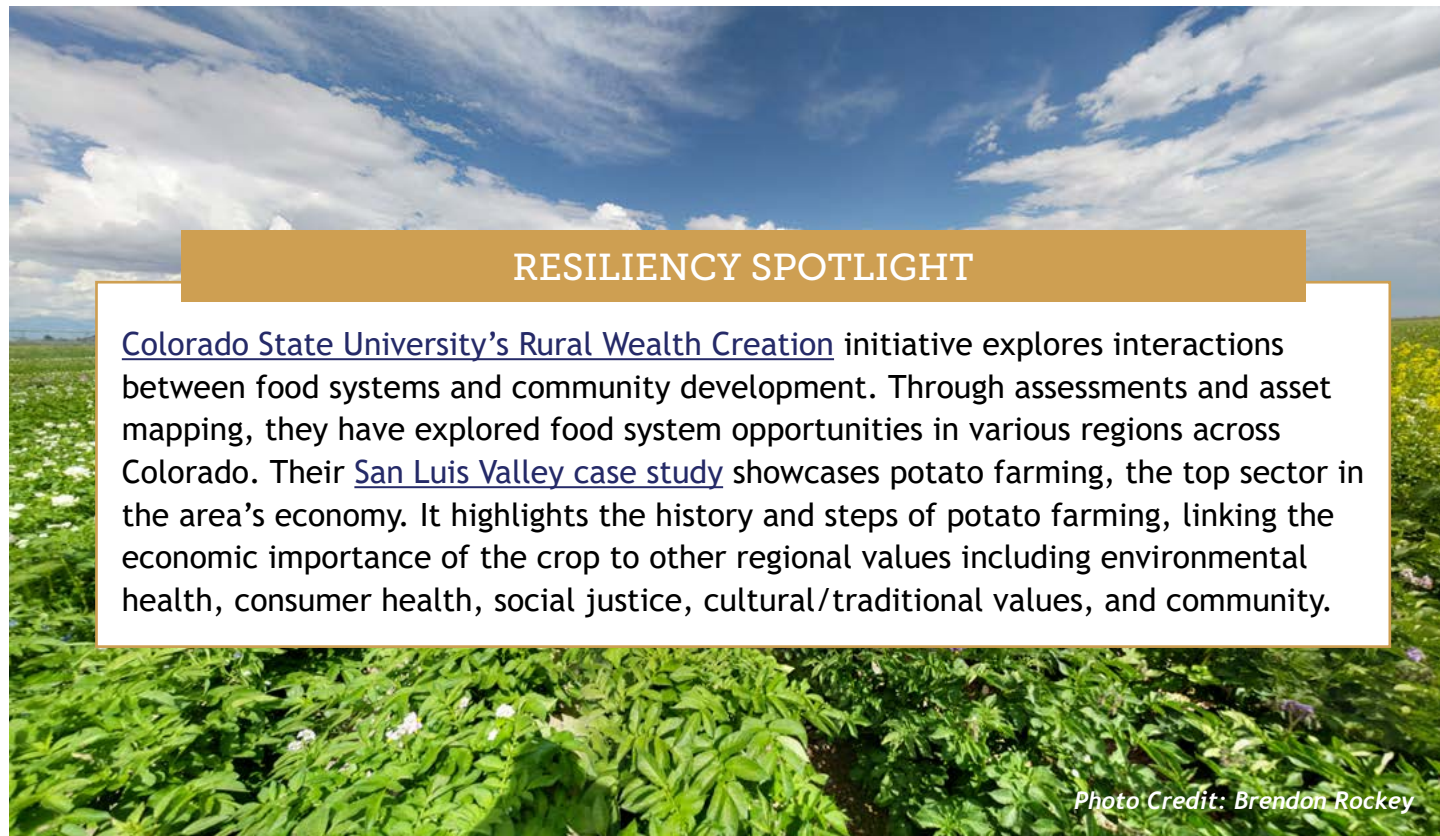
Invest in the next generation of farmers, ranchers, and food producers – with a focus on supporting BIPOC community members. Provide internships, skills-based trainings, and mentorship programs to build equitable workforce development. Diversify economic opportunities through technical and financial assistance – to support shifting to low-water crops, entering new market opportunities, and expanding agritourism.

**Resiliency Priorities Supported**



**AF5. Integrate Food & Agriculture in Local Planning**

Integrate local agriculture and food system considerations into community planning activities – to support food community gardens, urban agriculture, consolidated farmers markets, and food pantries that provide equitable healthy food access and security. Identify opportunities to further economic development and natural resource objectives.



**RESILIENCY SPOTLIGHT**

[Colorado State University's Rural Wealth Creation](#) initiative explores interactions between food systems and community development. Through assessments and asset mapping, they have explored food system opportunities in various regions across Colorado. Their [San Luis Valley case study](#) showcases potato farming, the top sector in the area's economy. It highlights the history and steps of potato farming, linking the economic importance of the crop to other regional values including environmental health, consumer health, social justice, cultural/traditional values, and community.

*Photo Credit: Brendon Rockey*



**Housing Attainability**

**HOUSING ATTAINABILITY (HA)**

Increase supply of attainable housing throughout Colorado, including affordable housing options for workforce populations and those who most experience marginalizing.

**Sector Linkages**



Housing

**Primary**



Economic



Community

**Supporting**



Health & Social



Watersheds & Natural Resources



Infrastructure

**Overview**

As with food, shelter is a basic human need that can be difficult for some Coloradans to reach – due to economic challenges, displacement from hazard events or disasters, lack of opportunity or supply, and many other factors.

In most of Colorado's urban and mountain communities, there is a shortage of housing units that are affordable<sup>7</sup> or attainable<sup>8</sup> to low- and middle-income households. In many rural communities, limited funds available for housing supply means minimal housing mobility or choice. This priority focuses on expanding housing supply and opportunities for all Coloradans, with a focus on underserved communities. The priority emphasizes reducing barriers to developing affordable housing, championing statewide housing policies and resources, and addressing each community's unique housing needs. To increase stability and reduce displacement, this priority stresses leveraging and using tested tools, models, and resources, as well as piloting and innovating new housing projects and initiatives.

<sup>7</sup> Affordable housing is commonly defined as housing that requires 30% or less of monthly household income. This includes the cost of the housing and utilities.

<sup>8</sup> Attainable housing is housing that is not subsidized and affordable to households with incomes between 80 and 120% of the area median income.



**Survey Says**

Of respondents to the 2020 surveys, **57%** of individuals, and **60%** of organizations selected housing affordability as a risk of top concern. This corroborates findings from the 2019 Resiliency Planning in Colorado's Local Governments survey in which respondents agreed that housing attainability was the area of greatest risk for Colorado.

(Colorado Resiliency Office, 2019)



























*"I've been involved in multiple recovery activities following a disaster. Working with vulnerable populations that still require shelter, job assistance, healthcare assistance, etc., months after a disaster has occurred has really highlighted the need for systems in place to prioritize these populations."*

2020 Organization Survey participant



## Supporting Strategies

Strategy Name	Strategy Description	Resiliency Priorities Supported		
<b>HA1. Build Local Capacity for Developing Resilient Affordable Housing</b>	Provide technical assistance to local communities to meet their unique housing needs and increase the number of affordable and resilient housing units.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity
<b>HA2. Support Affordable Housing Siting &amp; Development</b>	Address the critical shortage of housing supply by providing critical data and resources needed to support the siting and development of affordable and attainable housing throughout the state.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity
<b>HA3. Increase Housing Stability</b>	Ensure Coloradans can remain in their homes and the affordable housing stock is maintained, particularly during disruptive events such as natural disasters and economic disruption, by minimizing evictions and foreclosures and ensuring homes are fortified to withstand disasters. Address barriers to homeownership and housing for people experiencing homelessness.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity
<b>HA4. Expand Residential Efficiency &amp; Weatherization</b>	Increase access to residential weatherization programs to provide multiple benefits including lowered energy costs, conservation of water, natural gas, and electricity, and reduced greenhouse gas emissions. Promote and adopt standards that result in new residential construction that is highly energy efficient, including provisions for net-zero, and resilient design features.	 Economy & Workforce	 Climate & Natural Hazards	 Building & Infrastructure
		 Agriculture & Food	 Housing Attainability	 Community Capacity







## COMMUNITY CAPACITY (CC)

Empower Colorado communities to improve local resilience, equity, and capacity.

