

# ESSEX COUNTY COMPREHENSIVE TRANSPORTATION PLAN

Adopted April 8, 2014



*“This report has been prepared as part of the North Jersey Transportation Planning Authority’s Subregional Studies Program with financing by the Federal Transit Administration and the Federal Highway Administration of the U.S. Department of Transportation. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or its use thereof.”*

Prepared by:

 **Dewberry**<sup>®</sup>



In association with:  
**Maser Consulting, P.A.**  
**Stump/Hausman Partnership**



# Table of Contents

<b>Chapter 1:</b>	<b>Executive Summary .....</b>	<b>1</b>
<b>Chapter 2:</b>	<b>Inventory &amp; Assessment.....</b>	<b>4</b>
<b>2.1</b>	<b>Introduction .....</b>	<b>4</b>
<b>2.2</b>	<b>Complete Streets Policy .....</b>	<b>4</b>
<b>2.3</b>	<b>Land Use &amp; Development Conditions.....</b>	<b>5</b>
2.3.1	Existing Land Use Patterns .....	5
2.3.2	Future Land Use Planning.....	5
2.3.3	Employment & Retail Centers.....	11
2.3.4	Schools.....	11
2.3.5	Natural & Environmental Resources .....	13
<b>2.4</b>	<b>Population &amp; Demographic Trends.....</b>	<b>14</b>
2.4.1	County Population & Growth Trends .....	14
2.4.2	Income, Housing & Employment.....	16
<b>2.5</b>	<b>Roadway Inventory .....</b>	<b>16</b>
2.5.1	Inventory of Major Roadways .....	16
2.5.2	Functional Classification .....	17
2.5.3	Traffic Control Infrastructure .....	17
2.5.4	Bridges .....	17
<b>2.6</b>	<b>Multi-modal Inventory.....</b>	<b>18</b>
2.6.1	Existing Rail Inventory .....	18
2.6.2	Bus Transit .....	19
2.6.3	Park-and-Ride Facilities .....	30
2.6.4	Freight Corridors .....	30
2.6.5	Aviation.....	30
2.6.6	Sidewalks, Paths, & Bicycle Facilities .....	31
<b>2.7</b>	<b>Needs Assessment .....</b>	<b>32</b>
2.7.1	Sources Used for Needs Assessment.....	33
2.7.2	Roadway System Needs .....	35
2.7.3	Transit System Needs .....	39
2.7.4	Safety Needs .....	39



# Table of Contents

2.7.5	Bicycle & Pedestrian Needs .....	44
2.7.6	Aviation & Freight Needs.....	44
<b>Chapter 3:</b>	<b>Public Outreach .....</b>	<b>45</b>
3.1	<b>Early Coordination Efforts .....</b>	<b>45</b>
3.2	<b>Steering Advisory Committee Meetings .....</b>	<b>45</b>
3.2.1	Defining a Vision, Goals & Objectives.....	45
3.3	<b>Community Involvement Stakeholder Meetings .....</b>	<b>46</b>
3.4	<b>Public Outreach Workshops.....</b>	<b>47</b>
<b>Chapter 4:</b>	<b>Identification of Candidate Projects .....</b>	<b>48</b>
4.1	<b>Project Identification.....</b>	<b>48</b>
4.1.1	County Candidate Projects .....	48
4.1.2	Plan4Safety Candidate Projects .....	48
4.1.3	SAC Candidate Projects .....	49
4.1.4	Public Outreach Candidate Projects .....	49
4.1.5	Regional Travel Demand Model-Derived Candidate Projects.....	49
4.1.6	Project Classification .....	52
4.2	<b>Technical Projects.....</b>	<b>52</b>
4.2.1	Project Indexing Approach.....	52
4.2.2	Indexing Methodology and Criteria.....	53
4.2.3	Candidate Project Prioritization.....	54
4.2.4	Technical Evaluation Project List .....	54
<b>Chapter 5:</b>	<b>Evaluation and Assessment .....</b>	<b>56</b>
5.1	<b>Project Evaluation Introduction .....</b>	<b>56</b>
5.2	<b>Project Evaluation Criteria .....</b>	<b>56</b>
5.2.1	Goal 1 – Maintain a Safe and Efficient Roadway System .....	56
5.2.2	Goal 2 –Increase the Use of Mass Transit .....	58
5.2.3	Goal 3 – Increase and/or provide more opportunities for Walking & Bicycling.....	58
5.2.4	Goal 4 – Connectivity for all modes of Transportation Intra-County Connectivity .....	60
5.2.5	Goal 5 – Foster and Support Development & Industrial Growth .....	60



