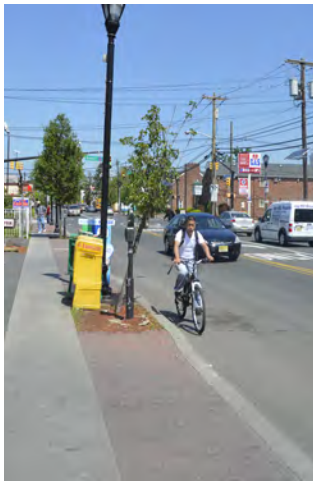
Morris Avenue Complete Streets Concept Plan

City of Elizabeth, New Jersey

Prepared by the Alan M. Voorhees Transportation Center



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About

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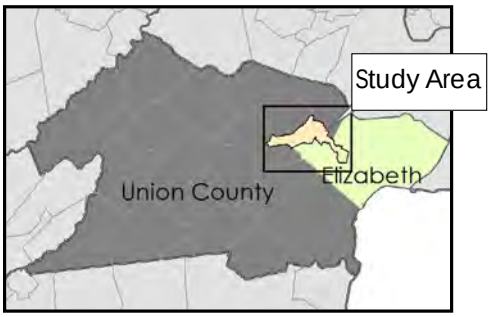
Executive Summary

The objectives of this report are to understand the Morris Avenue community's transportation needs and to provide the City of Elizabeth with a Complete Streets Concept Plan that reflects these needs, putting into practice the City's recently adopted Complete Streets resolution. Morris Avenue is a heavily used commercial corridor with direct access to the Elizabeth Midtown Train Station, but lacks some Complete Streets elements that would help improve safety and accessibility for road users of all ages – including pedestrians, bicyclists, and bus passengers, and freight operators.

Figure ES1: Location of the study area.



Source: U.S. Census 2010

Key findings of this report show that residents are generally supportive of Complete Streets improvements, especially of pedestrian improvements such as wider sidewalks, more trees, bulb-outs, and greater traffic enforcement (i.e., of speeding). However, residents, especially business owners, do not want on-street parking removed to accommodate these facilities. Future street design changes will therefore need to balance on-street parking with other road uses. Additionally, travel lane widths are wider than their use necessitate; this finding is reflected in recommendations for the narrowing of travel lanes that follow. Using these and other findings, a Complete Streets Concept Plan was created that reflects the needs of the Morris Avenue community.

The recommendations provided in the report would improve safety for all road users, especially the most vulnerable ones, such as pedestrians and bicyclists, bus passengers, the elderly, young children, and persons with disabilities. The importance of improving street conditions for these populations is supported by demographic data. Residents in the study area are poorer than those in Union County as a whole, with a median income of $45,463 compared to $75,235 in the county, suggesting that they rely more on non-automobile forms of transportation. Additionally, nearly half of the residents (48%) spend more than 30 percent of their income on housing and so meet the federal definition of being "cost burdened" – leaving them less money with which to buy a car. The lack of access to automobiles is reflected in residents' commuting patterns. Twenty-two percent do not have a vehicle available for commuting purposes, which is about twice that of Union County (12%). Many workers, therefore, commute by foot and public transportation: five percent and eleven percent respectively. With its multiple bus stops and direct access to the Elizabeth Midtown Train Station, adding Complete Streets improvements to Morris Avenue's would benefit these commuters.

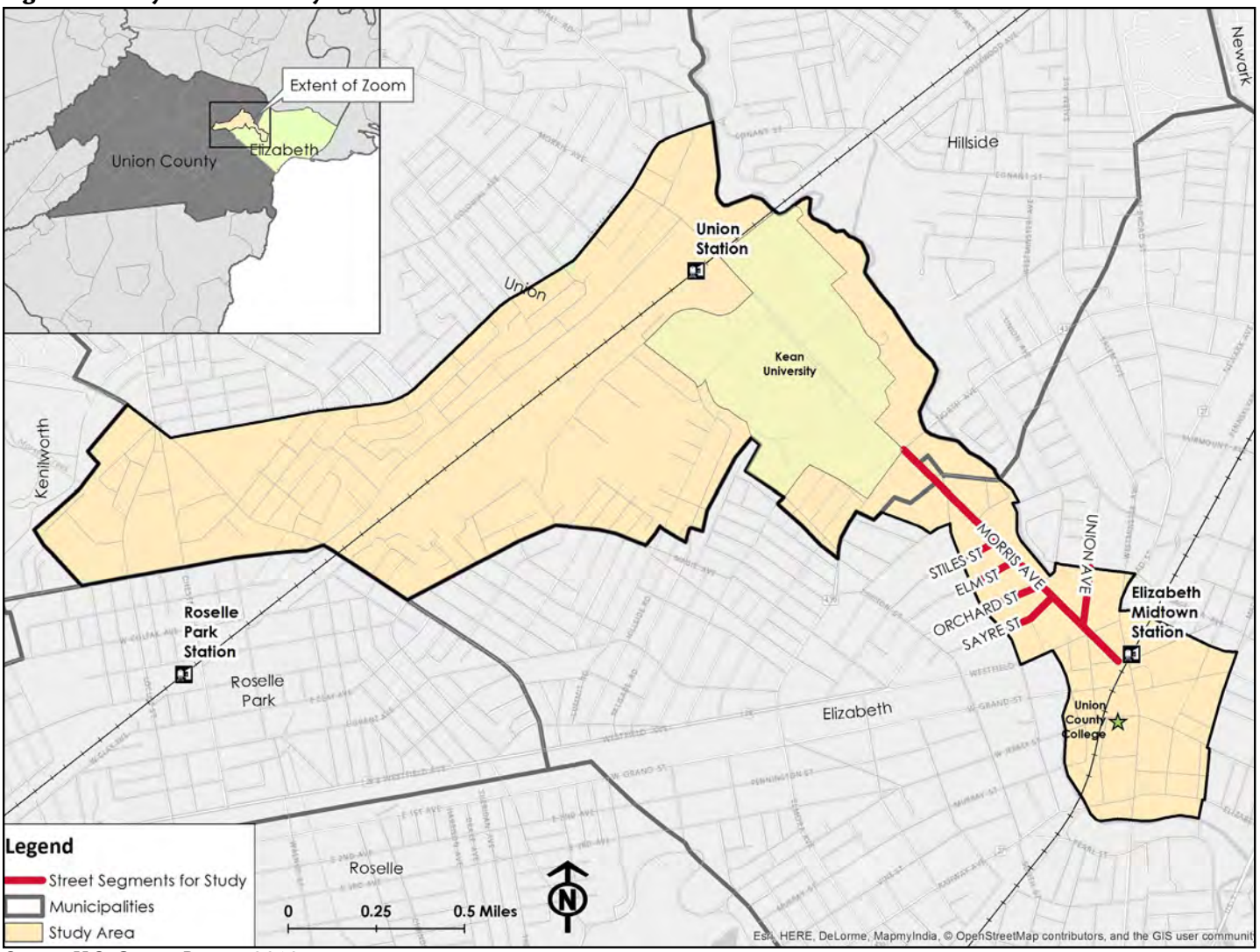
Working closely with the City of Elizabeth and the North Jersey Transportation Planning Authority (NJTPA), the project team at the Alan M. Voorhees Transportation Center developed multiple data collection and outreach methods. Community outreach events and stakeholder workshops were held to gather input from community members. Surveys were distributed to gather views from pedestrian and business owners about possible Complete Streets improvements. Given the large Spanish-speaking community, surveys were translated into Spanish and a Spanish-speaking project team member was present at outreach events. Finally, a walkability audit was completed to examine the roadway conditions of the study area.

Three design alternatives were then developed. Design Alternative #1 focuses on enforcing traffic laws, maintaining infrastructure, and beautifying the streetscape with elements such as street trees and pedestrian benches. Design Alternative #2 includes all changes in Design Alternative #1 and narrows travel lanes by adding bicycle lanes and shared lanes markers. Finally, Design Alternative #3 includes all changes in Design Alternative #1 and narrows travel lanes by widening sidewalks. It is recommended that Design Alternative #1 be implemented regardless of other changes made to the corridor. Funding for this project came from a TOGETHER North Jersey Local Government Capacity Grant, a program supported by the U.S. Department of Housing and Urban Development's Sustainable Communities Regional Planning Grant Program.

Introduction

This report presents a Complete Streets Concept Plan for a portion of Morris Avenue within the City of Elizabeth. The study corridor includes Morris Avenue from North Avenue to Julian Place, which is also from Elizabeth Midtown Train Station to Kean University, and five connecting side streets: Union Avenue, Sayre Street, Orchard Street, Elm Street, and Stiles Street (Figure 1). The purpose of the Morris Avenue Complete Streets Concept Plan is two-fold: to provide the City of Elizabeth with information about the character and the travel needs and desires of the Morris Avenue corridor community, and to develop a series of design alternatives for Complete Streets improvements that reflect these conditions. This report is informed by data collection on the demographics and travel behavior of the study corridor, as well as observations gathered from a walkability audit and input gathered from community outreach events and stakeholder meetings.

Figure 1: Study area and study corridor.



Source: U.S. Census Bureau 2010

Following the recent adoption of a Complete Streets resolution in March 2014, the City of Elizabeth in Union County, New Jersey, considered opportunities within the city to implement the policy. Morris Avenue, an important commercial corridor connecting the Elizabeth Midtown Train Station to Kean University in Union Township, was identified as a location that could benefit from the addition of Complete Streets elements due to the demand for and usage of multiple transportation modes, including buses, trucks, automobiles, pedestrians, and bicycles.

To that end, the Alan M. Voorhees Transportation Center (VTC) at Rutgers University, in cooperation with the North Jersey Transportation Planning Authority (NJTPA), provided technical assistance to the City of Elizabeth to identify strategies to make changes to the street that would improve safety and accessibility for all transportation modes, improve the quality of life for residents, and attract customers to local businesses. The Morris Avenue Complete Streets Concept Plan is intended to guide the City of Elizabeth in the process of translating a Complete Streets policy into an actionable plan for the Morris Avenue Corridor. A summary of the Scope of Work that the project team followed is outlined below.

During the data gathering process and outreach, the project team focused on engaging traditionally underrepresented populations within the study corridor, a predominantly Spanish-speaking community. Throughout the project efforts were made to include residents who did not speak English as their primary language. This was accomplished by providing Spanish language surveys and a Spanish-speaking project team member during community outreach events.

The Morris Avenue Complete Streets Concept Plan begins by introducing the concept of Complete Streets – what it is, the benefits, and specific design elements that could be used to achieve a Complete Street. This is followed by a history of the study corridor and related studies that informed the development of this project. The next section describes the socio-economic character of the study area – which differs from the study corridor in that it encompasses the three Census Tracts that contain the streets involved in this study, whereas the study corridor refers to only the streets under study in this project (Morris Avenue, Union Street, Sayre Street, Stiles Street, Orchard Street, and Elm Street). That discussion provides the context necessary to understand who is using Morris Avenue and the surrounding streets, where they are going, and what issues they might encounter. The study then presents three design alternatives with recommendations for ways to improve the roads within the study corridor, and make them Complete Streets. The final sections provide a summary of available local, state, and federal funding sources that the City of Elizabeth could pursue when making Complete Streets improvements, as well as strategies for next steps in the planning and implementation process of Complete Streets.

Defining Complete Streets

What is a "Complete Street"?

