

Circulation Plan Element

The Borough of Metuchen



Metuchen, New Jersey

"Reconnecting Your Community"

Smart Growth Grant

November 20, 2009

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Table of Contents

Executive Summary	
Executive Summary	1
Project Background	
“Reconnecting Your Community” Planning Program	3
Downtown Planning Efforts and Tie-ins	4
Summary of Findings	
Existing Conditions and Observations	6
Public Input Process	10
Circulation Plan	
Circulation Plan Overview	14
I-287 Interchange Upgrade	15
Proposed Pedestrian and Bicycle Connections and Middlesex Greenway Expansion	16
Proposed “Missing Link” Roadway Connections	19
Traffic Intersection and Signal Improvements	21
Middlesex Avenue: Context-Sensitive, Pedestrian Safety and Traffic Calming	25
Main Street Improvements and Traffic Calming	28
Downtown Streetscape Improvements	29
Main Street and Woodbridge Avenue Improvements	30
Station Area Improvements	31
Parking and Commuter Parking Structures	33
Metuchen Commuter Shuttle	35
Traffic Calming and Pedestrian Safety Improvements	36
South Main Street	38
Grove Avenue at Oakland/Henry Streets	39
Main/Clive Streets at Plainfield Avenue	40
Planning Implementation Agenda	
Planning Implementation Agenda	42
Appendix A:	
Community Workshop #1 Comments from the Workshop	
Appendix B:	
Community Workshop #1 Comment Cards	
Appendix C:	
Metuchen Police Department Comments	
Appendix D:	
Community Workshop #2 Comments from the Workshop	
Appendix E:	
NJDOT Study Meeting Notes and Proposed Improvements	

A



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Executive Summary



Executive Summary

Summary of Recommendations

Metuchen acts as an important hub along the northeast corridor rail line, but bears an inordinate amount of regional traffic impact. Public support for the Town Center and Transit Village implementation requires solving existing traffic and pedestrian problems. Using a "Reconnecting Your Community" Smart Growth Grant, this document takes a comprehensive look at all circulation and related issues in the Borough to develop a Circulation Plan element for the Master Plan.

The goals of the plan include:

- Improving traffic at major intersections and corridors in town,
- Introducing context-sensitive traffic calming along a portion of Rt. 27
- Providing new connector roads for more route interconnectivity and increased in-town mobility
- Extending the Middlesex Greenway to access with the Dismal Swamp
- Creating a consistent streetscape standard for the downtown area of Metuchen
- Helping revitalize the Borough with a focus on making it more friendly and functional for all modes of travel
- Making the entire borough more pedestrian, bicycle and transit-friendly
- Improving mobility with related economic impacts and quality of life benefits for all groups of citizens and businesses



B



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Project Background



“Reconnecting Your Community” Planning Program

In 2008, the New Jersey Department of Community Affairs (DCA) announced the award of over \$1.9 million in Smart Future Grants to 35 municipalities and organizations in New Jersey. Smart Future Planning Grants are part of the Smart Future Initiative, which promotes smart growth planning between municipalities and counties throughout New Jersey. They are funded through DCA’s Office of Smart Growth, which is leading the effort to promote sustainable development, protect the environment, preserve open space and revitalize older communities.

Metuchen’s grant fell under the “Reconnecting Your Community” category. Reconnecting Your Community Grants provide funding for Circulation Plan Elements of the a municipal Master Plan outlining strategies to create direct and logical access throughout the municipality. This study contains an existing conditions assessment, a public education and visioning component, and a complete circulation plan that considers all modes of travel, including an analysis of transit opportunities.

Reconnecting Your Community Process

Assemble Baseline Data

Walkability Survey

Goals and Objectives

Community Workshop One
December 2008

Collection, Processing and Analysis of Data

Community Workshop Two
March/April 2009

Prepare Draft Circulation Plan
May 2009

Final Circulation Plan
December 2009



“Reconnecting Your Community” allows Metuchen to continue to make investments and improvements in traffic circulation and pedestrian safety. The South Main Street traffic calming measures constructed a few years ago were a good start to these efforts.



The Circulation Plan explores ways to expand the Middlesex Greenway offering more bicycle and pedestrian options for Metuchen residents, as well as, easier access to the Dismal Swamp.

Downtown Planning Efforts and Tie-ins

Metuchen was designated a “Town Center” under the New Jersey State Development and Redevelopment Plan (SDRP) by the New Jersey State Planning Commission in 1997, and a “Transit Village” by the New Jersey Department of Transportation (NJDOT) in 2003. The Middlesex County Planning Board recognizes the Borough as a “Town Center” in the Middlesex County Strategic Plan, which has been submitted to the State planning Commission for Plan Endorsement. The Borough has also participated, through Middlesex County, in the latest, on-going round of SDRP Cross-Acceptance.

The Borough has been the successful recipient of several grants designed to advance smart growth planning in tangible ways.

- Using NJDOT Transit Village and Local Aid to Centers capital funding, the Borough has upgraded the area around the Metuchen train station, one of the most important stations on the Northeast Corridor in terms of pedestrian access by transit patrons. According to NJ Transit ridership surveys, approximately 30% of the Metuchen ridership walks to the train station.
- With a Smart Growth planning grant from the NJDCA Office of Smart Growth, the Borough developed the South Main Street and Central Avenue Smart Growth Plan, a plan that combines traffic calming measures (already implemented) along with recommendations for possible urban design and redevelopment interventions in key locations along the important and busy Central Avenue axis.
- With a pilot “healthy communities” grant from the Robert Wood Johnson Foundation, the Borough developed an innovative color coded system of walking tours of the downtown and adjacent neighborhoods, identifying routes of various lengths, along with local landmarks and important businesses and community resources. Municipal officials have led numerous walking tours with local citizens, thereby promoting walking around town as a form of transportation and as a way of better becoming acquainted with one’s own community and its constituents.
- Most recently, a multidisciplinary team of faculty and staff from NJIT’s Departments of Architecture - Infrastructure Planning, Rutgers’s Voorhees Transportation Policy Institute and the Urban Land Institute has been working on a NJDOT-funded grant to assess parking strategies in transit-oriented locations. Metuchen is one of only four case studies selected under this grant.



An innovative color coded system was established for walking tours of various lengths in downtown and adjacent neighborhoods, identifying local landmarks and important businesses and community resources.

C



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Summary of Findings



Existing Conditions and Observations

Perhaps the greatest challenge confronting Metuchen’s quality of life and development capacity are the constraints imposed on its transportation infrastructure by current patterns of circulation. The Borough recognizes that a certain level of traffic is inherent to being a central place surrounded Edison Township, which has grown considerably in the last 20 years. However, the convergence of significant volumes of traffic at several intersections, combined with the joint funneling of both Route 27 and County Route 501 under the Northeast Corridor line results in frustrating levels of traffic congestion.

While there may be opportunities to improve the functionality of the street network through the redesign of key intersections or through the use of state-of-art signalization, these improvements must be accompanied and balanced by much needed improvements to the pedestrian realm. Better walkway and sidewalk connections and the judicious use of traffic calming measures, along with improved bicycle routes and greenway linkages offer the potential for much greater public benefits in quality of life



Portions of the downtown area will benefit from “reconnecting” efforts including improved sidewalks, crosswalks, streetscape enhancements, and traffic calming.



This aerial view to the west indicates how disconnected the downtown core is by surface parking and under-utilized land. A significant part of “reconnecting your community” is to look into ways parking structures and shared parking strategies can be used to free up infill development and a better-connected series of streets, sidewalks, and public spaces.

and circulation than conventional changes in the geometry of roadway intersections.

The biggest traffic issue remains the offset intersection of Middlesex/Central/Lake Avenues intersection. Perhaps the greatest challenge confronting Metuchen's infrastructure and development capacity are the constraints upon its existing transportation infrastructure and current patterns of circulation. Borough officials and residents recognize that a certain level of traffic is inherent to being a Town Center. However, the convergence of significant volumes of traffic at six different three-way "T" intersections within 1,200 feet of each other, combined with the joint funneling of both Route 27 and County Route 501 under the Northeast Corridor rail line creates, intolerable traffic congestion detrimental to the healthy function of the Town Center. It is important to note that Metuchen bears a greater share of traffic generated by the region, due to its "hub" location at the center of Edison Township, which has grown tremendously during the past 25 years.

Additional growth in this region will bring growth in "background" traffic traversing Metuchen, whether or not Metuchen experiences any development. How the growth in background traffic is accommodated within a system constrained by limited railroad underpasses is a continuing challenge and threat. Standard engineering solutions of widened roads and expanded intersections are beyond the capacity of the roadway system in most places and generally not "context-sensitive". Developing solutions in keeping with Metuchen's Town Center character has required an innovative process of design, public involvement, investment and compromise. Most critically, Metuchen is continuing to explore transportation infrastructure improvements to facilitate improved circulation within the Borough and to better serve the downtown area, however, not at the cost of injuring the character of the community. The NJDOT has worked with the Borough on two forthcoming improvements along Route 27: restoring on-street parallel parking and a new traffic signal at the Lake Avenue/New Street intersection.

The principal arterial route serving the Borough is Interstate Route 287. New Jersey Route 27 (Middlesex-Lake-Essex Avenues) also serves in an arterial capacity and US Route One runs just outside of the eastern municipal boundary. Metuchen is also directly served by NJ TRANSIT train service between New York and Trenton on the Northeast Corridor Line, and Amtrak service via MetroPark, in the Boston to Washington, DC corridor. Several NJ TRANSIT bus routes cross Metuchen, with the downtown area serving as an active multi-modal transfer hub for regional transit. Further, Metuchen's prime location as a desirable residential community with close proximity and direct access to Manhattan has meant that it is home to many commuters and acts as an intermodal "park-and-ride" destination for many



Located near the geographic center of the community, the Borough is in the process of improving the function of the station area as a multi-modal transit hub, with the assistance of NJ Transit and other state and county agencies.

more. This position within the vast, New York Metropolitan commuter shed gives the Borough access to the demand-side of a large and affluent market.