### Sector Linkages



Community



Health & Social



Watersheds & Natural Resources



Economic



Housing



Infrastructure

### Overview

Colorado’s communities form the core of successful pre- and post-disaster recovery efforts, collaborative resiliency planning, and effective resiliency project implementation. Rather than applying prescriptive resilience approaches and rigid standards to all communities, the State emphasizes flexibility and expanding capacity for communities and regions to adapt and apply best practices to address their unique needs. This is done by sharing resources and tools, facilitating collaboration, and supporting local initiatives and leadership development.

In addition to empowering local communities, this priority stresses improving social connectivity, civic participation, and equitable and authentic community involvement – to enhance resiliency and community capacity. Many community members have been excluded, marginalized, or disenfranchised from community planning and improvement projects. Successful efforts that build community capacity and resiliency engage diverse populations and perspectives and share decision-making power with those who most experience marginalizing or disruptions.



*“Larimer County ranks #1 for FEMA disasters in the State of Colorado, with approximately one major disaster every 4-5 years. Therefore, the county has implemented several programs to assist community members in being more resilient. The county has also created multiple policies and procedures to make local government more adaptive and resilient.”*

Organization Survey participant



### Survey Says

More than half (52%) of 2020 Organization survey respondents indicated they were likely to take action to support the Community Capacity resiliency priority.

## Supporting Strategies

Strategy Name	Strategy Description	Resiliency Priorities Supported
CC1. Integrate Equity into Resilience Planning & Actions	Build partnerships to integrate equity into State and local resiliency activities through equitable representation, language justice, and community co-production. Partner with community-trusted organizations that focus on engaging BIPOC communities to assess systemic issues and identify interventions.	Economy & Workforce Climate & Natural Hazards Building & Infrastructure Agriculture & Food Housing Attainability Community Capacity
CC2. Develop & Deploy Community Engagement & Civic Capacity Tools	Strengthen community connections and civic capacity by providing community engagement tools, resources, and training. Emphasize the importance of building community trust through engagement activities.	Economy & Workforce Climate & Natural Hazards Building & Infrastructure Agriculture & Food Housing Attainability Community Capacity
CC3. Strengthen Local Resilience Planning & Peer Networks	Complete local/regional resiliency assessments and promote integrated planning efforts that lead to more resilient infrastructure, economies, and social systems while also creating a culture of resilience. Create regional resiliency peer learning and exchange opportunities; ensure that regional plans and actions are grounded in community-driven values, needs, and recommendations.	Economy & Workforce Climate & Natural Hazards Building & Infrastructure Agriculture & Food Housing Attainability Community Capacity

**RESILIENCY SPOTLIGHT**

The [Community Inclusion in Colorado maps](#) (CICOMaps) were created by the Colorado Department of Public Health and Environment and University of Colorado Assistive Technology Partners. The maps aim to enhance emergency preparedness and response by making local community information easier to access. The maps include community demographics and functional characteristics at the census-tract level. They include the locations, service areas, and phone numbers of community providers and health care facilities.





Photo Credit: DOLA



## Chapter 5: TAKING ACTION

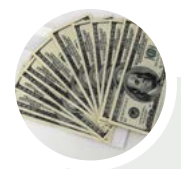
This Framework represents the State of Colorado’s commitment to a more resilient future and serves as a call to action for engagement, partnership, collaboration, and communication.

### IMPLEMENTATION ROLES & RESPONSIBILITIES

Implementing the priorities and strategies identified in this Framework will require leadership to make decisions and empower others to act. Successful implementation will also require sustained involvement from stakeholders at all levels of government and society – federal, State, local, non-profit, private, and community members. The roles of key entities responsible for Framework implementation are outlined on the following pages.

#### Colorado State Agencies

The Framework intersects and aligns with priorities and strategic plans of myriad State departments and agencies. Specific leadership roles for strategy implementation are outlined in the following action plan. Additionally, many State agencies will play a supporting role in strategy implementation as well as progress and performance monitoring efforts.



#### Funding Resiliency

One critical need for resiliency efforts to be successful is funding. State and local governments will need to explore new and creative opportunities to fund resiliency projects, particularly if they may require higher upfront costs that provide cost-savings in the long run. New funding opportunities, like FEMA’s BRIC (Building Resilient Infrastructure and Communities), resilience bonds, and grants from foundations, can provide critical dollars to launch and maintain key resiliency projects.



## Colorado Resiliency Office

The CRO will continue to serve as the overall coordinator for Framework implementation and maintenance. Specific responsibilities of the CRO in Framework implementation include:

- Facilitate - chair and bring together the Colorado Resiliency Working Group (CRWG) to collectively coordinate and implement resiliency activities.
- Convene - bring together diverse stakeholders and create opportunities for education and information-sharing, as well as coordination on implementation of resiliency strategies.
- Monitor - oversee and coordinate performance and implementation monitoring.
- Inspire - share progress, stories, best practices, and lessons learned with a diverse audience.
- Empower - inspire and support local governments, businesses, non-profits, and community members to integrate resiliency into their daily lives and business.

The CRO, in partnership with the Colorado Resiliency Working Group, will host an annual resiliency event – building on successes and engagement from the 2020 Resiliency Summits. This event will engage diverse participants from across Colorado to share progress about the Framework implementation, educate participants on the latest trends and best practices in resiliency, and expand opportunities for collaboration. The CRO will embrace the use of technology to expand participation to all corners of Colorado but will also prioritize opportunity for in-person collaboration and capacity building.

## Colorado Resiliency Working Group

The CRWG is a fundamental part of cross-sector resiliency strategy development and implementation. The CRWG will continue to serve as a leadership team that oversees and coordinates resiliency activities across State agencies. Specific roles and responsibilities of the CRWG include:

- Lead or support strategy implementation
- Enhance cross-agency collaboration and communication
- Integrate resiliency into agency policies and plans
- Monitor and share progress
- Identify resources
- Educate partners and constituents
- Share resiliency success stories and best practices
- Lead the State into the future by identifying trends and opportunities to capitalize on change

The CRO will convene quarterly CRWG meetings. CRWG meetings may involve other subject matter experts or specialists, as needed, to track and share updates on the progress of strategies, align efforts and coordination with other stakeholder groups, and look to the future for pressing challenges that need to be addressed.



## Colorado Communities

Communities exist in many forms – with an ability to greatly influence local action at a personal, government, business, and organization level.

