

DESTINATION 2040

MIDDLESEX COUNTY ♦ NJ
STRATEGIC PLAN

Transportation and Mobility Chapter Framework



middlesexcountynj.gov/destination2040



Transportation and Mobility

VISION FOR THE FUTURE

The year is 2040. Nearly two decades after adopting the first in New Jersey countywide Vision Zero plan, Middlesex County is the safest County to travel in the State and one of the nation's safest. With encouragement and technical assistance from the County, all 25 municipalities in Middlesex County have adopted and implemented Complete Streets policies. Twenty years of data-driven decisions and investments in mobility **safety** improvements and education have paid off; Middlesex County is acknowledged as a leader, statewide and nationally. Fatalities and serious injuries from vehicular crashes are down substantially from 2020 levels. It is safe for people from ages eight to 80 years old to walk and bike.

Roads, bridges, and sidewalks are consistently well maintained. State-of-the-art traffic management systems have eased congestion, improved goods movement, and today, travel by car and bus is more **efficient and reliable**. The County is also one of the most accessible places to get around. Residents and visitors have their **choice** of how to travel. Walking and bicycling are easy and safe. Bike- and scooter-share services are available countywide, and the County and its municipal partners have constructed hundreds of miles of sidewalks, dedicated bikeways, and bicycle lanes that connect neighborhoods to schools, commercial areas, and public transit. Buses and trains are more reliable, and the County has taken advantage of technology solutions to offer innovative on-demand, first- and last-mile, and micro-transit services that allow people to drive less. Mobility options are now abundant throughout the County.

In 2040, lower-income residents, communities of color, people with disabilities, and other traditionally transportation-disadvantaged individuals have greater **access** to opportunity. New travel options and more reliable and efficient public transit and paratransit services have connected them to jobs, services, and educational programs. Also, the County has made significant progress toward improving the **sustainability** and **resilience** of transportation, including cleaner air and using waterways for more efficient travel. Considerable investment in electric vehicle (EV) charging infrastructure in the early 2020s and ongoing programs to encourage EV purchases by County residents and businesses have yielded the highest EV ownership and use rate in New Jersey.

Finally, the County's forward-looking embrace of **innovation** has made Middlesex County a national leader in the testing, manufacture, and deployment of leading-edge transportation technology, in particular connected and automated vehicles. The New Brunswick Innovation Hub and Smart Mobility Testing Ground, which launched in partnership with Rutgers University in 2021, is known worldwide. Autonomous shuttles are now deployed throughout the greater New Brunswick area extending to all areas of the county. The testing ground has attracted hundreds of technology startup companies that employ thousands of County residents in well-paying jobs.

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 the 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 green house 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. Create a safe environment for all users of the transportation system.
2. Move people and goods efficiently.
3. Promote convenient travel options for all.
4. Address mobility needs and gaps, especially for marginalized groups.
5. Reduce greenhouse gas emissions and minimize other transportation impacts on the environment.
6. Develop and maintain transportation systems that support economic and community development.

