BLOOMFIELD AVENUE COMPLETE CORRIDOR PLAN HEALTH IMPACT ASSESSMENT

PRODUCED BY THE NEW JERSEY HEALTH IMPACT COLLABORATIVE
Spring 2015

TOGETHER NORTH JERSEY.

Partners for Health FOUNDATION

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The New Jersey Health Impact Collaborative (NJHIC) promotes the integration of public health impacts into planning and decision-making about projects and policies. NJHIC advances the practice of Health Impact Assessment (HIA) as a tool to improve planning and decision-making throughout New Jersey.

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ABOUT PARTNERS FOR HEALTH FOUNDATION

Partners for Health Foundation is focused on making our communities healthier, better places to live. To date, the Foundation has awarded nearly $6 million and partnered with more than 60 organizations, congregations, school districts and municipalities to make progress in key areas. To accomplish this, Partners for Health invests in programs and policy change through collaborations that will lead to healthy communities and healthy lifestyles.

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- Healthy Eating & Active Living (Chronic Disease Prevention)
- Food Security
- Aging in Place
- Mental Health/Youth Resiliency

The Foundation recognizes that it can't be effective working alone; the challenges facing our communities are too big for one organization to make deep and lasting change. That's why today, more than ever, it is harnessing the efforts of engaged partners to implement strategies that collectively work toward a shared vision.

Not-for-profit organizations located in, or providing direct service to, the following communities are eligible for grants from the Foundation: Montclair, Glen Ridge, Essex Fells, Verona, Cedar Grove, Clifton, Bloomfield, Little Falls, Nutley, Roseland, Fairfield, Caldwell, West Caldwell, North Caldwell and West Orange.

ABOUT TOGETHER NORTH JERSEY

In November 2011, the U.S. Department of Housing and Urban Development (HUD) awarded TOGETHER NORTH JERSEY (aka, North Jersey Sustainable Communities Consortium) a $5 million Sustainable Communities Regional Planning Grant. The grant was matched with an additional $5 million in leveraged funds from project partners. Grant funds have been used to implement the Local Demonstration Project (LDP) Program, develop a Regional Plan for Sustainable Development (RPSD) for the 13-county planning Together North Jersey planning region in northern New Jersey, and provide technical assistance and offer education opportunities that build the capacity of jurisdictions, organizations and the public to advance sustainability projects and initiatives. For more information, visit togethernorthjersey.com

DISCLAIMER

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TABLE OF CONTENTS

TABLES

Tables

FIGURES
MAPS

Figures

Maps

EXECUTIVE SUMMARY

The New Jersey Health Impact Collaborative at Rutgers University (NJHIC) conducted a Health Impact Assessment (HIA) in conjunction with a Local Demonstration Project funded by Together North Jersey. The Bloomfield Avenue Complete Corridor Plan included the towns of Bloomfield, Glen Ridge, Montclair and Verona in Essex County, New Jersey.

By combining scientific data, health expertise and public input, HIAs identify and assess the potential positive and negative health effects of decisions related to policies, programs or projects. The HIA considers a range of social, environmental and economic influences on health and places an emphasis on identifying groups of people who might be either positively or negatively impacted by the way the corridor functions. HIA follows a six-step method that results in a set of recommendations and a monitoring plan.

VISION FOR A HEALTHY, SAFE AND ECONOMICALLY PROSPEROUS BLOOMFIELD AVENUE CORRIDOR

The vision of a healthy Bloomfield Avenue is one where pedestrians and bicyclists of all ages and abilities can safely access and use of the corridor for walking and bicycling with minimal risk of crashes and minimal exposure to noise and air pollution, where motor vehicle traffic is efficiently managed to reduce driver stress, and where social interaction leads to improved mental health and a vibrant business environment. The HIA was prepared for a potential future comprehensive complete corridor plan, specifically consisting of a "road diet." The main element of the road diet is to reduce at least one lane of motor vehicle traffic along the four-lane Bloomfield Avenue, and reconfigure the remaining lanes for improved safety. The goal of a road diet is to more safely accommodate pedestrians (shorter crossings), bicyclists (dedicated lanes), transit users (improved bus stops) and drivers (easier navigation). The goal of the HIA was to expand knowledge and understanding about the impacts of a road diet on public health in order to develop recommendations to inform decision-makers as they weigh the benefits and costs of various options to implement a road diet.

The Bloomfield Avenue Complete Corridor Plan HIA, conducted between February and August of 2014, included reviewing background data and literature, engaging stakeholders, and conducting a survey of over

1,000 residents in surrounding communities, to both characterize the baseline health status and also project health impacts of Complete Streets measures for nearby communities. The HIA addressed six research questions, with a focus on any disparate impacts on vulnerable populations considered for each question:

1. What are the safety (collisions) impacts for pedestrians, bicyclists and drivers when a road diet is implemented?
2. What are outdoor environmental exposure impacts (physical activity, pollution) of a road diet for pedestrians, bicyclists and motorists?
3. What are the mental health impacts (stress, noise) of a road diet for motorists and other road users (pedestrians, cyclists, transit users)?
4. What are the impacts to social cohesion for communities along a street that undergoes a road diet?
5. What are the economic impacts along or near a street that undergoes a road diet?
6. What are the impacts to access to public services, transit, and healthy food along roads with a road diet?

SUMMARY OF FINDINGS

Table 1 lists the key health factors examined in the study, along with a summary of the projected impacts of a Bloomfield Avenue road diet for each. The table summarizes and defines the direction of the expected health impacts, the level of any expected impacts, the likelihood that the impacts will occur, and the distribution of those impacts to specific populations.

Although the Plan produced in the summer of 2014 was limited to an examination of potential crosswalk and traffic flow improvements at five specific intersections along the corridor, one of the eventual goals of the project is to secure additional funding for a larger study. As part of the eventual study, the engineering team may look at existing and projected traffic flow, proposed future development, potential land use changes, and the potential for adding traffic calming.

Table 1. HIA Analysis – Summary of Findings: Health Impacts of a Road Diet

Health Determinant	Direction of Expected Health Impact	Level of Impact	Likelihood	Population Impacted
Safety	Increase	High	Likely	Drivers (resident and commuter), Pedestrians and Bicyclists using Corridor
Physical Activity	Increase	Medium	Possible	Residents of the four towns, with disproportionate impact on lower income and elderly
Air Pollution	Increase	Low	Possible	Residents who live or work on Bloomfield Ave., Schools within a block of the Corridor, with particular impacts on children and elderly
Stress	Decrease	High	Likely	Drivers and commuters, shoppers, business patrons and pedestrians
Social Cohesion	Increase	Medium	Possible	Residents of the four towns
Local Economy	Increase (jobs, revenue)	Low	Uncertain	Businesses and property owners along or near the Corridor, and the four towns (jobs, taxes)
Access to Services, Transit and Food	Increase	Low	Uncertain	Lower income, disabled, elderly

Direction of Expected Health Impact	
Decrease	Reduction of health impacts associated with this determinant
Increase	Escalation of health impacts associated with this determinant
Unknown	Unknown how health will be impacted

Likelihood	
Likely	it is likely that impacts will occur
Possible	it is possible that impacts will occur
Unlikely	it is unlikely that impacts will occur

Level of Impact	
Low	Causes minor impacts
Medium	Causes some substantial impacts
High	Causes significant impacts

RECOMMENDATIONS

The recommendations to advance healthy decision-making related to a potential road diet for the Bloomfield Avenue corridor are listed below.

Safety

- Institute measures to slow motor vehicle speeds.
- Promote driver, pedestrian and bicycle safety education.
- Improve crosswalk safety.
- Promote alternatives to driving.

Outdoor Activity and Exposure

- Enhance the use of Bloomfield Avenue and surrounding roads for physical activity.
- Minimize air pollution impacts.

Mental Health

- Minimize motorist, cyclist, pedestrian and transit user confusion and stress.
- Improve feeling of security (crime).

Social Cohesion

- Maximize social interaction benefits for users of Bloomfield Avenue.
- Enhance the quality of the pedestrian and bicycling experience along Bloomfield Avenue.

Local Economy

- Encourage patronization of local businesses along the Corridor.
- Encourage walking or bicycling transportation to and among businesses and transit stops.

Access to Public Services

- Address social equity by supporting access and use of public services by vulnerable subpopulations.

INTRODUCTION

Busy Bloomfield Avenue Intersection

PROJECT TEAM

The New Jersey Health Impact Collaborative (NJHIC) at Rutgers University carried out this HIA study, with funding from Partners for Health Foundation, and with technical support from the Together North Jersey Local Demonstration Project (LDP) through NJTRANSIT. Partners on the Bloomfield Avenue Complete Corridor Plan project contributed to the HIA process. They included members of the project Steering Committee, who were representatives from public, private and non-profit organizations from Montclair Township, Bloomfield Township, Borough of Glen Ridge, Township of Verona, Essex County and representatives from NJ and State Offices. Staff from Looney Ricks Kiss (LRK) and Vanasse Hangen Brustlin, Inc. (VHB) with support from Nishuane Group were the lead planning and engineering consultants on the project.

ORGANIZATION OF REPORT

After an introduction describing the Complete Corridor Plan (the Plan) and the HIA process generally, the report details the phases of the HIA, summarizing the key steps, activities and results associated with each phase. The screening section describes the value of the HIA, and the scoping section describes the major goals and components that form the foundation of the HIA, including research questions, health determinants, pathways and project methods. The baseline assessment section presents a profile of current demographics and health of affected populations. This is followed by the projections and recommendations section that provides evidence to support recommendations and predicted impacts associated with implementation of a road diet. Finally, an evaluation section describes impact and process evaluation and suggests a monitoring plan.

Glen Ridge Train Station

BACKGROUND ON BLOOMFIELD AVENUE COMPLETE CORRIDOR PLAN

The goals of the Corridor Plan were to:

- Assess the area to identify transportation, pedestrian and bike access improvements that can improve the capacity of existing roads and the overall mobility of residents, stakeholders and patrons;
- Recommend roadway improvements that will create a healthy, enjoyable and safe environment using Complete Street guidelines; and,
- Develop a transit-friendly corridor that attracts economic investment on a regional scale.

Bloomfield Avenue, also known as County Route 506, is an arterial road that connects suburban and urban areas of Essex County. The Bloomfield Avenue Complete Corridor Plan is a study of a 4.3 mile segment of Bloomfield Avenue from the Garden State Parkway in Bloomfield to Grove Avenue in Verona. It is one of the few roadways that connect the western suburbs of Essex County to the County seat in Newark. It serves not only as a principal arterial for cars and trucks, but is a major transit corridor with bus, rail and shuttle service along much of its length. The portion of Bloomfield Avenue in the study area is an undivided highway with four lanes of motor vehicle traffic, two lanes in each direction, with parallel parking along both sides. Some intersections have turning lanes, but many do not. The road bisects busy central business districts in Montclair and Bloomfield. For the entire study area length, Bloomfield Avenue is a destination for shopping, dining, living and accessing services.

Some of the main issues impacting health and safety along Bloomfield Avenue are sidewalk and roadway widths, parking lanes, traffic flow, vehicle speeds and intersection design. In addition to the downtown areas and business centers, the arterial road also includes historic considerations, two Transit Villages, and walk-to-school routes.

Complete Streets is an approach to transportation planning that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities, including those walking, bicycling, driving automobiles, riding public transportation, or delivering goods. Complete streets objectives can be operationalized through a "road diet" approach. New Jersey Department of Transportation (NJDOT) and Essex County have both adopted Complete Streets policies, and NJDOT supports road diet applications. Three of four of the study communities also have Complete Street policies. The main element of the road diet is to reduce at least one lane of motor vehicle traffic, and reconfigure them for improved safety, such as adding turn lanes and protected bicycle lanes. The goal of a road diet is to more safely accommodate pedestrians (shorter crossings), bicyclists (dedicated lanes), transit users (improved bus stops) and drivers (fewer crashes, less stop-and-go, easier navigation).

Although the Plan produced in the summer of 2014 was limited to an examination of potential crosswalk and traffic flow improvements at five specific intersections along the corridor, one of the eventual goals of the project is to secure additional funding for a larger study. As part of the eventual study, the engineering team may look at existing and projected traffic flow, proposed future development, potential land use changes, and the potential for adding traffic calming.

Health Impact Assessment Process

By combining scientific data, health expertise and public input, HIAs identify and assess the potential positive and negative health effects of decisions related to policies, programs or projects. HIAs consider a range of social, environmental and economic influences on health and place an emphasis on identifying groups who might be particularly vulnerable or disproportionately impacted. HIA follows a six-step method (screening, scoping, assessment, recommendations, reporting, monitoring/evaluation) that results in a set of grounded recommendations intended to maximize positive health aspects and minimize negative impacts to health.

As a complementary process to the development of the Plan and carried out simultaneously, this HIA adds a health focus to the project. The overall goal of this HIA was to expand knowledge and understanding about the impacts of a road diet on the health of the surrounding populations and communities in order to develop recommendations to inform decision-makers as they weigh the benefits and costs of various options to implement a road diet.

The elements of a road diet could result in a number of significant impacts to public health in the vicinity of the corridor. These include issues related to pedestrian safety (crashes, injuries), air quality, noise levels, local economic growth, recreational opportunities (wellness/fitness), community vibrancy, and specific impacts to vulnerable populations, such as low-income, elderly and those with limited mobility. These impacts could be in the positive or negative direction, but are important to identify, measure, and consider in the overall assessment of the effect of a road diet on the region.

SCREENING

Bloomfield Avenue Study Local Demonstration Program kick-off meeting

The screening step determines whether an HIA is appropriate, likely to be useful, and feasible. Common questions asked during this step may include: What project or decision will the HIA address or inform? How important to health is the project or decision? Will the HIA provide new and important information to inform decision-makers? Is an HIA feasible given available resources?

IDENTIFICATION OF DECISION AND DECISION-MAKERS

There are three decision levels relevant to this HIA. First, the HIA is fully incorporated within the Plan developed in the summer of 2014, so that its recommendations can influence actions taken regarding improvements to the five intersections studied. Second, since this initial Plan may serve as a launching point for the application for funding of a larger more comprehensive study, the findings and recommendations from this HIA will be applicable to the decisions made regarding this next step. Third, if funding is secured for the full comprehensive study and full Complete Streets plan is developed, the decision to be influenced will be the adoption of the Corridor Plan as a guide for investing in access and roadway improvements as part of a road diet.

The decision to incorporate health into this multi-step Complete Streets planning process was made by the project partners. The County of Essex maintains the road, so county officials, as well as officials from the four municipalities (Montclair Township, Bloomfield Township, Borough of Glen Ridge and Verona Township) will make final decisions regarding which Plan elements will be included in the next study and ultimately implemented. Project partners, including those who will make decisions on both the proposals for full Plan development and also implementing the components of the eventual Plan, are open to considering the HIA recommendations to inform changes in design and alternative planning and programming.

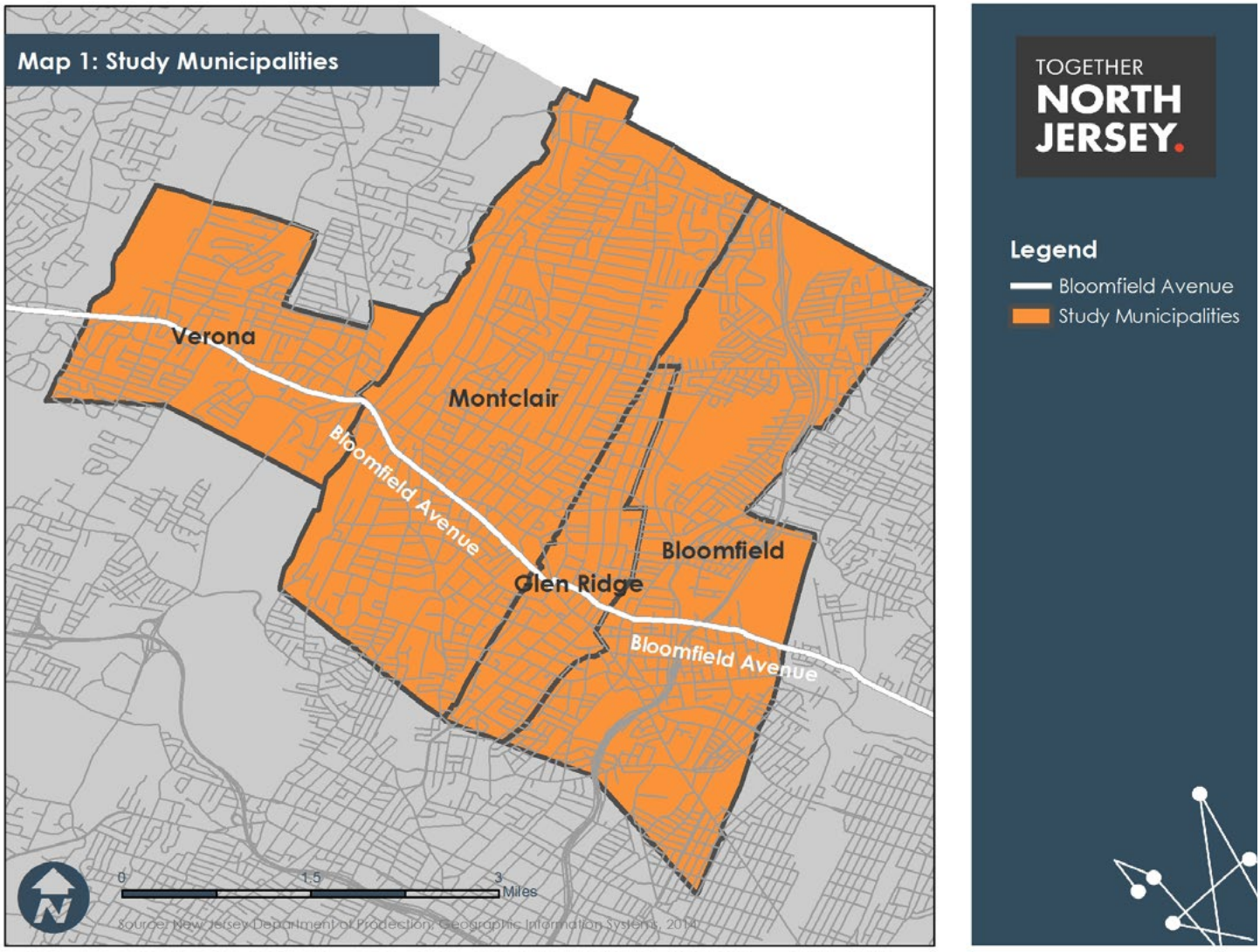
All project partners (consultant, project leads, project steering committee) actively participated in the HIA process, including being available to be interviewed and helping to obtain local data and information. During this phase, the HIA team identified research questions, key health issues, affected population(s) and methods to be used in the assessment. The team also investigated relevant social determinants of health and created pathways diagrams that show the interaction between exposure and outcomes. During this phase, the HIA team identified research questions, key health issues, affected population(s) and methods to be used in the assessment. The team also investigated relevant social determinants of health and created pathways diagrams that show the interaction between exposure and outcomes. Because the project was designed to already include a number of stakeholder outreach events and processes, the HIA process leveraged this capacity and these opportunities to meet with stakeholders. HIA project staff woverlaid and integrated health assessment steps within each step of the project.

DETERMINATION OF VALUE OF HIA

As part of the Together North Jersey Local Demonstration Project selection process, representatives from NJ TRANSIT, LRK (lead project consultant), and NJHIC conferred with Together North Jersey staff and met with representatives from the four municipalities to consider the added value of the HIA to the project. Based on those discussions, the project team determined that implementation of a Complete Streets plan and road diet have the potential to significantly impact determinants of health and health outcomes for corridor users and others in the nearby community (both positively and perhaps negatively). With some minority and some lower income populations, and significant senior and disabled populations living in close proximity to the corridor, there is the potential for disproportionate impacts on and benefits for these vulnerable populations. An HIA would be a beneficial way to add explicit health considerations to the implementation of infrastructure that follows the principles of Complete Streets policies. (See Screening Checklist in Appendix A).

It was further determined that an intermediate level HIA was feasible given available staff and budget resources and the timeline of the Local Demonstration Project. That is, it could involve more local data collection and stakeholder input than a "rapid" HIA, with the leverage of the overlay with the LDP steering committee and stakeholder process, but resources could not support a full comprehensive assessment with extensive new primary local data collection. The existing relationships formed by the municipal, county, state and nonprofit representatives on the steering community and their buy-in to the HIA would facilitate and enhance the HIA process, without slowing it down and adding controversy. Finally, this HIA will have visibility and broader application to other communities in New Jersey and nationwide who are considering road diets and Complete Streets planning – an important opportunity.

SCOPING



Scoping establishes the foundation for the design and conduct of the health impact assessment. During this phase, the HIA team identified research questions, key health issues, determinants and pathways that should be considered, affected population(s) and methods to be used in the assessment. Scoping included input from a range of experts and stakeholders.

GOALS OF THE HIA

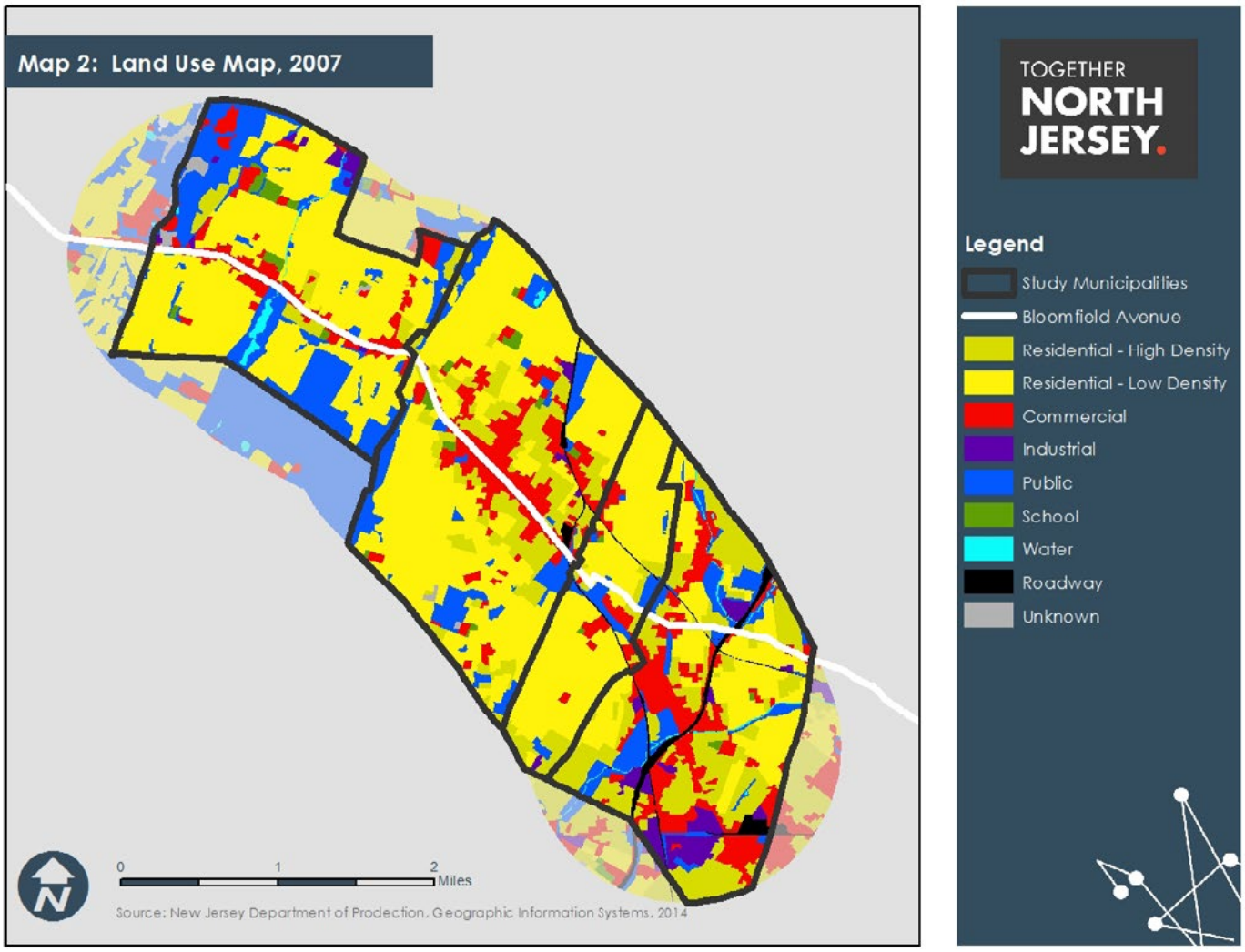
The goals of the HIA are to:

- define research questions related to health determinants influenced by a Bloomfield Avenue road diet
- carry out methods to assess baseline conditions and projected health impacts
- develop recommendations intended to maximize health benefits and mitigate negative health impacts of road diet elements with a focus on increasing equity
- engage stakeholders throughout the entire HIA process

STUDY BOUNDARIES

Geographic

The portion of the corridor targeted for this project (illustrated in Map 1) extends for 4.3 miles through the four municipalities of Bloomfield Township (eastern edge), Borough of Glen Ridge, Montclair Township, and Verona Township (western edge). The "community" under consideration for the HIA is at two different scales. One boundary includes the entire area of the



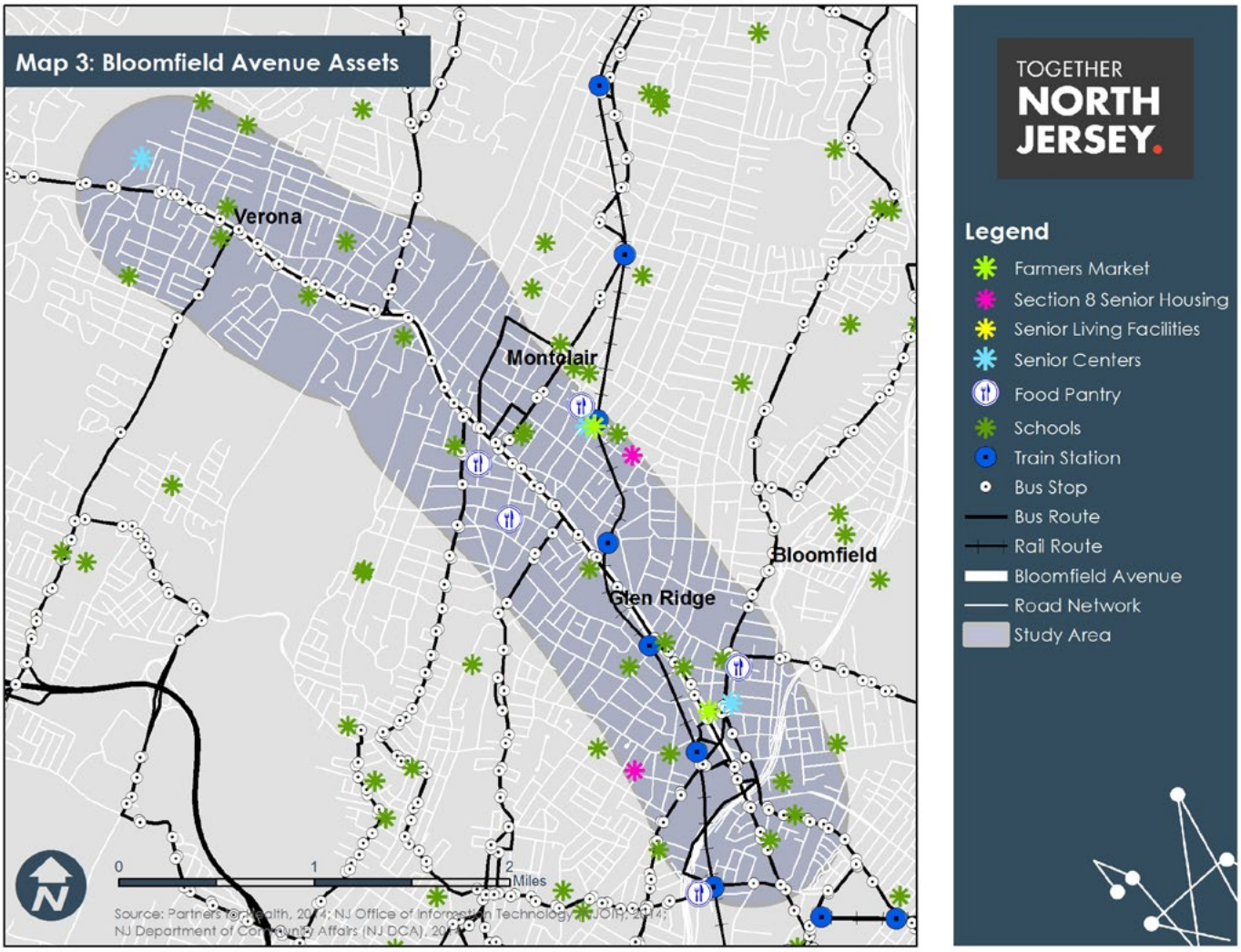
four municipalities (area = 15.71 sq. mi.). The other is a subset of the four jurisdictions that consists of just the area within easy walking or biking distance of the Avenue (census tracts within .5 mile of the corridor). The smaller area that radiates several blocks from the Avenue is the most heavily impacted by most of the health determinants. That is, residents within this boundary are most likely to actually use the corridor regularly for shopping, work, commuting and exercise and are therefore subject to the direct impacts associated with safety, physical fitness, mental health, social cohesion, and access. Impacts related to local income and employment may be more appropriately distributed to the larger community boundary that includes the four towns, although impacts such as increases in foot traffic to businesses may be more immediate at establishments located directly on Bloomfield Avenue, or in closely surrounding blocks.

