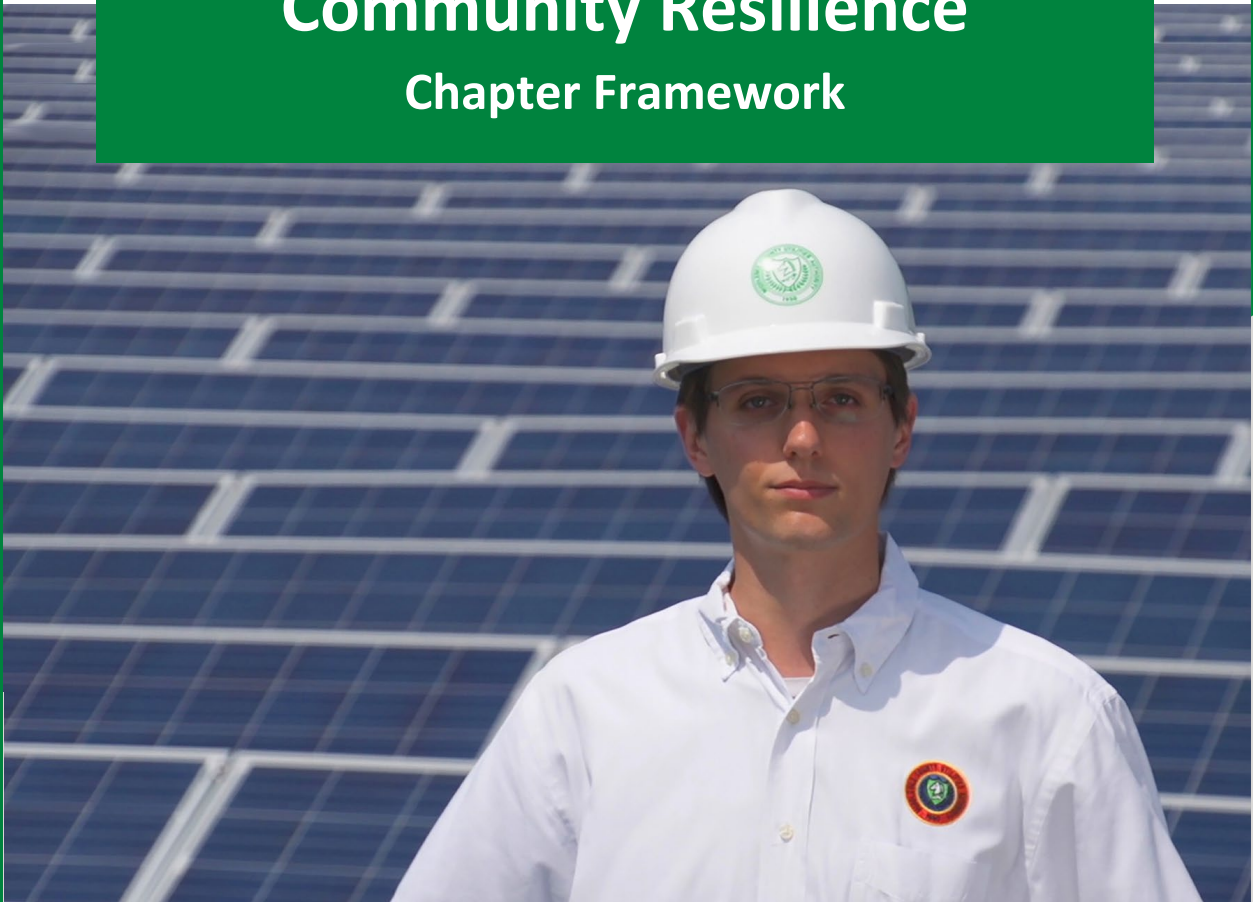


# DESTINATION 2040

MIDDLESEX COUNTY ♦ NJ  
STRATEGIC PLAN

## Sustainability and Community Resilience Chapter Framework



**MIDDLESEX**  
COUNTY ♦ NJ

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## Sustainability and Community Resilience

### VISION FOR THE FUTURE

The year is 2040. While climate change has caused challenges to infrastructure and changes in ecosystems, the County is meeting these issues head-on through collaborative hazard mitigation and emergency management efforts involving various stakeholders. A system of microgrids and renewable energy sources power critical infrastructure, such as hospitals, nursing homes, and schools—even when the regional power grid experiences outages. A robust property buyout and relocation program has minimized flood-related property damage. During storms and other emergencies, residents and local officials can easily access emergency information. A network of community organizations and volunteers ensures the most vulnerable residents are safe and have access to food, water, medicine, and other essential supplies.