A Complete Street is a street that is built for safe use by people using all modes of transportation, such as pedestrians, bicyclists, freight operators, motorists (including seniors), and public transit riders, inclusive of people of all ages and physical abilities.[1,2,3,4] Complete Streets should be attractive and convenient, suiting the community character and neighborhoods in which they are located.[5] They should also connect to the larger transportation network, such as rail and bus systems, bicycle routes, and local highways.[6]

The concept of Complete Streets must be applied contextually – there is no universal set of design standards.[7] Even within a single municipality, Complete Streets will vary significantly from street to street in terms of what specific elements are included. Each community must decide how a Complete Street fits with the character of the neighborhood and the needs of the residents. For example, streets with schools may require lower speed limits, more crosswalks, narrower travel lanes, and wider sidewalks to increase students' safety. Streets with many bus stops may need benches, shelters, and enhanced lighting for transit passengers' comfort and safety. Regardless of which elements are included, all Complete Streets must be safe for all of the users.

Many studies have been done in the United States and around the world that demonstrate Complete Streets can improve the safety of the most vulnerable road users, especially pedestrians and bicyclists. Features that

slow down traffic, such as raised medians, narrowed lanes, lower speed limits, bulb-outs, and speed humps decrease automobile-pedestrian crashes. Reducing automobile speeds by even 10 mph greatly decreases pedestrian fatalities; 80 percent of pedestrians will die when hit by a car going 40 mph, 40 percent at 30 mph – and just five percent at 20 mph.[8] Whether driving, taking the bus, train, or taxi, at some point during trips all travelers become pedestrians, when waiting for the bus or crossing the street to the car. Creating a safe street environment is perhaps the most important benefit of Complete Streets.

History of Complete Streets in the United States

Barbara McCann, author of the 2003 American Planning Association report Complete Streets: Best Policy and Implementation Practices, coined the term "Complete Streets" to replace the phrase "routine accommodation." The term embodies the variety of different organizations involved in this new movement, from bicycling advocates to landscape architects.[9] In the past decade, the Complete Streets concept has become well known not only amongst transportation planners and activists but also in common parlance. Cities, counties, and states across the country have implemented Complete Streets policies. New Jersey alone has 112 municipal Complete Streets policies and seven county policies. In some ways, Complete Streets are not new at all, but a result of re-imagining of how communities can design streets to fit their needs.[10]

Benefits of Complete Streets

There are a number of major types of benefits of Complete Streets: improved mobility, safety, social equity, health, quality of life, economic vitality, and environmental health.[11]

Mobility: Complete Streets increase mobility and ability to access jobs, services, and recreation by creating multi-modal transportation options and networks where they may not have previously existed. This is especially important for those who cannot afford or choose not to own a car, and those unable to drive, such as the elderly, those with disabilities, or children and teenagers.

Safety: The safety of all users can be improved with Complete Streets through the use of bicycle lanes, sidewalks, narrowed travel lanes, and speed bumps, for example. These elements help drivers (including seniors), bicyclists, pedestrians, freight operators, and public transit users alike by reducing the speed of traffic. Reductions in automobile speed decrease the severity of all crashes, whether of motorists, bicyclists, pedestrians, freight operators, or public transit passengers. Additionally, elements such as pedestrian-scale lightning can help people using the street feel safer at night. An increase in the number of people on the street may also deter crime.

Social Equity: Transportation costs are a significant portion of an American household's budget, averaging approximately 20 percent nationwide. Those living in denser neighborhoods, however, which typically have better street connectivity and pedestrian, bicycle, and public transit facilities, spend on average just nine percent of their income on transportation.[12] For those who cannot afford or are unable to drive (i.e., those with physical disabilities, the older population, children, and low-income residents), pedestrian, bicycle, and public transit facilities in a dense city can support their travel needs.

Health: Since Complete Streets encourage more active transportation (walking and biking) that involve physical exercise, the health of residents can improve. In addition, if there are fewer cars on the road, congestion, air pollution emissions, and traffic injuries and fatalities also decrease, leading to better health.[13]

Quality of Life: Streets that encourage people to interact with others and to spend time outside can lead to a better quality of life and can increase community involvement and identity.[14]

Economic Vitality: With Complete Streets, people are more likely to walk and linger in places and often

spend more money at local shops and restaurants that they may simply have driven past before, generating significant economic development in the form of increased property values and tax ratables. From a fiscal perspective, incorporating complete streets concepts into the initial street design will spare the expense of future retrofits.[15]

Environmental Health: Complete Streets can also create many positive environmental impacts by reducing automobile use. This can lead to less pollution, improved energy conservation, reduced dependence on non-renewable fuels, and less of a heat-island effect. If included, sustainable design elements, such as bioswales, can also decrease stormwater runoff and flooding.[16,17]

National Trends

One of the most salient national trends contributing to the popularity of Complete Streets is a decrease in car travel in the United States: per capita vehicle miles traveled (VMT) decreased for the ninth consecutive year in 2013 to 9,402 miles per year. Per capita VMT peaked in 2004 at about 10,100, which means it has decreased by nearly seven percent since then.[18] Many people are choosing to live in denser communities and are interested in walking, bicycling, and riding public transit as a way to decrease transportation costs, get more exercise, and increase their access to the recreational, employment, and commercial opportunities that cities offer. In addition, there is a growing concern about obesity in the U.S., as well as an awareness that the built environment influences the frequency and quality of physical activity that people obtain. All of these factors are affecting the popularity of the Complete Streets concept.[19]

Associated Factors

Social and cultural values, community engagement, political realities, and the current planning context must be considered during the Complete Streets planning process.[20] Current use of the roadway and surrounding land uses (current and planned) should also be considered. For example, public transit should be included in the design of a Complete Street, as should the presence of a school or senior center.[21] Lastly, there must also be institutional support from local public agencies and a comprehensive, collaborative effort to collect input from the local residents.[22]

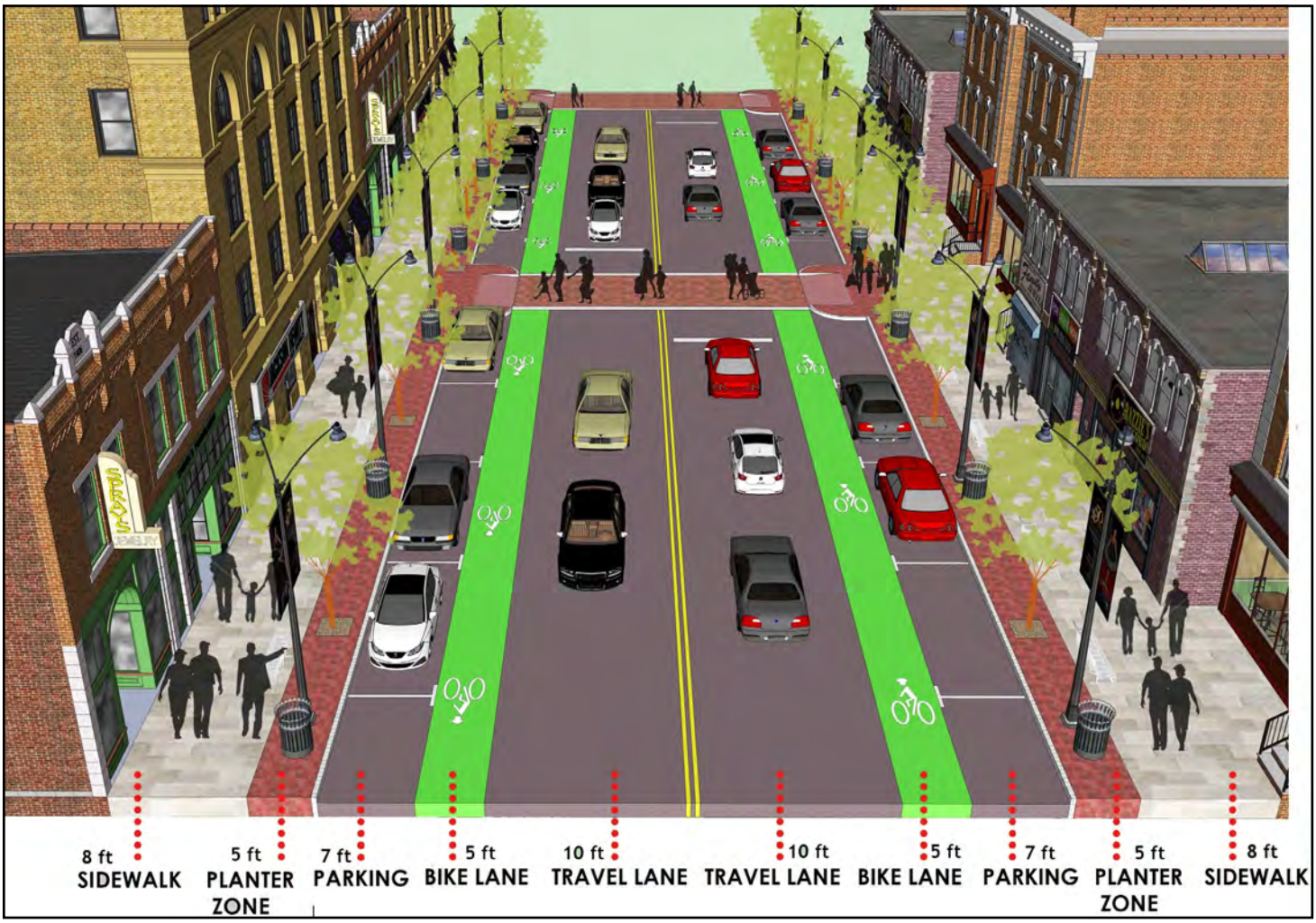
Key Design Elements

Complete Streets design elements address different areas of the streetscape: the pedestrian/sidewalk realm, the cartway/roadway, and the planter zone (Figure 2). The pedestrian/sidewalk realm might include pedestrian-scaled lighting and brick or paver sidewalks. The cartway/roadway zone might feature crosswalks, reduced travel lane widths, pedestrian refuge islands/medians, road diets, bus queue-jumping lanes, dedicated bus lanes, bicycle lanes with buffers, leading pedestrian intervals, pedestrian prioritization in traffic signaling, reduced intersection skew, pedestrian scrambles, advanced yield/stop bars, reduced number of driveways, neighborhood traffic circles, or raised crossings. Finally, the planter zone can include benches, trashcans, bicycle parking, newsstands, sidewalk cafes, and street trees.[23] Which design elements are used should reflect the needs of the neighborhood and the characteristics of the street.

Organizational Support

A wide variety of organizations (even those that might normally be at odds with one another) support Complete Streets, including the American Association of Retired Persons (AARP), American Society of Civil Engineers, and the Centers for Disease Control.[24] Other organizations include the American Automobile Association (AAA), American Society of Landscape Architects, Association of Pedestrian and Bicycle Professionals, Congress for the New Urbanism, Federal Highway Administration, Institute of Transportation

Figure 2: Diagram of a select sample of Complete Streets design elements.



Source: Alan M. Voorhees Transportation Center

Engineers, Project for Public Spaces, National Complete Streets Coalition, Safe Routes to School National Partnership, and Smart Growth America.[25] Despite the disparate goals of each of these organizations, they all recognize the importance of safe, accessible, and attractive streets for everyone.

Background

Elizabeth, and Morris Avenue, has a long history of industrial and commercial success, due in large part to the Midtown Elizabeth Train Station, freight rail network, and its industrial waterfront (see text box on following page). The Midtown Train Station continues to draw people to live, work, play, and set up businesses in the area. Elizabeth also boasts a number of cultural and recreational assets that draw both residents and non-residents (see page 18). The city should capitalize on these many assets by improving the safety and attractiveness of the Morris Avenue corridor. A comfortable and safe street environment would help increase foot traffic not only to businesses but also to recreational and cultural facilities, bringing people to the places that make Morris Avenue – and Elizabeth – unique. Complete Streets, therefore, can be an important tool for helping the Morris Avenue corridor flourish.