In terms of land use, the Bloomfield Avenue corridor runs through several commercial districts surrounded by mostly residential – some high density residential in parts of Montclair and Bloomfield, but mostly lower density residential in the other areas. Map 2 shows the 2007 land use for the corridor.

As shown in Map 3, the 0.5 mile Bloomfield Avenue study area is rich with community assets. There are 21 schools (pre-K through high school) within the study area, and many students have to cross the avenue on their way to and from school. There are NJTRANSIT bus stops at very frequent intervals all along the corridor, and 3 train stations within ½ mile. There are also three senior community centers and nine senior living facilities along the avenue as well as seven food pantries and two farmers markets.

Temporal

The HIA analysis is concerned with both short-term impacts (taking effect immediately) and long-term impacts that may only be realized in decades. Specifically, some potential health outcomes that could



result from implementing a road diet on Bloomfield Avenue are very immediate, both negative ones (e.g. increased air pollution from slower traffic) and positive (e.g. improved mental well-being from social interaction). Others are more long-term and are expected to be mostly in the positive direction, such as those brought about by improved physical fitness and better local economic conditions.

IMPACTED SUBPOPULATIONS

Users of the Bloomfield Avenue corridor are the population most affected directly by the implementation of Complete Streets concepts and measures. Residents of neighborhoods within walking or bicycling distance of the Avenue are the most likely to use the Avenue on a regular basis for shaping, dining, accessing services, socializing or fitness. Non-motorized users will achieve benefits of outdoor physical activity from safer pedestrian and bicycle paths. Motorists who come to shop or eat on Bloomfield Avenue, or who commute along the corridor to and from work are also directly impacted, some who may live outside of the four towns. If any subpopulations within these groups are unable or unwilling to use the Avenue due to limited ADA access, unsafe cycling and walking conditions, perception of crime or other real or perceived barriers, the benefits of the changes to the corridor will not be community-wide. An explicit goal of the HIA it to consider disparate impacts of both risks and benefits on affected subpopulations.

RESEARCH QUESTIONS

Health determinants are personal, social, economic, and environmental factors that are influenced by societal decisions and affect the health of individuals or populations. Health determinants are linked through research to health outcomes, such as life-expectancy, disease and injury rates. The HIA study considered six major health determinants, as reflected in the research questions.

Table 2. Research Questions, Indicators and Data Sources

	Research Questions	Indicators	Data Sources
Physical Health	*What are the safety (collisions) impacts for pedestrians, bicyclists and drivers when a road diet is implemented?*	Number and type of crashes Reported injuries	**Baseline:** Local Health Depts, Traffic Incident Reports, Local Hospitals and Doctors **Projection:** Literature Review, Experts, Models
	What are outdoor exposure impacts (physical activity, pollution) of a road diet for pedestrians, bicyclists and drivers?	Physical activity (self-reported) Air pollution Asthma and allergy rates	**Baseline:** Community Health Assessment (if available), Local Health Depts., DEP **Projection:** Literature Review, Experts
Quality of Life	*What are the mental health impacts (stress, noise) of a road diet for drivers and other road users?*	Self-reported stress Perceptions of security Poor Mental Health Days Noise	**Baseline:** Local Police, Local Health Depts, Behavior Risk Surveillance System (BRFSS), Survey **Projection:** Literature Review, Survey
	What are the impacts to social cohesion for communities along a street that undergoes a road diet?	Resident satisfaction with social network Success/evaluation of social events – number of people attending	**Baseline:** Survey, Stakeholder Input **Projection:** Survey, Literature Review, Expert interviews
Community Health	*What are the economic impacts along or near a street that undergoes a road diet?*	Revenues for businesses Job growth for businesses Income for residents Housing prices Increased foot traffic	**Baseline:** Chamber of Commerce, Local Business Patterns, Survey, Stakeholder Input **Projection:** Literature Review, Survey
	What are the impacts to access to services, transit, and healthy food along roads with a road diet?	Number of people going to local food markets and service providers People using transit	**Baseline:** Survey, Stakeholder Input **Projection:** Survey, Literature Review, Expert interviews

The research questions that frame the Corridor Plan relate to environmental, physical or social factors, as shown in Table 2, that are likely to be influenced by the Bloomfield Avenue road diet. The factors are health determinants because they can lead to human health outcomes. The first two determinants, safety and outdoor exposures, are both about how road diet changes to the Corridor impact the physical health (injury rate, fitness and disease conditions) of the individual users. The second set of two determinants connect road diet elements with changes to quality of life, both personal (stress) and at the community level (social cohesion). Finally, the last two questions explore how implementing a road diet can affect the wider community through stimulation of the local economy and broadening access to the services and features of the Avenue to all populations.

The indicators in Table 2 were selected because they are either data that are readily available through existing secondary sources, or information that could be collected at either an exact or approximate level through new primary data collection (interviews and surveys).

Figure 1. Health Pathway Example

Literature review is critical to make the connection between the indicators and the broader questions about health determinants and outcomes. HIA is a tool for applying evidence from the literature to local contexts.

In the interest of limited time and resources, some determinants were not selected for assessment in this study, either because there was little or no stakeholder interest or concern, or because the research team had little or no basis for evaluating the impacts of the determinant. One example is impacts to police, fire and emergency response services. There are other health determinants worth examining in more detail in future study, and we discuss some of those in the Evaluation section.

HEALTH PATHWAYS

Causal models, or pathway diagrams, (example shown in Figure 1) are used in HIAs to support cause and effect relationships that potentially exist between environmental or social conditions and a variety of health outcomes. Pathway diagrams help organize existing knowledge and research, guide analyses, and communicate information in a clear and systematic manner.

A pathway diagram guides research questions and gives insight into the intermediate effects that lead to the plausible health results. Figure 2 shows the pathway diagram we constructed for this HIA.

METHODS

Literature Review

To predict health impacts and support health pathways, the team reviewed empirical research from scholarly journals to find evidence that connects road diet implementation to changes in traffic collisions, physical activity, mental health of users and motor vehicle operators, local economy, access and other areas defined as part of the scoping process. The HIA Team selected references without bias toward positive or negative findings. More weight was given to peer-reviewed studies where the scientific merit has been judged by experts in the field.

Secondary/Existing Data Collection

To conduct the baseline demographic and socioeconomic analysis, US Census data is the primary source. For health data, the research team conducted a broad search of national data sources including Behavioral Risk Factor Surveillance System (BRFSS), which collects data on health-related risk behaviors, chronic health conditions, and use of preventive services, and County Health Rankings and Roadmaps, which weighs over twenty sources of public health data from national sources. In addition, we contacted local professionals to obtain and review these localized health studies or data collection efforts:

At the Verona Arts & Crafts Festival and Montclair Bike Scavenger Hunt community members particpated in the "Dot-mocracy" exercise to identify destinations and locations of hot spots.

Figure 2. Bloomfield Avenue Complete Corridor: Causal Pathway for Health Determinants

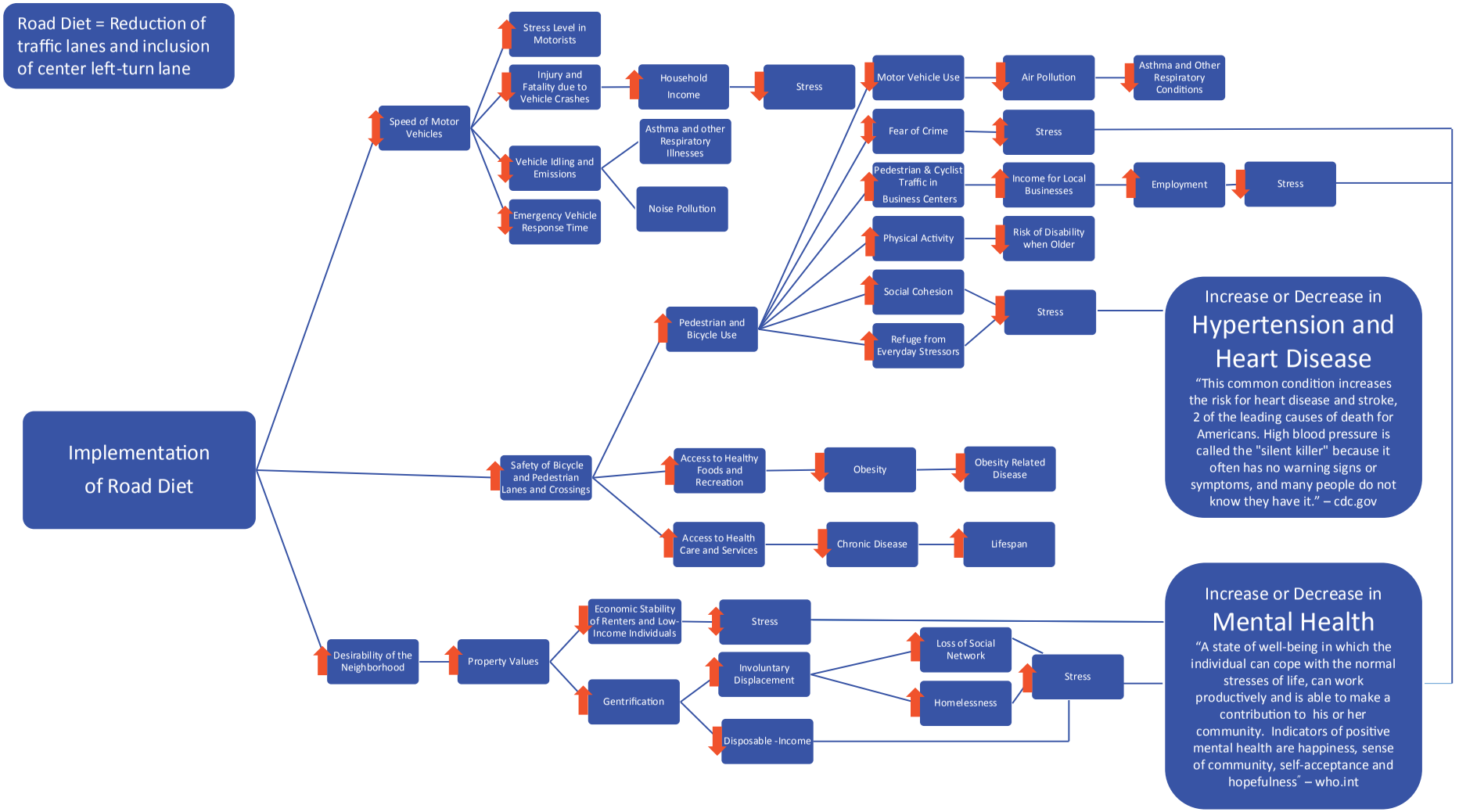


Table 3. Stakeholder Engagement in HIA Process

Stage of HIA	Stakeholder Engagement	Throughout
Screening December 2013 – January 2014	• Project lead partners, Partners for Health Foundation and NJ TRANSIT identified and confirmed need for HIA of Greenway Use and Access Plan	Steering Committee Feedback and Guidance
Scoping February 2014 – March 2014	• Interviews with local health experts help to identify priority health issues and concerns.	
Assessment April 2014 – July 2014	• Survey • Health/Safety Roundtable Discussion • Key Informant Interviews	
Recommendations June 2014 – August 2014	• Recommendations presented at Open House event, with public comments obtained • Review of recommendations by state agencies	
Reporting on-going 2015	• Stakeholders communicate HIA findings via organization websites and to media • Findings incorporated into Together North Jersey LDP report. • Report available on numerous websites, including Rutgers NJHIC, Partners for Health, and local municipalities	
Evaluation/Monitoring	• Stakeholders implement recommendations and monitor decision outcomes and long-term health impacts	

- Community Health Assessment for the Bloomfield Department of Health and Human Services (Partially funded by Partners for Health Foundation, 2013)
- Essex County Community Health Improvement Plan (CHIP) – (2013)
- Eat. Play. Live... Better – Active Transportation Study for Montclair (Funded by Partners for Health Foundation, 2012)
- How Can We Help Older Residents of Montclair Age in Place (Funded by Partners for Health Foundation, 2012)

Stakeholder Engagement

A variety of methods and formats for stakeholder engagement resulted in the collection of a rich set of local input to inform the assessment of local conditions and to support assessment of impacts and recommendations. Table 3 summarizes our interaction with the stakeholders in every stage of the HIA.

Steering Committee

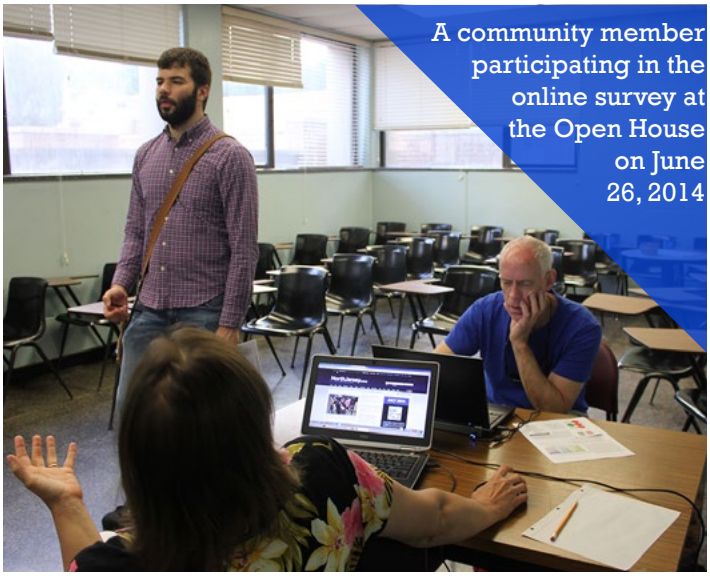
A steering committee comprised of 18 members representing 14 different organizations, including the four municipalities, Essex County, local bike/walk groups, business and health organizations, was assembled for the Complete Corridor Plan project. Since the HIA was woven directly into the goals of the project, this group served also as the HIA Steering Committee. HIA project team members attended every meeting (total of 5 meetings), and had many conversations with members about their major concerns and suggestions regarding health and the Bloomfield Avenue Corridor. (See membership list in Appendix B.)

Public Open Houses and Events

The community event sessions included a "Dot-mocracy" exercise, identifying where people live, work, and go in the Study Area and larger region, places that are traffic hot spots and pedestrian/bike safety concerns on a map. During the spring of 2014, HIA project staff attended and staffed a table at the Fine Arts and Crafts at Verona Park on May 17 and at the Montclair Bike Scavenger Hunt on May 18. An Open House event was conducted by the team towards the end of the assessment phase of the project on June 26, 2014. HIA project team members staffed an area designed for public awareness and for public input into the HIA process. The survey was also available to be taken either online or via paper copy.

Montclair Bike scavenger hunt

Glen Ridge roundtable discussion



A community member participating in the online survey at the Open House on June 26, 2014

Roundtables

The team invited health and safety officials and experts, and representatives from important subpopulations, to attend a roundtable discussion to respond to questions about safety, physical activity, stress, social cohesion, access and economic development aspects related to traveling the corridor, and the impacts a road diet might have on Bloomfield Avenue. The roundtable, held on May 20, was attended by nine stakeholders (see notes in Appendix C). In addition to this roundtable dedicated to health and safety issues, the HIA team also attended five focus groups organized by the project team and devoted to topics of emergency management, businesses, transit, youth and vulnerable populations. Input from these focus groups also supported projected impacts and recommendations about health determinants.

Expert/Informant Interviews

Frequent contact with members of the project steering committee served the function of providing expert and key informant input into the HIA information-gathering process. In addition to this contact, the team also conducted interviews with several additional health stakeholders including local health departments and local nonprofits with health missions.

Table 4: Survey Respondents by Town

Town	Percent
Glen Ridge	30.5%
Montclair	29.6%
Verona	17.1%
Bloomfield	11.6%
Other Essex County	7.5%
Other Outside Essex County	3.7%
(n = 1035)	

Table 5: Survey Respondents by Age Group

Age Group	Percent
Under 25	1.9%
26-35	15.0%
36-55	56.6%
56-70	21.6%
(n = 1031)	

Table 6: Survey Respondents by Race/Ethnicity Compared with Population

Race/Ethnicity	All	Bloomfield	Glen Ridge	Montclair	Verona
White (Non-Hispanic)	86.20%	59.60%	86.20%	62.20%	91.20%
Hispanic (Black and White)	4.60%	24.50%	5.00%	6.90%	5.20%
Other	4.50%	9.70%	1.40%	2.40%	1.10%
Black	2.90%	18.50%	5.00%	27.20%	3.80%
Asian	1.80%	8.20%	4.60%	3.80%	4.00%
(n= 1,013)					

Table 4-6 are from NJHIC's Bloomfield Avenue Use and Perception Survey

Survey

The purpose of the Bloomfield Avenue Use and Perception Survey was to collect data on use of Bloomfield Avenue and understand better the perceptions and health and safety concerns of residents. The survey sample is not statistically representative of the population, but survey responses represent the opinions of the sample of people who responded. The full survey can be found in Appendix D. Answers to the questions provide some evidence of baseline health, but primarily help to support impact projections and recommendations. The Rutgers-Bloustein research team secured approval from the Rutgers Institutional Review Board for the Protection of Human Subjects (IRB) for the online survey protocol.

The survey link was distributed through the Together North Jersey and municipal websites, and via e-mail to various membership lists and contacts associated with the organizations represented on the steering committee, including those who reached out to vulnerable populations such as seniors, racial minorities and people of lower income. A total of about 1,300 people completed at least a portion of the survey, with just over 1,000 fully completed surveys. Survey respondent characteristics are shown in the tables below.

About 30% of respondents live in either Montclair or Glen Ridge, with fewer respondents from Verona (17%) and Bloomfield (11.6%). A majority (56.6%) are in the middle-aged group, with another roughly 20% in the older adult age group and about 5% in the senior (70+) category. Fewer very young adults completed the survey, so they are clearly under-represented in the survey. The survey sample is more than 85% non-Hispanic white, about 5% Hispanic (Black and White) and about 3% Black. Notably, this sample does not match the demographics of the Bloomfield Avenue study area, which has a racial composition of more than 13% Hispanic and 21% Black. Tables 4, 5 and 6 illustrate this demographic data.

Respondents were largely a highly educated group, with close to 90% having four-year college degrees, and fewer than 2% having only a high school education as seen in Table 7. The sample is significantly more highly educated than local populations. As Table 8 shows, more than a third of respondents have household incomes over $100,000, and only about 8%

Table 7: Survey Respondents by Education Compared with Population

Highest Education Achieved	Percent of Survey	Bloomfield	Glen Ridge	Montclair	Verona
Graduate degree	40.10%	13.00%	28.80%	33.20%	19.10%
Four-year college degree	46.70%	24.50%	39.10%	32.40%	32.30%
Some college or two-year college	11.60%	26.10%	11.40%	16.10%	24.50%
High school graduate	1.50%	26.50%	10.30%	13.40%	19.10%
(n = 1031)					

Table 8: Survey Respondents by Income

Annual Household Income	Percent
$150,000 or more	7%
$100,000 to $149,999	26.9%
$50,000 to $99,000	22.3%
Less than $50,000	8.1%
(n = 925)	

Table 7-8 are from NJHIC's Bloomfield Avenue Use and Perception Survey

Note: Totals do not add up to 100% due to rounding errors

have incomes under $50,000. For comparison with the population, the median income of Bloomfield is $68,513, while the median incomes of Montclair and Verona hover right below $100,000. The median income of Glen Ridge is much higher, at $159,000.

Resources and Workplan

Funding from Partners for Health Foundation supported the work of two senior researchers from NJHIC, along with a master's student, to conduct the HIA. Assistance also came from staff at LRK, VHB and Nishuane Group, whose work intersected with some of the HIA tasks, so that efficiencies were achieved. For example, both projects needed to obtain basic demographic data and maps, and both projects required stakeholder meetings. These tasks were shared in both monetary and staff resources. Also, resources made available through Together North Jersey as a complement to the Local Demonstration Project were leveraged. With this leveraging available, the HIA was able to take on more breadth than the "intermediate" level HIA that was anticipated, but time and resources did not allow a full comprehensive HIA.

Discussion of Assumptions, Data Gaps and Constraints

The literature cited includes key studies and best practices available on each topic, but it is possible that the team did not uncover all subsets of the literature due to time and resource limitations. Regarding the quantitative data, the HIA team sought available baseline data for each indicator, but some of the desired data did not exist at all, or not at a level lower than state or region and thus not applicable to the study area. Further, except for the crash reduction analysis (see Safety section below), the team did not create statistical quantitative models to predict the degree of change. Projections are based largely on qualitative assessment of the range of data collected and judgment of the research team, with stakeholder review.

Also, it is important to note is that the health benefits and risks identified in this assessment may not materialize if the road diet is not implemented. Implementation of road diet measures will depend on a variety of factors including availability of funding, priorities of local decision-makers, and physical constraints. The team assumed, for the purposes of projections, that the major elements of traffic calming, lane reconfiguration, speed reduction and improvement to the pedestrian and bicycle environment will be achieved. But even if a road diet is fully implemented, other complementary activities such as promotion of the corridor, access, and programming will affect how residents use the corridor, which will also affect health outcomes.

BASELINE ASSESSMENT

This section includes a baseline assessment of the populations impacted by potential road diet implementation along the Bloomfield Avenue Corridor. The research team prepared two profiles. Profile one captures demographic and socio-economic characteristics, emphasizes impacted subpopulations, and includes a corridor use profile from our survey respondents and other locally-collected data. Profile two captures available health statistics. Data for Essex County and the State of New Jersey are also displayed, where available, for comparison purposes. As part of the analysis, the research team sought to identify and document any health disparities/inequalities that exist among population subgroups and/or places, making inferences where possible and appropriate from existing evidence-based research if local data does not exist.

DEMOGRAPHIC AND CORRIDOR USE PROFILE

Demographics and Impacted Populations

Collectively the four municipalities have a population of 105,892, or approximately 13.4% of Essex County's total population. Bloomfield (over 47,000) and Montclair (almost 38,000) are the largest municipalities, with 85% of the total population of the municipalities. Bloomfield is the most socially vulnerable community, with the lowest household income, highest limited English speaking and minority populations, and highest percentage of carless households.

Populations most directly affected by the corridor are those that live in closest proximity to it. For this analysis, the demographic and health characteristics of the people living in census tracts within a .5 -mile radius of the corridor in the study area are considered the most impacted.[1] Nearly 70,000 people live within the study area. Among these 70,000 residents, 4.5% are Asian, 21% are Black, and 13% are Hispanic. In the study area, 6.6% of the population has limited ability to speak English proficiently, 6.6% of the population is considered to be in poverty and 10% live in a home with no access to a vehicle. Table 9 shows the demographic breakdown.

Low-income

Median household incomes vary greatly across the municipalities, with Glen Ridge's more than twice the amount of Bloomfield's, and Verona and Montclair at about 50% higher than Bloomfield. Households in poverty are slightly more concentrated along the study corridor than they are generally across the four towns.

Lower-income communities could be particularly impacted by road diet measures because they are more likely to walk, bicycle or use transit to commute to work, or to appointments due to the costs of owning a vehicle. The condition of Bloomfield Avenue for walking and bicycling is an equity issue, when lower-income service workers are commuting along the corridor to work in restaurants and shops.

