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Plan 2045: An Intr

Montclair, Essex County



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I *Imagine a manufacturing facility that employs hundreds of workers using 3-D printing to create customized products that were previously assembled from parts made around the world. It ships products to customers throughout the northeast via truck, air cargo and short sea shipping. ● This facility is located on a roadway that has been revamped into a tree-lined boulevard, with bike lanes and a landscaped median. Surprisingly, through wise design and technology, it handles the same traffic volume as the previous dangerous four-lane artery. ● Down the road, a new housing development features an interesting mix of old and new architectural styles interspersed with retail shops, a community center and park, all linked by walking and biking paths. There is no hint of its past as the site of a failed, sprawling shopping center. ● Traveling to work in the city is easy. Commuters summon a nifty electric automated vehicle for a ride to the train station, where they wait only a few minutes for train service over high speed rail to Newark, New York and beyond. ● All these images could become reality in North Jersey over the next two decades. The North Jersey Transportation Planning Authority (NJTPA) is supporting these kinds of technology-driven innovations and other advances in the region's economy and quality of life through *Plan 2045: Connecting North Jersey* and its long-term vision for the region. ● Plan 2045 focuses on preserving and enhancing the region's existing transportation asset —roads, bridges, rail lines, port facilities and more—and making cost-effective use of capital transportation funding. Yet it also looks beyond and considers how transportation investments*



Jersey City, Hudson County

Plan 2045 Goals

- Protect and improve natural ecosystems, the built environment and quality of life.
- Provide affordable, accessible and dynamic transportation systems responsive to all current and future travelers.
- Retain and increase economic activity and competitiveness.
- Enhance system coordination, efficiency, overall safety and connectivity for people and goods across all modes of travel.
- Maintain a safe, secure and reliable transportation system in a state of good repair.
- Create great places through select transportation investments that support the coordination of land use with transportation systems.
- Improve overall system safety, reducing serious injuries and fatalities for all travelers on all modes.

can promote broader regional objectives. In particular, over the next 25 years, it seeks to make the region more competitive, efficient, livable and resilient. These are the four themes that emerged from Together North Jersey, an extraordinary region wide planning effort launched in 2013, in which the NJTPA plays an ongoing leadership role.

Together North Jersey

With support from a federal grant, Together North Jersey brought together a coalition of more than 100 diverse partners—non-profits, government agencies, educational institutions, businesses, elected officials, community activists and others—to develop strategies to improve lives and opportunities for North Jersey residents and businesses. The NJTPA joined with Rutgers, the State University of New Jersey, and NJ TRANSIT in leading the organization.

A driving force behind the Together North Jersey planning process was “Connecting People, Places and Potential,” an idea that speaks directly to the importance of transportation and the concept of “Connecting North Jersey.” The plan, finalized in 2015 following extensive input from the public during three rounds of outreach, contains a host of recommendations organized around the four themes of making the region more **competitive, efficient, livable** and **resilient**, (see Together North Jersey p. 14). The recommendations range widely, touching upon health and safety, natural systems, housing, education, workforce training, job access, arts, culture, business, industry, economic development, energy and climate change. The plan recognizes that transportation and land use decisions are cross-cutting issues, affecting and being affected by nearly all other areas of concern.

Plan 2045: Connecting North Jersey draws insights and guidance from the Together North Jersey plan and helps to implement its recommendations by shaping the transportation system in ways that will support communities, families and individuals across an array of issues, beyond just mobility. The NJTPA is also continuing to work with its Together North Jersey partners through four task forces focused on each theme. These efforts often involve work to encourage new approaches to land use, such as promoting development around rail stations or creating improved access to areas targeted for redevelopment. Plan 2045 uses graphics in Chapter 5—Needs, Strategies and Implementation to highlight the connections between transportation and the four themes.