History of the Study Corridor[26]

The area that would eventually be known as Elizabeth was originally occupied by the Lenni Lenape Indians. English colonists purchased the land in 1664 from the Lenni Lenape and called their settlement Elizabethtown, the first permanent English community settlement in New Jersey. It was home to the first colonial assembly and the first home of Princeton University. Liberty Hall Museum, built in 1772, sits along Morris Avenue and in 1776 was home to New Jersey's William Livingston, the new state's first governor and a signer of the constitution. Elizabeth was the first capital of New Jersey and is now the Union County seat.

Elizabeth was home to the Singer sewing machine factory. In 1873, the Singer Sewing Machine Manufacturing Company purchased 32 acres of land in Elizabeth and established its first factory in the United States (the company also had a plant in Kilbowie, Clydebank, Scotland). While the company is not credited with inventing the sewing machine, the founder Isaac Singer made crucial improvements to machine designs, patenting 12 ideas in 1857 alone. By the time the Elizabeth factory opened, Singer was selling more sewing machines than all of its competitors combined. The 6,000-strong workforce at the plant in the 1870s was the largest in the world at the time for a single establishment. For the 109 years that the factory operated in Elizabeth, a large proportion of residents were employed there at some point or were directly related to someone who was.

Figure 3: Early photo of the Elizabeth Midtown Station.

Source: http://www.cardcow.com/20464/central-rr-station-elizabeth-new-jersey/

In the 19th and early 20th centuries, Elizabeth was an important railroad hub for passenger and freight service alike, with multiple stops within the city. At its peak, both the Central Railroad of New Jersey (CNJ) and the Pennsylvania Railroad, the precursor of the Northeast Corridor line, served the city. In 1831, the predecessor of CNJ, the Elizabethtown & Somerville Railroad, began service between Elizabeth's Elizabethport station and downtown Elizabeth. Originally pulled by horses, they gave way to steam engines in 1839, and in 1842 the line was extended to Somerville. Elizabethport was and remained for some time CNJ's northeastern terminus; from the station the CNJ lines split, with one heading toward downtown Elizabeth and the other to Plainfield and points south. In 1849 the company was purchased by the Somerville & Easton Railroad; the new company was renamed the Central Railroad Company of New Jersey. CNJ expanded throughout the next few decades, purchasing and building lines into southern New Jersey, Pennsylvania, and, briefly, into Delaware and Maryland, increasing passenger access to other locations in the Northeast. By the 1930s, CNJ was a leader in passenger rail travel. In 1929, the line inaugurated what proved to be a forerunner of the coach streamliners of the 1930s and 1940s, a deluxe coach train service called the Blue Comet that connected Jersey City and Atlantic City. Elizabethport was among its stops. It also acquired the Raritan River Railroad between Perth Amboy and New Brunswick in 1929 and the Wharton & Northern Railroad in 1931.

The forerunner to Elizabeth's present-day train service, the Pennsylvania Railroad, had its 19th century roots in Pennsylvania but expanded across the northeastern United States throughout that century. To access the New York City train market, the Pennsylvania Railroad leased properties of several other lines in 1871 in New Jersey. By 1910 the company had completed construction of New York Penn Station, giving its New Jersey passengers direct access to Manhattan instead of the ferries they had been required to take. In 1933, the Pennsylvania Railroad established the precursor of today's Northeast Corridor line to run between Trenton and Manhattan.

In 1894, the Elizabeth Midtown train station, located on Broad Street near Morris Avenue, was completed (Figure 3), serving both the CNJ line and the main line of the Pennsylvania Railroad. For the next half a century industry, Elizabeth's economic engine, was spurred in part by the access to manufacturing resources that the new train station provided. The manufacturing of paper bags and Singer sewing machines dominated the local industrial sector. The Hersh family owned a prominent paper bag business and built the City's tallest building, the art deco Hersh Tower, in 1932.

Post-World War II saw the decline of both the CNJ and Pennsylvania Railroad. In 1957 the latter merged with the New York Central Railroad to create the Penn Central Railroad, but by 1970 it was bankrupt. Its viable lines were transferred in 1976 to Conrail. CNJ encountered a similar fate. Higher taxes, limited freight revenue streams, and reduced passenger ridership led to its collapse. In 1976 Conrail took over CNJ's freight operations and the New Jersey Department of Transportation its passenger lines. Manufacturing was also in decline by then, and Elizabeth's economic fortunes fell with it. The Singer sewing machine company remained Elizabeth's economic backbone until the 1980s when it finally closed its doors. Today, only NJ TRANSIT serves the Elizabeth Midtown Station, using the original Pennsylvania Railroad right-of-way.

Related Studies and Reports

A number of planning and transportation studies in and around Morris Avenue have recently been completed. These studies were used to gather background information about the study corridor, to identify existing opportunities and challenges, and to further understand the needs of the local community. The Morris Avenue Revitalization Study, the Elizabeth Parking and Traffic Circulation Study, and the Elizabeth Midtown Multi-Modal Integration Study were particularly relevant and useful for this effort and are described below.

Morris Avenue Revitalization Study (2010): This study examined Morris Avenue between Kean University and the Elizabeth Midtown train station, which parallels the study area for the Morris Avenue Complete Streets Concept Plan. The study focused on the economic activity and potential of the corridor. The plan focused on the two major economic forces on Morris Avenue: the large Colombian retail area on the southern end and Kean University towards the north. The plan outlined strategies to leverage these two resources, support transit-oriented development, diversify the retail mix, and create lively public spaces. The study found that the corridor needed more pedestrian connectivity, retail diversity, public space and street life, maintenance, housing, shopping, and employment opportunities for students, and organizational capacity between business owners, Kean University, and the City to manage revitalization efforts on Morris Avenue.

Focus group participants expressed concern about their personal safety and crime in the area. Students in particular reported using the Union train station rather than the Elizabeth Midtown train station due to perceived inconvenience.[27] Enhancing the accessibility of the Elizabeth Midtown station may help draw those who currently use the Union station.

Elizabeth Traffic & Parking Circulation Study (2010): This report looked at parking and traffic conditions in most of downtown Elizabeth and areas immediately adjacent to the Elizabeth Midtown train station. The report concluded that 30 percent of all cars were parked at expired meters, reducing short-term parking supply and revenue; long-term parking lots were underutilized; and greater meter enforcement would help rebalance the short-term and long-term parking loads. These findings suggest that parking problems raised by businesses during the outreach portion of the present study may be mitigated through greater enforcement of parking rules rather than the creation of more parking spaces, which could inhibit travel by pedestrians, bicyclists, and public transit users.[28]

Elizabeth Midtown Multi-Modal Integration Study (2011): This study examined the Midtown area surrounding the Elizabeth Midtown train station. Some of the relevant study recommendations included incorporating pedestrian enhancements in all traffic signal plans; new signal and crosswalks at Julian Place (which has since been completed); continued signal upgrades; enforcement of on-street parking regulations to increase short-term parking availability; and continued bus rapid transit system planning in the CNJ right-of-way (see above).[29]

Neighborhood Overview

Study Area and Data Sources

The project team defined the study corridor as Morris Avenue (from North Avenue to Julian Place) and five connecting side streets (Stiles Street, Elm Street, Orchard Street, and Sayre Street from Morris Avenue to Cherry Street to the west, and Union Avenue from Morris Avenue to Prince Street to the east) (Figure 1). The study corridor includes the five side streets in order to capture conditions of nearby residential neighborhoods since those areas affect the quality of the Morris Avenue streetscape.

Background data on the Morris Avenue corridor was gathered from the 2010 Decennial Census, the 2008-2012 American Community Survey, Plan4Safety (a New Jersey traffic crash database), the Elizabeth Historical Society, the Elizabeth Police Department Crime Analysis Unit, and previously published reports. The smallest unit of analysis available was used wherever possible (e.g. information at the Census block level); if data were not available then Census block group level data was used, and so on. To maintain comparability across the data, the study area boundary regardless of the geographic level of analysis are the three Census tracts that encompass the study corridor (tracts 335, 318.02, and 399 – see Figure 4).

Social and Economic Characteristics

Population

The population of the study area, with 13,353 residents, is about two percent of Union County[30] (Table 1). Population density is higher, with 14,191 people per square mile compared with 10,205 for Union County as a whole.[31]

Table 1: Population within the study area and Union County.

	Study Area	Union County
Total Population	13,353	536,499
Population Density	14,191	10,205

Source: U.S. Census Bureau (2010 Census, Table P1); Social Explorer 2010

Race & Ethnicity

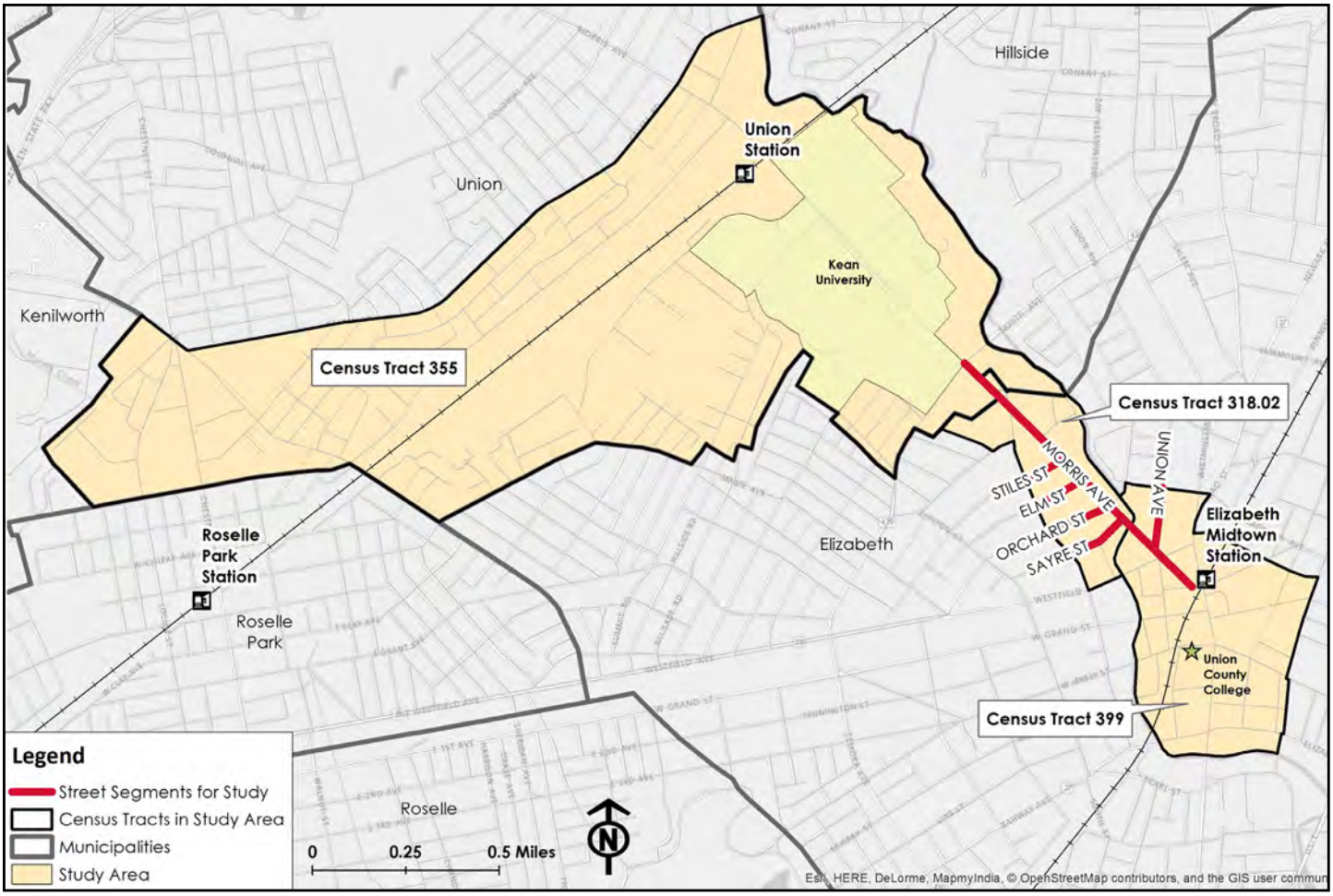
The study area is racially and ethnically diverse, slightly more so than Union County as a whole (Table 2). Three racial and ethnic groups compose the majority of the total population: White – Hispanic (20%), Black – Non-Hispanic (21%), and White – Non-Hispanic (38%). The study area has slightly more residents who are of Hispanic/Latino Origin descent (32%), compared to Union County (27%).[32]

Table 2: Race and ethnicity in the study area and Union County.

