Acknowledgements

The project team would like to recognize and express appreciation to the numerous individuals who contributed information, attended a meeting or workshop, sent in a comment, or otherwise participated in the development of the Montclair Township SAFE / Complete Streets Implementation Plan. Special thanks to the Steering Committee for their time and on-going commitment to making Montclair a safe and enjoyable place for walking and bicycling.

PROJECT TEAM

The Office of Bicycle and Pedestrian Programs, New Jersey Department of Transportation & The Township of Montclair

with

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and

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STEERING COMMITTEE

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Brendan Gill, Essex County Freeholders
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Disclaimer
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I. Introduction

Project Purpose & Background
This Montclair SAFE (Streets Are For Everyone) Complete Streets Implementation Plan provides a road map for improving the walking and bicycling environment in the Township of Montclair. The purpose of this plan is to provide guidance towards ensuring that Montclair’s streets are designed to encourage safe driving, bicycling and walking and to advance the Township’s SAFE / Complete Streets philosophy.

Montclair, a Bronze-Level Bicycle-Friendly community and a Silver Walk Friendly community, is ahead of most municipalities in improving multi-modal travel within the Township. This plan builds upon those efforts to further enhance bicycle and pedestrian safety and mobility for users of all ages, abilities and socio-economic backgrounds.

Project Background
The Township of Montclair is a six square mile vibrant community located along the Watchung Mountains in Essex County, New Jersey (Map 1). The Township’s transportation network consists of six train stations and a system of bus routes and it has an active commercial district and smaller neighborhood commercial areas.

The Township is committed to investing in making bicycling and walking safer and more accessible to all users. Both the Township and Essex County have Complete Streets Policies and the 2015 Land Use and Circulation Element of the Montclair Master Plan recommended that the Township “establish a network for pedestrian and cyclists”.

To further those efforts, the Township submitted an application to the NJDOT Local Bicycle/Pedestrian Planning Assistance Program (LBPPAP) to receive technical assistance in developing a SAFE / Complete Street Implementation Plan. NV5 was selected to provide assistance to the Township in developing this plan.

Map 1: Context Map

Project Objectives
The objectives of this plan are to:

→ Develop and build consensus for Community Priorities for travel in Montclair incorporating a SAFE / Complete Streets philosophy
→ Review and Evaluate the Township’s previous planning efforts
→ Identify a SAFE CS Network for enhanced bicycle and pedestrian mobility
→ Facilitate outreach efforts to draw in stakeholders, elected officials, staff and the community at large to help build consensus for a set of street typologies and design guidelines consistent with providing safe access for all street users
→ Be adopted as an element of the Montclair Master Plan and actively used to assist design decision-making as streets are maintained, repaved, and/or otherwise improved.
What is the Montclair S.A.F.E. Streets Initiative?

“Montclair SAFE began in 2011 as an initiative of the Montclair Traffic/Parking Advisory Committee and the Engineering Bureau to raise awareness of the recently adopted Complete Streets policy and begin the process of engaging the community to envision its streets in a more inclusive way so people walking and rolling (on bikes or in wheelchairs or strollers) are comfortable and feel safe using them.

The group outlined five key goals of the initiative, which are:

→ Identify walking paths and routes and ways to encourage more walking by protecting/enhancing our pedestrian spaces
→ Identify bicycling paths and ways to encourage cycling by designating “preferred” routes and protecting/enhancing existing facilities
→ Identify ways to enhance and promote Montclair’s many transit options (trains, buses, jitneys, etc.)
→ Implement SAFE plans at little additional cost to the taxpayers of Montclair

Since then we’ve been able to improve a few streets, the most notable being South Park Street. With its generously portioned sidewalks and traffic-calming, tree-lined median; South Park Street is a great model for how a complete street in the downtown should look and feel.”

Source: Montclair Engineering Department

Photos: South Park Street, Credit: Montclair Township & Arterial, LLC
Need for SAFE / Complete Streets
SAFE / Complete Streets help make communities more vibrant and livable. As per Montclair Township – “SAFE stands for “Streets Are For Everyone” and it is the acronym that we believe captures the spirit behind the development of complete streets in Montclair”.

SAFE/Complete Streets are streets that are focused on people not just vehicles. They prioritize pedestrian movement with improved sidewalks, safe intersections and crosswalks, ADA accessibility and bicycle facilities that enhance the safety and comfort of those who cycle.

SAFE/Complete Streets have many benefits and are needed in Montclair because:

→ SAFE Streets make walking and bicycling safer for all users
→ SAFE Streets create more equitable communities
→ SAFE Streets help the environment
→ SAFE Streets are good for the economy
→ SAFE Streets support a healthy and active lifestyle
→ SAFE Streets help reduce traffic congestion

Walking and Bicycling Safety

→ Streets become safer by focusing on improving walking and bicycling. Pedestrian improvements, such as bump-outs, high-visibility crosswalks and dedicated bicycle facilities have a traffic calming effect on roadways.
→ From 2006-2015, there were 479 pedestrian injuries, 9 fatalities and 22 incapacitating injuries in Montclair. During the same time, there were 149 bicyclist injuries, 2 incapacitating injuries and no fatalities.

Equitable Communities

→ SAFE Streets help create equitable communities by making it safer for populations (lower-income, minority, etc) who are more likely to walk or bike due to lack of access to cars.
→ The income of almost 7% of Montclair’s population is below the poverty level.
→ More than 10% of Montclair households have no access to cars and more than 40% have only one car available. In addition, more than 25% of 3 & 4 person households have access to one or no car.
→ More than 25% of Montclair’s populations identify as Black or African American which is higher than the state (14.8%), more than 5% identify as Asians, and almost 9% identify as Hispanic.
→ Multi-modal travel – such as walking and bicycling are the most affordable forms of transportation. According to AAA’s Your Driving Costs (2015), a medium size sedan costs 79 cents per mile to own and operate based on driving 10,000 miles annually. By comparison, the League of American Bicyclists estimates that bicycling costs just 10 cents per mile. Walking costs (time and money) far outweigh the benefits.

Environment

→ Walking and bicycling help reduce the amount of gasoline consumed, as well as lower carbon emissions, directly improving air quality.

Economy

→ Active transportation can bring economic benefits to a community, including higher rates of spending in local businesses and an increase in property values.
→ Studies have shown a positive economic impact of walking and bicycling for communities in New Jersey.

1 As per 2015 American Community Survey, Table B08201: HOUSEHOLD SIZE BY VEHICLES AVAILABLE
2 The Economic Impacts of Active Transportation in New Jersey, Alan M. Voorhees Transportation Center
Walking and bicycling projects also create jobs and save health care costs. Walkable and bikeable communities typically see an increase in property values. One study found that a 5 to 10 mph reduction in traffic speeds increased adjacent residential property values by roughly 20 percent. When residents walk or bike to transit, they spend less money on driving and have extra disposable income to spend locally.

Health

Safe walking and bicycling options affect a community’s level of physical activity.

Obesity, diabetes and other diseases have been linked to low levels of physical activity.

According to the Pedestrian and Bike Information center, “physical activity can help prevent:

- Heart disease
- Obesity
- High blood pressure
- Type 2 diabetes
- Osteoporosis (thinning bones)
- Mental health problems such as depression”

Traffic Congestion

Bicycling and walking for short trips help reduce traffic congestion.

Every person that makes a trip by walking or bicycling is one less car on the streets and one fewer car seeking parking.

Montclair already has 2.9% of workers walking to work, and 0.6% biking to work; however, these numbers do not include commuters that walk or bicycle to the train station or bus stops. More than 25% take public transit to work.

Bicycles (with some restrictions) are allowed on the NJ Transit trains and the Bay Street station has the State’s first Bike Depot to provide safe parking options for bicyclists. All NJ Transit buses have bicycle racks, thus making it easier to make the first/last mile to transit biking-friendly.

How to Use this Plan?

This plan is a policy and planning guide and will help implement the Township’s Complete Streets policy and build on the goals and objectives of the Townships’ circulation plan.

It will serve as a resource for local boards/committees and advocates supporting and advancing CS efforts and seeking outside funding for such efforts.

It will serve as a decision-making guide with options (herein referred to as 'typologies') for integrating CS measures into street maintenance, paving and improvement projects based on roadway type, width and speed limits.

Plan Organization

This plan is organized into the following three parts:

Part 1: Introduction

Part 2: Planning Process & Outreach

Part 3: Street Typologies & Recommendations

Part 4: Implementation & Funding

Part 5: Next Steps
II. Planning Process and Outreach

Planning Process
Montclair Township has had an evolving network of proposed bicycle and pedestrian facilities for several years. The project team reviewed the previous planning efforts and developed a recommended SAFE CS network. The desktop exercise of identifying a network was further refined based on outreach and field work. The intent was to develop a network that connects major destinations such as schools, parks, residential neighborhoods; commercial areas in and around Montclair Township.

The network was further developed into a priority SAFE CS network based on input provided by the Steering Committee, a community survey and public meetings. While it was agreed that all streets in Montclair must be safe and accessible for everyone, the priority network identifies those streets that should be given priority investments when opportunity and funds (if necessary) for improvements are allocated. The project team conducted additional field work focused on streets that were included in the priority network. The priority SAFE CS network was then advanced by defining street typologies that include recommendations for pedestrian and bicycle improvements. The street typologies are grouped by roadway functional classification and street width as recommended by the Steering Committee. Street typologies provide a menu of safety enhancements that can be implemented on all Montclair streets.

Map 2: Recommended SAFE CS Network

Map 3: Priority Corridors

Figure 1 on the following page summarizes the overall planning process.
METHODOLOGY

PUBLIC OUTREACH

Data Collection / Analysis
((Field reviews, GIS mapping)

Recommended SAFE CS Network Map
to connect major destinations
(schools, parks, etc) and residential
neighborhoods in and around Montclair

STEERING COMMITTEE

Priority Corridors
to identify those streets that should be
given priority when funds for improvements are
allocated

MEETING #1
(Aug '16)

MEETING #2
(Nov '16)

MEETING #3
(Dec '16)

MEETING #4
(Jun '17)

PUBLIC SURVEY
(Sept '16 - Oct '16)

Findings:
The survey respondents identified Top 3
Priority Corridors in Montclair which helped
develop the Priority Corridors Map shown on the
right.

Biggest Barriers to Bicycling

- Safety
- Fear of crime

Primary Reasons for Bicycling in Montclair
- Recreation
- Health
- Exercise

PUBLIC OPEN HOUSE
(Mar '17)

Street Typologies
to provide a menu of safety enhancements by
street type that can be implemented on all Montclair streets

Draft / Final Plan

COORDINATION / REVIEW WITH MONTCLAIR TOWNSHIP AND NJDOT OFFICE OF BICYCLE & PEDESTRIAN PROGRAMS
Data Collection / Field Visits
The project team reviewed various plans and recommended bicycle and pedestrian networks that have been developed previously. Appendix A: Technical Memorandum 1 includes a bibliography of the reports, studies, plans, and maps evaluated as part of this task.

The project team conducted a desktop review of on-road and off-road corridors, and targeted field investigations to determine the condition of bicycle and pedestrian accommodations along identified priority corridors throughout the Township. This focused on the refined bicycle and pedestrian network, based on the assessment of the various networks developed over the last ten years throughout Montclair, and used the 2015 Land Use & Circulation Element of the Master Plan – Proposed Conceptual Bicycle Route Network as a starting point, see Table 1. This was further refined as recommended by the project Steering Committee at a priority setting workshop in September 2016.

Using the information and data collected in previous tasks, we evaluated and analyzed the proposed network in terms of its capability to safely accommodate pedestrian and bicycle travel, and provide connections to major destinations throughout Montclair. With Steering Committee guidance, this evaluation focused on providing connectivity, and enhancing corridors that currently have the potential for enhancing walking or bicycling.

### Table 1 – Township Facility Network Maps

<table>
<thead>
<tr>
<th>Year</th>
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<tr>
<td>2005</td>
<td>Bicycle Compatible Roadways</td>
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<td>2005</td>
<td>Bicycle Suitability Map</td>
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<td>2007</td>
<td>Desired Conditions Sketch</td>
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<td>2009</td>
<td>SRTS Bike Network Map</td>
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<tr>
<td>2013</td>
<td>Proposed Conceptual Bicycle Route Network from the 2015 Land Use &amp; Circulation Element of the Master Plan</td>
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</table>

Steering Committee Input
A Steering Committee comprising of local community groups, bicycle and pedestrian advocacy organizations and Montclair Township staff was created. A list of Steering Committee members is in Appendix B. The Steering Committee members provided their local expertise and knowledge by participating in the following:

→ **A Project Kick-Off Meeting** to learn more about the scope and timeline of the project, to provide feedback on the bicycle and pedestrian network developed by the project team based on previous efforts and help refine the network.

→ **A network review meeting** (Steering Committee Meeting #2) to review and refine the network and confirm recommendations for priority corridors based on the community survey results.
and local knowledge.

→ A **concept review meeting** (Steering Committee Meeting #3) to review the draft street typologies and recommendations and provide guidance in planning for the Public Information Center / Public Open House.

→ A **draft/final plan review meeting** (Steering Committee Meeting #4) to provide feedback and comments to be incorporated in the final plan.

In addition, the project team also coordinated with the Montclair Engineering department throughout the project to get additional insight and local data.

**Public Outreach**

Public involvement is an important factor in bicycle and pedestrian planning. The outreach efforts included conducting public meetings, developing and administering a community survey, and participating in community events.

**Priority Setting Workshop** - A Priority Setting Workshop was conducted on September 13, 2016 at the Montclair Municipal building. The Project Team facilitated the open house format meeting that included stations with general background about the project, typical bicycle and pedestrian enhancement techniques, draft route network maps for review and a station for walking through an on-line survey to collect detailed insight on preferences and priorities for walking and bicycling.

The refined bicycle and pedestrian facility network maps (North, Central and South areas of Montclair) are included in **Appendix C: Technical Memorandum 2**.

**Public Survey** – The public survey was posted on the Montclair website and included detailed questions about top priority corridors in each the North, Central and South areas of Montclair. The survey provided opportunity for detailed input.

Survey respondents were asked to prioritize their top three priorities in southern, central, and northern Montclair by ranking their top segments as graphically represented on a map with a corresponding key that divided the top segments into street segments. See **Appendix C: Technical Memorandum 2**.

In the southern section of Montclair, the following Segments were most often prioritized:

→ Segment 23 (Claremont Avenue, Valley Road, Walnut Street/Park Drive, Forest Street, Label Street, Depot Square) was most frequently priority 1 or 2 (22.63% - Priority 1 and 22.96% – Priority 2);

→ Segment 19 (Elm Street) ranked next highest with 17.5% of respondents selecting Elm Street as their Priority 1; and,
→ Segment 20 (Park Street, The Crescent, South Fullerton Avenue, Union Street) with the next highest priority, with 16.8% selecting Segment 20 as Priority 1.

In Central Montclair, the following segments were most frequently prioritized:

→ Segment 11/Grove Street (35% Priority 1 and 25% Priority 2);

→ Segment 10/North Mountain Avenue (21.6% Priority 1 and 15.15% Priority 2);
→ Segment 13/Park Street (15% Priority 1 and 22.7% Priority 2); and,
→ Segment 15/Watchung Avenue (10.8% Priority 1, 13.6% Priority 2 and 26% Priority 3).

In Northern Montclair, the following roadways were most frequently prioritized:

→ Segment 4/Grove Street (22% Priority 1, 18% Priority 2, 18% Priority 3);

→ Segment 1/Upper Mountain Avenue (21% Priority 1, 12% Priority 2, 9% Priority 3);
→ Segment 2/Valley Road (19% Priority 1, 15% Priority 2, 8% Priority 3);
→ Segment 3/Park Street) at (16% Priority 1, 24% Priority 2, 13% Priority 3); and,
→ Segment 8/Bellevue Avenue (10% Priority 1, 17% Priority 2, 30% Priority 3).

In addition to survey responses, additional factors such as connectivity, proximity to major generators, and geographic distribution were considered when refining the network.

**Open Streets Event** – The Project Team was able to take advantage of one of the largest pedestrian and bicycling events that occurs in Montclair, the Open Streets event held on Sunday October 2, 2016. This event is paired with the Tour de Montclair bicycle ride event. During the event, the NV5 team set up an outreach station with surveys to be filled out, and maps to be reviewed and marked up. Many attendees who might not have otherwise known about the project were able to share insights about priorities for walking and bicycling in Montclair and learn more about the survey and participation in the project.

Network maps were further refined for the event, enhancing display of local connections and other features, see Attachment C – Open Streets Event Maps.

**Final Public Open House** – A final public open house was held on Wednesday, March 8th, 2017 from 7:00 p.m. to 9:00 p.m. at the Montclair Municipal Building. The purpose of the meeting was to present the methodology, recommended SAFE CS network, and the pedestrian and bicycle recommendations including street typologies and gather feedback from the public.
The format of the meeting was an open house format with presentation boards and comment forms. In addition, to Montclair and NJDOT staff, the meeting was attended by more than 50 people from the community. A sign-in sheet is attached in Appendix D: Community Outreach for reference; however please note that the sign-in sheets do not accurately reflect attendance as several attendees did not sign in.

The overall feedback received was positive and many members provided additional comments by filling in the comment forms provided at the open house and via email after the meeting. A copy of the comments is in Appendix D: Community Outreach.
III. Street Typologies / Recommendations

Introduction
Based on an analysis of existing conditions and steering committee and public input, the project team developed recommendations for implementing the recommended SAFE CS network in Montclair. The recommendations include pedestrian and bicycle improvements identified in six street typologies.

Street Typologies
Typologies are categorized by functional class (minor arterial, collector, local, and one-way) and roadway width. The width allocated for motorists, buses, trucks, bicyclists, pedestrians, and parked cars is a crucial aspect of street design and effects the applicable treatment of each typology.

The typologies provide options to be considered to enhance pedestrian and bicycle facilities, and will be further advanced during maintenance operations and/or later design phases.

All proposed design treatments are based on roadway data collected such as traffic volumes, speed limits, roadway widths and developed by utilizing state of the practice publications such as the AASHTO Bicycle Design Guidelines, NACTO Guides and NJDOT CS Design Guide.

Recommended treatments include sidewalk improvements, enhanced crossings, shared lane markings/“sharrows”, bike lanes, traffic calming treatments, striping parking lanes etc. On narrower roadways where space is limited, some of the options will require a restriction of on-street parking. Any parking impacts will be determined during final design.

The six (6) street typologies are listed below:

→ TYPOLOGY I - Minor Arterial Street (up to 37.5’ wide)
→ TYPOLOGY II - Minor Arterial Street (38’ + wide)
→ TYPOLOGY III - Collector Street (up to 37.5’ wide)
→ TYPOLOGY IV - Collector Street (38’ + wide)
→ TYPOLOGY V - Local Street
→ TYPOLOGY VI - One-Way Street

Please note that Bloomfield Avenue was excluded from this study, due to other ongoing efforts along that road.

An example street from the priority corridors was selected for each street typology to demonstrate how a street typology could be applied.

Design Assumptions
The following design assumptions were used while developing the street typologies and can be used a reference while applying the street typologies to different streets within Montclair.

→ Sidewalks (4’ – 6’+)
→ Crosswalk – high visibility “continental” striping pattern near key destinations
→ Travel lane widths (10’ - 11’)
→ Bicycle lane widths (5’ - 6’)

Sampling of the Best Practice Publications
Buffer between bicycle lanes and motor vehicle travel lanes (1' - 3')
→ Two-way protected bicycle lanes (8' - 12') with minimum 1.5' buffer
→ Motor vehicle parking lane widths (7.5' - 9')

**Pedestrian Improvements**
The pedestrian network throughout Montclair has had significant investment over the years, yielding a largely, but not 100% complete sidewalk network. However, a complete sidewalk network is one of the elements for creating a safe and accessible walking environment. There are a number of additional enhancements that Montclair and other municipalities have utilized to further improve the pedestrian realm.