Table 9. Demographic Profile including Traditionally Disadvantaged Populations

Variable	Bloomfield	Glen Ridge	Montclair	Verona	Four Towns	Bloomfield Avenue Corridor	Essex County	TNJ Region[1]
Population[2]	47,315	7,527	37,669	13,331	105,842	67,774	783,969	6,579,907
Households in Poverty[3]	6.0%	1.6%	4.2%	2.4%	4.6%	6.6%	14.7%	8.9%
Median HH Income	$62,831	$160,511	$95,656	$93,839	$84,381	N/A	$51,021	N/A
Asian[2]	*8.2%*	*4.6%*	*3.8%*	*4.0%*	*5.8%*	*4.5%*	*4.5%*	*9.3%*
Black[2]	*18.5%*	*5.0%*	*27.2%*	*3.8%*	*18.8%*	*21.1%*	*39.3%*	*11.8%*
Hispanic[2]	24.5%	5.0%	6.9%	5.2%	14.4%	13.1%	20.3%	19.5%
Persons with Limited English Proficiency (5 Years+)[3]	10.4%	3.5%	3.2%	4.8%	6.6%	6.2%	14.5%	13.7%
Carless Households[3]	12.8%	4.1%	8.8%	4.7%	9.8%	10.1%	22.7%	12.5%
Elderly Persons (75 Years+)[2]	6.6%	3.7%	5.4%	11.8%	6.5%	6.6%	5.4%	6.6%
Persons with Disabilities[4]	9.1%	5.5%	6.5%	8.7%	7.9%	8.3%	10.8%	9.3%

[1] Together North Jersey is the 13-county North Jersey Transportation Planning Authority region of New Jersey [2] U.S. Census Bureau, 2010 Census; [3] U.S. Census Bureau, 2006-2010 American Community Survey; [4] U.S. Census Bureau 2008-2012 American Community Survey

As the map 4 shows, the low-income population is concentrated in the east to southeast sides of Montclair, and in Bloomfield, with very little low-income population in Glen Ridge or Verona. In particular, the Fourth Ward of Montclair at the southeastern edge, bordering the Bloomfield Avenue corridor, has a concentration of lower-income households. HUD-subsidized housing units are also clustered largely around the central and eastern portions of Montclair (see map 4).

Racial Minorities

The census blocks in the southeast part of Montclair at the border with Glen Ridge have higher concentration of minorities. (See Map 8.) Montclair has the largest black population of the four towns, at more than 27%. (See Table 9). Bloomfield has a much higher percentage of Hispanic population than the other four towns. The map below shows the only significant Limited English Proficiency populations to be located in Bloomfield. Hispanic minorities who do not speak English are disproportionately impacted by their inability to read signs, and possible difficulty in understanding transit opportunities.

The adult Hispanic population in New Jersey has overweight and obesity rates higher (66%) than either White (63%) or Asian (43%) ethnicities.[2] The walkability of nearby streets can have an impact on the ability to get daily physical activity as part of routine behaviors, and therefore on obesity. Also, safe access to nutritious foods can influence obesity levels. These are health outcomes that can be influenced by configuration and ease of access provided by roadway and sidewalk design.

Elderly and Disabled

The disabled populations of any age, and particularly those over 75 who are more likely to have limited mobility and to be susceptible to falls, can be disproportionately impacted by both the negative and positive health outcomes of decisions about whether to implement a road diet. Specifically, it can be more difficult for them to both walk and drive on a busy highway corridor, needing more time in crosswalks and having to be more careful about falling on sidewalks. Sidewalks that are too narrow, crowded or cracked can

make it hard for those with mobility constraints, or who use canes or wheelchairs, to safety access, use and cross Bloomfield Avenue. A variety of other aspects of traffic design also influence the ability of an elderly or disabled person to access and use a street for practical, exercise or recreational purposes. Thus, the benefits of traffic calming and road diet elements should be beneficial for these populations.

Concentration of the populations over 75 and disabled populations within the "walking distance" radius of the corridor are very similar to the total proportions in the four towns combined. The map shows, however, that disabled populations are concentrated along the mid portion of Montclair and in much of Bloomfield, as well as bordering the west terminus of the Bloomfield Avenue study corridor in Verona. (See map 6)

Youth

Younger people, particularly school students, are disproportionately impacted by the negative aspects of the current Bloomfield Avenue corridor design in terms of safety crossing on bicycles or by foot. Elementary school children do not naturally know how to be safe in traffic and lack the physical skills and mental awareness required to safely navigate difficult traffic situations. Their lack of traffic experience limits their ability to recognize dangerous situations and their small size puts them at greater risk of injury or death from traffic crashes. They may assume that a car will automatically stop at a crosswalk or that once one car stops, all approaching cars will stop. Younger people may not have the awareness to cross at appropriate times or to understand the crosswalk signals or timing.[3]

Maps 4 through 9 on the following six pages represent the populations discussed in this section.

Corridor Use Profile

In this section, we describe what our non-random survey of over 1,500 residents shows about common uses of Bloomfield Avenue. Although the analysis cannot conclude that these

Table 10. Question: Why do you usually (drive, walk, bicycle) on Bloomfield Ave.? [Check all that apply]

Reason Percent	Driving Percent	Walking Percent	Bicycling Percent
To shop or go out to eat	85.1%	90.8	48.5
To visit a doctor or other appointment	48.3%	20.6	13.2
To visit friends or family	45.0%	19.8	20.4
For exercise		38.9	80.2
To go to work	39.7%	11.0	9.6
To go to school	12.9%	4.6	3.6

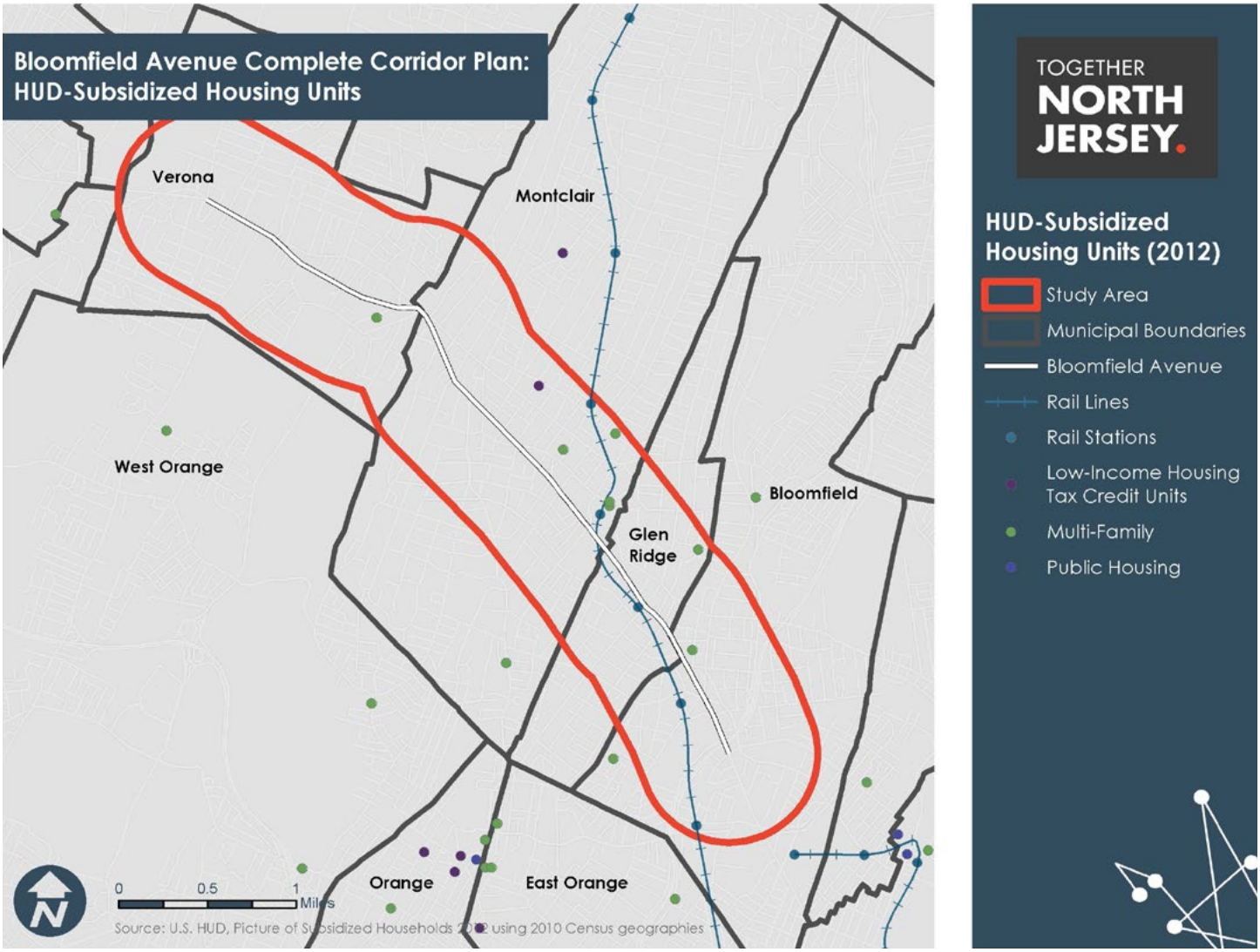
Table 10 is from NJHIC's Bloomfield Avenue Use and Perception Survey

results can be generalized to the entire population, they do provide valid data from a relatively large number of people who use Bloomfield Avenue and findings from this sample can be used to inform the analysis with local opinion in the absence of other local quantifiable information. As noted above, the sample is under-representative of Bloomfield residents, in particular, and of younger, less educated and minority populations.

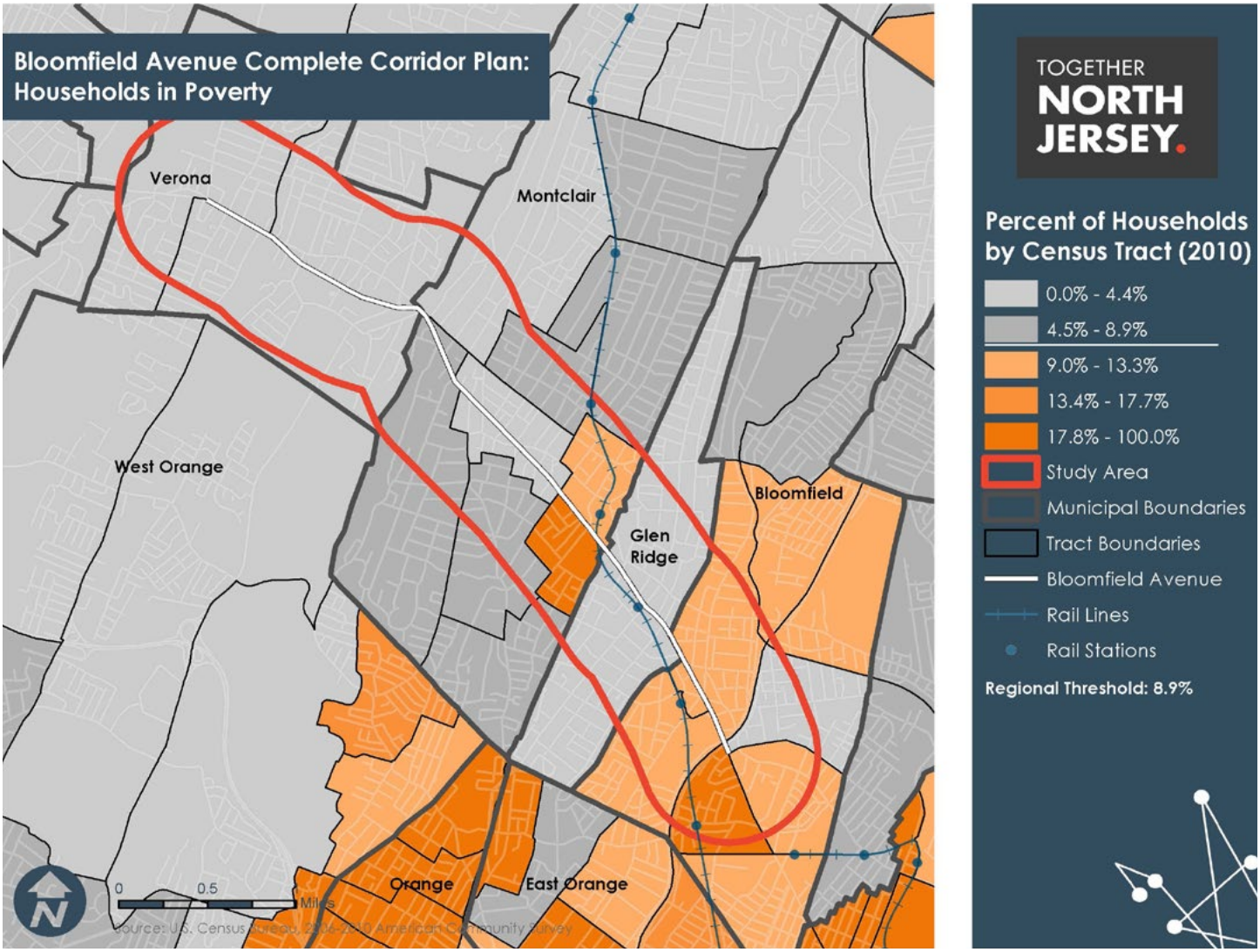
Walking

Table 10 provides a breakdown of the survey responses to the question: Why do you usually (drive, walk, bicycle) on Bloomfield Avenue? About 83% of the survey respondents (n = 909) said that they walk on Bloomfield Avenue. Of these, about 80% reported walking along Bloomfield Avenue at least 2-3 times per month, with 31% of those walking at least 2-3 times per week. A vast majority of walkers said they most often walk in Montclair (80%). About a quarter of walkers said they walk often in Glen Ridge and Verona, and only 16% saying that they often walk in Bloomfield. Over 90% of those walking along Bloomfield said that they do it most often to go shopping

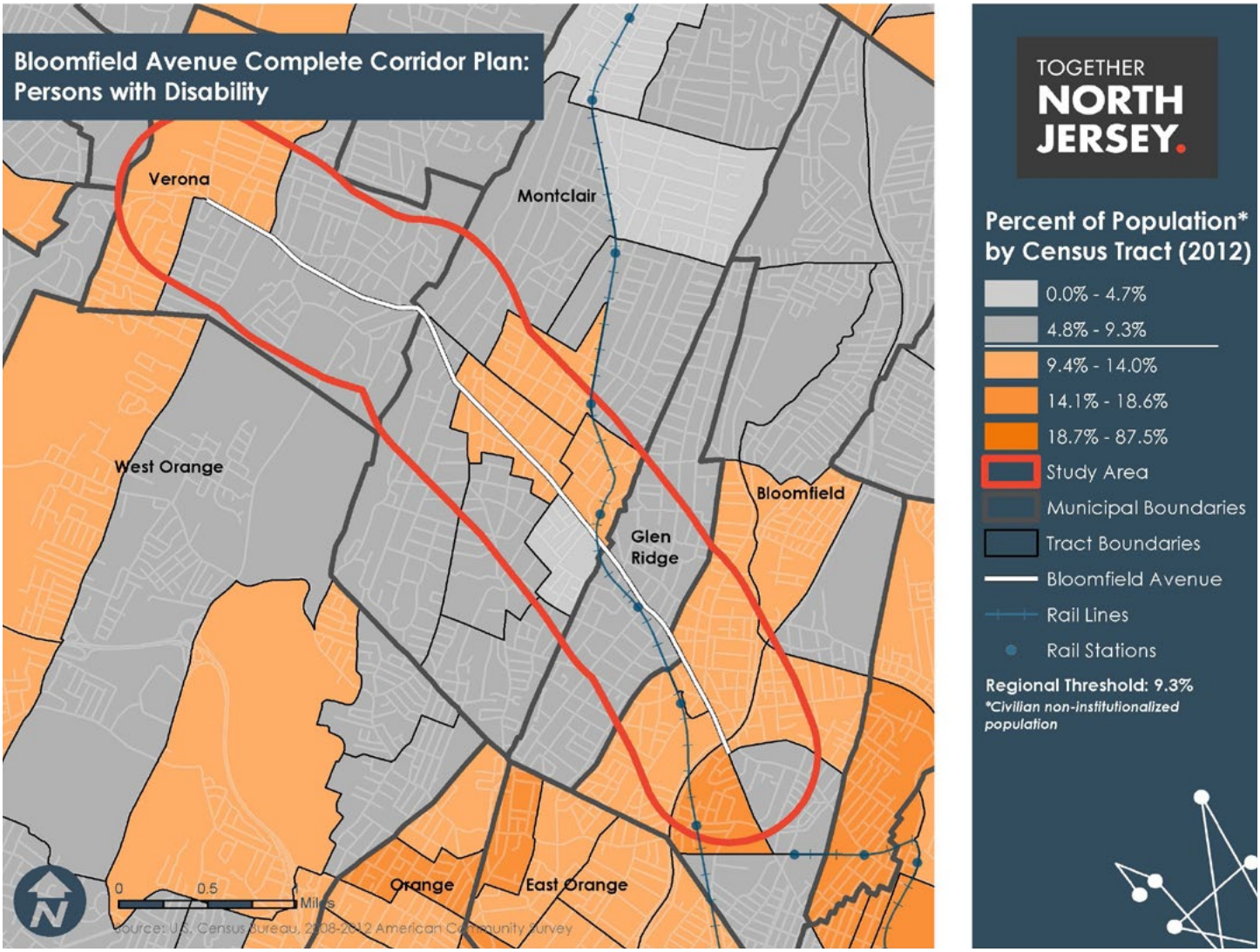
Map 4


Bloomfield Avenue Complete Corridor Plan:
HUD-Subsidized Housing Units
Verona
Montclair
West Orange
Bloomfield
Glen Ridge
Orange
East Orange
0
0.5
1
Miles
Source: U.S. HUD, Picture of Subsidized Households 2012 using 2010 Census geographies
TOGETHER NORTH JERSEY.
HUD-Subsidized Housing Units (2012)
Study Area
Municipal Boundaries
Bloomfield Avenue
Rail Lines
Rail Stations
Low-Income Housing Tax Credit Units
Multi-Family
Public Housing

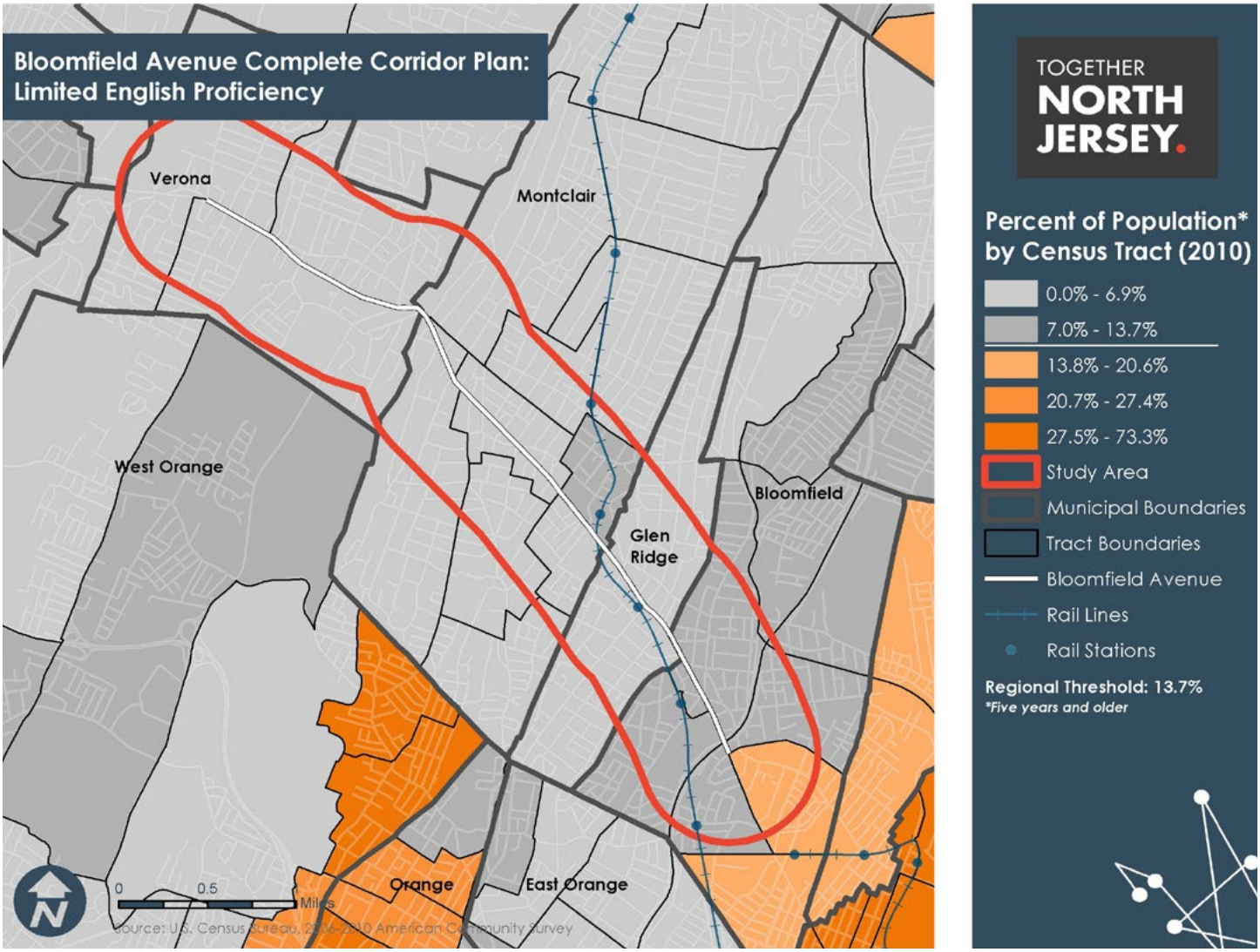
Map 5


Bloomfield Avenue Complete Corridor Plan:
Households in Poverty
Verona
Montclair
West Orange
Glen
Ridge
Bloomfield
Orange
East Orange
0
0.5
Miles
TOGETHER
NORTH
JERSEY.
Percent of Households
by Census Tract (2010)
0.0% - 4.4%
4.5% - 8.9%
9.0% - 13.3%
13.4% - 17.7%
17.8% - 100.0%
Study Area
Municipal Boundaries
Tract Boundaries
Bloomfield Avenue
Rail Lines
Rail Stations
Regional Threshold: 8.9%

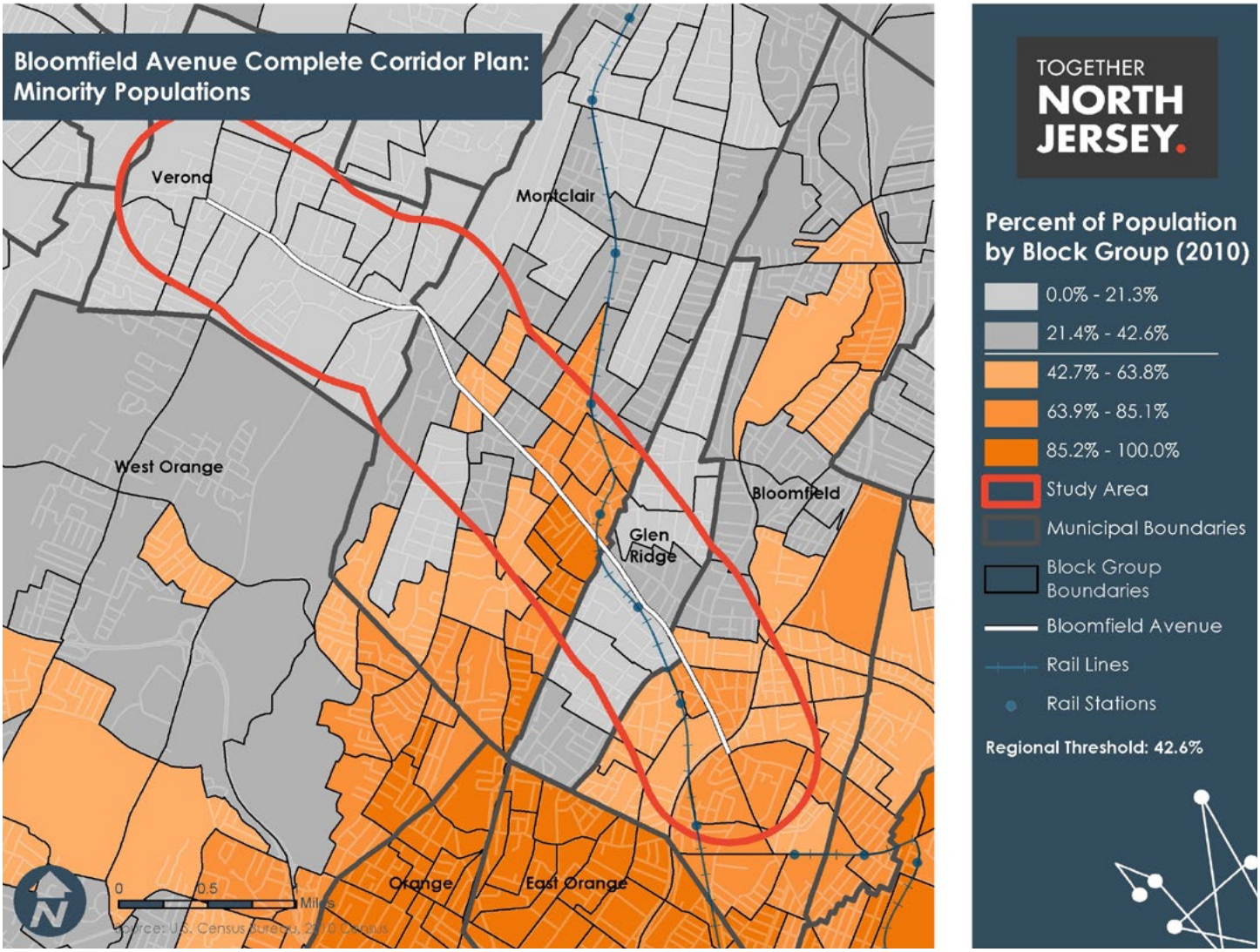
Map 6


Bloomfield Avenue Complete Corridor Plan:
Persons with Disability
Verona
Montclair
West Orange
Bloomfield
Glen Ridge
Orange
East Orange
0
0.5
Miles
Source: U.S. Census Bureau, 2008-2012 American Community Survey
TOGETHER NORTH JERSEY.
Percent of Population* by Census Tract (2012)
0.0% - 4.7%
4.8% - 9.3%
9.4% - 14.0%
14.1% - 18.6%
18.7% - 87.5%
Study Area
Municipal Boundaries
Tract Boundaries
Bloomfield Avenue
Rail Lines
Rail Stations
Regional Threshold: 9.3%
*Civilian non-institutionalized population