In a somewhat ideal fashion, the Metuchen train station is located near the geographic center of the community on Main Street. Surrounded by fairly compact residential neighborhoods, the train station is situated within reasonable walking distance of virtually every residence in town. The value of rail transit as an amenity for the community cannot be overstated. The optimal location of the station for local residents increases the likelihood that travelers will choose transit for trips within the county to New Brunswick, Edison and MetroPark, as well as within the region to Newark, New York, Princeton and Trenton. By transferring in New Brunswick or MetroPark, riders can easily board Amtrak for destinations such as Boston, Philadelphia and Washington, DC. It is worth noting that NJ TRANSIT considers Metuchen to be one of the more "transit-friendly" communities in its rail system, in terms of land use and design.

The Borough's compact, high-density settlement pattern provides residents and visitors the choice of walking to many destinations within the community. The proximity of many daily services combined with the presence of pedestrian walkways maximizes the benefits of the community's compact form. In doing so, the Borough also provides opportunities for the elderly, children and other residents who cannot drive to have independent mobility. Metuchen has embarked on a long-term strategy of improving and enhancing pedestrian and bicycle linkages throughout the community. To this end, traffic calming strategies, sidewalk improvements and the installation of bicycle racks at destination within the community will encourage pedestrian and bicycle use-

age. In a larger context, Metuchen is a participant in the Route One Collaborative Study and is supportive of “The Bicycle and Pedestrian Corridor Plan” which seeks to make Route One more bicycle-friendly. Early action on projects for the plan include intersection improvements in Woodbridge and the widening of Route 1 in Edison. Linkages to such improvements should help to reduce a small portion of the “background” traffic anticipated from additional growth in the region.

Regionally, the Borough is hindered by traffic issues which are larger than its own jurisdiction and which will likely require cooperative solutions including, perhaps, substantial state and county investment in critical infrastructure improvements. For example, the location of existing interchanges with Route 287 pose a problem for the Borough, particularly in the northwest quadrant where regional traffic uses residential streets to bypass the difficult Middlesex/Central/Lake Avenues intersection. Most of this pass-thru volume is generated as traffic attempts to access employment centers in Edison and South Plainfield and is largely unrelated to Metuchen as a destination. Metuchen plans to continue working cooperatively with NJDOT, Middlesex County and Edison Township in developing innovative solution to the congestion problem. A certain level of congestion is expected in a Town Center, but accommodating that traffic without detrimentally impacting the quality of life in the Borough is a challenge that Metuchen can not solve on its own.

Similarly, the railroad rights-of-way have had a serious impact on the flow of traffic within the Borough. The Northeast Corridor Line runs northeast to southwest through the Borough, Conrail’s Perth Amboy branch cuts the town from its northeast to its southwest corner and the Port Reading line runs parallel to the Borough’s northern boundary. Throughout the Borough vehicles are funneled through a limited number of rail crossings. For example, the Route 27 right-of-way is fully interrupted by the Northeast Corridor main line, diverting traffic through two jogs in the roadway before realigning. The impact from this arrangement is profound, in terms of traffic disruption to quality of life and sense of place. Historically, the Borough has had repeated difficulty in effectively communicating with the entities which own and control the railroad rights-of-way that cut several swaths through the heart of town. However, in recent years these problems involving the maintenance of railroad overpasses, enforcing commuter parking violations and rebuilding the Graham Avenue pedestrian bridge have finally begun to be addressed through creative inter-jurisdictional strategies.

The advantages of providing rail service are offset by certain disadvantages and impacts. In addition to the adverse impact on traffic circulation by the railroad rights-of-way, the need to provide parking for rail commuters has meant the commitment of significant acreage in the downtown for the provision of parking spaces. Metuchen is also near capacity in terms of commuter parking at its rail station; however, there is adequate capacity to handle additional commuters who walk or reach the station by modes of transportation other than private vehicles. The corresponding peak period trips contribute to congestion in the



Traffic intersection improvements also focus on repairing and replacing outdated and unsafe crossings and pedestrian linkages.



“Background” traffic and cut-through traffic is a major problem in the core area of Metuchen. Many intersections are overburdened, placing increased pressure on traffic and making pedestrian connectivity difficult.



The Borough is involved with on-going discussions with NJ DOT, regarding context-sensitive solutions for a stretch of Route 27 along Lake Avenue from the Northeast Corridor underpass to Middlesex Avenue, and along Middlesex Avenue from Lake Avenue to Main Street.

Borough which, in turn, limits economic development, as the transportation infrastructure has less capacity to accommodate additional trips.

As a small municipality situated at the center of a heavily urbanized region, and with a Town Center that accommodates the convergence of a complex network of transportation routes, Metuchen bears more than its share of regional transportation costs and impacts. This is particularly true with respect to expenses for servicing, policing, maintaining and administering transportation-related functions. In addition, Metuchen's local road network is placed under greater stress due to the disproportionate volume of pass-thru traffic that filters through the Borough. This has secondary impacts of noise and air pollution, and general congestion, all of which have a negative impact on Metuchen's residential quality of life. One of the biggest challenges facing the Borough is the ability to adequately fund transportation-related improvements that have a regional benefit. Although the Borough is interested in exploring a host of improvements, it should not be expected to capitalize improvements that benefit the entire region at the expense of local taxpayers alone.



The Borough has already implemented a number of traffic calming measures. These interventions have had moderate success and are proposed to be enhanced and expanded to other locations in the Borough.



The biggest traffic issue remains the staggered intersection of Middlesex/Central/Lake Avenues. The convergence of significant volumes of traffic at offset intersections, combined with the joint funneling of both Route 27 and County Route 501 under the Northeast Corridor rail line creates, intolerable traffic congestion detrimental to the healthy function of the Town Center and makes pedestrian access difficult and unsafe.

Public Input Process

The Circulation Plan was developed using a public participatory process involving stakeholder interviews and community workshops. A number of residents and business owners were interviewed to determine their perceptions of existing conditions. They identified opportunities and challenges and the potential improvements that would enhance the function, liveability, safety and economic viability of the Borough. The public workshops that were held provided an opportunity to involve the “local experts” - the citizens, property owners, and businesses who live, work, and use the community on a day to day basis - in the formulation of the plan.

Metuchen citizens also acted as a sounding board for feedback on some key issues, ranging from traffic to pedestrian safety and access. The format of the workshops allowed Borough officials to listen to the issues of the community, including areas of consensus and conflict, and to more clearly understand the community’s vision for its future.



Several workshops and public meetings were held at the Metuchen Senior Center to solicit community input and collect public comment on traffic, bicycle, and pedestrian circulation.



A “Dotmocracy” exercise was used during the public workshops to help identify pedestrian and vehicular “hot spots”, as well as locations to prioritize planning and implementation efforts.

Reconnecting Your Community - Public Feedback - Workshop #1

The following are response comments from Metuchen residents that were written on the comment cards handed out during the Reconnecting Your Community Workshop at the Metuchen Senior Center held on December 2, 2008. A full summary of the community feedback and comment cards are provided in Appendix A and B.

What are the most problematic vehicular traffic "hot spots"?

- Grove Avenue and Middlesex Avenue
- Main Street and Amboy Avenue
- Route 27 and Bridge Street
- Main Street at rush hour
- Route 27 from Main Street to Lake Avenue
- Maple Avenue and Amboy Avenue
- Main Street and Woodbridge Avenue

What are the most dangerous places for pedestrians?

- Amboy Avenue and Main Street
- New Durham Avenue and Central Avenue
- Durham Road and Central Avenue
- Bridge Street and New Durham Avenue
- John Street and New Durham Avenue
- Route 27 (Main Street to Grove Avenue)
- Central Avenue near the post office
- Main Street and Durham Avenue
- Durham Avenue and Central Avenue
- Lake Avenue and High Street
- Near the train station

What are the most comfortable areas for pedestrians?

- Side streets
- Main Street
- Off Main Street in downtown
- Main Street, b/w the railroad and Middlesex Avenue
- The downtown area
- Main Street and other side streets
- Woodbridge Avenue and Oakwood Avenue
- Main Street
- The high school track
- The Middlesex Greenway

What are the most dangerous places for bicycling?

- Along Route 27
- Seems to be dangerous in all directions
- Main Street
- Everywhere
- Linden Avenue
- Middlesex Avenue
- Amboy Avenue
- Essex Avenue
- Everywhere
- Main Street

What are the most comfortable places for bicycling?

- Metuchen High School
- Woodbridge Avenue
- Side streets

Where do you walk in Metuchen and why?

- Downtown
- There are no sidewalks in my side of town

- Along Route 27, Main Street and Pennsylvania Avenue to get to & from the train station
- To Campbell Avenue, downtown and the YMCA
- Roosevelt Park in Edison
- Mason Drive- live in the area and enjoy it
- Main Street, YMCA, and elementary school most things are close
- The library, around the block, What's the Scoop
- Downtown- Shops, restaurants are prime attraction of Metuchen
- Downtown- Train station
- Main Street- For recreation, to buy something or go to a restaurant.
- Middlesex Greenway- To get across town

What improvements would you like to see at the Metuchen Train Station?

- More sheltered areas including overhangs
- More speakers
- Better access to amenities/ food
- Better maintained vegetation
- Monitors with train schedule
- Signs alerting parking and direction of train
- Recycling
- Better parking and traffic circulation
- Better and safer bike racks
- Cleaner bathrooms that are open longer hours & weekends

Have you ever ridden the Metuchen Commuter Shuttle?

Yes-2 Responses

No-11 Responses

What do you like most and least about the shuttle service?

- Lack of routes/ stops
- Seems like a waste of tax dollars. Should be paid for by riders
- No clearly posted schedules.
- I have no idea where it goes.
- I don't know about it.
- It does not go by my house.

Would you like to see the shuttle service expanded to include more routes and stops?

Yes- 6 Responses

No- 2 Responses

Where would you like to see the service expanded?

- To and from high school at the appropriate times.
- Train stop or bus stops, other places with high traffic.
- Macy's, Target, post office, Menlo Park Mall
- Down Route 27 past Metuchen Inn.
- More East/ West pickups from Durham Road to JFK Hospital

In order to facilitate community input, workshop participants were asked to identify issues concerning the corridor. Each participant was asked to fill out a walkability survey to identify what they felt were the strengths, weaknesses, opportunities, and challenges of the study area (see Appendix B). Additionally, each participant was asked to identify traffic and pedestrian “hot spots” on large aerial photographs using colored dots. This “Dotmocracy” exercise to help identify key places of emphasis as well as locations to prioritize planning and implementation efforts.

