



Colorado Resiliency Playbook

June 2019

Prepared for:



COLORADO
Resiliency Office
Department of Local Affairs



COLORADO

Governor Jared Polis

TO: Executive Directors, Departments of State Government

FROM: Jared Polis, Governor, State of Colorado

RE: Colorado's Resilience Playbook (CRP)

DATE: July 23, 2019

Colorado is resilient and has endured many different natural disasters over the past few years, including the 2013 floods. Recovery from a natural disaster can be a large, complex, and collaborative task, and will often require significant contributions from state and federal agencies to support our local communities. Colorado has created a portfolio of agencies and resources that will enable our State to track progress and identify solutions, while implementing necessary policy changes. With this, I am pleased to announce Colorado's Resilience Playbook (CRP), which will help maintain a sense of urgency throughout the recovery process for the state.

Colorado's Resilience Playbook is the result of the Colorado's Resiliency Office's (CRO) bold efforts and strategic coordination with state agencies and federal partners. This effort, referred to as the Colorado Resiliency Institutionalization Project (CRIP), identifies opportunities for building resiliency into state competitive grants, department policies, and workforce resources.

The major disasters experienced during the 2012 wildfires and 2013 floods demonstrated the need to create the CRO and, through the efforts of this office, Colorado has become a national leader natural disaster response. Since the first-of-its-kind inception of the CRO, Colorado has made a commitment to proactively address risk and vulnerability by implementing practices that make us more resilient against floods, fires, demographic shifts, and other factors brought on by climate change.

CRO has led an interagency effort to define resilience in Colorado through the newly developed Colorado Resiliency Framework (CRF). With this framework, Colorado can move forward with supporting communities across the state by actively implementing vulnerability reduction efforts. Colorado state agencies will incorporate CRP practices to focus on operations, investments, and other activities that promote adaptive management, eliminate inefficiencies, and minimize risk in their everyday work.

Colorado will continue to capture, share, and apply lessons learned to decrease vulnerability and improve resiliency across our state. With the support of every state agency and local government, Colorado can effectively utilize the Colorado Resilience Playbook to ensure a more sustainable, safe, and resilient future for everyone who calls this state home.

Sincerely,



Jared Polis
Governor



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COLORADO RESILIENCY PLAYBOOK

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INTRODUCTION

The State of Colorado defines resiliency as **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. - *HB 18-1394, updates to the Colorado Disaster Emergency Act*

In recent years, the State of Colorado and its disaster-impacted communities have gained significant experience in implementing recovery projects and integrating resiliency concepts into recovery operations. Colorado has made significant strides in thinking about and planning for resiliency through the development of the Colorado Resiliency Framework, which was adopted in 2015, and the passage of HB 18-1394, which updated the Colorado Disaster Emergency Act, in 2018 (see Attachment 1 for a copy of the signed act and refer to Section 17 on pages 20-21 for mention of the Colorado Resiliency Office). HB 19-1292 amended Section 17 of the Colorado Disaster Emergency Act to provide a funding appropriation for the CRO. However, the work of implementing the Framework and building a culture of resiliency across State government is only beginning.

Colorado seeks to demonstrate that resiliency does not only apply when a disaster occurs, but rather applies in the day-to-day business of State government and Colorado communities. There must be continued commitment to resiliency at the highest levels of government. In support of that commitment, the Colorado Resiliency Playbook provides a tool for State agencies to use in institutionalizing resiliency principles and practices into their operations.

Colorado has experienced catastrophic floods, destructive wildfires, and changing demographics, and there is a growing consciousness that the state must systematically adapt to and prepare for future shocks and stresses. By institutionalizing resiliency at all levels of government, Colorado has a unique opportunity to capitalize on these experiences and shift to a new way of thinking about the future.

WHO ARE WE?

Through the Colorado Resiliency Office (CRO) and the Colorado Resiliency Working Group (CRWG), the State has established a structure to allow State agencies to coordinate resiliency efforts and move to action.

Colorado Resiliency Office. The CRO—then the Colorado Resiliency and Recovery Office—was created following the floods and fires of 2012-2013 and has been a nationwide leader in



resiliency since its inception. In 2017, the CRO was moved from the Governor’s office into the Department of Local Affairs to ensure Colorado continues its efforts toward increasing resiliency across all of State government. The CRO is the State’s designated resiliency lead, supporting and helping empower local governments to build stronger, safer, and more resilient communities in the face of natural disasters and other major challenges including economic diversification, affordable housing, social equity, and infrastructure.

The CRO convenes, coordinates, and facilitates activities across State government to incorporate resilient practices into current and future activities and into the day-to-day business of the State. The office sets priorities, tracks progress, reports outcomes, and works with State agency stakeholders to support resiliency activities through:

- **Convening:** Bringing together diverse stakeholders from State agencies to collectively identify, coordinate, and implement resiliency activities;
- **Facilitating:** Creating opportunities to implement resiliency strategies through education, technical assistance, and leveraging resources;
- **Communicating:** Sharing stories, best practices, lessons learned, and priorities with a sense of urgency and an eye to long-term benefits; and
- **Empowering:** Inspiring and enabling integration of resiliency into daily business and culture.

HB 18-1394 moved the CRO to the Department of Local Affairs and defined the objectives of the CRO’s resiliency and community recovery program, including to:

Provide technical assistance to State agencies for the implementation of resilience policies and procedures and to institutionalize resilience practices across departments and agencies;

Integrate resilience criteria into existing competitive grant programs; and

How can the CRO help you?

The CRO can help provide clarity and strategic guidance on ways your agency can implement the Colorado Resiliency Framework and meet State resiliency goals. Contact the CRO for:

- Help educating agency leadership and staff;
- Guidance on process and methods of engagement for institutionalizing resiliency into your agency’s investments and operations;
- Meeting facilitation; or
- Additional resources related to resiliency.



Colorado Resiliency Working Group (CRWG). The CRWG is an interagency leadership team that oversees and coordinates activities to institutionalize resiliency across State agencies. The CRWG is chaired by the CRO and meets on a quarterly basis. Specific roles and responsibilities of the CRWG include:

- Enhancing cross-agency collaboration and communication;
- Integrating resiliency into agency policies and plans;
- Developing sector-specific action plans;
- Monitoring progress;
- Identifying resources; and
- Educating partners and constituents.

The CRWG began meeting in 2014, during the recovery effort from the 2013 floods along the Front Range. Following its inception, the CRWG served as the steering committee during development of the Colorado Resiliency Framework, providing leadership, guidance, and technical assistance. Members of the CRWG have direct roles in implementing the Framework, and the CRWG continues to meet to set implementation priorities, track progress, report on outcomes, and work with local communities throughout the State to support activities that increase community resiliency.

WHERE HAVE WE BEEN?

Between 2018 and 2019, the CRO and CRWG collaborated on the Colorado Resiliency Institutionalization Project (CORIP), intended to support the objectives defined in HB 18-1394 by building resiliency into State investments and operations. Key outcomes of the project included:

- Establishing a common understanding of resiliency within the context of agency-specific missions;
- Implementing pilot programs for resilience building and supporting department staff in advancing those initiatives through technical assistance and coaching; and
- Establishing tools and metrics for performance measurement to allow for ongoing implementation and replication across State government.

Over the course of two focus group meetings, the CRO and CRWG defined broad outcomes State government should achieve to build resiliency into State investments and operations. These objectives are shown in Figure 1.