Rivers, lakes, and streams are swimmable and fishable. The County is at the forefront of stormwater and watershed management efforts that combat pollution in the region's waters, despite increased water quality challenges due to climate change. Collaboration between municipalities, state agencies, environmental organizations, and others, have resulted in important steps toward a healthier watershed, including significantly reduced impervious surfaces and limited fertilizer use.

Across the County's parks and open space areas there is a resurgence of native plants and animals. A special focus on urban habitats has led to creating pocket parks, planting street trees, and reclaiming contaminated sites. Conservation programs provided by the County parks system and rooted in education and volunteerism encourage residents and visitors of all ages to cultivate a sense of responsibility for the environment and implement sustainable and water-wise home landscaping practices.

The County is a leader in sustainable practices, powering most of its facilities with renewable energy, and following green building principles. Its vehicle fleet is fully electrified. In fact, most of the energy consumed in the County is derived from clean and renewable sources. Municipalities, large institutions, and private firms reduce their environmental impacts and cut waste through County-led technical assistance and education. Single-use plastics are no longer available, and the County leads innovative food waste recycling that assist farmers to replenish nutrients in agricultural land.

## GUIDING PRINCIPLES

Four overarching principles have been identified to guide Destination 2040 planning and implementation.

**Promote Diversity, Equity, and Inclusion.** Marginalized groups exist everywhere. This means that some people are excluded from or have limited access to traditional or “mainstream” economic, political, cultural, and social activities. This exclusion or marginalization can have significant impacts on individuals, families, and communities. Middlesex County is recognized as one of the most diverse counties in New Jersey and perhaps even in the United States. Destination 2040 seeks to promote diversity, equity, and inclusion by: 1) making marginalized groups, in particular Black and Brown people, feel welcomed and have access to the resources and opportunities necessary to connect, belong, grow and improve the quality of their lives; 2) acknowledging and eliminating disparities along race, class, gender, disability status and other dimensions of diversity; 3) expanding choice and opportunity for Black and Brown people, recognizing a special responsibility to plan for the needs of those who have been historically discriminated against and to promote racial and economic integration; and 4) ensuring diversity and inclusion in decision-making processes.

**Support COVID-19 Response and Recovery.** New Jersey and Middlesex County were particularly hard-hit by COVID-19 during the pandemic's first wave. Between March and November 2020, more than 25,000 county residents have tested positive for COVID-19, and there have been more than 1,400 confirmed deaths in the County due to COVID-19. These numbers are again rising steadily as New Jersey grapples with a new wave of transmission. The COVID-19 pandemic has severely impacted county residents and businesses. Destination 2040 seeks to help families and businesses cope with and recover from the on-going impacts of COVID-19, as well as prepare for future health emergencies. Destination 2040 also seeks to take advantage of opportunities that have emerged as a result of the COVID-19 pandemic.

**Address Climate Change.** Climate change is one of the most pressing issues facing people, communities, and governments worldwide. The gradual warming of the planet is causing climate change. We know from scientists that human activities involving transportation, energy, land development, agriculture, and manufacturing emit greenhouse gases like carbon dioxide and methane. Climate change may have many potential impacts on human health, agriculture, natural systems, wildlife habitats, infrastructure systems, and economic activity in Middlesex County. Destination 2040 seeks reduce greenhouse gas emissions in the County and as well as to help residents, businesses and communities prepare for and adapt to changing climate conditions, more frequent extreme weather events, and related public health emergencies in the future.