Metuchen Police Department

As part of the second community workshop, input from the Metuchen Police was gathered relative to circulation and safety issues in the Borough. The feedback covered all aspects of circulation, but focused specifically on problematic intersections, traffic calming, and pedestrian safety. At key locations, potential solutions were discussed. A detailed summary of the feedback can be found in Appendix C.

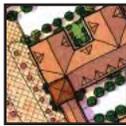


Better walkway and sidewalk connections and the judicious use of traffic calming measures, along with improved bicycle routes and greenway linkages offer the potential for much greater public benefits in circulation than conventional changes in the geometry of roadway intersections.



Railroad underpasses are major congestion points for circulation in Metuchen. This is the current condition along the Lake Avenue section of Route 27 south of the Northeast Corridor line. Community feedback included recommendations such as sidewalk replacement, better landscaping, and enhanced lighting to improve sidewalk and pathway connections to allow safer passage for pedestrian and bicyclists across town.

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Circulation Plan



The Plan focuses on improving traffic circulation, access to transit, and promoting safe pedestrian and bicycle improvements. These recommendations will preserve and enhance the Town Center and neighborhood character of the community and improve its functioning in several ways. The specific implementation items include recommendations in several different areas:

- I-287 Interchange Upgrade
- Proposed Trail Connections and Middlesex Greenway Expansion
- Expanding Metuchen Commuter Shuttle Route
- Traffic Intersection and Signal Improvements
- Traffic Calming and Pedestrian Safety Improvements
- Station Area Improvements
- Downtown Streetscape Improvements
- Proposed “Missing Link” Roadway Connections
- Parking and Commuter Parking Structures

Circulation Plan Elements

I-287 Interchange Upgrade

Middlesex Greenway Expansion

Proposed “Missing Link” Roadways

Traffic Intersection & Signal Improvements

Middlesex Avenue Jurisdiction & Traffic Calming

Main Street Improvements & Traffic Calming

Station Area Improvements

Parking and Commuter Parking Structures

Expanding Metuchen Commuter Shuttle Route

Traffic Calming & Pedestrian Safety Improvements



I-287 Interchange Upgrade

The principal arterial route serving the Borough is Interstate Route 287. The current interchange at Route 27 not a full interchange and is overburdened with a difficult geometry. Increased development in the Route 27 corridor in Edison, including the new Walmart shopping center adjacent to I-287 has only exacerbated the problem at this interchange.

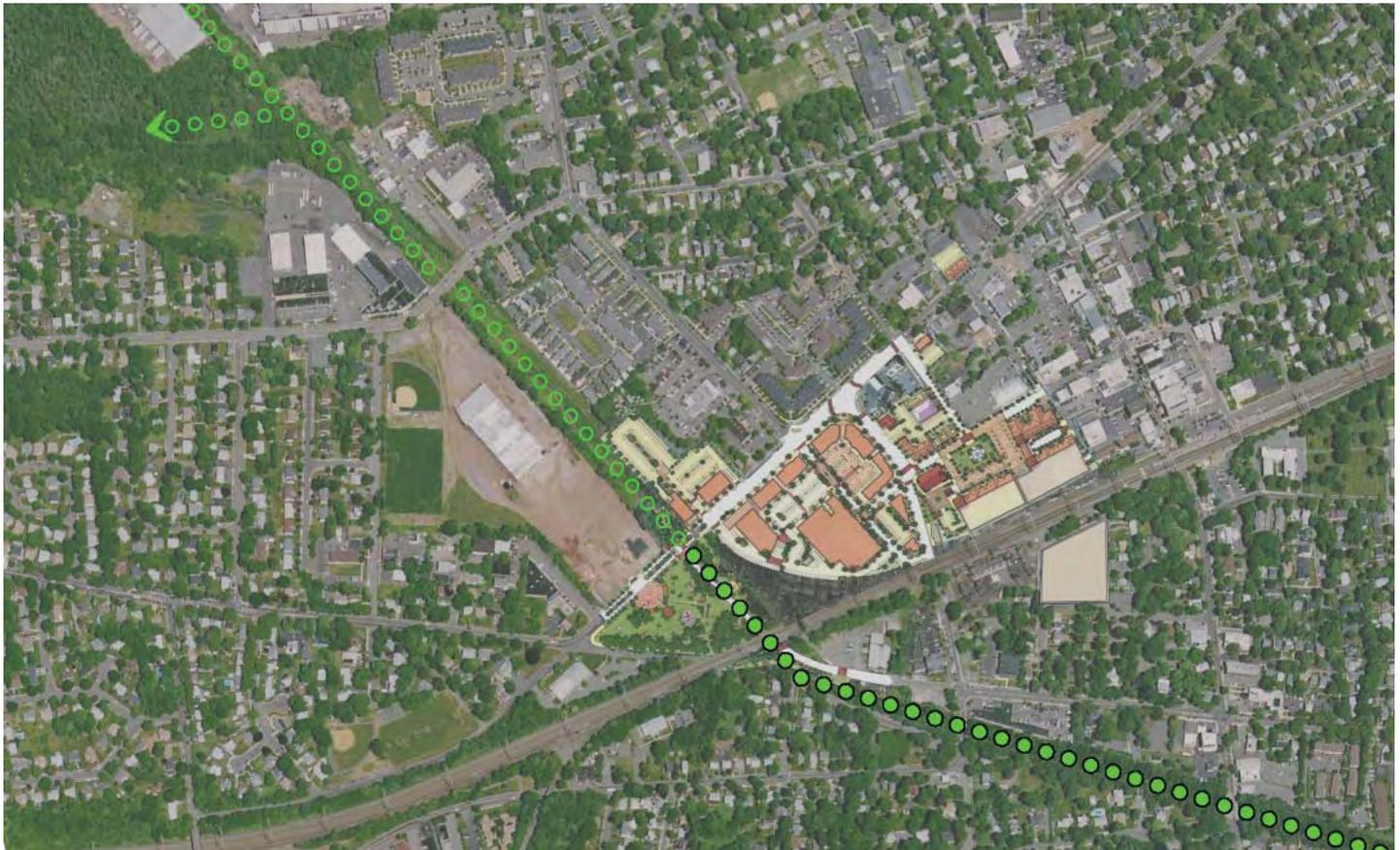
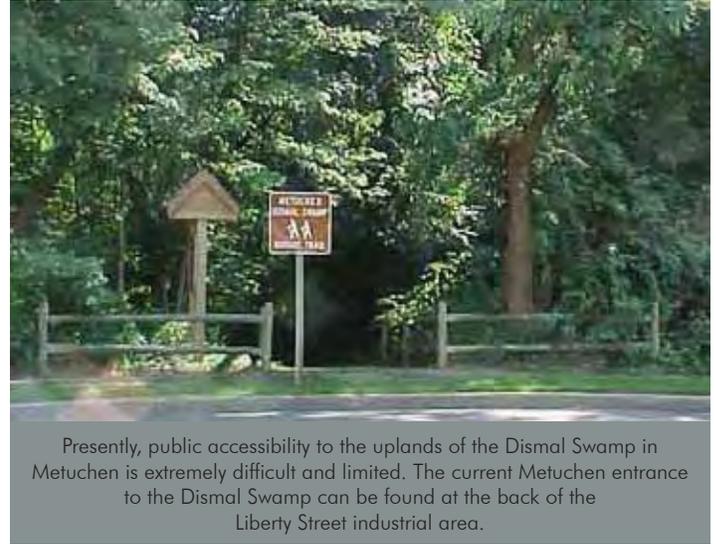
Working with the NJDOT, the Borough is in the process of finalizing a plan to reconfigure the interchange ramping and signalization. The proposed plan would bring the ramps from the north-bound direction to a signalized 4-way intersection with Bridge Street. This realignment will eliminate the series of offset intersections and confusing merging and turning movements.



Proposed Trail Connections and Middlesex Greenway Expansion

While Metuchen has several projects completed, approved and in the advanced planning stages in its Town Center, the Borough is also targeting the clean-up and mixed-use redevelopment of several brownfields sites including a portion of the Lehigh Valley Railroad right-of-way. These sites total approximately 50.69 acres of land that extends from the edge of Metuchen’s Town Center to the edge of the Dismal Swamp, the largest natural open space in northern Middlesex County. The Dismal Swamp covers nearly 1240 acres with a 12-acre portion of its wetland and upland area located in Metuchen.

What started as a “rails-to-trails” vision more than two decades ago is coming to fruition today. The Middlesex Greenway overpass at Route One is installed and Middlesex County is moving forward with implementing trail improvements. The Greenway is a regional open space running through Metuchen, Edison, South Plainfield, Woodbridge and Perth Amboy to access trails and natural open space in the Dismal Swamp. Presently, public accessibility to the uplands of the Dismal Swamp in Metuchen is



extremely difficult and limited, thus making the most significant natural open space in the region extremely inaccessible.

Spanning across Metuchen, Edison and South Plainfield, the Dismal Swamp is the most significant natural open space in the region containing 1,240 acres of wetlands. Presently, there are a number of interrelated efforts for enhancing the regional recreational value of the Dismal Swamp, including plans for additional trails, a connection to the Environmental Center at the Triple C Ranch in Edison, equestrian trails, etc.

The Borough is finalizing a master plan for the Middlesex Greenway Extension to advance the design and implementation of the following:

- A linear park, including trails connecting Metuchen’s Town Center to the uplands of the Dismal Swamp
- Wetlands restoration and an ecologically-sensitive, natural stormwater treatment design
- Pedestrian and bicycle safety improvements to existing the roadways in this area, including traffic calming



The Middlesex Greenway will provide a pedestrian and bicycle connection throughout the Borough and the region.



Following the existing Lehigh Valley Railroad R.O.W, the proposed Middlesex Greenway Extension will include wetland restoration, creative stormwater management, a dynamic park space and a proposed parkway-style road connector. The linear park will link Metuchen’s Town Center to the Dismal Swamp. A portion of the proposed connector road from Durham to Middlesex Avenue will be constructed as a condition of the recently approved sports complex.

Currently there is no designated bicycle route through the Borough. Existing road geometries and traffic patterns create real challenges for on-street bicycle routes. The Middlesex Greenway will cut diagonally across town and can serve as a main bike route. There are presently opportunities to feed into the Greenway in several locations including some dead end streets, parks, and other existing paths and rights-of-way that are currently being used to traverse the Borough.