	Study Area	Union County
White - Hispanic	20%	16%
Black - Hispanic	2%	1%
Some Other Race - Hispanic	9%	9%
Two or More Races - Hispanic	2%	2%
Total Hispanic	32%	27%
White - Not Hispanic	38%	45%
Black - Not Hispanic	21%	21%
Asian - Not Hispanic	6%	5%
Some Other Race - Not Hispanic	1%	1%
Two or More Races - Not Hispanic	1%	1%

Source: U.S. Census Bureau (2010 Census, Table P5)

Figure 4: Census tracts 355, 318.02, and 399 that comprise the study area.



Source: U.S. Census Bureau 2010

Age

Residents in the study area are generally young (Table 3). The largest age group is those 20-29, with 21 percent, followed by 40-49 (15%) and 10-19 (14%). There are fewer residents who are older than 60 compared with Union County as a whole (16% vs. 18%). The high population of young people may be explained by the presence of two higher education institutions nearby – Kean University and Union County College – as well as to an influx of immigrants. Union County has a more balanced age distribution, and does not exhibit the population peak of college-aged people.[33]

Table 3: Age distribution in the study area and Union County.

	Study Area	Union County
Under 10 Years	10%	13%
10 - 19 Years	14%	14%
20 - 29 Years	22%	12%
30 - 39 Years	13%	14%
40 - 49 Years	15%	16%
50 - 59 Years	12%	14%
60 - 69 Years	8%	9%
70 - 79 Years	3%	5%
80+ Years	6%	4%

Source: U.S. Census Bureau (2010 Census, Table P13)

Employment

The unemployment rate in the study area is lower than for Union County (6% vs. 7%, respectively) (Table 4). Interestingly, there are discrepancies in the percentage of residents that are employed (51% vs. 62%) and those that are not in the labor force (43% vs 31%).[34] This may be due in part to the high numbers of students in the study area, who are categorized as "not in the labor force".

Table 4: Employment in the study area and Union County.

	Study Area	Union County
Percent of Residents 16 Years and Older in Labor Force	51%	62%
Unemployment	6%	7%

Source: U.S. Census Bureau (2010 Census, Table DP03)

Income and Poverty

There are significant income differences for residents between the study area and Union County. Household income in the study area is lower than in Union County (Table 5). This is true of both the median household income ($45,263 vs. $75,235, respectively) and the mean household income ($58,469 vs. $93,348).[35] Additionally, there is greater poverty in the study area, compared to Union County as a whole (11% vs. 8%).[36]

Table 5: Income and poverty in the study area and Union County.

	Study Area	Union County
Median Household Income	$45,263	$75,235
Mean Household Income	$58,469	$93,348
Below Poverty Line, within the last 12 Months	11%	8%

Source: U.S. Census Bureau (2012 ACS 5 Year Estimates, Table DP03)

Educational Attainment

Perhaps reflecting the relative age and income differences, the study area has a greater percentage of residents with a bachelor's degree (20% vs. 18%), but Union County has more than twice the percentage of residents with graduate or professional degrees (4% vs. 11%) (Table 6).[37]

Table 6: Educational attainment in the study area and Union County.

	Study Area	Union County
Less than High School	18%	15%
High School Graduate, GED or Alternative	30%	31%
Some College, No Degree	23%	20%
Associates Degree	5%	6%
Bachelor's Degree	20%	18%
Graduate or Professional Degree	4%	11%

Source: U.S. Census Bureau (2012 ACS 5 Year Estimates, Table B15001)

Housing

Housing Units, Occupancy Rate, Household Size, and Group Quarters

The study area has 4,643 housing units, whereas Union County has 199,489 housing units (Table 7).[38] Occupancy rates for the study area and Union County are the same (94%).[39] Union County's average household size is 2.9 people, higher than the study area, where the average household has 2.5 people.[40]

Table 7: Housing in the study area and Union County.

	Study Area	Union County
Housing Units	4,643	199,489
Housing Occupancy	94%	94%
Average Household Size	2.5	2.9
Median Year Home Built	1962	1956
Median Housing Value (single family homes)	$368,667	$370,130
Median Rent	$851	$1,102
Cost Burden (over 30% of income spent on housing)	48%	48%
Rent-only Cost Burden	50%	53%

Source: U.S. Census Bureau (2012 ACS 5 Year Estimates, Tables B25035, DP04, B25058; 2010 Census, Tables QT-P11; H1)

Median Year of Construction, Housing Value, Median Rent & Housing Affordability

The median year of construction is 1962 for housing units in the study area, compared with 1956 for Union County housing units.[42] Despite the housing stock's age difference, housing units in Union County and the study area have similar housing values ($370,130 vs. $368,667).[43] Median rents, on the other hand, are 23 percent higher in Union County ($1,102) than in the study area ($851).[44] For federal purposes, housing becomes "unaffordable" when a household spends more than 30 percent of its household income on housing costs (rent or mortgage). More households in the study area (48%) paid more than 30 percent of their income on housing than residents of Union County (48%). However, slightly more renters in Union County paid more than 30 percent of their income on housing than renters in the study area (53% vs 50%).[45]

Traditionally Disadvantaged Populations

Using data prepared by TOGETHER North Jersey for the Fair Housing and Equity Assessment, the project team completed an analysis of traditionally disadvantaged populations. The results (Table 8) show that the number of households in poverty in the study area is greater than that of Union County (14% vs. 9%), while nearly six percent of families are in poverty, about the same as Union County. The study area also has a significantly larger minority population (62%), more than half of which is Hispanic. Further, 23 percent of residents over five-years-old speak English less than very well; 67 percent speak Spanish as their first language. There are fewer female-headed households in the study area (7% vs. 8%). The study area also has a large population that does not have access to a personal vehicle for work purposes (21%), almost double that of Union County (12%). It also has more elderly residents (8% vs. 6%) and more residents with a disability (15% vs. 9%). Finally, the study area has more HUD-subsidized housing units per 1,000 residents than Union County (28 vs.13). These data indicate that the study area has a large population of traditionally disadvantaged populations.

Table 8: Traditionally disadvantaged populations in the study area and Union County

Traditionally Disadvantaged Populations Indicator	Study Area	Union County
Population[1]	13,353	536,499
Households[2]	4,082	184,808
Households in Poverty[2]	586	17,264
Percent Households in Poverty	14%	9%
Racially Concentrated Areas in Poverty (RCAPs)[1,2]	0	12
Persons Living in RCAPs	0	54,625
Percent Living in RCAPs	0%	10%
Minority Population[1]	8,289	293,187
Percent Minority	62%	55%

Traditionally Disadvantaged Populations Indicator	Study Area	Union County
Non-Hispanic Minority Population	3,965	146,483
Percent Non-Hispanic Minority	30%	27%
Hispanic Population	4,324	146,704
Percent Hispanic	32%	27%
Families in Poverty with Children[2]	136	7,064
Percent Families in Poverty with Children	6%	6%
Female Head of Household with Children[2]	295	14,378
Percent Female Head of Household with Children	7%	8%
Persons with Limited English Proficiency (5 Years+)[2]	2,635	101,215
Percent Persons with Limited English Proficiency	23%	21%
Carless Households[2]	841	21,371
Percent Carless Households	21%	12%
Elderly Persons (75 Years+)[1]	1,073	33,916
Percent Elderly Persons	8%	6%
Persons with Disability[3]	1,600	48,292
Percent Persons with Disability	15%	9%
HUD Units[4]	372	6,859
Units/1,000 Population	28	13
Public Housing Units	0	2,470
Units/1,000 Population	0	5
Multi-Family Housing Units	302	2,722
Units/1,000 Units	23	5
Low-Income Housing Tax Credit Units	70	1,667
Units/1,000 Population	5	3

(1) U.S. Census Bureau, 2010 Census; (2) U.S. Census Bureau, 2006-2010 American Community Survey; (3) U.S. Census Bureau 2008-2012 American Community Survey; (4) U.S. Department of Housing and Urban Development, A Picture of Subsidized Households, 2012, Using 2010 Census Geography