# Table of Contents

<b>5.3</b>	<b>Multi-Modal Projects</b> .....	<b>60</b>
5.3.1	Roadway System Projects .....	61
5.3.2	Transit System Project .....	63
5.3.3	Bicycle, Pedestrian & Safety System Projects .....	64
5.3.4	Aviation & Freight System Projects .....	66
<b>5.4</b>	<b>Technical Evaluation Projects</b> .....	<b>66</b>
5.4.1	Data Collection and Gathering .....	67
5.4.2	Existing Conditions Assessment .....	67
5.4.3	Operational Capacity Analysis .....	78
5.4.4	Multi-Modal Value Assessment .....	81
5.4.5	Summary and Recommendations .....	82
<b>Chapter 6:</b>	<b>Plan Recommendations</b> .....	<b>85</b>
<b>6.1</b>	<b>Project Recommendations</b> .....	<b>85</b>
6.1.1	Roadway System Project Recommendations .....	85
6.1.2	Transit System Project Recommendations .....	87
6.1.3	Bicycle, Pedestrian & Safety Project Recommendations .....	88
6.1.4	Aviation and Freight Project Recommendations .....	92
6.1.5	Technical Project Recommendations .....	92
<b>6.2</b>	<b>Policy Recommendations and Implementation Strategies</b> .....	<b>93</b>
6.2.1	Complete Streets Policy .....	93
6.2.2	Access Management .....	95
6.2.3	Transportation Demand Management .....	101
6.2.4	Public Transit Service .....	102
6.2.5	Transportation Services for the Elderly and Disabled .....	102
6.2.6	Land Use .....	102
6.2.7	Intelligent Transportation Systems .....	103

## **Appendix A – Figures**

Figure 1 – Existing Inventory – Land Use Map

Figure 2 – Existing Inventory – Future Development Map

Figure 3 – Existing Inventory – Key Travel Destination Map

Figure 4 – Existing Inventory – Environmental Map



# Table of Contents

- Figure 5 – Existing Inventory – County Road Map
- Figure 6 – Existing Inventory – Public Transportation Map
- Figure 7 – Existing Inventory – County Sidewalks (Left and Right)
- Figure 8 – Existing Inventory – Existing & Planned Bicycle Facilities
- Figure 9 – Needs Assessment – Roadway System Needs – Public Outreach
- Figure 10 – Needs Assessment – Roadway System Needs – NJRTM-E 2011 AM
- Figure 11 – Needs Assessment – Roadway System Needs – NJRTM-E 2011 PM
- Figure 12 – Needs Assessment – Roadway System Needs – NJRTM-E 2035 AM
- Figure 13 – Needs Assessment – Roadway System Needs – NJRTM-E 2035 PM
- Figure 14 – Needs Assessment – Pedestrian Needs