Additional on-street routes should be explored further once the Middlesex Greenway is open and its function and access can be studied further. The long-term bicycle solution will likely include a hierarchy of routes including the Middlesex Greenway, feeder off-street paths, and a safe system of on-street locations.



The existing Lehigh Valley Railroad tunnel will be reclaimed for the Middlesex Greenway allowing the trail system to connect to the proposed Trailhead Park and further to the north.



Proposed “Missing Link” Roadway Connections

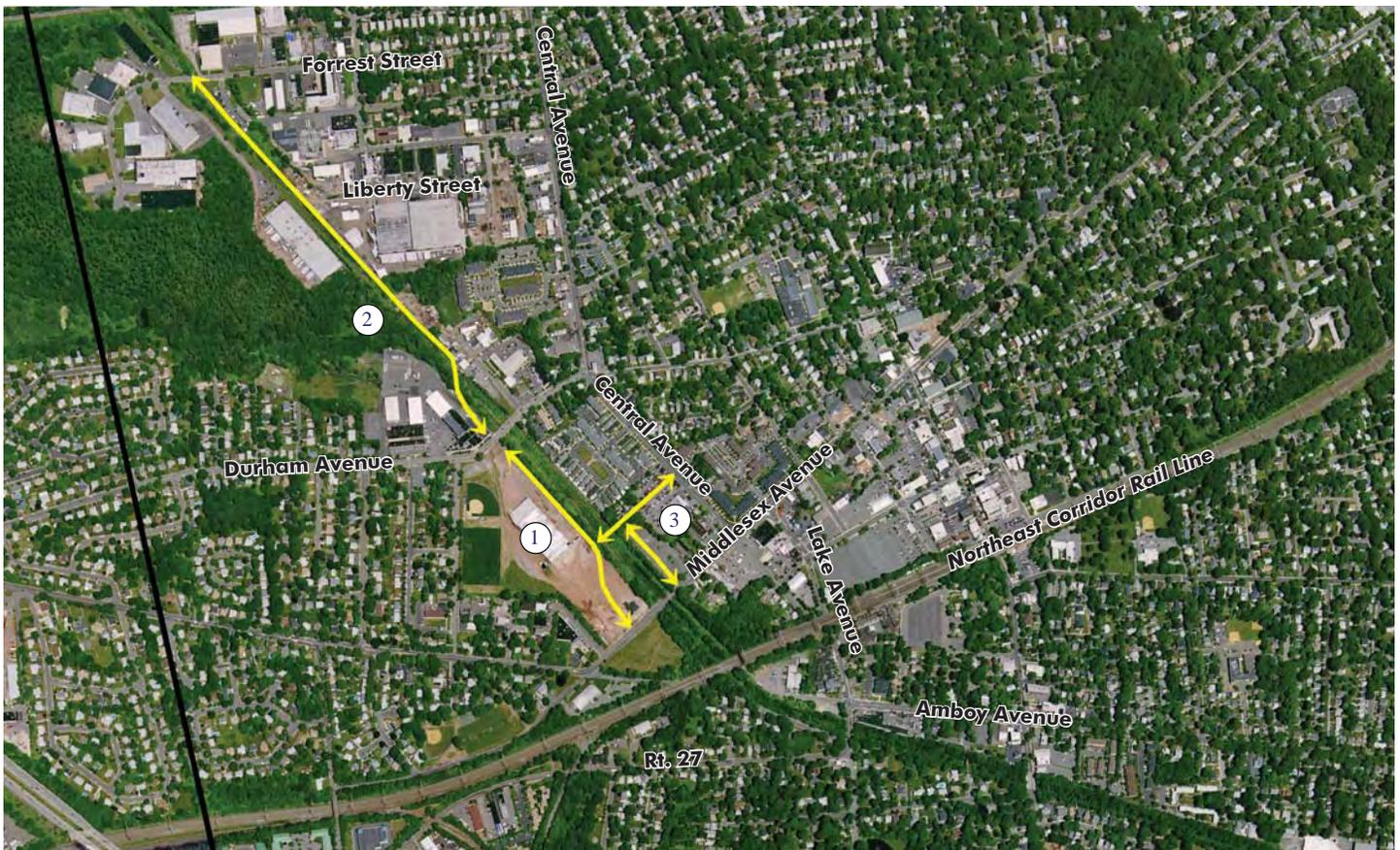
Perhaps the greatest challenge confronting Metuchen’s development capacity are the constraints imposed on its transportation infrastructure by current patterns of circulation. Additional growth in this region will bring additional “background” traffic through Metuchen, whether or not Metuchen experiences any development. How the growth in background traffic is accommodated within a system constrained by limited railroad underpasses and cross streets is a continuing challenge and threat. While there may be opportunities to improve the functionality of the street network through the redesign of key intersections or through the use of smarter signalization, these improvements must also include some mid-block connectors.

The biggest traffic issue remains the staggered intersection of Middlesex/Central/Lake Avenues. The area bounded by Central Avenue on the northeast, Middlesex Avenue to the southeast, and Durham to the northwest is much larger than the current downtown without any street connection. A series of “missing link” roadway connections solution will create more interconnectivity in this area and will help to relieve the pressure on some of the traffic hot spots, especially the Middlesex/Central/Lake Avenues intersection.

Proposed “Missing Link” Connections

The following improvements are recommended:

- ① Durham Avenue to Middlesex Avenue Connector
- ② Liberty Street Connector
- ③ Central Avenue Cross Connector





Durham Avenue to Middlesex Avenue Connector

The site plan for the Oakite site redevelopment into a new sportsplex includes a new road segment that will interconnect Durham Avenue to Middlesex Avenue. This new section of road will have a cartway width of 24' located adjacent to the Lehigh Railroad right-of-way and the future extension of the Middlesex Greenway. As a condition of approval within 18 months of occupancy, the applicant is required to extend this road to the stub street that currently exists as a new mid-block connector.

Liberty Street Connector

The Durham Avenue to Middlesex Avenue Connector is envisioned to be extended northward to the Liberty Street industrial area. This industrial area is a major source of the truck traffic on Central Avenue, which significantly degrades the service level of the problematic Middlesex/Central/Lake Avenues intersection. The abandoned Lehigh Valley rail right-of-way offers the possibility for this connection. A sensitively located narrow road would cross Durham Avenue and switch to the northeastern side of the right-of-way. The road would cross over the proposed Middlesex Greenway extension prior to the large storm sewer outfall leading into the Dismal Swamp and then extend up to the industrial properties. An extension a north-south route that would take additional vehicles off of Central Avenue.

Central Avenue Cross Connector

Ultimately this area could be improved further with additional street connections. An additional cross street at the location of the car dealership will give vehicles another outlet via the Durham to Middlesex connection, reducing some of the stacking at the light. Historically there was a public right of way platted near this location, which could be utilized to allow for more interconnectivity. A low overpass is one possibility for the crossing of the proposed Middlesex Greenway extension.



Traffic Intersection and Signal Improvements

Integral to this Circulation Plan was assistance from the NJDOT study of nine problem intersections in Metuchen. The NJDOT engineering consultant developed traffic simulation models for existing conditions of these intersections. These models were then adjusted based on comments received from the Borough. The revised existing conditions models were then used to analyze proposed improvements.

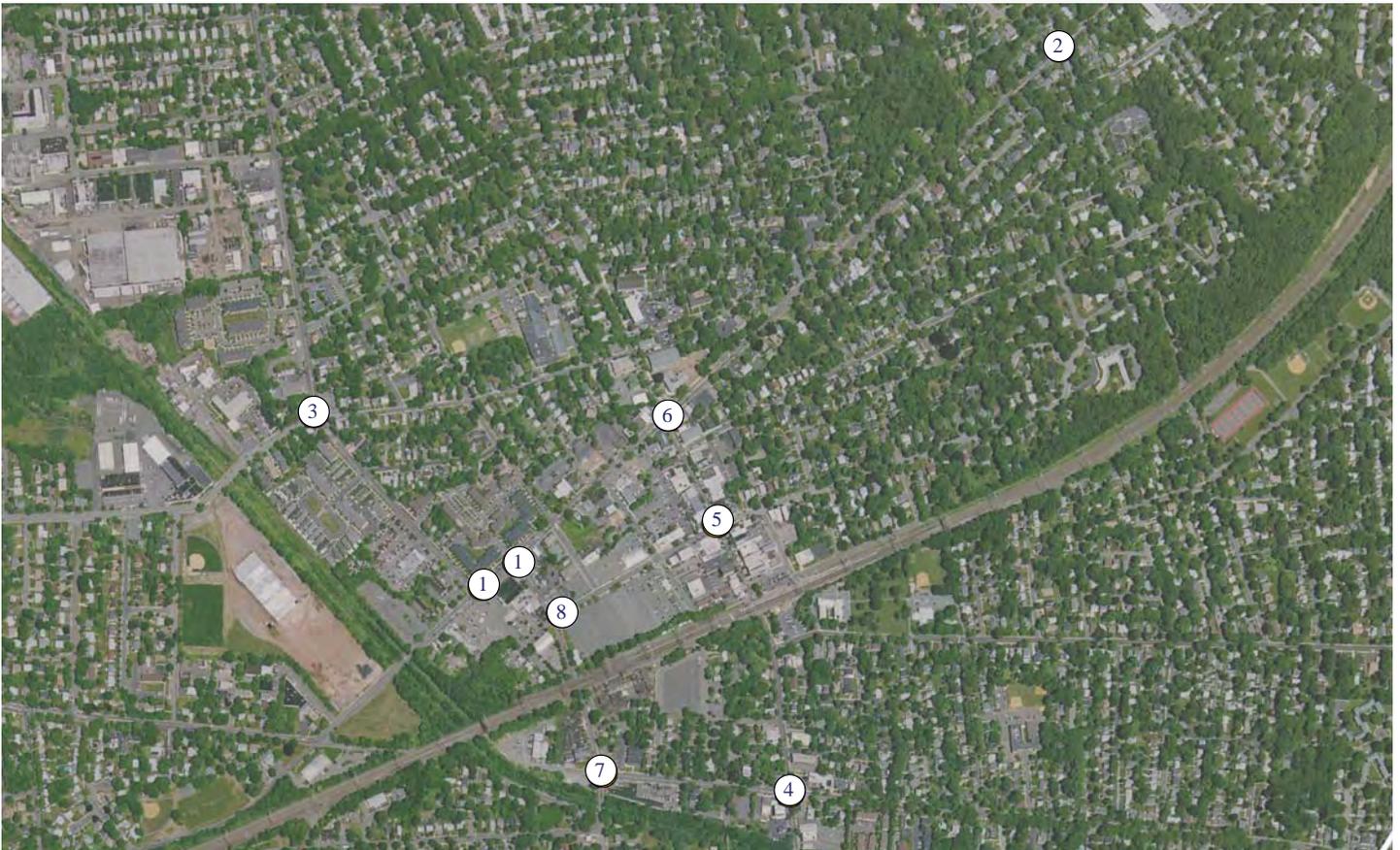
The proposed improvements were presented to Borough officials and staff and key stakeholders. A complete summary of the proposed improvements can be found in Appendix E. The NJDOT study developed two sets of proposed concepts that can be implemented in the short-term: (1) Signal Timing Improvements and (2) Short Term Improvements.