Plan Update

While involvement in Together North Jersey has broadened the planning horizons of NJTPA and its partner agencies, this plan remains grounded

in NJTPA's responsibilities as the region's federally authorized Metropolitan Planning Organization (MPO). Federal law requires the NJTPA to update its long-range Regional Transportation Plan (RTP) every four years in order for the region to continue receiving federal transportation funding. Only projects and needs identified in the RTP are eligible to make use of this funding.

Plan 2045: Connecting North Jersey updates the long-range plan the NJTPA Board approved in September 2013. Over the last four years, many challenges affecting transportation in the region have persisted, such as the need to address aging infrastructure, ease recurring congestion in many locations and make progress towards building much needed new rail tunnels under the Hudson River. However, as discussed further in Chapter 3—Context & Trends and

elsewhere in this plan, this updated plan also considers new and emerging developments, including the following:

- Since 2013, the regional economy has rebounded, regaining jobs lost during the recession of 2007-2009
- The latest forecasts estimate that the region's population will increase by 17 percent, from 6.7 million to 7.7 million people by 2045; employment will increase by 13 percent, from 3 million to 3.4 million jobs
- From 2010 to 2015, miles of vehicle travel have increased 3 percent largely due to lower gas prices, boosting economic activity but also likely adding to crashes
- Less driving by young people, who are getting drivers licenses later or not at all, portends long-term need for transit and mobility alternatives





Bridgewater, Somerset County

- Growth of single person households and preferences among young people and older adults for housing in walkable areas is challenging traditional suburban land use patterns
- Smartphones, real-time data and other technologies are changing how transportation is provided and managed. Self-driving cars and other innovations could be transformative.

Plan Guidance

In April 2016, the NJTPA Board of Trustees met at a retreat to discuss these and other issues, a key point in the development of Plan 2045. The Board, reviewing current trends and issues, endorsed changes to the goals that have long guided the agency’s planning, including long-range plan updates. The goals (see p. 8) were modified to include creating “great places” in recognition of the need to strengthen the connection between transportation and land use development.

The Trustees also added a new safety goal, reflecting the growing importance of safety in NJTPA planning. This includes the agency’s successful Street Smart NJ pedestrian safety education campaign across the state (see Street Smart NJ p. 95). Street Smart NJ

complements NJTPA’s traditional focus on safety-related capital projects.

Regarding long-term regional investments, the Board concluded that the region’s top priority must continue to be maintaining and preserving existing infrastructure. The second highest priority identified was enhancing and expanding transit. These priorities are reflected in the financial plan (see Chapter 6).

While Plan 2045 was under development, new federal regulations and legislation provided additional guidance. In December 2015, the Fixing America’s Surface Transportation (FAST) Act was signed into law. It expands the scope of MPO planning to include greater consideration of resiliency and reliability, storm water impacts and enhancing travel and tourism. These and other federal planning factors (see Federal Planning Factors p. 11) have guided this plan’s development. The FAST Act also carried forward from previous legislation new requirements for using performance measures to improve accountability of project impacts. In response, the NJTPA has been working with its partners to further enhance its performance-based planning, as discussed in Chapter 7—Moving Forward.

State legislation has also shaped Plan 2045. In October 2016, the Governor signed into law a renewal

of the state Transportation Trust Fund, providing \$16 billion over eight years for transportation in the state. Plan 2045 takes this increased funding into account in its examinations of scenario testing (Chapter 4) and financing (Chapter 6).

Public Outreach

The NJTPA recognizes that its plans and programs must be responsive to the public and attuned to the region's ever-evolving conditions and needs. To gather input and give this plan a reality check, the NJTPA conducted extensive outreach to the public and regional stakeholders as described in Chapter 2. This outreach, which engaged nearly 3,000 residents and stakeholders included meetings, online surveys, booths at festivals and events and a variety of innovative methods. The survey asked residents questions relating to seven topics: Great Places, Safety, Resiliency, Getting Around, Technology, Environment and Economy.

People who participated in the outreach called for expanding public transit, whether that meant creating new service or building on existing service by offering more night and weekend trips, better connections and more frequent service. Survey participants expressed safety concerns about distracted driving, bicycling and walking. And they said walking and biking could be more viable transportation options, by creating more bicycle lanes, improving sidewalks and making roads safer for pedestrians.

