



# Transportation Demand Management (TDM) & Mobility Plan

Executive Summary

June 2021



## Overview

Transportation demand management (TDM) is a set of policies and strategies that increase traveler choices and help people meet their travel needs while also minimizing the air quality, congestion, and delay impacts of single-occupant vehicle (SOV) travel. While TDM initiatives have traditionally focused on reducing vehicle travel, their scope has broadened in recent years to more directly address bicycle and pedestrian safety, environmental education, and improving mobility for seniors, people with disabilities, low income residents, and others who may lack access to personal transportation. The TDM & Mobility Plan provides a regional framework for the NJTPA and partners to coordinate efforts in support of mobility and accessibility goals in North Jersey. The plan describes the linkage of TDM and mobility to the NJTPA's planning and programming activities. The plan development process included background research, a travel trends analysis, development and selection of TDM & mobility strategies to address identified trends and challenges in northern New Jersey, as well as implementation briefs for six priority strategies to advance regional mobility:



- Institutionalize Complete Streets
- Local Land Use and Transportation Policy
- First/Last Mile Solutions
- Support for Telework and Teleservices
- Mobility on Demand
- Evaluate Rideshare Matching Service Options.

The plan's policy-level recommendations support a holistic approach to improving regional mobility options while reducing the adverse impacts of drive-alone trips.

## TDM & Mobility Linkage to NJTPA Planning and Programming

As the Metropolitan Planning Organization (MPO) for the northern New Jersey region, the NJTPA is responsible for transportation planning for an exceptionally dynamic and complex transportation system in a region of 6.7 million people that encompasses half of the state's land area. The NJTPA evaluates and approves transportation improvement projects, provides a forum for cooperative transportation planning, sponsors and conducts studies, assists county and city planning agencies and monitors compliance with air quality goals.





Integrating TDM strategies into regional planning, project development, and system operations will improve the quality and quantity of traveler choices, while also supporting regional transportation system reliability, economic competitiveness, and improved safety. Eight TMAs serve New Jersey and seven of them have service areas that are entirely or partially within the NJTPA region. The TMAs are responsible for implementing TDM strategies that increase travel choices and reduce reliance on single occupant vehicles in the region. North Jersey's TMAs have expanded their focus in recent years beyond reducing drive-alone commute trips to include community-oriented initiatives related to active transportation, traffic safety, air quality, safe routes to school, and mobility needs for disadvantaged populations.

The TDM & Mobility Plan will build on the groundwork of existing TDM initiatives, NJDOT's Statewide TDM Plan adopted in 2011, as well as the region's long-range transportation plan, *Plan 2045: Connecting North Jersey*. In addition to the long-range plan, the TDM & Mobility Plan will address the goals of the Coordinated Human Services Transportation Plan to improve mobility for elderly and disadvantaged populations, as well as the NJTPA's performance measurement framework and federal transportation goals.

## Concurrent Planning Processes

Concurrently with the TDM & Mobility Plan, the NJTPA has been developing the update to its long-range transportation plan, *Plan 2050: Transportation, People, Opportunity*, which recommends policies, envisions new programs, and details transportation investments for the next 30 years. Additionally, the NJTPA has been conducting an update to its Congestion Management Process through the Accessibility and Mobility Strategy Synthesis study. The NJTPA and consultant staff have coordinated across planning projects to ensure alignment of objectives and strategies.

## Plan Development

The plan development process included the following tasks, which culminated in development of implementation briefs for six priority TDM and mobility strategies and preparation of this final report.

- Formation of a Technical Advisory Committee (Task 1)
- Background Research (Task 2)
- Travel Trends Analysis (Task 3)
- TDM and Mobility Strategies (Task 4)
- Implementation Briefs (Task 5)
- Final Report (Task 6)



## Formation of Technical Advisory Committee

The purpose of the Technical Advisory Committee (TAC) was to help guide the project by providing input and feedback throughout the development of the TDM & Mobility Plan, as well as contributing to research and recommendations and reviewing interim work products. Members were selected by the NJTPA and attended a total of five virtual meetings throughout the course of the project.