Proposed Signal Timing Improvements include changes such as the addition of an exclusive left turn phase or changing the cycle length. The Signal Timing Improvements do not involve any changes to pavement or striping at the intersections. It should be noted that these improvements were developed to accommodate Existing Year 2008 Weekday AM and PM Peak Hour volumes.

Traffic Intersection & Signal Improvements

Improvements, upgrades, and resignalization are recommended at the following locations:

- ① Middlesex/Central/Lake Avenues
- ② Route 27 & Grove Avenue
- ③ Central Ave. & Durham Ave.
- ④ Main St. & Amboy Ave.
- ⑤ Main St. & New St.
- ⑥ Route 27 & Main St.
- ⑦ Route 27 & Amboy Ave.
- ⑧ Route 27 & New St.



Short Term Improvements include changes such as the addition of turning lanes at the intersections. The proposed Short Term improvements may involve revisions to striping or pavement markings; however, these improvements fit within the existing pavement at the intersections so there are no impacts to sidewalk or right-of-way.

The benefits of these concepts, which are improved safety and traffic operations at the intersections. Implementation of the proposed improvements will improve level of service and reduce delay at the majority of the intersections. The potential impacts, which include the need for new traffic signal heads and video detection at some of the locations.

2008 AM Peak Hour		Existing Conditions	Timing Improvements	Lane Improvements
Central Ave and Middlesex Ave	LOS	C	B	B
	Delay (sec)	21.6	18.0	19.1
Durham Ave and Central Ave	LOS	C	C	C
	Delay (sec)	34.5	24.1	24.8
Route 27/Lake and Middlesex Ave	LOS	E	C	C
	Delay (sec)	63.3	29.9	27.3
Route 27 and New St	LOS	D	C	C
	Delay (sec)	39.9	33.9	23.5
Main St and New St	LOS	F	F	C
	Delay (sec)	162.7	112.5	21.2
Route 27 and Main St	LOS	F	F	F
	Delay (sec)	142.8	113.5	86.2
Route 27 and Lake Ave	LOS	D	C	A
	Delay (sec)	25.9	18.9	4.5
Route 27 and Amboy Ave	LOS	C	C	B
	Delay (sec)	28.5	25.5	17.8
Main St and Amboy Ave	LOS	C	C	C
	Delay (sec)	31.9	31.5	31.6
Route 27 and Grove Ave	LOS	F	F	E
	Delay (sec)	257.6	105.2	77.2

2008 PM Peak Hour		Existing Conditions	Timing Improvements	Lane Improvements
Central Ave and Middlesex Ave	LOS	C	C	C
	Delay (sec)	27.9	28.1	28.8
Durham Ave and Central Ave	LOS	C	C	C
	Delay (sec)	21.8	20.5	21.3
Route 27/Lake and Middlesex Ave	LOS	D	C	C
	Delay (sec)	41.6	29.7	25.7
Route 27 and New St	LOS	D	C	B
	Delay (sec)	48.7	32.8	19.9
Main St and New St	LOS	E	D	C
	Delay (sec)	62.2	36.9	20.8
Route 27 and Main St	LOS	F	F	E
	Delay (sec)	118.4	126.2	79.1
Route 27 and Lake Ave	LOS	F	F	F
	Delay (sec)	255.5	340.2	100.4
Route 27 and Amboy Ave	LOS	F	E	D
	Delay (sec)	165.5	78.5	35.6
Main St and Amboy Ave	LOS	F	F	F
	Delay (sec)	96.1	81.2	110.7
Route 27 and Grove Ave	LOS	F	F	F
	Delay (sec)	194.9	190.0	128.1

Implementation of these Short Term Improvements will improve safety, improve traffic operations and reduce delay at the project intersections. However, some of the proposed DOT improvements impact parking along Main Street and reduce lane widths. At the Main Street and New Street intersection, the proposed northbound left turn lane requires the elimination of 11 parking spaces on Main Street. Also, the proposed right turn lane at the Central Avenue and Middlesex Avenue requires the elimination of five (5) parking spaces on Middlesex Avenue. The specific reduction of spaces will need to be further examined on a case by case basis.



Middlesex Avenue and Central Avenue/Lake Avenue

- Revise signal timings to reduce the greentime for the Middlesex Avenue northbound lead phase
- Add a right turn lane on Middlesex Ave. south bound. (Lanes for this approach: 1 shared left turn/ through lane, 1 through lane, 1 right turn lane.)
- Create two through lanes on Middlesex Ave. south bound will be carried through the intersection



Route 27 and Grove Avenue

- Change to uncoordinated traffic signal (currently is coordinated for Route 27 traffic)
- Add exclusive lead left turn phase for Main Street northbound and southbound
- Revise peak hour cycle length
- Add right turn lane for Grove Avenue southbound



Central Avenue and Durham Avenue

- Change to actuated traffic signal (currently is a pretimed signal)
- Add exclusive lead left turn phase for Central Avenue northbound
- Add a lead phase for Durham Avenue east-bound approach
- Revise peak hour cycle lengths



Main Street and Amboy Avenue

- Revise peak hour cycle lengths



Main Street and New Street

- Change to an actuated traffic signal
- Add a left turn lane on Main Street northbound during morning rush hour only
- Revise peak hour cycle lengths



Route 27 and Main Street

- Add a right turn lane on Main Street northbound
- Change to uncoordinated traffic signal (currently is coordinated for Route 27 traffic)
- Add exclusive lead left turn phase for Main Street northbound and southbound



Route 27 and Amboy Avenue

- Revise peak hour cycle lengths
- Change to uncoordinated traffic signal (currently is coordinated for Route 27 traffic)
- Add exclusive lead left turn phase for Route 27 southbound
- Revise peak hour cycle lengths

Middlesex Avenue

Context-Sensitive, Pedestrian Safety and Traffic Calming

As part of the on-going discussions with NJDOT, the Borough is exploring a cooperative maintenance agreement along a five-block stretch of Route 27 on Lake Avenue from the Northeast Corridor underpass to Middlesex Avenue, and on Middlesex Avenue from Lake Avenue to Main Street. It also includes a short leg of Middlesex from the Lake intersection down to Central Avenue. This would allow Metuchen to control the desing of any improvements in the stretch. This would include mid-block pedestrian shelter islands, traffic calming, restricted left turns, on-street parking and streetscape improvements among other things. These improvements could be coordinated with context-sensitive streetscape improvements along Main Street and other parts of downtown to create a unified design and a comprehensive traffic management and calming strategy for the entire core area of the Borough.

The stretch of Middlesex from Central Avenue to the southwest is the extension of Route 501 and is under the jurisdiction of Middlesex County. A similar maintenance agreement strategy as described for Rt. 27 should be explored for this area as well. All the streetscape improvements, traffic calming, and on-street



If the Borough is to establish a maintenance agreement of a stretch of Route 27 along outlined below, Metuchen will be able to control any improvements including traffic calming, restricted left turns, on-street parking and streetscape improvements.





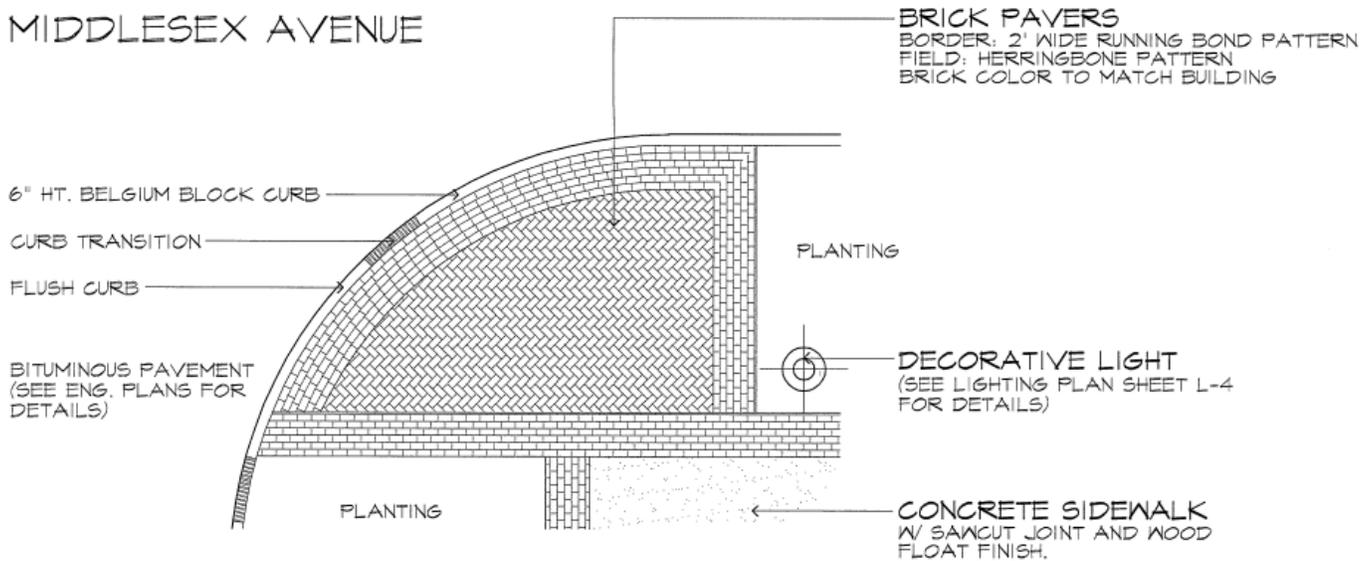
parking are needed to extend the character and viability to the redevelopment parcels in this section of Town Center.