Figure 1 Key Resiliency Outcomes



The CRO and CRWG developed and prioritized a list of pilot projects that would support these objectives. The group selected three pilot projects that would be implemented over the course of the CORIP to develop guidance for applying a resiliency lens to (1) State investments and (2) State agency policies and (3) establish a task force to promote workforce resiliency.

The CRO and CRWG developed the Colorado Resiliency Playbook as a general resource to guide State agencies through processes that will build resiliency into their organizations, investments, and internal policies and also as a one-stop repository for the tools developed during the pilot projects.

Questions?

For more information about the Playbook or to learn how to get involved in the CRWG, contact Rob Pressly, Resiliency Program Manager at the CRO, at rob.pressly@state.co.us or 303.291.7822.

WHERE DO WE WANT TO BE?

Through extensive, statewide stakeholder engagement, the CRO set five goals in 2016 for enhancing the state's resiliency:

- Integrate resiliency into existing State of Colorado programs and bring additional resiliency investment to the State;
- Empower resiliency actions by public and private organizations;
- Grow public and private sector investment in resilient projects;
- Embed resiliency solidly into the Colorado culture of self-reliance; and
- Make Colorado the most resilient state in the nation.

Achieving these goals will require an evolution in the way the State does business and changes in organizational cultures, capturing lessons learned from disaster response and recovery in a more integrative way.

WHAT IS THE COLORADO RESILIENCY PLAYBOOK?

The Colorado Resiliency Playbook is a resource that can be used to drive action. The playbook is organized into seven modules, which provide strategies and tools agencies can use to integrate resiliency principles into their operations and investments. The list below provides an overview of the seven modules included in the playbook.

1

Defining Resiliency

Module 1 dives deeper into the definition of resiliency, providing various examples that illustrate the characteristics of resilient organizations and systems. This module also provides questions that can guide discussions surrounding resiliency within State agencies.

2

Building Your Team

Module 2 provides guidance for the formation of internal resiliency working groups. Two case studies of existing working groups with ties to resiliency are presented in Attachment 4.

3

Policy Development

Module 3 describes the purpose of a resiliency policy and the types of policies that may be established. The module also includes considerations for developing a resiliency policy based on existing resiliency policies developed by agencies within the State of Colorado and other organizations. A case study on the development of CDOT's resiliency policy directive is presented in Attachment 4.

4

Building a Resilient Project

Module 4 discusses considerations for incorporating resiliency principles at different points within a project timeline and ways to incorporate the nine Colorado resiliency prioritization criteria that were developed as part of the 2015 Colorado Resiliency Framework. Attachments 6 and 7 include tools to help grant program managers and grant applicants assess how well a proposed project aligns with the criteria.

5

Stakeholder Engagement

Module 5 includes strategies to help State agencies thoughtfully engage both internal and external stakeholders in conversations around resiliency. Attachment 8 provides a stakeholder engagement plan template.

6

Barriers

Module 6 includes strategies for overcoming barriers to successful incorporation of resiliency measures into agency policies, investments, or operations.

7

Tracking Performance

Module 7 provides suggestions for incorporating resiliency metrics into projects and a progress reporting template (Attachment 9).

The playbook is designed to integrate explicit considerations of resiliency into existing government processes and decisions including policies, practices, programs, and budgets. It is both a product and a process. Use of this playbook can help State agencies develop strategies and actions that enhance resiliency and improve successful outcomes for all groups/sectors.

Too often policies and programs are developed and implemented without looking at systems and connections between agencies. Decisions made without a resiliency perspective can lack efficiency and coordination with other efforts toward the same goal. Resiliency, in contrast, emphasizes collaboration, community-building, and connection across sectors. The playbook provides a structure for making resiliency a routine consideration in the State’s day-to-day business and culture.

By using the playbook, State agency staff will be able to:

- Help build resiliency knowledge within their agencies;
- Build capacity for collaborative and adaptive management;
- Proactively seek to eliminate inefficiencies;
- Identify clear goals, objectives, and measurable outcomes;
- Leverage funding and resources to achieve multiple benefits;
- Engage agencies and staff in decision-making processes;
- Identify who will benefit or be burdened by a given decision, examine potential unidentified consequences of a decision, and develop strategies to minimize risk and mitigate unintended negative consequences;
- Strengthen partnerships with external stakeholders;
- Develop mechanisms for successful implementation and evaluation of impacts;
- Support and empower local communities through resilient policies, programs, and processes; and
- Transform government structures, policies, and programs through a different culture and way of thinking that makes Colorado more able to adapt and thrive in the face of a changing future.

Using this playbook can help State agencies spur conversations about resiliency, operationalize new behaviors and policies, and organize to achieve resilient outcomes.

WHO SHOULD USE THE PLAYBOOK?

The playbook was developed for State agencies. All agencies have opportunities to leverage and enhance resiliency within their organizations to enhance services to Colorado communities and find efficiencies in funding and cross-departmental coordination.

Routine use of a resiliency playbook by staff provides opportunities to integrate resiliency across the breadth—meaning all governmental functions—and depth—meaning across hierarchy—of State government. For example, integrating resiliency into policy development and implementation or into budget proposals at the earliest possible phase increases the



likelihood of impact. State employees at the operational level will be best equipped to integrate resiliency into practice and routine operations.

WHEN SHOULD YOU USE THE PLAYBOOK?

The time is now to leverage Colorado’s lessons learned from recent disasters and ongoing stresses facing the state, including the observed and projected effects of climate change. The need has been identified, and the opportunity is here. Modules 1 through 7 of the playbook detail processes that can be used to build resiliency into government decisions at any time; however, conversations surrounding resiliency can be especially timely during the activities noted below.

Questions to Consider: Which of these activities does your department engage in? What points during these processes would provide opportunities for conversations surrounding resiliency?

Preparedness and Recovery from Disruptions

It is critical to implement resiliency planning and investments during normal operations and to prepare for future disruptions, like disasters. This will enhance the State’s preparedness efforts ahead of acute shocks. Not every disaster or disruption is the same, and recovery efforts provide opportunities for State agencies to assess and apply lessons learned from each experience to foster more resilient Colorado communities.

Project Planning and Implementation

Incorporating resiliency into project planning and implementation is a key way to safeguard State-funded investments against sudden shocks and chronic stressors, such as demographic shifts, social inequalities, and climate change.¹ Continuing to use the playbook more than once through the process of planning and implementing a project would ensure that resiliency is incorporated throughout all phases from development to implementation to evaluation.

Long-Range and Strategic Planning

Planning provides an opportunity for State agencies to take a broad look at their goals, operations, and practices, geared toward addressing persistent challenges like climate change or demographic or economic shifts. For example, focusing on resiliency during strategic planning can help agencies find efficiencies internally and across agencies and ensure risks that may affect investments and business continuity are identified and mitigated.

¹ See the Section 3.3 and Chapter 4 of the Colorado Resiliency Framework (available online at: <https://sites.google.com/a/state.co.us/coloradounited/resiliency-framework>) for descriptions of shocks and stresses affecting Colorado communities.



MODULE 1:

DEFINING RESILIENCY

Module 1 dives deeper into the definition of resiliency, providing various examples that illustrate the characteristics of resilient organizations and systems. This module also provides questions that can guide discussions surrounding resiliency within State agencies. Use these questions to spark discussion during your regular division or agency meetings in order to define your agency's role in enabling Coloradans to rebound, positively adapt to, or thrive amidst changing conditions or challenges.