Members of the TAC included representatives from the New Jersey Department of Transportation (NJDOT), NJ TRANSIT, the Port Authority of New York and New Jersey (PANYNJ), the New Jersey Economic Development Authority (NJEDA), the New Jersey Transportation Management Association (TMA) Council, the Tri-State Transportation Campaign, Monmouth County, Essex County, and the NJTPA.

## Background Research

The Background Research technical memorandum, a deliverable for Task 2, provided a foundation for the TDM & Mobility Plan. The research addressed state of practice in the North Jersey region and nationally. Background Research consisted of three primary research activities: Regional Research Synopsis, National Expert Interviews, and Stakeholder Group Meetings. The findings from these research activities are summarized and organized into two sections: North Jersey TDM and Mobility Context, which included reviews of TDM plans, policies, and programs in the North Jersey region; and National TDM and Mobility State of the Practice and Current Research.

## North Jersey TDM and Mobility Context

The project team reviewed TDM and Mobility-related plans, policies, and programs that have been published by agencies of the New Jersey State government, the NJTPA, constituent municipalities, and area TMAs. This review identified strategies that were demand-focused (reducing the demand for drive-alone trips); supply-focused (affecting the supply of sustainable alternatives to driving, and/or make driving alone more or less attractive); and other TDM and mobility strategies that are likely to impact greenhouse gas emissions, mobility, road safety, and transportation system efficiency. The result of this review was a summary of laws, policies, programs, and plans throughout North Jersey that support travelers in choosing more efficient transportation options.

## Stakeholder Engagement

The project team convened three stakeholder engagement meetings to align the focus of the TDM & Mobility Plan with the needs, interests, and priorities of local transportation





system user groups and NJTPA partners. The stakeholder engagement meetings involved Transportation Management Association (TMA) staff and directors, the New Jersey Council on Access and Mobility Working Group (CAM), and the NJTPA Regional Transportation Advisory Committee (RTAC).

## National TDM and Mobility State of the Practice & Current Research

The national state of the practice review examined new and ongoing TDM and mobility initiatives implemented by Metropolitan Planning Organizations (MPOs), TMAs, local governments, and large employers. The project team also identified current research and pilot programs underway in TDM and Mobility to supplement the background research with emerging practices that are still under study.

Best practices covered a range of TDM and mobility topic including: TDM at a regional scale, individualized marketing, behavior change marketing, pricing, TDM and mobility strategies for underserved populations, TDM and mobility strategies for incidents, special events, and emergencies, active transportation demand management, multimodal integration (including mobility on demand), port and industrial area TDM, and transportation law and policy to improve safety and health.

## Travel Trends Analysis

The Travel Trends Analysis described past, current, and forecasted transportation and land use conditions within two distinct domains:

- **Profile of Regional Travel Patterns:** Provided a detailed analysis of existing travel trends, including commuting flows, travel times and mode shares.
- **Travel Propensity Analysis:** Examined the propensity of the North Jersey region to support TDM strategies and travel by transit to improve regional mobility.

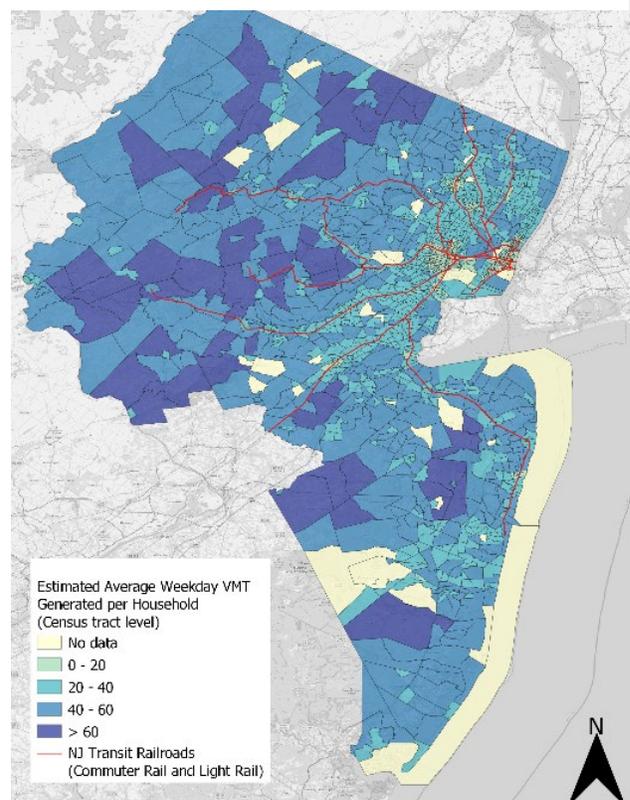
All the analysis was conducted using data collected before the implementation of COVID-19 workplace and travel restrictions in spring 2020.