Currently the “suicide” left turn lane is being used as an extra drive lane during peak times and induces high speed center passing lane due a wider perceived road width during off-peak times. By limiting some of the lefts on this stretch and reducing the overall cartway widths with some islands/bumpouts and the addition of limited on-street parking, the pedestrian crossings will become much safer without dramatically affecting the traffic capacity.

The proposed strategy for this section of Route 27 includes:

- ① Adding a planted median between Main Street and Pearl Street limiting some left turns and defining left turn lanes for Main Street and Pearl Street.
- ② Adding a small pedestrian refuge island between Pearl Street and Williams Street consolidating pedestrian crossings to this location
- ③ Adding on-street parking on the south side of Middlesex Avenue between Pearl and Center Streets
- ④ Adding a pedestrian refuge island at the southern side of the Center Street intersection to assist in pedestrian crossings and eliminate speeding to the Lake Avenue left
- ⑤ Limiting crosswalks at Lake-Middlesex-Central intersections to one across Middlesex to the southwest of Central and one across Central at the Middlesex intersection at a more perpendicular location with a shorter crossing
- ⑥ Relocating the pedestrian refuge island at Central and Middlesex to the new crosswalk location
- ⑦ Adding on-street parking at the Cryan site on north side of Middlesex Avenue
- ⑧ Adding “cut-in” (maintaining current travel lane width) on-street in front of the Renaissance project on south side of Middlesex Avenue
- ⑨ Reconfiguring the traffic signalization and pedestrian crossings at Lake Avenue and New Street
- ⑩ Adopting a new streetscape/sidewalk standard spec to be upgrade in conjunction with any property improvements in this stretch. (Please refer to the Main Street streetscape improvement section for this sidewalk spec)

MIDDLESEX AVENUE



The details for the District at Metuchen will include a standard bricked-lined sidewalks. The detail calls for a running bond of brick 24" in width to run along the buildings with another 24" of brick at the curb to serve as a "splash strip". As applications in the B-1 and D-1 Districts come before the Planning and Zoning Boards, property owners will be required to adopt this standard specification and install as a condition of approval.



The plan for the District at Metuchen is incorporating many of the envisioned streetscape enhancements including the standard sidewalk spec, new "Main Street" lighting along Middlesex and Lake Avenues, on-street parking, and other streetscape and public art improvements.

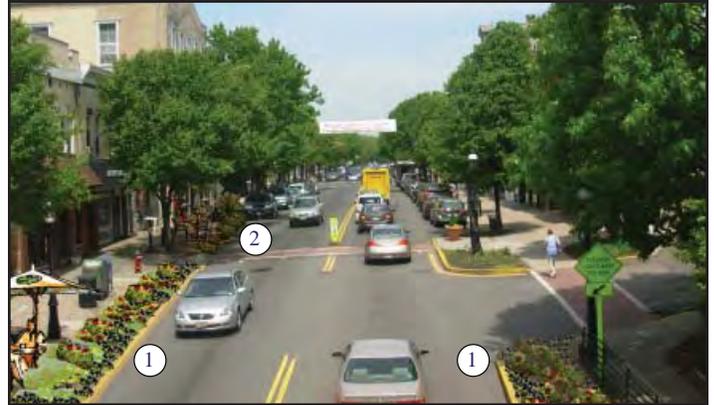
Main Street Improvements and Traffic Calming

Main Street

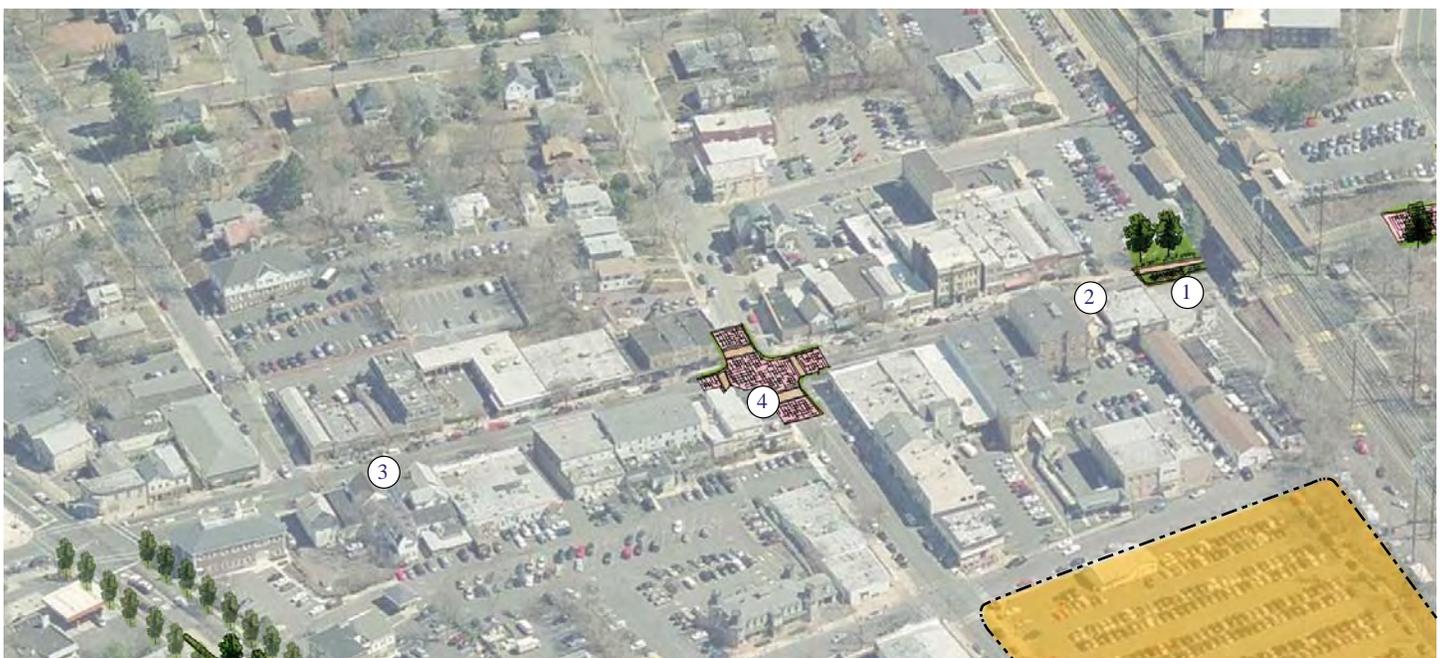
Traffic calming such as the lighted crosswalk at Station Place have helped along this stretch of Main Street in Downtown. Problems still occur with increasing speeds as cars ascend toward downtown from the Northeast Corridor underpass, difficult crossing and turning movements at some cross streets, and traffic stacking at the bus shelter.

The proposed strategy for taming this section involves a series of interventions to slow speed and make crossings safer. This strategy includes:

- ① Adding curb bumpouts on both side between Station Place and the Northeast Corridor underpass
- ② Removing the parallel space on southbound side before the Station Place crosswalk
- ③ Relocating the bus shelter near Middlesex Avenue
- ④ Replacing walk signals & add textured crosswalks/inter section at New/Hillside Avenue



New traffic calming improvements will build upon previous improvements by reducing speeds and eliminating illegal loading and parking on Main Street near the station and the rail under-pass.



Downtown Streetscape Improvements

On Main Street and along other streets in the B-1 and D-1 Districts and consistent set of streetscape elements is recommended. The Borough's Main Street lighting fixtures and street furniture will be required to be installed as applications come before the Planning and Zoning Boards.

Bicycle use in the Town Center is high and bicycle storage has reached its capacity. Promoting more bicycle use at the train station and in the Town Center will help to take some of the burden off of the traffic and downtown parking. Some additional racks should be considered as part of the streetscape improvements.

Following the lead of some more recent sidewalk improvements and the proposed streetscape of the District at Metuchen project, details for the Town Center will include a standard bricked-lined sidewalks. The detail will include a running bond pattern +/- 24" in width running parallel to the sidewalk at both the planting strip edge and along the building with approximately 6' of concrete slab in between. There is also a 24" brick "splash strip" along the curb edge for parallel parking areas. The concrete in the sidewalk was divided with a 24" brick pattern about every 20' (but may also be spaced to align with a rhythm in the building façade) running perpendicular.

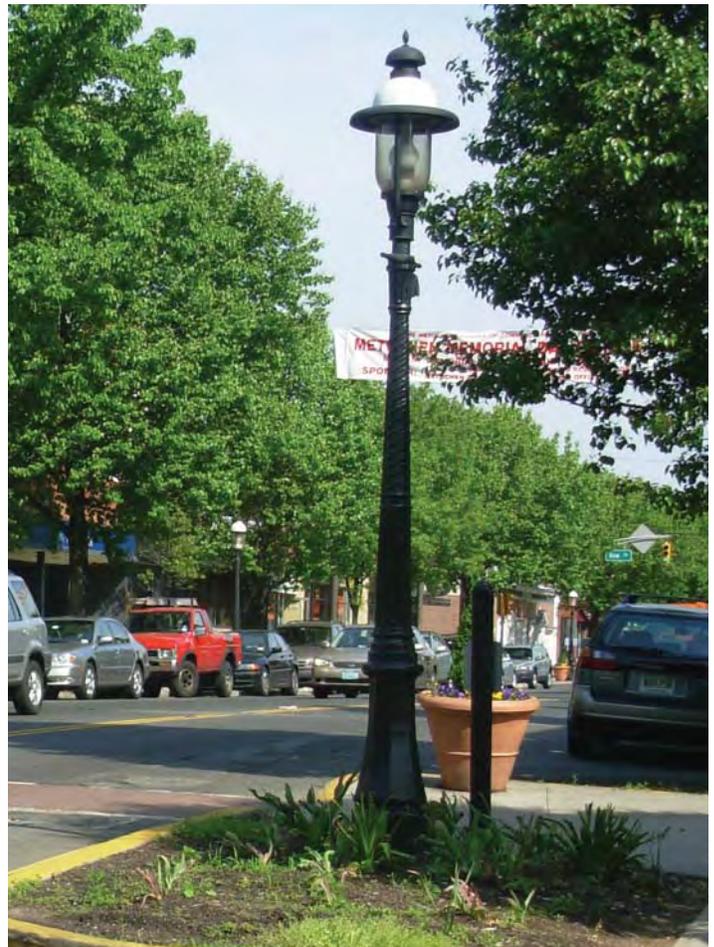
Downtown Streetscape Improvements

The following improvements are recommended:

- Standard Sidewalk Specifications
- Standard Street Lighting
- Bike Racks & Lockers
- Street Trees
- Public Art



New sidewalks shall match some of the existing infill in the corridor, utilize the Downtown sidewalk spec, and be wide enough to handle pedestrians and accommodate benches, planters, street trees and street lights.