**Embrace Smart Governance.** The concept of a "smart city" emerged over the past decade and has been adopted by many local government jurisdictions worldwide. The smart cities movement imagines creating the communities of the future that harness the power of technology and data analytics to improve systems like transportation and the delivery of government programs in a way that is more efficient, saves money, and provides better service to residents and businesses. Destination 2040 seeks to adapt and expand the smart cities concept in order to: 1) improve the effectiveness, efficiency, and responsiveness of county programs, services, and infrastructure through technology adoption and data-informed decision-making; 2) help the County and Middlesex County municipalities improve outcomes and save money through shared services; and 3) make governance in the county more collaborative, transparent, and participatory.

## CHAPTER GOALS

1. Reduce greenhouse gas emissions.
2. Prepare for climate change.
3. Enhance community resilience.
4. Preserve and steward natural resources and wildlife habitats.
5. Reduce solid waste disposal.

## POTENTIAL STRATEGIC INITIATIVES

#	Initiative Name	Key Components	Related Chapter Goals
1.	Increase awareness of flood risk.	<ul style="list-style-type: none"> <li>• Develop a public information program to inform current and potential homeowners in flood-prone areas about flood risk levels, flood insurance, and property buyout programs.</li> <li>• Hold regular workshops to educate local governments, private firms, and property owners about FEMA hazard mitigation funding programs.</li> <li>• Ensure maps and other data and information on current and future flood risk are on the County website.</li> </ul>	2 and 3
2.	Improve floodplain management.	<ul style="list-style-type: none"> <li>• Develop a comprehensive, coordinated County-wide floodplain management strategy that addresses current and future flood risk associated with precipitation, sea-level rise, and storm surge.</li> <li>• Provide technical assistance to municipalities to develop and implement leading-practice floodplain management plans that exceed National Flood Insurance Program (NFIP) requirements and amend plans, zoning ordinances, and building codes to address current and future flood risk.</li> <li>• Coordinate floodplain and stormwater management activities across levels of government and non-governmental organizations.</li> <li>• Expand municipal participation in the Middlesex County Community Rating System and MS4 Assist program.</li> <li>• Coordinate a stream debris removal and culvert de-snagging program.</li> </ul>	2, 3, and 4
3.	Use targeted property acquisitions to mitigate current and future flood risk.	<ul style="list-style-type: none"> <li>• Assist municipalities to complete state and federal buyout program grant applications.</li> <li>• Identify repetitive loss properties and those likely to be impacted by repetitive future flooding due to climate impacts; prioritize buyout activities for these properties.</li> <li>• Allocate County open space funding to purchase flood-prone properties and return these to a more natural state.</li> <li>• Prioritize open space funds to acquire land that provides natural protection from flooding in coastal areas and river and stream corridors.</li> </ul>	2, 3, and 4
4.	Adapt County facilities and critical infrastructure to changing climate conditions.	<ul style="list-style-type: none"> <li>• Update the County's All Hazards Mitigation Plan to address weather and climate-related hazards.</li> <li>• Inventory facilities, infrastructure, and natural areas within the County that are critical to resilience and emergency response/recovery.</li> </ul>	2 and 3