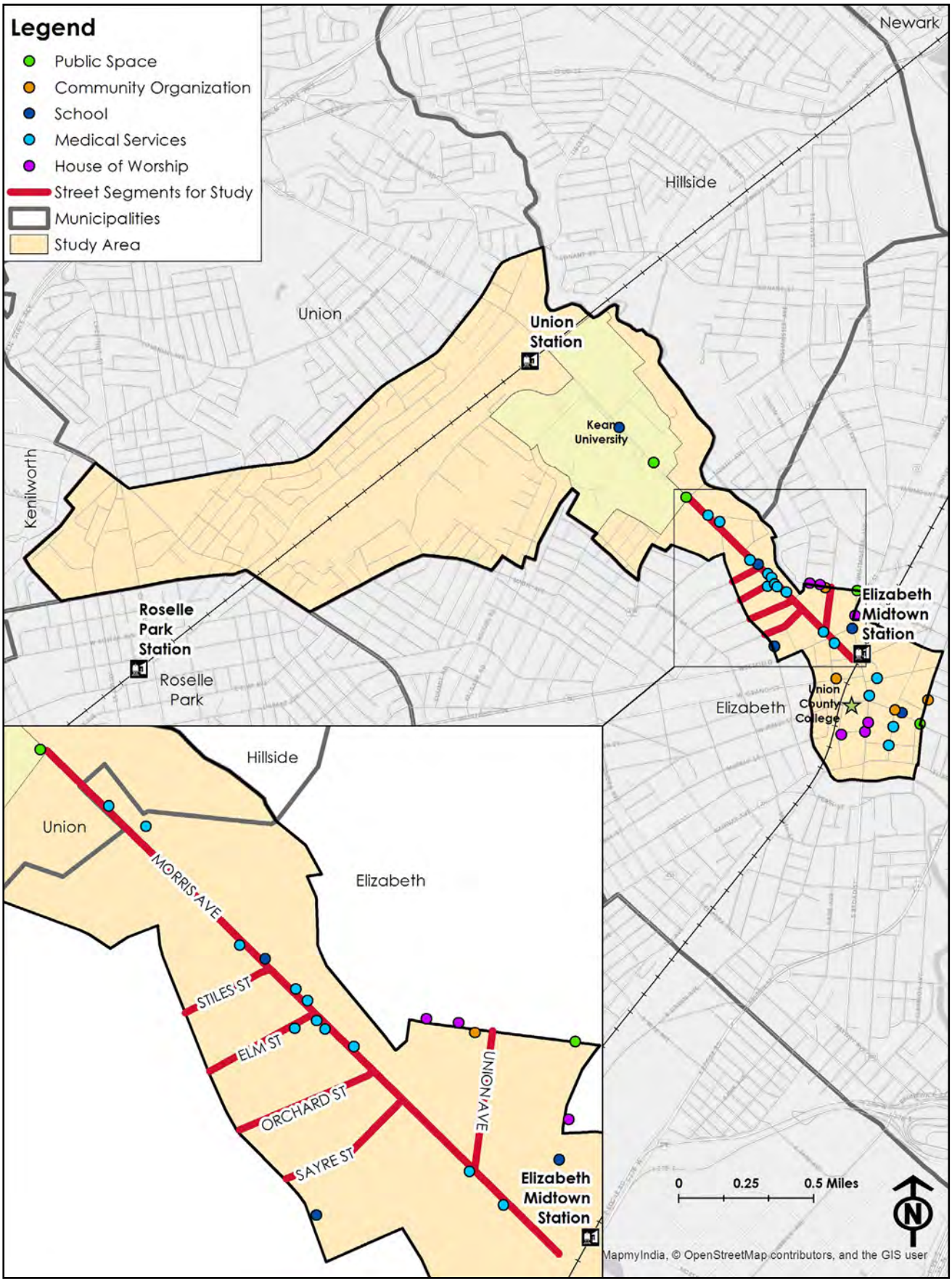
Context and Character

Community Resources and Assets

The study area has a variety of active community assets including schools, churches, community organizations, community spaces, and healthcare facilities (Figure 5). These include large post-secondary educational institutions such as Kean University and Union County College, which are located near the study area. Among K-12 schools, there is one public school (the elementary/middle school Dr. Antonia Pantoja School No. 27), and a handful of private secular and religious schools.

Morris Avenue also benefits from the presence of active non-profit and community organizations, such as the United Way of Greater Union County, Community Access Unlimited, Groundworks Elizabeth, and the Gateway Family YMCA – Elizabeth Branch. These community-based organizations provide the area with a number of human support services, affordable housing, and recreational opportunities. There are also a number of religious institutions that represent a variety of Christian denominations and the Muslim community.

Figure 5: Community assets in and around the study area.



Source: U.S. Census Bureau 2010

The study area has several public spaces, including Military Park, Phil Rizzuto Park, and Scott Park. It is also home to the Liberty Hall Museum, which was the residence of New Jersey's first elected governor and a signer of the constitution, William Livingston. The presence of many healthcare facilities may facilitate the community's access to healthcare providers, while also generating a large number of trips by patients and staff.

Future Planned Development and Projects

Midtown Redevelopment: Elizabeth Metro Center: In February 2013, Faros Properties (in partnership with MAR Development) submitted two design and development proposals for redeveloping two parcels located adjacent to the Elizabeth Midtown Train Station. These parcels, along with others in the Midtown Redevelopment Area will be redeveloped over the next ten years.

The proposal includes a nine-story boutique hotel and 760 apartment units. The proposed buildings will have a perimeter of ground-floor retail, with parking garages below. The developers' plans also feature a variety of community improvements, including a three-block linear park along the Elizabeth River, an elevated linear park with integrated potential bus rapid transit facilities, widened sidewalk, landscaping, and outdoor cafes.

Morris Avenue Streetscape: The City of Elizabeth has approved a four-block streetscape improvement project on Morris Avenue. Construction is anticipated to begin in 2015. The improvements on Morris Avenue will stretch from North Avenue to Orchard Street. The project will install high-visibility ladder-style crosswalks, LED pedestrian crossing signs, advance stop bars, concrete paver sidewalk details, trash receptacles, decorative signposts, and additional street trees with Belgian block pavers. The project also calls for relocating privately-owned elements that encroach on the sidewalk (fences, lighting, gates, vegetation, etc.).

Oakwood Plaza: In 2009, Community Investment Strategies purchased and began rehabilitating Oakwood Plaza, a Section 8 housing development. The first two stages of renovation, Oaks at Westminster and Westminster Heights ,have been completed at a cost of $18 million. Both buildings include apartments and townhouses. Renovations include new roofs, plumbing, common areas, and HVAC. The final phases of renovation are in the planning stage.

Land Use

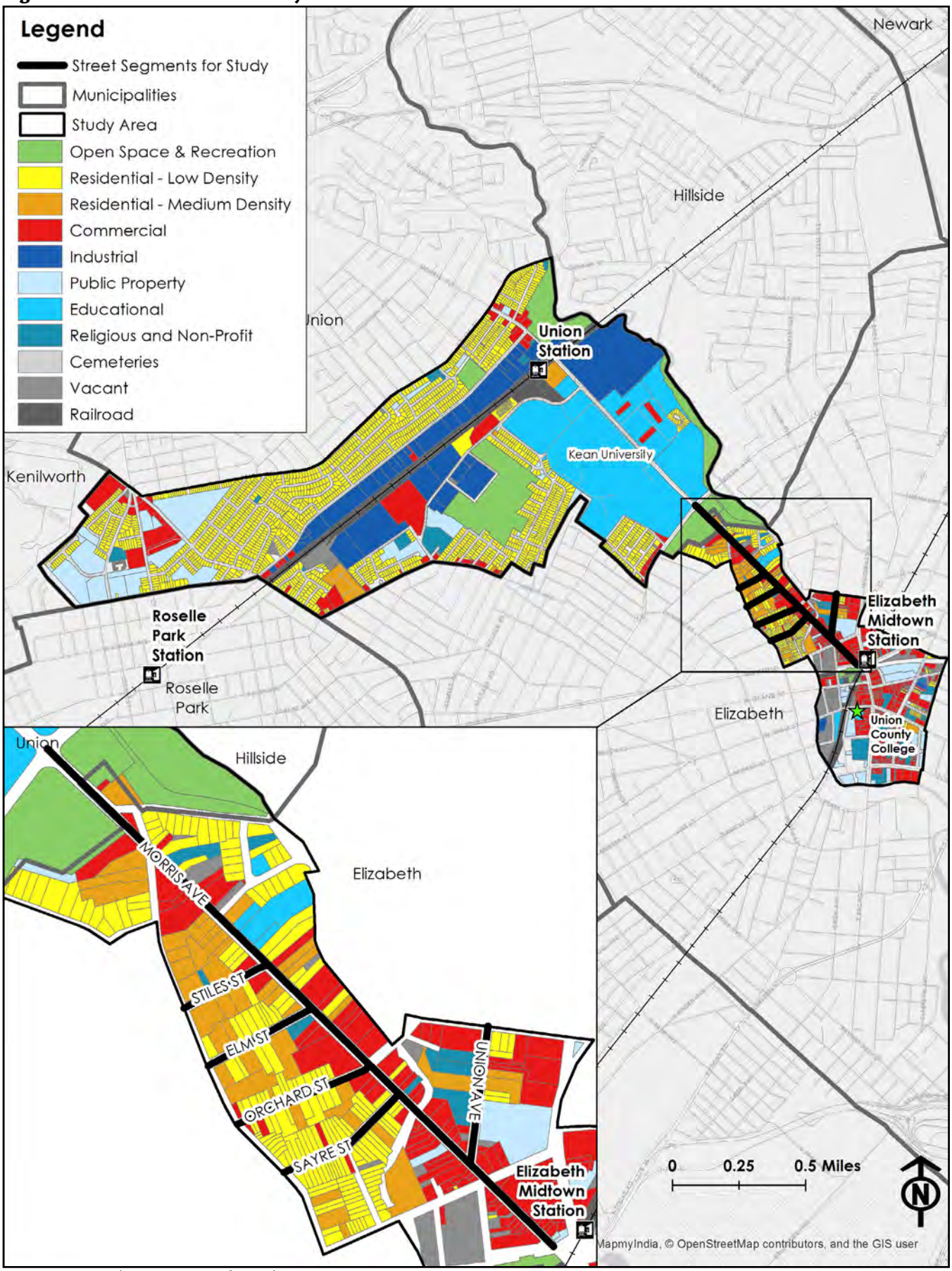
The northern part of the study area contains two major institutions, Kean University and Merck Pharmaceuticals. A section of parks separates Kean University from the middle section of the study area, where there is a mixture of uses including medium density residential housing, and commercial, religious, and educational uses (Figure 6). As Morris Avenue nears the train station in the southern part of the study area, commercial uses are very prevalent.

Crime Characteristics

In 2011, the City reported higher crime rates for every category of crime compared to Union County. In Elizabeth, the overall crime rate was 52 crimes per 1,000 people (11 violent crimes and 41 non-violent crimes). In Union County, the overall crime rate was 29 crimes per 1,000 people.[46]

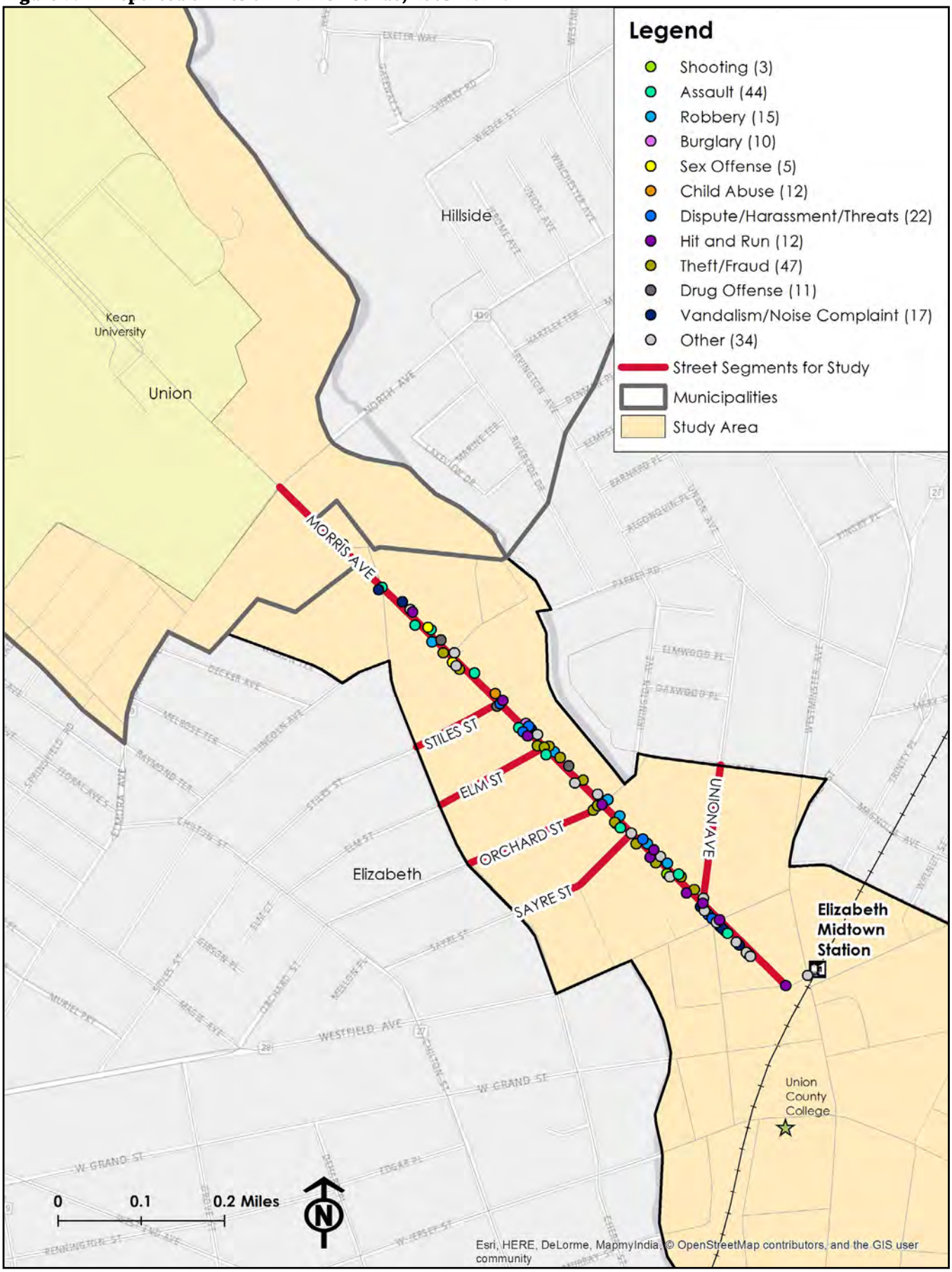
According to the Elizabeth Police Department, there were 232 reported crimes for the year between April 31, 2013 and May 1, 2014 on Morris Avenue from Trotter's Lane to Julian Place (Figure 7). There were additional reported crimes elsewhere in the study area. Most crimes were concentrated on the southern end of Morris Avenue, where the street is commercial and there is more foot traffic. Complete Streets improvements such as pedestrian-scale lighting improve visibility and may address conditions that invite criminal behavior. A high number of pedestrians can also make residents feel less isolated and discourage crime. Less crime increases quality of life and can lead to a virtuous circle wherein more people feel comfortable walking on the streets.

