



# Integrating Climate Change Adaptation into and across Local Plans

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## I. Introduction

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In Connecticut, municipalities must complete comprehensive local plans at least every 10 years to remain eligible for discretionary state funding, and natural hazard mitigation plans must be updated every 5 years to remain eligible for hazard mitigation project funding from the Federal Emergency Management Agency (FEMA). Municipalities may also complete other plans, but those plans are not uniformly distributed or required across the state. For example, some municipalities prepare Consolidated Plans for housing to be eligible for Community Development Block Grant funding from the Department of Housing and Urban Development (HUD); however, grant eligibility is dependent on population. Other optional plans include Open Space Plan, Economic Development Strategy, Public Facilities, Health, etc. With or without these, every municipality in Connecticut has a comprehensive plan known as a Plan of Conservation and Development (POCD) and a Natural Hazard Mitigation Plan (NHMP).

The **Plan of Conservation and Development (POCD)** defines a common vision for the future of a community and the policies to best achieve this vision. POCDs update every 10 years.

The **Natural Hazards Mitigation Plan (NHMP)** identifies natural hazards and risks as well as the capabilities of the municipalities and the actions that can be executed by the community to prevent injury, illness, loss of life, and reduce property damages associated with identified hazards. NHMPs update every 5 years.

Effective in 2023 from the update of the Local Mitigation Plan, under Requirement 44 CFR § 201.6(c)(4)(ii) of the FEMA program<sup>1</sup>, Hazard Mitigation Plans must provide comprehensive or capital improvements for each municipalities' mitigation planning mechanisms, including to incorporate climate action plans into active policy. After all, some of the ways we use land affects municipal resiliency in the face of climate change, as well as influences whether a municipality adds carbon or removes carbon from the atmosphere.

A barrier to creating effective climate action has also been addressed in the 2023 Local Mitigation Plan update. NHMPs are now required to coordinate across local plan efforts. Natural Hazard Mitigation Plans “must identify the local planning mechanisms where hazard mitigation information/actions may be integrated. The identified list of planning mechanisms must be applicable to the plan participant(s) and not contradict the identified capabilities.”<sup>2</sup> Integrating climate adaptation into these plans creates greater strength, and resiliency within communities and across Connecticut. When plans are not coordinated, lack of clear direction impedes the speed and efficiency that towns and cities can mitigate and adapt to climate change where they are vulnerable.<sup>3</sup> This means incorporating climate action plans into POCD's, Long Term Transportation Plans (LRTPs) or Metropolitan Transportation Plans (MTPs), and more across a multi-jurisdictional region and indeed, within a respective individual municipality.

Many Connecticut municipalities are integrating climate change adaptation into these planning efforts, making any actions the community has prioritized eligible for state or federal funding. CIRCA's inventory of local planning documents in Fairfield and New Haven Counties as part of the Resilient Connecticut project identified numerous actions in local plans that were designed as adaptation actions or ways to reduce the impacts from particular climate stressors. The following



climate actions were identified from currently active, local plans. When these types of actions are adopted across all relevant active plans, the efficiency and effectiveness of implementing such actions could be increased. Throughout active plans including POCDs and NHMPs, climate actions are identified that could be greatly beneficial to the municipalities if and when implemented.

### **Highlighted Climate Actions**

- "Develop and promote strategies to mitigate increased heat. Actions can include “cool roofs” programs to paint roofs white or other light colors to reflect sunlight and increase albedo; green roofs (vegetated roofs); tree planting; and green parking lots that use surfaces that reduce heat production.”<sup>4</sup>
- “Utilize GIS to assess and identify the locations and extent of exposure from flooding for all structures within the SFHA.”<sup>5</sup>
- “Work with the Greater Bridgeport Regional Council and other regional entities to address climate change and hazard mitigation issues and enroll in the Community Rating system to ensure an environmentally sustainable region.”<sup>6</sup>
- “Conduct a detailed flood/coastal risk assessment to improve resiliency efforts to key assets and vulnerable properties.”<sup>7</sup>
- “Increase Townwide tree and limb maintenance budget to limit road blockage and power outages during storms.”<sup>8</sup>

## **II. Climate Change in Plans of Conservation and Development (POCDs)**

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Land use can amplify the effects of climate change or moderate the impacts of climate change. Amplifying land use activities such as deforestation, creating impervious surfaces, and hardening shorelines tend to lean towards less resiliency for a given municipality. Moderating through land use such as planting trees along rivers, painting rooftops white, and habitat restoration improve a community's resilience. Land use is also changing with climate change. For instance, certain crops are being planted as opposed to others as temperature and weather patterns shift. Towns are adapting to climate change in practical, resiliency-boosting and/or cost-saving ways.