Participants also called for road, bridge and other infrastructure improvements, noting they would make travel safer and also make communities more resilient to severe weather events. Many people said that such infrastructure improvements would also help to boost the economy. When it comes to technology, people said they are most excited about driverless and electric vehicles, and transit ticketing and informational applications. They said that investment in education and research institutions, as well as public-private partnerships could help further the advancement of these technologies.

Scenarios and Investment Priorities

Computer modeling also played a role in plan development. It was used to explore a number of possible future scenarios to address the inherent uncertainties involved in assessing future trends and conditions and

the long-term impact of investments.

As presented in Chapter 4, the results of modeling and technical analysis along with input from the public and experts was used to update the NJTPA's Regional Capital Investment Strategy (RCIS), a statement of principles and guidelines, along with desired spending allocations for different types of transportation projects. The allocation objectives are not intended to dictate year-to-year spending, but to provide a general guide over the life of Plan 2045. To monitor the effectiveness of the RCIS, the NJTPA uses performance measures to assess impacts of investments and to set targets for how well the transportation system functions and is maintained.

Needs, Strategies, Funding

Chapter 5 sets out the NJTPA's vision for how transportation needs across all modes and facilities can be addressed over the next 25 years—including highways, local roads, bus and rail lines and bridges. Throughout the discussion are assessments of the impacts of system improvement strategies and projects on the region's economy.

While preserving existing infrastructure is the plan's highest priority, it also calls for strategic improvements that will address bottlenecks and other problems while allowing road and transit systems to

Iselin, Middlesex County



handle rising levels of travel demand—creating new and better connections for people and goods. These improvements range from new Hudson River rail tunnels (as part of a larger Gateway program) to new modern roundabouts to more sidewalks and bike lanes in revitalized downtowns.

The plan pays special attention to new technologies that can make the transportation system work

more efficiently, often with modest capital outlays. Many technologies are already being applied, including computerized traffic signal systems, smart phone apps for providing traveler information and systems to gather and use real-time roadway data. But, if experience is any guide, the next 25 years will also bring new, transformative technologies. Already on the horizon, as noted, is the advent of self-driving vehicles.

Federal Planning Factors

Under federal law, the planning process of MPOs including the NJTPA must be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that address the following factors:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation; and
10. Enhance travel and tourism.





Asbury Park, Monmouth County

Also coming into view are wider use of 3-D printing to produce goods closer to end users and artificial intelligence that could fundamentally change the nature of work and workplaces.

This plan seeks to build flexibility into projects and programs—including through careful study of alternatives and designs based on best practices and community needs—to allow the region to take advantage of these and other advances and accommodate changing travel patterns. It also seeks to make the system resilient in the face of disruption or disaster while continuing to safeguard the environment and improve air quality.

Paying for the plan remains a challenge. Despite increased federal and state funding, needs continue to far outstrip available resources. This makes prioritizing investments through the MPO planning process more important than ever, including greater use of performance measures.

Chapter 6 identifies a prudent, fiscally constrained approach to financing needed investments, totaling almost \$113 billion over the next 28 years to 2045. It also identifies what could be accomplished with additional funding (under an aspirational scenario).

Making Connections

In many ways, Plan 2045: Connecting North Jersey is the NJTPA's most ambitious long-range plan over its three decade-long history as the region's MPO. Leadership in Together North Jersey has given the NJTPA a host of new partners and added vital new perspectives to its planning work. This plan reflects efforts to broaden the reach and scope of the connections made by transportation investments. All the while, the plan promotes a growing regional economy and continued wise stewardship of the region's transportation assets

With support from the NJTPA Board of Trustees and an engaged public, the NJTPA will continue to hone its approach to planning, working in coordination with its member counties and cities to implement the policies and priorities of Plan 2045. Over the next 28 years, guided by this plan, the region will continue to improve and adapt its transportation system to become more **competitive**, **efficient**, **livable** and **resilient**, by connecting people, places and potential.