Communities of all types are invited and encouraged to play a role in the Framework's implementation through the following actions:

- Bring local perspectives and ideas to the CRO and CRWG
- Prioritize and implement resiliency projects and share lessons learned
- Develop local resilience strategies and frameworks to empower future-forward planning
- Track and report local or regional resiliency metrics
- Participate in Resiliency Summits and related activities
- Dedicate staff and resources to resiliency
- Educate and update local land use practices and development codes
- Educate and engage leadership, organizations, and community members
- Establish new or support existing networks and peer-to-peer relationships
- Pioneer creative strategies to address disruptions



Photo Credit: DOLA Main Street Program





## Colorado Stakeholders & Organizations

All Coloradans have a stake in building a resilient future and are urged to engage. This includes non-profit and non-governmental entities, professional and trade organizations, community groups, educational institutions, private citizens, business community members, and more.

Here are a few ways Colorado's vast network of stakeholders and organizations can engage in and support the Framework:

- Share opportunities for collaboration
- Pilot and implement resiliency activities and share lessons learned
- Serve as ambassadors to expand the resiliency knowledge base
- Participate in Resiliency Summits and related activities
- Establish new or support existing networks and peer-to-peer relationships



Photo Credit: Colorado Water and Land Use Planning Alliance

## MONITORING AND REPORTING PROGRESS

The Framework sets in motion a series of actions that will move Colorado toward a more resilient future. Two types of monitoring and reporting activities will help keep the Framework relevant and advance our resiliency priorities: 1) implementation monitoring and 2) performance monitoring.

### Implementation Monitoring

The Framework and its implementing entities must be flexible enough to allow for unanticipated changes and new opportunities. Periodic implementation monitoring and reporting will provide a system of continuous improvement and periodic evaluation to keep strategy implementation on track.

The CRO will provide regular updates about progress made on implementation of strategies within each of the six resiliency priorities, sharing this information in its quarterly newsletters, on the Resiliency Resource Center ([coresiliency.com](http://coresiliency.com)), and through other means of communication.

On an annual basis, the CRO will develop a progress report summarizing the status of each priority and associated strategies, including: achievements, challenges, and general progress. This reporting process will provide opportunities for review and revision of strategies, along their proposed timelines, implementation leaders, and scope in order to align with evolving conditions and emerging opportunities.

### Performance Monitoring

In addition to keeping track of strategy implementation, the CRO will finalize, track, and report on statewide resiliency metrics. It is anticipated that reporting will occur annually. See Appendix C for potential statewide resiliency metrics.

### Community Resiliency Metrics

To complement the statewide resiliency metrics, a menu of community resiliency metrics will be recommended for community use. Not all metrics will be relevant or available to all communities; localities will be encouraged to review and select a subset of these metrics (or define their own resiliency metrics) to monitor local resiliency outcomes.

## ACTION PLAN

Implementation of the Framework requires taking collective steps toward strategic and deliberate action. The Action Plan summarizes the strategies in each of the six priority areas the State has committed to pursue, in coordination with other supporting partners and entities. The Action Plan details include the proposed “first moves” to begin or initiate strategy implementation, recommended implementation timeline, implementation leader(s), and related resiliency priorities that each strategy supports.

The implementation timelines are as follows:

- **Short-term (year 1)**
- **Medium-term (years 2-3)**
- **Long-term (years 3+)**
- **Ongoing (already underway or continuous)**



## OVERARCHING (OA)

Strategy Name	Description	First Moves	Timeline	Lead
OA1. Establish a Statewide Resilient & Sustainable Community/ Regional Program	Facilitate coordination across jurisdictions on resiliency and sustainability issues. Develop and manage a program for communities to take concrete steps to improve their resiliency and sustainability performance.	<ol style="list-style-type: none"> <li>1. Establish a cross-agency team to research and vet options that would align with our goals.</li> <li>2. Identify resource needs.</li> </ol>	Medium	DOLA
OA2. Attract & Leverage Resiliency Funding Opportunities	Integrate resiliency criteria into State competitive grant programs and investments. Secure additional resources and investment to implement resiliency solutions.	<ol style="list-style-type: none"> <li>1. Develop a coordinated multi-agency effort to expand incorporation of resiliency criteria into State competitive grant programs and to leverage resources. Highlight best practices through case studies.</li> <li>2. Convene experts in creative financing to research and identify new funding opportunities for resiliency projects.</li> </ol>	Medium	DOLA/ CRO

## FUTURE-READY ECONOMY & WORKFORCE (EW)

Strategy Name	Description	First Moves	Timeline	Lead
EW1. Expand Digital Equity, Access & Preparedness	Address regional digital inequities through targeted efforts – prioritizing the most pressing needs: access to high speed internet, access to and affordability of web-enabled technology, and access to skill development.	<ol style="list-style-type: none"> <li>1. Map digital inequity across Colorado and conduct landscape analysis of existing providers.</li> <li>2. Pilot models to increase access to low-cost high-speed internet, technology, and increase access to skill development.</li> </ol>	Medium/ Long	CDLE, Colorado Broadband Office, DOLA
EW2. Advance Equitable Hiring & Modern Benefits	Advance equitable hiring practices through skills-based practices, increased access to training, and the removal of barriers such as drivers' licenses, lifting requirements, prescriptive experience, and extensive job histories. Promote modernizations of employment benefits and worker protections.	<ol style="list-style-type: none"> <li>1. Identify common hiring practices that create barriers to equitable hiring.</li> <li>2. State agencies implement actions to create an equitable, diverse, and inclusive workplace – in accordance with Executive Order D2020 175.</li> </ol>	Medium	CDLE, DPA, CDPHE (Equity Alliance)
EW3. Develop Rural Economic Diversification Roadmaps & Strategies	Identify viable economic diversification opportunities in rural Colorado and create community roadmaps and strategies to develop opportunities. Utilize rural hubs as a model to implement diversification strategies.	<ol style="list-style-type: none"> <li>1. Analyze economic makeup and complexity of rural communities.</li> <li>2. Inform and align with regional economic development planning efforts.</li> </ol>	Short/ Medium	DOLA, OEDIT, CDLE

Strategy Name	Description	First Moves	Timeline	Lead
EW4. Support Communities & Industries in Economic Transition	Prepare for industry and workforce transition due to market shifts, globalization, climate change, and digital transformation through diversification of economies and workforce development planning. Attract the workforce of the future by developing strategic mentorship, education, and training opportunities.	<ol style="list-style-type: none"> <li>1. Identify resources needed to begin implementation of the Just Transition Plan.</li> </ol>	Medium	Office of Just Transition/ CDLE, OEDIT
EW5. Promote Resiliency Jobs & Workforce Development	Promote workforce training and development programs that help businesses become more resilient to climate change and disaster. Focus on programs that develop career pathways, build partnerships across sectors and with educational institutions, and grow a statewide resiliency job corps program	<ol style="list-style-type: none"> <li>1. Assess landscape of existing workforce training and development programs.</li> <li>2. Build job profiles with skill requirements for key occupations needed to build resilience.</li> <li>3. Develop the Colorado Climate Corps, an AmeriCorps program to build capacity for local climate planning and action, as well as career development for AmeriCorps members.</li> </ol>	Short/ Medium	CDLE, OEDIT, Serve Colorado, State Interagency Climate Staff Team