WHAT IS THE DEFINITION OF RESILIENCY?

HB 18-1394, which updated the Colorado Disaster Emergency Act in 2018, defines resiliency as “**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.” (See Attachment 1 to read the full version of the signed act and refer to Section 3 on page 3 of the act for the definition of resiliency.)

What does resiliency look like?

It can be hard to define specifically how resiliency as a concept looks within an individual, organization, or community. In its 2016 assessment “Putting on a Resilience Lens: BoCo Strong Resilience Assessment for Boulder County,” BoCo Strong identified eight

characteristics that define resilient systems and organizations.² These characteristics align with resiliency characteristics that have been defined by 100 Resilient Cities (available online at 100resilientcities.org/resources/) and ISET-International.

- **Able to learn.** People, communities, and organizations learn from their experiences and use this learning in the future. *For example, an emergency management office will prepare an after-action report (AAR) following a disaster response and/or recovery effort. AARs are shared throughout the emergency management field and within government organizations, and lessons learned from these reports should be incorporated into the way agencies do business.*
- **Diverse.** Systems and communities have a great deal of variety, and functions can be delivered in multiple ways. *For example, local governments with multiple offices, mobile service delivery options such as trailers, and online service delivery options may experience fewer impacts to business continuity following a disaster or emergency.*
- **Flexible.** The physical landscape, people, and policy and culture can change, evolve, and adapt in response to changing circumstances. *For example, programs to buy properties within a floodplain assist affected property owners in moving out of harm's way and reduce the intensity of development in the floodplain, which can reduce the impacts from future floods.*
- **Inclusive.** Processes are transparent, open, and fair. Resources are available and accessible for all. Power dynamics and equity are taken into account. *For example, consider the Sweet Tools to Advance Equity provided by the Colorado Department of Public Health and Environment (<https://www.colorado.gov/pacific/cdphe/suite-of-tools>), which describe equitable community engagement and program design.*
- **Integrated.** Systems and people are interconnected. They bring together a range of stakeholders and institutions to tackle challenges that span across jurisdictional boundaries and sectors. *For example, the Colorado Resiliency Working Group convened by the Colorado Resiliency Office provides a venue for State agencies to learn from each other and coordinate their efforts to build resiliency in Colorado communities and across State government.*
- **Redundant.** There are multiple ways to achieve a need for function, and alternative options for when things go wrong. Redundancies provide spare capacity and are purposefully created to accommodate disruptions. *For example, redundancies are designed into many engineered systems, including transportation systems and lifeline utilities. Human systems are redundant when they identify and address single points of failure or exposure to risk, for example by creating multiple methods of communication, lines of succession, or copies or back-up files of critical information.*

² MacClune, Karen. 2016. Putting on a Resilience Lens: BoCo Strong Resilience Assessment for Boulder County. Available online: <http://bocostrong.org/resilience-assessment/>.



- **Resourceful and connected.** People have a range of ways to achieve their goals and meet their needs. *For example, thriving communities with a range of housing and transportation options, equitable services, and healthy, diverse economies provide a more level playing field for all people to pursue their goals.*
- **Robust yet able to fail safely.** Systems are designed to withstand regular impacts and continue to serve their purposes. If a system does fail, it fails in a way that minimizes impacts.¹ *For example a dam, electrical system, or other engineered system may have a failsafe included like a spillway or circuit breaker to limit the impact of a system failure. In human systems, continuity of operations measures like cross-training for staff or lines of succession for decision-making authority would minimize the impact of a loss of staff.*

WHAT DOES RESILIENCY MEAN IN THE CONTEXT OF YOUR AGENCY’S MISSION?

Discussing resiliency concepts as a group will build knowledge and the capacity to institutionalize resiliency principles within your agency.

Guiding Questions

Use the questions below to guide discussions about resiliency within your agency. These questions can be combined with concepts from Module 2, Building Your Team, to establish a resiliency working group within your agency.

Understanding the concept of resiliency is a first step toward building an organization that exemplifies the resiliency characteristics listed above. Discuss the questions below with others in your agency during your regular division or agency meetings to define your agency’s role in enabling Coloradans to rebound, positively adapt to, or thrive amidst changing conditions or challenges.

- Read the State’s definition of resiliency. What challenges or changing conditions might affect our agency?
- What is our agency’s role in building or promoting resiliency?
- What does a resilient agency look like? What does it mean to adapt or thrive?
- How can our agency promote or strengthen the eight characteristics of resilient systems and organizations listed above?
- Review the State’s resiliency sectors shown in Figure 1-1. What sectors do your agency’s mission and operations affect? What sectors is your agency affected by? What partners within or outside of State government also work in these sectors?

Figure 1-1 Colorado Resiliency Sectors



WHAT OTHER RESOURCES ARE AVAILABLE?

Visit the Colorado Resiliency Resource Center at www.coresiliency.com to access the Colorado Resiliency Framework and other resources that can help educate and guide discussions on resiliency.

MODULE 2:

BUILDING YOUR TEAM

Module 2 describes the need for all State agencies to establish internal resiliency working groups and provides considerations to guide the formation of these groups. Two case studies of existing working groups with ties to resiliency are presented in Attachment 4.

WHY IS A TEAM APPROACH NEEDED TO BUILD RESILIENCY?

The Colorado Resiliency Office (CRO) encourages all State agencies to establish an internal resiliency working group or team including representatives from all agency divisions. **The step of establishing a resiliency working group is meant to transform the way divisions and people within your agency work together.** A diverse internal resiliency working group will help to foster a collaborative atmosphere that allows free exchange of information, knowledge building, and identification of comprehensive solutions that promote resilience within the agency. Resilience challenges often span across division boundaries and are most effectively addressed using a full systems approach that fosters innovative thinking and opportunities to realize mutual benefits.

State agencies should identify a resiliency champion to serve as a convener for the agency's resiliency working group and as a liaison to the CRWG. The resiliency champion role could be a full-time position or may be included as part of the job duties assigned to an existing position.

When multiple agencies are working on local projects with a link to resiliency, collaboration with other State agencies and local stakeholders will help foster creative and comprehensive

solutions to the complex challenges facing Colorado communities. An inclusive and accessible team structure also ensures that the interests of all stakeholders in a project or activity are represented and their concerns are taken into consideration. The CRO can provide guidance and technical assistance in coordinating with other State agencies during local projects.

WHO SHOULD BE AT THE TABLE?

Members of a resiliency team may vary depending on the purpose and goals of the team. Some questions to consider include:

- *In what arena will the team be working?* If your team is focused on operational changes within an agency, most of the stakeholders are likely to be within that agency. Teams that are focused on implementing resiliency projects locally will need to include stakeholders from other State agencies and/or community stakeholders.
- *How should leadership be involved?* Newer initiatives may need a greater degree of demonstrated support by agency or community leadership, while initiatives that have already been broadly accepted by agency staff or members of a community may require a lesser degree of leadership support.
- *Is the team inclusive?* Creating a diverse team that includes different perspectives requires active effort. Invite people who have different needs and opinions to participate.
- *Who are the people within your organization who are pushing to innovate?* Looking at issues through the lens of resilience requires different ways of approaching and solving challenges, and developing resilient solutions to challenges often requires people who are willing to try new approaches.
- *What level of facilitation is needed?* Consider if a facilitator or chairperson is needed. If multiple agencies are participating on a team, co-chairs may be appropriate. In these cases, CRO staff can provide facilitation support. In some cases, a third-party consultant may need to be hired to provide professional facilitation services, especially if multiple meetings with participation by a large number of stakeholders are planned.