Figure 6: Land use within the study area.



Source: NJGIN (MOD-IV Parcel Data) 2007; U.S. Census Bureau 2010

Figure 7: All reported crimes on Morris Avenue, 2003-2014.



Source: Elizabeth Police Department Crime Analysis Unit 2013-2014; U.S. Census Bureau 2010

Transportation Characteristics

Crash Statistics

The largest number of vehicle-vehicle crashes from 2003 to 2014 occurred on Morris Avenue north of North Avenue and on North Avenue itself (Figure 8). The southern section of the study area had relatively few vehicle-vehicle crashes, but had a significant number (18) of pedestrian-vehicle crashes and bicyclist-vehicle crashes. Most crash locations are at intersections along major streets, with the largest cluster centered on Morris Avenue and Westfield Avenue (10 crashes), followed by Union Street/Prince Street (5 crashes), Morris Avenue/North Avenue (4 crashes), Orchard Street/Cherry Street (3 crashes), and Morris Avenue/Elm Street (3 crashes). Also, there were a number of pedestrian and bicyclist crashes near the Elizabeth Train Station.

Access and Circulation

The study area is accessible by many interstate, state, and local highways. It is located between Interstate Highways 95 and 78; U.S. Routes 1 and 9 and the Garden State Parkway are also close by. Morris Avenue itself is a state highway north of North Avenue where it becomes Union County 82. County Route 439 marks the northern boundary of the study area, and State Route 27 marks the southern boundary.

Public Transit

Six NJ TRANSIT bus routes – 26, 52, 56, 57, 59, and 112 – run through the study area, including several that operate on Morris Avenue itself (Figure 9). There are 82 bus stops in the study area. The routes provide frequent service to the cities of Irvington, Springfield, Newark, Linden, Westfield, Dunellen, Newark Liberty International Airport, and New York City.

Travel Behavior

Commute to Work

A slightly higher percentage of residents in the study area compared to Union County commute to work by driving alone (70% vs. 68%), carpooling (slightly more than 9% vs. slightly less than 9%), using public transit (11% vs. 10%), and walking (5% vs. 4%) (Tables 9 and 10). In Union County, a slightly higher percentage of residents commute to work by other means (7% vs 1%) or work from home (3% vs. 2%). The average travel time to work is shortest in the middle of the study area (25.3 minutes), slightly longer on the northern end (29.7 minutes), and longest in the southern, downtown area (34.1 minutes).[47]

Vehicles Available by Housing Tenure

Residents in the study area have much lower levels of car availability compared to Union County, both overall and particularly for renter-occupied housing (Table 9). In the study area, 22 percent of all households (renter- and owner-occupied) do not have access to a car, in contrast to 12 percent of Union County households that do not. Thirty-two percent of renter-occupied households in the study area have zero cars available, compared to 24 percent of Union County renter-occupied households.[48]

Table 9: Commute characteristics and automobile ownership in the study area and Union County, 2012.[1]

	Study Area	Union County
Commute: Drive Alone	70%	68%
Commute: Public Transit	11%	10%
Commute: Walk	5%	4%
No Vehicles Available (renter- and owner-occupied)	22%	12%
No Vehicles Available (renter-occupied only)	32%	24%

Source: U.S. Census Bureau (ACS 2012 5 Year Estimates, Table DP03)

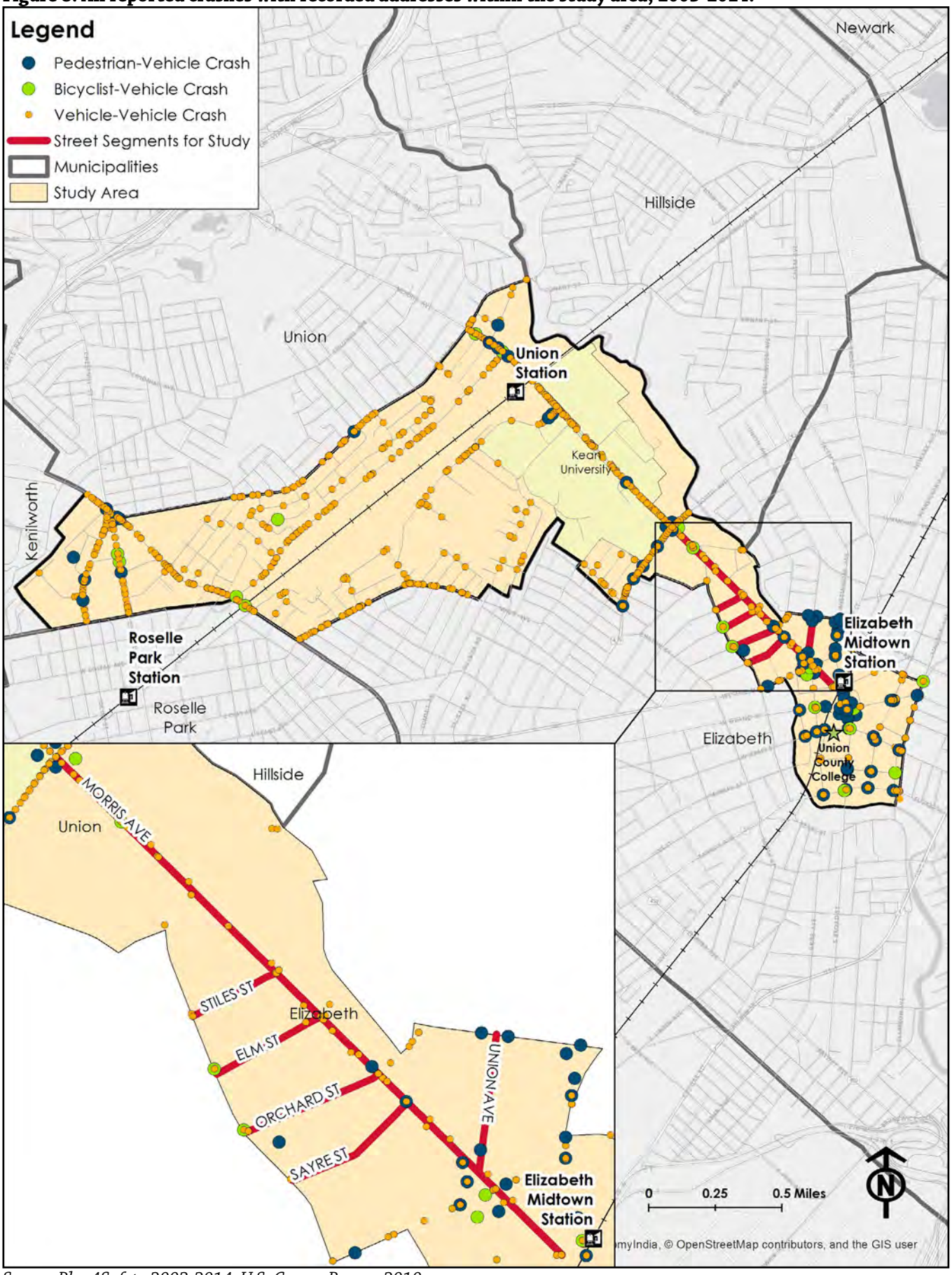
[1] The percentage of commuting modes are a percent of the population that is 16 years or older and who are employed, while the percentage of vehicles available to a household are a percent of households that rent or own their housing. Given the different population universes, the statistics are not entirely comparable (i.e., between available vehicles and driving alone to work).

Table 10: Commute characteristics by Census Tract within the study area, 2012.

	Census Tract 335 (Northern)	Census Tract 318.2 (Central)	Census Tract 399 (Southern)
Transportation Mode			
Drove Alone	60%	61%	75%
Carpooled	20%	11%	6%
Public Transportation	12%	9%	11%
Walked	5%	3%	6%
Mean Travel Time to Work (minutes)	29.7	25.3	31.4

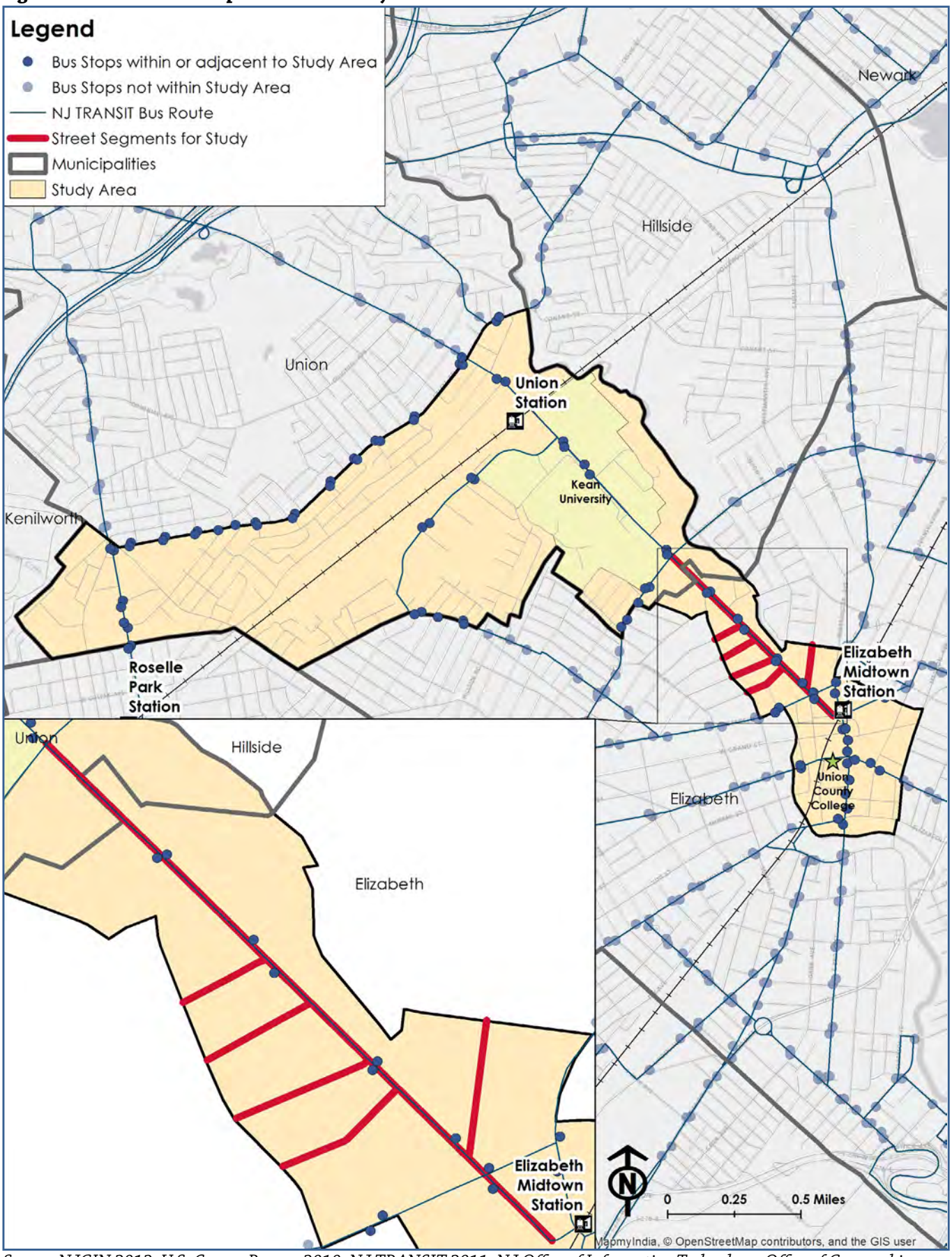
Source: U.S. Census Bureau (ACS 2012 5 Year Estimates, Table DP03)