### **Climate Action Examples from POCDs:**

- “Seek over the long term to put overhead wires into underground conduits where lines/circuits will have the greatest impact if they fail.”<sup>9</sup>
- “Tie community resiliency to individual sustainability actions, such as community gardens for food supplies, renewable energy for power generation, and rain barrels for emergency drinking water when wells become contaminated during floods.”<sup>10</sup>
- “Seek funding for climate adaptation and mitigation projects, including the conservation of forested lands.”<sup>11</sup>

- “Plan for food distribution during emergencies; Incorporating the food supply into our disaster planning—and ensuring people know about these plans —will ensure that all of our residents can access food when they need it.”<sup>12</sup>
- “Support the Rebuild by Design: Resilient Bridgeport/Natural Disaster Resilience Competition project's efforts to create a comprehensive flood protection system throughout the South End.”<sup>13</sup>

### III. Climate Change in Natural Hazard Mitigation Plans (NHMPs)

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Hazards include flooding, high winds associated with hurricanes, storms, earthquakes, dam failures, tornadoes, winter storms, hail and lightning, ice and snow, wildfires, and falling trees among others. Many of these have increased effects because of climate change, as severity and/or frequency of natural hazards are amplified. Impacts from hazards include injury, illness, and death to persons as well as loss or damage to property if efforts to prevent or mitigate impacts are not taken.

*“Extreme temperatures will continue to be a likely occurrence in the planning area. It is anticipated that the effects of climate change will result in an increase in the frequency, duration and intensity of extreme heat events, and a decrease in the frequency of extreme cold events. Heat waves are projected to become much more commonplace in a warmer future with potentially major implications for human health.” -SCRCOG NHMP Update, 2018, p.113*

#### **Climate Action Examples from NHMPs:**

- “Perform study to determine Town's ability to maintain sufficient water supply to use for wildfire suppression in the future given continued development. Consider the effect of droughts and climate change.”<sup>14</sup>
- “Drought Management Plan. Develop a drought management plan to address water conservation and the risk of drought and disease on commercial agriculture in Middlefield. Should reference updated State of CT Water Plan.”<sup>15</sup>
- “Eisenhower Park Pond – Wepawaug River Dredging/Dam Spillway Rehabilitation: Dredge Wepawaug River Pond at Eisenhower Park. Repair dams and shore walls. The pond has been filled with silt and debris which threatens wildlife and habitats. Dredging, dam and spillway repair has not been done in several decades.”<sup>16</sup>
- “Pursue a target of 30 additional GI installations on City-owned land and along streets in the 2019 [through] 2024 planning timeframe. Select some locations from the Regional Framework for Coastal Resilience.”<sup>17</sup>

## IV. Climate Change in Transportation Plans

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The Long-Range Transportation Plan (LRTP) is designed to improve and balance transit and mobility within a given region, as well as to create more transparency that raises the public's awareness of transportation decisions.<sup>18</sup> The term LRTP is used interchangeably with Metropolitan Transportation Plan (MTP) in many regions of Connecticut to decide where federal transportation funding goes.<sup>19</sup> LRTPs are long term plans that are updated every three to five years.