## Profile of Regional Travel Behavior

The total population and commuter population in North Jersey has been growing at a rate higher than the State of New Jersey but lower than the national average. Since 2010, the annualized rate of population growth has been 0.3 percent for the region, 0.2 percent for the state, and 0.8 percent for the nation. Approximately 50 percent of North Jersey residents are commuters who travel to go to work. An overview of travel behavior and patterns in the region is provided below.

- **Regional Commuting Patterns:** Based on a review of 2011-2015 American Community Survey (ACS) data, the North Jersey region has a working population of 3.1 million, and on average, half work in the same county that they reside; a third work in another NJTPA county, and a sixth work in a county outside the North Jersey region. The top six intercounty commute flows from North Jersey are destined for New York County (Manhattan). The top commute flows from outside the region are from Mercer to Middlesex County and Rockland to Bergen County.
- **Householder Travel Patterns:** Based on data from 2017 Bureau of Transportation Statistics Local Area Transportation Characteristics for Households (BTS LATCH) shown in the figure at right, the dense urban centers in Hudson and Essex counties have much less average daily vehicle miles travelled (VMT) estimates as compared to the sparsely populated rural areas of Hunterdon, Warren, Sussex, and Morris counties.
- **Existing Commute Mode Share:** According to the 2014-2018 ACS 5-year estimates, over 2.2 million or 69 percent of NJTPA residents drive to work alone, making SOVs the most popular commute mode choice. With nearly 500,000 riders, transit is the second most popular commute mode choice at 13 percent of commuters.
- **Travel Time to Work:** According to the ACS 5-year estimates, the average commute time of a North Jersey resident is 33 minutes during 2014-2018, which is a 1.9-minute increase from 2006-2010. The mean transit commute time (60 minutes) is almost double

**Average Daily Household VMT**  
(Source: 2017 BTS LATCH)





the drive-alone commute times (33 minutes). While the estimated average drive time to work has increased by 1.6 minutes in the eight-year period, the estimated average transit time to work has increased by 2.6 minutes.

- **Non-Commute Travel:** Based on the 2010/2011 Regional Household Travel Survey (RHTS), commuting to and from work constitutes approximately 23 percent of all person trips. The largest portion of trips were categorized for “other” purposes (45 percent), followed by work, then shopping (15 percent). Examples of ‘other’ trip purposes include recreation, healthcare, eating out at restaurants, and household errands.
- **Roadway Characteristics:** Regionally, a vehicle spends 17 additional seconds per mile due to delay. This is equivalent to a monetary loss of \$0.14 for every vehicle mile traveled. Estimates for 2019 show that 78 percent of the person miles for Interstates are reliable, while 84 percent of the person miles for Non-Interstates are reliable.
- **Transit Characteristics:** The annual ridership for all modes operated by NJ TRANSIT and PATH totaled more than 350 million in 2019. The analysis examined ridership for the entire service area of NJ TRANSIT, including PA and NY.

## Travel Propensity Analysis

The project team provided a high-level analysis of the propensity for the North Jersey region to support TDM strategies and increased transit ridership, building on the findings of the Profile of Regional Travel Behavior. A TDM propensity analysis and a transit propensity analysis were completed. The TDM propensity analysis showed that the density and availability of transportation services in the urban centers of Hudson and Essex counties (including Newark, Hoboken, and Jersey City) are most likely to support initiatives and services that reduce work-based and short vehicle trips for residents as well as workers commuting in from other communities.