Photo Credit: Brendle Group

Taking Action



## CLIMATE & NATURAL HAZARD RESILIENCY (CN)

Strategy Name	Description	First Moves	Timeline	Lead
CN1. Align Climate Change Data, Metrics & Standards	Standardize climate models used for scenario planning, and integrate projected climate change impacts into State, regional, and local planning efforts. Define performance metrics and track results to demonstrate improvement in reducing risks from or improving resiliency to climate change and natural hazards.	1. Set up dashboard for Greenhouse Gas Roadmap – to track metrics and progress.	Medium	DNR, DHSEM
CN2. Resilient Watershed-Based Management & Best Practices Planning & Project Identification	Integrate stream, watershed, and forest management planning efforts, using a holistic watershed approach to identify cross-cutting projects that are high priority, impactful to improving climate and natural hazard resiliency, and provide multiple resiliency benefits.	1. Continue working with CWCB stakeholders to develop grant applications that incorporate all planning types. 2. Coordinate with forest health collaboratives to update on watershed health planning opportunities and overlap with forest health. 3. Continue to coordinate with CSFS and CDPHE on planning efforts. 4. Maintain a database (GIS-based) of watershed plans and watershed/forest health plans. 5. Work with State and key stakeholders to identify watersheds where a holistic watershed approach may have community support and can achieve multiple planning objectives.	Medium	DNR
CN3. Integrate Forest Health & Wildfire Risk Mitigation into Land Use & Development Processes to Reduce Wildfire Risk & Exposure	Provide tools (e.g., model codes, technical assistance) for land use authorities to use in the wildland-urban interface – to reduce new development in high risk areas and the number of people exposed to high wildfire risks.	1. Bring together key policy stakeholder groups to build a strategy to share out key information (i.e., leverage presentations, tools). 2. Bring together key policy stakeholder groups to build a statewide strategy to promote land use strategies to reduce risk in high-wildfire areas and share key tools, resources, and information.	Medium/ Long	DNR, DHSEM, CSFS, DOLA
CN4. Build Local Capacity, Resources, & Incentives to Implement Resiliency Projects	Build local capacity, resources, and incentives – to implement projects that improve climate and natural hazard resilience.	1. Establish peer networking program and opportunities. 2. Host webinar series, with communities working on building resilience, to share their experience and best practices.	Short/ Medium	DOLA, CEO

## BUILDING & INFRASTRUCTURE SUSTAINABILITY (BI)

Strategy Name	Description	First Moves	Timeline	Lead
BI1. Integrate Resiliency in State Infrastructure Funding	Prioritize infrastructure projects that advance resilience principles and reduce climate change impacts – through funding decisions and organizational practices. Promote local infrastructure decisions that further resilience, including green and blue infrastructure and multimodal transportation, through funding, incentives, and the development of resources – to help implement resiliency infrastructure projects.	1. Tailor the resiliency prioritization criteria to be used for funding decisions for infrastructure projects including transportation and water. 2. Identify opportunities for developing projects that can leverage potential BRIC funding. 3. Apply CDOT resiliency standards to future infrastructure projects as appropriate. 4. Build statewide resilience standards for new communities reflecting Colorado’s three key hazards: flood, wildland fire, and drought.	Medium	CDOT, DHSEM, DOLA
BI2. Improve Infrastructure & Land Use Coordination	Integrate land use, air quality, transportation, water use, equity, and community engagement efforts to promote regional partnerships for growth and development that take into consideration future risks and conditions. Leverage existing State and federal funding sources and partner with organizations to establish new funding mechanisms for resilience projects.	1. Coordinate State funding to incentivize local land use policies that promote attainable housing, reduce vehicle miles traveled, and reduce pollution. 2. Identify path for considering hazards in new development projects.	Medium	CDOT, CEO, DOLA
BI3. Establish Model Climate-Resilient Infrastructure Standards	Assess, develop, and promote the adoption of local and State standards that allow and encourage new and existing infrastructure that accounts for climate change and natural hazards. Leverage existing models to provide a science-based recommended State model.	1. Assess the success of Colorado flood rules in promoting community resilience. 2. Build a collection of wildfire mitigation and safety efforts from across Colorado as a model and tool for local governments.	Medium	CDOT, DHSEM, DNR
BI4. Ensure Climate-Resilient Critical Infrastructure	Upgrade critical infrastructure, including watershed dams, to be more climate resilient. Establish a State buy-out program to incentivize removing high-risk and repetitive loss properties such as floodplains. Build support for green and blue infrastructure.	1. Identify at-risk infrastructure and prioritize for upgrading. 2. Investigate resources needed for a potential State buy-out program. 3. Expand blue and green infrastructure solutions to enhance climate and natural hazard resilience (e.g., natural water storage, source water protection, open space).	Long	DNR, DHSEM



Strategy Name	Description	First Moves	Timeline	Lead
BI5. Promote Adaptive Reuse & Retrofitting	Remove barriers to and promote adaptive reuse and retrofit of historic buildings to incorporate energy efficiency and renewable energy. Emphasize preserving historic integrity, while also working toward more equitable and resilient development.	<ol style="list-style-type: none"> <li>1. Launch a pilot program to incorporate energy efficiency retrofits when doing historic building renovations (i.e., Main Street/Heritage Energy Pilot program).</li> <li>2. Expand pilot project into a statewide Heritage Energy Program offering technical assistance and resources to create renewable/energy efficient historic districts.</li> </ol>	Medium	DOLA/ Main Street, CEO, History Colorado
BI6. Grow a Network of Resiliency Hubs	Support the development of regional state-of-the art resiliency hubs to serve as community centers for education, services, and community capacity. Provide access to food, shelter, power, and other critical services during emergencies.	<ol style="list-style-type: none"> <li>1. Identify selection criteria and communities for hub development.</li> <li>2. Seek out funding opportunities for establishing resiliency hubs, e.g., BRIC.</li> </ol>	Medium	DHSEM, DOLA



## AGRICULTURE & FOOD SECURITY (AF)

Strategy Name	Description	First Moves	Timeline	Lead
AF1. Promote & Protect Working Lands	Promote and protect working lands for generations to come. Focus on providing incentives for local land use, policies, and activities that promote multiple benefits of land and resource conservation, and that preserve farms and ranches for food production.	<ol style="list-style-type: none"> <li>1. Identify alternative valuations for conservation easements to support additional flexibility in the State conservation easement tax credit program.</li> <li>2. Support innovative, sustainable financial mechanisms and incentives to protect working landscapes.</li> </ol>	Medium	CDA, DNR
AF2. Advance Regenerative Farming Practices	Establish frameworks and systems for regenerative farming across different scales that employ market-based solutions and produce multiple benefits, including improving soil health, conserving water, and empowering BIPOC landowners and agricultural producers.	<ol style="list-style-type: none"> <li>1. Increase participation in CDA Soil Health Program.</li> <li>2. Expand technical assistance/ train the trainer programs.</li> <li>3. Create block grant system for at-risk agricultural communities to help support implementation of farming practices that build local resilience.</li> </ol>	Medium	CDA, DNR
AF3. Support Innovations & New Markets	Advance and promote innovations in the use of forest products that support sustainable and resilient agriculture activities, including the use of biochar, agricultural composting, and processing of agricultural waste.	<ol style="list-style-type: none"> <li>1. Set up tools and resources to evaluate cross-sector economic linkages/development opportunities and to create demonstration/pilot projects.</li> <li>2. Explore options for providing incentives use of innovative products.</li> <li>3. Develop a pilot framework to incentivize participation in pollutant trading opportunities.</li> </ol>	Medium	DNR, CDA