The pedestrian recommendations can be applied to any street type and vary based on context and land use. The recommendations are categorized into treatments that can be applied to roadway segments, all intersections or signalized intersections. All of the recommended pedestrian improvements are described further with information on typical applications / design and photos showing local and regional examples.

The pedestrian improvements identified include:

→ **Roadway Segments**
  - Sidewalks and Curb Ramps
  - Pedestrian-Scale Lighting
  - Parklets
  - Mid-block crossings
  - Gateways

→ **All Intersections**
  - Crosswalks
  - Mini-traffic circles
  - Curb Extensions
  - Pedestrian refuge islands
  - RRFB (Flashing warning lights)
  - In-Street Crossing Sign

→ **Signalized Intersections Only**
  - Pedestrian Countdown Signals

**Bicycle Facilities**
The street typologies provide options for bicycle facilities for each of the street types. The various bicycle facilities recommended include:

→ Conventional Bicycle Lanes
→ Buffered Bicycle Lanes
→ Two-way protected bicycle lanes
→ Climbing Lanes
→ Contraflow Bicycle Lanes
→ Bicycle Boulevard
→ Advisory Bicycle Lanes
→ Sharrow or Shared Lane Markings
→ Shared Use Path

Each typology includes additional descriptions on the recommended facility highlighting the benefits and considerations for each option.
Figure 2: Key Elements of a Montclair SAFE / CS Street Typology
Map 3: Recommended SAFE CS Network
STREET TYPOLOGIES:

TYPOLOGY I - Minor Arterial Street (Up to 37.5')
TYPOLOGY II - Minor Arterial Street (38'+)
TYPOLOGY III - Collector Street (Up to 37.5')
TYPOLOGY IV - Collector Street (38'+)
TYPOLOGY V - Collector Street (Up to 37.5')
TYPOLOGY VI - Collector Street (38'+)
TYPOLOGY VII - Local Street
TYPOLOGY VIII - One-Way Street

ASSUMPTIONS
- Travel lane widths (10' - 11')
- Bicycle lane widths (5' - 6')
- Buffer between bicycle lanes and motor vehicle travel lanes (1' - 3')
- Two-way protected bicycle lanes (8' - 12') with minimum 1.5' buffer
- Motor vehicle shoulder / parking lane widths (7.5' - 9')
- Sidewalks (4' - 6'+)
- Crosswalk – high visibility "continental" striping pattern near schools or "standard" two line pattern elsewhere
# Pedestrian Improvements: Recommendations

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**Roadway Segments**

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**All Intersections**

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**At Signalized Intersections Only**

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**Notes:** This planning level table is developed primarily to recommend pedestrian improvements for Montclair and should not be followed without additional design and engineering analysis. Please refer to NACTO Guides, AASHTO and other state of the practice publications for additional guidance. * Except on local roads (Typology V)

---

**Sidewalks**

- “Backbone” of the pedestrian travel network
- Vary in their design / configuration in relationship to surrounding context (downtown, residential, commercial, etc.)
- Should be designed for universal access and ADA accessibility guidelines
- Require upkeep, maintenance, and snow or ice removal

**Typical Applications / Design**

- Should be at least 5’ wide (FHWA Recommended Guidelines/ Priorities for Sidewalks & Walkways)
- A sidewalk (8’-10’+) should be provided near parks, schools, and other major pedestrian generators sidewalks
- A minimum 2’ buffer (4’ is preferred) for street furniture, utilities, etc should be provided

---

[Images: Sidewalk near school / residential, Montclair, NJ] [Images: Sidewalk in downtown, Montclair, NJ]
## Pedestrian Improvements: Recommendations (Continued)

### Pedestrian-Scale Lighting
- Appropriate and adequate lighting activity is a vital measure for pedestrian safety
- Should work in concert with roadway lighting
- Should be implemented at intersections, important points of interest, and along sidewalk corridors

**Typical Applications / Design**
- Should be carefully placed so as to illuminate crosswalks and reduce glare to motorists
- Should utilize uniform lighting levels

### Parklets
- Re-purpose a portion of the street next to the sidewalk -- usually 1-2 parallel parking spaces-- as public space suitable for people to use and enjoy
- Provide amenities like seating, planting, bicycle parking, WiFi, and public art

**Typical Applications / Design**
- Can be temporary or permanent in their design, materials and applications

### Mid-Block Crossings
- Provide safe crossing opportunities to destinations or places that are not near controlled intersections
- May incorporate additional features such as actuated warning beacons (RRFBs), signage, curb extensions, medians, etc.

**Typical Applications / Design**
- In areas where there is significant pedestrian activity
- Stop lines should be setback 20-50 feet to ensure that a pedestrian is visible to motorists
- Raised crossings can also increase visibility and encourage motorists to stop
- Can also include dedicated markings (such as crossbike) for bicycle crossings

### Gateways
- A signing and/or landscaping treatment to alert motorists that they are entering a lower speed environment and to expect pedestrians and bicyclists.
- Can be as simple as signs and landscaping

**Typical Applications / Design**
- Usually supplemented with other traffic calming measures such as curb extensions or bulb-outs, public art and crosswalks
- Recommended for entrances to school zones, commercial areas or busy places of activity
HIGH-VISIBILITY / RAISED CROSSWALKS

- Crosswalk striping that creates a high level of visual contrast with the surface of the roadway is most effective for pedestrians (including those with low vision) as well as drivers
- Raised crosswalks are elongated speed humps that feature a marked crosswalk at the same elevation as the adjacent sidewalks

**TYPICAL APPLICATIONS / DESIGN**

- At roadway intersections where sidewalks or other pathways are present on both sides of the roadway
- Should be designed to minimize crossing distances and should be straight, to make them easier for people with visual impairments to navigate
- Minimum width is 6’ but can be up to 15’ wide at crossings with a high number of pedestrians

CURB RAMPS

- Provide pedestrians with a means of negotiating a change of elevation between the sidewalk and roadway
- Are especially important for people using wheelchairs, strollers, walkers, crutches, handcarts, and pedestrians who have trouble stepping up and down high curbs

**TYPICAL APPLICATIONS**

- At all intersections with marked or unmarked crosswalks
- At all mid-block crossing locations
- At on-street accessible parking spaces

MINI-TRAFFIC CIRCLES

- Typically help reduce speeds at minor intersections
- Can be installed using markings and raised islands and typically have plantings / landscaping
- Landscaping must be regularly maintained so it does not affect visibility

**TYPICAL APPLICATIONS / DESIGN**

- Crosswalks should be marked clearly to specify where pedestrians can cross.
- Minimum 15 ft clearance should be provided from the corner to the widest point on the circle
- Adequate signage should be installed

CURB EXTENSIONS (Bumpouts)

- Narrow the roadway by extending the curb at key intersections and midblock locations
- Can either be “constructed”, with curbs and concrete surface, or “painted” over existing roadway pavement

**TYPICAL APPLICATIONS / DESIGN**

- Can be implemented at intersections, mid-block crossings, and transit stops on all types of streets
- Should focus on areas of high pedestrian demand where traffic calming is also a priority
Pedestrian Improvements: Recommendations (Continued)

Pedestrian Refuge Islands
- Also known as crossing islands: Are protected spaces placed on a street at intersections or mid-block crossing locations to separate crossing pedestrians from motor vehicles.
- Split the crossing distance into manageable portions.
- Can be used at wide intersections, irregularly shaped intersections or at intersections where two roads converge into one.
- Provide a cut-through median level with roadway grade, offering a more efficient design in comparison to raised median islands.

RRFB (Flashing Warning Lights)
- Rectangular rapid flashing beacons (RRFBs) are active warning devices used to alert motorists of crossing pedestrians at uncontrolled crossings.
- Remain dark until activated by pedestrians, at which point they emit a bright, rapidly flashing yellow light, which cautions drivers that pedestrians are attempting to cross the roadway.
- Should be installed on both the right and left sides of the crosswalk, or in a median if available, on the approach to important pedestrian crossings.

In-Street Crossing Signs
- Makes it easier for pedestrian to cross at an unsignalized crossing.
- Alerts motorists of the laws regarding the pedestrian right-of-way at an unsignalized pedestrian crossing.
- Can be used in conjunction with other measures such as pavement markings, etc.
- At unsignalized intersections and crossings.
- Typically used near schools, parks and access to trails etc.
- Roadway signs need to be selected and placed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

Pedestrian Countdown Signals
- Displays the number of seconds remaining in the pedestrian crossing phase.
- Help pedestrians accurately decide when it is safe to cross and when they should wait.
- At intersections with complex signal phasing (e.g. there is a dedicated left turn phase for motorists).
- When an exclusive pedestrian signal phase is provided.
- At school zone crossings.
- At intersections with pedestrian refuge.
**TYPOLOGY I: Minor Arterial Street**

(Up to 37’wide)

(Average ADT = 12,200)

**LOCATION MAP**

**RECOMMENDATIONS**

**BUFFERED BICYCLE Lanes**

- install bicycle lanes on both sides with a striped buffer

**BENEFITS**

- enables bicyclists to ride at their preferred speed without interference from prevailing traffic conditions
- a buffer provides a greater shy distance between motor vehicles and bicyclists thus appealing to a wider cross-section of bicycle users
- visually reminds motorists of bicyclists’ right to the street

**CONSIDERATIONS**

- parking will need to be restricted
- greater enforcement is required to prevent motorists from parking in the bicycle lane

**TWO-WAY PROTECTED BICYCLE Lanes**

- install two-way protected bicycle lanes with a striped buffer with bollards

**BENEFITS**

- dedicates and protects space for bicyclists
- reduces risk and fear of collisions especially with over-taking vehicles
- more attractive to a wide range of bicyclists at all levels and ages

**CONSIDERATIONS**

- ideal for roadways with longer blocks as additional considerations is required at driveways and side-street crossings
- parking will need to be restricted
- coordinating snow removal and sweeping will be required
- buffer will vary depending on width
CLIMBING BICYCLE LANE & SHARROWS

- install a bicycle lane on one side (uphill direction) and add sharrows on the other side of the roadway (downhill direction)

**BENEFITS**

- a dedicated bicycle facility uphill enables motorists to safely pass slower-speed bicyclists
- maximizes existing roadway widths
- requires no restrictions on parking

**CONSIDERATIONS**

- recommended for roadways with steep slopes
- sharrows do not provide dedicated space for bicyclists and are typically used only by experienced bicyclists
- requires 25 mph posted speed limit
- may encourage wrong-way bicycle riding

SHARROWS & TRAFFIC CALMING

- install sharrows or shared lane markings in conjunction with traffic calming measures such as speed humps, narrow travel lanes, curb extensions, etc.

**BENEFITS**

- indicate the most appropriate and safe locations to ride on with respect parked cars and moving traffic
- reinforces the legitimacy of bicycle traffic on the street
- requires no restrictions on parking
- can be used to fill a gap within a bicycle network
- provide wayfinding guidance

**CONSIDERATIONS**

- requires posted speed limit reduction to 25 mph
- not ideal for high volume roadways
- does not dedicate exclusive use for bicyclists
- requires posted speed limit reduction to 25 mph
- may encourage wrong-way bicycle riding

INTERSECTION TREATMENTS

- consider intersection treatments for both bicyclists and pedestrians to improve visibility / safety and help in creating a complete network
- intersection treatments can include but are not limited to high-visibility crosswalks, bicycle boxes, curb extensions, raised crosswalks, continuous bicycle markings, loop detectors at signalized intersections, etc.
- Treatments such as curb extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance.

SIGNAGE

- place centerline “stop for pedestrians” signs on lower speed roadways to help alert drivers of a crosswalk
- ensure crosswalk signs meet current standards

OTHER RECOMMENDATIONS

- consider using other traffic calming measures such as tightening the curb radii of certain streets
- install high-visibility crosswalks where feasible and regularly maintain them
- enforce maintenance of sidewalks, including regularly clearing sidewalk of leaves and other debris

**Typology I: Recommendations (Continued)**
**TYPOLOGY II: Minor Arterial Street**

*38’+ wide*

*(Average ADT = 12,200)*

**RECOMMENDATIONS**

**BUFFERED BICYCLE LANES**

- install bicycle lanes on both sides with a striped buffer

**BENEFITS**

- enables bicyclists to ride at their preferred speed without interference from prevailing traffic conditions
- a buffer provides a greater shy distance between motor vehicles and bicyclists thus appealing to a wider cross-section of bicycle users
- visually reminds motorists of bicyclists’ right to the street

**CONSIDERATIONS**

- parking will need to be restricted on one side
- greater enforcement is required to prevent motorists from parking in the bicycle lane
- buffers can also be placed between the bicycle lane and the parking lane

**TWO-WAY PROTECTED BICYCLE LANES**

- install two-way protected bicycle lanes with a striped buffer with bollards

**BENEFITS**

- dedicates and protects space for bicyclists
- reduces risk and fear of collisions especially with over-taking vehicles
- more attractive to a wide range of bicyclists at all levels and ages

**CONSIDERATIONS**

- ideal for roadways with longer blocks as additional considerations is required at driveways and side-street crossings
- parking will need to be restricted on one side or both sides for narrow roads
CLIMBING BICYCLE LANE & SHARROWS

• install a bicycle lane on one side (uphill direction) and add sharrows on the other side of the roadway (downhill direction)

<table>
<thead>
<tr>
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SHARROWS & TRAFFIC CALMING

• install sharrows or shared lane markings in conjunction with traffic calming measures such as speed humps, narrow travel lanes, striped medians, curb extensions, etc.

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<td>- can be used to fill a gap within a bicycle network</td>
</tr>
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INTERSECTION TREATMENTS

• consider intersection treatments for both bicyclists and pedestrians to improve visibility / safety and help in creating a complete network
• intersection treatments can include but are not limited to high-visibility crosswalks, bicycle boxes, curb extensions, raised crosswalks, continuous bicycle markings, loop detectors at signalized intersections, etc.
• Treatments such as curb extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance.

SIGNAGE

• place centerline “stop for pedestrians” signs on lower speed roadways to help alert drivers of a crosswalk
• ensure crosswalk signs meet current standards

OTHER RECOMMENDATIONS

• consider using other traffic calming measures such as tightening the curb radii of certain streets
• install high-visibility crosswalks where feasible and regularly maintain them
• enforce maintenance of sidewalks, including regularly clearing sidewalk of leaves and other debris
**Typology III: Collector Street**  
(Up to 37’ wide)  
(Average ADT = 5,600)

**Recommndations**

**Buffered Bicycle Lanes**
- install bicycle lanes on both sides with a striped buffer

**Benefits**
- enables bicyclists to ride at their preferred speed without interference from prevailing traffic conditions
- a buffer provides a greater safe distance between motor vehicles and bicyclists thus appealing to a wider cross-section of bicycle users
- visually reminds motorists of bicyclists’ right to the street

**Considerations**
- parking will need to be restricted on both sides
- greater enforcement is required to prevent motorists from parking in the bicycle lane

**Two-Way Protected Bicycle Lanes**
- install two-way protected bicycle lanes with a striped buffer with bollards

**Benefits**
- dedicates and protects space for bicyclists
- reduces risk and fear of collisions especially with over-taking vehicles
- more attractive to a wide range of bicyclists at all levels and ages

**Considerations**
- ideal for roadways with longer blocks as additional considerations is required at driveways and side-street crossings
- parking will need to be restricted on both sides
**TYPOLOGY III: Recommendations (Continued)**

### SHARED USE PATH
- add a two-way shared use path especially in locations with large landscape buffers, longer blocks and where public right-of-way is available

<table>
<thead>
<tr>
<th>BENEFITS</th>
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<tbody>
<tr>
<td>- completely separated from motor vehicle traffic and potentially with fewer intersections and as a result are safer than other facilities</td>
<td>- ideal for roadways with longer blocks as additional considerations is required at driveways</td>
</tr>
<tr>
<td>- can provide an enjoyable recreational opportunity</td>
<td></td>
</tr>
<tr>
<td>- appeals to users of all ages and abilities</td>
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</tr>
<tr>
<td>- parking does not need to be restricted</td>
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### CLIMBING BICYCLE LANE & SHARROWS
- install a bicycle lane on one side (uphill direction) and add sharrows on the other side of the roadway (downhill direction)

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### SHARROWS & TRAFFIC CALMING
- install sharrows or shared lane markings in conjunction with traffic calming measures such as speed humps, narrow travel lanes, adding curb extensions, etc.

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<td>- can be used to fill a gap within a bicycle network</td>
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### INTERSECTION TREATMENTS
- consider intersection treatments for both bicyclists and pedestrians to improve visibility / safety and help in creating a complete network
- intersection treatments can include but are not limited to high-visibility crosswalks, bicycle boxes, curb extensions, raised crosswalks, continuous bicycle markings, loop detectors at signalized intersections, etc.
- Treatments such as curb extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance.

*Low-Cost Curb Extensions and continuous bicycle markings, Hoboken, NJ*

*Bicycle Box, San Francisco, CA (Credit: SF Bicycle Coalition)*

*Max. Speed: 25 mph  Max. ADT: 10,000*
**Typology IV: Collector Street**

*38’* wide

(Average ADT = 5,600)

**Example:** Bellevue Avenue

- **40’**
- **SPEED LIMIT 25**
- **P 6,900 ADT (2012)**

**Existing street example - Bellevue Avenue (Eastbound)**

**Recommendations**

**Two-Way Protected Bicycle Lanes**

- Install two-way protected bicycle lanes with a striped buffer with bollards

**Benefits**

- Dedicates and protects space for bicyclists
- Reduces risk and fear of collisions especially with over-taking vehicles
- More attractive to a wide range of bicyclists at all levels and ages

**Considerations**

- Ideal for roadways with longer blocks as additional considerations is required at driveways and side-street crossings
- Parking will need to be restricted on one side

**Buffered Bicycle Lanes**

- Install bicycle lanes on both sides with a striped buffer

**Benefits**

- Enables bicyclists to ride at their preferred speed without interference from prevailing traffic conditions
- A buffer provides a greater safe distance between motor vehicles and bicyclists thus appealing to a wider cross-section of bicycle users
- Visually reminds motorists of bicyclists’ right to the street

**Considerations**

- Parking will need to be restricted
- Greater enforcement is required to prevent motorists from parking in the bicycle lane

**Alternative A**

**Alternative B**
**TWO-WAY PROTECTED BICYCLE LINES ADJACENT TO PARKING**

- **Benefits**
  - Dedicating and protects space for bicyclists
  - Eliminates risk and fear of collisions especially with over-taking vehicles
  - More attractive to a wide range of bicyclists at all levels and ages

- **Considerations**
  - Ideal for roadways with longer blocks as additional considerations is required at driveways and side-street crossings
  - Parking will need to be restricted on one side

**CLIMBING BICYCLE LANE & SHARROWS**

- **Benefits**
  - A dedicated bicycle facility uphill enables motorists to safely pass slower-speed bicyclists
  - Maximizes existing roadway widths
  - Does not need restrictions on parking

- **Considerations**
  - Sharrows do not provide dedicated space for bicyclists and are typically used only by experienced bicyclists
  - May encourage wrong-way bicycle riding
  - Recommended for roadways with steep slopes

**SHARROWS & TRAFFIC CALMING**

- **Benefits**
  - Indicates the most appropriate and safe locations to ride on with respect to parked cars and moving traffic
  - Reinforces the legitimacy of bicycle traffic on the street
  - Requires no restrictions on parking
  - Can be used to fill a gap within a bicycle network
  - Provide wayfinding guidance

- **Considerations**
  - Does not dedicate exclusive use for bicyclists

**INTERSECTION TREATMENTS**

- **Recommendations (Continued)**
**Typology V: Local Street**  
(Average ADT = 1,600)

**Recommendations**

**Climbing Bicycle Lane & Sharrows**
- Install a bicycle lane on one side (uphill direction) and add sharrows on the other side of the roadway (downhill direction)

<table>
<thead>
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- Maximizes existing roadway widths | - Sharrows do not provide dedicated space for bicyclists and are typically used only by experienced bicyclists  
- Parking may need to be restricted on one side  
- May encourage wrong-way bicycle riding  
- Recommended for roadways with steep slopes |

**Bicycle Route**
- Install signage on low-volume/low-speed streets where exclusive bicycle facilities are not necessary

<table>
<thead>
<tr>
<th>Benefits</th>
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</table>
| - Reinforces the legitimacy of bicycle traffic on the street  
- Requires no additional space or restrictions on parking  
- Can provide wayfinding guidance  
- Can discourage sidewalk riding | - Does not dedicate exclusive use for bicyclists |

**Existing Street Example - Llewellyn Rd (Eastbound)**

**Alternative A**
- Max. Speed: 25 mph  
- Max. ADT: 10,000

**Alternative B**
- 32.5’ Two-Way Street with Parking Permitted on Both Sides

**Recommended CS Network**

**On-Road Safe**

**Recommended Corridors**

**Source:** Montclair, NJDOT, NJDEP
**TYPOLOGY V: Recommendations (Continued)**

## ADVISORY BICYCLE LANES
- install dashed white lines on both sides of a low traffic volume roadway (no centerline) to delineate bicycle areas

### BENEFITS
- stripping offers visual separation and reminds people that the road is a shared space
- have a traffic calming effect as motorists tend to travel slower
- provides a viable option for bicycle facilities on narrow roadways

### CONSIDERATIONS
- less protection for cyclists than a conventional bicycle lane
- unfamiliarity with the treatment can lead to confusion
- may require restrictions on parking

## SHARROWS & TRAFFIC CALMING
- install sharrows or shared lane markings in conjunction with traffic calming measures such as installing speed humps, adding curb extensions, etc.