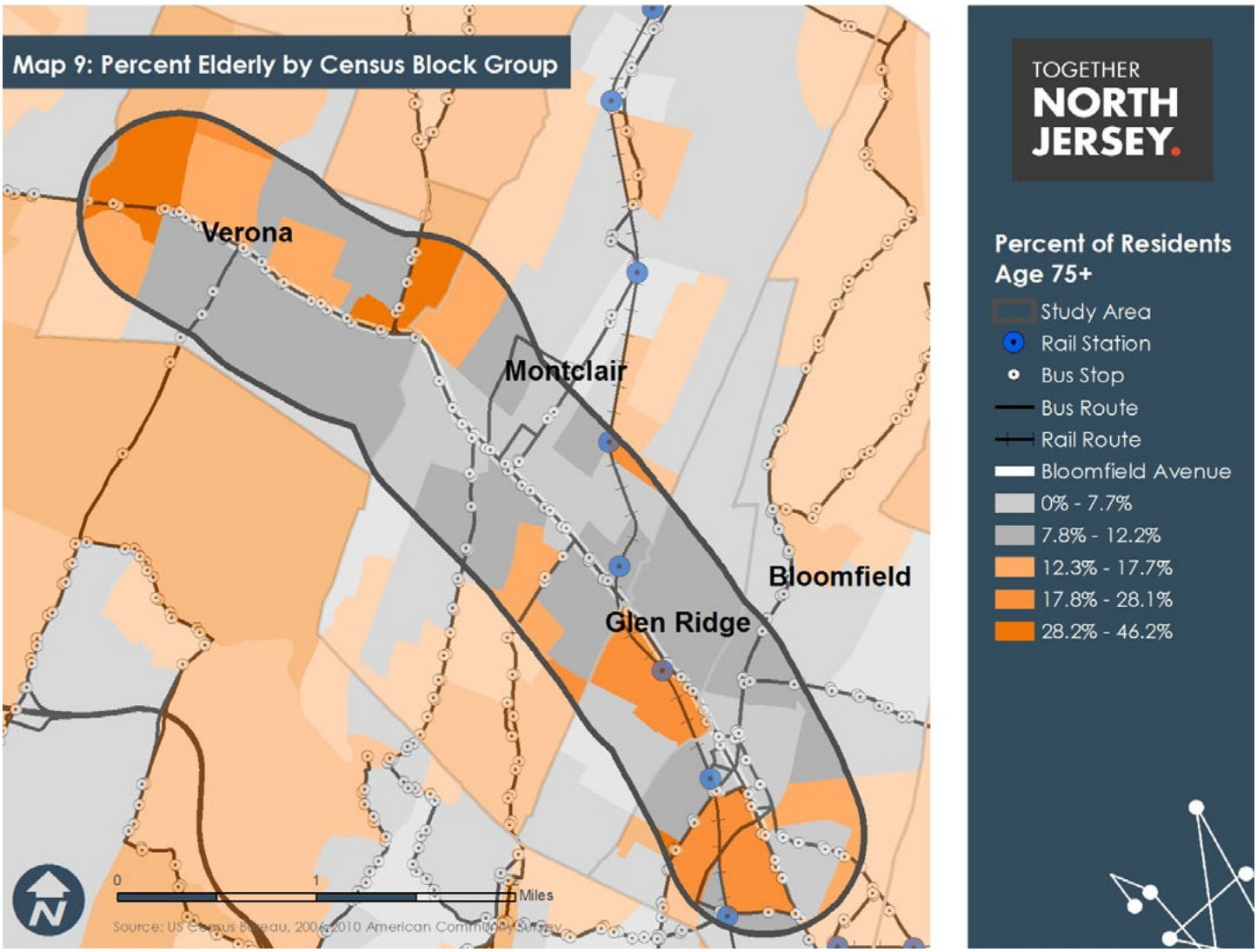
Map 7


Bloomfield Avenue Complete Corridor Plan:
Limited English Proficiency
Verona
Montclair
West Orange
Bloomfield
Glen
Ridge
Orange
East Orange
0
0.5
Miles
Source: U.S. Census Bureau, 2006-2010 American Community Survey
TOGETHER
NORTH
JERSEY.
Percent of Population*
by Census Tract (2010)
0.0% - 6.9%
7.0% - 13.7%
13.8% - 20.6%
20.7% - 27.4%
27.5% - 73.3%
Study Area
Municipal Boundaries
Tract Boundaries
Bloomfield Avenue
Rail Lines
Rail Stations
Regional Threshold: 13.7%
*Five years and older

Map 8


Bloomfield Avenue Complete Corridor Plan:
Minority Populations
Verona
Montclair
West Orange
Bloomfield
Glen Ridge
Orange
East Orange
0
0.5
Miles
Source: U.S. Census Bureau, 2010 Census
TOGETHER
NORTH
JERSEY.
Percent of Population by Block Group (2010)
0.0% - 21.3%
21.4% - 42.6%
42.7% - 63.8%
63.9% - 85.1%
85.2% - 100.0%
Study Area
Municipal Boundaries
Block Group Boundaries
Bloomfield Avenue
Rail Lines
Rail Stations
Regional Threshold: 42.6%

Map 9


Map 9: Percent Elderly by Census Block Group
Verona
Montclair
Bloomfield
Glen Ridge
0
1
Miles
Source: US Census Bureau, 2006-2010 American Community Survey
TOGETHER NORTH JERSEY.
Percent of Residents Age 75+
Study Area
Rail Station
Bus Stop
Bus Route
Rail Route
Bloomfield Avenue
0% - 7.7%
7.8% - 12.2%
12.3% - 17.7%
17.8% - 28.1%
28.2% - 46.2%

or out to eat, while almost 40% said that they do it for exercise. (Respondents could pick more than one reason).

Driving

A survey funded by Partners for Health and conducted by Montclair State University Eat. Play. Live... Better initiative found that almost 90% of driving was work-related, with driving or riding in a car more common among respondents over 55 than among younger respondents.[4] The HIA survey, with over 1,200 Bloomfield Avenue motorists responding, showed that the most common reason to drive on Bloomfield Avenue was to shop or go out to eat, with 85% reporting that as their usual purpose. Only about 40% reported that their usual driving along Bloomfield Avenue is to get to work.

About 80% of the HIA survey respondents who were motorists reported either occasional or frequent congestion that delays their trip more than 5 minutes. Most of the congestion was reported to occur in the morning and evening rush hours on weekdays, and on weekend evenings. Over 60% of drivers think that the traffic problems have gotten worse compared with several years ago. Notably, rather than pure volume of cars, more respondents felt that the increased congestion was due to drivers making turns, traffic light coordination, and drivers trying to find a place to park.

Bicycling

About 16% (n = 171) of our survey respondents reported that they bicycle along Bloomfield Avenue. Cyclists ride along the Avenue in Montclair most often, followed by Glen Ridge, with far fewer reporting bicycling in Verona or Bloomfield. About one quarter of cyclists are on Bloomfield Avenue at least once a week, and about a third bicycle along the corridor less frequently than once a month. Most (70%) ride on the street. A vast majority (80%) of cyclists are doing it for the exercise, but about half also report cycling to go to shops and restaurants.

Using Transit

About a third of survey respondents said that they use Bloomfield Avenue to access public transportation. Daily NJTRANSIT train commuters are the most common transit users, followed by people who travel by train from one to three times per month, and then by both NJTRANSIT and private bus riders who ride several times per month.

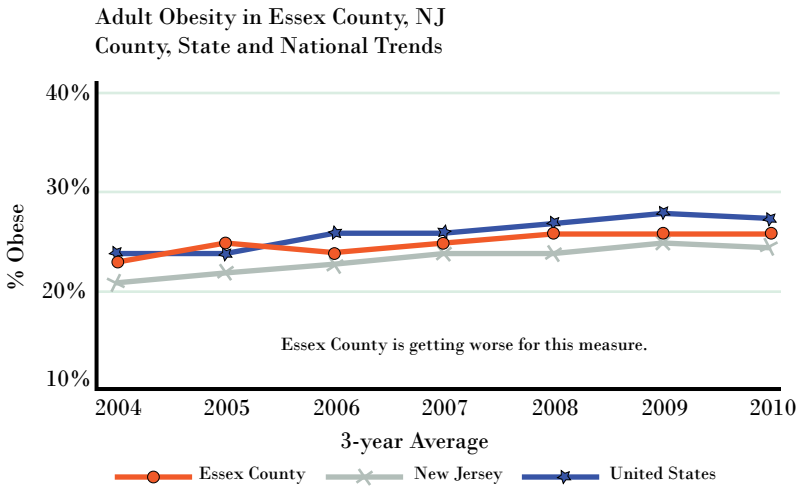
The Eat. Play. Live... Better survey found that 64% of transit riders walk to the station, while about 30% get a ride with someone and 3% ride a bicycle to the train station or bus stop. Train riders are more likely to drive or get a ride (55%) than are bus commuters (27%). [5]

Table 11. Essex County Health Statistics (2013)*

	Essex	NJ	Source
Asthma – Adults (Lifetime)	14.9%	12.7%	Behavioral Risk Factor Surveillance System
Hypertension	28.9%	27.2%	Behavioral Risk Factor Surveillance System
Poor Mental Health Days	3.4%	3.3%	Behavioral Risk Factor Surveillance System
Heart Disease or Angina	3.7%	4.2%	Behavioral Risk Factor Surveillance System
Diabetes	9.6	9	Behavioral Risk Factor Surveillance System
Childhood (10-17) Obesity	N/A	6.9%	National Survey of children's Health
Childhood (2-4) Obesity	14.6%	24.7%	Pediatric and Pregnancy Nutrition Surveillance systems (PedNSS and PNSS)
Adult Obesity	27.3%	24.1%	Behavioral Risk Factor Surveillance System
Adult Physical Inactivity	27.7%	25.0%	Behavioral Risk Factor Surveillance System
Inadequate Social Support	27.8%	23.0%	Behavioral Risk Factor Surveillance System
Recreational Facilities (per 100,000 Pop)	10.0%	14.0%	County Health Rankings

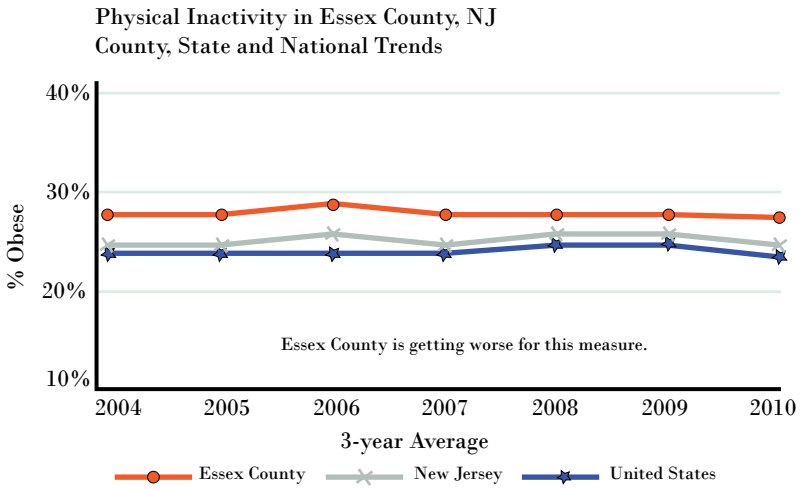
*See reference section at the end of this document for the health statistics table along with data sources.
**BRFSS does not list a number of respondents surveyed for surveyed populations smaller than state level

Figure 3. Essex County Obesity Trendline



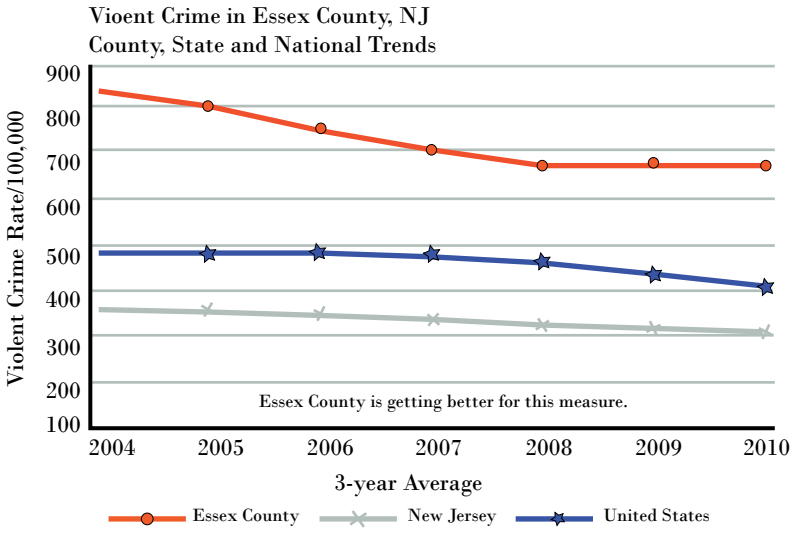
Note: Starting with the 2010 data, a new BRFSS methodlogy was introduced that included cell phone users. Data from prior years should only be compared with caution.

Figure 4. Essex County Inactivity Trendline



Note: Starting with the 2010 data, a new BRFSS methodlogy was introduced that included cell phone users. Data from prior years should only be compared with caution.

Figure 5. Essex County Violent Crime Trendline



HEALTH PROFILE

The health statistics in Table 11 show that Essex County residents are slightly less physically active and have relatively fewer recreational facilities compared with the NJ average. On most other measures related to the health benefits or impacts of road diet measures, county residents rank the same or better than state metrics.

Obesity figures are higher than the state average and the percentage of obese adults has been trending generally upward in Essex as seen in Figure 3. Figure 4 shows that physical inactivity is also higher in Essex than in the state or nation, but has remained relatively stable. Although violent crime is much higher in Essex County than in New Jersey or the US, as seen in Figure 5, it has been trending downward in recent years.

A Community Health Assessment report by the Bloomfield Department of Health and Human Services commissioned in 2012 asked for the presence of disease diagnoses in households in Bloomfield and Glen Ridge, so numbers are much higher than the individual numbers shown in Table 12. Since average household size is generally between 2 and 3, these numbers are two to three times as high. However, it is notable in demonstrating the relatively poorer health of Bloomfield households compared to Glen Ridge, with Bloomfield having higher incidence of every disease, including about 10 percent more households with diabetes and hypertension, almost double the percentage of households with mental health concerns, and more than three times the percentage of households with lung disease.

Self-Reported Health of Survey Respondents

The Corridor Use and Perception Survey contained a number of questions about personal health. First, most people reported their general health as either "Excellent" (45%) or "Very good" (40.5%), with only 2% reporting "Fair" or "Poor" health. About 5% said that a mobility constraint impacts their ability to walk or bicycle.

Table 12. Disease Diagnoses in Surveyed Households

Disease Diagnoses in Surveyed Households	Bloomfield (n=401)	Glen Ridge (n=103)
Cancer	16.1%	13.7%
Diabetes	24.8%	14.9%
High Blood Pressure	51.0%	40.6%
Asthma	24.1%	22.8%
Heart Disease	16.8%	10.9%
Lung Disease	7.3%	2.0%
Mental Health Concerns	10.0%	5.9%

Table 12 is from the Bloomfield Community Health Assessment

Table 13. Question: Have you EVER been told by a doctor or other health professional that you had: (please check those that apply)

Response	Percent
Allergies to pollen, ragweed, or grasses	26.2%
High blood pressure	17.0%
Asthma or other respiratory illness	10.1%
Obesity	9.3%
A heart condition	5.7%
Diabetes	3.8%

Table 13 is from NJHIC's Bloomfield Avenue Use and Perception Survey

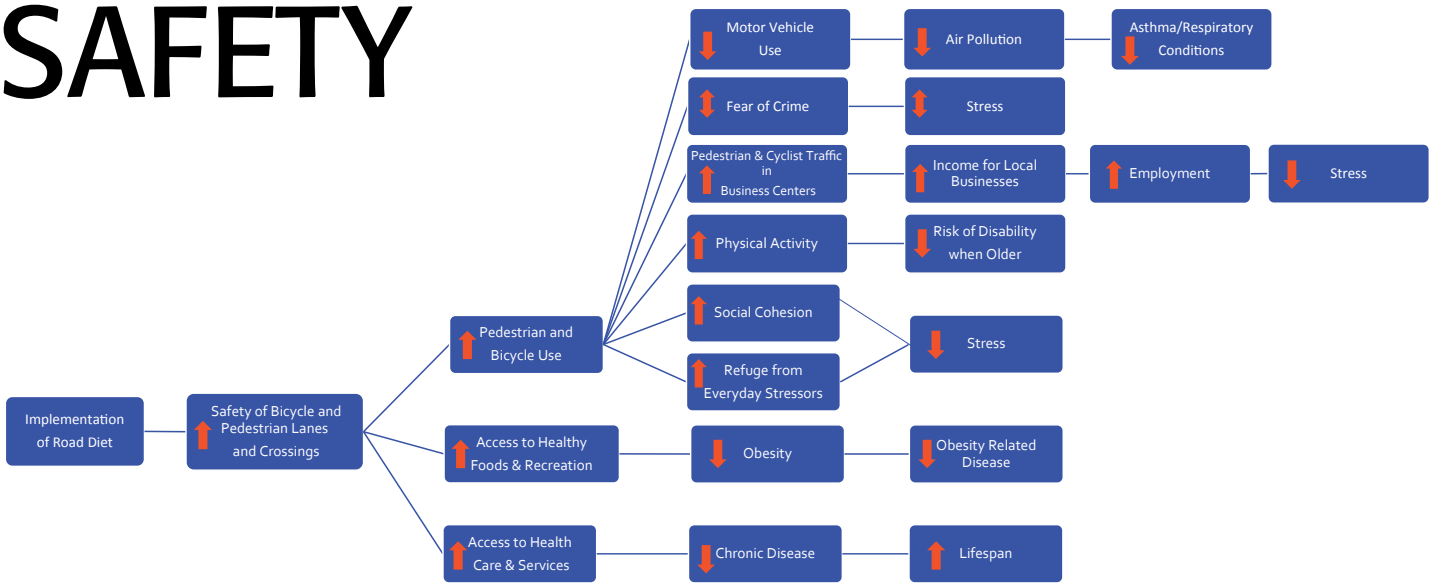
More than two-thirds of respondents have been told by their physician to increase physical activity, an indication of a likely lack of physical fitness or of conditions associated with obesity. However, only about 9 percent report being told by a health professional that they suffer from obesity (see Table 13). More than a quarter of respondents report outdoor allergies (pollen, ragweed or grasses), and 17% have high blood pressure, a condition that can be exacerbated by stress.

Nine out of ten survey respondents said that they exercise for 30 minutes at least once a month, with about three quarters getting 30 minutes of vigorous exercise at least once a week.

PROJECTIONS AND RECOMMENDATIONS

For each research question/health determinant, the research team conducted an assessment to result in predictions of potential health impacts of a road diet along Bloomfield Avenue. The impact analysis is based in part on scientific or published evidence, and also on critical thinking and reasoned assessment based on experience and opinions of experts, interpretation of stakeholder concerns, and accepted principles of public health. The analysis includes, where relevant, consideration of any disproportionate impacts or inequities in the distribution of benefits and burdens among various population subgroups.

SAFETY



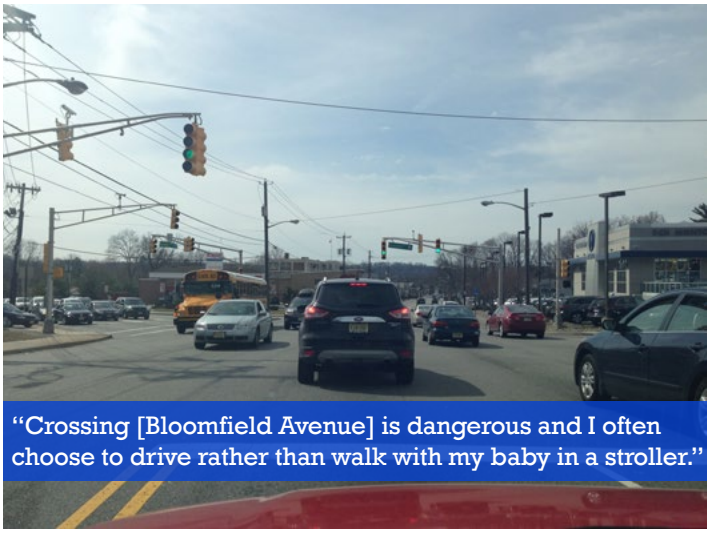
CONNECTION TO HEALTH OUTCOMES

When people are concerned about their personal safety, they are less likely to stroll, bike, take transit or drive in those places, so that safety becomes an access barrier to people using the corridor and obtaining all of the benefits of being outside, getting physical activity, social networking and other community benefits. Therefore, understanding how this health determinant connects to health outcomes is vital to maximizing the positive and minimizing the negative health impacts associated with corridor use and road diet measures.

A road diet generally consists of converting a four lane road to a three lane road where the middle lane is a two-way turning lane. Road diet measures should result in improved traffic flow and regulation of traffic movement and speed. Research shows that a road diet should reduce driving speeds.[6,7,8,9,10] Driving that is done at lower speeds is less likely to produce serious injuries or fatalities.[11,12] This should impact safety by reducing collisions and the injuries that result from them. New Jersey ranks second only to New York among the 50 states when one compares pedestrian fatalities as a proportion of total fatalities resulting from crashes (22.9%).[13] Due to this, the Federal Highway Administration (FHWA) lists New Jersey as a Pedestrian Safety Focus State and provides extra resources to the states with the highest pedestrian fatalities and/or fatality rates.[14] A 2009 study found that design treatments such as narrow lanes, traffic-calming measures, and street trees close to the roadway should be considered to enhance a roadway's safety performance when compared to more conventional roadway designs. The reason for this apparent anomaly may be that these "less-forgiving" designs provide drivers with clear information on safe and appropriate operating speeds.[15]

A national survey found that greater than one in 10 bicyclists (13%) felt threatened for their personal safety on the most recent day they rode their bicycle in the past 30 days, with 88 percent of these feeling threatened by motorists. [16] According to a survey of bicyclists in both Bloomfield and Cherry Hill, NJ, bicyclists feel safest with lanes that are clearly designated and separated from motorized traffic, and if bicycle lanes are adjacent to parking, they prefer a space between parked cars and the lane to prevent collisions with opening car doors.[17]

Another safety concern is crime and perception of crime. Even when actual criminal incidents are rare, the fear of crime can impact mental well-being and also keep people from being physically active outdoors.[18,19] A fear of crime is often more influenced by individual factors than social and physical factors, making it challenging to combat. We could find little or no evidence that road diet measures or Complete Streets planning directly affects the perception



"Crossing [Bloomfield Avenue] is dangerous and I often choose to drive rather than walk with my baby in a stroller."

of crime or crime itself. However, when more people are walking in an area, it can increase a sense of security.[20] Therefore, improving the safety of the roadway corridor, if it results in more pedestrian and bicycle use, will have an added result of reducing fears of crime. Research has found that having good lighting and readable signs about crime prevention are effective tactics for reducing crime.[21]

COMMUNITY AND STAKEHOLDER INPUT

According to all of the stakeholder input collected for this study, safety of crossing intersections along Bloomfield Avenue is clearly the number one concern for pedestrians and bicyclists, primarily due to motorists driving too fast and not following traffic rules. Safety of driving along Bloomfield Avenue is also a major concern, as drivers are often stopping behind transit buses, or cars that are turning or parking, creating risks of collisions at intersections or with people getting out of parked vehicles. Community members provided significant input about safety concerns. In roundtable discussions, interviews and survey comments, Bloomfield Avenue users and stakeholders consistently pointed to traffic and crosswalk safety as the number one concern.

Half of all people surveyed who walk on Bloomfield Avenue said they thought it was unsafe. Table 14 shows the most common factors in determining survey participants' feelings of safety. The single most important factor in determining safety (when only selecting the single most important one) for walking was difficulty crossing, followed by unsafe drivers and speed of drivers (these three accounting for two thirds of number one answers). For bicyclists, the number one factor was lack of bicycle facilities (such as dedicated lanes), followed again by unsafe drivers and speed of drivers (these three accounting for about three quarters of number one answers). More than nine out of ten (94%) of bicyclists said it was unsafe to use Bloomfield Avenue.

Table 14. Question: What <u>one</u> factor is most important in determining your feelings of safety (walking or bicycling along Bloomfield Ave.)? (All answers with 6% or more of respondents)

	Walk	Bicycle
Difficult to cross Bloomfield Ave.	25.2%	41.1%
Unsafe drivers on the roads	22.4%	22.2%
Speed of cars and trucks on the roads	18.8%	15.2%
Number of cars and trucks on the roads	6.6%	10.8%
No bicycle facilities (lanes, separate path, etc.)		38.6%
Afraid of physical assault	10.2%	

Figure 6 and table 14 is from NJHIC's Bloomfield Avenue Use and Perception Survey

For drivers, 40% said it was unsafe to drive. In addition, 64% of drivers said it is difficult to open the door of cars parked along Bloomfield Avenue. Notably, only 25% of drivers reported that they were "definitely" aware of the speed limit along Bloomfield Avenue, with 30% saying they were "not aware." This finding provides direct support for the recommendation to increase awareness of posted speed limits, which, combined with traffic calming provided by road diet measures, should contribute to slower and steadier automobile speeds.

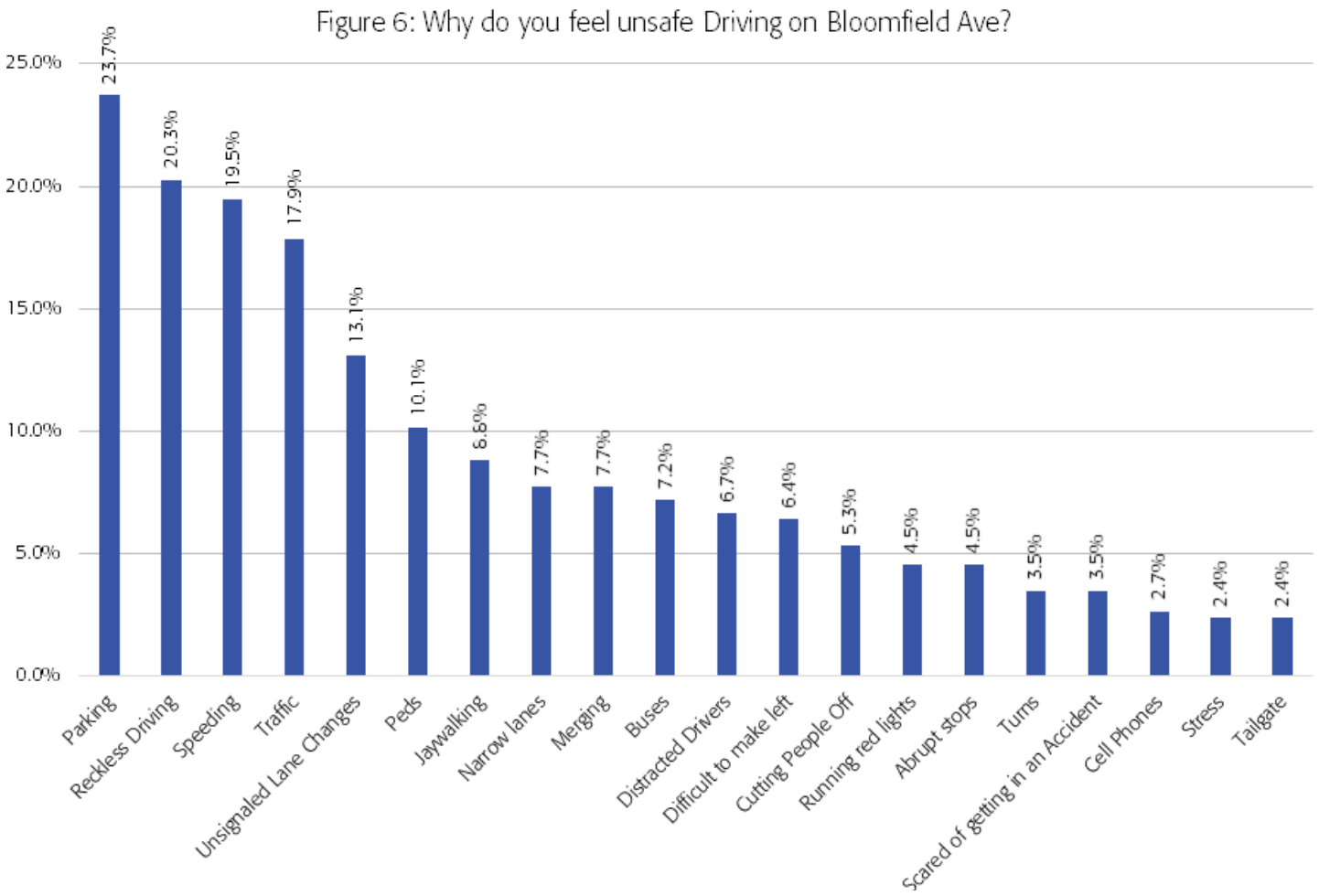


Figure 6 shows the top compiled survey comments, many match those from the close-ended questions for drivers and those identified by pedestrians and bicyclists also. Parking is a key safety issue for drivers, both being stopped behind people waiting to park, and cars exiting parking spaces. Behind parking are reckless driving, speeding and congestion.

