

Take Action | Measuring Success

From [Moving from faith-based to tested adaptation process and approach: how will we know we're adapting](#). An example of how goals, indicators, and metrics can map to traditional elements of a Comprehensive (or General) Plan, which are also conveniently representative of the range of activities being undertaken by most communities.

Part 1

Capital facilities, Utilities, Transportation, Environment, Recreation, Water, Housing

Element	Capital facilities	Utilities	Transportation	Environment	Recreation	Water	Housing
Element Goal	Provide durable public facilities and services	Provide access, affordability and consistency of utility services	Ensure safe, efficient, reliable transit options, including roads, public transit and non-motorized transit options	Protect the natural environment in and around the community to support wildlife and ecosystem services, with additional benefit for public health	Meet community needs for recreational opportunities, including parks, open space and other recreational facilities	Provide protection of the quality and quantity of water (ground and surface) for public water supply	Provide for preservation, improvement and development of housing, making provisions for the needs of all economic segments of the community
Measuring Hazards	What climate hazards may affect community capital facilities?	What climate hazards may affect community utilities?	What climate hazards may affect community transportation (SOV, mass transit, non-motorized transit)?	What climate hazards may affect community or community-required environmental assets?	What climate hazards may affect community recreation?	What climate hazards may affect community water resources (drinking water, waste water, receiving water)?	What climate hazards may affect community housing?
Assess Vulnerability and Risk	Will your facility be accessible and functional under future climatic conditions?	Will future climatic conditions prevent or hinder the function or delivery of utilities for your location? If so, how?	Will future climatic conditions prevent or hinder transportation service, infrastructure or use for your location? If so, how?	Will the environment (as measured by species, habitat or services) be affected by future climatic conditions? Will this result in regulatory non-compliance or damage to natural or social systems?	Will future climatic conditions prevent or hinder recreational opportunities (timing, location, access)?	Will water quantity or quality change under future climatic conditions (both annual and seasonal)? Will demand, cost or efficiency of use change?	How will climate hazards affect available housing stock? How will climate hazards affect available affordability of housing (including cost of heating, cooling, water, transportation)?

Element	Capital facilities	Utilities	Transportation	Environment	Recreation	Water	Housing
Investigate Options	How could facility siting, design, maintenance or use be adjusted to make capital facilities less vulnerable? Can criteria be created to better site and design capital facilities?	How could utilities be made less vulnerable to these impacts?	How could transportation be made less vulnerable to these impacts?	Are there strategies to benefit both community assets and natural systems? Are there unique strategies that will be required to support environmental protection?	What form will recreation take under future conditions? Will the mix of indoor and outdoor activities shift? What will this mean for energy costs and land use? Can recreation be co-sited with Nature-based solutions?	How could access, affordability and quality be maintained under future conditions? Will the timing of need change for any major users? Can nature-based solutions be part of the solution set such that Environmental benefits are also achieved?	How can you ensure there is available and affordable housing stock over the lifetime of existing and proposed housing stock?
Take Action	Are capital facilities able to function and be accessed? Will they continue to be? Do extreme events indicative of future climatic conditions impede access or function?	Are utilities services more reliable? still affordable? accessible by all? Will they continue to be as conditions continue to change?	Is transportation more reliable? Have maintenance costs and access been steady? Have there been concomitant advantages such as emissions reductions?	Is the local environment less vulnerable to the changing climate (e.g., less plant mortality or stress, functional hydrology, less disease or pests, key species still present)? Are ecosystem services expected to remain functional?	Are recreation opportunities still accessible by all community members across all times of the year?	Is high quality water available throughout the year for all community members and target needs?	Is sufficient housing and sufficient affordable housing available for all community members (including costs for maintenance, utilities and transport)?

Element	Capital facilities	Utilities	Transportation	Environment	Recreation	Water	Housing
Sharing	Do contractors understand why capital facilities design and construction are being modified? Are community members informed of the reduced vulnerability or needed action? Are utilities, transport and other sectors collaborating to multisolve climate challenges and avoid mal-adaptations?	Do utility customers understand what is being done and why? Are you communicating with peer utilities to share lessons? Are you collaborating with other community assets to develop multi-solving actions and avoid maladaptation?	Are travelers informed about the effectiveness of the actions that have been made to increase resilience? Are contractors and transport service providers learning from these actions? Are transportation action outcomes shared with other community sectors that rely on or intersect with transit planning or service?	Are environmental actions communicated more broadly? Are concerns shared with the community, as well as actions residents can take to improve outcomes (e.g., water conservation, no idling, decreased use of harmful chemicals, soil protection, fewer impermeable surfaces)?	Do recreational users know what is being done to ensure continued access to recreational opportunities in a changing climate? Do they know what role they can play in improving outcomes?	Are all water users and those impacting water access, quality and quantity aware of the current condition of water in your community? Can they track changes in these features over time to understand efforts to ensure continued service and protection in a changing climate?	Do residents and providers of housing understand how a changing climate will affect housing stock, access and affordability? Are all groups included in housing solution development? How are local code or zoning changes communicated? Are outcomes being shared with other communities?