## TDM and Mobility Strategies

The project team selected six priority TDM and mobility strategies from an initial set of 51 potential strategies, which were evaluated using a policy-level analysis of factors including potential for reduction of VMT, feasibility, and impacts on equity and access. Selection of the six priority strategies was also informed by the findings of the Background Research, Travel Trends Analysis, as well as feedback from NJTPA staff and the project TAC.

## Strategies Evaluation Framework

The strategies evaluation framework used to inform selection of the six strategies that would advance to Implementation Briefs consisted of implementation characteristics and





selection criteria. Implementation characteristics help to define the scope of a strategy with factors that will affect implementation such as geographic scale, timeline, and primary stakeholders involved with coordination and implementation. The selection criteria were the primary means by which potential TDM & Mobility strategies were evaluated, prioritized, and selected. The selection criteria represent the objectives of the NJTPA TDM & Mobility Plan, including: VMT Reduction Potential, Equity, Access, and Feasibility.

## Evaluation and Final Strategy Selection

The project team evaluated a set of 51 potential strategies by the selection criteria, taking into consideration input from the project TAC and NJTPA staff. Based on this evaluation, the project team selected a set of 15 recommended strategies and presented them to the TAC for discussion. The TAC provided input on their top three strategies, which informed selection of six priority strategies that would be further developed into implementation briefs.

## Implementation Briefs

The final six strategies selected for development into implementation briefs are outlined below.

- **Institutionalize Complete Streets Policies:** Recommended for its potential for improving safety and affecting a sustained increase in bicycling and walking.
- **Local Land Use and Transportation Policy:** Recommended for its potential for integrating sustainable and equitable transportation initiatives into land use and development decisions, which are the primary drivers of transportation demand. This strategy would also encourage transit-oriented development and support consistent transportation policies and plans among local jurisdictions throughout the region.
- **Support for Telework/Teleservices:** Recommended for its high potential for VMT reduction and for its ability to improve access to jobs and healthcare for people with disabilities.
- **Mobility on Demand (MOD):** Recommended for its potential its potential to improve the traveler experience and affect a sustained increase in the use of sustainable modes.
- **First/Last Mile Solutions:** Recommended for its high potential for VMT reduction and improving access to jobs and community services through transit connections.
- **Evaluate Rideshare Matching Service Options:** Recommended for its high potential for VMT reduction and improving access to jobs and community services in areas that lack transit or other mobility options.

For each of the six selected strategies, the implementation briefs provided a strategy overview and recommendations on potential actions, including implementation partners,



resources, next steps, and timeframes. The briefs also included discussion of strategy outcomes and indicators, as well as resources needed to advance implementation. The implementation briefs can be viewed as stand-alone documents and are also provided as appendices to the final report.

To develop implementation briefs for the six selected strategies, the project team first drafted outlines for each strategy and provided them to the project TAC for review and discussion during the fourth TAC meeting in December 2020. The project team expanded the outlines into full implementation briefs based on feedback from the TAC, NJTPA staff, and implementation partners. For further insight on needs, opportunities, and challenges related to implementation of specific strategies, the project team held stakeholder coordination calls with NJDOT, NJ TRANSIT, the New York State Department of Transportation (NYSDOT), the New Jersey Office of Planning Advocacy, TMAs, and planning law expert Janine Bauer, Szaferman Lakind Attorneys at Law.

## Conclusion

The NJTPA is strongly positioned to continue to advance regional goals with TDM and mobility through long-range planning, project programming, stakeholder coordination, technical assistance programs, the transportation management association program, and hosting the regional ridematching system. This TDM & Mobility Plan provides a foundation of background research and regional travel trends analysis to inform development of potential TDM and mobility strategies that will reduce vehicle travel and improve mobility options for a diverse range of travel needs across the North Jersey region. The plan provided policy-level guidance on implementation of six specific strategies, including institutionalizing complete streets, local land use and transportation policy, first/last mile solutions, support for telework and teleservices, evaluating rideshare matching service options, and mobility on demand. The implementation briefs for these strategies provide a road map for partners to take action, coordinate resources, and achieve desired outcomes.