WHAT IS THE ROLE OF A RESILIENCY CHAMPION?

A designated resiliency champion can coordinate resiliency efforts across a department in order to maximize efficiency and can serve as a convener for a department's resiliency working group or team. Departmental resiliency champions also serve on the Colorado Resiliency Working Group and as primary points-of-contact for the Colorado Resiliency Office. A description of the resiliency champion role is provided as Attachment 2. This description can be modified for use in the position description for a full-time resiliency champion or to describe job duties related to resiliency as part of another job position.



HOW SHOULD I ESTABLISH A WORKING GROUP?

The structure a team takes will differ depending on its purpose and intended longevity. For the purposes of institutionalizing resiliency into State government operations and investments, the CRO recommends establishing an internal resiliency working group. Figure 2-1 outlines a process for establishing an internal working group.

Work Plans

Work plans can be developed to implement the goals of the working group. Work plans detail objectives that must be reached to achieve a goal and activities that will be completed to support the objectives. A work plan should specify who is responsible for each activity and a timeline for completing the activity. Work plans may be informal, for instance, a resiliency working group may develop a work plan to track progress in meeting objectives, but it is more likely that resources will be dedicated to work plans authorized by policies supported by agency leadership. Work plans may not require formal approval; however, obtaining an agency executive's approval for the plan may serve to demonstrate compliance with a policy directive or allow access to resources for implementation.

Overcoming Challenges

Common challenges that you might encounter while establishing an internal working group are listed below, along with strategies for overcoming these challenges based on approaches taken by the CRO and Colorado Resiliency Working Group (CRWG). Reach out to the CRO if you need additional help or have successful strategies to share with others.

Building support. Reach out to the CRO to help build support for a resiliency working group. The CRO will meet with agency leaders to educate them on the legislative directive for resiliency efforts within their agency and make the case for resiliency efforts that will result in financial and operational benefits. It is critical to get leadership to support the efforts of the working group and provide a policy directive to their team.

Be sure to clearly identify to your leadership what the “ask” is for dedicated staff. Communicate who should be involved in the working group, the approximate time commitment, and budget implications, if known, and consider ways that costs and staff time could be offset or paired with other initiatives to maximize benefits.

Figure 2-1 Establishing an Internal Working Group



Keeping the interest and enthusiasm of the working group. Many methods can be used to keep participants interested and enthusiastic:

- Identify clearly how the efforts of the working group are contributing to Statewide goals. In other words, make sure participants have a clear understanding of the purpose of the working group, what goals they are working toward and why.
- Empower participants to bring their own ideas to the table.
- Build relationships that make a difference. In many agencies, divisions rarely work together. An inclusive working group can provide opportunities for people who do not usually work together to collaborate and learn from each other.
- Communicate the efforts of the working group to executive leadership so that executives can acknowledge the successes of the group and efforts of all involved.

Capturing the process, outcomes, and lessons learned. It is critical to capture the process, outcomes, and lessons learned from the working group. Keeping a detailed record of the working group's activities will ensure that successful outcomes and lessons learned are recorded and can demonstrate that the time invested in the working group was well spent. The group facilitator or another designated staff member should prepare and file meeting agendas, meeting summaries, and progress reports that can be used to prepare reports to executive leadership and other stakeholders.

Developing a Memorandum of Understanding (MOU)/Memorandum of Agreement (MOA)

In some cases, it may be appropriate to formalize a team using an MOU or MOA. MOUs/MOAs are written agreements between two or more parties and are statements of cooperation or understanding between parties with regards to a subject or initiative. An MOU/MOA may be more general or may contain a level of detail similar to a charter. If an MOA/MOU includes all the terms and conditions of a legal contract, it may carry the same legal weight as a contract.³ An MOA/MOU should be signed by authorized representatives of the parties.

The CRO uses MOUs to form partnerships with other State departments on specific resiliency initiatives. A template MOU is provided as Attachment 3. The template includes sections for the purpose and scope of the agreement, background, responsibilities of each party under the agreement, and terms agreed upon by all parties. However, it is important to note that in most cases, the CRO collaborates with other State agencies through the CRWG and uses MOAs/MOUs rarely in specific circumstances.

An internal policy directive is another tool that can be used to formalize a resiliency working group. See Module 3 for more information on the process of developing an internal resiliency policy directive and information that should be included.

³ Zender Environmental View. 2005. Partnership Agreements, Contracts, MOA's, and MOU's. Available online: www.zendergroup.org/docs/moamou.pdf.



CASE STUDIES

Attachment 4 presents two case studies on 1) the CDOT Resiliency Working Group and Resiliency Oversight Committee and 2) the Workforce Resilience Task Force established during the Colorado Resiliency Institutionalization Project (CORIP), including lessons learned from the formation of these two groups.



MODULE 3:

POLICY DEVELOPMENT

Module 3 describes the purpose of a resiliency policy and the types of policies that may be established to institutionalize resiliency into State agency operations and investments. This module also includes considerations for developing a resiliency policy based on existing resiliency policies developed by agencies within the State of Colorado and other organizations.

WHAT IS THE PURPOSE OF A RESILIENCY POLICY?

Resiliency policies are critical tools for coordinating and advancing resiliency efforts at the agency level. A formalized resiliency policy:

- demonstrates leadership support and shows agency-wide commitment for resiliency initiatives;
- applies the State’s definition of resiliency as it relates to the agency’s mission and operations;
- defines roles and responsibilities for accomplishing goals related to resiliency and builds accountability and ownership;
- supports investment in resiliency initiatives; and
- provides direction to staff at all levels of the organization on how resiliency principles will be incorporated into the agency’s operations.

As noted in *Disaster Resilience: A National Imperative* (2012), “the development of appropriate policies, creation of optimal governance structures, and informed and coordinated management at all levels of government are crucial to improving community resilience. Community resilience will grow as the knowledge, experience, and understanding of these roles and responsibilities grow among decision makers at all levels of government.”⁴

WHAT ARE THE MAJOR COMPONENTS OF A RESILIENCY POLICY?

Table 1 below summarizes the major components that may be included in a resiliency policy. A policy may not include each of these sections; however, these sections are recommended to support successful implementation of a policy.

Table 1. Components of a Resiliency Policy

Component	Description
Purpose	Defines the benefits of incorporating resiliency into operations, may include problem and vision statements
Authority	Identifies the authority for the policy, for example, State statute or other agency policies or directives. Colorado HB 18-1394 updated the Colorado Disaster Emergency Act to direct the Colorado Resiliency Office (CRO) “provide technical assistance to State agencies for the implementation of resilience policies and procedures and to institutionalize resilience practices across agencies.” Therefore, HB 18-1394 can provide statutory authority for agency resiliency policy directives.
Applicability	Identifies the divisions, personnel, and activities to which the policy applies
Definitions	Defines key terms to establish the conceptual framework used by the policy
Policy	Includes policy statements defining a vision for resiliency and approach for institutionalizing resiliency. These policy statements could be internally focused, externally focused, or both. A strategic plan would include a framework of goals or principles, objectives, and strategies that may need to be supported through more targeted agency policies or statutes. Define who is responsible for implementing individual policies and the processes to which these policies apply.
Fiscal Impact/Funding Source	Identifies the fiscal impact of the policy on the agency’s operations and methods by which the policy will be funded

⁴ National Research Council. 2012. *Disaster Resilience: A National Imperative*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/13457>.