STRATEGIC INITIATIVES

#	Initiative	Key Components	Related Chapter Goals
1.	Eliminate traffic fatalities and severe injuries.	<ul style="list-style-type: none"> Develop and implement an integrated Vision Zero initiative that focuses on engineering, education, equity, and evaluation to make roads safer, particularly for the most vulnerable users -- people who walk and bike, and minimize the need for enforcement. Develop and implement an initial performance-based three-year capital program of prioritized safety improvements. Partner with Keep Middlesex Moving (KMM) and others to implement a comprehensive mobility safety education program (for example, Street Smart, Click It or Ticket), Identify and advance evidence-based transportation safety state legislation. Implement a program to assist all 25 municipalities in the County to adopt and implement complete and green streets policies, including pedestrian and bicycle improvements using Vision Zero principles and best practices. Educate municipal engineering and public works departments to incorporate leading practice interventions to address road safety concerns, particularly for the most vulnerable users – people who walk and bike. Work with NJ DOT to make state roads safer. Address seasonal and weather-related crashes and safety issues. Partner with local police to develop and implement roadway safety programs that respect and address racial equity concerns. Prioritize physical improvements in high-crash locations, places where transit utilization is high, and in areas where crashes disproportionately impact black and brown people and neighborhoods. 	1, 2, 3, 4, and 6
2.	Improve the effectiveness and cost-efficiency of transportation system investments.	<ul style="list-style-type: none"> Develop and implement a technology-supported comprehensive transportation asset management system. Use data metrics for asset condition, safety, reliability, resilience, and other characteristics to prioritize investments. Develop a data-informed three-year capital program to address pavement and bridge deficiencies. Develop a memorandum of understanding with municipalities, transportation providers, public authorities, and utility companies to 	1, 2, 5, and 6

		<p>improve coordination when scheduling and implementing maintenance and improvement projects.</p> <ul style="list-style-type: none"> • Partner with municipalities to promote a public information portal (like a coordinated “fix-the-pothole” program) to report concerns and track completion of infrastructure maintenance projects on a public access website. • Ensure improvements reflect the County’s complete streets policy and are implemented equitably across neighborhoods and communities. 	
3.	Invest in advanced transportation system technologies.	<ul style="list-style-type: none"> • Use technology to improve traffic flow and mitigate congestion. • Develop and implement a comprehensive program to upgrade traffic signal management systems to include CCTV systems, traffic signal cabinets, State of the art controllers, 5G, and smart detection of all road users, including pedestrians and bicyclists. • Upgrade communication networks with a new transportation control center providing real-time communication, linking traffic signals, roadside weather stations, and other devices. • Develop new and/or leverage existing software platforms and data resources to support centralized, regional mobility data integration and visualization. • Make real-time travel information broadly and readily available to County residents, commuters, and visitors. • Develop, launch, and promote a "Getting Around Middlesex" tool (e.g., website, app, etc.) that includes a GIS-based trip-planning function and information on all public transit, paratransit, private and shared-use services available in the County. • Identify and implement a signal preemption pilot project to demonstrate the feasibility of prioritizing transit and moving emergency vehicles faster and more safely. 	1, 2, 5, and 6
4.	Strengthen travel demand management (TDM) efforts.	<ul style="list-style-type: none"> • Demonstrate leadership by expanding County TDM efforts, including permitting work from home, expanding the use of flexible work hours, and providing incentives to encourage employees to rideshare, walk/bike, and use transit to get to work. • Collaborate with KMM, NJTPA, and other partners to promote and strengthen initiatives that manage travel demand to reduce traffic congestion, improve air quality, enhance the community's health, and encourage non-auto travel. • Work with employers and employment centers to stagger shifts and take full advantage of remote work opportunities for reducing travel during peak periods. • Develop and disseminate comprehensive information about active and shared transportation opportunities and public transit options, including vanpools, carpools, and emerging e-mobility options (scooters, bikes). 	2, 3, 5, and 6
5.	Improve goods movement and mitigate the negative impacts of trucks.	<ul style="list-style-type: none"> • Document freight movement issues, particularly the increased community impacts of truck traffic resulting from COVID-19. • Work with goods movement companies to identify and implement demonstration projects in communities near NJ Turnpike Exit 8A to reduce truck traffic impacts on neighborhoods. 	1, 2, 5, and 6