Together North Jersey



How does North Jersey remain a place where people want to live and where employers want to locate and expand their businesses? These were some of the key questions nearly 100 partners—local governments, universities, nonprofits, businesses and others—set out to answer through the region-wide Together North Jersey consortium formed in 2011.

With the support of a federal grant, Together North Jersey developed the first comprehensive plan for sustainable development for the NJTPA's 13-county region. Finalized in 2015, the plan provides a strategy to make the region more **competitive**, **efficient**, **livable** and **resilient**—the four overarching themes that guide all its recommendations. It details 15 focus areas and over 70 strategies the region can pursue to meet these goals (see back of plan).

You'll see the **competitive**, **efficient**, **livable** and **resilient**, logos in chapter 5, highlighting how the work of Together North Jersey is woven into the NJTPA's blueprint for the region's future.



Together North Jersey's vision encompasses more than transportation. It addresses challenges involving economic development, land use, the environment, education, housing, health, the arts, culture and other issues. The Together North Jersey plan recognizes that the decisions we make in all of these areas—as individuals and as communities—are all connected and affect the larger region.

Led by the NJTPA, Rutgers University and NJ TRANSIT, Together North Jersey funded and assisted capacity building programs, local pilot projects and other related efforts.

The many partners of Together North Jersey are now working to implement the plan. Task

forces for each of the themes meet periodically and support a variety of activities.

Here are just a few of the key Together North Jersey strategies that Plan 2045 will support with long-term transportation investments, policies and programs:



Competitive ● ECONOMIC DEVELOPMENT

The NJTPA and Together North Jersey created the North Jersey Regional Comprehensive Economic Development Strategy (CEDS) as a roadmap to increased prosperity and access to opportunities by identifying regional priorities that support local actions. Other economic development initiatives included development of a Hunterdon County CEDS; Talent Network outreach events on port and travel/tourism workforce issues; Somerset County’s study of 24 priority growth investment areas; and a corridor vision plan for Route 37 in Ocean County.



Efficient ● TRANSIT ORIENTED DEVELOPMENT

With guidance from NJ TRANSIT, Together North Jersey promotes development around bus and rail transit hubs. The goal is to create interesting, vibrant, walkable areas while increasing transit use. This can help reduce road congestion, yielding many health and environmental benefits. Initiatives have included: a coordinated vision for revitalization around five existing train stations on the inner Morris & Essex rail line and encouragement of mixed-use development around Perth Amboy’s downtown train station.



Livable ● CREATIVE PLACEMAKING

Arts and culture enhance quality of life by fostering community pride and identity while boosting local economies by creating jobs, attracting tourists and spurring business investment—whether in bustling downtowns or rural hamlets. Initiatives

included: using public art and urban design to enhance the Valley Arts District in the City of Orange and joint efforts by Woodbridge and Rahway to create an arts-driven, transit-oriented downtown revitalization strategy.

GREAT PLACES

Together North Jersey supports communities in implementing Complete Streets policies that make all modes of travel (driving, transit, walking, biking and goods movement) accessible to all users, regardless of age, income, or physical ability. Complete Streets help make places healthy, safe and vibrant. Initiatives included: a Complete Streets Concept Plan for Morris Avenue by the City of Elizabeth and joint efforts by Bloomfield, Montclair, Glen Ridge and Verona on a Complete Streets plan for a 4-mile section of Bloomfield Avenue.



Resilient ● COMMUNITY RESILIENCY

A resilient community is one that is ready for and can recover quickly from adverse events like Tropical Storm Irene and Superstorm Sandy. Such communities take steps to reduce the impact of these events before they even happen. Initiatives included: creating a post-Sandy vision in Ocean County to improve resiliency; developing a model integrating green infrastructure into public and private projects in Hoboken; protecting the City of Passaic’s Eastside neighborhood through a proposed levee also serving as a recreational trail; and exploring green stormwater infrastructure pilot projects in Newark.