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What's in this chapter?

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Next Steps

The different ways municipalities can use the CLEAR Plan for their benefit.

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Potential Funding Sources

A listing of potential funding sources for each proposed project.

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Implementation Matrix

A summary of the projects and what they need to be implemented.

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Next Steps

There are several ways (shown at right) that Monroe County municipalities can use this CLEAR Plan to advance resilience in their own communities and to secure funding for project implementation.

1 Adopt the Plan

Municipalities can adopt the CLEAR Plan, as is, by resolution. This would signal the community's support for and commitment to implementing the strategies and projects proposed in the Plan that are specific to their locality.

CLEAR Plan

Goals + Strategies

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Asset Inventory + Risk Assessment

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Project Profiles

2 Integrate with Other Plans

Local comprehensive plan update:

CLEAR Goals and Strategies can be integrated with the goals and objectives of municipalities' local comprehensive plans. "Community resilience" can also be included in the plan as a standalone, emerging issue.

Municipalities can include the CLEAR Asset Inventory and Risk Assessment as part of the existing conditions of a comprehensive plan, to supplement population, demographic, and socioeconomic data and to inform land-use decisions.

Local Waterfront Revitalization Program (LWRP):

CLEAR Goals and Strategies can be included within the "Coastal Policies" section of the LWRP and can be used in the development of prioritized resiliency measures for the Waterfront Revitalization Area (WRA).

The CLEAR Asset Inventory and Risk Assessment can be integrated within the "Inventory and Analysis" section of the LWRP.

All-Hazard Mitigation Plan:

CLEAR Goals and Strategies can be integrated within the "Mitigation Strategy" of an All-Hazard Mitigation Plan.

The Asset Inventory and Risk Assessment can be included with the analysis of flooding and erosion risks in the "Hazard Identification and Risk Assessment" element of the Local Mitigation Plan.

3 Apply to Grants for Implementation

The project profiles included in **Chapter 9** were designed for municipalities to easily incorporate them into grant applications. The profiles include all the necessary information – including cost estimates – to justify and act as supporting documentation in grant applications, like the Consolidated Funding Application (CFA) and other public and private sources. While no direct funding source is allocated for municipalities that adopt or incorporate the CLEAR Plan into their own plans, DOS has indicated that municipalities that carry forward the goals and/or recommendations of the CLEAR Plan will likely receive priority access to some funding streams and resources.

100% of Public Workshop #3 attendees wanted their municipality to integrate the CLEAR Plan with other planning initiatives

87% of attendees wanted their municipality to apply for grants to implement CLEAR projects