Survey commenters noted the following particular areas of concern for potential collisions:

- Left turns from Bloomfield Avenue, or out of parking lots onto Bloomfield Avenue, especially at uncontrolled intersections. (Glenmont Square noted)
- Inappropriate speed of traffic (intersection of Ridgewood Avenue and Bloomfield Avenue noted)
- Unclear stop line markings and configuration of Lakeside intersection
- Crime concerns at Pine St. through to the area just west of the bridge, and at Mission and New Sts.

Vulnerable Populations

Safety impacts are the most disproportionate for the elderly, disabled, children, Hispanic and lower income populations. For senior citizen pedestrians, slower walking speeds and decreased reaction time, coupled with increased frailty, puts older adults at greater risk of pedestrian injury.[22] With a 6-second crossing time, most of the crosswalks on Bloomfield Avenue may not allow enough time for slower individuals. This crossing time may not be up to revised standards. The 2009 Manual on Uniform Traffic Control Devices (MUTCD) adjusted the average walking speed (or pedestrian clearance time) from 4.0 feet per second to 3.5 feet per second. However, it also indicates a 3 feet per second walking speed is preferred to accommodate slower pedestrians including children, seniors and people with disabilities. Roundtable participants reported that seniors from Cooperative (Parkway House) have trouble crossing at Bloomfield and Highland Aves., and that several people have been struck by cars at this location.

Our survey found that people with mobility constraints feel more unsafe walking on Bloomfield Avenue than those without constraints. Over 87% of those with mobility limitations said that it was difficult to cross the Avenue, compared with 76% of those without limitations. Surprisingly, those in the over 70 age group did not report feeling more unsafe while driving or walking along the corridor than those in other younger age categories. However, literature shows that women over 65 years of age, along with non-white women, are more likely to reduce outdoor physical activity due to fears about safety.[23]

For older children, literature shows that cycling injuries are among the most common.[24] Roundtable participants revealed that skateboarders frequently get hit on Bloomfield Avenue, but because of under-reporting, it is not widely known and "worse than people realize." Younger children entering and leaving one of the schools located on or near Bloomfield Avenue may not have the awareness and caution necessary to safely cross the busy Bloomfield Avenue. As one resident put it, an 11-year-old may be able to safely walk down Bloomfield Avenue, but may not have the skills to "navigate the madness." Crossing guards are posted at these locations during the morning arrival and afternoon dismissal times, but children attempting to cross at other times of day and at other locations are subject to the risk of collisions.

Our survey showed that lower-income people were more likely to feel unsafe driving than those with higher incomes.

Table 15. Question: Do you feel safe while driving on Bloomfield Ave.?

Annual Household Income	% No
Under $50,000 (n = 68)	48.5%
$50,000 – 99,999 (n = 198)	41%
Over $100,000 (n = 631)	38.0%

Table 15 is from NJHIC's Bloomfield Avenue Use and Perception Survey

Hispanic (particularly Limited English Proficiency) populations, as well as lower income populations, are often more reliant on biking and walking, raising equity issues when biking and walking is unsafe. For example, Hispanic and lower income populations are concentrated and more prevalent toward the eastern end of the study corridor in Bloomfield. Local health stakeholders told the study team that there are individuals who ride bicycles regularly for several miles each way from their homes in Bloomfield to work in the service industry in Montclair.

Impact Projection

Though the risk of a collision can never be eliminated, literature shows that the likelihood that a given person walking or bicycling will be struck by a motorist varies inversely with the amount of walking or bicycling normally present in the community. So as long as traffic is well-managed, people walking, bicycling and driving become accustomed to the volume and flow, and evidence shows that the proportion of injuries and crashes can actually decrease with more users.[25] Road diet measures that provide safer walking and biking routes is critical to increasing active travel.[26,27] This should, in turn, improve safety even more.

There were a total of 858 vehicle crashes (all types) along Bloomfield Avenue within the project boundaries between 2009 and 2012. In those crashes, 46 pedestrians were involved. Although a complete crash analysis was not conducted for this HIA, it was noted that many pedestrians were fearful of situations where vehicles that are stopped for the pedestrian block the view of other vehicles that are passing, a common occurrence on a 4-lane road. (See map 10 and 11)

A recent synthesis of road diet studies for the Federal Highway Administration established a crash reduction rate of 19% for road diet implementation in large urban areas.[28] That is, after a road diet is implemented, all types of roadway crashes will likely decrease by at least 19% in the impacted area. For rural highways that pass through smaller urban areas, crashes could decrease as much as 47%. Because Bloomfield Avenue traverses urban and suburban locations, 19% could be a conservative number.[29] Applied to crash figures on Bloomfield Avenue, this yields a result of 163 fewer crashes and 57 injuries prevented over four years.

Part of the objective of a road diet would be to slow traffic, which may increase vehicle travel time to local destinations. There are trade-offs between increases in travel time versus the benefits of crash reductions. Based on the 2009-2012 data, annual productivity lost from injuries and fatalities due to vehicle crashes, pedestrian and bicycle crashes, as measured by annual household income for the project study area, is between $13 and $32 million dollars. Income that is lost due to injury and fatalities from traffic crashes has significant costs to society and the local economy. Based on a possible 19% crash reduction with implementation of a road

Map 10

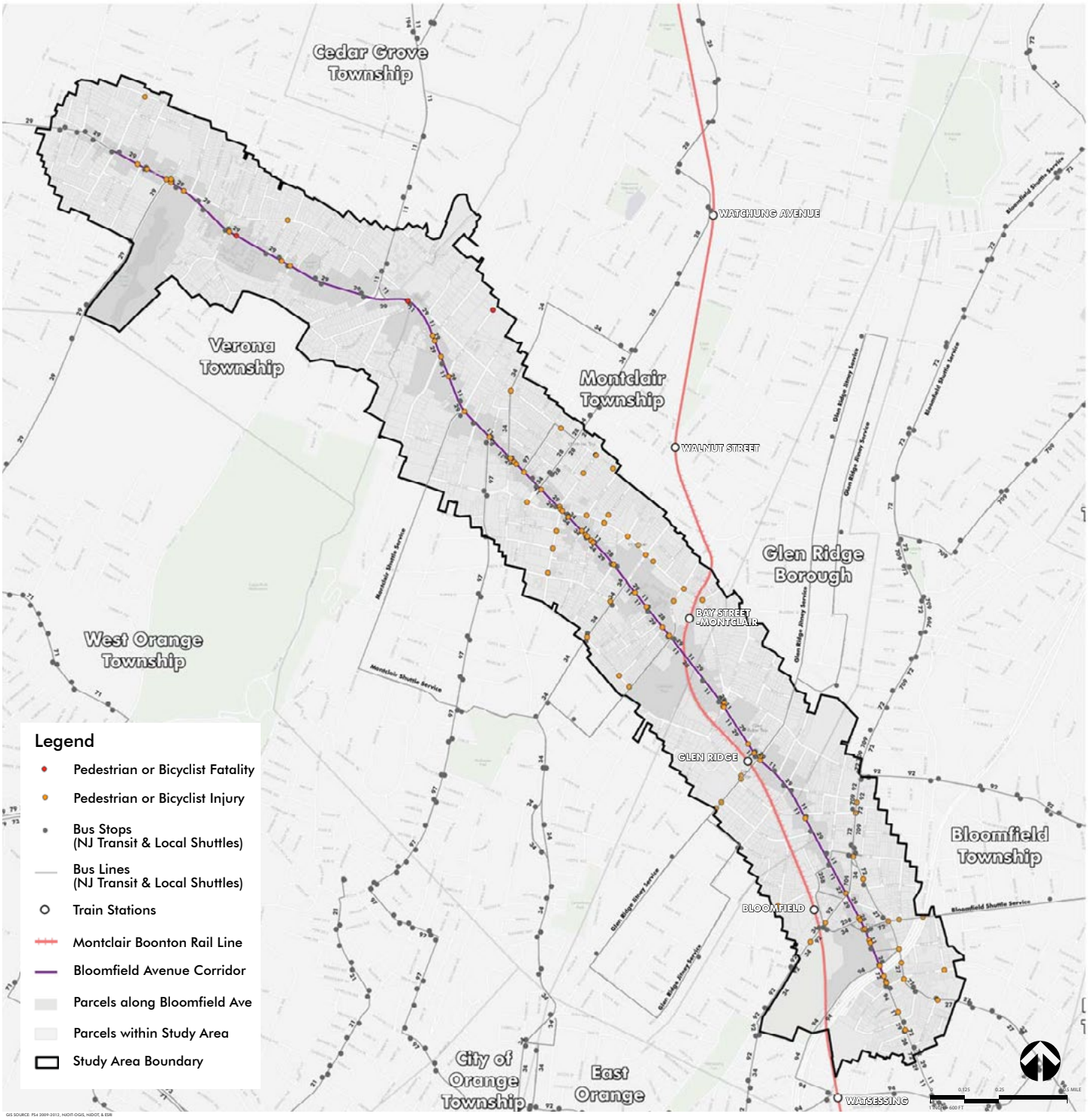
TOGETHER NORTH JERSEY.

CONNECTING PEOPLE, PLACES, AND POTENTIAL.

BLOOMFIELD AVENUE COMPLETE CORRIDOR PLAN

Montclair Township, Bloomfield Township, Glen Ridge Borough, & Verona Township, Essex County

PEDESTRIAN & BICYCLIST INJURIES & FATALITIES (PLAN4SAFTEY, 2009-2012)



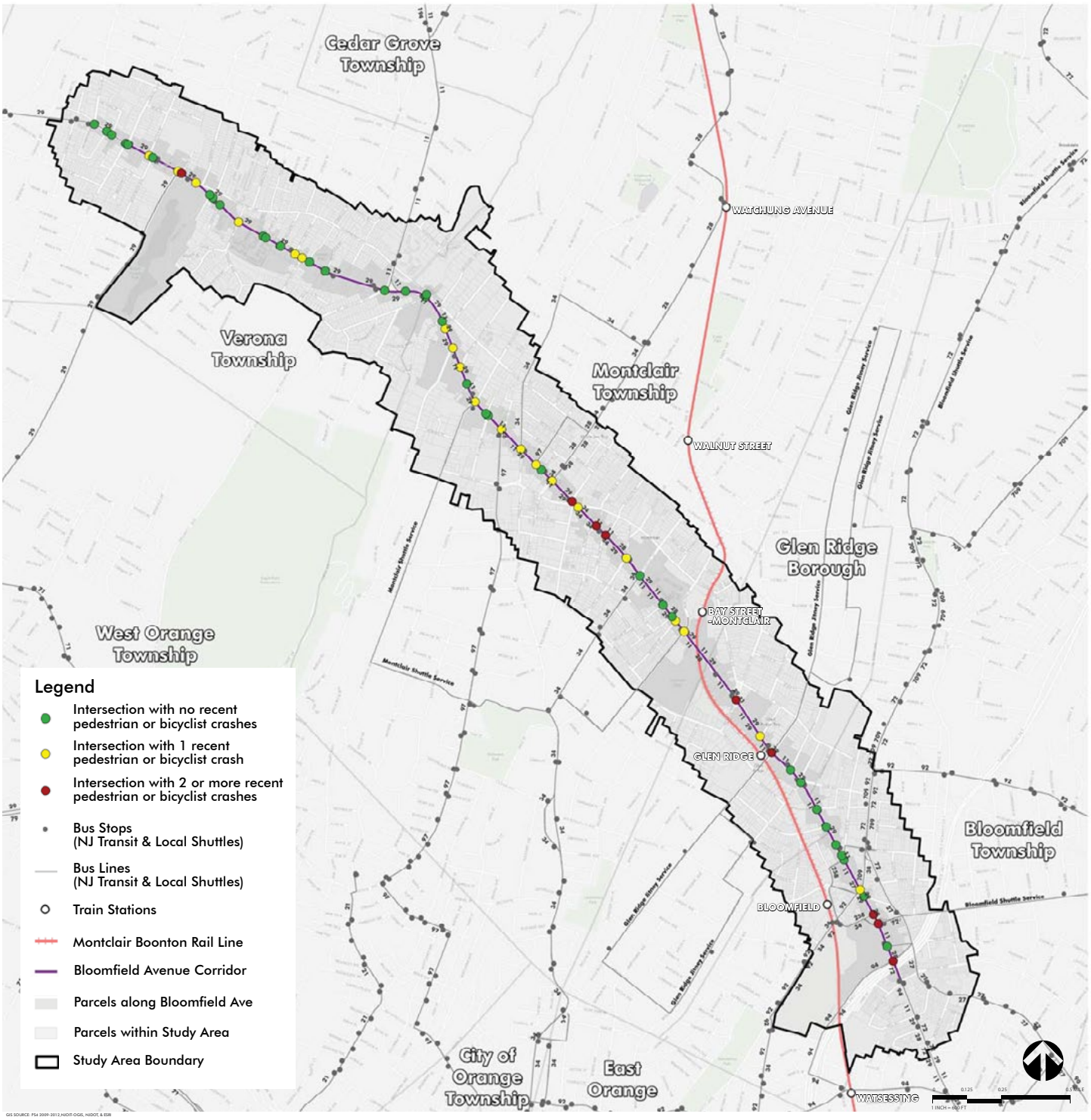
TOGETHER NORTH JERSEY.

CONNECTING PEOPLE, PLACES, AND POTENTIAL.

BLOOMFIELD AVENUE COMPLETE CORRIDOR PLAN

Montclair Township, Bloomfield Township, Glen Ridge Borough, & Verona Township, Essex County

PEDESTRIAN & BICYCLIST CRASH INTERSECTION HOT SPOTS (PLAN4SAFTEY, 2009-2012)



diet, an annual benefit of $2-6 million in preserved household income could be saved by these types of safety improvements in the study area.

RELATED RECOMMENDATIONS

When implementing road diet measures as part of a Complete Corridor Plan, decision-makers should consider how to minimize the risk of crashes and collisions, providing for a pedestrian and bicycle friendly environment. Input from survey respondents, matched closely with input from public forums and stakeholder interviews, focuses strongly on enforcement of traffic laws related to speeding and aggressive driving and on improved crosswalk and intersection design to allow for shorter and safer street crossings.

Table 16 shows that the top two recommendations from motorist respondents to improve the safety were better enforcement of driving laws, followed by the ability to make turns more easily. Specific areas mentioned more frequently were Ridgewood Avenue, Park St. in Montclair, and at the Bloomfield Center. Pedestrian respondents focused on traffic law enforcement and pedestrian crossing signal improvements and increasing the number of crossing guards, but also included recommendations related to reducing crime (lighting, policing), indicating that this is a strong secondary safety issue behind collision risks.

Top recommendations, shown in Table 17, are to improve safety of bicycling are dedicated lanes (striping on the road), protected lanes (bike lane between parking and sidewalk), and better enforcement of traffic laws.

Institute measures to slow motor vehicle speeds and reduce unsafe driving.

The reduction and reconfiguration of lanes of traffic to create center or left-turn lanes should serve to improve traffic flow and reduce unsafe turning. The posted speed limit will remain 25 mph throughout most of the corridor. (It is 35 mph for a short portion.) To remain safe for the many pedestrians, including vulnerable populations, walking and bicycling along and crossing the busy commercial corridor, the speed limit should reduced to 25 mph along the short portion where it is 35mph, and additional traffic calming measures such as curb extensions should be considered, along with more frequent police patrol for speed and traffic violations. In addition, 15mph school zones may be appropriate doing school travel hours.

A sign inventory should be conducted to identify areas where the speed limit should be more prominently posted

Table 16. Question: What changes would you like to see to make it safer to walk on Bloomfield Ave.? (Check all that apply.) (Showing all answers with 25% or more respondents)

Recommended Change	Percent
Better enforcement of traffic laws (such as speeding, aggressive driving, etc.)	67.3%
Better pedestrian signals for crossing Bloomfield Ave.	65.5%
More time for pedestrians to cross the road at intersections with signals	51.5%
More sidewalk and crosswalk lighting	41.6%
More policing to deal with crime	34.4%
More crossing guards for school age children	27.0%
More sidewalk furniture (benches, garbage cans, etc.)	26.7%
n=857	

Table 17. Question: What changes would you like to see to make it safer to bicycle on Bloomfield Ave.? (Check all that apply.) (Showing all answers with 25% or more respondents)

Recommended Change	Percent
Dedicated bicycle lanes (striping on road)	53.8%
Protected bicycle lanes (bike lane between parking and sidewalk)	50.1%
Better enforcement of traffic laws (such as speeding, aggressive driving, etc.)	45.7%
Traffic signals that recognize bicyclists to trigger signal system	35.2%
Dedicated bicycle lanes or striping on parallel roads	34.3%
Sharrows (stenciling on road which indicates that the lane is shared with cyclists)	30.7%
More bicycle parking	26.7%
n=1007	

Table 15-16 are from NJHIC's Bloomfield Avenue Use and Perception Survey

without adding to the visual clutter. Because of the numbers of signs and visual confusion identified as a concern by the Health and Safety Roundtable participants along the corridor, an option can include painting the speed limits in the roadway surface. A sign inventory should also consider placement of radar feedback signs and ways to consolidate or reduce other signage that can add to driver and pedestrian confusion. Where curb extensions are not feasible, "day lighting" crosswalks through use of bollards should be considered. Use of

bollards reinforces state laws that prohibits parking within 25 feet of crosswalk or within 50 feet of a STOP sign and allows drivers to more clearly see pedestrians and vice versa. This is especially useful for children since they are of smaller stature and it reduces the need for wading into the street to see vehicles entering intersections.

Improve crosswalk safety.

Safe pedestrian and bicycle crossing at intersections could require improvements to crosswalk configuration including reducing crossing length through lane reduction and curb extensions and making them more prominent and visible through signs or road markings. Changes in signaling could include countdown signals or pedestrian lead intervals, and, where possible, vibro-tactile or audible signals for those with vision impairment. At common mid-block crossing points or unsignalized intersections, flashing signals could be considered. Finally, if possible, towns should consider increasing the number of trained crossing guards at strategic times and locations, with a priority on assisting children and senior citizens. Continued practice or implementation of "cops in the crosswalk" stings in all four municipalities could help reinforce state law which requires motorists to stop and stay stopped for pedestrians in crosswalks. Police supervisors in all four towns should be trained in the new statewide crossing guard training program and use those resources to train crossing guards in each town.

Promote driver, pedestrian and bicycle safety education.

Even with improved traffic management and crosswalk safety, those using the corridor are still at risk if they are not following the "rules of the road" or do not understand how to practice safety etiquette, defensive driving and predictable riding. For example, it may not be clear to pedestrians that pushing the button on the crosswalk lengthens crossing time on some of the intersections along Bloomfield Avenue. As these four towns move toward a Complete Streets plan for the Bloomfield Avenue corridor, they should consider a joint initiative to promote driver, bicycle and pedestrian safety education and practices. These could include existing local and regional efforts such as the Courteous Driving pledge, North Jersey Transportation Planning Authority's Street Smart Challenge, Twenty is Plenty and the Drive with Care Montclair campaign. The area could also consider adoption of its own "Vision Zero" campaign, similar to major cities across the globe, a program with a goal to eliminate traffic fatalities. In addition a program to give low or no-cost lights and vests to low income/low pay industry workers who use bicycles for travel to and from work should be considered.

Promote alternatives to driving.

There is no evidence to suggest that traffic volumes will increase when road diet measures are implemented. But survey respondents indicated that the volume of cars using Bloomfield, especially during rush hours and on weekend evenings, has increased significantly in the last five years. Implementation of a road diet can result in some extra delay to traffic both along and within the corridor. Increased delay may result in some drivers opting for alternate routes, which brings both potential positive results (e.g. reduced vehicle volume along Bloomfield Avenue) and negative results, (e.g. increased volumes on side and parallel roads). However, people who normally drive may also choose alternatives to driving like walking, cycling or transit. It is important to educate and create ways for those who can take alternative transportation to feel comfortable with each mode. There are also added benefits of reducing emissions and getting more people physically active. If non-driving alternatives are encouraged and supported, lower income populations, seniors and youth are likely to receive disproportionately positive impacts.

Decision-makers should consider the varied benefits of reduced automobile use by considering the addition of protected bicycle lanes and infrastructure (e.g. bicycle parking). Promoting the use of public transportation

is another important piece of this recommendation. Increasing local awareness of bus and train schedules, routes and fares may help some, particularly with lower education levels or limited English proficiency, to understand how to use the system. Some of the transit stops (bus shelters, benches) could be upgraded in condition and made more prominent through installation of new benches, painting, etc. Two organizations that serve seniors, Lifelong Montclair and Verona LIVE, produced local Guides to Public Transportation funded by Partners for Health. Increased distribution of the guides, translation into Spanish and creating similar guides for Bloomfield and Glen Ridge are all ways to increase local awareness. Finally, the towns could consider improvements or additions to regional shuttles, trolleys or jitneys to meet unique transportation needs of residents.

Improve feeling of security.

Although not directly tied to road diet measures, the perception of crime and actual criminal incidents are factors that inhibit use of the corridor and thus are safety concerns to be addressed to work toward a "Complete Corridor" that is welcoming to all users. So as an important complement to adopting measures to reduce collisions, towns should also consider improving pedestrian scale street lighting in strategic areas, as defined by higher numbers of actual crime incidents and also by community feedback identifying areas of particular concern. Police patrols could be increased in those areas to provide a visible comfort to those traveling along the corridor, and installation of security cameras, with clearly posted notices that they are in effect, could deter any criminal activity and provide assurance for corridor users. Further, municipalities can conduct a Crime Prevention Through Environmental Design (CPTED) analysis to identify ways to modify the built environment to improve safety from crime. A CPTED analysis considers physical design features of the public environment that discourage crime, while at the same time encouraging legitimate use of the space.

OUTDOOR ACTIVITY AND EXPOSURE

CONNECTION TO HEALTH OUTCOMES

The principle behind Complete Streets planning is that roadway corridors become more welcoming and therefore more utilized by people of various modes – walking, bicycling, skateboarding, people pushing strollers and in wheelchairs. So an important health determinant is the ability of more people to be outside along the corridor, providing them with opportunities for physical exercise and also bringing them into exposure with the outdoor environment. Some research has shown, though, that people can also be more worried about crime and pollution in highly walkable neighborhoods, decreasing the benefits of having a walkable neighborhood. So next to objective walkability, environmental perceptions should also be considered to achieve neighborhood satisfaction.[30]

Access to public spaces that are safe and conducive for active recreation is an important factor in the ability to exercise and this would be particularly important in densely populated neighborhoods with compact properties and little open space.[31,32,33,34] The health effects of physical activity have been studied extensively. Strong scientific evidence exists for the benefits of physical activity in reducing obesity and associated diseases (heart disease, stroke, diabetes, high blood pressure) and improved fitness.[35,36] Moderate evidence exists for physical activity's role in lowering risk of hip fracture, increasing bone density and lowering risk of future disability in adults.[37] For children and adolescents, physical activity is strongly connected to improved cardiovascular endurance, muscular fitness and more favorable body composition. Physical fitness is also an economic issue, as obesity continues to impose

Glenfield Park, Glen Ridge

an economic burden on both public and private payers. Research shows that medical costs related to obesity account for almost 10% of annual medical costs and could rise to 21% of health care spending by 2018 assuming current trends In terms of individual medical costs, studies have estimated the medical cost savings of physical activity at around $823 per year.[38,39,40]

Nationally, more than 70 percent of trips under one mile are now made by automobile, 9% of these in part because of incomplete streets that make it dangerous or unpleasant to walk, bicycle, or take transit.[41] A 2004 study showed that each additional hour spent in a car per day was associated with a 6% increase in the likelihood of obesity, while each additional kilometer walked per day was associated with a 4.8% reduction in the likelihood of obesity. The study concluded that strategies to increase land-use mix and distance walked while reducing time in a car can be effective as health interventions.[42] People who live in walkable neighborhoods are twice as likely to get enough physical activity as those who don't.[43]

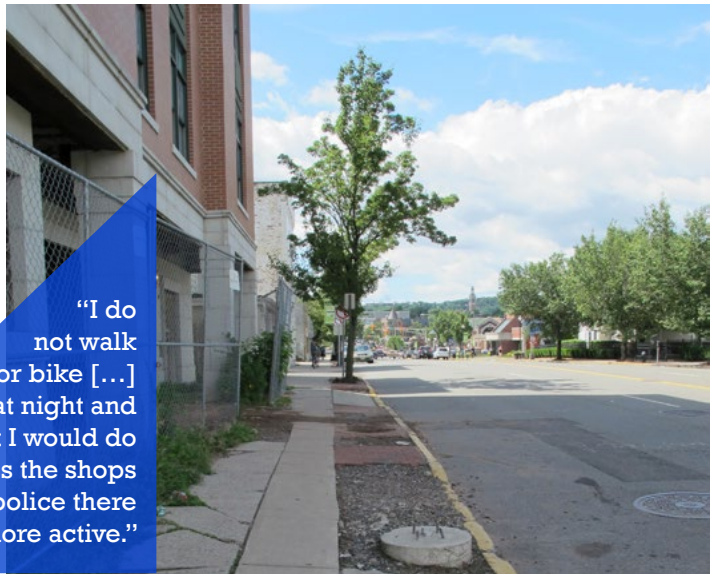
Another health pathway related to more time spent outdoors is the increased exposure to air pollutants and the health outcomes associated with that exposure. Cars and trucks driving slower on streets that have traffic calming measures and longer intersection stops could create more carbon monoxide and other irritants found in engine emissions. While Bloomfield Avenue is not as heavily travelled as many more urban arteries, a steady stream of cars that are stopping frequently can create pockets of emissions for people right along the roadway. Some evidence connects exposure to exhaust fumes with exacerbation of existing asthma and respiratory condition, disproportionately impacting prenatal and early-life stages.[44] Studies have showed that exposure to traffic-related pollutants during pregnancy may increase risks of future sensitization to outdoor allergens and also increase risks of respiratory infections in infants.[45,46] However, except in highly concentrated areas or with highly sensitive individuals, the health benefits from obtaining exercise from outdoor physical activity are likely to far outweigh any harmful effects from air pollution.