Table 1. Components of a Resiliency Policy

Component	Description
Procedures for Implementation, Review, and Revision	A key aspect of resiliency is adaptability. The policy should specify timelines and methods for regular review and revision or changes in conditions that would trigger review of the policy. Procedures for implementation, including roles and responsibilities, should be specified.
Measuring Progress	Defines how progress in implementing the policy will be measured. Defining metrics of success and methods for measuring success up front will ensure that the effectiveness of the policy can be tracked and adjustments can be made based on observed results.
Effective Date/Review Date	Identifies the dates the policy takes effect and is required to be reviewed
Points of Contact	Identifies people that employees or other stakeholders can contact with questions

WHAT TYPES OF POLICIES CAN BE ESTABLISHED?

Different types of policies serve different purposes. The sections below describe types of policies that can be established to institutionalize resiliency, what they can accomplish, and the type of approval required.

Agency Policy Directives

Agency executives or policy commissions have the authority to establish goals and direction for State agencies. Policy directives, such as the Colorado Department of Transportation’s Policy Directive 1905.0 “Building Resilience into Transportation Infrastructure and Operations” (see Attachments 4 and 5), established at the agency level set policy and direct agency activities. They may be created under the authority of State statute or other agency policies or directives and must be signed and approved by the agency executive and/or policy commission. Policy directives should identify the fiscal impact of the directive and how new processes or job responsibilities will be funded.

Strategic Plans

Like work plans, strategic plans do not have the authority of the other policy options discussed in this section and may be unfunded. However, strategic plans, such as the Colorado Hazard Mitigation Plan and Colorado Climate Plan, can be useful tools to assess multiple courses of action and coordinate activities with external partners. Strategic plans should be approved by the leadership of each partner organization.

The goal of a strategic plan is to establish strategic direction for actions by an organization or group of partners. The planning process can be used to build consensus around a set of challenges and potential courses of action. The strategic plan should define implementation goals and strategies for achieving these goals, roles and responsibilities for implementation, and methods for reviewing and revising the plan and communicating progress.

The Colorado Division of Homeland Security and Emergency Management (DHSEM) has incorporated the concept of resiliency into their 2019-2021 strategic plan, specifically into the plan’s vision for “a prepared, safe, and resilient Colorado” and its overarching goal for DHSEM “to be a leader in emergency management and homeland security, preparing our communities and making them more resilient to any threat or hazard that may come to [Colorado].”⁵ Implementation of the plan’s goals and objectives is supported by defined planning, tracking, and reporting processes.

Legislative Statutes

Legislative statutes, such as HB 18-1394, which updated the Colorado Disaster Emergency Act in 2018, can provide legislative authority for resiliency measures and can be used to dedicate or reallocate funding or resources.

A statute, or act, is passed by the State legislature and signed by the governor. A statute is a formal declaration of policy that directs or prohibits action by State government or certain agencies. To be enacted as law, a bill must be sponsored and introduced in the State House of Representatives and the Senate, pass committee hearings, pass votes in both the House and Senate, and be signed by the Governor or enacted into law without the Governor’s signature. A summary of the legislative process can be found on the Colorado General Assembly website: <https://leg.colorado.gov/agencies/office-legislative-legal-services/legislative-process-0>.

Executive Orders

An executive order, such as Governor Polis’ Executive Order B 2019 002, Supporting a Transition to Zero Emission Vehicles, provides direction for measures within the executive branch of government, describes the methods that will be used by the executive branch to implement existing law, and can dedicate or reallocate funding or resources.²

An executive order is a declaration by the Governor “for the purpose of implementing powers delegated to [the Governor’s office] by constitution or statute.”⁶ Whether an executive order is within the scope of the Governor’s authority depends on:

- the type of executive order
- if the order violates the separation of powers doctrine by interfering with the legislative power vested in the General assembly

⁵ Colorado Division of Homeland Security and Emergency Management. 2019-2021 Colorado DHSEM Strategic Plan. Available online: <https://www.colorado.gov/pacific/dhsem/about-dhsem>.

⁶ Office of Legislative Legal Services. 2018. Memorandum on the Scope of Governor’s Power to Issue Executive Orders. Available online: <https://leg.colorado.gov/publications/scope-governors-power-issue-executive-orders>.



- whether the order falls within a power expressly granted to the Governor by the State constitution or statute
- whether the General Assembly has already legislated in the area which is the subject matter of the executive order.²

There is no formal process for developing an executive order, which allows the Governor some flexibility in creating and adopting executive orders. In general, agency staff planning to propose an executive order to the Governor’s office should develop an outline and obtain approval on the content of the executive order from their executive director before reaching out to the Governor’s office. Once the outline is approved, agencies should coordinate with the Governor’s policy team and chief legal counsel to develop the content of the executive order. The organization of the executive order can be based on other recent executive orders signed by the Governor. The Governor’s leadership team and key State agencies may provide input and expertise to help develop the text of the executive order. Executive orders are implemented through the Governor’s signature.

Executive orders are not meant to replace the legislative process but are meant to be “exceptions to the rule” in order to address critical matters. For example, an executive order may be issued to direct certain actions by State agencies during disaster recovery. If an agency is affected by an executive order, it is important to track the timeframe of the executive order. If needed, the Governor can extend these timeframes.

CASE STUDY

Attachment 4, Case Studies, provides a discussion of the development of the Colorado Department of Transportation’s resiliency policy directive. Attachment 5 provides a copy of the resiliency policy directive.

MODULE 4:

BUILDING A RESILIENT PROJECT

Module 4 discusses considerations for incorporating resiliency principles at different points within a project timeline and ways to incorporate the nine Colorado resiliency prioritization criteria that were developed as part of the 2015 Colorado Resiliency Framework. Attachments 6 and 7 include tools to help grant program managers and grant applicants assess how well a proposed project aligns with the criteria.

WHAT MAKES A PROJECT RESILIENT?

Resiliency principles can inform all stages of project planning and implementation, leading to projects that produce multiple benefits across sectors, minimize risks, and anticipate or respond to changing conditions. Module 4 includes a roadmap for a project development process that incorporates resiliency principles and discussion of Colorado's resiliency prioritization criteria, which provide additional detail to assist State agencies and grant recipients in implementing resilient projects.

Where in the project timeline can resiliency thinking be most impactful?

Ideally, a project team will start incorporating resiliency principles at the beginning of project planning, which may start with defining challenges and identifying strategies during a strategic or long-term planning process. Incorporating resiliency principles early will

enable a team to most efficiently engage stakeholders, anticipate risks and challenges over the life of the project, and design a project that provides multiple benefits.

The roadmap for project development shown in Figure 4-1 includes resiliency principles at every stage of project development from defining the problem through implementation. These tips can be used even for projects that are underway or have been completed. For example, creating project metrics for a project that has already been completed will allow the project team to monitor its success and changing conditions over the long-term, which can help the team to plan future upgrades or adjustments.

Figure 4-1: A Resilient Project from Start to Finish



Visit the CRO’s website (www.coresiliency.com) to read case studies of projects that have been designed using resiliency principles. These projects were developed through a process of defining a problem and developing solutions that will provide long-term benefits while addressing risks.

HOW SHOULD I USE THE STATE’S RESILIENCY PRIORITIZATION CRITERIA?