73% of attendees wanted their municipalities to adopt the CLEAR Plan

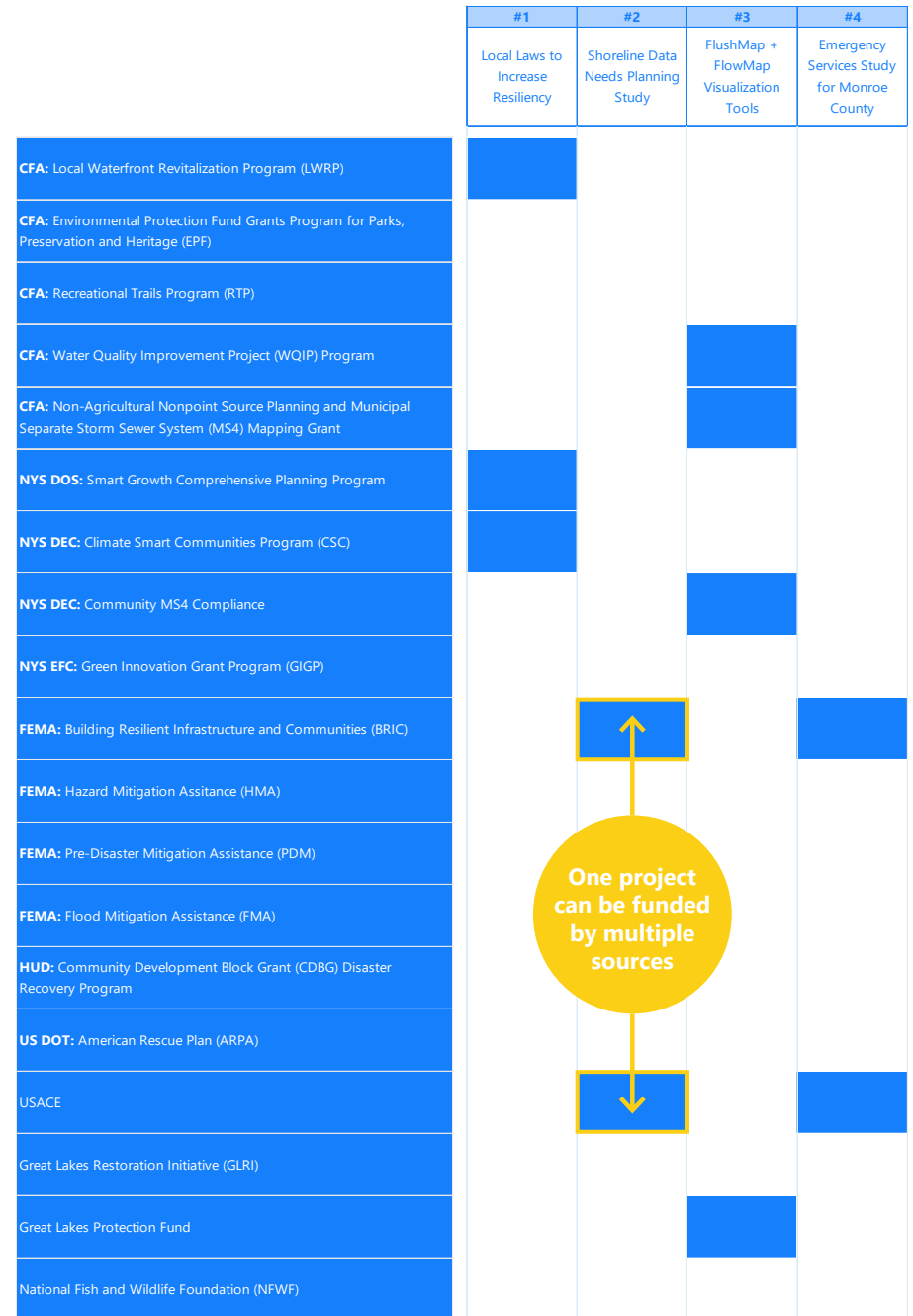
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Potential Funding Sources

Multiple New York State, federal, non-profit, and other sources have been identified as potential funding streams for the projects proposed in this Plan.

How CLEAR Makes Municipalities More Competitive for Funding Sources

Most funding sources are competitive and require project lead agencies to submit applications in order to be considered for funding. Municipalities that adopt the CLEAR Plan or integrate its goals, strategies, or recommendations into their existing plans will likely have a competitive advantage because they can point to this process as evidence of thoughtful resilience planning in their community. The CLEAR project profiles can also serve as critical supporting documentation when applying for grants for project implementation, as they likely contain much of the information required for submission. Finally, the CLEAR projects lend themselves to stacking funding sources because of their collective focus on resilience. Applying for one funding source may enable a municipality to use those funds for multiple projects. Likewise, multiple funding sources can be used to support each project.



Implementation Matrix

The implementation matrix provides a brief synopsis of each proposed project so that municipalities and other potential sponsors can easily compare project types, costs, and timeframes and determine their interest in pursuing implementation.

With a changing climate and the potential for increased high- and low-water level and storm events, it is increasingly important for municipalities to become more resilient and prepare for and take steps to proactively mitigate the effects of these events. The CLEAR Plan provides a roadmap to resilience and outlines several projects and policies in each CLEAR community. Project sponsors can pursue one or several projects and can modify the scope and scale of the project as proposed to meet the needs of their community.



Project #1

Local Laws to Increase Resilience

Description: An assessment to understand which local laws and ordinances could be updated in order to increase community resilience and capacity

<p>Location: County-wide, could be any interested municipality</p>	<p>Potential sponsors: Town of Greece, other interested municipalities</p>
<p>Estimated cost: Partial update: \$10K to \$25K Comprehensive update: \$70K to \$100K</p>	<p>Timeframe: 3 to 5 years (medium)</p>

Potential funding sources: Local Waterfront Revitalization Program (CFA), Smart Growth Comprehensive Planning Program (DOS), Climate Smart Communities Program (DEC)

Project #2

Shoreline Data Needs Planning Study


Description: An assessment of conditions along the Lake Ontario shoreline in Monroe County to produce GIS data files for use in planning decisions