Federally, it is required that there be a Statewide Long-Range Transportation Plan to preserve and maintain the existing transportation system, as well as regional LRTPs that unlike the statewide plan, are short-term and long-term project specific to “meet future transportation demand in the future.”<sup>20</sup> Each Metropolitan Planning Organization is responsible for preparing an LRTP for their region. The Southeastern Regional COG describes the LRTP as a “living” document that is 25 years in length but updates every four years. This transportation plan identifies the commonly shared goals of the region, as well as the highest priority needs in transportation including “bridges, roads, transit, bicycle, and pedestrian facilities.”<sup>21</sup>

LRTPs can enable all interested stakeholders in transportation planning a foundation of information to discuss further investment decision making. Climate change is going to have a large impact on transportation systems across Connecticut, making incorporation of climate resilience and adaptation into these plans critical. Transportation resilience has multiple aspects, including “(1) the ability to maintain its normal level of services or return to that level in a timely manner; (2) the ability to compensate for losses to allow functionality, even when that system is damaged or destroyed; (3) the ability to manage unexpected situations without complete failure; and (4) the ability to absorb consequence of disruption and maintain freight mobility.”<sup>22</sup> Long Range Transportation Plans are thus one plan that needs to be coordinated with active municipal plans to ensure community resiliency; this way, access to critical services remains.

WestCOG–LRTP 2019 Examples:<sup>23</sup>

- “Work with state agencies and municipalities to study the likely impacts from climate change and to develop mitigation strategies.”
- “Continue to work with Federal and State agencies to review inventories of historic, natural, and cultural resources and to determine environmental impacts and mitigation activities that restore and maintain the environmental functions affected by the Region's transportation system.”

MetroCOG—MTP 2019 Examples:<sup>24</sup>

- “Monroe Route 25: Bridge replacements and roadway reconstruction. Replacement of two bridges and raising of the roadway to address flooding issues.”
- “Fairfield Beach Area: Evacuation route improvements. Raise Fairfield Beach Road, Beach Road, Reef Road, and other low-lying local roads used for evacuation.”
- “Fairfield Route 1: Implement resiliency measures to address flooding during rain events on Post Road/US 1.”

## V. Actions for Integrating Plans

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Plan integration improves the ability for municipalities to focus on community priorities like climate resiliency by creating consistency among municipal projects. Integration is accomplished through activities focused on coordinating the network of existing plans including long-term and local plans involving land-use regulation and code administration.<sup>25</sup> When plans have consistency, municipalities reduce risk of losing life, property, and critical service access (to such needs as pharmacies, emergency shelters, gas stations, and grocery stores) caused by unexpected failures in their infrastructure. Despite clear advantages to coordinating plans, hazard mitigation plans have “frequently disconnected from other urban planning initiatives [i.e. other active plans within a municipality] that influence development patterns in hazardous area.”<sup>26</sup> Without integrating plans, economic losses and the lives of people are vulnerable to natural hazards that are increasingly frequent and severe due to climate change. For example, the long-term development of a flood plain to avoid potential flooding hazards will be consistent in short term developmental plans in the same area.<sup>27</sup> A number of gaps in policy and barriers to coordinating effectively currently exist. Within POCDs, it depends entirely on the interest and commitment of “local leadership and staff...in addressing climate change in the POCD, it must also be within the capacity, expertise, or experience of the staff or consultant preparing the plans.”<sup>28</sup>

Recognizing the need for integration, planners and academics have been studying the efficacy of how to integrate plans. In fact, in FEMA’s Local Mitigation Planning Policy Guide (Effective April 19, 2023), local jurisdictions need to include local sources like plans either by narrative or citation. The 44 CFR § 201.6(c)(4)(ii) requires local mitigation plans to describe how the mitigation plan will be integrated into other local plans such as the comprehensive or the capital improvement plans.<sup>29</sup> The following are examples of actions to coordinate efforts across plans regarding climate change.

### Examples of Plan Integration:

- “Follow Coastal Resilience Plan Recommendations and Guidance for Coastal Development.”<sup>30</sup>
- “Large, new Town Development projects (i.e., projects presented in the POCD). Comply with local, State and federal flood regulations. For large area sited development, elevate site grades during future construction. Develop and use special development Design Flood Elevation (DFE) to reflect sea level rise.”<sup>31</sup>
- “Implement recommendations from Hazard Mitigation Plan to be best prepared for future natural disasters.”<sup>32</sup>
- “Require hazard mitigation plans for all plants, factories, and industrial uses that are either in a FEMA flood zone or handling toxic materials.”<sup>33</sup>
- “Implement the Hazard Mitigation Plan, as amended.”<sup>34</sup>
- “Support public water supply extensions in neighborhoods vulnerable to sea level rise in accordance with the Coastal Resilience Plan.”<sup>35</sup>

The following below are suggestions for possible actions to pursue to integrate climate action into a municipality’s plans.