		<ul style="list-style-type: none"> <li>• Review and address the findings of the recently completed County Climate Change Vulnerability Assessment completed by Rutgers.</li> <li>• Incorporate resilience planning and design guidelines into County capital planning, engineering, and asset management processes.</li> <li>• Advance a ten-year capital plan designed to future-proof County-owned facilities and infrastructure against climate hazards.</li> <li>• Partner with infrastructure owners (power utilities, water and sewer, transportation, and others) to identify and address climate-related vulnerabilities and enhance the resilience of critical infrastructure.</li> </ul>	
5.	Implement “Resilient Middlesex.”	<ul style="list-style-type: none"> <li>• Develop, deploy, and publicize a “Resilient Middlesex” webpage highlighting resources that communities and individuals can use to anticipate, resist, and recover from emergency events.</li> <li>• Develop a public awareness and education campaign about extreme weather, potential climate change impacts, and other hazards in the County, including steps municipalities and the public can take to build community resilience.</li> <li>• Institutionalize hazard mitigation data and technical information sharing between the County, local officials, and other stakeholders.</li> <li>• Coordinate with municipalities to ensure that local emergency management plans address the vulnerabilities and needs of communities of concern, including black and brown residents, older adults, individuals with disabilities, single-parent households, the homeless, low-income households, those without vehicles, and those who have limited English proficiency.</li> <li>• Increase participation in the Middlesex County COAD (Community Organizations Active in Disaster), Middlesex County Medical Reserve Corps, and the Office of Emergency Management’s emergency preparedness and public health program for youth.</li> <li>• Develop and implement a high-visibility demonstration project program to highlight resilience measures replicable by municipal governments, private property owners, and other entities.</li> <li>• Establish a shared service and grant program to build capacity in local community organizations serving vulnerable populations to provide essential services during emergencies.</li> </ul>	2 and 3
6.	Enhance the County’s capacity to ensure public safety and security in response to non-weather emergencies.	<ul style="list-style-type: none"> <li>• Continually update the County’s emergency operations plans, processes, and procedures to address current and foreseeable threats.</li> <li>• Increase the capacity of County public health services to better prepare for and respond to the current COVID-19 pandemic and future outbreaks of infectious diseases.</li> <li>• Protect critical facilities from cybersecurity threats.</li> <li>• Coordinate planning and implementation of safe responses to terrorism and active shooter incidents in public spaces, educational, and religious facilities.</li> <li>• Identify and implement measures to build the County’s capacity to respond and recover from concurrent emergency events with cascading impacts.</li> </ul>	3

7.	Reduce the adverse impacts of stormwater runoff.	<ul style="list-style-type: none"> <li>• Convene a regional water resources management coordinating committee that includes watershed planning stakeholders.</li> <li>• Prepare a regional water resources management plan that includes an integrated stormwater and floodplain management framework organized around sub-watershed and drainage basins.</li> <li>• Study the feasibility, benefits, and costs of establishing multi-jurisdictional stormwater utility authorities.</li> <li>• Reduce the amount of impervious surface coverage County-wide.</li> <li>• Work with the City of Perth Amboy to ensure the adopted Combined Sewer Overflow Long-range Control Plan is implemented in a timely manner.</li> <li>• Encourage farmers to limit fertilizers and pesticides and use cover crops that limit pollutants moving off-site.</li> <li>• Coordinate a public outreach campaign to limit pesticide and fertilizer use and facilitate alternatives in commercial and residential landscaping.</li> </ul>	4
8.	Expand the use of green infrastructure approaches for water management.	<ul style="list-style-type: none"> <li>• Amend the County's Complete Streets policy to be consistent with NJDOT's Complete and Green Streets Policy.</li> <li>• Prioritize green infrastructure and low impact development in County land development ordinances and processes.</li> <li>• Provide technical assistance to municipalities, private developers, individual property owners, landscaping companies, and others regarding leading green infrastructure design, construction, and maintenance practices.</li> <li>• Publicize existing and implement new high-visibility demonstration project programs to highlight green infrastructure measures replicable by municipal governments, private property owners, and others.</li> <li>• Work with utility authorities to implement sustainable stormwater control measures.</li> </ul>	1, 2, and 4
9.	Increase the quality and availability of water quality monitoring data.	<ul style="list-style-type: none"> <li>• Expand the network of permanent state-of-the-art water quality monitoring stations along water bodies County-wide.</li> <li>• Supplement the permanent stations by coordinating resident scientists with the training and resources needed to collect water quality data that meets NJDEP standards.</li> <li>• Compile and share water quality monitoring data on the County Open Data Portal to foster a greater understanding of the health of the County's water bodies and understand impairment sources.</li> </ul>	4
10.	Preserve wildlife habitat and natural resources.	<ul style="list-style-type: none"> <li>• Identify a network of greenway linkages County-wide that connect upland and aquatic habitats, and work with partners to implement the network.</li> <li>• Identify and prioritize the acquisition of open space resources that serve to link disconnected wildlife habitats.</li> <li>• Work with municipalities to preserve and enhance green spaces and natural habitats in urban areas of the County.</li> <li>• Identify and map critical wildlife habitats County-wide and work with municipalities to implement natural resource and wildlife habitat overlay zones to protect these habitats.</li> <li>• Work with partners to designate the Dismal Swamp Preservation Area as a National Urban Preserve by the National Parks Service.</li> </ul>	4