### BENEFITS
- indicate the most appropriate and safe locations to ride on with respect to parked cars and moving traffic
- reinforces the legitimacy of bicycle traffic on the street
- requires no restrictions on parking
- can be used to fill a gap within a bicycle network
- provide wayfinding guidance

### CONSIDERATIONS
- does not dedicate exclusive use for bicyclists

## BICYCLE BOULEVARD / GREENWAY
- consider a bicycle boulevard / greenway treatment by optimizing bicycle travel along low-volume and low-speed streets using treatments such as traffic calming, signage, and pavement markings, and intersection crossings
- can be achieved with minor changes to the street configuration and no additional width is required
- typical design elements along a bicycle boulevard include forced-turn islands, centerline medians with bicycle/pedestrian pass throughs, raised crossings / intersections, mini-traffic circles, pedestrian refuges etc.

## INTERSECTION TREATMENTS
- consider intersection treatments for both bicyclists and pedestrians to improve visibility / safety and help in creating a complete network
- intersection treatments can include but are not limited to high-visibility crosswalks, bicycle boxes, curb extensions, raised crosswalks, continuous bicycle markings, loop detectors at signalized intersections, etc.
- Treatments such as curb extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance.
**TYPOLOGY VI: One-Way Streets**

**RECOMMENDATIONS**

**CONTRAFLOW BICYCLE LANE & SHARROWS**
- Install a contraflow bicycle lane in the opposite direction of motor vehicle traffic with a striped buffer and sharrows on the other side.

**BENEFITS**
- Provides direct access and connectivity for bicycles traveling in both directions.
- Bicyclists do not have to make a detour as a result of one-way traffic.
- Limits dangerous wrong-way riding by allowing cyclists to safely ride in the opposite direction of cars.

**CONSIDERATIONS**
- Use only where bicyclists can effectively and conveniently make transitions at the terminus of the bicycle lane.
- Ideal for a few blocks to complete a proposed or existing bicycle network.
- Relevant signage is important.
- Buffers are needed for safe movement of the bicyclists.

**BUFFERED BICYCLE LANE (ONE-WAY TRAVEL)**
- Install bicycle lane with a buffer.

**BENEFITS**
- Enables bicyclists to ride at their preferred speed without interference from prevailing traffic conditions.
- A buffer provides a greater safety distance between motor vehicles and bicyclists thus appealing to a wider cross-section of bicycle users.
- Visually reminds motorists of bicyclists’ right to the street.

**CONSIDERATIONS**
- Only accommodates one-way travel for bicyclists.
- To discourage wrong-way riding a bicycle facility should be provided for the opposite direction of a neighboring street.
**BICYCLE BOULEVARD / GREENWAY**

- consider a bicycle boulevard / greenway treatment by optimizing bicycle travel along low-volume and low-speed streets using treatments such as traffic calming, signage, and pavement markings, and intersection crossings
- can be achieved with minor changes to the street configuration and no additional width is required
- typical design elements along a bicycle boulevard include forced-turn islands, centerline medians with bicycle/pedestrian pass throughs, raised crossings / intersections, mini-traffic circles, pedestrian refuges etc.

**INTERSECTION TREATMENTS**

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- Treatments such as curb extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance.

**SIGNAGE**

- consider placing centerline "stop for pedestrians" signs on lower speed roadways to help alert drivers of a crosswalk

**OTHER RECOMMENDATIONS**

- consider using other traffic calming measures such as installing speed humps, tightening the curb radii of certain streets
- install high-visibility crosswalks where feasible and regularly maintain them
- enforce maintenance of sidewalks, including regularly clearing sidewalk of leaves and other debris
IV. Implementation Guide

Introduction
The Township of Montclair’s Complete Streets policy (see Appendix F) specifies actions to be taken to support its implementation that recognize, integrate, accommodate, and balance the needs of all road users in all projects and make Complete Streets a routine part of everyday operations.

Policy Implementation Priorities
The power of a Complete Streets policy to change the roadway environment and positively impact mobility for all users depends upon the quality of its implementation strategy and execution. Implementation of a Complete Streets policy varies widely by organization (municipality, county, state) and context (roadway conditions, traffic volumes, jurisdiction, transit, socioeconomics, etc.), yet successful implementation is known to include certain common components: (1) a thorough understanding and acceptance by staff, elected officials, and local stakeholders; (2) consistency with other policies, procedures, guidelines, and ordinances; and (3), a comprehensive and systematic relationship to administrative operations.

To achieve full acceptance by staff, elected officials, and local stakeholders, it would be desirable to initiate a program of education and engagement that explains the Complete Streets policy, along with associated planning techniques, design elements, and approaches. In addition, implementation of the Complete Streets policy should be consistent with and supported by other existing policies, procedures, guidelines, and ordinances. These may need to be revised to achieve this consistency.

Project Development and Delivery
A key to Complete Streets implementation is the timely and effective translation of good policy intentions into real world improvements, including capital projects, maintenance and operational procedures, resurfacing, and access considerations during construction or repair work.

An effective project development and delivery process must be explicit, directional, and critical. It is explicit in that it is clearly and purposefully developed, communicated, and implemented throughout the Township. It is directional in that it encompasses a flow of communication from conception to completion. It is critical in that it subjects improvement concepts to scrutiny, review, revision, and/or approval by an appropriate body. The approving body may be a department within the Township, or a review committee, such as the Traffic and Transportation Committee, with informed members from a cross
section of departments (such as planning, engineering, public works, or code enforcement) and elected officials (such as planning board or council members).

It is anticipated that the Township would receive project ideas from a variety of sources. These sources may include public input, staff input, formal planning efforts, and others. Project ideas can be screened by appropriate Township staff to offer an initial assessment of validity.

Once approved, the project would be assigned to the appropriate Township department. Once assigned to appropriate department, the Complete Streets implementation checklists are completed, to determine whether the proposed work complies with the Complete Streets policy, are completed by the project manager and submitted for evaluation by a review Committee.

Implementation of Complete Streets elements on roadways under the jurisdiction of other transportation agencies requires coordination with these agencies. This includes the preparation and transmittal of project needs statements to the relevant agencies requesting the implementation of Complete Streets improvements on the subject roadways. It is fortuitous that Essex County and NJDOT have already adopted their own Complete Streets policies.

**Implementation Matrix**

*Table 2: Implementation Matrix* Identifies the limits, jurisdictional responsibility, time-frame for completion and preliminary cost estimate for each link in the Recommended SAFE / CS Network and each proposed pedestrian network enhancement.

**Funding Sources**

There are a variety of funding sources available for the development of bicycle and pedestrian facilities including: federal, state and local government, capital funding from the municipality, private and non-profit grants.

The following is a compilation of funding sources that have been, or could be used to fund pedestrian and bicycle improvements. It is important to note that funding available for bicycle and pedestrian related projects does change and the Township of Montclair should work closely with NJTPA, Essex County and NJDOT to monitor and take advantage of the new funding opportunities.

→ **FEDERAL FUNDING OPPORTUNITIES**
  - Transportation Alternatives Program (TAP)
  - Safe Routes to School Program (SRTS)
  - Local Safety Program
  - Recreational Trails Program (RTP)
  - STATE FUNDING OPPORTUNITIES
    - NJDOT Municipal Aid
    - NJDOT Bikeway Grant Program
    - NJDOT Safe Streets to Transit (SSTT)
    - NJ Division of Highway Traffic Safety Grants
    - New Jersey Healthy Communities Network Grants

→ **PRIVATE AND NON-PROFIT FUNDING SOURCES**
  - Sustainable Jersey
  - People for Bikes Community Grants
  - The Robert Wood Johnson Foundation

→ **OTHER POTENTIAL FUNDING SOURCES**
  - Municipal Allocations
  - Impact Fees
  - Local Private-Sector Funding
  - Adopt-A-Trail Programs
  - Membership campaigns

See Appendix G: Funding Programs and Sources for descriptions of the funding sources.
Table 2: Implementation Matrix

<table>
<thead>
<tr>
<th>FACILITY TYPE</th>
<th>COSTS</th>
<th>RESPONSIBILITY</th>
<th>TIME-FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Term: 1 year</td>
<td>Sidewalks</td>
<td>$50/ LF</td>
<td>Explore shared responsibility</td>
</tr>
<tr>
<td>Medium Term: 1-2 years</td>
<td></td>
<td>for sidewalk maintenance between Township</td>
<td></td>
</tr>
<tr>
<td>Long Term: 2 years +</td>
<td></td>
<td>and property owners</td>
<td>Short</td>
</tr>
<tr>
<td>Curb Ramps</td>
<td>$500 - $1,500</td>
<td>DPW</td>
<td>Long</td>
</tr>
<tr>
<td>Pedestrian-Scale Lighting</td>
<td>$1,000 - $2,000/unit</td>
<td>DPW</td>
<td>Long</td>
</tr>
<tr>
<td></td>
<td>Spaced 50’ on center</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parklets</td>
<td>$500 – $5,000</td>
<td>Private sponsor/ public partnership</td>
<td>Short</td>
</tr>
<tr>
<td>Mid-block crossings</td>
<td>$500</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Gateways</td>
<td>$500 - $5,000</td>
<td>DPW</td>
<td>Mid</td>
</tr>
<tr>
<td>Crosswalks A. Striped</td>
<td>$1,000 - $2,000</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>B. Paver Style</td>
<td>$2,000 - $10,000</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Mini-traffic circles</td>
<td>$2,000 - $10,000</td>
<td>DPW</td>
<td>Mid</td>
</tr>
<tr>
<td>Curb Extensions A. No Drainage</td>
<td>$2,000 - $5,000</td>
<td>DPW</td>
<td>Mid</td>
</tr>
<tr>
<td>B. Drainage Required</td>
<td>$5,000 - $10,000</td>
<td>DPW</td>
<td>Mid</td>
</tr>
<tr>
<td>Pedestrian refuge islands</td>
<td>$5,000 - $10,000</td>
<td>DPW</td>
<td>Mid</td>
</tr>
<tr>
<td>RRFB (Flashing warning lights)</td>
<td>$5,000</td>
<td>DPW</td>
<td>Short</td>
</tr>
</tbody>
</table>
### Table 2: Implementation Matrix (continued)

<table>
<thead>
<tr>
<th>FACILITY TYPE</th>
<th>COSTS</th>
<th>RESPONSIBILITY</th>
<th>TIME-FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Street Crossing Sign</td>
<td>$200</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Pedestrian Countdown Signals</td>
<td>$10,000 - $20,000* (May require new traffic signal- $200,000)</td>
<td>DPW/ County</td>
<td>Mid</td>
</tr>
<tr>
<td>Conventional Bicycle Lanes</td>
<td>$~10,000 - $15,000/mile</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Buffered Bicycle Lanes</td>
<td>$15,000 - $20,000/mile</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Two-way protected bicycle lanes</td>
<td>$15,000 - $20,000/mile</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Bicycle Lanes/ Shared Lane Combo</td>
<td>$5,000/mile</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Contraflow Bicycle Lanes</td>
<td>$15,000 - $20,000/mile</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Bicycle Boulevard (Speed humps/tables, Shared Lanes)</td>
<td>$5,000 - $20,000/mile</td>
<td>DPW</td>
<td>Mid</td>
</tr>
<tr>
<td>Advisory Bicycle Lanes</td>
<td>$10,000 - $15,000/mile</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Sharrows or Shared Lane Markings</td>
<td>$2,000 - $5,000/mile</td>
<td>DPW</td>
<td>Short</td>
</tr>
<tr>
<td>Shared Use Path</td>
<td>$1-2,000,000/mile</td>
<td>DPW</td>
<td>Long</td>
</tr>
</tbody>
</table>

**Note:**
- **Short Term:** 1 year
- **Medium Term:** 1-2 years
- **Long Term:** 2 years +
V. Next Steps

We recommend this plan be adopted as an amendment to the Circulation Element of the Master Plan of the Township. It will serve as a guide for future improvements as funds are available and specific roads are evaluated / repaved.

As specific roads are evaluated for improvements, focused public outreach efforts will guide the decision-making on specific typologies and final options selected. This plan is a technical and policy resource for that process.
Appendix

A. Technical Memorandum 1: Data Review and Bibliography
B. Steering Committee Members
C. Technical Memorandum 2: Network Maps
D. Community Outreach
E. Recommended SAFE CS Street Inventory
   w/ Street Typologies
F. Implementation Matrix
G. Funding Sources
Appendix A:

TECHNICAL MEMORANDUM 1: DATA REVIEW AND BIBLIOGRAPHY
DRAFT
Technical Memorandum 1:
Data Review and Bibliography
Project #J4666.20

Prepared for:
The New Jersey Department of Transportation

Prepared by:
The RBA Group
An NIMAC Company

Submitted:
November 3 2016
Contents

Introduction .................................................................................................................................................. 1
Data Reviewed .................................................................................................................................................. 1
Elements of Prior Plans .................................................................................................................................. 2
Bicycle and Pedestrian Network with Recommendations Overlay ............................................................... 2
Next Steps ...................................................................................................................................................... 3
Attachment A – Montclair Bicycle and Pedestrian Recommendation Inventory (2005-2016)
Attachment B - Potential Facilities List
Attachment C – Montclair Recommendations Overlay Map
Introduction
This data collection effort review included the review of plans, studies, reports, resources, and mapping provided by Montclair Township. The purpose was to review and build upon bicycle and pedestrian recommendations from prior planning efforts to assist in the refinement of a priority bicycle and pedestrian network. This desktop exercise will further be refined based on outreach and field work.

Data Reviewed / Bibliography
The RBA Team reviewed plans and bicycle and pedestrian networks that have been developed previously. The following tables highlight reports, studies, plans, and maps evaluated as part of this task, each of these documents were provided by Montclair Township.

**TABLE 1 - TOWNSHIP REPORTS, STUDIES, AND PLANS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Name of Report, Study, Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2005</strong></td>
<td>Montclair Bicycle &amp; Pedestrian Local Assistance Study (NJDOT, Baker)</td>
</tr>
<tr>
<td><strong>2009</strong></td>
<td>Safe Routes to School District Wide Engineering, Enforcement &amp; Encouragement Grant including 10 SRTS Workshops and Travel Plans (NJDOT, RBA)</td>
</tr>
<tr>
<td><strong>2009</strong></td>
<td>Montclair Complete Streets Policy (Montclair Township)</td>
</tr>
<tr>
<td><strong>2012</strong></td>
<td>Bronze Bicycle Friendly Community Recommendations (League of American Bicyclists) [Bicycle Friend Community Feedback Report, 2-13]</td>
</tr>
<tr>
<td><strong>2012</strong></td>
<td>Eat. Play. Live... Better Community Survey (MSU CREEHS, Partners for Health)</td>
</tr>
<tr>
<td><strong>2012</strong></td>
<td>Essex County Complete Streets Policy (Essex County)</td>
</tr>
<tr>
<td><strong>2013</strong></td>
<td>Safe Routes to School Action Plans for Montclair’s 10 Middle and Elementary Schools</td>
</tr>
<tr>
<td><strong>2014</strong></td>
<td>Pedestrian Safety Report (Montclair, VTC)</td>
</tr>
<tr>
<td><strong>2014</strong></td>
<td>Montclair Senior Walkability Report</td>
</tr>
<tr>
<td><strong>2014</strong></td>
<td>Lifelong Montclair Guide to Public Transportation</td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td>Unified Land Use and Circulation Element of the Master Plan (Montclair, TCNJ)</td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td>Bloomfield Ave. Complete Corridor Plan (Together North Jersey)</td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td>Bloomfield Ave. Corridor Health Impact Assessment (HIA) (NJ Health Impact Collaborative)</td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td>Montclair Redevelopment Plans (Montclair)</td>
</tr>
</tbody>
</table>
TABLE 2 – TOWNSHIP MAPS

<table>
<thead>
<tr>
<th>Year</th>
<th>Name of Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>Bicycle Compatible Roadways</td>
</tr>
<tr>
<td>2005</td>
<td>Bicycle Suitability Map</td>
</tr>
<tr>
<td>2007</td>
<td>Desired Conditions Sketch</td>
</tr>
<tr>
<td>2009</td>
<td>SRTS Bike Network Map</td>
</tr>
<tr>
<td>2013</td>
<td>Proposed Conceptual Bicycle Route Network from the 2015 Land Use &amp; Circulation Element of the Master Plan</td>
</tr>
<tr>
<td>2015</td>
<td>Bloomfield Avenue Complete Corridor Bike Network Map</td>
</tr>
<tr>
<td>2015</td>
<td>Montclair Redevelopment Map</td>
</tr>
</tbody>
</table>

Elements of Prior Plans

The Project Team developed an inventory of bicycle and pedestrian recommendations from prior plans based on 24 locations. The recommendations are color coded by type. See Attachment A – Montclair Bicycle and Pedestrian Recommendation Inventory (2005-2016).

The Township’s application to the NJDOT Local Bicycle and Pedestrian Planning Assistance Program included a summary of many years’ discussion and planning for bicycle and pedestrian design considerations for municipal and County roads in Montclair. As part of the summary, the Township listed recommendations for treatments based on previous studies, including:

- Location
- Study Recommendation
- Study/ Source
- Author
- Year
- Type
- Status

See Attachment B - Potential Facilities List.