<p>Location: Lake Ontario shoreline in Monroe County</p>	<p>Potential sponsors: Monroe County</p>
<p>Estimated cost: \$50,000 to \$100,000</p>	<p>Timeframe: 1 to 2 years (short)</p>

Potential funding sources: Building Resiliency Infrastructure and Communities (FEMA), USACE



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Project #3 

FlushMap + FlowMap Online Visualization Tools

Description: Interactive online visualizations to identify where storm and sewer infrastructure is at risk and where public projects are being implemented to address those risks

Location: County-wide, could be any interested municipality	Potential sponsors: Monroe County, Town of Greece, other interested municipalities
Estimated cost: \$50,000	Timeframe: 1 to 2 years (short)

Potential funding sources: Water Quality Improvement Project Program (CFA), Non-Agricultural Nonpoint Source Planning and Municipal Separate Storm Sewer System Mapping Grant (CFA), Community MS4 Compliance (DEC), Great Lake Protection Fund

Project #4 

Emergency Services + Critical Infrastructure Study

Description: An evaluation of risk and vulnerability for Monroe County emergency facilities and critical transportation infrastructure in the identified risk areas


Location: County-wide	Potential sponsors: Monroe County, GTC
Estimated cost: \$250,000	Timeframe: 1 to 2 years (short)

Potential funding sources: Building Resiliency Infrastructure and Communities (FEMA), USACE

Community Planning + Capacity



Health + Social Services


Project #5 

Porous Pavement Reduction of Impervious Surfaces

Description: Installation of porous asphalt pavement throughout Monroe County, with particular focus on parking areas

Location: County-wide, sites to be determined	Potential sponsors: Interested municipalities
Estimated cost: \$10 to \$15 per square foot installed	Timeframe: 1 to 2 years (short)

Potential funding sources: Local Waterfront Revitalization Program (CFA), Climate Smart Communities Program (DEC), Green Innovation Grant Program (EFC), Building Resiliency Infrastructure and Communities (FEMA), American Rescue Plan (US DOT)

Project #6 

Shoreline Protection in Greece and Irondequoit

Description: Planning, design, and construction of offshore, detached, segmented, submerged living breakwaters or artificial reef structures to reduce erosive wave energy and enhance beach growth


Location: Edgemere Drive in Greece; Irondequoit Bay Beach/ Sea Breeze Pier and Beach in Irondequoit; Westage at the Harbor in Irondequoit	Potential sponsors: USACE, Town of Greece, other interested municipalities
Estimated cost: \$50 million to \$100 million	Timeframe: 5+ years (long)

Potential funding sources: Climate Smart Communities Program (DEC), Building Resiliency Infrastructure and Communities (FEMA), Hazard Mitigation Assistance (FEMA), Pre-Disaster Mitigation Assistance (FEMA), Flood Mitigation Assistance (FEMA), USACE, National Fish & Wildlife Foundation



Infrastructure

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Project #7 

Near-Shore Wave Energy Attenuation System

Description: Studies, identifies locations for, and designs and constructs a series of detached, segmented, breakwater structures to provide near-shore wave attenuation and erosion management and protection along the shoreline

Location: To be determined	Potential sponsors: USACE, US EPA, Town of Greece, other interested municipalities
Estimated cost: \$50 million to \$100 million	Timeframe: 5+ years (long)

Potential funding sources: Building Resiliency Infrastructure and Communities (FEMA), USACE, National Fish & Wildlife Foundation

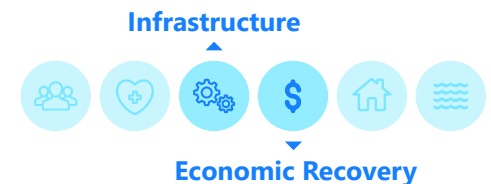
Project #8 

Lakeshore Business Retention + Resiliency Program

Description: Economic development program to retain shoreline businesses and support their ability to respond and adapt to water-level related disruptions

Location: County-wide	Potential sponsors: Monroe County Economic Development, Town of Greece, other interested municipalities
Estimated cost: Annual cost of program: \$5K to 10K	Timeframe: 1 to 2 years (short)

Potential funding sources: Community Development Block Grant Disaster Recovery Program (HUD), American Rescue Plan (US DOT)



Project #9 \$

Cost-Conscious Communities Program

Description: Program for municipalities to track costs associated with recovery and mitigation from water-level events. Data is aggregated and shared regionally for the purposes of decision making and seeking financial support