11.	Improve the stewardship of environmental resources.	<ul style="list-style-type: none"> <li>• Expand existing programming and develop and implement new educational programming for all ages about the County's natural environment and how residents and businesses can improve the stewardship of natural resources.</li> <li>• Preserve and enhance critical habitats in County parks and conservation areas and promote biodiversity in regularly scheduled maintenance and planting programs at County parks.</li> <li>• Work with partners to implement a program of high-visibility upland and aquatic habitat restoration projects, including invasive species mitigation strategies and reclaiming abandoned and underutilized urban properties.</li> <li>• Work with partners to develop and implement a comprehensive regional deer and other wildlife management program.</li> <li>• Work with partners to enhance and expand public awareness related to limiting invasive species in home landscaping and promote native and beneficial species.</li> <li>• Strengthen the County's leadership role in restoration efforts such as the Manalapan Brook Watershed Restoration Project and others.</li> </ul>	4
12.	Expand waste reduction and recycling efforts.	<ul style="list-style-type: none"> <li>• Implement leading practice data collection and evaluation methods to improve the efficiency and effectiveness of waste management programs County-wide.</li> <li>• Study the feasibility of instituting a pay-as-you-throw program for municipal solid waste pickup.</li> <li>• Enhance the enforcement of recycling requirements at multi-family residential buildings.</li> <li>• Identify new markets for recyclables, regularly update the County's online recycling markets directory, and participate actively in the new Recycling Market Development Council established by the NJDEP.</li> <li>• Advocate for legislation mandating recycled content in consumer items.</li> <li>• Implement a regular source reduction and recycling education program for residents.</li> </ul>	5
13.	Create a first-in-New Jersey, County-led organic waste recycling program.	<ul style="list-style-type: none"> <li>• Inventory organic waste county-wide.</li> <li>• Develop a comprehensive strategy to reduce organic waste and increase food waste recycling and composting with targets.</li> <li>• Conduct outreach to large food waste generators to comply with the new state law mandating food waste recycling.</li> <li>• Reopen the Quarry Lane Compost Site and assess the feasibility of using County-owned property for organic waste recycling facilities.</li> <li>• Develop a fee structure for recycling food waste at County-owned and operated waste management facilities.</li> <li>• Increase the number of privately operated organic waste recycling sites in the County.</li> <li>• Implement a regular public awareness and education program about residential organic waste composting systems and the availability of reduced-cost composting bins.</li> <li>• Develop a network of small-scale organic waste recycling programs at agricultural sites in the County.</li> </ul>	5