Strategy Name	Description	First Moves	Timeline	Lead
AF4. Bolster Next Generation Farm & Agriculture Workers	Invest in the next generation of farmers, ranchers, and food producers, with a focus on supporting BIPOC community members. Provide internships, skills-based trainings, and mentorship programs to build equitable workforce development. Diversify economic opportunities through technical and financial assistance to support shifting to low-water crops, entering new market opportunities, and expanding agritourism.	<ol style="list-style-type: none"> <li>1. Leverage work underway with CDA's Wildly Important Goal on Next Generation Workers.</li> <li>2. Support veterans programs to train and on-board veterans toward agriculture careers and food production.</li> <li>3. Develop absentee landowner programs to support leasing for next generation farmers and regenerative farming.</li> </ol>	Medium	CDA, OEDIT
AF5. Integrate Food & Agriculture in Local Planning	Integrate local agriculture and food system considerations into community planning activities to support food community gardens, urban agriculture, consolidated farmers markets, and food pantries that provide equitable healthy food access and security. Identify opportunities to further economic development and natural resource objectives.	<ol style="list-style-type: none"> <li>1. Conduct a meta-analysis/ literature review to understand the critical ecosystem and economic benefits of sustaining/ enhancing urban and peri-urban agriculture in Colorado.</li> <li>2. Develop an online resource hub containing relevant research, model ordinances and policies, and other tools for local communities to expand local agriculture opportunities.</li> </ol>	Short/ Medium	CDA, DNR, CDPHE, CDHS



Photo Credit: Brendon Rockey





# HOUSING ATTAINABILITY (HA)

Strategy Name	Description	First Moves	Timeline	Lead
HA1. Build Local Capacity for Developing Resilient Affordable Housing	Create a toolbox of resources that builds in long-term affordability and resilient design for housing in Colorado, and that empowers local communities to meet their unique housing needs and increase the number of attainable housing units. Ensure resources include a spectrum of housing-related actions and opportunities for housing stability, supply, resiliency standards, and model policies.	<ol style="list-style-type: none"> <li>Engage with developers and local communities to identify needs and opportunities for development of affordable and resilient housing.</li> <li>Partner with other funding agencies and developers to establish case studies and trainings on alternate housing and construction types such as accessory dwelling units, adaptive reuse and modular, and creative financial models, such as coops, shared equity, and land trusts.</li> <li>Support manufactured housing as naturally occurring affordable housing.</li> <li>Support local government land use code, development review, and permitting process changes that enable more affordable housing development.</li> </ol>	Medium	DOLA
HA2. Support Affordable Housing Siting & Development	Address the critical shortage of housing supply by providing critical data and resources needed to support the siting and development of affordable and attainable housing throughout the state.	<ol style="list-style-type: none"> <li>Support local communities in conducting housing needs analyses to identify locations that need to increase density so that housing units (rental and homeownership) align with economic development goals.</li> <li>Encourage local communities to partner with community based organizations, such as school districts, faith-based organizations, hospitals, and land trusts, and to consider underutilized publicly owned land (state or local) when seeking land for affordable housing.</li> </ol>	Medium	DOLA



Strategy Name	Description	First Moves	Timeline	Lead
HA3. Increase Housing Stability	Ensure Coloradans can remain in their homes and the affordable housing stock is maintained, particularly during disruptive events such as natural disasters and economic disruption, by minimizing evictions and foreclosures and ensuring homes are fortified to withstand disasters. Address barriers to homeownership and housing for people experiencing homelessness.	<ol style="list-style-type: none"> <li>Continue eviction/ foreclosure prevention programs including housing counseling, resource connection, and financial assistance.</li> <li>Lead State efforts for interim and permanent housing assistance in the event of a housing disaster, focusing on rebuilding for greater resiliency to future disasters.</li> <li>Financially support the housing continuum, from homeless prevention to homeownership, including high energy efficiency standards and resiliency measures.</li> </ol>	Long	DOLA
HA4. Expand Residential Efficiency & Weatherization	Increase access to residential weatherization programs to provide multiple benefits including lowered energy costs, conservation of water, natural gas, and electricity, and reduced greenhouse gas emissions. Promote and adopt standards that result in new residential construction that is highly energy efficient, including provisions for net-zero, and resilient design features.	<ol style="list-style-type: none"> <li>Promote low-income weatherization program and benefits and identify funding to support weatherization of additional units</li> <li>Coordinate with funding partners to leverage resources for shared goals around energy efficiency, net-zero design and resiliency.</li> </ol>	Short	DOLA, CEO







## COMMUNITY CAPACITY (CC)

Strategy Name	Description	First Moves	Timeline	Lead
CC1. Integrate Equity into Resilience Planning & Actions	Build partnerships to integrate equity into State and local resiliency activities through equitable representation, language justice, and community co-production. Partner with community-trusted organizations who focus on engaging BIPOC communities in order to assess systemic issues and identify interventions.	<ol style="list-style-type: none"> <li>1. Encourage best practices from the Climate Equity Framework for community engagement with BIPOC and other communities.</li> <li>2. Share and leverage existing input/engagement work done with communities to avoid duplicative efforts and engagement fatigue.</li> </ol>	Medium	DOLA/CRO, CDPHE Health Equity Office and Climate Office
CC2. Develop & Deploy Community Engagement & Civic Capacity Tools	Strengthen community connections and civic capacity by providing community engagement tools, resources, and training. Emphasize the importance of building community trust through engagement activities.	<ol style="list-style-type: none"> <li>1. Convene a group to discuss existing tools and who and how to marshal resources to effectively deploy them.</li> </ol>	Short	DOLA, CDPHE
CC3. Strengthen Local Resilience Planning & Peer Networks	Complete local/regional resiliency assessments and promote integrated planning efforts that lead to more resilient infrastructure, economies, and social systems while creating a culture of resilience. Create regional resiliency peer learning and exchange opportunities and ensure that regional plans and actions are grounded in community-driven values, needs, and recommendations.	<ol style="list-style-type: none"> <li>1. Foster regional collaboration around shared resiliency needs, leveraging funding from EDA and elsewhere.</li> <li>2. Support regions in developing COVID-19 Regional Recovery Roadmaps that account for economic and social needs.</li> <li>3. Develop disaster recovery resources and plan templates and promote local preparedness efforts.</li> </ol>	Short/ Medium	DOLA, OEDIT, DHSEM, CDLE



Photo Credit: Brendle Group





Photo Credit: CDPHE



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Appendix A:

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The 2020 Colorado Resiliency Framework is the result of collective commitment, dedication, perseverance and hard work across multiple organizations, jurisdictions, and communities. Through this collaborative effort, Colorado has built on its past efforts and reaffirmed a commitment to a resilient Colorado. The Framework could not have been possible without the leadership of the Colorado Resilience Office, the hard work and dedication of the Colorado Resiliency Framework Sector working groups, the expertise of community members from across the State, or the facilitation and collaboration of the extended project team.

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Appendix B:

# ABBREVIATIONS, INITIALS, & ACRONYMS

BIPOC	Black, Indigenous, people of color
BRIC	Building Resilient Infrastructure and Communities (FEMA program)
CCI	Colorado Counties, Inc.
CDH	Colorado Department of Human Services
CDLE	Colorado Department of Labor and Employment
CDA	Colorado Department of Agriculture
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEO	Colorado Energy Office
CHFA	Colorado Housing and Finance Authority
CML	Colorado Municipal League
CRO	Colorado Resiliency Office
CRWG	Colorado Resiliency Working Group
CSFS	Colorado State Forest Service
CWCB	Colorado Water Conservation Board
CWDC	Colorado Workforce Development Council
DHSEM	Division of Homeland Security and Emergency Management
DNR	Colorado Department of Natural Resources
DOH	Colorado Department of Local Affairs, Division of Housing
DOLA	Colorado Department of Local Affairs
DPA	Colorado Department of Personnel and Administration
EDA	Economic Development Administration
FACE	Future Avoided Cost Explorer
FEMA	Federal Emergency Management Agency
Framework	Colorado Resiliency Framework
GED	General Educational Development
GIS	Geographic Information System
NGO	Non-governmental Organization
OEDIT	Colorado Office of Economic Development and International Trade
OEM	Colorado Office of Emergency Management
WUI	Wildland Urban Interface



Appendix C:

# RESILIENCY METRICS

The following potential metrics were identified to measure progress and performance improvements in statewide resiliency. Once finalized, these metrics will be tracked and reported on annually through the Colorado Resiliency Office website.