The State’s resiliency prioritization criteria were developed as part of the 2015 Colorado Resiliency Framework⁷ and provide a method for ensuring that the State’s limited resources are put toward projects that result in multiple, triple-bottom-line returns. The criteria can be used to evaluate a project in terms of the resiliency benefit it would provide or compare and prioritize multiple projects. Table 4-1 lists the nine criteria. The criteria are defined and discussed in more detail in Attachment 6, Resiliency Prioritization Criteria Expanded.

The **triple-bottom-line** is an accounting framework that expands the concepts of financial profit and loss to include social, environmental, and financial benefits and costs.

Table 4-1 Colorado Resiliency Prioritization Criteria

● Co-Benefits	● Innovation
● High Risk and Vulnerability	● Adaptive Capacity
● Economic Benefit-Cost	● Harmonize with Existing Activity
● Social Equity	● Long-term and Lasting Impact
● Technical Soundness	

A Resiliency Prioritization Criteria Assessment Tool is provided in Attachment 7. This tool is an enhanced checklist that allows a grant program manager or applicant to assess a project against the resiliency prioritization criteria and easily determine how well the project aligns with the criteria through numerical and graphic results. Instructions for using the tool and an FAQ are provided in Attachment 7.

To be most effective, the resiliency prioritization criteria should be used during the development of strategies, projects, and metrics for success. Using the criteria early will allow a team to determine a course of action that is most likely to result in multiple resiliency benefits and metrics that will allow these benefits to be measured.

⁷ State of Colorado. 2015. Colorado Resiliency Framework. Available online: <https://sites.google.com/a/state.co.us/coloradounited/resiliency-framework>.

MODULE 5:

STAKEHOLDER ENGAGEMENT

Module 5 includes strategies to help State departments and agencies thoughtfully engage both internal and external stakeholders in conversations around resiliency.

WHAT IS STAKEHOLDER ENGAGEMENT?

Stakeholder engagement is the process of interacting with all individuals and organizations affected by a policy or project. Stakeholder engagement can occur at different levels of an organization, and can be used for a variety of purposes such as to inform or gather information from stakeholders, or to provide opportunities for stakeholders to influence decision-making. The engagement process should be inclusive and accessible, taking into consideration the diverse circumstances that may affect the ability of stakeholders to participate in a planning process (for example, differences in languages spoken, and access and functional needs⁸).

WHY DO WE ENGAGE STAKEHOLDERS?

Both internal and external stakeholders may need to be engaged in resiliency planning discussions. Effective stakeholder engagement will allow State agencies to:

⁸ People with access and functional needs are those who may have additional needs before, during, or after a disaster or emergency in functional areas, including but not limited to maintaining independence, communication, transportation, supervision, and/or medical care. For more information see the Federal Emergency Management Agency's National Response Framework (<https://www.fema.gov/media-library/assets/documents/117791>).

- Build on existing partnerships,
- Give stakeholders opportunities to influence program or project design and implementation,
- Share solutions to challenges,
- Coordinate efforts and investment of resources, and
- Learn from stakeholders with different perspectives on a challenge.

For example, the Federal Emergency Management Agency (FEMA) emphasizes the Whole Community approach. FEMA defines the Whole Community approach as “a means by which residents, emergency management practitioners, organizational and community leaders, and government officials can collectively understand and assess the needs of their respective communities and determine the best ways to organize and strengthen their assets, capacities, and interests.”⁹ The Whole Community approach leverages the knowledge and experiences of all stakeholders in a community to prepare for, protect against, respond to, and recover from disasters and other shocks and provides a useful framework for planning stakeholder engagement efforts as part of resiliency projects.

Questions to Guide Stakeholder Engagement

How would you define a successful stakeholder engagement process for your particular program or project? Take a moment to define what success looks like. With those criteria in mind, use the series of questions below to help determine if the stakeholder engagement process can be expanded or enhanced to be more inclusive or provide additional value to your agency or stakeholders.

The following questions can help State agencies begin to frame stakeholder engagement as part of a planning process.

- Who will be affected by the project or process?
- How will these stakeholders be affected by or affect the decision(s) to be made?
- Are other State agencies working in the same area or sector? Will these State agencies have resources or expertise to offer the project/process, or will they be affected by the project/process?
- Can other stakeholders offer resources or expertise to the project/process?
- When should stakeholders be engaged in the planning process?
- What methods of stakeholder engagement will ensure equitable access to the planning process?

⁹ Office of Public Health Preparedness, Boston Public Health Commission. No date. Whole Community Approach. Available online: <https://delvalle.bphc.org/mod/wiki/view.php?pageid=133>.



The Authentic Community Engagement to Advance Equity guide prepared by the CDPHE Office of Health Equity (<https://www.colorado.gov/pacific/cdphe/suite-of-tools>) includes additional questions intended to inform thoughtful and equitable engagement.

Engagement Strategies

Strategies to enhance stakeholder engagement efforts include:

- **Use your communications team.** Take advantage of the expertise of your communications team to develop a stakeholder engagement plan, tailored message, and communications approaches.
- **Leverage the CRO and Colorado Resiliency Working Group (CRWG) to foster cross-sector connections.** Coordinating with other State agencies can be helpful especially during long-term disaster recovery efforts or other situations in which multiple agencies are working on projects in a region. Consider establishing a task force or steering committee with other State and local stakeholders to ensure coordination and consistent messaging.
- **Consider the resiliency sectors to identify stakeholders.** To ensure you are bringing the appropriate partners to the table, especially for projects with co-benefits across sectors, consider stakeholders in each of the resilience sectors. Table 2 includes a list of suggested stakeholders in each of the six resiliency sectors.

Table 2. Potential Stakeholders within the Six Resiliency Sectors

Resilience Sector	Potential Stakeholders
Community	FEMA Colorado Department of Local Affairs, Division of Local Government Colorado Division of Homeland Security and Emergency Management County and local elected officials Local floodplain managers Local emergency managers Local planners Local cultural venues Community groups
Economic	U.S. Department of Agriculture Colorado Department of Local Affairs Colorado Department of Labor and Employment Colorado Office of Economic Development and International Trade Colorado Department of Agriculture Local tourism boards Local/regional economic development agencies Local chambers



Table 2. Potential Stakeholders within the Six Resiliency Sectors

Resiliency Sector	Potential Stakeholders
Health and Social	Department of Health and Human Services Colorado Department of Human Services Colorado Department of Public Health and Environment Colorado Department of Education Colorado Department of Health Care Policy and Financing Colorado Department of Military and Veterans Affairs Local/regional public health districts Local/regional human services Local school districts Universities and colleges
Housing	Department of Housing and Urban Development Colorado Department of Local Affairs, Division of Housing Local planning departments Local/regional housing authorities Housing developers Realtors associations Homeowners Renters associations
Infrastructure	U.S. Department of Transportation Colorado Department of Transportation Colorado Department of Local Affairs Local public works departments Local planning departments Utility providers Airports Developers and engineering firms
Watersheds and Natural Resources	Bureau of Land Management National Park Service U.S. Forest Service Colorado Department of Natural Resources Colorado Water Conservation Board Local parks and open space departments Local watershed groups Other large landowners Irrigation ditch and agricultural associations Environmental groups (for example, The Nature Conservancy, Trout Unlimited - groups active in the area of interest)



Strategies for Discussing Resilience with Stakeholders

Approaches to discussing resiliency with stakeholders should be tailored based on their unique concerns and the agency's policies or project goals. Other modules of the Playbook (Modules 1 and 7) discuss ways to frame conversations about adaptive thinking and actions and available resources that provide general information about resiliency. During conversations with stakeholders, though, it is important to frame discussions about resiliency using the shocks and chronic stressors of most concern to them. Is this stakeholder vulnerable to hazards or experiencing economic or demographic changes? Consider the stakeholder's unique context in developing your messages.