## **Appendix B – Tables**

- Table B-1 Existing (2011) Peak Period Traffic by Roadway and Municipality – County 500 Routes
- Table B-2 Existing (2011) Peak Period Traffic by Roadway and Municipality – County 600 Routes
- Table B-3 Future (2035) Peak Period Traffic by Roadway and Municipality – County 500 Routes
- Table B-4 Future (2035) Peak Period Traffic by Roadway and Municipality – County 600 Routes
- Table B-5 Summary of Existing (2011) Daily Travel Patterns by Roadway and Municipality – County 500-Series Routes
- Table B-6 Summary of Existing (2011) Daily Travel Patterns by Roadway and Municipality – County 600-Series Routes
- Table B-7 Summary of Future (2035) Daily Travel Patterns by Roadway and Municipality – County 500-Series Routes
- Table B-8 Summary of Future (2035) Daily Travel Patterns by Roadway and Municipality – County 600-Series Routes
- Table B-9 Transit and Community Facilities within ¼ Mile – County 500 Routes
- Table B-10 Transit and Community Facilities within ¼ Mile – County 600 Routes

## **Appendix C – Public Outreach**

- Project Kick-Off Meeting
- Steering Advisory Committee Meetings
- Community Involvement Stakeholders Meetings
- Public Outreach Workshops
- Questionnaires and Input

## **Appendix D – Essex County Complete Streets Policy**

## **Appendix E – Plan Adoption Comments – Public Meeting & Planning Board**

# Chapter 1: Executive Summary



[www.dewberry.com](http://www.dewberry.com)



## Chapter 1: Executive Summary

### The Plan

The Essex County Comprehensive Transportation Plan (hereinafter referred to as Plan) was developed to meet mobility and transportation safety needs across Essex County, New Jersey through the year 2035. The Plan is consistent with and supports the many goals and objectives of the North Jersey Transportation Planning Authority's (NJTPA) Plan 2035. It outlines a vision for a more comprehensive County-wide transportation system that maximizes investments, promotes efficiency and safety and promotes the use of travel mode alternatives to driving alone. Recommendations that were developed for this Plan reflect the priorities of local, state, and regional stakeholders to support economic development, environmental sustainability and mobility throughout the County.

This Plan takes into account the County's existing transportation network and services and land use characteristics. It then evaluates the adequacy of the transportation system to meet travel needs through 2035. The role and potential contribution to meet future needs by every mode of travel including pedestrians, bicyclists, motor vehicles, public transportation, and air travel access and freight movement were established.

### Background

The current Essex County Transportation Plan has not been updated since 1984. Transportation planning changes have occurred at all levels of government and most assumptions of the 1984 plan have since become outdated.

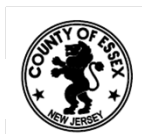
Essex County is located in the northeast portion of New Jersey, bordered by Passaic County to the north; Bergen and Hudson County to the east, Union County to the south and Morris County to the west (see Figure 1). It is part of the New York metropolitan area and is the second densest county, behind Hudson County, in New Jersey. The City of Newark is the largest municipality within the state, in population. The Borough of Caldwell is the smallest municipality in terms of land area and Essex Fells has the lowest population in the County. Generally, the eastern portion of the county would generally be

considered a mature urban area while the western portion is more suburban and rural. Newark Liberty International Airport is located in the southeast portion of the county and is one of the three New York metropolitan airports, LaGuardia and JFK International Airport, operated by the Port Authority of New York & New Jersey (the Port Authority). Additionally, the Port Authority operates the Port Newark-Elizabeth Marine Terminal in the county, the largest port facility on the East Coast and third largest nationally. The Port Newark-Elizabeth Marine Terminal is located on the Newark Bay and serves as the principal container ship facility for goods entering and leaving the New York-New Jersey metropolitan area.