Figure 8: All reported crashes with recorded addresses within the study area, 2003-2014.



Source: Plan4Safety 2003-2014; U.S. Census Bureau 2010

Figure 9: Public transit stops within the study area.



Source: NJGIN 2012; U.S. Census Bureau 2010; NJ TRANSIT 2011; NJ Office of Information Technology ,Office of Geographic Information Systems 2011

Existing Corridor Conditions and Recommendations

This section of the report describes the current conditions of the study corridor. In addition to the write-up, the project team created AutoCAD drawings that illustrate the conditions along the corridor. Because the design of Morris Avenue is fairly consistent along its length, the drawings were created only for selected locations based on the location's street design.

On June 4th, 2014, between 10:00 am and 12:30 pm, the project team conducted a walkability audit of the study corridor to record current conditions. A second visit took place on July 29. For the purpose of the audit, the study corridor was divided into 14 locations, as follows below (Figure 10). Locations on Morris Avenue were designated by a southeastern intersection and the stretch of Morris Avenue north towards the next intersection to the northwest. Conditions were also recorded for each of the five cross streets.

Methodology

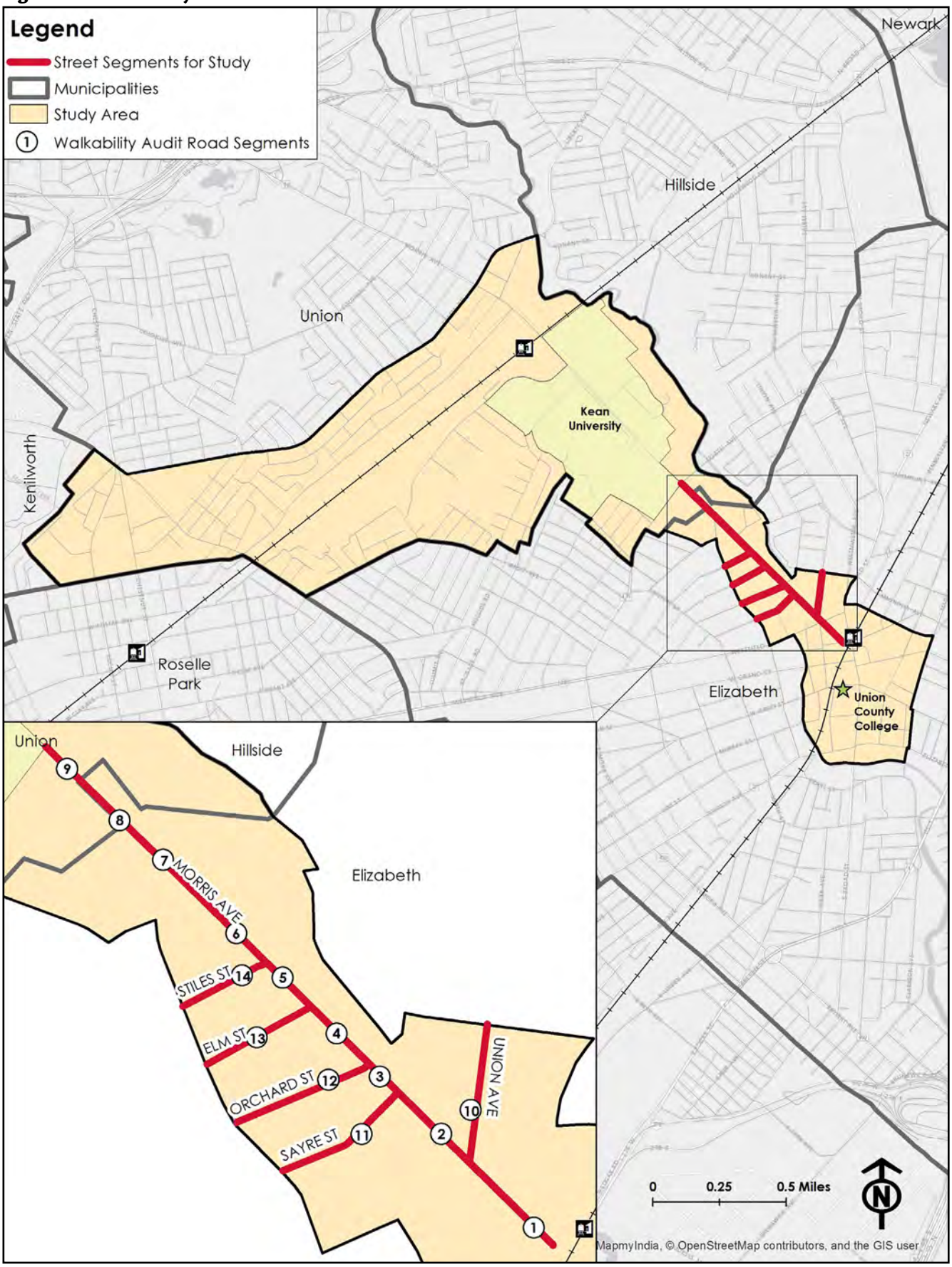
Using a walkability questionnaire published by Walk San Diego as a template,[49] the project team organized its observations in six categories: sidewalks, street crossings, safety, comfort and appeal, driver behavior, and pedestrian behavior (see Appendix F for a copy of the walkability audit). Each category listed approximately ten characteristics; for example, "sidewalks were broken or cracked" and "sidewalks were blocked by poles, signs, plants, vehicles, etc." fell under the sidewalk category. If an observation was present, the adjacent box was checked and a precise location noted if possible. The questionnaire also included space to write in other problems that are not included in the checklist. Pictures were also taken along the study corridor of problem locations and of driver, pedestrian, and bicyclist behavior. Based on the information gathered from the walkability audit, each location was assigned a walkability score and recommendations were developed.

The project team found a number of characteristics that were common throughout the study corridor (Table 11). Neither bicycle lanes nor bicycle parking facilities exist, even though many bicyclists were observed using both the street and the sidewalks. Pedestrian amenities are few: trashcans are present on Morris Avenue only on the first few blocks near the train station, there are no benches, and there are no shelters at bus stops. Trash is ubiquitous throughout the study corridor, especially on Morris Avenue. Lighting overall appears to be adequate, although the street lights were checked during daylight hours. Sidewalk trees are well-placed at the southern end of Morris Avenue, but the northern end would benefit from additional trees.

Key for Figure 10

1. Morris Avenue and Julian Place intersection, and north to Westfield Avenue/Route 27
2. Morris Avenue and Westfield Avenue intersection, and north to Sayre Street
3. Morris Avenue and Sayre Street intersection, and north to Orchard Street
4. Morris Avenue and Orchard Street intersection, and north to Elm Street
5. Morris Avenue and Elm Street intersection, and north to Stiles Street
6. Morris Avenue and Stiles Street intersection, and north to Parker Road
7. Morris Avenue and Parker Road intersection, and north to Cherry Street
8. Morris Avenue and Cherry Street, and north to Trotters Lane
9. Morris Avenue and Trotters Lane intersection, and north to North Avenue/Route 439
10. Union Avenue north to Prince Street
11. Sayre Street west to Cherry Street
12. Orchard Street west to Cherry Street
13. Elm Street west to Cherry Street
14. Stiles Street west to Cherry Street

Figure 10: Walkability audit locations.



Source: U.S. Census Bureau 2010

Table 11: Summary of study corridor observations during walkability audit.

	Type of Observation			
Travel Mode Impacted	**Sidewalks**	**Street Crossings**	**Dangerous Behavior**	**Amenities & Aesthetics**
Drivers	Parking on sidewalks	Failing to yield	Speeding	On-street parking not striped
			Block crosswalks when turning	Faded parking signs
		Potholes present	Talking on cell phones	
			Parking too close to intersections, blocking turning drivers' sight lines	
Pedestrians	Bases of old signposts or light posts pose tripping hazard	Pedestrian signals not present or are broken	Talking on cell phones	Lack of trees (residential streets and NE Morris Avenue)
	Cracked or uneven pavement	Crosswalks not present or faded	Crossing mid-block	Trash on sidewalks
	Too narrow	Truncated domes on diagonal		No benches in commercial areas
	Trees or tree roots blocking or inhibiting travel			Lack of visual neighborhood branding
				Flyers taped to light posts
				Excess business sidewalk signs
Bicyclists	Riding on sidewalks	Crossing street mid-block	Talking on cell phones	No on-street bicycle facilities, markings, or signs
			Riding against traffic	No bicycle racks
Public Transit Passengers	N/A	Crossing at mid-block (bus stops)	N/A	No place for passengers to rest/ wait

The sidewalks on the residential cross streets are in generally poor condition, with many cracks and spaces; while for the most part sidewalks are in good condition on Morris Avenue, there are a few major places where they are broken, which are described below. While there are crosswalks over the cross streets at intersections, crosswalks across Morris Avenue are missing in multiple locations. Pedestrian signals are also inconsistently placed, with only about half of the study corridor's intersections providing such infrastructure. These two inconsistencies may contribute to pedestrians crossing mid-block.

Drivers were frequently observed speeding, not yielding to pedestrians, stopping in crosswalks at intersections, parked too close to an intersection and thereby inhibiting crossing pedestrians' and drivers' ability to see oncoming traffic, and parked partially on the sidewalk when their car overshot their driveway. Additionally, on-street parking is not marked in the study corridor. A summary of the issues and challenges are summarized in Table 11. These observations, and others, are then described in more detail in the rest of the chapter.

Community Outreach

Over four weekdays in August 2014, project team members conducted intercept surveys of pedestrians using Morris Avenue and businesses located on Morris Avenue. (The survey instruments may be seen in the Appendix.) Because Census data indicate that the population within the study corridor is heavily Spanish-speaking, surveys were made available in both English and Spanish. Surveys were distributed along the section of Morris Avenue within the study corridor during morning and evening peak travel times and during lunch time. The survey reflects the respondents' experiences and uses of Morris Avenue, between the Elizabeth Midtown Train Station and North Avenue. Fourteen percent of pedestrians and 58 percent of businesses completed the Spanish language version.

