Building a resilient coast in Connecticut requires a complex suite of solutions. The glacier’s legacy in Connecticut has created a coastline characterized by ridges that extend from high, less vulnerable land, to low lying, highly-erodible, glacial delta deposits. While the overall shoreline is varied, there are typologies that repeat along the coast. Thus, the proposed solutions, crafted to match the land form and land use patterns in one location, could be replicated in any similar location. Connecting the shoreline to inland resources reinforces the state’s commitment to “build up not back” while simultaneously integrates that strategy with larger economic development goals. This proposal identifies three zones of focus: the resilient zone, or transportation development zone, the resilient corridor, and the shorefront communities within coastal zones.

Resilient/ Transportation Development Zone | We propose to strategically increase investment in resilience zones on higher ground where strong links to regional transportation networks and regional economies are possible. High-ground development zones would be engaged through economic incentives that encourage infill development and/or improvements of the most critical facilities and infrastructure, housing for all sectors of the society, and emergency services during and after a storm event, as well access to multi-modal transportation options. Further development of these areas, in a manner consistent with Smart Growth principles coupled with tenets of sustainability, will strengthen communities, the economies and the environmental conditions while establishing a critical link with the most vulnerable locations and populations in coastal areas. Creating the development zones in areas that aren’t prone to flooding and layering in mixed use zoning, walkable areas, and a range of housing options will establish a pattern of economic and cultural development that can more easily bounce back from increased storm events.

Resilient Corridors | Taking advantage of Connecticut’s complex geology and topography where ridgelines often extend down to the coastline, we propose to establish resilient corridors that extend the transportation-oriented development models of the resilient zone and connect it with the most vulnerable areas of the shoreline. These “complete streets” will not only provide safe, multi-modal, egress for residents to move away from the coast during emergencies but, will also enable responders to access the shore and will increase the efficiency of the clean-up after storm events. By co-locating critical services beyond emergency response, including resilient power supply, redundant water supply, water treatment, communications, emergency community parking, debris removal staging sites and green infrastructure that improves water storage and/or infiltration along the corridor resources can be strategically invested and co-benefits realized. As development continues in the coastal zone new commercial services, resilient housing options and multi-modal transportation could be integrated into the corridor. Where possible, the corridor’s form can be designed so that it directly provides flood protection or enhances ecosystem services. By identifying these resilience corridors and zones and strategically investing in their long-term functionality, the state can enhance the safety and livability of more vulnerable shorefront communities and reduce perceived risk.

Shorefront communities & coastal zone | We propose adapting structures and critical infrastructure in the flood zone to withstand intermittent flooding and incorporate healthy buffering ecosystems. Additional investment is needed in the most vulnerable shorefront communities to strengthen existing ecosystems and increase their ability to provide natural services, protect and gradually reduce flood risks in existing neighborhoods and support the continued livability of shorefront communities. Enhanced green infrastructure, living shorelines and naturalized buffer areas, can simultaneously provide stormwater management infrastructure and create recreational amenities. Expanded access to financing for mitigation measures to adapt the built environment will make these strategies possible. A resilient shoreline is one in which residents and their assets can survive increased storm activity and it’s a place that can easily bounce back from those events. Resiliency corridors provide safe access to and from vulnerable areas, and enable water supply, water treatment, power supply and communication lines to flow uninhibited as well. Resilience nodes collocated with resilient corridors at the edge of vulnerable shorefront areas serve as refuge, places of emergency operations, parking during flood events.