These metrics were identified through the Framework planning process, conducting interviews with industry experts, including the NIST Center of Excellence for Risk-Based Community Resilience Planning at Colorado State University, and reviewing available resources. The list of potential metrics was refined according to the following criteria:

- Directly relate to resiliency and address both progress and impact.
- Align with multiple Framework resiliency priorities.
- Are within the State’s ability to influence.
- Be easy to understand in terms of importance and relevance.
- Be readily available on an annual basis.
- Be comparable to other states (to the extent feasible).





Metric	Resiliency Priority					
	Economy & Workforce	Climate & Natural Hazards	Building & Infrastructure	Agriculture & Food	Housing Attainability	Community Capacity
Colorado Resiliency Framework strategy implementation progress	P	P	P	P	P	P
Household internet access	P	P	S		S	P
Housing cost burden	P	S			P	S
Employment rate	P				S	S
Greenhouse gas emissions	P	P	P	P		
Industry job growth	P				S	S
New business formation	P					S
Poverty rate	P			P	P	P
Food insecurity rate	S			P		S

*P=Primary Connection, S=Secondary Connection*

The Colorado Resiliency Office will continue to seek additional metrics that meet the above criteria related to water supply, hazard risk, agriculture, housing, greenhouse gas emissions, and infrastructure.

In addition to the statewide metrics, the Colorado Resiliency Office will provide an online menu of metrics that Colorado communities can use to build their own resiliency measurement framework. This menu approach enables communities to select metrics according to local priorities and data availability.



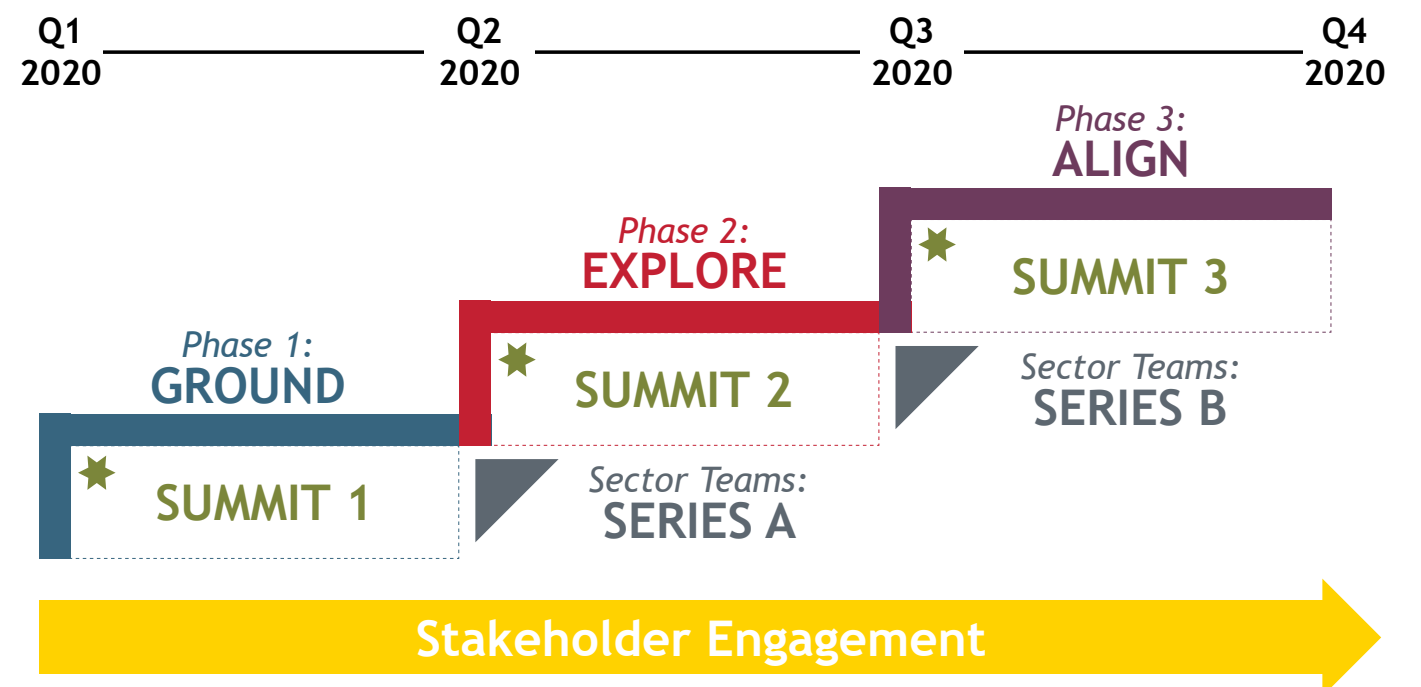
Appendix D:

## PLANNING & ENGAGEMENT PROCESS

Stakeholder engagement was a critical component of the process to update the Framework. The process was designed to bring together a wide range of perspectives covering the six resiliency sectors, including those in State and local government, nonprofit organizations, and other stakeholders.

The following graphic illustrates the general timeline and key themes of the planning and engagement process. The planning and engagement process was oriented around three phases.

- **Phase 1: Ground** focused on aligning stakeholders to the purpose of updating the Framework. Activities included reviewing the 2015 Framework and accomplishments, establishing a shared understanding of potential risks and vulnerabilities, and identifying opportunities for future action.
- **Phase 2: Explore** focused on exploring potential resiliency strategies and opportunities and centered around a scenario-based planning approach.
- **Phase 3: Align** focused on aligning around resiliency priorities and strategies and confirming implementation roles and details





## COVID-19 Gathering Restrictions

During 2020, social gathering restrictions were in place in Colorado due to the COVID-19 pandemic. These restrictions presented limitations on in-person engagement activities and required pivoting to virtual engagement approaches. This was an opportunity to embrace and practice resiliency in action. In fact, many stakeholders, including but not limited to those located outside the Denver metro area, noted that virtual engagement was easier to access as it removed barriers such as travel time and expenses and other logistical demands.

## Summary Table of Engagement Activities

The table below summarizes the engagement tools and approaches for each project phase, by audience and level of engagement. Engagement objective refers to the widely regarded Spectrum of Public Participation rubric by the International Association for Public Participation (IAP2).

Summary of Engagement Activities					
Engagement Objective:	Inform	Consult	Involve	Collaborate	Empower
Target Audience	Public	All Stakeholders (Local Government, NGOs, Service Providers)	Invested Stakeholders (CWRG, State Agencies, NGOS, Local leaders)	CWRG Sector Groups & Sector Leads	CWRG Sector Leads
Tools/ Approaches					
<b>Phase 1: Ground</b>	Project Fact Sheet Project Mini-video Website	Presentation slide deck	Summit 1	Sector Meeting Series A	CRWG Coordination: subtopics and strategies
<b>Phase 2: Explore</b>	Website updates	Roundtable discussions  Surveys: Organizations & Individuals	Summit 2	Sector Meeting Series B  Roadshow presentations	CRWG Coordination: strategy priorities
<b>Phase 3: Align</b>	Website	Online Presentations	Summit 3	Roadshow presentations	CRWG Coordination: Draft Framework review

## Engagement Approach by Audience

Audiences were engaged through a variety of tools matched to their level of interest and willingness to commit time and expertise.