Part 2

Education, Health/ Human Services, Agriculture/ Food Security, Economic Development, Cultural Resources, Land Use

Element	Education	Health/ Human Services	Agriculture/ Food Security	Economic development	Cultural resources	Land Use
Element Goal	Provide formal and informal educational opportunities, including schools, training and outreach	Meet community needs for access to personal and public health care (physical and mental), and associated social services	Ensure access to affordable food by all community members, and where appropriate support protection of agricultural lands and cultivation	Support the development and maintenance of local economic activity	Protect and provide culture resources that reflect all segments of the community	Plan for and manage land within the community's jurisdiction to support the activities in all other elements
Measuring Hazards	What climate hazards may affect community education?	What climate hazards may affect community member health and need for social services? Consider hazards that directly affect health as well as access to and provision of health care (including cost, transportation)	What climate hazards may affect local agriculture and community food security? Consider both local hazards and hazards that will affect regions tied to the communities food supply (e.g. supply chain, pollinators, water, transportation).	What climate hazards may affect community economic development? Consider both local hazards and hazards that will affect regions tied to the communities economy (e.g. supply chain, natural resources, transportation).	What climate hazards may affect community cultural resources (past and present)?	What climate hazards may affect local land use?
Assess Vulnerability and Risk	How will climate hazards affect educational opportunities (including school facilities, transportation, curriculum, costs) for community members? Do community members need additional educational opportunities or content given climate change?	How will climate hazards affect the health of community members and their need for social services? Will they be able to access services due to changes to transportation, cost, availability?	How will climate hazards affect access to food and cultivation of local land? Will needs, transportation, or distribution sites change or need to change? Will agricultural output be affected by climate hazards or will climate change affect costs?	How will climate hazards affect the existing economy? Will other opportunities emerge? Are impacts to connected economies likely to have effects in your local economy?	How will climate hazards affect cultural resources or access to them?	Will future climatic conditions prevent or hinder land use goals for your location? Are there particular land uses that are likely to be impacted more by climate change?

Element	Education	Health/ Human Services	Agriculture/ Food Security	Economic development	Cultural resources	Land Use
Investigate Option	How can community educational opportunities be ensured and maintain relevance given a changing climate?	How can the health impacts of climate change be reduced? How can access to health care and social services be maintained under changing climatic conditions with the added obstacles that emerge?	What can be done locally to ensure access to and production of food under a changing climate?	How could a resilient local economy be designed to adjust to a changing climate and still deliver jobs, services and products required by your community under changing climatic conditions?	How could access, preservation, and generation of culture resources be maintained in a changing climate?	What planning considerations could be made to reduce those vulnerabilities?
Take Action	Are schools accessible, affordable and habitable for all community members who require them? Is curriculum aligned with a changing world (e.g. studies include reflection of the realities of climate change)?	Do all community members have access to high quality, affordable health care? Are there impacts to local community member health in relation to climate hazards and risks? Is life expectancy or morbidity changing? Are there any emerging or fading illnesses?	Do all community members continue to or newly have access to affordable, healthy food throughout the year? Is agriculture continuing to or newly producing food for the local community and beyond? Are systems changing in such a way that other crops or food delivery options are emerging? Are rates of food waste changing?	Do all community members have access to living wage job opportunities? Are there emerging economic opportunities in relation to climate change (measured by new or growing sectors) or diminishing sectors (measured by shrinking sectors)?	Are existing cultural resources being preserved and access to them ensured? Are new cultural resources developing? Are cultural resources accessible to and developable by all community members?	Is the available land able to support the needs of the community including all other columns in this table? Are there any hazards that are undermining this which still need to be addressed?

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Sharing	Are community educational opportunities available, accessible and appropriate? Are all ages part of education adaptation solutions and monitoring?	Are community members aware of the health hazards associated with climate change? Do community members know how to avoid these hazards themselves or the actions being taken to help reduce their risk in the community? Are community members using available healthcare? Are local health care facilities providing climate hazard related care?	Do community members know how food access and agriculture are being affected by climate change? Do community members know what actions have been taken to improve food access and agriculture? Is there information sharing along the food supply chain (providers, consumers) from and to the community to ensure holistic solutions?	Do community members know how the local economy will be affected by climate change? Is the community in conversation with adjacent or connected economies to discuss mutually beneficial climate actions and their effectiveness?	Do community members understand the risk to cultural resources from climate change? Is there an understanding of how cultural resources may be shaped by climate change?	Do land users in the community understand how the impacts of climate change will affect them and their neighbors? Is there peer sharing with planners in neighboring or similar jurisdictions?