		<ul style="list-style-type: none"> • Develop and implement an outreach and education program with support from NJDOT targeting independent truck drivers and companies to identify issues, share information, and help truck drivers find the optimal routes for balancing efficiency and minimizing community impacts. • Partner with municipalities to identify alternative short-term truck delivery parking locations in high conflict commercial and residential areas. 	
6.	Make it easier and safer to walk and bike.	<ul style="list-style-type: none"> • Update the County's Pedestrian and Bicycle Master Plan. • Adopt NJDOT's model complete and green streets policy as county policy. Encourage municipalities to follow suit. • Conduct a comprehensive assessment of transportation-related ADA compliance (e.g. sidewalks, curb cuts, etc.) countywide and develop a program to address 100% of all ADA-compliance deficiencies. • Update the County Right-of-Way Plan and develop roadway design guidelines consistent with the updated Complete Streets policy. • Work with municipalities to identify, prioritize, and implement improvements that address safety and infrastructure gaps on all roads for pedestrians, bicyclists, and e-bike and e-scooter users. • Work with municipalities, schools, and other partners to expand Safe Routes to School (SRTS) and leverage resources through Safe Routes to Transit (SRTT), Transportation Alternatives (TAP), and similar projects and programs. 	1, 3, 4, 5, and 6
7.	Improve and expand public transit services.	<ul style="list-style-type: none"> • Work with municipalities, MCAT, and NJ TRANSIT to examine and adjust bus stop frequency and location to improve the speed of travel and enhance user proximity to bus service in high ridership and priority corridors, as well as disadvantaged communities. • Improve the comfort and safety of transit stations and stops by ensuring that a standard suite of lighting, seating, shelter, and other rider amenities are consistently provided. • Develop and disseminate ADA bus stop design, signage guidance, and amenity standards and work with NJ TRANSIT, municipal and private landowners to upgrade XX bus stops in priority travel corridors and disadvantaged communities. • Work with NJ TRANSIT, municipalities, and advocacy groups to expand ADA parking spaces at transit stations and enhance transit signage visibility. • Work with KMM and other partners to increase and promote bike parking, locker, and rack availability on bus routes and at transit stations and stops to connect first and last-mile trips to and from transit. • Identify "transit deserts" where service is unavailable or infrequent and other areas underserved by transit. • Work with partners to introduce and evaluate the feasibility of expanding traditional, accessible, and innovative transit services within transit deserts and other underserved areas. • Identify and implement employer-based transit/shared mobility services designed to connect workers to jobs better. 	1, 2, 3, 4, 5, and 6

		<ul style="list-style-type: none"> Review, rank, and develop advocacy and support strategies to advance one or more future regional transit expansion projects and their related improvements currently in the planning and feasibility analysis phase such as Gateway Tunnel, Greater New Brunswick bus rapid transit, ferry service from Carteret and South Amboy, Midline Loop, high-speed rail on Northeast Corridor, the Middlesex-Ocean-Monmouth rail line, and proposed light rail service for Middlesex County. 	
8.	Improve the availability and quality of community transportation services.	<ul style="list-style-type: none"> Evaluate current MCAT service for coverage, quality, dedicated stops, route structure, scheduling, and customer communication and to enhance service and improve coordination with other County services by leveraging technology. Develop, implement, and evaluate an on-demand MCAT-operated “feeder service” connecting customers to NJ TRANSIT fixed-route bus and rail lines. Develop and formalize an emergency service plan that will facilitate MCAT and municipal resources to meet essential needs during emergencies (e.g., COVID-19, weather events, transporting essential workers to job sites, and coordinating food and medication delivery to homebound elders). 	1, 2, 3, 4 and 6
9.	Expand the availability and use of innovative shared-use mobility options.	<ul style="list-style-type: none"> Promote a culture of technology-driven innovation by supporting shared-use mobility pilot projects to address mobility gaps and needs county-wide, especially for transportation disadvantaged populations. Prepare and disseminate guidance for municipalities on how to safely integrate and manage e-bikes and e-scooters deployment. 	2, 3, 4 and 6
10.	Establish Middlesex County as a national leader in deploying automated vehicle (AV) and connected vehicle (CV) technology.	<ul style="list-style-type: none"> Establish a “Smart Mobility” function within the County Transportation Department, including dedicated staff and an Advisory Board, to lead new technology initiatives, including program design, pilot, evaluation, and data sharing. Partner with Rutgers University, Princeton University, New Brunswick Development Corporation (DEVCO), and others to plan and implement a Smart Mobility Testing Ground in the greater New Brunswick area as part of the New Brunswick Innovation Hub. Explore AV/CV demonstration projects on the public right-of-way to inform future larger-scale deployments in the county and attract industry partners to participate in the County’s technological advancements. Work with researchers at Rutgers University to collect and analyze data from Bluetooth devices, cellular devices, on-street sensors, and video equipment to improve the safety and functioning of roadways. Advance Middlesex County as a national leader in AV/CV technology development and deployment by collaborating with partners to develop outreach, advocacy, and education campaign for AV/CV use and public acceptance. 	1, 2, 3, 4, 5, and 6
11.	Expand the use of “green infrastructure” to reduce the heat and	<ul style="list-style-type: none"> Identify evidence-based leading practices for incorporating green infrastructure in roadway/parking design, construction, and maintenance. 	1, 5 and 6