Location: County-wide, could be any interested municipality	Potential sponsors: Monroe County Economic Development, Town of Greece, other interested municipalities
Estimated cost: Annual cost of program: \$10K to \$25K	Timeframe: 1 to 2 years (short)

Potential funding sources: Community Development Block Grant Disaster Recovery Program (HUD)

Project #10 \$

Fiscal Impact Analysis for Shoreline Municipalities

Description: Evaluation of public costs and revenues associated with flood-prone areas so that these costs can be used as a fiscal baseline for decision making and weighing future adaptation and mitigation projects


Location: County-wide, could be any interested municipality	Potential sponsors: Monroe County Economic Development
Estimated cost: \$10,000 per municipality	Timeframe: 1 to 2 years (short)

Potential funding sources: Community Development Block Grant Disaster Recovery Program (HUD)



Economic Recovery

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Project #11

Mitigate Vulnerable Structures in Irondequoit

Description: Determine the most appropriate and cost-effective mitigation strategies for vulnerable properties, including elevation of the structure, basement floodproofing, and/or acquisition and demolition or relocation

<p>Location: Lake Bluff Road, Bay Front Lane, and Schnackel Drive in Irondequoit; sites to be determined based on owner interest</p>	<p>Potential sponsors: Town of Irondequoit</p>
<p>Estimated cost (per unit): Floodproofing: \$10K to \$20K Elevation: \$50K to \$100K Buyout: average \$350K</p>	<p>Timeframe: 1 to 5+ years depending on type of mitigation</p>

Potential funding sources: Climate Smart Communities Program (DEC), Building Resiliency Infrastructure and Communities (FEMA), Hazard Mitigation Assistance (FEMA), Pre-Disaster Mitigation Assistance (FEMA), Flood Mitigation Assistance (FEMA)



Project #12


Regional Buyout Lease-Back Housing Program

Description: Design of an optional risk-reduction program that gives owners of at-risk properties opportunities to sell their properties to a public entity and/or to rent the home for a short duration until it is no longer safe to reside in

<p>Location: County-wide, focused on high-risk study areas. Exact project locations to be determined</p>	<p>Potential sponsors: Monroe County Economic Development</p>
<p>Estimated cost: Varies based on the market value of properties included in the program</p>	<p>Timeframe: 5+ years (long)</p>

Potential funding sources: Building Resiliency Infrastructure and Communities (FEMA), Hazard Mitigation Assistance (FEMA), Flood Mitigation Assistance (FEMA), Community Development Block Grant Disaster Recovery Program (HUD)



Project #13 

Coastal Bluff + Beach Protection

Description: Identification of natural shoreline features and strategies to preserve and protect them from artificial hardening

Location: Coastal bluffs and beaches in Monroe County, exact sites to be determined	Potential sponsors: University partners, public and NGO partners, consulting firm
Estimated cost: \$500,000 to \$750,000	Timeframe: 1 to 2 years (short)

Potential funding sources: Local Waterfront Revitalization Program (CFA), USACE, Great Lakes Restoration Initiative

Project #14 

Regional Modeling in the Rochester Embayment

Description: An assessment of waves, hydrodynamics, and sediment transport in the Rochester Embayment as a preparatory step to inform the design of offshore structures

Location: Rochester Embayment Area of Concern	Potential sponsors: USACE, Town of Greece, other interested municipalities
Estimated cost: \$250,000	Timeframe: 1 to 2 years (short)

Potential funding sources: Hazard Mitigation Assistance (FEMA), USACE, Great Lakes Protection Fund, National Fish and Wildlife Foundation



Natural + Cultural Resources

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Project #15 

DEC Fishing Access Elevation + Enhancements

Description: Design and engineering of elevated riverfront walkway that will not flood during high-water events and supportive site amenities

Location: DEC fishing access site at St. Paul Terminus	Potential sponsors: City of Rochester, NYSDEC
Estimated cost: \$500,000 to \$1 million	Timeframe: 3 to 5 years (medium)

Potential funding sources: Local Waterfront Revitalization Program (CFA), EPF Grants Program for Parks, Preservation, and Heritage (CFA), Water Quality Improvement Project Program (CFA), Non-Agricultural Nonpoint Sources Planning and MS4 Mapping Grant (CFA), Green Innovation Grant Program (EFC), Great Lakes Restoration Initiative

Project #16 

Durand Eastman Beach Resiliency + Access Plan

Description: Update existing master plan to identify, prioritize, and phase implementation of various resiliency and adaptation strategies