## Potential Planning Actions for Integration

- **Organization and Responsibility:** Establish a climate (natural hazard) and resiliency agency, commission, or committee at the municipal level. This committee includes staff from different departments that can coordinate in implementing actions.<sup>36</sup>
- **Developing Resilience:** Create greater resource availability and have public investments to develop local resilience capacities to review relevant plans so as to “identify conflicts within and between zoning regulations, subdivision codes, and infrastructure or public facilities plans.”<sup>37</sup>
- **Setting a Standard:** Prioritize climate resilience by providing a state and/or regional standard for comprehensive, subarea, and functional plans<sup>38</sup>
- **Consistency:** Coordinate among the network of multiple plans active in a community such as through creation of communication pathways and working groups that can collaborate on reviewing, developing, implementing, and updating the network of active plans for consistency in climate action<sup>39</sup>
- **Community involvement:** Climate and hazard data integration must include talks with the community, which may be emotionally charged, considering the impacts of changing climate on places of personal value. Critically, within internal and external collaborative process there must include a focus on bringing underrepresented groups to the table<sup>40</sup>
- **Consider:** Given limited resources, evaluate trade-offs for prioritizing certain courses of planning and action. Describe from available resources what positive benefit-to-cost ratio actions can be taken by you.<sup>41</sup>
- **Meeting Goals:** Develop a timeline and milestone to make your progress; involve stakeholders invested in the plan and recognize that some groups may take responsibility or make major contributions for specific parts of the plan and select a project management method that works for your group to document your plans. Ask yourself if your plan describes the group’s best actions to protect what you all value.<sup>42</sup>

## VI. Conclusions

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Integrating climate action across active plans can promote the safety and wellbeing of municipalities across Connecticut. With the recent NHMP requirement updates, it is now a necessity to do. This resource can provide some guidance towards efforts to streamline and direct this process and increase engagement with stakeholders and members of the community. As a result of integration efforts, municipalities can communicate priorities across departments more quickly and indeed, have a clearer understanding of what these priorities are. A number of possible points of introducing integration into plans exist, from examples in current plans, to recommendations of policies or processes to take to begin. Such endeavors improve consistency across plans and improve use of resources while promoting the aims and major projects of a community. Below are a number of actions to begin the process of integrating climate actions across plans.

## Recommendations for Initiating an Integration Process

Recognizing the different expertise, regulatory obligations, timelines, and stakeholders needed for each of the different types of plans, we offer the following recommendations for a municipality to consider as the start to integrate their plans. Additional important local plans include Open Space Plan, economic development plan, and the Affordable Housing plans, among others. All of these plans should be considered for integration and goal consistency as it pertains to them.

- 1) Timing - update POCD if substantial changes to NHMP even if less than 10 years, make data (GIS/research available) and easily accessible for other planning teams
- 2) GIS creation and maintenance
- 3) Funding - Increasingly, opportunities exist to support endeavors by communities to become more climate resilient, including through plan coordination. For instance, DEEP CT has [‘The Municipal Primer- Your Guide to Creating a “Green and Growing” Community’](#). The CT Department of Economic and Community Development additionally has a page devoted to municipal [Funding Opportunities](#).
- 4) Participants - consider sharing participants from multiple planning processes in each. All stakeholders should be involved or given the opportunity to be involved.
- 5) Schedule in opportunities to connect with other planners – have meetings specifically designated for ensuring goals are aligned among all groups
- 6) Try the Plan Integration Scorecard (See below<sup>43</sup>)
- 7) Ongoing stakeholder involvement and public communication – better means for citizens to know when important votes, meetings, town halls are occurring
- 8) Understand core values and priorities for yourself and your community- what is most important to members? What climate coordination actions are aligned with the values of citizens in your region or municipality? Why is taking climate action important for you and the others? There can be baselines from which to continue work from and developing motivation for transitioning to a more sustainable and resilient manner of cohabiting with the environment.

## Endnotes

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