Bicycle and Pedestrian Network with Recommendations Overlay

This project is using the 2013 Proposed Conceptual Bicycle Route Network included as part of the 2015 Land Use & Circulation Element of the Master Plan as a starting point for the priority bicycle and pedestrian network. This map was developed by the Township as a modification to the 2007 Desired Conditions Sketch Map, and represents the 2007 approach on where bicycle routes may be appropriate, but does not specify the type of bicycle facility.
The *Proposed Conceptual Bicycle Route Network* was compared to the inventory of recommendations reviewed as part of this task. The result is an overlay map of previous bicycle and pedestrian facility recommendations on the *2013 Proposed Conceptual Bicycle Route Network Map*. See *Attachment C – Montclair Recommendations Overlay Map*. Per discussion at the April 20, 2016 Scoping Meeting, Bloomfield Avenue will be excluded from this project’s network.

**Next Steps**
This assessment, along with the information from the outreach tasks, will result in the development of a Proposed Bicycle and Pedestrian Network Map.
## Attachment A - Montclair Bicycle and Pedestrian Recommendation Inventory (2005 - 2016)

### Legend (color coded by shaded cells)
- **Parking Restriction Changes**
- **One-way Changes**
- **Sidewalk/Path (Add/Hide)**
- **Signage, Striping, & Signals**
- **Curbling & Roadway Changes**

### Table

<table>
<thead>
<tr>
<th>Location</th>
<th>Study Recommendation</th>
<th>Source</th>
<th>Author</th>
<th>Concept Year</th>
<th>Type</th>
<th>Status</th>
<th>Notes</th>
<th>Available PDF/Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Avenue - Normal Ave - Mt. Hebron Ave.</td>
<td>2. Rail Trail, rail with trail shared use path</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td>Planning</td>
<td>Ice &amp; non-G</td>
<td><a href="https://files.acrobat.com/adp/review/75/26021f-c618-d8a1-882f-57f7b9f8c7d7">https://files.acrobat.com/adp/review/75/26021f-c618-d8a1-882f-57f7b9f8c7d7</a></td>
</tr>
<tr>
<td>2 Ell St - S/E Ellwood &amp; Fulton St</td>
<td>1. Provide a longitudinal (ladder-striped) crosswalk across Ell St at Ellwood Ave</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/review/75/26021f-c618-d8a1-882f-57f7b9f8c7d7">https://files.acrobat.com/adp/review/75/26021f-c618-d8a1-882f-57f7b9f8c7d7</a></td>
</tr>
<tr>
<td>3 Ell St - S/E Ellwood &amp; Fulton St</td>
<td>2. Install W12-2, pedestrian warning signs, at the northbound and southbound approaches to the proposed crosswalks</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Ell St - S/E Ellwood &amp; Fulton St (Alternative 2)</td>
<td>1. Provide a longitudinal (ladder-striped) crosswalk across Ell St at Ellwood Ave</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Ell St - S/E Ellwood &amp; Fulton St (Alternative 2)</td>
<td>2. Install W12-2, pedestrian warning signs, at the northbound and southbound approaches to the proposed crosswalks</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Ell St - S/E Ellwood &amp; Fulton St</td>
<td>3. Install raised crosswalks at Ellwood St, Fulton St, Ellwood Ave, &amp; Arlington Ave</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Intersection of Grove St &amp; Gerenridge Ave</td>
<td>1. Install 4 countdown signal heads</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/review/75/26021f-c618-d8a1-882f-57f7b9f8c7d7">https://files.acrobat.com/adp/review/75/26021f-c618-d8a1-882f-57f7b9f8c7d7</a></td>
</tr>
<tr>
<td>8 Intersection of Grove St &amp; Gerenridge Ave</td>
<td>2. Install 4 high visibility crosswalks</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Intersection of Grove St &amp; Gerenridge Ave</td>
<td>1. Relocate stop bar back 50' or Grove St</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Intersection of Grove St &amp; Gerenridge Ave</td>
<td>2. Install 2 RO-1a “No Turn or Red” signs</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Intersection of Grove St &amp; Gerenridge Ave</td>
<td>3. Install 4 RP-1 “No Parking Anytime” signs</td>
<td>MONTCAL BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NIDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Location</td>
<td>Study Recommendation</td>
<td>Star of Source</td>
<td>Author</td>
<td>Concept Year</td>
<td>Type</td>
<td>Status</td>
<td>Notes</td>
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</tr>
<tr>
<td></td>
<td>4) Upgrade pedestrian signals to countdown signal heads</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5) Paint standard crosswalks to longitudinal (adder striped) crosswalks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grove St - Long Term:</td>
<td>1) Resurface Grove St</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Install a landscaped median barrier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Install a crosswalk with in-pavement lighting at Bellevue Ave</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Intersection of Watchung Ave &amp; Park St (opposite Watchung Plaza) - Short Term:</td>
<td>MONTCLAIR BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NBDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1) Upgrade 3 crosswalks to longitudinal (adder striped)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Install 3 (1 each) W11-2 Pedestrian warning signs, at all approaches to intersection</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intersection of Watchung Ave &amp; Park St (opposite Watchung Plaza) - Long Term:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>1) Realign 6 &amp; stop to Watchung Plaza West</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) a. Install refuge island for pedestrians</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. With suppressed (4) striped (yellow and white) and (1) warning signs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valley Rd - Short Term:</td>
<td>MONTCLAIR BICYCLE &amp; PEDESTRIAN LOCAL ASSISTANCE STUDY</td>
<td>NBDOT, Baker</td>
<td>2005</td>
<td>Engineering</td>
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</tr>
<tr>
<td></td>
<td>1) Eliminate on-street parking in sections with limited sight distance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Resurface bike lanes or 6&quot; shoulders with &quot;Share the Road&quot; signs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Install a longitudinal crosswalk between Alber Place &amp; Cooper Ave, supplemented w a pedestrian Channelizer (SPCC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4) Install W11-2 Pedestrian Warning Signs &amp; Activated Flashing Warning Beacons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Valley Rd - Long Term:</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>1) Install an infrared detection crosswalk w signal &amp; push button between Alber Place &amp; Cooper Ave</td>
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<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Bradford Elementary School (College Avenue, Mt. Hebron)</td>
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<tr>
<td></td>
<td>1) Create a school pavement &quot;puzzle&quot; to define the drop-off zone along College Avenue</td>
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<td></td>
<td>2) Construct sidewalk across railroad tracks on Mt. Hebron; along the southern and eastern sides [3]</td>
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<td>3) Install &quot;Pull Up&quot; signage in the zone to reinforce use of the entire curb length</td>
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<td></td>
<td>4) Conduct a parking utilization and circulation study and investigate options for school staff and student drop-off and pick-up procedures</td>
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</table>
## Attachment A - Montclair Bicycle and Pedestrian Recommendation Inventory (2005 - 2016)

<table>
<thead>
<tr>
<th>Location</th>
<th>Study Recommendation</th>
<th>Source</th>
<th>Author</th>
<th>Concept Year</th>
<th>Type</th>
<th>Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles H. Bullock Elementary School</td>
<td>1. Install roadway striping to define the drop-off area along the driveway and Washington St. including: Restripe stop line, crosswalk, align the stop sign with the stop line. 2. Update current drop off/pickup procedures with: Map, rules, &amp; procedures along local streets with/elementary school campus &amp; any school driveway access; signs on street; signs for cell phone free zones. 3. Order and install &quot;No idling-Zone&quot; signs around the school.</td>
<td>SRTS TRAVEL PLAN - CHARLES H. BULLOCK ELEMENTARY SCHOOL</td>
<td>RBA</td>
<td>2013</td>
<td>Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edgemont N Elementary School (Edgemont Rd, N. Mountain Ave)</td>
<td>1. Investigate driveway circulation and potential for widening or changes to Edgemont Road in front of the school. 2. Install additional state-of-the-art bike racks. 3. Plan alternative drop-off/pick-up area, potentially along north Mountain Avenue behind the school.</td>
<td>SRTS TRAVEL PLAN - EDGEMONT ELEMENTARY SCHOOL</td>
<td>RBA</td>
<td>2013</td>
<td>Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hillside Elementary School (Orange Rd, Hillside Ave, St. Luke's Pl)</td>
<td>1. Install permanent roadway centerline &quot;Step for Pedestrian&quot; signage along Orange Road and Hillside Avenue and install push button activated Rectangular Rapid Flash Beacon pedestrian crossing signals (RRFBs) at the median crossing on Orange Road. 2. Define and sign an area along St. Luke's Place for drop off or pick up. 3. Place &quot;School Lane&quot; pavement legends on the roadways approaching the school. 4. Create a school pavement &quot;quilt&quot; along Orange Road between Hillside School and Montclair Community Pre-K. 5. Install restricting Right Turn on red at the Orange Road &amp; Hillside Ave / Church Street signalized intersection (during school hours).</td>
<td>SRTS TRAVEL PLAN - HILLSIDE ELEMENTARY SCHOOL</td>
<td>RBA</td>
<td>2013</td>
<td>Engineering</td>
<td></td>
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</tr>
<tr>
<td>Glenfield Middle School (Maple Ave)</td>
<td>1. Investigate driveway circulation and student drop-off and pick-up procedures around the school campus. 2. Install additional state-of-the-art bike racks. 3. Installs &quot;No U-Turn&quot; signs along Maple Avenue around the school property.</td>
<td>SRTS TRAVEL PLAN - GLENFIELD MIDDLE SCHOOL</td>
<td>RBA</td>
<td>2013</td>
<td>Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NHLUANE Elementary School</td>
<td>1. Change parking restrictions on the north side of Cedar Avenue to &quot;No Stopping, Standing or Parking&quot; during school days (8am-4pm).</td>
<td>SRTS TRAVEL PLAN - NHLUANE ELEMENTARY SCHOOL</td>
<td>RBA</td>
<td>2013</td>
<td>Engineering</td>
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</tr>
</tbody>
</table>
## Attachment A - Montclair Bicycle and Pedestrian Recommendation Inventory (2005 - 2016)

<table>
<thead>
<tr>
<th>Location</th>
<th>Study/Recommendation</th>
<th>Start/Source</th>
<th>Author</th>
<th>Concept Year</th>
<th>Type</th>
<th>Notes</th>
<th>Available PDF/Link</th>
</tr>
</thead>
</table>
| Cedar Ave                         | 1. Create a sign “Park and Walk” locations at the South End Municipal Parking Lot and the Visayan Park Parking Lot.  
                                  |              | RBA         | 2013         | Engineering  |                                                                         |                   |
|                                   | 2. Use paint and signs to better define drop-off areas. Create a school pavement “quilt” to define the drop-off zone on the school-side of Cedar Avenue. |              |             |              |                           |                                                                         |                   |
| Renaissance at Rand Middle School| 1. Revise drop-off procedures to separate cars and buses. Have lanes only in front of school along N. Fullerton Ave, and two options for cars – Chestnut Street on the side of the school and with students using the side drop – Rand Place across from the school. | RIS TRAVEL PLAN - RENAISSANCE AT RAND MIDDLE SCHOOL | RBA         | 2013         | Engineering  |                                                                         |                   |
|                                   | 2. Revise the direction of traffic along Rand Place to allow westbound from Forrest Street to N. Fullerton Ave and prohibited right turns onto N. Fullerton Avenue by adding a “No Right Turn” sign. |              |             |              |                           |                                                                         |                   |
|                                   | 3. Midori the sidewalk along Rand – Naves.  
                                  |              |             |              |                           |                                                                         |                   |
|                                   | 4. Install “Pull Up Here” signage along Chestnut Street to reinforce the proper location for curb-side drop-off. |              |             |              |                           |                                                                         |                   |
| Watucung Elementary School        | 1. Change the parking restriction along N. Fullerton Avenue between Fairfield Street and Garden Street along the southbound (west) side to “No Stopping or Standing” 7:00 am – 9:30 am School Days. | RIS TRAVEL PLAN - WATCHUNG ELEMENTARY SCHOOL | RBA         | 2013         | Engineering  |                                                                         |                   |
|                                   | 2. Consider installing a 3-Way YIELD at N. Fullerton Avenue and Fairfield Street.  
                                  |              |             |              |                           |                                                                         |                   |
|                                   | 3. Install a “No Turn on Red” sign at the intersection of N. Fullerton Avenue and Watucung Avenue, at least during school commute hours. |              |             |              |                           |                                                                         |                   |
|                                   | 4. Stripe “STAND-BACK” lines on the curb ramps around the school. |              |             |              |                           |                                                                         |                   |
| Montclair Township                | Provide a holistic planning framework involving development within zones bordering train stations and within the downtown and commercial areas of the Township. | UNITED LAND USE & CIRCULATION ELEMENT | Montclair, T&J | 2015         | General      |                                                                         |                   |
| Lackawana Plaza                   | Redevelopment of C-1 Central Business zone property with a transportation focus on connectivity and improved safety for all modes of travel. | LACAWANNA PLAZA REDEVELOPMENT PLAN | Phillips Press Group LLC | 2015         | General      |                                                                         |                   |

5/31/2016 V1 DOT On Call/Montclair SAFE CS CP 2016/Data Collection/Tech Memo 1 (Montclair BP rec inventory.xlsx)
**Attachment A - Montclair Bicycle and Pedestrian Recommendation Inventory (2005 - 2016)**

<table>
<thead>
<tr>
<th>Location</th>
<th>Study Recommendation</th>
<th>Source/Author</th>
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<th>Status</th>
<th>Notes</th>
<th>Available PDF/Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glennridge Ave and Church St.</td>
<td>Amendement plans to protect the pedestrian-oriented character and low traffic volume of the Church St. and Glennridge Ave corridors by creating a new Historic Center Land Use District.</td>
<td>Montclair Township Department of Planning and Community Development 2016</td>
<td>General</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/preview/4e44c0e2-12f-482-68f-2b86e87a">PDF</a></td>
<td></td>
</tr>
<tr>
<td>Montclair Township</td>
<td>Educational workshops throughout the state in an effort to raise awareness and help decision makers better understand the unique mobility needs of senior citizens.</td>
<td>Montclair Senior Walkability Report NIDOT, PB, RRA 2014</td>
<td>Pgammaritic</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/preview/101b0c-47d-6f84-816893db7e">PDF</a></td>
<td></td>
</tr>
<tr>
<td>Montclair Township</td>
<td>Inform senior citizens on available public transportation resources.</td>
<td>Life on Montclair Guide to Public Transportation 2014</td>
<td>Pgammaritic</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/preview/8d4e79a1-7c8e-85c-90d-8704be23">PDF</a></td>
<td></td>
</tr>
<tr>
<td>Montclair Township</td>
<td>Identify and eliminate unsafe conditions on Montclair streets for pedestrians and bicyclists of all ages and abilities.</td>
<td>Montclair, VTC 2015</td>
<td>Engineering</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/preview/8d4e79a1-7c8e-85c-90d-8704be23">PDF</a></td>
<td></td>
</tr>
<tr>
<td>Montclair Center Gateway</td>
<td>1. Create an inviting and attractive pedestrian-oriented atmosphere on the sidewalk level that seamlessly connects to Montclair Center.</td>
<td>Montclair Center Gateway Grefgill LLC 2011</td>
<td>General</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/preview/8d4e79a1-7c8e-85c-90d-8704be23">PDF</a></td>
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</tr>
<tr>
<td>Montclair Center Gateway</td>
<td>2. Facilitate a safe and integrated pedestrian and vehicular circulation network.</td>
<td>Montclair Center Gateway Grefgill LLC 2011</td>
<td>General</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/preview/8d4e79a1-7c8e-85c-90d-8704be23">PDF</a></td>
<td></td>
</tr>
<tr>
<td>Seymour St.</td>
<td>Create a regional arts and entertainment district Montclair center.</td>
<td>Seymour St Redevelopment Plan-Draft Grefgill LLC 2016</td>
<td>General</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/preview/8d4e79a1-7c8e-85c-90d-8704be23">PDF</a></td>
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</tr>
<tr>
<td>Seymour St.</td>
<td>Evaluation of the traffic impacts of the redevelopment of the parcel set forth in the preliminary conceptual plan. Under the redevelopment plan, Seymour St would be permanently closed to vehicular traffic at Bloomfield Avenue.</td>
<td>Seymour Street Redevelopment Plan Consulting, LLC 2016</td>
<td>General</td>
<td></td>
<td></td>
<td><a href="https://files.acrobat.com/adp/preview/8d4e79a1-7c8e-85c-90d-8704be23">PDF</a></td>
<td></td>
</tr>
<tr>
<td>Montclair Township</td>
<td>To build upon the understanding of existing parking conditions and how new development and land use will affect parking demand and supply in the next few years.</td>
<td>Montclair, Njoga, Nygaard 2016</td>
<td>General</td>
<td></td>
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<td><a href="https://files.acrobat.com/adp/preview/8d4e79a1-7c8e-85c-90d-8704be23">PDF</a></td>
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</table>

Note: RBA 2010 SRTS Plans were superseded by the 2013 SRTS Travel plans for each school.
Attachment B - Potential Facilities List

This list is developed from Montclair Township’s January 15, 2015 application for the NJDOT Local Bicycle/Pedestrian Planning Assistance Program. It is categorized by facility type.

Bicycle Facilities

Designated Bike Routes

- North Fullerton Avenue from Chestnut Street to Wildwood Avenue
- Wildwood Avenue from North Fullerton Avenue to Park Street (to connect to Watchung Avenue, Rand Place and High Schools)
- Norwood Avenue from Bellevue Avenue to Alexander Avenue
- Alexander Avenue from Norwood Avenue to Grove Avenue (to connect to Mt. Hebron School)
- Clinton Avenue from Llewellyn Road to Myrtle Avenue
- Myrtle Avenue from Orange Road to S. Mountain Avenue (pleasant bicycling)
- Yantacaw Brook Road from Alexander Avenue through Yantacaw Brook Park
- Glenside Terrace from Yantacaw Brook Park to Bellevue Avenue
- Orange Road from Llewellyn Road to S. Fullerton Avenue
- S. Fullerton Avenue from Orange Road to Bloomfield Avenue (To connect to MKA/Nishuane)

Designated Bike Routes with Signage and Shared Lane Markings (SLM) or Shoulder Striping

- Highland Avenue from Mt. Hebron Road to Edgewood Road (SLM + bike route)
- Edgewood Road from Highland Avenue to Upper Mountain Avenue (bike route only)
- Upper Mountain Avenue from Edgewood Road to Alpine Street (shoulder, SLM, bike route)
- Alpine Street from Upper Mountain Avenue to North Mountain Avenue (bike route only)
- North Mountain Avenue from Bellevue Avenue to Bloomfield Avenue (shoulder + bike route)
- South Mountain Avenue from Bloomfield Avenue to Stonebridge Road (shoulder + bike route)

Install Shared Lane Markings

- Bradford Avenue from Upper Mountain Avenue to Highland Avenue (connecting to Bradford School)
- Montclair from Watchung Avenue to Walnut Station
- McDonough Street from Montclair Avenue to Grove Avenue (per SRTS Application)
- Claremont Avenue from Valley Road to Pine Street (for immediate use before Bloomfield gets “road diet”, and more direct connection to Munip. Bldg. & Bay Street Station than Walnut Avenue)
- Hillside Avenue from Orange Road to South Mountain Avenue (to connect to from “bike route” Hillside School)

Install Share the Road Signs with Shoulder Striping (like Harrison)

- Valley Road from Clifton City to Loraine Avenue (where it transitions to Shoulder/SLM combo until Bloomfield Avenue)
- Park Street from Mt. Hebron Avenue to Watchung Plaza Center (where it transitions to SLMs)
- Bellevue Avenue from Bloomfield Town to Norwood Avenue (where it transitions to SLMs)
- Chestnut Street from Grove Street to Valley Road
Install Climbing Bike Lane uphill (westbound) and SLM downhill (eastbound)
- Normal Avenue from Valley Road to Cedar Grove Town
- Mt. Hebron Avenue from Grove Street to Valley Road
- Bellevue Avenue from Valley Road to Upper Mountain Avenue
- Cedar Avenue from Orange Road to Harrison Avenue

Special Considerations for Facility Implementation

Road Diet – Bloomfield Ave
- Reduce 4 lanes to 2 with center turn lane, reduce lane width to max necessary for bus. (Design pending results of Bloomfield Avenue Corridor Cost/Benefit Analysis (to be completed 2016, NJDOT, VTC.)