Location: Durand Eastman Beach	Potential sponsors: City of Rochester
Estimated cost: \$150,000 to \$200,000	Timeframe: 1 to 2 years (short)

Potential funding sources: Local Waterfront Revitalization Program (CFA), EPF Grants Program for Parks, Preservation, and Heritage (CFA), Water Quality Improvement Project Program (CFA), Non-Agricultural Nonpoint Sources Planning and MS4 Mapping Grant (CFA), Green Innovation Grant Program (EFC), Great Lakes Restoration Initiative



Natural + Cultural Resources


Project #17 

Ellison Park Resiliency Master Plan

Description: Creation of master plan for future funding, design, and implementation of various adaptation strategies to improve resiliency to changes in water levels and flooding

Location: Ellison Park	Potential sponsors: Monroe County Department of Parks
Estimated cost: \$200,000 to \$275,000	Timeframe: 1 to 2 years (short)

Potential funding sources: Local Waterfront Revitalization Program (CFA), EPF Grants Program for Parks, Preservation, and Heritage (CFA), Water Quality Improvement Project Program (CFA), Non-Agricultural Nonpoint Sources Planning and MS4 Mapping Grant (CFA), Green Innovation Grant Program (EFC), Great Lakes Restoration Initiative

Project #18 

Genesee Riverway Trail Green Infrastructure Program

Description: Inclusion of requirement for green infrastructure components in new trail construction and trail rehabilitations along the Genesee Riverway Trail


Location: Genesee Riverway Trail	Potential sponsors: City of Rochester
Estimated cost: Negligible	Timeframe: 3 to 5 years (medium)

Potential funding sources: Local Waterfront Revitalization Program (CFA), EPF Grants Program for Parks, Preservation, and Heritage (CFA), Recreational Trails Program (CFA), Water Quality Improvement Project Program (CFA), Non-Agricultural Nonpoint Sources Planning and MS4 Mapping Grant (CFA), Green Innovation Grant Program (EFC), Great Lakes Restoration Initiative



Natural + Cultural Resources

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Project #19 

Hamlin Beach State Park Resiliency Master Plan

Description: Creation of master plan for future funding, design, and implementation of various adaptation strategies to improve resiliency to changes in water levels and flooding

Location: Hamlin Beach State Park	Potential sponsors: NYS-OPRHP
Estimated cost: \$200,000 to \$275,000	Timeframe: 1 to 2 years (short)

Potential funding sources: NYS Office of Parks, Recreation, and Historic Preservation (NYS-OPRHP), EPF Grants Program for Parks, Preservation, and Heritage (CFA), Water Quality Improvement Project Program (CFA), Non-Agricultural Nonpoint Sources Planning and MS4 Mapping Grant (CFA), Green Innovation Grant Program (EFC), Great Lakes Restoration Initiative

Project #20 

Salmon Creek Park Resiliency Pilot Project


Description: Redesign of several park components to better withstand flood events, enhance ecological systems, and serve as a demonstration project showcasing how community recreation and riparian floodways can co-exist

Location: Salmon Creek Park	Potential sponsors: Village of Hilton, Town of Parma
Estimated cost: \$600,000 to \$900,000	Timeframe: 1 to 2 years (short)

Potential funding sources: EPF Grants Program for Parks, Preservation, and Heritage (CFA), Water Quality Improvement Project Program (CFA), Non-Agricultural Nonpoint Sources Planning and MS4 Mapping Grant (CFA), Green Innovation Grant Program (EFC), Great Lakes Restoration Initiative



Natural + Cultural Resources

Project #21 

Turning Point Park Master Plan + Boat Launch

Description: Creation of a master plan to identify, prioritize, and phase implementation of various resiliency and adaptation strategies, with a focus on the rehabilitation of the existing hand-carry boat launch facilities

Location: Turning Point Park	Potential sponsors: City of Rochester
Estimated cost: \$800,000 to \$1 million	Timeframe: 1 to 2 years (short)

Potential funding sources: Local Waterfront Revitalization Program (CFA), EPF Grants Program for Parks, Preservation, and Heritage (CFA), Water Quality Improvement Project Program (CFA), Non-Agricultural Nonpoint Sources Planning and MS4 Mapping Grant (CFA), Green Innovation Grant Program (EFC), Great Lakes Restoration Initiative



Natural + Cultural Resources