New street lighting will comply with the specified Main Street lamp posts.

Main Street and Woodbridge Avenue

As one of the most dangerous pedestrian intersections in the Borough, the area adjacent to the Post Office and the train station is another high priority focus of traffic calming. The odd geometry of the intersection, including the drop to the Northeast Corridor underpass, combined with two bus stops, quick parking and illegal “jaywalk” crossings associated with the Post Office, makes for a complicated traffic and safety situation.

Pedestrian strikes occur particularly from the right turn onto Woodbridge Avenue. There is a school crossing guard located there, but is only responsible for assisting children crossing the street. The crosswalks, which are textured paved, have become worn and faded making pedestrian crossings even more tenuous.

The proposed strategy for taming this section involves a series of interventions to slow speed, heighten driver awareness and make crossings safer. This strategy includes:

- ① Adding textured pavement at the intersection and extending past Post Office and bus shelters on Main Street and to the station driveway on Woodbridge Avenue
- ② Adding a bumpout on the west side of the intersection



Pedestrian crossings at Woodbridge Avenue are very difficult and dangerous with a high percentage of pedestrian strikes as reported by the police. The crosswalks are currently worn and faded.



Station Area Improvements

The Metuchen Station is in need of a series of enhancements for improvements for access and circulation and facility upgrades. Metuchen is one of the busier stations on the Northeast Corridor. The station was built in 1888 and significantly renovated in 1979. There is a newsstand in the waiting room of the northbound platform that operates on weekday mornings during rush hour. A private concierge service operated between 2001-2003, but is now closed. Residents and commuters surveyed identified more covered shelter space, better access to amenities/bathrooms/food more speakers, video monitors/schedules, and longer station hours as possible facility upgrades.

The station is served by NJ Transit #810, 813, and 819 bus lines and the Metuchen Commuter Shuttle jitney. The new bus shelters on Main Street are examples of some more recent successful station area improvements and demonstrate how the Borough can work with NJ Transit to create context-sensitive design solutions. Improved pedestrian crossing and traffic calming measures are needed at the Main Street and Woodbridge Avenue intersection where most bus transfers occur.

The station platforms are in need of repairs and are not long enough to accommodate some New Jersey Transit trains. There are significant pooling and water issues on the platform, the Main Street underpass, and the stairs leading down from the platforms to Main Street and the parking areas. This damage are both maintenance and safety concerns.

The station platforms have been lined with wooden plank walls for many years, which block the view of Main Street. It is recommended that these solid walls be replaced with a more transparent wall system. Increased transparency would make the platforms feel safer, offer more light and give a more open feel. Better visibility out from the platform and from passing trains will also help market Metuchen, giving train travellers a glimpse of the Borough's charming Main Street.

The station parking areas are often backed up with waiting cars as kiss-n-ride areas are not clearly defined. These areas could be strategically reconfigured parking to allow for better flow and more clearly defined passenger loading areas, both kiss-n-ride and shuttle staging areas. One possibility includes eliminating the two parking spaces closest to the station building to create better circulation, allowing for loading/unloading but also creating a lane to pass through.

Additional Station Area improvements might include strategically partnering with surrounding properties on both sides of the tracks to create shared facilities including some shared parking, service/dumpster facilities, and even platform access. The First

Station Area Improvements

Improvements are recommended at the following locations:

- Platform Upgrade & Expansion
- Station Parking/ Circulation
- Upgrade Station and Information Kiosk
- Additional Bike Racks & Lockers
- Shuttle Staging Area



Waiting cars often cause congestion in the parking areas as kiss-n-ride areas are not clearly defined.



Upgrading portions of the wooden plank walls at the station with more transparent sections will open up the station. Better visibility will help market Metuchen, giving train travellers a glimpse of the Borough's vibrant Town Center and Main Street.

Presbyterian Church is one property that might be approached to provide some shared parking, service/dumpster facilities, and even platform access through some cross-easements.

According to a NJ Transit study there are approximately 75 bicycle racks at the Metuchen Station. The bicycle use at the train station is high and bicycle storage has reached its capacity. Promoting more bicycle use at the station will help to take some of the burden off of the traffic and parking in the station area. Some additional racks should be considered as part of any station upgrades. Bike lockers (enclosed lockable containers) are another amenity that should be further explored at the station.



The bicycle use at the train station is high and some additional racks and bike lockers should be considered.

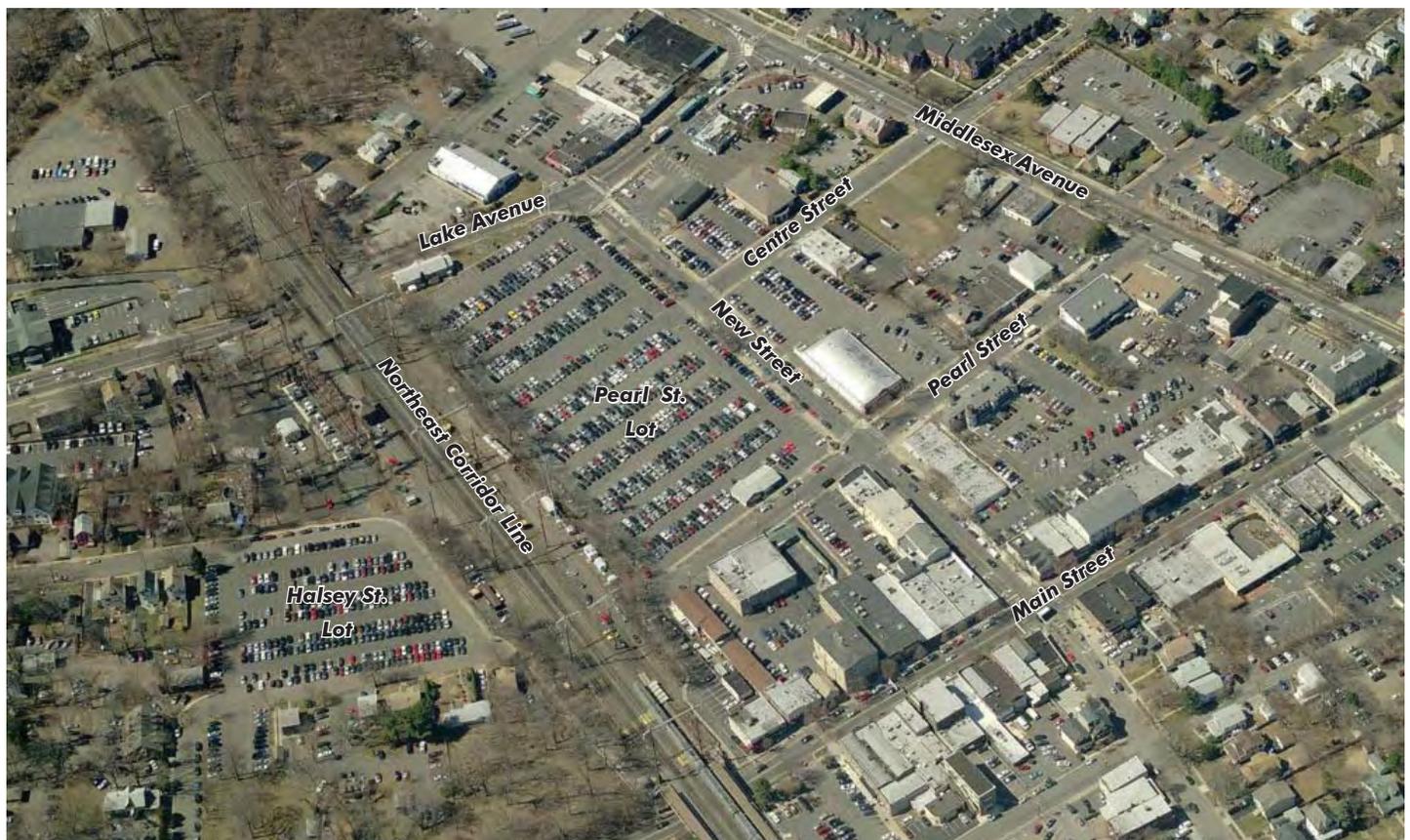


The Metuchen Station train platform, Main Street underpass and steps leading down to the street level are in varying states of disrepair and should be targeted for upgrades and improvements.

Parking and Commuter Parking Structures

The downtown core of Metuchen is disconnected by surface parking and under-utilized land. Parking structures and shared parking strategies can be used to free up land for infill and redevelopment opportunities and create a better-connected series of streets, sidewalks, and public spaces. The successful “reconnecting” of downtown should incorporate a comprehensive parking strategy that includes the sharing of peak and off-peak capacity among the different uses in the Town Center. The combination of on-street, surface lots, and parking structures offer both short-term and long-term parking opportunities. All surface parking for new infill development will be kept to the rear of buildings and out of view from the core areas and public realm.

The Borough is in the process of seeking funding to design and engineer a new parking structure on the site of the current Pearl Street parking lot. The parking structure would be phased to maintain commuter parking during its development and the Borough should explore the possibility of some temporary parking options with adjacent land owners during construction.



The Pearl Street parking lot dominates the downtown core. Parking structures and shared parking strategies can be used to free up infill development and be a significant part of “reconnecting” to the rest of downtown.

**Potential Future Parking
Structure Location**

**Proposed Parking
Structure Location**



Parking structures should knit into the finer grain of the existing downtown core by using liner buildings with massing and architectural elements that transition and compliment the existing scale and character of the Downtown district. A multi-level parking structure sits behind this public plaza and mixed use liner building in downtown Princeton.