Whether you anchor a conversation with objective data, case studies, or stories will depend on the concerns of the stakeholder, the factors on which the stakeholder bases decisions, and the formality of the venue. In general, tying data to stories will place them in context and make data points more memorable.

WHEN SHOULD WE ENGAGE STAKEHOLDERS?

Stakeholders should be engaged in a planning process as early as possible, especially if they will share decision-making responsibilities. Involve key stakeholders in regular department/agency meetings to build effective working relationships and identify additional opportunities for coordination.

ARE THERE DIFFERENT WAYS TO ENGAGE STAKEHOLDERS?

Methods used for stakeholder engagement will vary depending on many factors. For example:

- Is the stakeholder another State agency or outside organization that will need to be involved in a planning process or activity long-term?
- Will the stakeholder be affected by a decision to be made?
- Does the stakeholder have information or resources to offer at a key milestone or throughout a planning process?

The answers to these questions will influence the timing and degree of stakeholder engagement.

Spectrum of Engagement

The engagement spectrum below was created by staff at the Colorado Department of Public Health and Environment (CDPHE), Office of Health Equity as part of the office's Sweet Tools to Advance Equity (<https://www.colorado.gov/pacific/cdphe/suite-of-tools>) and adapted for use by State agencies in advancing resiliency initiatives. The spectrum shows that engaging stakeholders through on-going discussions, collaboration, and shared decision-making fosters stronger partnerships that positively influence outcomes.

It is important to note that different levels of engagement may be used at different times and with different stakeholders. Each level of engagement has value.

Table 1. Stakeholder Engagement Spectrum

Participation		Engagement		Partnership
Outreach	Consult	Involve	Collaborate	Share Leadership
Communication flows from the program or initiative to <u>inform</u> community members.	Community members <u>provide one-time or periodic feedback.</u>	Communication flows both ways and opportunities are provided for <u>ongoing stakeholder participation.</u>	Stakeholders <u>influence decision-making.</u>	Community members <u>share power and responsibility,</u> making decisions together.
<u>Outcome:</u> Optimally establishes communication and outreach channels, while sharing information with stakeholders	<u>Outcome:</u> Develops connections with stakeholders	<u>Outcome:</u> Establishes visibility of partners and increased cooperation	<u>Outcome:</u> Increased trust and partnership building	<u>Outcome:</u> A strong partnership with bi-directional trust that affects broader outcomes
Source: Office of Health Equity, Colorado Department of Public Health and Environment. No date. Authentic Community Engagement to Advance Equity. Available online: https://www.colorado.gov/pacific/cdphe/suite-of-tools .				

Stakeholder Engagement Plan Template

Attachment 8 provides a template for identifying stakeholders and managing outreach efforts.

MODULE 6:

OVERCOMING BARRIERS

You may encounter barriers to incorporating resiliency measures into your agency's policies, investments, or operations. Module 6 includes strategies for overcoming barriers to success.

HOW CAN I BUILD SUPPORT AND LEVERAGE RESOURCES?

The Playbook is designed to integrate resiliency principles into existing planning processes and activities. However, resiliency champions may encounter challenges within their departments particularly in cases where department leadership has not indicated support for resiliency effort and/or when implementing resiliency measures has the potential to increase the cost of a project or State activities. Strategies for overcoming these challenges are introduced below.

Building Awareness

How do we bridge gaps in knowledge around the concept of resiliency and why resiliency is important? Since the 2012 fires and 2013 floods along the Front Range, the Colorado Resiliency Office (CRO) has been engaged in developing resources to educate State agencies, local communities, and individuals on how resiliency can prepare Coloradans to thrive amidst shocks and stressors. The Colorado Resiliency Framework and resources in the CRO's website (www.coresiliency.com) provide a good starting point for those who want more information on resiliency. Use Module 1, Defining Resiliency, to facilitate deeper discussions on the concept of resiliency as it applies to the mission of your agency.

The CRO and Colorado Resiliency Working Group (CRWG) are additional resources and are available to answer any questions you have about resiliency and how resiliency principles can benefit your department. Contact Rob Pressly, Resiliency Program Manager at the CRO, at rob.pressly@state.co.us or 303.291.7822 with questions.

Building Support

Integrating resiliency principles into the culture of an organization requires clear support and direction from leadership, an understanding of the value of resiliency, and defined roles and responsibilities. Strategies provided in other modules of the Playbook, including developing an agency resiliency policy (Module 3) or a resiliency working group can demonstrate leadership support of resiliency initiatives and direct action within an agency.

Education is also an important means of building support. Agency resiliency champions can build upon general resources provided by the CRO, such as the Colorado Resiliency Framework and the resources on the CRO's website (www.coresiliency.com), by discussing the benefits resiliency initiatives can provide that are specific to their agency's mission. Another approach would be to align resiliency initiatives with the priorities that have been expressed by Governor Polis and agency leadership.

Leveraging Resources

Start where you are. Many of the steps in the Playbook can be implemented at no cost. Start by building your team, engaging stakeholders, and identifying resiliency challenges and desired outcomes. Use these efforts to inform co-workers and build consensus in order to inform future budgeting efforts and investment decisions.

Leverage partners' resources. Are other State agencies or stakeholders, including federal agencies, private businesses, or non-profits, working within the same area or sector? If so, coordinate with these stakeholders to determine if your combined efforts and resources could be leveraged to produce additional benefits while reducing costs.

Calculate resiliency return on investment. Investments in resiliency may cost more up front but often result in cost savings over the lifetime of an investment through increased efficiency or mitigation of risk. Recent studies have found that riverine flood mitigation projects provide \$7 in savings through avoided damages for each dollar invested in mitigation and fire mitigation projects provide \$3 in savings for each dollar invested.¹⁰ Module 7, Tracking Performance, includes considerations for metrics that agencies can employ to calculate the resiliency return on investment (ROI) that would result from investments in resiliency. A significant ROI or savings realized as a result of avoided losses can help make the business case for investments in resiliency. Project outcomes, cost savings, and other metrics of success should also be captured to help inform and influence

¹⁰ Colorado Department of Public Safety. 2018. Department of Public Safety (Excluding DCJ) FY 2019-20 Joint Budget Committee Hearing Agenda. Available online: https://leg.colorado.gov/sites/default/files/fy2019-20_pubsafhrg1.pdf.



future investment priorities and agency budgets. Collect and use this data to inform budgeting for future projects.

HOW DO YOU ADDRESS BARRIERS TO IMPLEMENTATION?

Since adoption of the Colorado Resiliency Framework in 2015, State agencies have successfully integrated resiliency principles into multiple projects as well as into agency policies. For example, CDOT has taken steps to institutionalize resiliency principles into their operations and investments by establishing Policy Directive 1905.0 “Building Resiliency into Transportation Infrastructure and Operations” (see Attachments 4 and 5). Informal approaches to implementing resiliency principles can also be effective. The Workforce Resiliency Task Force is an informal interagency task force that was established during the Colorado Resiliency Institutionalization Project that is making strides toward building individual and organizational resilience across State government (see Attachment 4).