		<ul style="list-style-type: none"> <li>• Conduct outreach to farmers about opportunities and new technologies for recycling organic waste at agricultural sites.</li> </ul>	
14.	Reduce energy consumption and promote the use of renewable energy sources.	<ul style="list-style-type: none"> <li>• Develop a County-wide energy master plan that estimates the County's current carbon impact and sets reduction goals in energy consumption, renewable energy generation expansion, and increased energy grid resilience.</li> <li>• Coordinate residential and local business energy audits and access to incentives through the NJ Clean Energy Program.</li> <li>• Conduct a solar siting analysis and advance solar generating facility construction on non-agricultural sites in the County.</li> <li>• Work with municipalities to study the efficacy of developing solar arrays in residential neighborhoods, commercial centers, agricultural land, and parkland. Encourage solar installations on parking lots and rooftops, where feasible.</li> </ul>	1 and 3
15.	Create a first-in-New Jersey, County-led carbon sequestration program.	<ul style="list-style-type: none"> <li>• Create a carbon sequestration bank for government agencies, business owners, and developers worldwide to offset carbon emissions by contributing to a County fund that supports open space acquisition, habitat restoration projects, tree planting, and green infrastructure construction and maintenance efforts.</li> <li>• Develop a 10-year sequestration plan that identifies priorities for landscape preservation and other green infrastructure projects.</li> <li>• Promote the program and solicit participation.</li> </ul>	1, 2, and 4
16.	Improve the sustainability of County facilities and operations.	<ul style="list-style-type: none"> <li>• Conduct an energy audit to estimate the carbon impact of County facilities and operations, including its vehicle fleet.</li> <li>• Develop a program to track and monitor energy usage at all County facilities.</li> <li>• Create a cost reduction policy requiring energy conservation practices to be applied to all County operations.</li> <li>• Adopt a policy that all newly constructed or renovated County facilities must be consistent with Leadership in Energy and Environmental Design (LEED) for buildings and The Sustainable SITES® Initiative certification standards for facility landscapes.</li> <li>• Implement a green building and site design checklist applied to all building projects supported by County financing.</li> <li>• Adopt a local purchasing preference policy that commits the County to acquire a portion of goods, food, and services from local suppliers.</li> <li>• Develop a green purchasing program that replaces high-use products at County facilities with environmentally friendly alternatives.</li> <li>• Eliminate the use of single-use plastics and Styrofoam at all County facilities and events and, to the extent practicable, in County purchasing</li> <li>• Reduce impervious surface coverage at County facilities.</li> <li>• Eliminate the use of fertilizers and pesticides and adopt an integrated pest management program for all County facilities.</li> <li>• Implement eco-friendly de-icing treatment practices on County roads.</li> </ul>	1, 2, 4 and 5



17.	Encourage sustainable building and business practices.	<ul style="list-style-type: none"> <li>• Encourage compliance with green building standards as part of the County's land development review processes.</li> <li>• Provide technical assistance to municipalities, developers, businesses, and property owners regarding green building and site design features in new construction and renovation projects.</li> <li>• Implement a regular green building and site design outreach campaign about best practices, incentive programs, and other resources, highlighting success stories.</li> <li>• Promote "buy local" programs in coordination with municipalities.</li> <li>• Explore the feasibility of a County-led green-purchasing cooperative.</li> <li>• Promote the use of environmentally friendly landscaping and maintenance practices that lower water consumption, reduce stormwater runoff, mitigate urban heat island effects, and provide other similar environmental benefits</li> </ul>	1 and 4
18.	Improve the reliability and efficiency of existing water and sewer infrastructure.	<ul style="list-style-type: none"> <li>• Regularly update projections related to future land development in the County to determine future water and sewer infrastructure needs.</li> <li>• Add criteria to the approval process for sanitary sewer service expansions to prioritize compact development plans, require agriculture easements in prime agricultural soils, and mandate open space dedication in environmentally sensitive areas.</li> <li>• Work with utility authorities to improve the energy efficiency of water and wastewater treatment facilities.</li> <li>• Provide technical assistance to municipalities regarding water conservation approaches, such as requiring "water-wise" landscape design for new development projects.</li> <li>• Encourage water purveyors to implement rate structures that advance water conservation.</li> <li>• Work with farmers to accurately assess agricultural water use and promote irrigation technologies that increase the efficiency of agricultural water consumption.</li> <li>• Implement a regular water conservation outreach campaign for residents and local businesses.</li> </ul>	1, 3 and 4
19.	Promote leading practices in septic system management.	<ul style="list-style-type: none"> <li>• Establish a septic system carrying capacity limit for areas lacking public sewer service, monitor development applications, and notify municipalities when the area's residential units are approaching the limit.</li> <li>• Identify potential locations for community septic systems to allow clustering and open space dedications in non-sewer areas.</li> <li>• Develop model land use regulations and guidance for siting and managing septic systems, including enhancing NJDEP requirements, allowing cluster development, and recycling site-scale greywater.</li> <li>• Conduct outreach on a regular basis to septic system owners on maintenance requirements, groundwater impact mitigation, and greywater recycling wastewater volume reduction.</li> <li>• Promote alternative treatment systems to replace failing or underperforming septic systems in appropriate locations.</li> </ul>	4