Trees can absorb some of these pollutants, helping to improve air quality.[47] Trees reduce exposure to UV rays and also provide shade which reduces street temperatures up to 8 to 10 degrees which can encourage more physical activity and reduce heat-related illnesses.[48,49]

COMMUNITY AND STAKEHOLDER INPUT

Regarding the salience of physical activity outcomes, the survey found that more than two thirds of respondents have been told by their physician to increase physical activity, an indication of a likely lack of physical fitness or of conditions associated with obesity. A more walkable Bloomfield Avenue could help to provide needed opportunities for fitness. Almost 40 percent of pedestrians and about 80 percent of bicyclists said that they use Bloomfield Avenue for exercise.

There is no local measurement of the extent of air pollution since it is not currently being sampled and tested, but it is a community concern. About 25% of pedestrians responding to the survey indicated a concern about emissions from car exhaust. The concern about emissions from idling cars was also raised in a roundtable discussion.



"I do not walk or bike [...] at night and doubt I would do that unless the shops and police there became more active."

VULNERABLE POPULATIONS

More walkable neighborhoods benefit all residents, but especially more traditionally vulnerable groups. Subpopulations in walkable neighborhoods get more neighborhood based physical activity than those in less walkable neighborhoods.[50] According to a National Household Travel Survey, walking to and from public transportation can help physically inactive populations, especially low-income and minority groups, attain the recommended level of daily physical activity.[51] High-walkable neighborhoods may help middle-to-older aged adults to maintain their walking for transport.[52] The health benefits are high for senior citizens also, as there is a strong connection between increased levels of activity and improved cardiorespiratory and muscular fitness, prevention of falls, reduced depression, and better cognitive function.

Children are another subpopulation that can benefit immensely from safe places to walk, run, and bike and there is moderate scientific evidence that physical activity is connected to reduced anxiety and depression in children.[53] The condition of sidewalks to support use by skateboarders, rollerbladers and bicycles is important to supporting active use by youth. Programming and events that are specific to seniors like chaperoned strolls, and those specific to children, like walk to school events, will help to bring more physical fitness benefits to these populations.

For those who are of lower income, the presence of a very walkable corridor nearby helps to address common disparities in access to walkable streets, parks and trails available for physical exercise for those in poor neighborhoods.[54,55] A study also showed that teens who live in poor or mostly minority neighborhoods are 50% less likely to have a recreational facility near home.[56] Getting physical activity by walking or bicycling along the corridor can help poorer residents, who cannot afford membership at a private health club, with the opportunity to meet daily recommended levels of physical activity and recreation.[57,58,59] Minority status or ethnicity may play a role as well. Table 18 indicates that, from our survey respondents, a higher proportion of Hispanic and Black residents would walk more along Bloomfield Avenue if it were safer to walk there than would white residents.

Table 18. Question: If these changes were made (to make Bloomfield Ave. safer), do you think you would walk more on Bloomfield Ave.?*

Race	Yes
White	49.4%
Hispanic	63.8%
Black	69.0%

Open house in Bloomfield

Further, those at most risk for obesity and related diseases include minority groups and low-income individuals.[60,61] The minority group near the Bloomfield Avenue corridor, concentrated around the eastern end of the study area in Bloomfield, is predominantly Hispanic. A study of first, second and third generation Hispanic and Asian Americans noticed an increasing BMI associated with later generations.[62] Additionally, children of newly arrived immigrants are vulnerable to issues with obesity. [63]

Finally, the possible negative impacts from exposure to air pollutants could disproportionately affect those who already suffer allergies and asthma. However, youth with asthma generally see reductions in symptoms with increased leisure-time physical activity.[64]

IMPACT PROJECTION

The Bloomfield Avenue corridor, as both a connector between community assets and services and a destination in itself, has the potential to make a significant positive impact on fitness of regular users. We predict that if a road diet and other Complete Streets measures are implemented successfully on Bloomfield Avenue, making it a safer and more pleasant experience to be out along the corridor, it will have a definite strong impact on levels of

physical activity, exercise and result in improved fitness and decreased levels of obesity-related conditions. Table 19 shows that about half (527 people) of those who currently walk on Bloomfield Avenue would walk more if it were made safer, and close to one third (305 people) of current bicyclists, say that they would bike more if it were safer. We can safely assume that others who currently do not bike or walk along the Avenue for safety reasons would also start to walk and bike along Bloomfield Avenue, a thoroughfare between downtown shopping and restaurant areas and a major connector between urban Newark and more outlying suburbs west of the corridor.

As far as projections on the impact of other outdoor exposures like air pollution, the road diet measures may result in fewer people making short driving trips along Bloomfield Avenue for errands and to go out to eat because more people may decide to walk or bike. Further, increased use of mass transit should relieve some traffic volume. While fewer cars on the road might cut emissions, the net impact on emissions would depend on whether the road diet results in more cars idling or driving at slower speeds and how that effect emissions per car. Boulder, CO found that creating a Complete

Table 19. How many more bike trips along Bloomfield Avenue do you think you might take each month if it were easier and safer to bike?

Trips	# of People
1 or 2 trips	60 people
3 or 4 trips	48 people
5 to 10 trips	49 people
More than 10 trips	23 people

Street network led to fewer people driving, more people bicycling, and a huge increase in transit trips. The reduction in car trips cut annual CO2 emissions by half a million pounds (National Research Center, 2004).

RELATED RECOMMENDATIONS

If road diet features and complete streets planning make Bloomfield Avenue safer bringing more people outdoors, we recommend that at the same time, decision-makers consider maximizing physical activity benefits and minimizing physical health risks associated with outdoor exposures.

Enhance the use of Bloomfield Avenue for physical activity and fitness.

The towns should consider working together to incorporate the vision and strategies of "Eat. Play. Live… Better" into community health improvement plans, using the Bloomfield Community Health Assessment Plan as a model.[65] To obtain maximum fitness and health benefits, sidewalks, crosswalks and other associated infrastructure should safely accommodate a full range of non-motorized use options, including for people who have disabilities. To the extent possible, travel lanes should be reconfigured to add protected bicycle lanes. Improving the condition of roads in surrounding blocks that are used to access Bloomfield Avenue is also important. Programs such as the pilot bikeshare program planned by Montclair State University should be encouraged, as well as other bicycle-supportive programs and infrastructure such as secured parking. The newly opened indoor Bicycle Depot at the Bay Street NJ TRANSIT station is a good example of the types of secure parking that can be implemented along the Bloomfield Avenue corridor (Baristanet).

Exercise benefits can be enhanced by identifying and promoting activity loops that include but extend beyond the Bloomfield Avenue corridor and connect to local parks. Local nonprofits can encourage the formation of walking and exercise groups, and events to help to promote fitness and social interaction. Finally, benches installed in strategic locations allow a place to rest, which is important to seniors and disabled residents, and also allows a spot for respite and enjoyment of the outdoors. Cost for benches and new signage could be underwritten by local sponsors.

The condition of sidewalks in certain places should be improved to reduce the chance of injury, but also to support use by skateboarders, rollerbladers and bicycles, uses that are important to youth. Programming and events that are specific to seniors like chaperoned strolls, and those specific to children, like walk to school events, will help to bring more physical fitness benefits to these populations.

Minimize air pollution impacts.

It is important to consider the impact of exhaust fumes of passing and idling traffic on the people walking, jogging, standing, sitting or biking within 30 feet of a roadway. Emissions could be reduced by switching fuel sources on buses from gasoline to Liquefied Natural GAS (LNG) or electric and encouraging use of alternative fuel vehicles in the general population with education and awareness. Adding and enforcing "no idling" signs at locations near housing, schools and parks could be considered.

If curb extensions are installed, trees can be planted on or near them where they do not obstruct sight lines for safety. Trees can help to absorb both noise, collect and filter storm water runoff, and pollution and also provide shade. In other locations along the avenue, particularly in the Bloomfield portion, more shade trees planted along the sides of the street would help to cool the sidewalk and provide other environmental benefits like reducing runoff and cultivating habitat.

MENTAL HEALTH

CONNECTION TO HEALTH OUTCOMES

The way that roads and transportation systems are designed and how they work can affect overall mental well-being for those using the system. Bloomfield Avenue, in its current condition and configuration, has a disrupted traffic flow. Driving with constant stops and starts, turns onto and off the road at many non-signalized points, and generally aggressive driving creates stress for motorists. Chronic stress can lead to development or exacerbation of health outcomes such as anxiety, depression, hypertension, headaches and heart disease.[66,67] It is a stated goal of road diets to better manage traffic flow by removing a lane of traffic (reduces lane-cutting), to give adequate space for parking, bicycle and pedestrian facilities, and a center lane for left turns. Literature shows that concerns about a road diet creating further congestion are not borne out. On roads used by fewer than 20,000 vehicles per day, road diets have a minimal or positive impact on vehicle capacity.[68,69]

Another way that Complete Streets planning for Bloomfield Avenue impacts mental health results from bringing more people outdoors. For non-motorized users, there is a strong connection between exposure to the outdoors and improved mental health, particularly when it is shared as a social activity. Activities like walking for exercise with other people have been shown to reduce depression symptoms.[70] Being outdoors in the relative quiet and beauty of the outdoors provides a refuge from everyday stressors.[71] To the extent that the experience of using Bloomfield Avenue includes exposure to trees, grass, plants, and flowers, it could provide these benefits. Studies have shown decreased symptoms of depression and anxiety, and an overall improvement in mental well-being from physical activity and from access to green spaces and from the presence of trees, in particular.[72,73,74,75]

"I would like more bike racks, like in front of starbucks, and really a dedicated lane would be great for bikes."

Bloomfield open house

COMMUNITY AND STAKEHOLDER INPUT

A great deal of input from residents at the community forums and in survey comments concerned the stress and frustration of driving, walking or bicycling on Bloomfield Avenue. A lot of this stress is the result of fears about traffic safety, but it also results from congestion and delays, and the noise of honking horns.

As seen in Table 20, a majority of drivers reported feeling higher stress from driving along Bloomfield Avenue than they usually feel while driving, with 39% of drivers reporting that they "often" feel more stress and 51% reporting that they "sometimes" feel more stress.

The self-reported health information reported by survey respondents indicated that 17% have high blood pressure, a condition that can be exacerbated by stress.

VULNERABLE POPULATIONS

We could find no evidence that stress has a disproportionate impact on vulnerable subpopulations.

IMPACT PROJECTION

Because cars making turns on and off of Bloomfield Avenue, and drivers often not following traffic rules were cited as causes of significant stress for all modes of users, we project that when road diet measures are taken, users of Bloomfield Avenue should report lower levels of stress associated with their experiences there.

Table 20. Question: Does traffic along Bloomfield Ave. cause you to feel more stress than you usually feel while driving?

	Response %
Yes, sometimes	51.3%
Yes, often	39.1%
No, never	9.6%

RELATED RECOMMENDATION

We recommend that decision-makers consider the far-reaching health impacts of stress on their communities when planning for roadway improvements, and implement measures that enhance and promote mental health.

Minimize driver and pedestrian confusion and stress.

Because stopping behind vehicles that suddenly stop to back into parallel parking spots, or needing to shift lanes when coming upon vehicles and delivery trucks parking or double-parked is highly stressful for motorists, decision-makers should look for ways to make improvements that reduce blocking of the road for cars when they are parking, and reduce double-parking. Working with the local Business Improvement Districts or Chambers of Commerce, an enforcement plan for loading and unloading deliveries to the businesses can be devised. Because illegal turns and improper lane usage are also causes of stress for drivers and pedestrians alike, local law enforcement should prioritize enforcement of these traffic violations.

SOCIAL COHESION

CONNECTION TO HEALTH OUTCOMES

When many members of a community are at the same place enjoying the same resource or activity, it can create a sense of social cohesion.[76] More positive social interaction can create a healthier community and decrease feelings of loneliness for individuals and even increasing lifespan.[77,78,79] A vibrant commercial corridor like Bloomfield Avenue, as it becomes safer and healthier, can provide that desirable place to form strong social ties and interact with other residents.[80]

Social capital is a term to describe the degree to which individuals feel that they belong to a socially cohesive community, participate in activities, and utilize community resources.[81] Research shows that individuals with greater social capital live longer and are mentally and physically healthier.[82]

"Would be nice to see people linger and mingle on the street as it was in the past."

COMMUNITY AND STAKEHOLDER INPUT

Some of the community was positive about the social capital-building aspects of Bloomfield Avenue currently, particularly at the pedestrian plazas on Church St. and South Park Street. Some survey comments focused on the appeal of being outside to watch people and to enjoy outdoor cafes and restaurants. One mentioned the "cohesive community feel" of Bloomfield Avenue, and another mentioned the "neighborhood feel" of having so many things within walking distance.

While a very large number of voices in the community commented that walking on Bloomfield Avenue is currently not enjoyable or appealing as a community gathering space, some residents expressed the hope that Bloomfield Avenue could be vastly improved within five years. Planned transit district developments that include new housing (Glenwood Village), a parking garage and new civic spaces around the 'Six Points' intersection would increase the vitality of Bloomfield's business district. A unified vision for the corridor that focuses on health, economy, and quality of life would pull the four towns together around common goals, according to some local stakeholders.[83]

VULNERABLE POPULATIONS

Social connectivity may be most important for those who live alone and are more isolated from other community activities due to mobility, time or monetary constraints. These could include lower-income individuals and seniors or disabled living alone in apartments or homes. A study in Houston found that the elderly can face substantial barriers preventing them from participating in the economic and social life of a community, including fears about getting hurt or mugged if they go outside.[84]

IMPACT PROJECTION

There is strong evidence that social events and activities that bring people together doing the same activities will build a more cohesive community, and that this feeling of community will reduce loneliness and improve both mental and physical health of individuals in the community. With the increased use of the corridor that should result

Source: First Baptist Bloomfield

from the road diet measures, social cohesion in the four towns and other nearby areas should improve.

RELATED RECOMMENDATIONS

Maximize social interaction benefits for users of Bloomfield Avenue

To maximize the benefits of social cohesion, the towns, chambers of commerce and social and nonprofit organizations in the region should continue to promote and design community events that bring people to Bloomfield Avenue. These events would encourage both pedestrianism and socializing. Locals feel that events like the Montclair 10K Race and "Walk to Fitness", and initiatives like Physical Fitness NJ, yoga on the street, and local walking groups should be encouraged. Both Business Improvement Districts are looking for more opportunities for farmers markets, sidewalk sales and summer concerts.

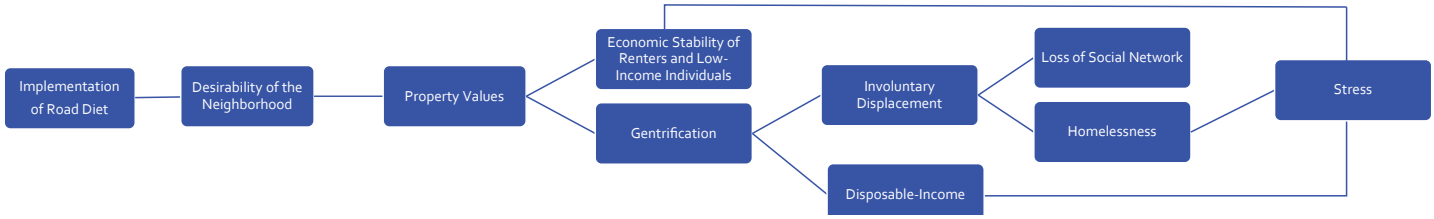
To further foster participation in these events and other informal socializing, towns should consider installing enhanced public seating options, particularly in plaza or gathering areas.

Enhance the quality of the pedestrian and bicycling experience along Bloomfield Avenue

Social capital is built when people are proud of their communities and find them edifying, attractive and appealing. People want to gather and linger in places that have beauty. Improving the attractiveness of the Bloomfield Avenue streetscape through public art, building improvements, decorations, fountains, etc. could help to bring more people to the avenue to enjoy the natural and visual environment, enhancing mental well-being.

Also, to maintain a more peaceful setting, in the midst of a commercial thoroughfare, the towns could consider policies and signs discouraging idling and revving of engines. This will serve to reduce noise and also to address potential negative impacts of automobile exhaust.

LOCAL ECONOMY



CONNECTION TO HEALTH OUTCOMES

A more walkable neighborhood with calmed traffic can stimulate the local economy, leading to more jobs and local income, and to a more vibrant community that reduces stress and improves resident well-being and mental health.[85] A number of studies have shown that increased foot traffic from installation of bicycle and pedestrian friendly improvements, and from local events focused on walking or running, equate to increased business from both local residents and visitors.[86,87] Road diets increase and enhance business activity by reducing traffic speeds (which helps motorists notice the shops, eateries and businesses along the road) and by improving the travel environment for pedestrians and bicyclists, who tend to spend more money at local businesses than drivers do.[88] Local businesses patronization is not the only economic benefit of more walkable streets. Further, studies show that towns save money if more people are using transit.[89] If more residents are walking to local shops and transit, and therefore reducing their driving, they earn a "Green Dividend" and have more money to spend on other things they value, which, in turn, stimulates the local economy.[90]

Studies also show that walkable neighborhoods improve local economic conditions by increasing property values.[91] One study found that a 5 to 10 mph reduction in traffic speeds increased adjacent residential property values by roughly 20 percent. The presence of trees, which are often added as a component of Complete Streets improvements, has been found to increase property values by 10 percent.[92] The downside of increasing land values is that if gentrification occurs, some lower income individuals and renters may face housing cost increases that drive them from the area.

COMMUNITY AND STAKEHOLDER INPUT

Comments from both roundtable participants and survey respondents included strong perceptions that Bloomfield Avenue could become a regional destination, bringing jobs and more income to local businesses. Many locals noted that they like living in this area because it is closer to shops so they don't have to go to malls. When asked what they like about Bloomfield Avenue, most people commented that they like the street-level shopping and dining options.

Table 21 shows that the number one reason people usually drive, walk and bicycle on Bloomfield Avenue is to patronize local businesses. This is an opportunity for local leaders to maximize Bloomfield Avenue as a destination asset.

Table 21
Question: Why do you usually (drive, walk, bicycle) on Bloomfield Ave.?

Reason	Driving	Walking	Bicycling
To shop or go out to eat	85.1%	90.8	48.5

A downside mentioned by some community members regarding road diet changes is that if any parking spaces are taken to make room for a bicycle lane or other lane reconfiguration, it could hurt merchants located along the Avenue, although this is not borne out in current literature.

VULNERABLE POPULATIONS

If property values increase more around the Bloomfield corridor than in the rest of the region, or if prices rise due to increased demand, it is possible that higher income households will move into neighborhoods and lower-income families may not be able to afford higher prices and taxes. Displacement can have a strong effect on health disparities, especially for the poor, women, children, the elderly, and racial minorities. However, new jobs created in the service sector (shops and restaurants) from increased business might benefit lower-income individuals and youth.

IMPACT PROJECTION

Our survey showed that about 50% of the people who currently walk on Bloomfield Avenue would walk more if it were safer. More than 100 bicyclists also said that they would make 3 or more additional bicycle trips a month to Bloomfield Avenue if it were safer. From this, and from other qualitative community input, as well as examples from literature, we can safely project that if road diet changes result in reduced speed and more controlled vehicle traffic and improved crosswalk safety, there will be an increased number of non-motorized users along the corridor. According to both literature and to dozens of survey comments, we can also safely project that many of these users will purchase food or drink from local businesses. This should result in a healthier local economy which should increase the number of jobs and the amount of income going to local residents, improving overall mental well-being.

RELATED RECOMMENDATIONS

While planning for road diet elements is occurring, it is important to consider elements or features that will serve to enhance the local economic benefits fostered by the more pedestrian and bicycle friendly environment.

Encourage patronization of local businesses along the Corridor.

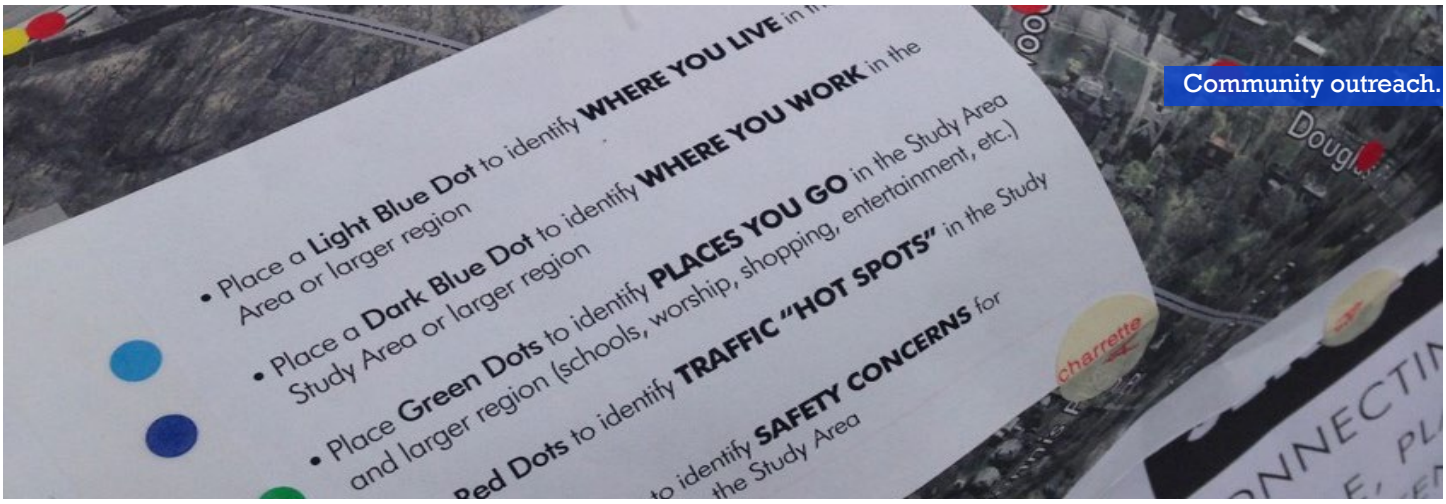
Current initiatives that promote local businesses should be fostered and expanded, particularly those that appeal to diverse populations. New partnerships, contests or incentives could be implemented to support local business, in cooperation with Business Improvement Districts. As the corridor becomes more attractive and desired as a residential area, monitoring the impact of the Complete Streets plan on nearby real estate values, as well as monitoring the growth of business in the area, will be important.

The towns could consider conducting or updating parking utilization studies to identify where shared parking can maximize current parking land uses, and additional off-street parking opportunities. The parking deck in Montclair has provided needed parking for the commercial district, but additional options at other locations along the corridor would help to relieve the demand for the parallel parking spaces.

Encourage walking or bicycling transportation to and among businesses and transit stops.

Decision-makers should be sure to include local business owners in planning decisions, with the goal to improve access for customers of all modes (walking, driving, bicycling, transit) and more vulnerable subpopulations (disabled, Hispanic, lower income, seniors etc.). This could include things like, ADA accessible ramps and doorways, secure bike racks, signs translated into Spanish, etc. Montclair's Bike and Walk Friendly Business campaign and Lifelong Montclair Senior Friendly Business Program could be extended to all four communities.

ACCESS TO SERVICES



Community outreach.

CONNECTION TO HEALTH OUTCOMES

The same literature that supports the finding that safer crosswalks and calmed traffic will result in increased pedestrian and bicycle use also supports the finding that safer roadways will improve access to services located along those thoroughfares, such as access to emergency food pantries and social services, clinics/health care providers, healthy food options, public recreation spots and gathering spaces. Improved access to services and products that are necessary for a healthy lifestyle, and more frequent use of this access, will help to reduce obesity and its health outcomes and also improve mental well-being.

COMMUNITY AND STAKEHOLDER INPUT

A survey funded by Partners for Health Foundation found that many people are not aware of services for older adults in Montclair, and that older residents receive little or no targeted outreach to inform them about local resources and programs.[93] Participants in the roundtable discussed the need to provide better access to key locations along the corridor through shuttle services. Survey respondents said that the conditions or locations of bus shelters makes waiting for buses or shuttles undesirable.

Close proximity to transit, businesses and other services along Bloomfield Avenue is viewed as one of the corridor's primary benefits, but the problem is that many people do not take advantage of what is already there because of safety concerns or lack of ability to get there.

Further, there are some facilities, stores and services needed by the public that could be expanded or increased in quantity along the corridor. Outlets for healthy foods, fitness, health care and social services could be expanded especially beyond Montclair. At the same time that safety improvements can bring more people into contact to the corridor.

VULNERABLE POPULATIONS

Several services important to populations of lower income and the elderly are located on or near to Bloomfield Avenue, including senior living facilities, an adult clinic for underserved populations and a senior center. Many low-income individuals take the bus to the clinic and hospital, and then walk several blocks. Safe access is particularly important to these populations who are reliant on the clinic for their primary healthcare. Another population vulnerable to factors which limit access is limited English proficiency, who tend to be more reliant on biking and walking than driving in comparison to other populations. Local stakeholders told the research team that some in the Hispanic population use bikes to get to jobs at restaurants, raising equity issues. Table 22 shows that households making less than $50,000 per year were more likely to use Bloomfield Avenue to access work and to access public transportation than those making more than $100,000 per year.

Table 22. Question: Why do you walk on Bloomfield Ave?

Reason	Under $50,000	$100,00 plus
Access Public Transportation	52%	31.1%
Access work	16.9%	11.2%

Table 21 is from NJHIC's Bloomfield Avenue Use and Perception Survey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Accessible transit is helpful for senior citizens who would otherwise have no means to travel to the store, health facility, or a social outing. The Montclair Senior Citizens Advisory Committee proctored a Montclair Senior Citizens Survey, and found that many seniors do not know where to find information on bus services or other transit directed towards the elderly.[94] One respondent commented:

> "I am not sure what the senior bus does and who is eligible to ride it. Is it only people who have no other transportation or who are sick/frail? I'd love to see it operate like a real bus service and make scheduled runs to stores, train station, center of Montclair, etc. I can drive but parking is a nightmare and as I age, I am concerned about how I will get around when I can't drive. I do not want to be stuck in my home when so many great resources are so nearby. I also would prefer to retain some independence, something that is crucial for me because my children live out of state. I have used taxis but they are expensive and waiting for pick up is often a problem."