Invested stakeholders were engaged through the Colorado Resiliency Working Group (CRWG), Resiliency Summits, and Sector Team meetings, described in greater detail in the next sections. These stakeholders participated at the involve, collaborate, and empower levels of engagement.

The Framework engagement process informed and was transparent to members of the public and other stakeholders representing diverse perspectives and approaches through website content, surveys, and roundtable discussions.



## INVESTED STAKEHOLDER ENGAGEMENT

### Colorado Resiliency Working Group

The Colorado Resiliency Working Group (CRWG) was originally formed to incorporate resiliency throughout State agencies and their operations, assist in statewide recovery efforts, and serve as the steering committee for the creation of the Colorado Resiliency Framework. With the adoption of the first Framework in 2015, the Governor formalized the CRWG as the steering committee and coordinating body of the State’s ongoing resiliency efforts. For the 2020 Framework update, CRWG members were invited to participate on sector teams and Summits.



## Resiliency Summits

CRWG members and invested stakeholders were invited to participate in three Summits in 2020. Each Summit took place online using the Zoom Meeting platform and provided interactive opportunities, including live polling, screen annotations, and virtual breakout rooms.

- **Summit #1** took place on April 21, 2020 with more than 150 participants. The meeting focused on inspiring attendees and exploring goals and strategies. After the project orientation, participants split into sector-based breakout discussions to identify and discuss sector-based resiliency accomplishments, risks, vulnerabilities, challenges, and opportunities.
- **Summit #2** took place on July 27, 2020 with 135 participants. The meeting used a scenario planning activity to explore driving forces and associate impact and examine solutions. The meeting began by introducing scenario planning as a tool to assess the ability of the community to still meet its vision and goals under a range of scenarios. The second half of the meeting occurred in breakout groups, where participants explored potential impacts and solutions for their assigned scenario.
- **Summit #3** took place on September 28, 2020 with 118 participants. The meeting focused on collaboration across sectors, refining Framework priorities, and exploring partnership opportunities and resources to leverage for strategy implementation. Participants spent most of the meeting in breakout groups organized by Framework priorities. Each breakout discussion included an opportunity to refine the scope of the priority and identify potential implementation partners and resources.

## Sector Leaders and Teams

Designated sector leaders and co-leaders served in leadership roles for each of the six Framework sectors, providing technical expertise, sharing diverse perspectives, and supporting facilitation for Sector Team meetings and the Resiliency Summits. In total, more than 95 people participated in Sector Team meetings. Sector-based teams provided an opportunity to take a deeper dive into Framework topics using the unique perspective of each sector. Invested stakeholders were invited to select their preferred Sector Team based on their interests and experience. Once the teams were established two series of Sector Team meetings were held.

- **Sector Team Series A** took place as a virtual meeting using the Zoom Meeting platform over the first two weeks of June 2020. Using their sector-specific perspective, the teams reviewed the Framework vision and themes, and brainstormed potential strategies to address sector themes and subtopics.
- **Sector Team Series B** took place as a virtual meeting using the Zoom Meeting platform over the last two weeks of August 2020. The sector-based teams provided input on strategy development for draft Framework priorities most closely related to their sector.

## PUBLIC & STAKEHOLDER ENGAGEMENT

Public and stakeholder engagement for the Framework update was designed to meet the following objectives.

- Inform all interested parties of the Colorado Resiliency Framework update project
- Consult with a broad spectrum of stakeholders, including those who have not traditionally participated in statewide resiliency planning

Activities included website content, surveys, social media posts, and roundtable discussions.

### Surveys

During Phase 2, two surveys open during August and September solicited broad input from individual members of the project as well as organizations. The survey questions focused foremost on the working draft Framework priorities, with additional questions related to resiliency concerns and stories of resiliency in action. Individuals were also asked about how they were engaged in community cohesion, while organizations were asked about collaborative capacity for the Framework.

### Distribution

Surveys were distributed through the CRO project stakeholder database and website as well as posted and promoted on social media. CRWG members were also asked to share the survey links through their channels as appropriate. Organizations were invited to share the individual survey link.

Because of longstanding inequities in civic engagement in planning processes and in order to increase representation of traditionally underrepresented voices, organizational survey distribution targeted organizations that work with youth, lower income families, and persons of color, as well as organizations that represent labor. Organizational responses are understood to be an imperfect proxy for the direct voices of the groups they serve, yet additive.



## Summary of Results

The below table summarizes key results. Generally, individual and organizational survey results were well aligned.

Summary of Phase 2: Priorities Survey Results		
Survey Summary	Individuals Survey	Organization Survey
<b>Total Respondents</b>	<b>447</b>	<b>101</b>
Descriptive Characteristics	<ul style="list-style-type: none"> <li>Race: White (90.7%)</li> <li>Age 55 and over (53.2%)</li> <li>47.7% Income \$100,000 or greater</li> </ul>	24.7% Nonprofit organization 24.7% Public Municipal organization Organization represents: <ul style="list-style-type: none"> <li>Low income or economically vulnerable (89.1%)</li> <li>People of color (65.5%)</li> <li>Youth (61.8%)</li> <li>Labor (52.7%)</li> </ul>
Geographies	179 unique zip codes from 366 responses	66 unique zip codes from 85 responses
451 total responses from 200 unique zip codes		
Top Risks  (Percent of respondents ranking as a top 5 risk concern)	1. Housing affordability (56.6%) 2. Economic stresses (56.6%) 3. Wildfires (53.8%) 4. Drought (49.7%) 5. Climate change (43.0%) 6. Ecosystem degradation (43.0%)	1. Economic stresses (75.2%) 2. Housing affordability (60.4%) 3. Wildfires (45.5%) 4. Climate change (42.6%) 5. Public health risks or epidemics (40.6%) 6. Mental health issues (39.6%)
Resiliency Priorities	Individuals' single top Draft Priority (% of total respondents) 1. Jobs (16.3%) 2. Housing (16.1%) 3. Community Capacity (15.7%) 4. Adaptive Economy (15.4%)	Organizations agreeing that the Priority will enhance resiliency in Colorado (% of total that Agree or Strongly Agree) 1. Jobs (83.2%) 2. Natural Hazard Risk Reduction (81.2%) 3. Community Capacity (78.2%) 4. Adaptive Economy (77.2%)
Participation and Collaboration	1. Involvement in local government and policy (74.6%) 2. Contribute to the health of my community (51.9%) 3. Contribute to a cleaner environment (49.2%)	Draft Priorities that organizations are most likely to take action to support 1. Community Capacity (51.5%) 2. Adaptive Economy (46.5%) 3. Natural Hazard Risk Reduction (41.6%) 4. Housing (39.6%)  How organizations can collaborate with CRO 1. Plans and planning (64.2%) 2. Assess risks (61.1%) 3. Increase capacity (57.9%) 4. Implement best practices (53.7%)

Comment Themes	Individuals Survey	Organization Survey
Recurring themes identified in the open comment fields	<ul style="list-style-type: none"> <li>Climate change, ecosystem degradation and natural hazards (wildfire, drought) are intertwined risks</li> <li>Priorities should also address homelessness</li> <li>Political comments, such as critiques of specific political figures or parties and their policies as well as concern about partisan tensions affecting local community cohesion</li> </ul>	<ul style="list-style-type: none"> <li>Climate change, ecosystem degradation and natural hazards (wildfire, drought, flood) are intertwined risks</li> <li>Jobs and adaptive economy are intertwined priorities</li> <li>Priorities should also address homelessness and transportation</li> </ul>

### Top Priorities

Soliciting feedback on the working draft priorities was the central purpose of the Phase 2: Priorities surveys. Results demonstrated strong levels of support for all the six working draft resiliency priorities presented, while offering helpful feedback that was used to refine the final Framework priorities. While the priorities questions in the individual and organization surveys were not structured in precisely the same way, the top results were compiled to identify overall trends. The top resiliency priorities most favored across both surveys (selected as the single top priority by individuals and agreed to as able to improve statewide resiliency by organizations) were:

- Jobs
- Community Capacity
- Adaptive Economy
- Housing
- Natural Hazard Risk Reduction

Many survey comments indicated that the priorities are linked and have cascading effects. Specifically, respondents indicate that the draft priorities Jobs and Adaptive Economy are inseparable, and that the draft priority Climate Change should be addressed alongside the draft priority Natural Hazard Risk Reduction. Finally, some comments indicated that homelessness and transportation were not seen as adequately addressed in the draft priorities.