Reduced Lane Width to calm traffic and install Bike Lanes
- Grove Street
- Watchung Avenue
- Alexander Avenue.
- Mt. Hebron Avenue
- Normal Avenue
- Elm Street
- Orange Road
- Cedar Avenue
- Washington Avenue

Reduced Lane width to calm traffic and install Striped Shoulders
- Valley Road
- Park Street (north end – can look a lot like Ridgewood Avenue)

Transition Areas (junctions of Bike Lanes, Shoulders, SLMs)
- Grove Street at Oxford Street
- Elm Street at Union Street
- Harrison Avenue/Orange Road at Union Street
- Valley Road at Lorraine Avenue
- Park Street just north of Watchung Avenue
Intersections

Add preferred Bicycle movements at signalized intersections where bike lanes are proposed
May include Bike Boxes, preferred turning lanes, bicycle actuation (loop detectors), and other treatments for bicycle preference.

- Grove Street & Mt. Hebron Avenue
- Grove Street & Alexander Avenue
- Grove Street & Bellevue Avenue
- Grove Street & Watchung Avenue
- Grove Street & Chestnut Street Avenue
- Grove Street / Elm Street & Bloomfield Avenue
- Elm Street & Union Avenue / Washington
- Orange Road & Cedar Avenue
- Orange Road & Washington Avenue
- Valley Road & Bloomfield Avenue
- Valley Road & Watchung Avenue
- N. Mountain Avenue & Watchung Avenue
- Normal Avenue & Valley Road
- Valley Road & Mt. Hebron Avenue
- Bloomfield Avenue – entire length

Lighted Crosswalks

Improve mid-block or non-signalized pedestrian crossings with motion activated or push button lighting such as in-pavement, “hawk” or Rectangular Rapid Flashing Beacons.

- Bloomfield Avenue & Midland Av.
- Upper Mountain Avenue at Mountainside Pool
- Valley Road at Cooper Avenue (Starbucks)
- Valley Road at Church mini circle
- Valley Road at Alvin Place
- Others....Grove Street / Elm Street
Other Opportunities

Rail with Trail Opportunities

Explore the feasibility of active rail with trail from Little Falls Station at MSU along the Boonton Line to Upper Montclair Station at Bellevue Ave (as outlined in the Montclair Bike/Ped Action Plan, 2005).

Bicycle Boulevard Opportunities

A bike-priority roadway that allows motor vehicles but uses traffic calming, diverters mini roundabouts, and reduced speeds to give priority to bikes. A great NJ example is Ocean City, NJ’s Haven Ave Corridor.

- North Mountain Avenue from Bellevue Avenue to Claremont Avenue (would be key connector from MSU/rail with trail to Montclair Center and the proposed Ice & Iron Trail along the unused rail corridor)

Protected Cycle Track Opportunities

As defined in the NACTO guide, a cycle track is “an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane.” Cycle tracks can be one-way or bi-directional but are separated or “protected” from motor vehicles. Protected cycle tracks should be explored – or even implemented temporarily – to connect major cycling destinations

- Claremont Ave between Park St and Pine Street to accommodate bike share transit users between Valley & Bloom and Bay Street and/or Walnut Street train stations.
Appendix B:

STEERING COMMITTEE MEMBERS
# Montclair Safe Complete Streets Implementation Plan

## Steering Committee Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
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</thead>
<tbody>
<tr>
<td>Alex Kent</td>
<td>Pedestrian Safety Committee</td>
</tr>
<tr>
<td>Alfred Davis</td>
<td>South End Business District of Montclair</td>
</tr>
<tr>
<td>Ann Lippel</td>
<td>Senior Citizen Advisory Committee</td>
</tr>
<tr>
<td>Ben Selby</td>
<td>Board of Education Transportation Manager</td>
</tr>
<tr>
<td>Brendan Gill</td>
<td>Essex County Freeholders</td>
</tr>
<tr>
<td>Carmel Loughman</td>
<td>Planning Board</td>
</tr>
<tr>
<td>Carole Willis</td>
<td>Planning Board / Traffic &amp; Parking Advisory Committee</td>
</tr>
<tr>
<td>Cyndi Steiner</td>
<td>New Jersey Bike / Walk Coalition</td>
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<tr>
<td>Gerry Tobin</td>
<td>Upper Montclair Business Association</td>
</tr>
<tr>
<td>Israel Cronk</td>
<td>Montclair Center BID</td>
</tr>
<tr>
<td>Janice Talley</td>
<td>Montclair Planning</td>
</tr>
<tr>
<td>John Herrmann</td>
<td>Montclair Fire Chief</td>
</tr>
<tr>
<td>Katie York</td>
<td>Montclair Senior Services</td>
</tr>
<tr>
<td>Katya Wow</td>
<td>Montclair Communications</td>
</tr>
<tr>
<td>Kim Craft</td>
<td>Montclair Engineering</td>
</tr>
<tr>
<td>Laura Torchio</td>
<td>Montclair Traffic &amp; Parking Advisory Committee / Bike Walk Montclair</td>
</tr>
<tr>
<td>Rachel Crampsey</td>
<td>Walnut Business</td>
</tr>
<tr>
<td>Renee Baskerville</td>
<td>4th Ward Councilor / Traffic &amp; Parking Advisory Committee / Pedestrian Safety</td>
</tr>
<tr>
<td>Rich McMahon</td>
<td>Councilor-At-Large / Traffic &amp; Parking Advisory Committee / Planning Board</td>
</tr>
<tr>
<td>Sanjeev Varghese</td>
<td>Essex County Engineer</td>
</tr>
<tr>
<td>Scott Pollack</td>
<td>Watchung Business</td>
</tr>
<tr>
<td>Stephanie Egnezzo</td>
<td>Montclair Police &amp; Traffic</td>
</tr>
</tbody>
</table>
Appendix C:

Technical Memorandum 2: Network Maps
DRAFT
Technical Memorandum 2:
Network Maps
Project #J4666.20

Prepared for:
The New Jersey Department of Transportation

Prepared by:
The RBA Group
An NJDOT Company

Submitted:
November 3 2016
## Contents

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<tr>
<td>Steering Committee</td>
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<td>Public Outreach</td>
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<td>Priority Setting Workshop</td>
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<tr>
<td>Open Streets Event</td>
<td>3</td>
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<tr>
<td>Bicycle and Pedestrian Network</td>
<td>4</td>
</tr>
<tr>
<td>Next Steps</td>
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</table>

Attachment A – Steering Committee Kickoff – Recommended Facility Map

Attachment B – Priority Setting and Public Survey Refined Maps

Attachment C – Open Streets Event Maps
Introduction
Montclair Township has had an evolving map of proposed bicycle facilities. The purpose of this task was to review and build upon previous planning efforts to assist in the refinement of a priority bicycle and pedestrian network. This initial desktop exercise has been further refined based on outreach and field work.

Steering Committee
The project developed an initial network of potential bicycle facilities and conducted a network review exercise with the Steering Committee during the project kickoff meeting held on August 3, 2016. See Attachment A – Steering Committee Kickoff – Recommended Facility Map. One of the major items that was reinforced by the Steering Committee members was the need to connect whatever network of facilities is created within Montclair to its neighboring communities. Connections to other regional trails, existing or planned, are also major considerations for routing the Montclair priority network. The Liberty Water Gap Trail and the emerging September 11th National Memorial Trail are good examples of this, as they both traverse Montclair.

Mapping Reviewed
The RBA Team reviewed plans and recommended bicycle and pedestrian networks that have been developed previously. The following tables highlight reports, studies, plans, and maps evaluated as part of this task.

The RBA Team will conducted a desktop review of roadway and off-road corridors, complimented with targeted field investigations to determine the condition of bicycle and pedestrian accommodations along identified priority corridors throughout the Township. This focused on the refined bicycle and pedestrian network, based on the assessment of the various networks developed over the last ten years throughout Montclair, and used the 2015 Land Use & Circulation Element of the Master Plan – Proposed Conceptual Bicycle Route Network as a starting point. This was further refined as recommended by the project Steering Committee.

Using the information and data collected in previous tasks, we evaluated and analyzed the proposed network in terms of its capability to safely accommodate pedestrian and bicycle travel, and provide connection to major destinations throughout Montclair. This evaluation focused on providing connectivity, and enhancing corridors that currently have substandard conditions for walking or bicycle riding.

<table>
<thead>
<tr>
<th>Year</th>
<th>Name of Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>Bicycle Compatible Roadways</td>
</tr>
<tr>
<td>2005</td>
<td>Bicycle Suitability Map</td>
</tr>
<tr>
<td>2007</td>
<td>Desired Conditions Sketch</td>
</tr>
<tr>
<td>2009</td>
<td>SRTS Bike Network Map</td>
</tr>
<tr>
<td>2013</td>
<td>Proposed Conceptual Bicycle Route Network from the 2015 Land Use &amp; Circulation Element of the Master Plan</td>
</tr>
</tbody>
</table>
Steering Committee Network Review Exercise

Public Outreach

Priority Setting Workshop - A Priority Setting Workshop was conducted on September 13, 2016 at the Montclair Municipal building. The Project Team facilitated the open house format meeting, that included stations with general background about the project, typical bicycle and pedestrian enhancement techniques, draft route network maps for review and a station for walking through an on-line survey to collect detailed insight on preferences and priorities for walking and bicycling. The refined bicycle facility network maps (North, Central and South) are included in Attachment B – Priority Setting and Public Survey Refined Maps
Public Survey – The public survey posted on the Montclair web site at: (https://www.surveymonkey.com/r/Y6SHWFL) included detailed questions about top priority corridors in each the North, Central and South areas of Montclair. Participants were asked to rank their top three priority corridors for each area, or provide input about additional connections that should be made or entire corridors to be added. Links to the survey were provided for detailed input.

Survey respondents were asked to prioritize their top three priorities in southern, central, and northern Montclair by ranking their top segments as graphically represented on a map with a corresponding key that broke the choices into street segments.

In the southern section of Montclair, the following Segments were most often prioritized:

- Segment 23 (Claremont Ave, Valley Road, Walnut St/Park Dr., Forest St, Label St., Depot Sq.) was most frequently priority 1 or 2 (22.63% - Priority 1 and 22.96% – Priority 2);
- Segment 19 (Elm Street) ranked next highest with 17.5% of respondents selecting Elm Street as their Priority 1; and,
- Segment 20 (Park Street, The Crescent, South Fullerton Avenue, Union Street) with the next highest priority, with 16.8% selecting Segment 20 as Priority 1.
In Central Montclair, the following segments were most frequently prioritized:

- Segment 11/Grove St. (35% Priority 1 and 25% Priority 2);
- Segment 10/North Mountain Avenue (21.6% Priority 1 and 15.15% Priority 2);
- Segment 13/Park Street (15% Priority 1 and 22.7% Priority 2); and,
- Segment 15/Watchung Ave (10.8% Priority 1, 13.6% Priority 2 and 26% Priority 3).

In Northern Montclair, the following roadways were most frequently prioritized:

- Segment 4/Grove St. (22% Priority 1, 18% Priority 2, 18% Priority 3);
- Segment 1/Upper Mountain Ave (21% Priority 1, 12% Priority 2, 9% Priority 3);
- Segment 2/Valley Road (19% Priority 1, 15% Priority 2, 8% Priority 3);
- Segment 3/Park St.) at (16% Priority 1, 24% Priority 2, 13% Priority 3); and,
- Segment 8/Bellevue Avenue (10% Priority 1, 17% Priority 2, 30% Priority 3).

In addition to survey responses, additional factors such as connectivity, proximity to major generators, and geographic distribution.

**Open Streets Event** – The Project Team was able to take advantage of one of the largest pedestrian and bicycling events that occurs in Montclair, the Open Streets event held on Sunday October 2, 2016. During this event, the team set up an outreach station with flyers to be filled out, and maps to be reviewed and marked up. Many attendees who might not have otherwise known about the project were able to share insights about priorities for walking and bicycling in Montclair and learn more about the survey and participation in the project. Network maps were further refined for the event, enhancing display of local connections and other features, see Attachment C – Open Streets Event Maps.
Bicycle and Pedestrian Network
The network of bicycle and pedestrian priority corridors will continue to evolve, both through this project, and afterwards as Montclair implements its Complete Streets policy by continuing to enhance the walking and bicycling conditions throughout town.

This project is using the 2013 Proposed Conceptual Bicycle Route Network included as part of the 2015 Land Use & Circulation Element of the Master Plan as a starting point for the priority bicycle and pedestrian network. This map was developed by the Township as a modification to the 2007 Desired Conditions Sketch Map, and represents the most current thinking on where bicycle routes may be appropriate, but does not specify the type of bicycle facility. Detailed maps for Northern, Central and Southern Montclair detailing each street and the recommended priority bicycle network were created and shared as part of the outreach exercises.

Next Steps
This assessment, along with the information from future outreach tasks, will result in the development of a Proposed Bicycle and Pedestrian Network Map, and targeted Street Typologies that will apply to specific roadways throughout Montclair.
Attachment A – Steering Committee Kickoff – Recommended Facility Map
Montclair Recommendations Overlay (RBA)
2013 Township Proposed Conceptual Bicycle Route Network from the 2015 Montclair Township Unified Land Use & Circulation Element

2013 Township Proposed Conceptual Bicycle Route Network (Modification of 2007 Study)*

Concepts by Others:
- Signage, Striping, & Signals
- Parking Restriction Changes
- Sidewalk/Path (Add/Widen)
- One-way Changes
- Curbing & Roadway Changes

*NOTE: This plan is conceptual only and requires further study.

08/03/16
Attachment B – Priority Setting and Public Survey Refined Maps
NORTHERN MONTCLAIR
August 2016

NETWORK SEGMENTS

1. Upper Mountain Avenue
2. Valley Road
3. Park Street
4. Grove Street
5. Normal Ave
6. Mount Hebron Road
7. Alexander Avenue
8. Bellevue Avenue
9. Gordonhurst Avenue, North Fullerton Ave, Carolin Road

Legend

Mountclair, MJ
Focus Area
School
Train Station
Open Space
NETWORK SEGMENTS

10. North Mountain Avenue

11. Grove Street

12. Central Ave, Edgemont Memorial Park

13. Park Street

14. Essex Avenue, Champlain Terrace, North Fullerton Avenue

15. Watchung Avenue

16. Chestnut Street
NETWORK SEGMENTS

17. North Mountain Avenue, South Mountain Avenue

18. Bell Street, Orango Road, Orange Road West

19. Elm Street

20. Park Street, The Crescent, South Fullerton Avenue, Union Street

21. Harrison Ave, Cedar Ave

22. Pine Street, Maple Ave, Woodland Ave, Willowdale Ave, Willowmere Ave

23. Claremont Avenue, Valley Road, Walnut Street/Park Drive, Forest Street, Label Street, Depot Square

24. Hillside Avenue, Church Street, Glenridge Avenue

Attachment B
Page 3 of 3
Attachment C – Open Streets Event Maps
Appendix D:

COMMUNITY OUTREACH

1. Steering Committee Kick-Off Meeting (8.3.2016)
4. Steering Committee Meeting (01.31.2017)
5. Final Public Open House (03.08.2017)
6. Final Steering Committee Meeting (06.13.2017)
MEMORANDUM OF MEETING

TO: Kimberli Craft
FROM: Mike Dannemiller, Dede Murray
DATE: 08/03/2016
SUBJECT: Montclair SAFE Steering Committee Kick-off
RBA Project # J4666.20

Montclair SAFE/Complete Streets Technical Assistance Steering Committee met with RBA to discuss the project scope and schedule, to gather consensus on priorities, to discuss methods for community outreach, and receive committee member input on concept design. The following summarizes the major items of discussion from the kick-off meeting. The attendee list and meeting agenda are attached.

The Steering Committee performed a Network Mapping exercise to prioritize each member’s top five locations for treatment. They were provided a draft network map and a matrix of recommendations from past studies conducted in Montclair to guide their decision making.

There are several immediate action items to be addressed by members of the Steering Committee. These include:

**Immediate Action Items:**
- RBA will email the Bicycle and Pedestrian Recommendation Inventory to the Steering Committee.
- Montclair Township will be responsible for announcing/publicizing the priority setting workshop and the Public Information Center
- Montclair Township to post project updates/flyers onto their Facebook and Township websites.
- Civic Eye/Blickstein will create an online public survey with an application such as Survey Monkey to gain insight on priority cross sections of residents and visitors of Montclair. They will also provide hard copies of the survey for senior residents.
- RBA will provide a Bicycle and Pedestrian Network Map displaying priority areas.
- RBA will obtain crash data from Charles Brown and Pedestrian Safety Information from Partners for Health.
General notes and clarifications:
- The Steering Committee was informed that no direct action will be taken on Bloomfield Avenue for this project.
- Tour de Montclair will be held on October 02, 2016 and is a public outreach opportunity.

Attachments:
- Attendee List
- Meeting Agenda
- Network Mapping Exercise Maps
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<th>First Name</th>
<th>Last Name</th>
<th>Organization</th>
<th>Email</th>
</tr>
</thead>
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<tr>
<td>Andy</td>
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<td>Cyndi</td>
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AGENDA

Montclair SAFE
Complete Streets Technical Assistance
STEERING COMMITTEE KICKOFF MEETING

Wednesday, August 3rd, 2016
10:00 a.m. – 11:30 a.m.

Montclair Municipal Building
205 Claremont Avenue – 2nd Floor Conference Room

Purpose: To present and review the scope, schedule, Steering Committee’s role and conduct a mapping exercise to build on previously documented input.

I. Welcome/Overview of NJDOT’s Technical Assistance Program – Bill Riviere, NJDOT/ Kim Craft

II. Scope & Schedule – Mike Dannemiller, The RBA Group/ NV5

III. Community Participation – Ranjit Walia, Civic Eye Collaborative/ Susan Blickstein

IV. Existing Resources – Dede Murray, The RBA Group/ NV5

V. Network Mapping Exercise – group activity

VI. Next Steps – Mike Dannemiller/ Kim Craft
I.

Montclair Recommendations Overlay (RBA)
2013 Township Proposed Conceptual Bicycle Route Network
from the 2005 Montclair Township Master Plan of Land Use & Circulation Element

Concepts by Others:
- Signage, Striping, & Signals
- Parking Restriction Changes
- Sidewalk/Path (Add/Widen)
- One-way Changes
- Curbing & Roadway Changes
- Schools

*NOTE: This plan is conceptual only and requires further study.*

08/03/16
Montclair Recommendations Overlay (RBA)
2012 Township Proposed Conceptual Bicycle Route Network
from the 2009 Montclair Township Unified Land Use & Circulation Element

- 2013 Township Proposed Conceptual Bicycle Route Network (Modification of 2007 Study)*

Concepts by Others:
- Signage, Striping, & Signals
- Parking Restriction Changes
- Sidewalk/Path (Add/Widen)
- One-way Changes
- Curbing & Roadway Changes
- Schools

*NOTE: This plan is conceptual only and requires further study.
Montclair Recommendations Overlay (RBA)
2013 Township Proposed Conceptual Bicycle Route Network from the 2015 Montclair Township Unified Land Use & Circulation Element

2013 Township Proposed Conceptual Bicycle Route Network (Modification of 2007 Study)*

Concepts by Others:
- Orange: Signage, Striping, & Signals
- Yellow: Parking Restriction Changes
- Green: Sidewalk/Path (Add/Widen)
- Purple: One-way Changes
- Brown: Curbing & Roadway Changes
- Blue Stars: Schools

*NOTE: this plan is conceptual only and requires further study.
MEMORANDUM OF MEETING

TO: Kimberli Craft
FROM: Mike Dannemiller, Dede Murray
DATE: 09/14/2016
SUBJECT: Montclair SAFE Public Workshop
RBA Project # J4666.20

Montclair SAFE/Complete Streets Technical Assistance Steering Committee met with RBA to discuss the project scope and schedule, to gather consensus on priorities, to discuss methods for community outreach, and receive committee member input on concept design. The following summarizes the major items of discussion from the kick-off meeting. The attendee list and meeting agenda are attached.