Addressing lack of knowledge about public transportation has been an on-going issue for many local organizations. For example, Livelong Montclair and Livelong Verona recently developed and disseminated their "Guide to Public Transportation[i]," to help Montclair's senior citizens and those with disabilities understand available transportation resources including services from NJ TRANSIT, community and county providers and the regional transportation management association. This guide, funded by Partners for Health Foundation, is available in hard copy and on the Montclair, NJ and the Verona, NJ websites website.[95]

IMPACT PROJECTION

It is likely that as road diet measures are implemented, access to many amenities, businesses and community assets that contribute to a healthy lifestyle (healthy food, recreation, social services, medical clinics, etc.) will improve because people will feel safer using Bloomfield Avenue to travel. In addition, the frequency of travel by foot or bicycle may increase with safer crossings and streets designed to accommodate cyclists and pedestrians. Although research was unclear about increase in transit access with improved pedestrian and bicycle environment, measuring transit use by train, bus and shuttle can be the focus of future monitoring and studies.

RELATED RECOMMENDATION

Address social equity by supporting equal access and use to public services by vulnerable populations.

The corridor's health benefits should extend to users of all ages and abilities, including vulnerable and traditionally disadvantaged populations. Vulnerable populations include those with existing health conditions or disabilities, the young and the elderly, and others with more limited ability because of poverty, ethnic or linguistic isolation or other constraints. For those who buy food at the grocery store on Bloomfield Avenue, or need to access emergency food pantries, safe and well-marked access is important. If considering a phased approach for implementation of safety improvements, decision-makers should prioritize locations near food pantries and other social services. Encouraging another conveniently located store that sells fresh fruits and vegetables at reasonable prices, and creating additional farmers' markets throughout the corridor would benefit the entire community, and particularly those with limited means to drive further to obtain fresh food.

Another recommendation to improve access to the services along the corridor is that young adults from local colleges could provide companions for seniors who need extra physical help to walk along Bloomfield Avenue. More benches would allow seniors and those with heart conditions to rest frequently. Assessing the efficacy of the current Senior Shuttle and other transportation services would help to identify gaps or challenges that need to be addressed to increase awareness and usage of the shuttle.

Efforts should be made to assure that notices about programs, services events and activities are translated into Spanish, the language of the largest local ethnic minority, so that those who are linguistically isolated in these communities are aware of and can benefit from services located Bloomfield Avenue. Facilitating better access and awareness of bus stops and train stations through signage or pamphlets could lead to increased transit use – bringing the health benefits of decreased air pollution, reduced automobile traffic and increased physical mobility.

SUMMARY OF FINDINGS

Table 23. HIA Analysis – Summary of Findings: Health Impacts of a Road Diet

Health Determinant	Direction of Expected Health Impact	Level of Impact	Likelihood	Population Impacted
Safety	Increase	High	Likely	Drivers (resident and commuter), Pedestrians and Bicyclists using Corridor
Physical Activity	Increase	Medium	Possible	Residents of the four towns, with disproportionate impact on lower income and elderly
Air Pollution	Increase	Low	Possible	Residents who live or work on Bloomfield Ave., Schools within a block of the Corridor, with particular impacts on children and elderly
Stress	Decrease	High	Likely	Drivers and commuters, shoppers, business patrons and pedestrians
Social Cohesion	Increase	Medium	Possible	Residents of the four towns
Local Economy	Increase (jobs, revenue)	Low	Uncertain	Businesses and property owners along or near the Corridor, and the four towns (jobs, taxes)
Access to Services, Transit and Food	Increase	Low	Uncertain	Lower income, disabled, elderly

Direction of Expected Health Impact	
Decrease	Reduction of health impacts associated with this determinant
Increase	Escalation of health impacts associated with this determinant
Unknown	Unknown how health will be impacted

Level of Impact	
Low	Causes minor impacts
Medium	Causes some substantial impacts
High	Causes significant impacts

Likelihood	
Likely	it is likely that impacts will occur
Possible	it is possible that impacts will occur
Unlikely	it is unlikely that impacts will occur

Table 23 lists the key health factors examined in the study, along with a summary of the projected impacts of a Bloomfield Avenue road diet for each. The table summarizes the direction of the expected health impacts, the level of any expected impacts, the likelihood that the impacts will occur, and the distribution of those impacts to specific populations.

A summary of recommendations from all six parts of the analysisis listed on pages 61 and 62. The summary details specific actions associated with each recommendation. It is noted that the timeliness of these actions would vary from short-term to long-term, and responsible parties need to be identified for each.

Bloomfield Avenue in Glen Ridge

Safety

Institute measures to slow motor vehicle speeds and reduce unsafe driving.

- Institute traffic calming measures including lane reduction.
- Consider more frequent police patrol for speed and traffic violations.
- Add more speed limit signs or speed limit paint on the roadway at key locations.
- Consider installing radar feedback speed limit signs.

Improve crosswalk safety.

- Make crosswalks more prominent with high-visibility paint.
- Reduce crossing length through lane reductions, curb extensions and/or pedestrian refuge islands.
- Carefully study crossing times and make improvements to ensure adequate length of time for all pedestrians to cross.
- At every signalized intersection, install countdown signals with pedestrian lead intervals.
- Consider vibro-tactile/audible signals to meet ADA standards.
- Consider flashing signals or HAWK beacons at unsignalized or mid-block crossings.
- Consider increasing the number of crossing guards at strategic times and locations, with a priority to assist children and senior citizens.
- Continue to provide "cops in the crosswalk" stings, and adopt new statewide crossing guard training materials.
- Minimize turning conflicts with drivers and pedestrians with no right on red restrictions where possible.

Promote driver, pedestrian and bicycle safety education.

- Promote local driver safety initiatives including the Courteous Driving pledge, Drive with Care Montclair, NJTPA's Street Smart Challenge and vision zero.
- Support local efforts to educate pedestrians and cyclists about safety, prioritizing youth, seniors and low income populations.
- Provide lights and safety vests to low income/low pay industry workers who use bicycles for travel to and from work.

Promote alternatives to driving.

- Reconfigure travel lanes to add protected bicycle lanes and infrastructure.
- Promote use of public transportation through increased awareness of schedules, routes and fares.
- Upgrade transit stops (prominence, condition of shelter or benches, etc.)
- Identify ways to transport residents, especially seniors and people with disabilities, with additional shuttles, trolleys, jitneys, etc.
- Educate residents on transit schedules and stop locations. Make senior shuttle routes and times more prominent.
- Educate residents on features of transit (e.g. kneeling buses) and how to use the bike racks on buses.

Improve feeling of security.

- Improve pedestrian scale lighting in strategic areas.
- Increase police patrols in certain target areas where perceived or actual crime is higher.
- Consider security cameras and posted notices about them.
- Conduct a Crime Prevention Through Environmental Design (CPTED) analysis to identify ways to modify the built environment to improve safety from crime.

Outdoor Activity and Exposure

Enhance the use of Bloomfield Avenue and surrounding roads for physical activity and fitness.

- Reconfigure/reduce travel lanes to add protected bicycle lanes and infrastructure.
- Improve surrounding roads for bicycle compatibility including dedicated infrastructure.
- Improve condition of sidewalks in select areas along and adjacent to Bloomfield Avenue.
- Improve access in surrounding blocks for bicycle use with dedicated bike lanes or other improvements to safely accommodate bikes.
- Consider additional secured bicycle parking along or near Bloomfield Avenue.
- Encourage exercise and walking groups that cater to youth and senior citizens.
- Extend pedestrian wayfinding signs from downtown Montclair to the other 3 towns to promote activity loops, e.g. to access local parks.
- Consider installation of additional benches as rest areas for walkers and those with limited mobility.
- Consider incorporating Eat. Play. Live… Better vision and strategies into community health improvement plans, using Bloomfield Community Health Assessment as a model.

Minimize air pollution impacts.

- Plant shade trees, where they provide shade and screening and do not obstruct sight lines for safety.
- Add and enforce "no idling" signs near housing, drive-thru businesses, recreational facilities and schools along Bloomfield Avenue.


Missing sidewalks on Bloomfield Avenue

Mental Health

Minimize driver and pedestrian confusion and stress.

- Prioritize improvements that will reduce blocking of road for vehicle parking, deliveries or double-parking.
- Prioritize enforcement of traffic violations (e.g. illegal turns, not stopping for pedestrians in crosswalk).
- Provide wayfinding for off-street parking to reduce drivers from circling to find spaces.
- Conduct a street sign inventory to identify areas where visual clutter can be reduced.

Social Cohesion

Maximize social interaction benefits for users of Bloomfield Avenue

- Continue to promote and design community events that bring people to Bloomfield Avenue.
- Consider enhanced public seating options in plazas or gathering areas.

Enhance the quality of the pedestrian and bicycling experience along Bloomfield Avenue

- Improve attractiveness of streetscape through public art, building improvements, decorations, fountains, etc.
- Consider policies and signs discouraging idling and revving of engines (anti-noise.)

Local Economy

Encourage patronization of local businesses along the Corridor.

- Conduct/update a parking utilization study to identify where shared parking can maximize current parking land use.
- Encourage a variety of shops and restaurants appealing to diverse populations.
- Work with Business Improvement Districts to encourage partnerships, contests or incentives that support walking, bicycling or transit to local business.
- Complete an analysis on the real estate and economic impact of the Bloomfield Avenue Complete Corridor after implementation.

Encourage walking or bicycling transportation to and among businesses and transit stops.

- Work with local businesses to improve access for customers traveling via all modes.
- Support and expand Montclair's Bike and Walk Friendly Business campaign and Lifelong Montclair Senior Friendly Business Program to all four communities.

Access to Public ServicesTransit and Healthy Food

Address social equity by supporting equal access and use by vulnerable subpopulations

- Translate promotional and educational materials and signs, where appropriate, into Spanish
- Prioritize transit, shuttle, bicycle and pedestrians safety improvements near emergency food shelters along corridor.
- Promote and encourage chaperone and safe shuttling programs for senior citizens.
- Promote additional farmers' markets and fresh food stores.

REPORTING

The success of the HIA will depend in part on communicating and disseminating the findings of the analysis and the ultimate recommendations. Toward this end, the research team will prepare reporting documents that includes this narrative final report with technical documentation.

As part of the reporting process, the research team disseminated the draft HIA report to the project team and funder for review.

EVALUATION AND MONITORING PLAN

The research team began the process of conducting both a process and impact evaluation. Both are described below. Please contact the research team for a complete and final evaluation report, which can only be conducted after the report is complete and a period of time has passed. The process evaluation gauges the quality of the HIA process and technical analyses according to established practice standards, the original work plan for the HIA and the goals for the HIA identified during the screening and scoping phases. The impact evaluation assesses the HIA's impact on decision-making.

In addition, the research team recommends a follow-up HIA monitoring plan to track decision outcomes and assess changes in health status and health determinants as decisions are implemented. The monitoring plan suggests goals for short- and long-term monitoring; recommended indicators that can be used to track progress; suggests which parties can/should be responsible for carrying out the monitoring plan; proposes a mechanism for reporting monitoring results to decision-makers, HIA stakeholders and the public (e.g., bi-annual health report); and identifies resources that may be available to carry out the monitoring plan.

The process of conducting this HIA proceeded very smoothly. The team of two senior researchers (working at 25% effort over seven months) and a graduate student (250 hours) worked with the LDP project team and staff from Together North Jersey, sharing ideas, data and resources where possible. The project steering committee provided a ready-made forum for stakeholder review of every step of the process. Planned HIA outputs were exceeded because of the extra resources available to the HIA team through this relationship. To further evaluate the HIA process, the research team plans to conduct informal interviews with team partners and participants to assess how well the HIA process met their expectations.

Some members of vulnerable groups were integrated into the process, while others were not as accessible to the team. For example, senior citizens were represented by attendance at our health/safety roundtable. The team was less able to reach members of ethnic communities, although the online survey was translated into Spanish, and some respondents came from lower income and Hispanic populations. Our assessment was not able to clearly quantify differential distribution of

Table 24. Monitoring Plan for Bloomfield Ave. Road Diet/Complete Corridor

Health Determinant/Factor	Indicators	Responsible Party
Outdoor Exposures and Activities	• Number and type of crashes • Reported injuries • Number of pedestrians and cyclists	• Essex County/NJDOT • Local Police Depts. • Essex County/NJTPA
Safety	• Physical Activity (self-reported) • Obesity • Asthma and allergy rates • Number of bicycles parked at transit and other facilities	• Local health depts. • Local hospitals, local and county health depts. • NJTRANSIT • Essex County/local planning dept./Business Improvement Districts
Reported injuries	• Self-reported stress • Perceptions of security • Poor Mental Health Days • Noise	• Local health depts. • Local police dept. • Local health dept. • Local police dept., local planning dept.
Number of pedestrians and cyclists	• Success/evaluation of social events Number of people attending	• Local nonprofits, chambers of commerce/Business Improvement Districts
Local Police Depts.	• Revenue changes for businesses within .5 mile of corridor • Job growth for businesses within .5 mile of corridor • Changes in housing prices • Business foot traffic	• Local economic development orgs., local planning depts.. chambers of commerce/Business Improvement Districts • Local realtors and tax assessors
Essex County/NJTPA	• Number of people going to local food markets and service providers • Number of people using transit and shuttles	• Local nonprofit service agencies, local health depts. Business Improvement Districts • NJTRANSIT

impacts across different populations because of lack of good existing data or ability to collect new data, but recommendations do include actions to address projected impacts on vulnerable populations.

IMPACT/OUTCOME EVALUATION

Because of the unique connection of this HIA project to a larger plan, some of the assessment and resulting recommendations are already built into the Plan that was presented to the project partners. The recommendations of the HIA will help to shape decisions about seeking additional resources to begin to fund more comprehensive complete streets planning elements. At a period of several months after the HIA is published, the research team will contact decision-makers in the four towns and in Essex County to assess the extent to which the HIA recommendations are being considered in the seeking of additional resources or the beginning stages of planning to implement road diet changes. We also hope that this HIA can help to influence the recently completed Essex County Complete Streets Implementation Plan that includes a checklist and guidelines that address health concerns and encourages better accommodations for the travel needs of motorists, pedestrians, bicyclists, transit riders, seniors, children, and individuals with disabilities.

MONITORING PLAN

The monitoring plan will assess whether the anticipated positive effects on health, wellbeing and equity were realized and if so, to what extent.

The indicators shown in Table 2 identify appropriate health outcomes related to road diet implementation. Table 23 can be considered the basis for a monitoring plan to track changes in health outcomes over time.

Official data sources could be scanned for changes in some of the indicators (obesity, crash-related injury, social and behavioral indicators), while others such as use profiles and perceptions could be monitored through repeating a resident or Bloomfield Avenue user survey at periodic intervals. Local economy measures can tracked through a local business survey. This monitoring could be undertaken by the County and local health departments, or local Business Improvement District or nonprofits.

It was beyond the scope of this HIA to examine all health aspects related to road diets and complete streets, or to go into great depth on the aspects selected to study. Additional study would help to broaden knowledge and provide more basis for understanding the full range of impacts. Some suggested additional future research activities include:

- Collection of more quantitative data and observations of walking and bicycling behavior to support crosswalk and traffic improvements.
- Collection of more vehicular traffic data including volumes at different times of day, average speeds, areas of congestion, etc.
- Monitoring of air pollution levels on and near to Bloomfield Avenue.
- Concerted effort to collect information about the physical and mental health of senior citizen populations and people with disabilities and their use of Bloomfield Avenue.
- Concerted effort to collect information about the physical and mental health of Hispanic populations and their use of Bloomfield Avenue.
- Collection of mode of transportation for students to and from school information.
- Collection of transit use information.
- Monitoring and collection of bicycle parking numbers at transit locations, schools and within the business districts.
- Collection of pedestrian and bicycle counts.

APPENDIX A:

SCREENING CHECKLIST FOR BLOOMFIELD AVENUE HIA

		Yes/No/ Unknown	Supporting Facts/Rationale
Value of and need for HIA	Does the decision have the potential to effect, directly or indirectly (positively or negatively), health outcomes via environmental or social determinants of health?	Yes	The decision includes impacts on physical and mental health, safety, and economics
	Could these impacts create or exacerbate health or social disparities?	Unknown	The impacts have a possible impact on minority, low-income and elderly populations.
	Are the proposal's impacts to health potentially significant in terms of the number of people impacted and/or the magnitude, breadth, and immediacy of impacts?	Yes	It may affect the health of residents of the four municipalities, as well as commuters, in the immediate and long term
	Are the health impacts unknown, uncertain, or controversial?	Unknown/Not controversial	Not yet measured
	Could HIA recommendations potentially improve the impact that the plan, policy, or program has on health?	Yes	Many opportunities to consider health impacts
Feasibility of conducting HIA	Are leadership, resources, and technical capacity available to conduct analyses?	Yes	NJHIC, with TNJ and project team
	Do data and research methods exist to analyze health impacts of concern associated with this decision?	Yes, some	Review and analysis of literature, reports, studies and stakeholder input
	Which stakeholders have the interest and capacity to participate in an HIA (scoping, research, communication)?	Yes	Local Demonstration Project team and steering committee
Receptiveness of the decision-making process	Is there a pending decision regarding the project, plan, or policy?	Yes	Integration of plan by Essex County
	Has a final decision about the proposal been made?	No	Ongoing future decisions after plan adoption
	Are there policy/legal requirements mandating the consideration of direct and/or indirect health impacts?	No	Implementation will be voluntary
	Is there sufficient time and is it feasible to analyze the project before a decision is made?	Yes	Will scale the analysis to match a 6-7-month timeframe and available resources
	Are stakeholders requesting an HIA to inform the decision- making process?	Yes	Stakeholders welcome the consideration of health on their decision making process, and have included advancement of health as a project goal.
	Is the decision-making process open to HIA and/or recommendations for changes to design, mitigations, and alternatives?	Yes	Essex County (owner) and officials from the four municipalities are open to recommendations and suggested changes.

APPENDIX B:

STEERING COMMITTEE AND PROJECT TEAM

Steering Committee	
Name	Organization
Kimberli Craft	Montclair Township
Luther Flurry	Montclair Center Business Improvement District
Janice Talley	Montclair Township
Paul Lasek	Township of Bloomfield
Michael Rohal	Glen Ridge Borough
Joe Martin	Verona Township
Elizabeth Thompson	NJTPA
David Antonio	Essex County
Sanjeev Varghese	Essex County
James McCrone	Bloomfield Center Alliance
Beverly M. Riddick	HOMECorp
Norma Tassy	Bike & Walk MTC
Cyndi Steiner	NJ Bike & Walk Coalition
Laura Torchio	Montclair State University
Steve Coppola	Township of Bloomfield
Noreen Jones	Verona Township
Kathy Smith	Partners for Health Foundation
Jerry Fried	Alan M Voorhees Transportation Center, Rutgers University
Together North Jersey and Project Team	
Jim Constantine	LRK Inc.
Mike DiGeronimo	LRK Inc.
Mike Yaffe	LRK Inc.
Susan O'Donnell	VHB
Elizabeth Sewell	Alan M Voorhees Transportation Center, Rutgers University
Jeanne Herb	Alan M Voorhees Transportation Center, Rutgers University
Jon Carnegie	Alan M Voorhees Transportation Center, Rutgers University
Karen Lowrie	Alan M Voorhees Transportation Center, Rutgers University
Leigh Ann Von Hagen	Alan M Voorhees Transportation Center, Rutgers University
Gerard M. Haizel	Nishuane Group
Joseph Daguman	Nishuane Group
Michele Delisfort	Nishuane Group
Shawna Ebanks	Nishuane Group
Cyrenthia Ward	NJ TRANSIT
Sallie Morris	NJ TRANSIT
Vivian Baker	NJ TRANSIT
Alan Miller	Office for Planning Advocacy, Brownfield Redevelopment Contact, NJDOS

APPENDIX C:

HEALTH AND SAFETY ROUNDTABLE QUESTIONS AND NOTES

Bloomfield Avenue Complete Corridor Plan HIA
Health and Safety Roundtable Meeting Summary
May 20, 2014, 2-3:30PM

Name	Organization	Contact Information
ATTENDEES		
Laura Torchio	Eat. Play. Live…Better, Montclair	torchiol@mail.montclair.edu
Kathy Smith	Partners for Health Foundation, Montclair	ksmith@partnersfdn.org
Grettel Muscato	Hackensack UMC at Mountainside	grettel.muscato@mountainsidehosp.com
Elizabeth Thompson	NJTPA	ethompson@njtpa.org
Gerard Shimonaski	Verona Environmental Commission	gerard.shimonaski@comcast.net
Christopher Hanson	Enviromental Advisory & Safe Routes	christopherhanson42@gmail.com
Michael Rohal	Sustainable Jersey, Glen Ridge Boro	mjrohal@glenridgenj.org
Sue Portuese	Montclair Department of Health	sportuese@montclairnjusa.org
Erica Abbruzzese	Montclair Department of Health	eabbruzzese@montclairnjusa.org
PROJECT TEAM		
Leigh Ann Von Hagen	Rutgers – Bloustein School and NJHIC	lavh@rutgers.edu
Karen Lowrie	Rutgers – Bloustein School and NJHIC	klowrie@rutgers.edu
Elizabeth Sewell	Rutgers – Bloustein School and NJHIC	esewell22@gmail.com
Michele Delisfort	Nishuane Group	mdelisfort@nishuanegroup.com
Cyrenthia Ward	NJTransit	cward@njtransit.org

KEY TAKEAWAYS:

1. Left turns from Bloomfield Avenue, or out of parking lots onto Bloomfield Avenue are incredibly difficult, especially at uncontrolled intersections.
2. Left turns at lights with no left turn lane, and cars parking, hold up traffic.
3. Inappropriate speed of traffic is more of a safety concern than just the volume of traffic.
4. Bump outs with trees do many jobs at once by slowing traffic speeds, defining parallel parking, absorbing noise and pollution, and reducing runoff.
5. Exhaust from both traffic and parked idling cars is a health concern, particularly around elementary and middle schools.
6. Limited proficiency English speakers are often more reliant on biking and walking, raising equity issues when biking and walking is unsafe. (For example, Bloomfield & Orchard has a cluster of Spanish speakers).
7. Pedestrian lights with countdown could be helpful to make crossing safer, especially for senior citizens.
8. Increasing use of mass transit will relieve some traffic volume.

9. Bloomfield Avenue could become a destination, and is headed in that direction, bringing more income and jobs to local businesses.
10. Events on the street would encourage pedestrianism and socializing.

Turning and Traffic Issues:

Verona Park is a major concern. The way that the Lakeside & Bloomfield intersection is constructed, people on Bloomfield Avenue stop past the stop line because they don't understand the traffic markings.

The traffic on Bloomfield Avenue has more than doubled at all times of day.

Both cars turning left from the left lane, and cars parking from the right lane, are what make driving difficult.

Left turn out of parking lots (e.g. Bottle King), or any non-controlled intersection, is an issue. 946 Bloomfield Avenue, Panera Plaza (Glenmont Square) is a trouble spot.

If we were to narrow Bloomfield Avenue, it would cause a traffic jam where it is narrowed. Same treatment along the entire corridor would help to avoid congestion in just certain spots.

Parking deck in Montclair has been a "godsend." Verona and Glen Ridge do not have much parking.

In 2010, in Glen Ridge the speed limit was 25 but the operating speed is 35 to 45 mph to make up time.

Bloomfield Avenue would ideally have fewer cars and then we would have better control of the traffic.

If it stays this way we will see a lot more collisions, etc. NYC is trying to designate streets as 20 mph. We can promote our own "Vision Zero."

Safety of Using or Crossing Bloomfield Avenue:

At the Montclair Y, the complete streets project on the other side is great and has increased foot traffic.

Crossing Bloomfield Avenue is prohibited and there is a lot of traffic because it is an artery.

Buses stop near YMCA and their acceleration rate is slower.

Road diet modifications such as elevated pedestrian walkways that double as speed bumps to slow traffic could make crossing safer.

At Ridgewood and Bloomfield, suggest slowing traffic. Bump outs with trees define parallel parking boundaries and serve as "visual blockage."

Seniors from Cooperative (Parkway House) have trouble crossing Bloomfield and Highland Ave – a senior citizen was actually struck. With speed bumps people have learned they can just go around the bump.

Speed bumps may be a problem because of snowplows – NJ DOT doesn't allow a speed bump on roads over a certain volume of traffic.

Verona Middle School is on one side of Bloomfield and Our Lady of the Lake Middle School is on the other side. When school gets out the streets are flooded with kids.

Most bicyclists use Woodland to Glenfield Park to avoid Bloomfield Avenue.

Cyclists have trouble keeping up with traffic but drivers are generally respectful.

An 11-year-old may be able to safely walk down Bloomfield Avenue, but may not have the skills to "navigate the madness." Crossing guards definitely help. Verona and Glen Ridge generally are more residential and quiet than the busier and more urban Montclair and Bloomfield. Kids don't pay attention to the crosswalk.

You only have 6 seconds to cross the crosswalk, which is not long enough for slower people (seniors, disabled). Countdowns might help, but flashing red makes people panic. Seniors need to know how long they have to cross. (In DC they have great transportation system with long street crossing countdowns.)

If you push the pedestrian trigger on the crosswalk it lengthens the crossing time – this is not clear to pedestrians who think that the button controls the stop lights.

Need more hard data to drive crosswalk and traffic improvements.

County, through Complete Streets, has a checklist when they are building a roadway to make sure that needs of pedestrians and cyclists are being considered. It is not a guarantee.

Development at Valley Rd. and Bloomfield Avenue is going to do a pilot bikeshare program.

Bike Depot at the Bay Street and Walnut Streets Stations.

Diamond Cycle has rental bikes, electric assist, tours. There is a latent bike demand.

Air Emissions and Noise:

Traffic is not moving when schools get out and it becomes a pollution problem near schools and stores. The air emissions have not been measured. Emissions could be reduced by switching fuel on buses, reducing traffic, moving vehicles.

Noise pollution is also an issue.

Trees can absorb a lot of noise and pollution. Would like to see more trees and cultivating habitat for the life of the community. Work on reducing runoff with biosoil and cultivate pollinators (animal or insect that carries pollen from plant to plant).

Impacts on Vulnerable Populations:

People take the bus to get to a hospital in Montclair. An adult clinic for underserved population is also in the hospital. The closest bus stops are Pine and Highland.

Limited proficiency English speakers can tend to be more reliant on biking walking. Bloomfield and Orchard intersection is a cluster of Spanish speaking residents. Some in the Hispanic population use bikes to get to jobs at restaurants, raising equity issues.