The CRO is available to answer any questions you have about integrating resiliency principles into your agency’s policies, investments, or operations. Additionally, the Colorado Resiliency Working Group (CRWG) includes representatives of State departments who have been involved in the State’s resiliency efforts and can provide examples of strategies that have been proven to work in Colorado. To take advantage of lessons learned across State government, ensure your agency has an active representative in the CRWG. Contact Rob Pressly, Resiliency Program Manager at the CRO, at rob.pressly@state.co.us or 303.291.7822 with questions or to get involved in the CRWG.

WHAT TALKING POINTS CAN I USE?

How do we talk about resiliency in a way that clearly demonstrates the need for support and funding? The talking points below are examples that can help start conversations within your agency.

- The Colorado Resiliency Framework outlined the case for State government to become more resilient and set statewide goals. HB 18-1394, which updated the Colorado Disaster Emergency Act, additionally directs State agencies to implement resilience policies and procedures and institutionalize resilience practices.
- Population growth can be a chronic stressor affecting the ability of communities to adapt and continue to provide critical services. Population growth in Colorado is slowing, but the state’s population is still forecast to increase by 3 million between 2018 and 2050. State and local governments will need to plan to efficiently and effectively meet the needs of larger populations.
- Climate change will continue to be a significant stressor that impacts communities, environments, and economies across Colorado. Average statewide temperatures have risen 2 degrees Fahrenheit over the last 30 years, with future estimates ranging from 2.5 - 5 degrees Fahrenheit by 2050. This will have



dramatic impacts on our state, with impacts ranging from more frequent and intense wildfires, to decreased water availability and quality, to downturns in local economic growth and opportunities.

- Shocks such as wildfires or the 2013 floods can have catastrophic effects on people, local economies, and infrastructure. Up front investments to move people and infrastructure out of harm's way have been proven to reduce the impacts of disasters on communities and result in cost savings.
- Local economies are threatened by shocks, such as the 2013 floods or closure of large employers. Strategies that promote diverse industries, strong partnerships, business continuity, and a healthy and economically secure workforce will help industries respond to economic changes and disruptions.
- Social vulnerabilities are exacerbated when there is unequal access to resources or when certain groups are not included in discussions surrounding emergency preparedness, community development, or other efforts. Strategies that increase access to resources and ensure disadvantaged and underrepresented populations are included in community decision-making will increase the ability of a community to thrive in the midst of shocks and chronic stressors.

See the Colorado Resiliency Framework for more discussion of the shocks and stressors Colorado faces, as well as strategies to solve these issues, that can inform discussions in your agency.



MODULE 7:

TRACKING PERFORMANCE

Monitoring and evaluating progress are key steps in adaptive management, or the structured or iterative process of making decisions in the face of uncertainty. Monitoring the outcomes of a project or activity allows the managing agency to determine if critical objectives are being met or adjustments are required. Module 7 provides suggestions for incorporating resiliency metrics into projects and a progress reporting template (Attachment 9).

HOW DO WE ASSESS PROGRAM AND PROJECT PERFORMANCE?

How do we know if a resiliency policy or project is successful? Part of project management is defining success (see Module 4, Building a Resilient Project). Measurable indicators, or metrics, can help a project team determine if a project is on track to be successful.

Choosing Metrics

The discussion questions below can help project teams determine metrics that can be tracked and reported to show progress in implementing a project or other resilience initiative.

1. What does success look like? Would someone not directly involved in the project be able to objectively recognize success based on this description?
2. How can project progress or success be measured objectively, using either quantitative or qualitative indicators?

3. What indicators of progress or success can be measured? For example, a project team may measure quantitative indicators such as a reduction in the numbers of homeless families or individuals or increase in the acreage within a floodplain protected from inappropriate development. Qualitative indicators could include whether or not organizational relationships are being maintained or interagency coordination protocols are in place. These are potential metrics.
4. What units of measurement should be used for these metrics? These may be quantitative units of measurement, but a metric can also be a yes or no indication that a key project milestone has been achieved.
5. When should data on metrics be collected? Consider how soon a metric is likely to change following the start of a project and how frequently data should be collected to assess trends over time.

Metrics also can be used to track institutional changes within State government, in addition to the outcomes of construction or social services projects. For example, the CRO may want to track annually the number of grant programs that use the State resiliency prioritization criteria in the selection process or the number of agencies that have established resiliency policies. Individual departments and agencies may want to track policies or regulations that should be revised to incorporate resiliency and which have been revised.

Showing Resilience Value

Metrics provide a basis for showing the return on investment of resiliency initiatives, or the “resilience value.” Quantitative metrics showing resilience value are measurable indicators of benefits and can provide a basis for demonstrating the success of the State’s resiliency efforts. If you are tracking qualitative metrics for a particular project, consider ways these qualitative improvements may result in measurable changes in communities to determine resilience value.

Resilience value is the value of protection from the effects of repeat stressors and shocks (i.e., the value of avoided losses), for example:

- Decrease in the number of families/individuals experiencing homelessness
- Decrease in unemployment
- Increase in affordable housing units
- Increase in the number of locally-owned businesses
- Decrease in expected property damage
- Decrease in expected morbidity (suffering) and/or mortality
- Decrease in displacement
- Decrease in the vulnerability of infrastructure to outages.

Additional Resources

For more information on developing and using metrics see these additional resources:

- National Academies of Sciences, Engineering, and Medicine. 2019. *Building and Measuring Community Resilience: Actions for Communities and the Gulf Research Program*. Washington, DC: The National Academies Press. Available online: <https://www.nap.edu/catalog/25383/building-and-measuring-community-resilience-actions-for-communities-and-the>.
- Windward Fund, Overseas Development Institute, and The Rockefeller Foundation. October 2016. *Analysis of Resilience Measurement Frameworks and Approaches*. Available online: <https://www.fsnnetwork.org/analysis-resilience-measurement-frameworks-and-approaches>.
- Food and Agriculture Organization of the United Nations and World Food Programme. November 2014. *A Common Analytical Module for Resilience Measurement: Causal Framework and Methodological Options*. Available online: <https://www.fsnnetwork.org/common-analytical-model-resilience-measurement-causal-framework-and-methodological-options>.
- Quinlan, Allyson E., Marta Berbés-Blázquez, L. Jamila Haider, and Garry D. Peterson. November 2015. *Measuring and assessing resilience: broadening understanding through multiple disciplinary perspectives*. *Journal of Applied Ecology*. British Ecological Society. Available online: <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.12550>.

HOW DO WE SHARE OUR SUCCESSES?

Sharing success in incorporating resiliency into State operations and investments is an important way to demonstrate the State’s continued commitment to resiliency and build momentum for additional actions. At the State level, sharing successes will:

- Allow all State agencies to benefit from lessons learned to increase efficiencies and maximize resiliency benefits that can be realized;
- Demonstrate progress in implementing HB 18-1394, the updated Colorado Disaster Emergency Act; and
- Promote increased collaboration between State agencies.

As the office with primary responsibility for coordinating resiliency efforts across State agencies, the CRO will use its platforms to communicate resiliency successes and lessons learned to all agencies, the legislature, and the Governor’s office.

Attachment 9 is a progress reporting template that provides a format for documenting progress in achieving project objectives based on changes in metrics. Information provided in this form can be used in internal and public communications like newsletters and press

releases to show the State’s progress in implementing the Colorado Resiliency Framework and HB 18-1394.