The Steering Committee performed a Network Mapping exercise to prioritize each member’s top five locations for treatment. They were provided a draft network map and a matrix of recommendations from past studies conducted in Montclair to guide their decision making.

There are several immediate action items to be addressed by members of the Steering Committee. These include:

Immediate Action Items:
- RBA will email the Bicycle and Pedestrian Recommendation Inventory to the Steering Committee.

General notes and clarifications:
- The Public Information Center will be scheduled tentatively on Tuesday, October 11 or Wednesday, October 12 from 4-7pm.
- The Town Council briefing will be held tentatively on Tuesday, November 1 at 7pm.
- The Planning Board presentation will be held tentatively on Monday, November 7 at 7:30pm.
Welcome Sign

Station 1

Station 2 (in background)

Station 3

Attachments:
- Attendee List
- Meeting Agenda
- Comment Form responses
<table>
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<tr>
<th>Name</th>
<th>Title / Affiliation</th>
<th>Email</th>
<th>Phone</th>
</tr>
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<td></td>
<td><a href="mailto:mjmartone@gmail.com">mjmartone@gmail.com</a></td>
<td>201 341 4030</td>
</tr>
<tr>
<td>Kathy Smith</td>
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<tr>
<td>Councilwoman</td>
<td>Mt. Beekerville Montclair</td>
<td>rbaskerville@montclairnjusa</td>
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<td>Bloom</td>
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<td>Ray Ketchum</td>
<td>Montclair B10</td>
<td><a href="mailto:rketchem@mac.com">rketchem@mac.com</a></td>
<td>201-506-6533</td>
</tr>
</tbody>
</table>
Welcome!

Welcome to the Montclair Bicycle Facility Prioritization Meeting! This meeting is one of two public meetings whose focus is to get feedback from the community on where to get started in Montclair with bicycle facilities. These meetings are part of Montclair’s SAFE (Streets Are For Everyone)/Complete Streets Implementation Plan. Thank you for coming and helping the community develop a strategy for developing/redeveloping its streets as safe and comfortable places for everyone!

What’s in the Room:
Please come and stop by the different stations in the room. There are three and there will be staff there to talk with you about your thoughts and get your feedback.

**STATION 1** – What are the existing conditions in the community and what have past studies recommended

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🔍
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**STATION 2** – Help us identify and prioritize roadways for bicycle improvements.

```
✔️ YES
```

**STATION 3** – Where are we headed with this study? See what’s next.

```
➡️
```

Take the Survey!
Montclair SAFE is hosting a bicycle facility prioritization survey. If you haven’t done so yet, you can take the survey at home by typing this link into your web browser:

https://www.surveymonkey.com/r/Y6SHWFL

The survey will only take you a few minutes to complete.

If you don’t have a computer or prefer to take the survey tonight, there will be two computers you can use at the meeting itself. Please ask someone for assistance.

Stay Connected
You can follow the progress of the study via the Engineering page on the Township website (montclairnjusa.org), Facebook (Montclair SAFE) and Twitter (@MontclairSAFE).
Bicycle Priority(s):
Please identify your top priority(s) for bicycle facility improvements and why this area is so important.

- Upper Mountain speedway
- Washington No. assn.
- Orange Rd.

Pedestrian Improvements:
Would the area(s) above also benefit from pedestrian improvements? If so, explain what changes you think are important and why.
Bicycle Facility Network
Please list any bicycle facility segments you think should be added to the bicycle network shown at the meeting tonight.

Have you already taken the on-line bicycle survey?
Yes: 
No: 

If you have not completed the survey, do you plan to do so soon?
Yes: 
No: 

Do you have any other comments?

THANK YOU!
Bicycle Priority(s):
Please identify your top priority(s) for bicycle facility improvements and why this area is so important.

Pedestrian Improvements:
Would the area(s) above also benefit from pedestrian improvements? If so, explain what changes you think are important and why.
Bicycle Facility Network
Please list any bicycle facility segments you think should be added to the bicycle network shown at the meeting tonight.

A road I use (which may not be a good choice, but it’s direct - not hilly) is Valley Rd from about Walnut to Watchung or Bellevue.

Have you already taken the on-line bicycle survey?
   Yes: ☑
   No:  

If you have not completed the survey, do you plan to do so soon?
   Yes:  
   No:   

Do you have any other comments?
   Claremont Ave east of Hate St. N. Fullerton very difficult to cross. (I think these new bus stops are not that useful and sometimes cause stop - don’t think they are very used to this. It will work even better.

THANK YOU!

MONTCLAIR workshopSGB comments form.docx
Bicycle Facility Network
Please list any bicycle facility segments you think should be added to the bicycle network shown at the meeting tonight.


Have you already taken the on-line bicycle survey?
Yes: ✓
No: 

If you have not completed the survey, do you plan to do so soon?
Yes: ✓
No: 

Do you have any other comments?
Stop violating the ADA!!

THANK YOU!
Bicycle Priority(s):
Please identify your top priority(s) for bicycle facility improvements and why this area is so important.

Education and awareness

Pedestrian Improvements:
Would the area(s) above also benefit from pedestrian improvements? If so, explain what changes you think are important and why.

The Township refused to enforce its own ordinance requiring sidewalks free of obstructions in accordance with PDR.
Bicycle Facility Network
Please list any bicycle facility segments you think should be added to the bicycle network shown at the meeting tonight.

Move "PREORDY STREET" selection to SMALLER, QUETTER RESIDENTIAL STREET

Have you already taken the on-line bicycle survey?
Yes: ✔
No:   

If you have not completed the survey, do you plan to do so soon?
Yes:   
No:    

Do you have any other comments?

WE WANT TO ENCOURAGE RESIDENTS TO USE THE MANY NORTH/SOUTH ROUTES OFFERED BY MUNICIPAL COUNTY ROADS. INSTEAD OF FOCUSING ATTENTION AND FUNDS ON GROVE, PARK & VALLEY, LET'S MOVE THEM TO THE MANY RESIDENTIAL STREETS WHICH ARE QUETTER, SLOWER, LEAFIER, AND SAFER.

THANK YOU!

MONTCLAIR workshopSGB comments form.docx
Bicycle Priority(s):
Please identify your top priority(s) for bicycle facility improvements and why this area is so important.

[Handwritten: Creating an on-line map displaying several north/south and east/west routes to: 1) schools, 2) business districts, and 3) commuting spots. Using a) acquiring street signs + roadway painting + striping to endorse best routes, b) publicize + promote a new "reinvigorated" bike + walk emphasis in town.]

Pedestrian Improvements:
Would the area(s) above also benefit from pedestrian improvements? If so, explain what changes you think are important and why.

[Handwritten: Encourage repair + maintenance of both slate + cement sidewalks + add street signs designating Montclair as a "walk friendly" town + publicize (as in the above).]

MONTCLAIR workshop SGB comments form.docx
Bicycle Priority(s):
Please identify your top priority(s) for bicycle facility improvements and why this area is so important.

Parking on North + South Mountain should not be allowed. It would be an amazing bike path.

Pedestrian Improvements:
Would the area(s) above also benefit from pedestrian improvements? If so, explain what changes you think are important and why.
Bicycle Facility Network
Please list any bicycle facility segments you think should be added to the bicycle network shown at the meeting tonight.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Have you already taken the on-line bicycle survey?
Yes: X
No: ___

If you have not completed the survey, do you plan to do so soon?
Yes: ___
No: ___

Do you have any other comments?

Thank you for your efforts in making Montclair more bike friendly.

THANK YOU!
Bicycle Facility Network
Please list any bicycle facility segments you think should be added to the bicycle network shown at the meeting tonight.

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

Have you already taken the on-line bicycle survey?
Yes: √
No:____

If you have not completed the survey, do you plan to do so soon?
Yes: ____
No: ____

Do you have any other comments?
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
__________________________________________

THANK YOU!

MONTCLAIR workshopSGB comments form.docx
Bicycle Priority(s):
Please identify your top priority(s) for bicycle facility improvements and why this area is so important.

Grove Street.
Valley Road Park (North to South)

Pedestrian Improvements:
Would the area(s) above also benefit from pedestrian improvements? If so, explain what changes you think are important and why.

Cosme Blenheim Arc
MEMORANDUM OF MEETING

TO: Kim Craft, Montclair and Bill Riviere, NJDOT
FROM: Mike Dannemiller, Rachana Sheth
DATE: 01/31/2017 at 4:00 pm Montclair Fire HQ
ATTENDEES: See attached Sign-In Sheet
SUBJECT: Montclair SAFE CS Implementation Plan - Steering Committee Meeting

NV5, Inc. Project # J728616.0000095.03

The purpose of the meeting was to review the project scope and schedule, explain the methodology in developing the SAFE Complete Streets typologies and to obtain feedback from the Steering Committee on the six (6) typologies developed in preparation for the public meeting scheduled for March 8th. Handouts were provided (see attached). Presentation boards of background material and each typology were utilized. The sign-in sheet is attached.

Bill Riviere, NJDOT Bicycle and Pedestrian Programs initiated the meeting with introductions and Mike Dannemiller provided background of the project and the schedule. He led a discussion on the typologies for the recommended SAFE CS network. The following summarizes the major items of discussion from the Steering Committee meeting.

Steering Committee Input and Recommendations:

• Pedestrian enhancements / recommendations should be emphasized for the typologies
• The process / methodology in developing the typologies should be clear and clarify how public input via surveys informed the process
• For all typologies, alternatives with sharrows or shared lane markings should at least include traffic calming such as narrower travel lanes by either adding shoulders or a planted or striped median
• A recommendation on pedestrian-scale lighting should be included in the typologies
• A glossary of terms should be included
• Raised crosswalks should be added as one of the traffic calming a recommendation especially for commercial areas, near schools, parks and other amenities
• A shared use path along S. Mountain Avenue and for Washington Street was recommended
• NV5 clarified that the purpose of the typologies was to provide a menu of options for Montclair Township to choose from when needed. Thus, this phase of the project will not provide detailed design plans; but options /concepts that could be applied to any Township street

Immediate Action Items:

• The Public Information Center meeting was rescheduled from 2/22/2017 to 3/8/2017 due to scheduling conflicts within the Steering Committee.
• NV5 will add pedestrian enhancements and recommendations for the typologies.
• Typologies will be edited as per recommendations from the Steering Committee
Attachments:
- Attendee List
- Meeting Agenda
- Boards:
  - Schedule
  - Recommended SAFE CS Network
  - Recommended SAFE CS Network Table
  - Six (6) Typologies

Meeting Photos
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<th>Name</th>
<th>Title / Affiliation</th>
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<td></td>
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<td>Katie Yolk</td>
<td>Director of Senior Services, Township</td>
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<td></td>
</tr>
<tr>
<td>Alex Kent</td>
<td>NJ Ped Safety</td>
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<td><a href="mailto:jtalley@montclairnj.org">jtalley@montclairnj.org</a></td>
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MONTCLAIR SAFE
COMPLETE STREETS IMPLEMENTATION PLAN

STEERING COMMITTEE MEETING
Tuesday, January 31, 2017
4:00 – 6:00 pm
Montclair Fire Headquarters
1 Pine Street, Montclair, NJ

AGENDA

Introductions................................................................. Kimberli Craft / Bill Riviere

Scope Review............................................................... Mike Dannemiller/ Susan Blickstein
  - Methodology
  - Schedule

Typology Review ......................................................... Mike Dannemiller/ Rachana Sheth
  - Assumptions
  - Review Exercise

Public Meeting ........................................................... Kimberli Craft / Mike Dannemiller

Next Steps ................................................................. Kimberli Craft / Mike Dannemiller
# Montclair SAFE Complete Streets Implementation Plan

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### Client & Steering Committee Meetings
1. Client / Steering Committee Meeting
2. Client / Steering Committee Meeting
3. Client / Steering Committee Meeting

### Public Meeting
1. Public Information Center

Revised 1/30/17
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Source: Montclair Engineering Bureau

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Source: Montclair Engineering Bureau

**BOLD = Priority Corridors**
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Source: Montclair Engineering Bureau

**BOLD = Priority Corridors**
STREET TYPOLOGIES:

- **TYPOLOGY I** - Minor Arterial Street (Up to 37.5’)
- **TYPOLOGY II** - Minor Arterial Street (38’+)
- **TYPOLOGY III** - Collector Street (Up to 37.5’)
- **TYPOLOGY IV** - Collector Street (38’+)
- **TYPOLOGY V** - Local Street
- **TYPOLOGY VI** - One-Way Street
**Typology I: Minor Arterial Street (Up to 37’ wide)**

*(example: Upper Mountain Avenue)*

### Existing Street Example - Upper Mountain Avenue (Southbound)

- **Buffered Bicycle Lane**
  - Installed bicycle lane on both sides with a striped buffer
  - Benefits:
    - Provides a dedicated, safe lane for bicyclists
    - Reduces conflicts with motor vehicles
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

- **Protected Bicycle Lane**
  - Installed two-way protected bicycle lanes with a striped buffer and barriers
  - Benefits:
    - Provides a safe route for bicyclists
    - Reduces conflicts with motor vehicles
  - Considerations:
    - Additional space may be needed to accommodate bike parking
    - Ideal for roadways with larger traffic volumes

### CLIMBING BICYCLE LANE & SHARROWS

- **Alternative A**
  - Benefits:
    - Provides a climbing bicycle lane
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

- **Alternative B**
  - Benefits:
    - Provides a climbing bicycle lane
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

- **Alternative C**
  - Benefits:
    - Provides a climbing bicycle lane
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

- **Alternative D**
  - Benefits:
    - Provides a climbing bicycle lane
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

### SHARROWS & TRAFFIC CALMING

- **Incorporate Sharrows**
  - Benefits:
    - Reinforces the priority of bicycle traffic on the street
    - Provides additional visibility for bicyclists
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

- **Install Speed Humps**
  - Benefits:
    - Reduces speed of vehicles on the street
    - Provides an additional level of safety for bicyclists
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

### Signage

- **“Stop for Pedestrians” Signs**
  - Benefits:
    - Encourages drivers to stop for pedestrians
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

### Other Recommendations

- **Consider Installing Other Traffic Calming Measures**
  - Benefits:
    - Reduces speed of vehicles on the street
    - Provides an additional level of safety for bicyclists
  - Considerations:
    - Parking will need to be restricted
    - Additional space may be needed to accommodate bike parking

- **Regularly Maintain Sidewalks and Bicycle Routes**
  - Benefits:
    - Enhances safety and accessibility for bicyclists
  - Considerations:
    - Additional space may be needed to accommodate bike parking

---

**Montclair SAFE**

**Complete Streets Implementation Plan**

**DRAFT**

**NV5**
**TYPOLOGY II: Minor Arterial Street (38’+ wide)**

*(example: Grove Street)*

**BUFFERED BICYCLE LANE**
- Install bicycle lane on both sides with a striped buffer

**BENEFITS**
- Provides a safe riding environment with no interference from motor traffic
- Enhances pedestrian safety
- Provides a wider space for cyclists

**CONSIDERATIONS**
- Parking will need to be restricted on one side to prevent damage to the bicycle lane
- Water main or gas lines may be in the buffer

**PROTECTED BICYCLE LANE**
- Install two-way protected bicycle lane with a striped buffer

**BENEFITS**
- Provides a safe riding environment with no interference from motor traffic
- Enhances pedestrian safety
- Provides a wider space for cyclists

**CONSIDERATIONS**
- Parking will need to be restricted on one side to prevent damage to the bicycle lane
- Water main or gas lines may be in the buffer

**CLIMBING BICYCLE LANE & SHARROWS**
- Install a climbing lane on one side uphill direction and add sharrows on the other side of the roadway downhill direction

**BENEFITS**
- Provides a safe climbing environment for cyclists
- Enhances pedestrian safety
- Provides a wider space for cyclists

**CONSIDERATIONS**
- Parking may need to be restricted on one side of narrow roadways
- May require narrowing of the roadway

**SHARROWS & TRAFFIC CALMING**
- Install sharrows or centered lane markings in conjunction with traffic-calming measures such as installing speed humps.

**BENEFITS**
- Provides a safe climbing environment for cyclists
- Enhances pedestrian safety
- Provides a wider space for cyclists

**CONSIDERATIONS**
- Does not eliminate the need for speed control
- May require narrowing of the roadway

**INTERSECTION TREATMENTS**
- Consider intersection treatments for both bicyclists and pedestrians to improve visibility safety and have in creating a complete network

**SIGNAGE**
- Pedestrian "Stop for Pedestrians" signs on lower speed roadways to help alert drivers to the crossing
- Ensure crosswalk signs meet current standards

**OTHER RECOMMENDATIONS**
- Consider using other traffic-calming measures such as installing speed humps, lighting the curb, or installing a sidewalk
- Install high-visibility crosswalks
- Regularly maintain sidewalks by clearing leaves and other debris
**Typology III: Collector Street (Up to 37.5’ wide)**

*(example: S. Mountain Avenue)*

**Location Map**

**Buffered Bicycle Lane**
- Install bicycle lane on both sides with a striped buffer
- Benefits:
  - Enables bicyclists ride at their preferred speed without interference from prevailing traffic conditions
  - Buffer provides a greater safety distance between motor vehicles and bicyclists
  - Visualizes the bike lane
- Considerations:
  - Parking will need to be restricted on both sides
  - No impact to existing shared use path

**Protected Bicycle Lanes**
- Install two-way protected bicycle lanes with a striped buffer
- Benefits:
  - Separates and protects space for bicyclists
  - Reduces risk and fear of collisions especially with overtaking vehicles
  - More objective is a wide range of bicyclists at all levels and ages
- Considerations:
  - Ideal for roadways with longer blocks as additional considerations are required at driveways and sides of roads
  - Parking will need to be restricted on both sides

**Intersection Treatments**
- Consider intersection treatments for both bicyclists and pedestrians to improve visibility
- Intersection treatments can include but are not limited to high-visibility crosswalks, bicycle boxes, curb extensions, continuous bicycle markings, loop detectors at signalized intersections, etc.
- Treatments such as curb extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance.

**Shared Use Path**
- Add a two-way shared use path, especially in locations with large landscape buffers, longer blocks and when public right-of-way is available
- Benefits:
  - Completes a corridor from one end to other
  - Public safety is provided
  - Parking does not need to be restricted

**Climbing Bicycle Lane & Sharrows**
- Install a bicycle lane on one side (uphill direction) and add sharrows on the other side of the roadway (downhill direction)
- Benefits:
  - A delineated bicycle lane with a shoulder
  - Maximizes existing roadway capabilities
    - Provides an alternative to jogging and bicycling
    - Encourages use by bikers
    - May encourage designating only bicycle riding
  - Dynamic use of roadways with steep slopes

**Sharrow & Traffic Calming**
- Install sharrows or shared lane markings in conjunction with traffic calming measures such as installing speed humps, tightening the curb radius, adding curb extensions, etc.
- Benefits:
  - Increases the ability of people to be safe
  - Locations to reduce with respect to parked cars and moving traffic
  - Reduces the burden of bicycle traffic on the street
- Considerations:
  - Does not increase exclusive use for bicycles

---

**Recommendations**

[Diagrams and details of each recommendation]
**TYPOLOGY IV: Collector Street (38’ wide)**

(example: Glenridge Avenue)

**RECOMMENDATIONS**

**PROTECTED BIKE LANES**
- Install two-way protected bicycle lanes with a striped buffer with markings.

**BENEFITS**
- Dedicated space for bicyclists reduces risk of collisions with moving vehicles.
- More attractive to a wide range of bicyclists.
- At least 5 feet and 6 inches wide.