	stormwater impacts of transportation facilities.	<ul style="list-style-type: none"> Assess the life-cycle costs of incorporating green infrastructure as a component of transportation infrastructure. Implement and evaluate green infrastructure pilot projects to demonstrate the feasibility and efficacy of different approaches. Incorporate green infrastructure components into the County's Complete Streets policy, right-of-way plan, roadway design guidelines, and land development resolutions. Implement an ongoing training program for County staff regarding the use, operation, and maintenance of green infrastructure. Develop a technical assistance program for municipalities to incorporate green street policies, educate residents and staff, and promote implementation. 	
12.	Increase the share of County residents and businesses using electric vehicles (EVs).	<ul style="list-style-type: none"> Demonstrate leadership by developing and implementing a plan to transition the County motor vehicle fleet to 100% electric power and other alternative sources by 2040. Work with private sector businesses that own vehicle fleets to transition their fleets to electric power or alternative sources. Work with partners to strategically expand the availability of public EV charging infrastructure countywide, including a public charging station pilot project on Elm Row in New Brunswick. Develop recommendations to make EVs and EV charging infrastructure available to residents who lack access to existing and emerging technologies. Develop and implement an education and communication strategy to encourage residents to purchase and use EVs. Prepare guidance, including model ordinances based on North Brunswick, for incorporating EV charging into local zoning and building codes. Identify and advance at least one pilot project demonstrating innovative EV charging solutions such as inductive (wireless or cordless) charging and ambient "energy harvesting." 	5 and 6
13.	Improve the resilience of transportation to extreme weather and a changing climate.	<ul style="list-style-type: none"> Identify transportation assets and infrastructure vulnerable to climate- and weather-related hazards, including temperature extremes, severe precipitation, inland flooding, and coastal flooding from storm surge and sea-level rise. Include weather and flood-related closure data in the County's transportation asset management system. Review and update materials and other design standards to incorporate potential impacts from and resiliency in adapting to climate change. Systematically address weather- and flooding-related road closures and reduce their impact on vulnerable communities. 	1, 2, 5, and 6
14.	Strengthen the connection between land use and transportation decisions.	<ul style="list-style-type: none"> Develop and use a County Investment Framework that focuses investment in growth and development in areas of investment in transportation and other infrastructure. Recognize, publicize, and promote designated transit villages that can support walkable and bike-friendly neighborhoods, offering easy access to retail, dining, recreation facilities, and entertainment. 	1, 2, 3, 4, 5, and 6

		<ul style="list-style-type: none"> • Work with municipalities to develop master plans, access management plans, and zoning ordinances that support an inter-connected travel network, linking neighborhoods and places that include pedestrian and bicycle circulation. • Identify and develop a countywide network of mobility hubs, including Transit Villages and transit-oriented places designed to facilitate the use of multi-modal options. 	
--	--	---	--