The County-owned radial roads, including Bloomfield Avenue, Springfield Avenue, Clinton Avenue, and South Orange Avenue, serve both local and regional travel, including travel to and from NYC. It therefore is no surprise that intersections and segments on these road experience recurring congestion that will only worsen as the area grows over the years. Common points of congestion within many parts of the County often occur in areas of high pedestrian activity, with resulting effects on pedestrian mobility and safety and hazardous conditions for bicycle mobility. Part of the challenge to developing this Plan update is that limited opportunities exist to do any widening within County road rights-of-way (ROW) for additions of turn lanes to improve efficiencies for vehicle and bus travel or even bicycle lanes and sidewalk, in some cases. Invariably, these ROWs have long-established properties abutting them as well as a tangle of utilities that require special accommodations. The keys to a successful Plan therefore involve recognizing and managing the constraints that exist along the County ROWs and designing improvements that complement the particular travel characteristics of land uses in the area. Such improvement projects could include not only targeted physical changes to the roadway but also transit and non-motorized programs such as Bike Sharing as well as changes to Site Development regulations to promote site designs that call for less (or more efficient) motorized travel or more travel via other modes.

### The Public Planning Process

The planning process for this Plan combined a comprehensive analysis of the transportation



network with an extensive public outreach program to promote dialogue on transportation needs and priorities. Technical findings, stakeholder and public input were integrated to produce a series of maps devoted to each mode of transportation. These maps evolved over the course of the planning process as new information was generated, forming a record of existing conditions and an inventory of the needs assessment. Other factors of technical work included review of the North Jersey Regional Transportation Model - Enhanced (NJRTM-E) travel demand model, municipal master plans and scenario analysis to gauge the impact of demographic shifts on the transportation system through 2035.

**The Plan Vision and Goals**

The plans vision statement was developed through discussions and meetings with members of the Steering Advisory Committee (SAC), as follows:

*Develop a safe coordinated and integrated multimodal transportation system that provides accessibility for all users while promoting connectivity, economic vitality and productivity, our communities’ livability, and our ecosystem’s viability.*

Five broad goals were developed to achieve the Plan vision, as follows:

1. Maintain a Safe & Efficient Roadway System
2. Increase the Use of Mass Transit
3. Increase and/or provide opportunities for walking & bicycling
4. Connectivity for all modes of Transportation
5. Foster and Support Development & Industrial Growth

The goals are based on analysis of the existing transportation system, modeling of future conditions, discussions with the Steering Advisory Committee (SAC) and Community Stakeholders members.

**Key Elements**

The framework of this plan was developed based on the following key elements:

1. Complete Streets Policy
2. Multi-modal Existing Inventory
3. Multi-modal Needs Assessment
4. Multi-modal Evaluation and Assessment

These elements were used to compile the existing inventory and needs assessment, as well as, organize the findings and recommendations presented in this plan.

The first key element, Complete Streets Policy, underscores the other elements of the Plan to ensure that all travel modes are sufficiently accounted for and incorporated into a new corridor classification system, according to a Transect Zone. Transect refers to a type of urban form or physical characteristics of an area, generally described as ranging from rural to an urban core. As applied in the ECCTP, a Transect Zone refers to the character of land uses through which a County road traverses. The corridor classification system will be developed as part of an update to the Essex County Land Development Standards, which this Plan supports.

As part of the remaining three key elements of this plan, the project team collected a multi-modal inventory of existing transportation facilities. This information was gathered from available data and through our public outreach program. In a similar fashion, we collected the multi-modal transportation needs. Through an evaluation and assessment criteria established as part of this Plan, the top nine intersections in the greatest need of improvement were analyzed for multimodal enhancements. Recommendations for the nine intersections have been provided as part of this Plan for immediate implementation by the County. Recommendations for all other projects and strategies have been divided into modes of travel and suggested timeframes of implementation.

**Conclusion**

The Essex County Comprehensive Transportation Plan provides a set of priorities and recommendations to build a comprehensive transportation network for the future of Essex County, which includes roadway, transit, bicycle pedestrian, freight and aviation projects as well as supportive policy recommendations. The key concepts focus potential investments in areas where they can positively impact the environment, economic development, efficiency





of the existing transportation system, and quality of life for all Essex County residents. The Complete Streets Policy sits at the center of all concepts and sets the precedent for safely accommodating opportunities for all users and reinforces the connection between land use and transportation.