**CONSIDERATIONS**
- Additional considerations required at driveways and sidewalk crossings.
- Parking will need to be restricted on one side.

**BUFFERED BIKE LANE**
- Install bicycle lanes on both sides with a striped buffer.

**BENEFITS**
- Enables bicyclists to ride at their preferred speed without interference from parking.
- Reduces risk of collision with moving vehicles.
- Provides a wider range of options for bicyclists.
- Tru-way markings ensure that bicyclists have a consistent space.

**CONSIDERATIONS**
- Parking will need to be restricted on both sides.
- Greater enforcement is required to prevent motorists from parking in the bicycle lane.

**PROTECTED BIKE LANES OR PARKING**
- Install two-way protected bicycle lanes with a striped buffer in between the street and on-street parking.

**BENEFITS**
- Dedicated space for bicyclists reduces risk of collisions with moving vehicles.
- More attractive to a wide range of bicyclists.
- At least 5 feet and 6 inches wide.

**CONSIDERATIONS**
- Additional considerations required at driveways and sidewalk crossings.
- Parking will need to be restricted on one side.

**CLIMBING BIKE LANE & SHARROWS**
- Install a bike lane on the sidewalk.

**BENEFITS**
- Dedicated space for bicyclists reduces risk of collisions with moving vehicles.
- More attractive to a wide range of bicyclists.
- At least 5 feet and 6 inches wide.

**CONSIDERATIONS**
- May encourage right-way bicycle riding recommended for residents with deep slopes.

**SHARROWS & TRAFFIC CALMING**
- Install sharrows or shared lane markings in conjunction with traffic calming measures such as, installing speed humps, lightening the curb radius, adding curb extensions, etc.

**BENEFITS**
- Indicates the most appropriate safe locations to residents with respect to parked cars and moving traffic.
- Reduces the incidence of bicycle traffic on the street.

**CONSIDERATIONS**
- Requires meandering on narrow streets.
- Can be used to fill a gap within a bike network.
- Provides wayfinding guidance.

**INTERSECTION TREATMENTS**
- Consider intersection treatments for both bicyclists and pedestrians to improve visibility.
- Safety and help in creating a complete network.

**BENEFITS**
- Are not limited to high-visibility crosswalks, bicycle lanes, curbs, extensions, continuous bicycle markings, hoop detectors, or signals at road intersections, etc.

**CONSIDERATIONS**
- Treatments such as curbs extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance.

**LOW-COST CURB EXTENSIONS AND CONTINUOUS BIKE MARKINGS**
- Bicycle Box, San Francisco, CA
- Credit: SF Bicycle Coalition
**Typology V: Local Street**

**Location Map**

*(example: Llewellyn Road)*

**Exisiting Street Example: Llewellyn Rd (Eastbound)*

**Advisory Bicycle Lanes**
- Install dashed white lines on both sides of a low traffic volume roadway (no centerline) to delineate bicycle areas
-Benefits:
  - Increases visual separation and reduces the number of cars that enter a shared space
  - Helps to keep cyclists away from oncoming traffic
-Considerations:
  - Any projection for additional bicycle lanes should be consistent with the treatment and be balanced in function
  - May require restrictions on parking

**Sharrow & Traffic Calming**
- Install sharrows or shared lane markings in conjunction with traffic calming measures such as installing speed bumps, narrowing the curb area, adding curb extensions, etc.
- Benefits:
  - Indicates the most appropriate and safe location for bicycle and motorized traffic
  - Reinforces the legitimacy of the bicycle traffic on the street
  - Requires no restrictions on parking
  - Can be used in a zone within a bike network
-Considerations:
  - Sharp and distinctive edges are effective for bicyclists

**Bicycle Boulevard/Greenway**
- Consider a bike boulevard/greenway treatment by calibrating bicycle travel along low-volume and low-speed streets using treatments such as traffic calming, signage, and pavement markings, and intersection crossings
- Considerations:
  - Use low-speed painted with narrower shoulders to the street configuration and no additional width is required
  - Minimal design elements along the bicycle boulevard include forced-turn lanes, centerline medians with bicycle/pedestrian pass throughs, raised crosswalks, intersections, mini-traffic circles, pedestrian refuge

**Intersection Treatments**
- Consider intersection treatments for both bicyclists and pedestrians to improve visibility and safety and help in creating a complete network
  - Intersection treatments can include but are not limited to high-visibility crosswalks, bicycle boxes, curb extensions, continuous bicycle marking, loop detectors at signalized intersections, etc.
  - Treatments such as curb extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance

**Recommendations**

**Climbing Bicycle Lane & Sharrow**
- Install a bicycle lane on one side (light) direction and add sharrow on the other side of the roadway (downhill direction)

**Benefits**
- Dedicated bicycle facility with wide shoulders
- Ensures motorists are safely passed
- Provides safety for cyclists

**Considerations**
- Parking may need to be restricted on one side
- May encourage wrong way bicycle riding
- Recommended for roadways with steep slopes

**Bicycle Route**
- Install signage on low-volume/low-speed streets where exclusive bicycle facilities are not necessary

**Benefits**
- Increases the legitimacy of bicycle traffic on the street
- Requires no additional space or restrictions on parking
- Does not dedicate exclusive use for cyclists

**Considerations**
- Ensures the legitimacy of bicycle traffic on the street
- Requires no additional space or restrictions on parking
- Does not dedicate exclusive use for bicycles
**TYPOLOGY VI: One-Way Streets**

*Example: Glenridge Avenue*

**EXISTING**

**RECOMMENDATIONS**

**CONTRAFLOW BICYCLE LANE & SHARROWS**
- Install a contraflow bicycle lane in the opposite direction of motor vehicle traffic within a striped buffer and sharrow on the other side.

**Benefits**
- Provides direct access and connectivity for bicycles traveling in both directions.
- Bicycles do not have to make a turn as a result of one-way traffic.
- Provides diagonal u-turning by allowing access to safety island in the opposite direction of cars.

**Considerations**
- Ensure where bicycles can effectively and conveniently make transitions at the terminus of the bicycle lane.
- Install a few blocks to complete or modify existing bicycle network.
- Relevant signage is important to encourage riders for safe movement of the bicyclists.

**BUFFERED BICYCLE LANE (ONE-WAY TRAVEL)**
- Install bicycle lane with a buffer.

**Benefits**
- Allows bicyclists to ride at their preferred speed without interference from opposing traffic conditions.
- Provides a greater side distance between motor vehicles and bicyclists by appearing at a wider crosswalk.
- Reduced conflicts between bicyclists and right-of-way users.

**Considerations**
- Only accommodates one-way travel for bicyclists.
- Improves safety for a bicycle facility adjacent to a wider crosswalk.

**BICYCLE BOULEVARD / GREENWAY**
- Consider a bicycle boulevard/greenway treatment by optimizing bicycle travel along low-volume and low-speed streets using treatments such as traffic calming, signage, and bicycle facilities.
- Tactile design elements along a bicycle boulevard include:
  - Bike lanes with bicycle/pedestrian pass throughs, raised crossings / intersections.

**INTERSECTION TREATMENTS**
- Consider intersection treatments for both bicyclists and pedestrians to improve visibility / safety and help in creating a complete network.
- Intersection treatments can include:
  - High-visibility, crosswalks, bicycle boxes, curb extensions, continuous bicycle markings, loop detectors at signalized intersections, etc.
  - Treatments such as curb extensions also create a traffic calming effect and make it easier for pedestrians to cross the roadway by reducing the crossing distance.

**SIGNAGE**
- Consider placing central "stop for pedestrians" signs on lower speed roadways to help alert drivers of a crosswalk.

**OTHER RECOMMENDATIONS**
- Consider using other traffic calming measures such as installing speed humps, tightening the curb radii of certain streets.
- Install high-visibility crosswalks where feasible and regularly maintain them.
- Regularly maintain sidewalks by clearing walking areas of weeds and other debris.
MEMORANDUM OF MEETING

TO: Kim Craft, Montclair and Bill Riviere, NJDOT
FROM: Mike Dannemiller, Rachana Sheth
DATE: 03/08/2017 at 7:00 pm Montclair Fire HQ
ATTENDEES: See attached Sign-In Sheet

SUBJECT: Montclair SAFE CS Implementation Plan – Public Information Center
NV5, Inc. Project # J728616.0000095.03

The Montclair SAFE CS Implementation Plan Team (NV5 & Susan Blickstein) held a public open house on Wednesday, March 8th, 2017 from 7:00 p.m. to 9:00 p.m. at the Montclair Municipal Building. The purpose of the meeting was to present the methodology, recommended SAFE CS network, and the pedestrian and bicycle recommendations including street typologies and gather feedback from the public.

The format of the meeting was an open house format with presentation boards and comment forms. In addition, to Montclair and NJDOT staff, the meeting was attended by more than 50 people from the community. A sign-in sheet is attached for reference; however please note that the sign-in sheets do not accurately reflect attendance as several attendees did not sign in. Some of the feedback received is summarized below:

Public Comments

- Street lighting is a major issue and should be highlighted
- Accommodations for landscaping trucks and other large vehicles that typically park in the shoulder should be considered if the recommendations include removing or reducing the shoulder widths
- Safety of the bicyclists in the roadways is a concern
- Consider phasing the implementation of the capital plan – municipal streets first as a pilot and then County roads
- Reduce the speed limit to 25 mph town wide

Attachments:
- Sign-in sheet
- Comment forms
- Boards:
  - Schedule
  - What are Bicycle & Pedestrian Friendly Streets?
  - Methodology
  - Recommended SAFE CS Network
  - Priority Network and Street Typologies Assumptions
  - Pedestrian Recommendations
  - Six (6) Street Typologies
Meeting Photos
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<td>Jamey Talley</td>
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# Final Public Open House

**SIGN-IN SHEET**

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<td>Dr. Mel Loughman</td>
<td>Steering Committee</td>
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If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

This was very informative & beneficial. I want my daughter to ride her bike when she begins middle school next year & this research is great. Last year I saw a little girl who was riding her bike alone on Bloomfield Ave & Midland Ave was hit by a car. This planning & research will help keep people & school age children safe.

GREAT WORK!!

Thank you for taking the time!
If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

As protected bike lanes, signed bike paths, and shared roads begin to come to fruition, I highly recommend sharing all of these with map apps like Apple and Google Maps. I rode my bike here from downtown Bloomfield, but the maps kept routing me back to Bloomfield Ave.

Would love to see these projects get the maximum exposure possible. More so, I am very interested in staying updated on the proposed rail trail from here to Jersey City.

- Andrew Reimann
  andreww@jalapenocycling.com

Thank you for taking the time!
If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

Excellent work. Maybe consider phasing the implementation of the capital plan to do a municipal street first (perhaps as a pilot), demonstrate the success of the complete street, then use this success story to pull Essex County into more aggressive Complete Streets implementation on County Roads.

Also love the mini traffic circles.

Thank you for taking the time!
If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

Street lights are not enough. The streets overall are very dark. Nishuone Park is not lit at all at night.

Thank you for taking the time!
If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

AFTER A COMPLETE REVIEW OF THE TOPOGRAPHY I SEE A GOOD PLAN COMING TOGETHER. MY CONCERN IS ON STREETS 38' WIDE & UP WOULD LIKE TO SEE ALTERNATE A FEELING THAT A BETTER FEEL & CYCLIST SECURITY WOULD GO A LONG WAY TO PROMOTE CYCLING IN THE TOWNSHIP.

ONE THE ONE WAY STREETS I FEEL SIGNAGE WOULD BE BEST HERE WITH WALKERS & CYCLIST SHARING THE ROADWAY. SIMILAR TO - ALTERNATE BIT (topo)

ON THE TOPOGRAPHY I FEEL ALTERNATE WITH COLLECTOR STREETS A GOOD ROOK FOR ME! WOULD BE ALTERNATE 2ND CHOICE

I WOULD LIKE TO SEE A VARIANCE OF CHOICES AS THE STREETS TOPOLOGY CHANGES.

Thank you for taking the time!
If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

I would like a plan that does not prioritize one type of road user over another.

Bike lanes that are easy to use, run in both north-south and east-west, and allow users to get to dining, retail and work should be prioritized.

A program that helps home owners absorb the cost of accessible sidewalk repairs

Safe passable roads are a must.

Thank you for taking the time!
If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

Great to have some thought about traffic in the area.
Bicycle segregation from auto traffic will enable more people to bike.

The various choices on regulations show much thought and will need to be implemented carefully.

We too are area and also thought about different intersections even as watching the two park streets. I am there often and see much needs to be done. Stop lights, traffic audits or any other calming devices needs to be implemented.

Thank you for taking the time!
If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

There are a few key intersections that need pedestrian heads/ligths.

I'm particularly concerned about Westclung = Valley Rd.

Bike lanes need prioritization in Montclair. There are so many activities for kids in town, but they are often dependent on having parents or sitters provide rides. Safe biking options for our kids & teens are needed for their safety and a shift in perspective — it can be done.

Thank you for taking the time!
If you have any comments or recommendations for improving walking or biking in Montclair, please indicate below.

25 mph town wide!

It is far too dangerous on Grove to do either A or B. It is far too dangerous to do any of the options at 35 mph, realistically people speed.

If you take the parking from one side or both, you leave residents with small children to cross a road with heavy 35 mph traffic.

Thank you for taking the time!
From: juliebrian@comcast.net
Sent: Friday, March 10, 2017 9:08 AM
To: Kimberli Craft
Subject: SAFE Streets Plan

Dear Ms. Craft,

Thank you for looking at a plan to make our streets safer for cyclists and pedestrians. I was not able to attend your open house this week, so I wanted to write with a comment. I think it would be wonderful to make bike routes on our streets (like Upper Mountain). In your safety analysis, I urge you to also take into account landscaping trucks that are often parked on our streets. They take up the shoulder if one exists and usually some of the driving lane as well. I don't know what the solution is (maybe they should have to park in their clients' driveways) but that needs to be solved for us to use streets safely.

Thank you,

Julie Clemens

116 Central Ave
Please add to public comments:

Michael Dannemiller, PE | Principal Engineer | NV5 – Formerly The RBA Group  
7 Campus Drive, Suite 300 | Parsippany, NJ 07054 | P: 973.946.5626

Kimberli Craft, P.E. | Township Engineer

From: Kimberli Craft [mailto:kcraft@montclairnjusa.org]
Sent: Friday, March 17, 2017 2:40 PM
To: 'David Jones'
Subject: RE: SAFE Streets

Dear Mr. Jones,

Thank you for sharing your concern, which I will forward to our consultant for inclusion in the final report. Missing sections of sidewalk should certainly be a priority as we seek to improve pedestrian safety on our streets.

Regards,

Kim Craft

From: David Jones [mailto:dkj104@gmail.com]
Sent: Friday, March 17, 2017 2:06 PM
To: Kimberli Craft
Subject: SAFE Streets

Hello Kimberli,

I realize that I am coming to this a bit late and many of the opportunities to voice my opinion have passed, but I was reviewing some of the information about the SAFE Complete Streets Plan and noticed something that concerned me.

According to the attached document (Typologies by Street List from Montclair SAFE) Normal ave has some of the highest traffic volumes in Montclair. My concern is that this street is not on the list of
prioritized streets. The reason for my concern is that the section of Normal ave between Upper Mountain and Highland Ave has no sidewalk, yet might be one of the busiest streets in Montclair.

I feel that this should be part of the prioritized work as it is probably one of the few streets in Montclair that does not have any form of sidewalk. (I've attached a photo of Normal Ave showing the section without the sidewalk - Highland is in the distance.)

I would really appreciate it, if you would consider this portion of Normal ave when prioritizing streets involved in the Complete Streets program.

Thank you

David Jones
MEMORANDUM OF MEETING

TO: Kim Craft, Montclair and Bill Riviere, NJDOT
FROM: Mike Dannemiller, Rachana Sheth
DATE: 06/13/2017 at 4:00 pm Montclair Town Hall
ATTENDEES: See attached Sign-In Sheet

SUBJECT: Montclair SAFE CS Implementation Plan - Final Steering Committee Meeting
NV5, Inc. Project # J728616.0000095.03

The purpose of the meeting was to review the draft Montclair SAFE Complete Streets Implementation Plan, to obtain feedback from the Steering Committee and discuss next steps. Presentation boards of background material, typologies and the implementation matrix were presented. Handouts included the main body of the report, excerpts from the NJDOT CS Design guide and the agenda (see attached). The sign-in sheet is also attached.

Bill Riviere, NJDOT Bicycle and Pedestrian Programs initiated the meeting an overview of the project and the meeting purpose. Mike Dannemiller and Rachana Sheth provided background of the project, overview of the draft plan and the schedule. The following summarizes the major items of discussion from the Steering Committee meeting:

Steering Committee Input and Recommendations:
- This report is planned to be adopted as an element of the Master Plan and will be presented to the Planning Board and then the Town Council
- Close coordination between county and municipality was recommended especially since there is opportunity to incorporate bicycle and pedestrian accommodations when County roads are resurfaced
- The flexibility of the plan was well-received and the township will solicit consensus from the community to decide what options are selected for implementation
- Modify the implementation matrix to include a recommendation that the Township explore shared responsibility for sidewalk maintenance
- It was recommended that the Traffic & Parking Advisory Committee present and advocate for this plan to be implemented

Immediate Action Items:
- NV5 will provide all final documents necessary to edit and modify the report.
- It was decided that the deadline for sending any additional comments is 6/17/2017
- NV5 will prepare the final plan
Attachments:
- Attendee List
- Handouts:
  - Meeting Agenda
  - Excerpts from NJDOT Complete Streets Design Guide

Meeting Photos
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<th>Name</th>
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<td><a href="mailto:liz.brady@njbic.org">liz.brady@njbic.org</a></td>
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</table>
Health

Street design has a major impact on health. Each additional hour spent driving per day is associated with a 5 percent increase in obesity, while each additional kilometer walked is associated with a 5 percent reduction in the likelihood.1

Complete Streets provide opportunities for active transportation by integrating features into street designs that facilitate and encourage walking, cycling, and transit use. One study found that residents are 65 percent more likely to walk in a neighborhood with sidewalks.2 Other studies have shown similar effects where bicycle, pedestrian, and transit infrastructure correlate with higher rates of physical activity and lower rates of obesity.

Streets that are designed only for cars discourage other modes of transportation, including walking and bicycling. Even where sidewalks do exist, large gaps in the sidewalk network, wide intersection crossings, speeding traffic, poor maintenance, and the lack of adequate accommodations for the mobility impaired can make walking unpleasant or unsafe.