The apartments above the stores have some lower-income residents. (Call the Board of Education for most commonly spoken language.)

Crime Concerns:

By Pine St. through right before the bridge, it is not safe at any time during the day. This area, though, is well lit,

Mission and New is another area with crime.

Public Transit Issues and Opportunities:

Increasing use of mass transit will relieve some traffic volume.

A trolley might work to relieve local traffic. (A jitney didn't get a response.) White trolley? Montclair Film Fest trolley?

Some people take the train to get from one part of the area to another.

NJTIP has a study about teaching the seniors how to take the bus. Senior shuttle goes from Church down to Park every two hours. People are not educated about the bus – schedules, routes, fares.

Friday and Saturday nights Glen Ridge and Montclair could have a shuttle.

Community Quality of Life Issues and Opportunities:

If it is more appealing to get out of your car to walk or bike, it helps businesses do better.

Would be nice to see people linger and mingle on the street as it was in the past. It is classified as an arterial, and that discourages use. People live in this area because it is closer to shops so they don't have to go to malls.

Bloomfield is going to be vastly improved in 5 years, better businesses and places to live. It is right off the parkway, the redevelopment is right next to the train station. It will be the town center for the four towns – the biggest business district in the area. "Hoboken West".

Physical Fitness NJ health initiative and Bike & Walk Montclair have walking groups.

Events should be promoted, such as Montclair 10k Race on June 1 (parallels Bloomfield Avenue). There is also a race that crosses Bloomfield Avenue.

A lot more events will be occurring on Church Street (e.g. yoga on the street). Will start closing off Park Street too. Bloomfield is looking for more opportunities for farmers markets, sidewalk sales and summer concerts.

Glen Ridge running track is heavily used. The NAACP holds its 30 day 'Walk to Fitness" walking challenges.

Could use a united vision for corridor – health, quality of life, economy, moving vehicles. What are the goals and vision?

"We need to get towns to work together."

APPENDIX D:

BLOOMFIELD AVENUE COMPLETE CORRIDOR UTILIZATION AND PERCEPTION SURVEY

Informed Consent Form

Bloomfield Ave. Corridor Use and Perception Survey
Informed Consent

About the Project:

You are invited to participate in a research study that is being conducted by the Bloustein School of Planning and Public Policy at Rutgers University as part of a Together North Jersey Local Demonstration Project. The purpose of the survey is to obtain information about local use, experiences, preferences and health impacts of Bloomfield Ave. to inform the development of the proposed Bloomfield Ave. Corridor Complete Streets plan. The benefits of completing the survey are that you will contribute to further knowledge and insight about the use, local preferences and impacts of Bloomfield Ave. to the region and help to inform the prioritization of actions to improve access, awareness, health and safety along the corridor.

Informed Consent to Participate in Research:

This survey is anonymous. Anonymous means that we will record no information about you that could identify you. There will be no way to link your responses back to you. The research team and the Institutional Review Board at Rutgers University are the only parties that will be allowed to see the raw data, except as may be required by law. If a report of this study is published, or the results are presented at a professional conference, only summarized results will be stated. All study data will be kept for three years.

There are no foreseeable risks to participation in this study. In addition, you may receive no direct benefit from taking part in this study. Participation in this study is voluntary. You may choose not to participate, and you may stop the survey at any time without any penalty to you. In addition, you may choose not to answer any questions with which you are not comfortable.

The survey should take about 10 minutes to complete.

If you have any questions about the study or study procedures, you may contact Jon Carnegie at Voorhees Transportation Center, 33 Livingston Ave., New Brunswick, NJ, 08901, 848-932-2840, Carnegie@ejb.rutgers.edu.

If you have any questions about your rights as a research subject, you may contact the IRB Administrator at Rutgers University at:

Rutgers University, the State University of New Jersey
Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 848-932-0150
Email: humansubjects@orsp.rutgers.edu

By clicking yes, you agree to participate in the survey.

- Yes
- No

Section A

Instructions: When answering all of the questions on this survey, think about your use and experiences along the 4-mile portion of Bloomfield Ave. that is located in Bloomfield, Glen Ridge, Montclair and Verona.

Section A: Tell us about your driving experience along Bloomfield Ave.

Do you drive a motor vehicle along Bloomfield Ave.?

- ○ Yes
- ○ No

If respondent selcts "Yes" to the question "Do you drive a motor vehicle along Bloomfield Avenue?

Where do you most often drive along Bloomfield Ave.? (Check all that apply.)

- ☐ Bloomfield
- ☐ Glen Ridge
- ☐ Montclair
- ☐ Verona
- ☐ Other

Why do you usually drive on Bloomfield Ave.? (Check all that apply.)

- ☐ To go to work
- ☐ To go to school
- ☐ To access public transportation
- ☐ To shop or go out to eat
- ☐ To visit a doctor or other appointment
- ☐ To visit friends or family
- ☐ Other

When driving on Bloomfield Ave., do you ever experience traffic congestion that causes you to be delayed more than 5-10 minutes?

- ○ Yes, frequently
- ○ Yes, occasionally
- ○ No

Where do you most often drive along Bloomfield Ave.? (Check all that apply.)

- [ ] Bloomfield
- [ ] Glen Ridge
- [ ] Montclair
- [ ] Verona
- [ ] Other

Why do you usually drive on Bloomfield Ave.? (Check all that apply.)

- [ ] To go to work
- [ ] To go to school
- [ ] To access public transportation
- [ ] To shop or go out to eat
- [ ] To visit a doctor or other appointment
- [ ] To visit friends or family
- [ ] Other

When driving on Bloomfield Ave., do you ever experience traffic congestion that causes you to be delayed more than 5-10 minutes?

- ○ Yes, frequently
- ○ Yes, occasionally
- ○ No

At what times of day do you experience traffic congestion?

	Choose as many as applicable.	
	Weekday	Weekend
Morning rush hour: between 7am and 9am	☐	☐
Lunch hour: around 11:30am to 1:30pm	☐	☐
Evening rush hour: between 4:30pm and 7:00pm	☐	☐
Evening hours: between 7:00 and 10pm	☐	☐
Other ☐	☐	☐

At what locations do you experience traffic congestion? (Please be specific, e.g. between what intersections or landmarks)?

Compared to several years ago, would you say traffic has gotten...

- ○ Worse
- ○ Better
- ○ Stayed the same

Does traffic along Bloomfield Ave. cause you to feel more stress than you usually feel while driving?

- ○ Yes, often
- ○ Yes, sometimes
- ○ No, never

Which of the following do you think are causes of the traffic congestion on Bloomfield Ave.? (Check all that apply.)

- ☐ Greater number of commuters driving through corridor
- ☐ Following transit buses is slow/difficult.
- ☐ Drivers trying to find a place to park or parking
- ☐ Cyclists using the road
- ☐ Pedestrians crossing
- ☐ Traffic lights not synchronized/coordinated
- ☐ Drivers making turns
- ☐ Other ☐

Are you aware of the posted speed limits along Bloomfield Ave., including where they change?

- ○ Yes
- ○ I think so, but am not sure.
- ○ No

Please let us know the frequency with which you do the following things while driving on Bloomfield Ave. (*Remember your answers to this question are anonymous*):

	Never	Rarely	Sometimes	Often
Go more than 5 to 10 mph over the speed limit	○	○	○	○
Make rolling stops	○	○	○	○
Make illegal turns	○	○	○	○
Lane hop without signaling	○	○	○	○
Go through red lights	○	○	○	○
Not let people merge in	○	○	○	○
Swear	○	○	○	○
Honk	○	○	○	○
Tailgate	○	○	○	○
Other 1 _____	○	○	○	○
Other 2 _____	○	○	○	○

How often do you observe other drivers doing the following things on Bloomfield Ave.?

	Never	Rarely	Sometimes	Often
Go more than 5 to 10 mph over the speed limit	○	○	○	○
Make rolling stops	○	○	○	○
Make illegal turns	○	○	○	○
Lane hop without signaling	○	○	○	○
Go through red lights	○	○	○	○
Not let people merge in	○	○	○	○
Swear	○	○	○	○
Honk	○	○	○	○
Tailgate	○	○	○	○
Other 1 _____	○	○	○	○
Other 2 _____	○	○	○	○

Do you feel safe while driving on Bloomfield Ave.?

- ○ Yes
- ○ No

Where do you feel unsafe driving? (Be as specific as possible.)

Why do you feel unsafe?

Do you ever use the parallel parking along Bloomfield Ave.?

- Yes
- No

Which of these statements reflects your experience parallel parking on Bloomfield Ave.? (Check all that apply.)

- Parking spots are hard to find.
- It is difficult getting out of a parallel spot on Bloomfield Ave.
- Opening my driver door onto Bloomfield Ave is difficult.
- Other comments about parking.

What changes would you like to see to make it safer to drive on Bloomfield Ave.? (Check all that apply.)

- Fewer traffic lanes (indicate where)
- Additional traffic lanes (indicate where)
- Slower vehicle travel speeds (indicate where)
- Increased vehicle travel speeds (indicate where)
- Increased ability to make turns (indicated where)
- Decreased ability to make turns (indicate where)
- Better enforcement of traffic laws (speeding, aggressive driving, etc.)
- Other

Please tell us about any additional concerns about driving on Bloomfield Ave.

If respondent selcts "No" to the question "Do you drive a motor vehicle along Bloomfield Avenue?

Why not?

- I don't drive.
- Other reason (please list)

What changes would you like to see to make it safer to drive on Bloomfield Ave.? (Check all that apply.)

- Fewer traffic lanes (indicate where)
- Additional traffic lanes (indicate where)
- Slower vehicle travel speeds (indicate where)
- Increased vehicle travel speeds (indicate where)
- Increased ability to make turns (indicated where)
- Decreased ability to make turns (indicate where)
- Better enforcement of traffic laws (speeding, aggressive driving, etc.)
- Other

Please tell us about any additional concerns about driving on Bloomfield Ave.

Section B

Section B: Tell us about your walking experience along Bloomfield Ave.

Do you walk on Bloomfield Ave.?

- ○ Yes
- ○ No

If respondent selcts "Yes" to the question "Do you walk on Bloomfield Avenue?"

Where do you most often walk along Bloomfield Ave.? (Check all that apply.)

- ☐ Bloomfield
- ☐ Glen Ridge
- ☐ Montclair
- ☐ Verona
- ☐ Other

About how often do you walk on Bloomfield Ave.?

- ○ Less than Once a Month
- ○ Once a Month
- ○ 2-3 Times a Month
- ○ Once a Week
- ○ 2-3 Times a Week
- ○ Almost Daily

At what time do you walk on Bloomfield Ave.? (Check all that apply.)

	Weekday	Weekend
Morning	☐	☐
Midday	☐	☐
Evening	☐	☐

Why do you walk on Bloomfield Ave.? (Check all that apply.)

- ☐ To go to work
- ☐ To go to school
- ☐ To access public transportation
- ☐ For exercise
- ☐ To shop or go out to eat
- ☐ To visit a doctor or other appointment
- ☐ To visit friends or family
- ☐ Other

What do you like about walking on Bloomfield Ave.?

Do you ever feel unsafe walking on Bloomfield Ave.?

- ○ Yes
- ○ No

Where do you feel unsafe walking? (Be as specific as possible.)

Why do you feel unsafe? (Check all that apply.)

- [ ] Number of cars and trucks on the roads
- [ ] Speed of cars and trucks on the roads
- [ ] Unsafe drivers on the roads
- [ ] Difficult to cross Bloomfield Ave.
- [ ] Sidewalks not wide enough
- [ ] Sidewalks and curb cuts in poor shape.
- [ ] Afraid of drug dealers and users
- [ ] Afraid of physical assault
- [ ] Afraid of sexual assault
- [ ] Loitering, leering or catcalling
- [ ] Abandoned buildings, vacant lots
- [ ] Too much exhaust fumes from motor vehicles and trucks
- [ ] Inadequate street lighting
- [ ] Other

Please indicate the one factor that is most important in determining your feelings of safety.

- ( ) Number of cars and trucks on the roads
- ( ) Speed of cars and trucks on the roads
- ( ) Unsafe drivers on the roads
- ( ) Difficult to cross Bloomfield Ave.
- ( ) Sidewalks not wide enough
- ( ) Sidewalks and curb cuts in poor shape.
- ( ) Afraid of drug dealers and users
- ( ) Afraid of physical assault
- ( ) Afraid of sexual assault
- ( ) Loitering, leering or catcalling
- ( ) Abandoned buildings, vacant lots
- ( ) Too much exhaust fumes from motor vehicles and trucks
- ( ) Inadequate street lighting
- ( ) Other

If you have school age children, do they walk to or from school or to a bus stop along Bloomfield Ave.?

- ( ) I do not have school age children.
- ( ) Yes, regularly
- ( ) Yes, occasionally
- ( ) No
- ( ) My child(ren) do not go to a school or bus stop near Bloomfield Avenue.

In your opinion, is it safe for a 6th grader (ages 11-12) to walk in the daytime on Bloomfield Ave. without an adult?

- ( ) Yes
- ( ) No
- ( ) I don't know.

Why would you be uncomfortable having children walk on Bloomfield Ave.? (Check all that apply.)

- [ ] Number of cars and trucks on the roads
- [ ] Speed of cars and trucks on the roads
- [ ] Unsafe drivers on the roads
- [ ] Crossing Bloomfield Ave is too difficult
- [ ] Sidewalks not wide enough
- [ ] Sidewalks and curb cuts are not in good shape
- [ ] Afraid of drug dealers and users
- [ ] Afraid of physical assault
- [ ] Afraid of sexual assault
- [ ] Loitering, leering or catcalling
- [ ] Abandoned buildings, vacant lots
- [ ] Too much exhaust fumes from motor vehicles and trucks
- [ ] Inadequate street lighting
- [ ] Other

What changes would you like to see to make it safer to walk on Bloomfield Ave.? (Check all that apply.)

- [ ] Wider sidewalks
- [ ] More sidewalk and crosswalk lighting
- [ ] Better enforcement of traffic laws (such as speeding, aggressive driving, etc.)
- [ ] More policing to deal with crime
- [ ] Better maintenance of crosswalks and sidewalks
- [ ] Better pedestrian signals for crossing Bloomfield Ave.
- [ ] More time for pedestrians to cross the road at intersections with signals
- [ ] Fewer traffic lanes to cross at intersections
- [ ] More crossing guards for school age children
- [ ] More sidewalk furniture (benches, garbage cans, etc.)
- [ ] Improvements to make it easier for people with disabilities to cross Bloomfield Ave. (e.g. ramps, signals)
- [ ] Other

If these changes were made, do you think you would walk more on Bloomfield Ave.?

- ( ) Yes
- ( ) No
- ( ) Not sure

Please tell us about any additional concerns about walking on Bloomfield Ave.

If respondent selcts "No" to the question "Do you walk on Bloomfield Avenue?"

Why not?

What changes would you like to see to make it safer to walk on Bloomfield Ave.? (Check all that apply.)

- [ ] Wider sidewalks
- [ ] More sidewalk and crosswalk lighting
- [ ] Better enforcement of traffic laws (such as speeding, aggressive driving, etc.)
- [ ] More policing to deal with crime
- [ ] Better maintenance of crosswalks and sidewalks
- [ ] Better pedestrian signals for crossing Bloomfield Ave.
- [ ] More time for pedestrians to cross the road at intersections with signals
- [ ] Fewer traffic lanes to cross at intersections
- [ ] More crossing guards for school age children
- [ ] More sidewalk furniture (benches, garbage cans, etc.)
- [ ] Improvements to make it easier for people with disabilities to cross Bloomfield Ave. (e.g. ramps, signals)
- [ ] Other

If these changes were made, do you think you would walk more on Bloomfield Ave.?

- ( ) Yes
- ( ) No
- ( ) Not sure

Please tell us about any additional concerns about walking on Bloomfield Ave.

Section C

Section C: Tell us about your bicycling experience along Bloomfield Ave.

Do you ever bicycle along Bloomfield Ave.?

- ○ Yes
- ○ No

If respondent selcts "Yes" to the question "Do you ever bicycle along Bloomfield Avenue?"

Where do you most often bike on Bloomfield Ave.? (*Select all that apply.*)

- ☐ Bloomfield
- ☐ Glen Ridge
- ☐ Montclair
- ☐ Verona
- ☐ Other

About how often do you bike on Bloomfield Ave.?

- ○ Less than Once a Month
- ○ Once a Month
- ○ 2-3 Times a Month
- ○ Once a Week
- ○ 2-3 Times a Week
- ○ Almost Daily

How often do you wear a helmet while biking?

- ○ Never
- ○ Occasionally
- ○ Often
- ○ Always

On Bloomfield Ave., do you most often bike on the street or on the sidewalk?

- ○ I most often bike on the street.
- ○ I most often bike on the sidewalk.

Why do you bike on Bloomfield Ave.? (Check all that apply.)

- ☐ To go to work
- ☐ To go to school
- ☐ To access public transportation
- ☐ For exercise
- ☐ To shop or go out to eat
- ☐ To visit a doctor or other appointment
- ☐ To visit friends or family
- ☐ Other

What do you like about riding your bike on Bloomfield Ave.?

Do you ever feel unsafe biking on Bloomfield Ave.?

- ○ Yes
- ○ No

Where do you feel unsafe bicylcing? (Be as specific as possible.)

Why do you feel unsafe bicycling along Bloomfield Ave.? (*Check all that apply.*)

- [ ] Number of cars and trucks on the roads
- [ ] Speed of cars and trucks on the roads
- [ ] Unsafe drivers on the roads
- [ ] Crossing Bloomfield Ave is too difficult
- [ ] Drug dealers and users
- [ ] Physical assault
- [ ] Sexual assault
- [ ] Loitering, leering or catcalling
- [ ] Abandoned buildings, vacant lots
- [ ] Too much exhaust fumes from motor vehicles and trucks
- [ ] Inadequate street lighting
- [ ] Sidewalks not wide enough
- [ ] Road surface in poor shape (potholes, debris, etc.)
- [ ] No bicycle facilities (bike lanes, separated path, etc.)
- [ ] Other

Please indicate the one factor that is most important in determining your feelings of safety.

- ( ) Number of cars and trucks on the roads
- ( ) Speed of cars and trucks on the roads
- ( ) Unsafe drivers on the roads
- ( ) Crossing Bloomfield Ave is too difficult
- ( ) Drug dealers and users
- ( ) Physical assault
- ( ) Sexual assault
- ( ) Loitering, leering or catcalling
- ( ) Abandoned buildings, vacant lots
- ( ) Too much exhaust fumes from motor vehicles and trucks
- ( ) Inadequate street lighting
- ( ) Sidewalks not wide enough
- ( ) Road surface in poor shape (potholes, debris, etc.)
- ( ) No bicycle facilities (bike lanes, separated path, etc.)
- ( ) Other

Do you bike on other roads to get to Bloomfield Ave.?

- ( ) Yes
- ( ) No

Do you park your bike on Bloomfield Ave.?

- ◯ Yes
- ◯ No

Are there enough secure bicycle parking spots along Bloomfield Ave.?

- ◯ Yes
- ◯ No
- ◯ I don't know.

If you have school age children, do they bike along Bloomfield Ave.?

- ◯ Often
- ◯ Sometimes
- ◯ Never

In your opinion, is it safe for a 6th grader (ages 11-12) to bike during the daytime along Bloomfield Ave. without an adult?

- ◯ Yes, on both street and sidewalk
- ◯ Yes, only on the street
- ◯ Yes, only on the sidewalk
- ◯ No
- ◯ I don't know

Why are you uncomfortable with children biking along Bloomfield Ave.? (*Check all that apply.*)

- ☐ Number of cars and trucks on the roads
- ☐ Speed of cars and trucks on the roads
- ☐ Unsafe drivers on the roads
- ☐ Crossing Bloomfield Ave is too difficult
- ☐ Drug dealers and users
- ☐ Physical assault
- ☐ Sexual assault
- ☐ Loitering, leering or catcalling
- ☐ Abandoned buildings, vacant lots
- ☐ Too much exhaust fumes from motor vehicles and trucks
- ☐ Inadequate street lighting
- ☐ Sidewalks not wide enough
- ☐ Road surface is not in good shape (potholes, debris, etc.)
- ☐ No bicycle facilities (bike lanes, separated path, etc.)
- ☐ Other

What changes would you like to see to make it safer to bike along Bloomfield Ave.?

- [ ] More street lighting
- [ ] Better enforcement of traffic laws (such as speeding, aggressive driving, etc.)
- [ ] More policing to deal with crime
- [ ] Wider sidewalks
- [ ] Better maintenance of crosswalks and sidewalks
- [ ] Traffic signals that recognize bicyclists to trigger signal system
- [ ] Dedicated bicycle lanes (striping on road)
- [ ] Protected bicycle lanes (bike lane between parking and sidewalk
- [ ] Sharrows (stenciling on road which indicates that the lane is shared with cyclists)
- [ ] More crossing guards for school age children
- [ ] More bicycle parking
- [ ] Fewer vehicle travel lanes
- [ ] No bicycles should be permitted along Bloomfield Ave.
- [ ] Dedicated bicycle lanes or striping on parallel roads
- [ ] Other

If these changes were made, do you think you would bike more often on Bloomfield Ave.?

- ( ) Yes
- ( ) No
- ( ) Not sure

How many more bike trips along Bloomfield Avenue do you think you might take each month if it were easier and safer to bike?

Tell us about any other concerns you have about biking along Bloomfield Ave.

If respondent selcts "No" to the question "Do you ever bicycle along Bloomfield Avenue?"

Why not?

- ○ I don't ride a bicycle.
- ○ Other (Please list.)

What changes would you like to see to make it safer to bike along Bloomfield Ave.?

- ☐ More street lighting
- ☐ Better enforcement of traffic laws (such as speeding, aggressive driving, etc.)
- ☐ More policing to deal with crime
- ☐ Wider sidewalks
- ☐ Better maintenance of crosswalks and sidewalks
- ☐ Traffic signals that recognize bicyclists to trigger signal system
- ☐ Dedicated bicycle lanes (striping on road)
- ☐ Protected bicycle lanes (bike lane between parking and sidewalk
- ☐ Sharrows (stenciling on road which indicates that the lane is shared with cyclists)
- ☐ More crossing guards for school age children
- ☐ More bicycle parking
- ☐ Fewer vehicle travel lanes
- ☐ No bicycles should be permitted along Bloomfield Ave.
- ☐ Dedicated bicycle lanes or striping on parallel roads
- ☐ Other

If these changes were made, do you think you would bike more often on Bloomfield Ave.?

- ○ Yes
- ○ No
- ○ Not sure

How many more bike trips along Bloomfield Avenue do you think you might take each month if it were easier and safer to bike?

Tell us about any other concerns you have about biking along Bloomfield Ave.

Section D

Section D: Tell us about your public transportation habits.

Do you access public transportation along Bloomfield Ave.?

- ○ Yes
- ○ No

If respondent selcts "Yes" to the question "Do you access public transportation along Bloomfield Avenue?"

How often do you use the following types of public transportation on Bloomfield Ave.?

	Never	Less than once per month	Once per month	2-3 times per month	Once per week	2-3 times per week	Almost Daily
NJ TRANSIT bus	○	○	○	○	○	○	○
Private bus	○	○	○	○	○	○	○
Senior shuttle	○	○	○	○	○	○	○
Commuter shuttle or jitney	○	○	○	○	○	○	○
Nearby NJ TRANSIT trains	○	○	○	○	○	○	○

Tell us about any concerns you have about public transportation along Bloomfield Ave., including bus and/or shuttle stops.

If respondent selcts "No" to the question "Do you access public transportation along Bloomfield Avenue?"

Why not?

- ○ I don't use or rarely use public transportation.
- ○ I access public transportation at other locations because it 's more convenient for me.
- ○ I access public transportation at other locations to avoid the congestion and conditions on Bloomfield Ave.
- ○ Other

Section E

Section E: Please tell us about your health. (Remember that the survey is anonymous.)

In general, my health is:

- ○ Excellent
- ○ Very good
- ○ Good
- ○ Fair
- ○ Poor

I have a mobility constraint that impacts my ability to walk or bike:

- ○ Yes
- ○ No

Has your doctor advised you to increase your physical activity?

- ○ Yes
- ○ No

Have you EVER been told by a doctor or other health professional that you had: (please check those that apply)

- ☐ A heart condition
- ☐ Diabetes
- ☐ Asthma or other respiratory illness
- ☐ Allergies to pollen, ragweed, or grasses
- ☐ High blood pressure
- ☐ Obesity
- ☐ None of the above
- ☐ Not Applicable

During the past month, other than your regular job, did you participate in any physical activities or exercise for 30 minutes or more, such as running, calisthenics, sports, or walking for exercise?

- ○ Yes
- ○ No

If yes, how many times did you take part in this activity for 30 minutes or more during the past month?

- ○ Once
- ○ Twice
- ○ 3-4 Times
- ○ More than 4 times

Section F

Section F: Please tell us about yourself.

What town do you live in?

- ○ Bloomfield
- ○ Glen Ridge
- ○ Montclair
- ○ Verona
- ○ Other Essex County
- ○ Other Outside Essex County

Do you work on or very near to Bloomfield Ave.?

- ○ Yes
- ○ No

How long have you lived in your current neighborhood?

- ○ Less than a year
- ○ 1-3 years
- ○ 4-10 years
- ○ 11-20 years
- ○ More than 20 years

What is your age as of today?

- ○ Under 25
- ○ 26-35
- ○ 36-55
- ○ 56-70
- ○ Over 70

Are you male or female?

- ○ Male
- ○ Female

What is the highest level of education you have completed?

- ○ Less than high school graduate
- ○ High school graduate (or GED)
- ○ Some college (or technical vocational school/professional business school)
- ○ Two-year college degree (AA: Associate in Arts)
- ○ Four-year college degree (BA or BS: Bachelor of Arts/ Science degree)
- ○ Graduate work, but no advanced degree
- ○ Graduate degree (Masters, PhD., Lawyer, Medical Doctor)

Which ONE of these descriptions of race and ethnic backgrounds most applies to you?

- ○ White Hispanic
- ○ White not Hispanic
- ○ Black Hispanic
- ○ Black not Hispanic
- ○ Asian
- ○ Native American
- ○ Other

What is your total annual household income?

- ○ Less than $25,000
- ○ $25,000 to $49,999
- ○ $50,000 to $99,000
- ○ $100,000 to $149,999
- ○ $150,000 or more

In the future, how would you like to get information and updates about plans to improve the Bloomfield Ave. Corridor? (*Check all that apply.*)

- ☐ Facebook
- ☐ Twitter
- ☐ Public notices (newspaper, newsletter, etc.)
- ☐ Town website
- ☐ Word of mouth
- ☐ Signage
- ☐ Other

ENDNOTES

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