### Top Concerns

Many of the top concerns were those that actively affected Coloradans in 2020, including as a result of the COVID-19 pandemic. The top three resiliency concerns, combined for individual and organization survey respondents, were:

- Economic Stresses
- Housing Affordability
- Wildfire



### Active Participation

Another purpose of the Phase 2: Priorities surveys was to understand how individuals and organizations may be motivated and have capacity to participate in moving resiliency forward.

#### **Individual Role in Community Cohesion**

Individuals were asked, Where do you see your role in building the cohesiveness of your community? In response, three-quarters of individuals selected the response, I engage in local government and policy issues in my community (for example, voting on local initiatives, voicing change and building agendas, supporting local voter turnout, or working/volunteering for local government or political candidates).

About half selected responses of contributing to community health and environment.

- I contribute to the health of my community (for example, by donating blood, staying home when I am contagious, or working/volunteering with local health organizations).
- I actively contribute to a cleaner environment in my neighborhood (actions such as trash cleanups, planting trees or gardens, or other).
- I am (or work with) a volunteer or leader in organizations active in public policy and/or agenda building for issues that influence my region and community.

#### **Organizational Actions**

Organizations were asked Which of the Resiliency Priorities would your organization be most likely to take action to support? The top four responses were:

- Community Capacity
- Adaptive Economy
- Natural Hazard Risk Reduction
- Housing

Although the draft priority Jobs was the number one priority organizations indicated as having the most potential to improve resiliency in Colorado, it ranked relatively low - fifth out of seven - for priorities that organizations would be likely to take action to support.

### Resiliency Stories

About 40% of respondents to both surveys (43 of 101 organizations and 177 of 447 individuals) responded to the question inviting a resiliency story from their own life or community. Some of these stories were used in Summit #3 and in the Framework document. These stories help to ground a statewide resiliency conversation in real world, personal challenges that we face as well as remind of us the tenacity of Coloradans in the face of adversity.

Woven throughout the Framework are selected examples of some poignant and relatable stories that include resiliency strategies. The selected stories describe resiliency solutions (not just challenges), with emphasis on those that show how individuals or communities are joining together to thrive.

#### Roundtable Discussions

As part of an equitable engagement strategy, CRO sought to amplify some voices that had been underrepresented in the response to other engagement activities through a series of roundtable discussions. These discussions were coordinated with other organizations with trusted relationships with youth, low income families, and others. Five roundtable discussions were held with members of the following groups:

- Colorado Department of Human Services Family Voice Council
- Colorado Youth Advisory Council to the Colorado Legislature
- Colorado Water and Land Use Planning Alliance
- Funders/Philanthropy
- Labor





Appendix E: Exploring Risks & Vulnerabilities through  
**SCENARIO PLANNING**

Scenario planning is a helpful tool to explore and understand potential shocks, stressors, and cascading impacts that Colorado and its communities could experience. Scenarios that span across sectors and geographies allow us to make connections between risks and vulnerabilities and see how resiliency opportunities and challenges interrelate.

The following pages summarize the three scenarios that stakeholders reviewed in the second Resiliency Summit and illustrate some key themes from group discussions. Many of these themes link to the risks and vulnerabilities discussed throughout the Framework.

Scenario Overview	Potential Impacts Identified
Scenario A	
<ul style="list-style-type: none"> <li>Colorado is experiencing a prolonged and severe drought.</li> <li>Long periods of extreme heat are widespread, even in mountain communities.</li> <li>Wildfires are frequent, significant, and far-reaching.</li> <li>Due to pronounced climate impacts and significant events in other areas of the country, large volumes of economically mobile people continue to migrate to Colorado.</li> </ul>	<ul style="list-style-type: none"> <li>Water is increasingly stressed and needs to be accounted for in development and growth</li> <li>Decreased water supply</li> <li>Public health impacts and demands for health services will continue to grow</li> <li>Social inequities will continue to grow from a variety of factors</li> <li>Employment and affordability are increasing risks</li> <li>Increasing competition and conflict around resources</li> <li>Cascading risks and impacts across all sectors</li> <li>Wildfire impacts on air, water, economy</li> <li>Constrained economic opportunity</li> <li>Degraded forest health</li> <li>Negative impacts on underserved communities (social, environmental justice)</li> <li>Increase of unhoused community members and heat impacts</li> </ul>

Scenario Overview	Potential Impacts Identified
Scenario B	
<ul style="list-style-type: none"> <li>Colorado is experiencing more extreme temperatures throughout the year (hot and cold).</li> <li>Hazard events such as hail, flooding, and winter storms are frequent and often severe.</li> <li>Significant property losses and displacement from hazard events as well as ongoing income inequality have increased the number of people experiencing homelessness and housing instability.</li> </ul>	<ul style="list-style-type: none"> <li>Lack of housing supply</li> <li>Physical and mental health</li> <li>Aging/damaged infrastructure and building stock</li> <li>Eroded tax basis and increased economic instability</li> <li>Increased vulnerability to natural environments that will be hard to predict</li> <li>Increased equity issues for underserved communities including housing availability and affordability, energy security, negative public health impacts</li> <li>Economic impacts on communities as people move away, and recreation and tourism opportunities decline</li> <li>Innovations from the technology industry that address need for telehealth, distance learning, access to broadband</li> <li>Improved wildlife restoration and ecological function if people move out of high-risk area.</li> <li>Pre-existing social impacts may become even more pronounced</li> <li>Multi-faceted infrastructure and built environment damage and interruption (housing, bridges, waste increases, emergency responders, etc.)</li> <li>Increased pressure on State and local governments (revenue, capacity, etc.)</li> </ul>

Scenario C	
<ul style="list-style-type: none"> <li>Colorado's tourism and agriculture industries are in steep decline due to climate variability and impacts.</li> <li>Many rural and mountain communities are experiencing population loss as vital industries decline.</li> <li>Lack of economic opportunities and severe socio-economic inequality are leading to widespread conflict and civil unrest.</li> </ul>	<ul style="list-style-type: none"> <li>Government revenue impacts and budget cuts</li> <li>Homelessness and housing market impacts</li> <li>Positive and negative impacts to natural ecosystems (e.g., more protected rural areas due to population decline in rural areas, but larger transfer of resources to urban areas)</li> <li>Restructuring of economy and public services</li> <li>Rural communities experiencing industry and general economic impacts as well as Climate change driven weather/hazard events</li> <li>Agricultural decline leading to water transfers</li> <li>Shifts in the energy sector also impacting rural communities</li> <li>Exacerbating inequity and new types of equity divisions (job stability)</li> <li>Some opportunities from lifting pressure experienced by rural and mountain communities that have been highly stressed by insufficient housing supply and intensive recreation use impacts</li> </ul>





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