Obesity

“sitting is the new smoking”

According to the Centers for Disease Control and Prevention (CDC), more than one-third (34.0 percent) of U.S. adults are obese, with a related estimated annual medical cost of $147 billion in 2008 dollars. Childhood obesity is also a serious problem in the U.S., affecting about 17 percent of 12.7 million U.S. children 2 to 19 years of age. According to the U.S. Department of Health and Human Services (HHS), one key factor in high obesity levels is inactivity. About 55 percent of the U.S. adult population falls short of recommended activity guidelines.3

- 34%
  Obese Adults

- $147 billion*
  Medical Cost

- 17%
  Obese Children (Ages 2–19)

- 55%
  Adults do not get enough exercise

* In 2008 dollars
Design Speed

Speed is a critical factor in the occurrence of crashes and the severity of their outcomes. Street design in the latter half of the 20th century was grounded in highway design principles that focused on forgiving driver error and accommodating higher travel speeds. The highway design approach bases design speed and posted speed on the 85th percentile of how fast drivers are driving rather than how fast they should drive. Designing for faster speeds increases the frequency of crashes and their severity. This approach accommodates and encourages speeding and reckless driving behavior, and puts drivers who are driving the speed limit and other roadway users at greater risk. Higher design speeds also have a very negative impact on urban areas and degrade the pedestrian environment by mandating larger curb radii, wider travel lanes, and generous clear zones to accommodate higher vehicular speeds. Designing for desired travel speed can help lower travel speeds, reduce crash severity, and otherwise improve the built environment for all users.

Design speed should be selected based on the context, and roadway elements should be selected and designed to support that speed. Where there are higher volumes of pedestrians, bicyclists, and transit users, roadway design should encourage a lower speed differential between modes. On most urban roads, a target speed of between 10 and 30 mph is appropriate.

Speed and Safety

Motor vehicle speed has a dramatic impact on pedestrian fatalities. A pedestrian struck by a motor vehicle travelling 40 mph has an 85 percent chance of death. At 30 mph, this chance falls to 45 percent. At 20 mph, the fatality rate drops to just 5 percent.

<table>
<thead>
<tr>
<th>VEHICLE TRAVELING AT...</th>
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<th>20-30 MPH</th>
<th>30-40 MPH</th>
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Bikeway Selection Guidance

Selecting the appropriate bicycle facility is a process that requires an understanding of context, roadway characteristics, the types of cyclists expected to use the facility, and how the facility fits within the overall roadway and cycling network. The flow chart below outlines a basic bicycle planning framework for engineers and planners in New Jersey. The process requires the user to determine which bicycle facility is appropriate for the roadway using the Bicycle Facility Table.

Bicycle Planning Approach

<table>
<thead>
<tr>
<th>Identity Corridor &amp; Review Context</th>
<th>Determine Desired Facility</th>
<th>Assess Feasibility</th>
<th>Select Alternative Options</th>
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<tr>
<td>- Identifying Multiple Alternatives</td>
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<td>- Explore Traffic Calming Options</td>
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<td>- Explore Roadway Space</td>
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<td>- Explore Separated Facilities</td>
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A Bicycle Facility Table

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<tr>
<th>ADT</th>
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<th>35</th>
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<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
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<td>DEF</td>
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<td>EF</td>
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</table>

A: Shared Street/Bicycle Boulevard  B: Shared lane Markings  C: Bicycle Lane  D: Buffered Bicycle Lane  E: Separated Bicycle Lane  F: Shared-use Path

*If data not available, use posted speed
*Bicycle boulevards are appropriate at speeds ≤ 25 mph
*Shared lane markings are not a preferred treatment with truck percentages greater than 10%
Appendix E:

RECOMMENDED SAFE CS STREET INVENTORY WITH STREET TYPOLOGIES
<table>
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<th>No</th>
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Source: Montclair Engineering Bureau
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Appendix F:

MONTCLAIR COMPLETE STREETS POLICY
TOWNSHIP OF MONTCLAIR

A RESOLUTION AMENDING RESOLUTION TO ESTABLISH A COMPLETE STREETS POLICY

December 6, 2011

WHEREAS, by resolution adopted October 6, 2009 the Township of Montclair established a Complete Streets Policy resolving that all public street projects, both new construction and reconstruction (excluding maintenance) undertaken by the Township of Montclair shall be designed and constructed as “complete streets” whenever feasible to do so in order to safely accommodate travel by pedestrians, bicyclists, public transit, and motorized vehicles and their passengers is committed to creating street corridors that safely accommodate all road users of all abilities with special priority given to pedestrian safety and establishing conditions; now therefore

BE IT RESOLVED by the Council of the Township of Montclair, in the County of Essex, that said resolution be amended by amending subsection c of said conditions to read as follows:

c. In any project, should the proportion of the project costs applicable to pedestrian, public transit, and/or bicycle facilities exceed 20% as determined by engineering estimates that would have to be funded with local tax dollars, then and in that event, approval by Council must be obtained for same prior to bidding of the project.

RECORD OF COUNCIL VOTE

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X - Indicate Vote  ABS - Abstain  N.V. - Not Voting  AB - Absent

I HEREBY CERTIFY the foregoing to be a true copy of a resolution adopted by the Council of the Township of Montclair, in the County of Essex, at its meeting held on December 6, 2011.

Linda S. Wanat
Clerk of the Township of Montclair, N.J.
TOWNSHIP OF MONTCLAIR

A RESOLUTION TO ESTABLISH A COMPLETE STREETS POLICY

October 6, 2009

WHEREAS, the Township of Montclair is committed to creating street corridors that safely accommodate all road users of all abilities; and

WHEREAS, significant accomplishments have already been achieved by incorporating pedestrian safety and traffic calming measures when public streets are improved; and

WHEREAS, the Township Council supports this “complete streets” initiative and wishes to reinforce its commitment to creating a comprehensive, integrated, connected street network that safely accommodates all road users of all abilities and for all trips; now therefore

BE IT RESOLVED that all public street projects, both new construction and reconstruction (excluding maintenance) undertaken by the Township of Montclair shall be designed and constructed as “complete streets” whenever feasible to do so in order to safely accommodate travel by pedestrians, bicyclists, public transit, and motorized vehicles and their passengers, with special priority given to pedestrian safety, and subject to the following conditions:

a. Pedestrian and bicycle facilities shall not be required where they are prohibited by law.

b. Public transit facilities shall not be required on streets not serving as transit routes and the desirability of transit facilities will be determined on a project specific basis.

c. In any project, should the cost of pedestrian, public transit, and/or bicycle facilities cause an increase in project costs in excess of 5%, as determined by engineering estimates, that would have to funded with local tax dollars, then and in that event approval by Council must be obtained for same prior to bidding of the project.
Appendix G:

FUNDING SOURCES
I. Funding Sources

**Funding Programs and Source**
The following is a compilation and brief description of sources of funding that have been, or could be used to fund pedestrian and bicycle improvements in New Jersey. The list is not exhaustive, but it identifies funding sources that can be utilized to fund bicycle and pedestrian planning and project development activities, as well as construction. Some funding sources may also be used to fund programmatic activities.

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Federal Funding Opportunities

Federal funding available for bicycle related projects is in a state of flux until a new federal transportation bill is updated. The current Federal Transportation Bill — known as Moving Ahead for People in the 21st Century (MAP-21) — was passed in 2012. Federal funding is set to expire on October 29, 2015. As new federal transportation legislation is adopted, the Borough of Bay Head should work closely with NJTPA, Ocean County, and NJDOT to monitor and take advantage of the new funding opportunities.

Transportation Alternatives Program (TAP)

Transportation Alternatives is the largest federal source for bicycle and pedestrian funding under MAP-21. TAP provides federal funds for community based "non-traditional" projects designed to strengthen the cultural, aesthetic and environmental aspects of the nation's intermodal system. TAP projects must relate to surface transportation.

While Transportation Alternatives projects are federally funded, the funds are administered by the New Jersey Department of Transportation and the state’s Metropolitan Planning Organizations (MPOs).

Eligible projects must fall into one of the following seven categories:

1. Provision of facilities for pedestrians and bicycles (sidewalks, curb ramps, bike lane striping, wide paved shoulders, bike parking, off-road trails, bike and pedestrian bridges and underpasses).
2. Scenic or historic highway programs including the provision of tourist and welcome center facilities as well as scenic turnouts, overlooks and viewing areas.
3. Landscaping and other scenic beautification (streetscape projects including lighting, benches, planting, decorative walls, and walkways; the reintroduction of native or endangered plants or trees).
5. Rehabilitation of historic transportation buildings, structures and facilities (including historic railroad facilities and canals).
6. Preservation of abandoned railway corridors (including the conversion and use for pedestrian and bicycle trails).
7. Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.

The federal funds for TAP projects are provided to the project LPA on a reimbursement basis only. The local public agency (LPA) must have the financial capability to advance project costs for materials and contractors. Before applying, prospective LPAs should assess their capability to comply with state and federal requirements for procurement of materials and services, accounting practices, right-of-way and easement acquisitions, environmental regulations and applicable design standards.

For more information on the Transportation Alternatives Program in New Jersey, visit [http://www.state.nj.us/transportation/business/localaid/alternatives.shtm](http://www.state.nj.us/transportation/business/localaid/alternatives.shtm)

Safe Routes to School Program (SRTS)

The Safe Routes to School Program (SRTS) is a federally funded reimbursement program administered by the New Jersey Department of Transportation (NJDOT), in partnership with the North Jersey Transportation Planning Authority (NJTPA). Under MAP-21 legislation, the Transportation Alternatives Program (TAP) funding does not provide for a standalone Safe Routes to School Program. The New Jersey Department of Transportation (NJDOT) has elected to continue funding the SRTS program separately.
Projects must be located within two miles of a school that serves students in grades K-8. Infrastructure projects may include the installation of sidewalks, crosswalks, bike lanes, multi-use paths, traffic calming measures, and other means to ensure the ease and safety of children walking or biking to school.

Any municipality, school district, or county is eligible to apply for funding after a solicitation is announced. Non-profit organizations are not eligible as direct grant recipients for the solicitation. However, non-profit organizations may partner with a local public agency that will assume responsibility and administration for the grant.

For more information, visit http://www.state.nj.us/transportation/business/localaid/srts.shtml or http://www.njtpa.org/project-programs/project-development/safe-routes-to-school.aspx

Local Safety Program
The Local Safety Program (LSP) was established by the NJTPA in 2005 in conjunction with NJDOT as a competitive program. The purpose of this program is to advance quick-fix safety improvements on county and local roadway facilities within its region. To date, over $44 million in projects have been selected for the program. Municipalities located within the subregions may make a request through their respective county to sponsor an application.

Local Safety Program projects typically address NJTPA/NJDOT derived high priority crash locations. Projects must be supported with detailed crash data, and will be in a construction-ready state at the time federal authorization is received. Proposals must demonstrate a location’s crash history (using multi-year data) and clearly show a relationship between the types of crashes and the proposed improvements (e.g., pedestrian signals will address a history of pedestrian crashes).

Crash prone locations within the NJTPA region have been identified with the assistance of NJDOT and Plan4Safety using network screening. Bridge Avenue in Bay Head is ranked 42nd on the top pedestrian corridor list for Ocean County because there were two pedestrian crashes along the roadway between 2009-2013. For more on the Local Safety Program, visit http://www.njtpa.org/project-programs/project-development/local-safety/fys-2016-and-2017-lsp-hrrr-solicitation.aspx

Recreational Trails Program (RTP)
The Federal Highway Administration’s Recreational Trails Program (RTP) provides financial assistance to states for developing and maintaining trails and trail facilities. The RTP funds come from the Federal Highway Trust Fund, and represent a portion of the motor fuel excise tax collected from non-highway recreational fuel use. Since the program’s inception in 1993, New Jersey has awarded more than $16 million to federal, state, county and local governments, and non-profit agencies. Projects are funded on an 80% federal share and 20% matching share basis.

The DEP’s Green Acres Program administers the program in New Jersey. Projects are reviewed and recommended for funding by the New Jersey Trails Council. Land on which trail facility is to be funded must be public land or private land with an easement for public recreational use. Maximum grant award is $24,000 for non-motorized projects.

Permissible uses and projects include:

- Maintenance and restoration of existing trails;
- Development and rehabilitation of trailside and trailhead facilities and trail linkages for trails (e.g., parking, signage, shelters, sanitary facilities);
• purchase and lease of trail construction and maintenance equipment;
• construction of new trails in existing parks or in new right of way;
• for motorized use only, acquisition of easement and fee simple title to property for trails.

Activities not eligible for funding include land condemnation; trail feasibility studies; law enforcement activities and personnel; road and sidewalk repairs; purchase of promotional materials; projects on land with railroad tracks; conversion of non-motorized trails to motorized use.

For more visit, [http://www.nj.gov/dep/parksandforests/natural/trail_grants.htm](http://www.nj.gov/dep/parksandforests/natural/trail_grants.htm)

**State Funding Opportunities**

**NJDOT Municipal Aid**

Under Municipal Aid program, each county is apportioned a share of the total funding based on population and the number of local centerline miles. Municipalities compete for portions of their county's share. NJDOT provides 75 percent of the grant amount when a town awards a contract and the remaining 25 percent upon completion of the project.

Applications receive points based on various criteria including existing road conditions, Average Daily Traffic (ADT), safety improvements, and access to nodes (schools, residential areas, employment centers, etc). Other important criteria include the project’s readiness to construct, whether the municipality has received an allotment within the last three years, and the municipality’s award and close-out performance on previously awarded State grants. For more information, visit [www.state.nj.us/transportation/business/localaid/municaid.shtm](http://www.state.nj.us/transportation/business/localaid/municaid.shtm)

**NJDOT Bikeway Grant Program**

The NJDOT Bikeway Grant Program provides funds to counties and municipalities to promote bicycling as an alternate mode of transportation in New Jersey. A primary objective of the Bikeway Grant Program is to support the State’s goal of constructing 1,000 new miles of dedicated bike paths (facilities that are physically separated from motorized vehicular traffic by an open space or barrier either within the highway right of way or within an independent right of way).

Although priority will be given to construction of new bike paths, the proposed construction or delineation of any new bicycle facility will be considered. Ineligible projects/activities include right-of-way purchases associated with any project, operating costs associated with any project, and planning activity costs. In order to be eligible, a project must place no restrictions upon hours of use by bicyclists (with the exception of dusk-to-dawn closings, as of some parks). Applicants must use the AASHTO 2012 Guide for the Development of Bicycle Facilities. For more information, visit [www.state.nj.us/transportation/business/localaid/bikewaysf.shtm](http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm)

**NJDOT Safe Streets to Transit (SSTT)**

SSTT program provides funding to counties and municipalities in improving access to transit facilities and all nodes of public transportation. The objectives of the SSTT program are:

• To improve the overall safety and accessibility for mass transit riders walking to transit facilities.
• To encourage mass transit users to walk to transit stations.
• To facilitate the implementation of projects and activities that will improve safety in the vicinity of transit facilities (approximately one-half mile for pedestrian improvements).

Types of work eligible for funding under SSTT include:
Intersection safety improvements
Constructing new sidewalks, curb ramps, sidewalk widening and major reconstruction
Traffic calming measures
Pedestrian oriented lighting
Traffic control devices that benefit pedestrians

Bicycle facilities are not eligible for funding.

For more information, visit www.state.nj.us/transportation/business/localaid/safe.shtml

NJ Division of Highway Traffic Safety Grants
The NJ Division of Highway Traffic Safety offers, on an annual basis, federal grant funding to agencies that wish to undertake programs designed to reduce motor vehicle crashes, injuries, and fatalities on the roads of New Jersey. Municipal, county, state government and law enforcement agencies, as well as non-profit organizations, are encouraged to apply for NJDHTS grant funding to address specific, local traffic safety issues. Grants available include:

**Comprehensive Traffic Safety Programs (CTSP’s)**
Comprehensive Traffic Safety Program grants address multiple traffic safety concerns within a county or larger community. CTSP grants include numerous tasks and strategies involving enforcement, education and engineering. The potential grantee must provide a detailed Problem Identification section with extensive information about the community, motor vehicle crash experience (including pedestrian & bicycle), data analysis and creative solutions to reduce these crashes.

**Pedestrian Safety**
The goal of the pedestrian safety program area is to lower the pedestrian fatality and injury rates. In the Central Region, municipalities that are statistically high for pedestrian injury crashes are eligible to apply for our Pedestrian Safety Grant. The grant includes funding for overtime enforcement at pedestrian safety hot spots in the community and educational outreach throughout the community.

**Other Eligible Programs**
Grant applications may also be submitted that utilize enforcement, education or engineering counter-measures to address other specific traffic safety issues including:

- Speed
- Aggressive Driving
- Bicycling Safety
- Crash Investigation
- Distractions
- EMS Training - relating to crash response
- Motorcycle Safety
- School Bus/Pupil Transportation
- Traffic Engineering - primarily pedestrian pavement markings and pedestrian signs, but some traffic studies will be considered

**New Jersey Healthy Communities Network Grants**
These grants support projects advancing the implementation of policy changes and/or development of the built environment to support healthy eating and active living. Supported projects make the healthy choice the easy choice; make healthy food and beverages the affordable, available and desired choice; encourage and support physical activity by ensuring accessibility and safety; and make healthy school, work, and community environments the norm and not the exception. In 2016, up to 50 New Jersey-based entities will receive grants of up to $20,000. http://njhc.org/
Private and Non-profit Funding Sources

**Sustainable Jersey**
Sustainable Jersey registered towns get special priority access and notification of incentives and grants, and are eligible for the Sustainable Jersey Small Grants program. Over $1.75 million in grants have been provided to towns for community-based projects to improve quality of life in New Jersey.

Eligible projects include actions that would score a municipality points toward Sustainable Jersey certification. This includes projects addressing issues from renewable energy and green building design, waste reduction, a sustainable master plan, water conservation, natural resources management, energy management, and transportation issues. Most projects also include public outreach campaigns and many have involved school children and community organizations.


**People for Bikes Community Grants**
The PeopleForBikes Community Grant Program provides funding for important and influential projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths and rail trails, as well as mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives.

Since 1999, we have awarded 341 grants to non-profit organizations and local governments in 49 states and the District of Columbia. Our investments total more than $2.9 million and have leveraged nearly $670 million in public and private funding.


The Robert Wood Johnson Foundation
The Robert Wood Johnson Foundation invests in grantees (e.g., public agencies, universities, and public charities) that are working to improve the health of all Americans. Current or past projects in the topic area “walking and biking” include greenway plans, trail projects, advocacy initiatives, and policy development.


Other Potential Funding Sources
The following funding sources for greenways have been identified by Project for Public Spaces, Rails-to-Trails Conservancy and the National Trails Training Partnership.

**Municipal Allocations**
The most common sources of funding at the municipal and county level include allocations from a specific department, such as the park and recreation department or public works department. Incorporating funding for maintenance of bicycle and pedestrian facilities into the annual budget guarantees funds are available to cover maintenance.

In some localities, a portion of an increase in the sales tax will be set aside for recreational trail or other conservation funding. Rarely, new taxes will be levied to exclusively support active transportation projects.

**Impact Fees**
Regulated by subdivision policies, impact fees require residential, industrial and commercial development project leaders to provide sites, improvements and/or funds to support public amenities such as open space and trails. Impact fees may be allocated to a particular trail or greenway from land development projects if the fund is a dedicated set-aside account established to help develop a county- or city-wide system of trail or greenway projects.
Local Private-Sector Funding
Local industries and private businesses may agree to provide support for greenway development through one or more of the following methods:

- Donations of cash to a specific greenway segment
- Donations of services by large corporations to reduce the cost of greenway implementation, including equipment and labor to construct and install elements of a specific greenway
- Reductions in the cost of materials purchased from local businesses that support greenway implementation and can supply essential products for facility development

Adopt-A-Trail Programs
These are typically small grant programs that fund new construction, repair/renovation, maps, trail brochures, facilities (bike racks, picnic areas, birding equipment).

Membership campaigns
The return from this can be significant (The Pikes Peak Area Trails Coalition raises $18,000 per year), but your effort must be repeated every year.