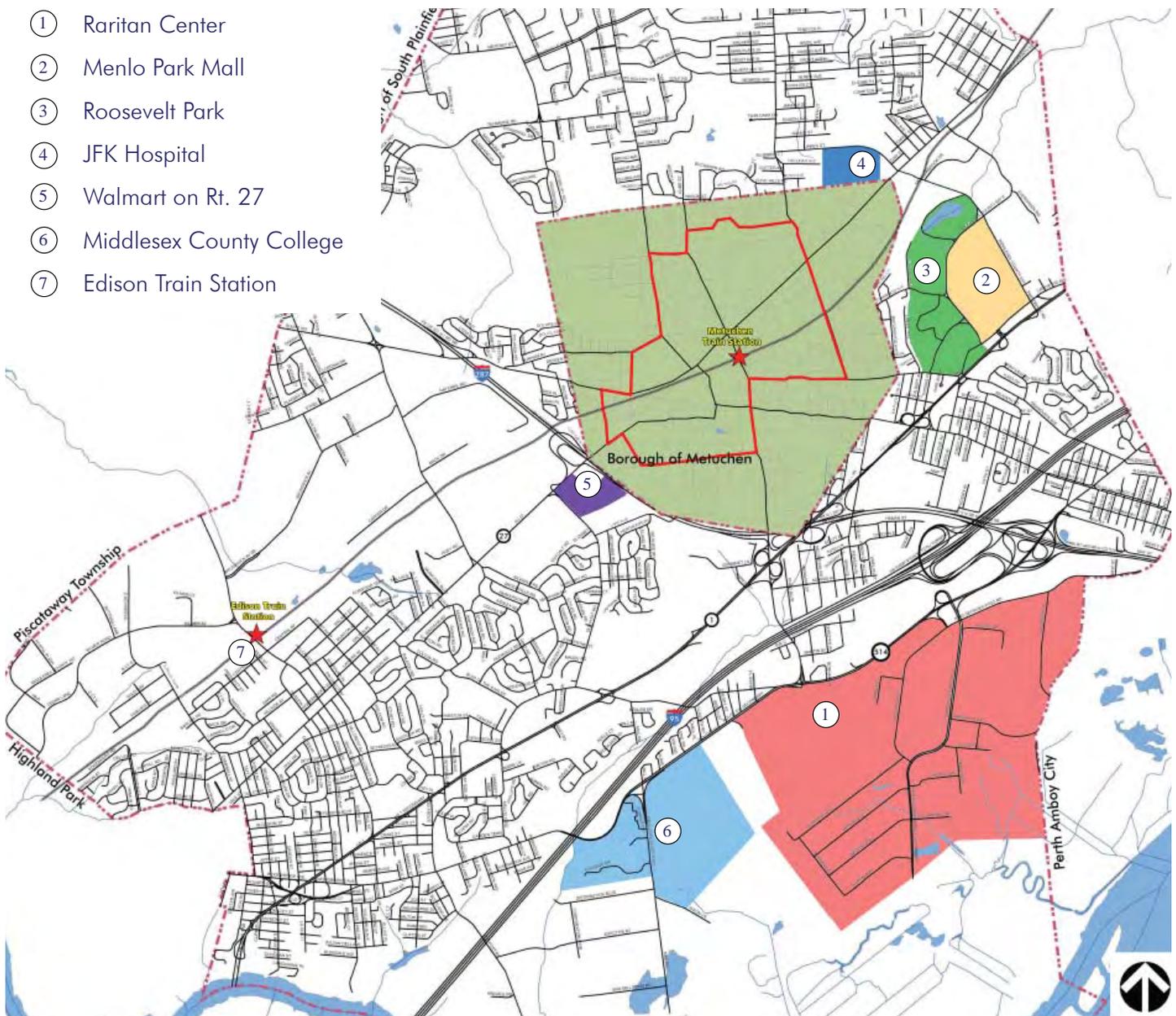
Metuchen Commuter Shuttle

For a number of years the Borough ran the Metuchen Commuter Shuttle during rush hours for commuters going to the train station. The service has recently been discontinued.

In order to be more effective circulation element, the service needs to be expanded with more route options, in terms of stops, directions, and destinations. Given the fiscal strain on providing the existing service, an expanded route and schedule is not something the Borough can provide and ultimately Metuchen will need to get out of the shuttle business. A likely solution is a partnering arrangement with Edison Township, Middlesex County or an organization like Keep Middlesex Moving to provide an expanded service and may ultimately require user fees, even if partially subsidized. A potential shuttle route might utilize two loops or a “figure 8” configuration with the train station as the central point, which would make the service more accessible to more places in the Borough at both peak times.

Other possible regional destinations being explored include:

- ① Raritan Center
- ② Menlo Park Mall
- ③ Roosevelt Park
- ④ JFK Hospital
- ⑤ Walmart on Rt. 27
- ⑥ Middlesex County College
- ⑦ Edison Train Station



Traffic Calming and Pedestrian Safety Improvements

The Borough has already implemented a number of traffic calming measures. These include center islands, curb bumpouts, lighted bollards, textured pavement and raised speed tables on South Main Street. Lighted crosswalks, textured pavement, and bumpouts have also been added on Main Street near Metuchen Station. These interventions have had moderate success and are proposed to be enhanced and expanded to other locations in the Borough.

There are some general maintenance issues associated with traffic calming that should be applied across the entire Borough. Many of these require simple painting and preventative maintenance and could use NJDOT Safe Streets to Transit Program funding to improve. These general issues include:

- Borough-wide crosswalk restriping
- Borough-wide stop bar repainting
- "Zebra striping" to be added in islands
- New curbs throughout downtown
- Overhead chain weights on Main Street to alert trucks before getting stuck at the train underpass

Traffic Calming & Pedestrian Safety

Additional improvements and traffic calming measures are recommended at the following locations:

- South Main St.
- Grove Ave. at Oakland/Henry St.
- Main/ Clive St. & Plainfield Ave.

Traffic Calming Techniques and Devices

Traffic calming is an effect which helps lower vehicular speeds, as motorists get the sense that the street is a shared public space with pedestrians. Traffic calming is an integral part of community planning and is achieved through the careful design of traffic calming devices, building placement, architecture and streetscape elements.



Curb Bumpouts

Curb bump-outs occur at intersections or mid-block locations to narrow the street pavement and define parallel parking areas. The smaller pavement width enables shorter crosswalks making pedestrian crossings quicker and safer. The bump-outs create protected areas for turning vehicles to get closer into the intersection for increased visibility.



Planted Medians and Traffic Islands

Planted medians and traffic islands are another means of narrowing travel lanes. They can be utilized to reduce speeds, restrict turning movements and shorten pedestrian crossing distances, thus, improving overall safety for



motorists and pedestrians.

Pedestrian Refuge Islands

A refuge island allows pedestrians a safe stopping point before crossing a road. It is typically used when a street is very wide and/or with heavy traffic, as the pedestrian crossing can be too long for some individuals to cross in one traffic light cycle. It is also used when no light exists, and pedestrians need safe harbour after managing one direction of traffic, before taking on the next.



Textured Pavement

Textured pavement in the roadway indicates to motorists that they need to slow down and become aware of high levels of pedestrian activity. This technique can be effectively used to define crosswalks, offset intersections, parallel parking spaces and travel lanes.



Raised Speed Tables

Speed tables and raised crosswalks create a gradual rise and fall in the pavement. The central section of the table is flat. They may be used as a raised crosswalk, or in a series of two or more for the purpose of speed reduction. Oftentimes these devices will incorporate textured pavement for a further calming effect. An example can be found on South Main Street between Lincoln and High Streets



On-Street Parking

On-street parking effectively reduces the cartway width, thereby slowing vehicles and potentially reducing the number and severity of accidents. For pedestrians, on-street parking creates a buffer between moving traffic and individuals walking on the sidewalks, providing a measure of safety and reducing the level of perceived noise.

South Main Street

The Borough has already implemented a number of traffic calming measures on South Main Street. These include center islands, curb bumpouts, lighted bollards, rumble-strips/textured pavement and raised speed tables. These interventions have had moderate success, but speeds coming into town are still too fast, the bollards have been repeatedly knocked over, and efforts to get the county to reduce the speed limit have not been successful. Grooves in rumble strips have since been filled after complaints from neighbors regarding the noise.

The proposed strategy for improving the existing traffic calming to slow speed and make crossings safer includes:

- ① Expanding/widening the island near West Cedar Street, placing a larger “Welcome to Metuchen” sign and more landscaping and larger boulders
- ② Add bumpouts between East Cedar St. and the I-287 bridge into town
- ③ Extending the Phase I bumpouts to further narrow the roadway width



Grove Avenue at Oakland/Henry Streets



The Grove Avenue intersection with Oakland and Henry Streets was identified as a pedestrian “hotspot”. Speeds in this section are higher than they should be and the speed limit should be dropped to 25 mph. Based on low accident levels, a four-way stop at this location is probably not warranted. There is also substantial emergency vehicle traffic along this route headed toward JFK Hospital.

The proposed strategy for taming this section involves a series of interventions to slow speed and make crossings safer. This strategy includes:

- ① Adding new curb bumpouts on Grove Avenue
- ② Adding textured pavement to the intersection
- ③ Realigning crosswalks to make shorter crossings
- ④ Moving the northern crosswalk from Henry Street to be perpendicular to the northern edge of Oakland Avenue



Main/Clive Streets and Plainfield Avenue



The intersection of Main Street, Clive Street, Plainfield Avenue, and Christol Streets is essentially a five-way stop condition with a small triangular island used to allow right turns from Clive onto Plainfield. Locating the stop signs and stop bars is difficult as a result of this intersection configuration. There is a tendency for drivers to do a rolling stop for the right turn from Plainfield to Main, which is very dangerous for pedestrians.

The proposed strategy for traffic calming this section involves a slight reconfiguration of the intersection and a few interventions to make crossings safer. This strategy includes:

- ① Squaring up Plainfield Avenue and Clive Street to create more typical intersection with clear stop locations and shorter pedestrian crossings
- ② Adding curb bumpouts on Plainfield to narrow intersection and end the rolling stop condition
- ③ Adding textured paved crosswalks



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Circulation Plan | Metuchen | New Jersey

Planning Implementation Agenda



In order to implement the vision of this plan, a series of short and long-range actions must be undertaken by the Borough, Middlesex County, the State of New Jersey, as well as many of the residential and commercial stakeholders in Metuchen. The Borough Planning Board needs to adopt this plan as an amendment to its Master Plan. The following Planning Implementation Agenda indicates many of the most critical actions, but not all, required to implement this plan. It also indicates the stakeholder(s) who will be most responsible for implementing each broad action and identifies funding sources.