Business Survey Results

Of the 41 completed business surveys, slightly less than half of respondents (46%) said that the current design of Morris Avenue does not balance the needs of all road users. Pedestrians most commonly ranked first (73%) when respondents were asked which road users should receive the highest priority when improvements are made to Morris Avenue (Table 12). Bicyclists had the second most number one rankings (28%), followed by motor vehicles (27%), and buses (20%). However, a majority of respondents (54%) reported that they would not support removing parking spaces to add Complete Streets elements, such as wider sidewalks, as most of their customers drive to their businesses (Figure 11). They did, however say that public transportation is important to their businesses (Figure 12). There was also some support for adding bicycle lanes to replace parking spaces (26%), outdoor seating for businesses (15%), wider sidewalks (23%), and bicycle parking (18%).

Figure 11: Business Owner Survey. Question: How do you think most of your customers arrive at your business?

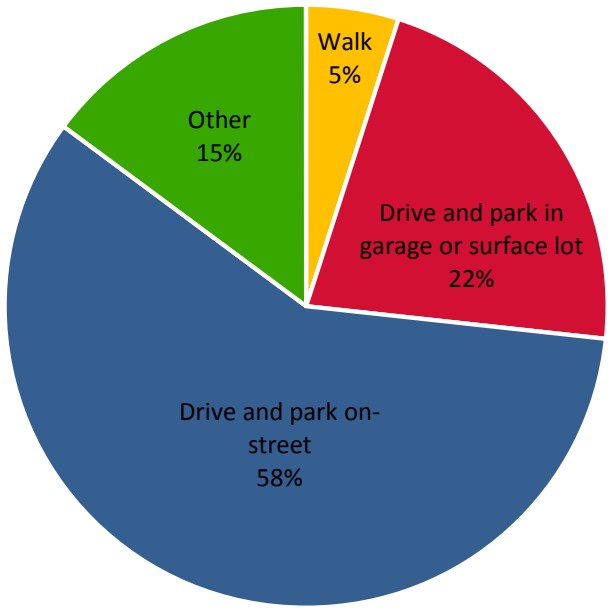


Table 12: Business Owner Survey. Question: Please rank which of the following you think should receive the highest priority when making improvements to Morris Avenue.

Ranking	Bicyclists	Pedestrians	Buses	Motor Vehicles
1	28%	73%	20%	27%
2	14%	9%	16%	31%
3	36%	12%	36%	23%
4	15%	6%	28%	19%

When asked which improvements they would like to see on Morris Avenue overall, respondents were heavily in favor of more police presence (64%) (Table 13). Safety was a frequently-cited issue for respondents; 56 percent said they feel unsafe walking on Morris Avenue. Of those who said they felt unsafe, 57 percent cited fear of physical assault, 30 percent cited fear of sexual assault, 57 percent cited fear of robbery, 26 percent cited loitering, and 44 percent cited drug activity. Fear of personal crime appears to be a significant impediment to a safe experience on Morris Avenue and likely decreases the number of people willing to walk.

Besides an increased police presence, respondents said they would like to see more on street parking (44%), more street lighting (38%), better maintenance and painting of crosswalks (38%), more street furniture (36%), more greenery (31%), and more bicycle racks (31%) (Table 13). In fact, 90 percent said they would support

the addition of public bicycle racks near their business (Figure 13). And although 90 percent said public transportation was very important to businesses (Figure 12), just 17 percent said they wanted bus shelters built (Table 13).

Dangerous motorist behavior was also cited as a problem on Morris Avenue; 21 percent said they would like to see increased enforcement of traffic laws. The most commonly cited dangerous driving behaviors were texting while driving (46%), tailgating (44%), and not yielding to pedestrians (38%).

Table 13: Business Owner Survey. Question: What changes would you like to see on Morris Avenue?

Change	Percentage
More police presence	64%
More on-street parking	44%
More street lighting	38%
Better maintenance and painting of crosswalks	38%
More street furniture, such as benches, trash cans, etc.	36%
More bicycle racks	31%
More greenery (such as trees)	31%
Wider sidewalks	26%
Bike lanes	26%
More time to cross street	26%
More pedestrian crossing signals	23%
Increased enforcement of traffic laws	21%
More bus shelters	18%
Better maintenance of sidewalks	15%
More or improved curb ramps at corners	15%
Less on-street parking	5%
Fewer traffic lanes	5%
Other: More traffic lanes	3%

Figure 12: Business Owner Survey. Question: How important do you think public transportation is to all Morris Avenue businesses?

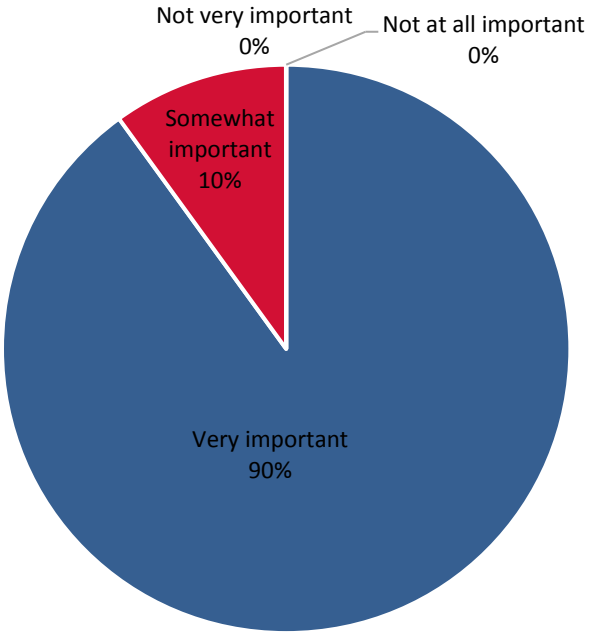
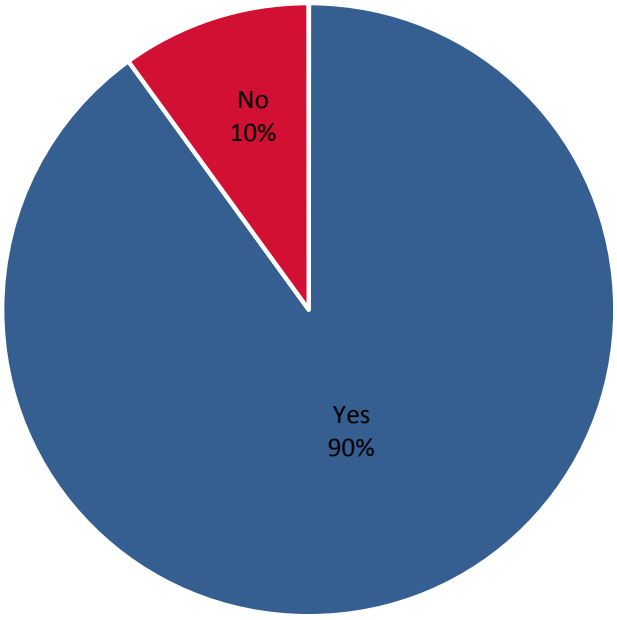


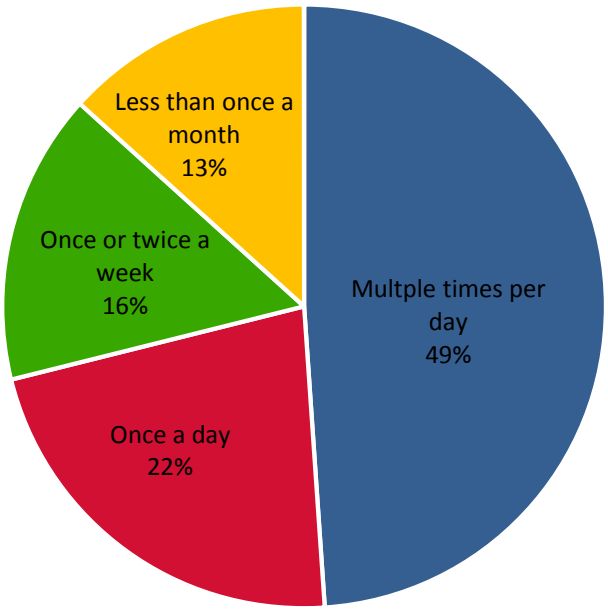
Figure 13: Business Owner Survey. Question: Would you support the addition of public bicycle racks near your business?



Pedestrian Intercept Survey Results

The project team received feedback from 45 pedestrians on Morris Avenue. Of all survey participants, 63 percent stated that they live within walking distance of Morris Avenue, which indicates that they are familiar with the roadway, especially as nearly 50 percent of respondents travel on Morris Avenue multiple times a day (Figure 14). Their given reasons for using Morris Avenue were varied, with commuting, dining, shopping, and recreation all getting the highest response rates. The most frequently cited mode of travel on Morris Avenue was walking (42%), followed by vehicle – as driver (29%) (Figure 15).

Figure 14: Pedestrian Intercept Survey. Question: How frequently do you travel along Morris Avenue?



Approximately half (49%) of respondents stated that the current design of Morris Avenue does not balance the needs of the road's users. As with the business community, when asked which mode should receive the highest priority, pedestrians received the highest amount of number one votes (73%), followed by motor vehicles (32%) (Table 14). It should be noted that this question was not answered by all respondents. Twenty-seven respondents (60%) provided a ranking for bicyclists, 25 (56%) for buses and motor vehicles, and 33 (73%) for pedestrians. The percentages given are of those who responded to the question, not the total number of survey participants.

Table 14: Pedestrian Intercept Survey. Question: Please rank which of the following you think should receive the highest priority when making improvements to Morris Avenue.

Ranking	Bicyclists	Pedestrians	Buses	Motor Vehicles
1	26%	73%	20%	32%
2	41%	9%	16%	20%
3	11%	12%	36%	24%
4	22%	6%	28%	24%

When asked which specific improvements they would like to see made (Table 15), the top response was for wider sidewalks (42%), followed by more greenery (36%), and then more time to cross the street (33%). While increased police presence was the top concern of businesses, only 27 percent of pedestrians noted that as important. This result was similarly reflected in the questions about safety. While 56 percent of business respondents said they felt unsafe walking on Morris Avenue, only 24 percent of pedestrians felt the same way (Figure 16). When asked why they felt unsafe, answers were divided between crime (i.e., drug dealing, vagrants) and road conditions (i.e., missing crosswalks, uneven sidewalks).

The survey respondents were also asked which unsafe driver behaviors they saw most often. They stated that they most frequently observe drivers texting while driving (38%), speeding (31%), and not yielding to pedestrians (40%), indicating a need for increased traffic safety enforcement within the study corridor.

Table 15: Pedestrian Intercept Survey. Question: What changes would you like to see on Morris Avenue?

Change	Percentage
Wider sidewalks	42%
More greenery (such as trees)	36%
More time to cross street	33%
Bike lanes	31%
Better maintenance and painting of crosswalks	31%
More pedestrian crossing signals	31%
Better maintenance of sidewalks	27%
More police presence	27%
More street lighting	24%
More bicycle racks	24%
More street furniture, such as benches, trash cans, etc.	24%
More bus shelters	24%
More or improved curb ramps at corners	22%
More on-street parking	20%
Increased enforcement of traffic laws	13%
Less on-street parking	9%
Fewer traffic lanes	7%
Other: More traffic lanes	2%

Figure 15: Pedestrian Intercept Survey. Question: Which mode of transportation do you most frequently use when traveling on Morris Avenue?

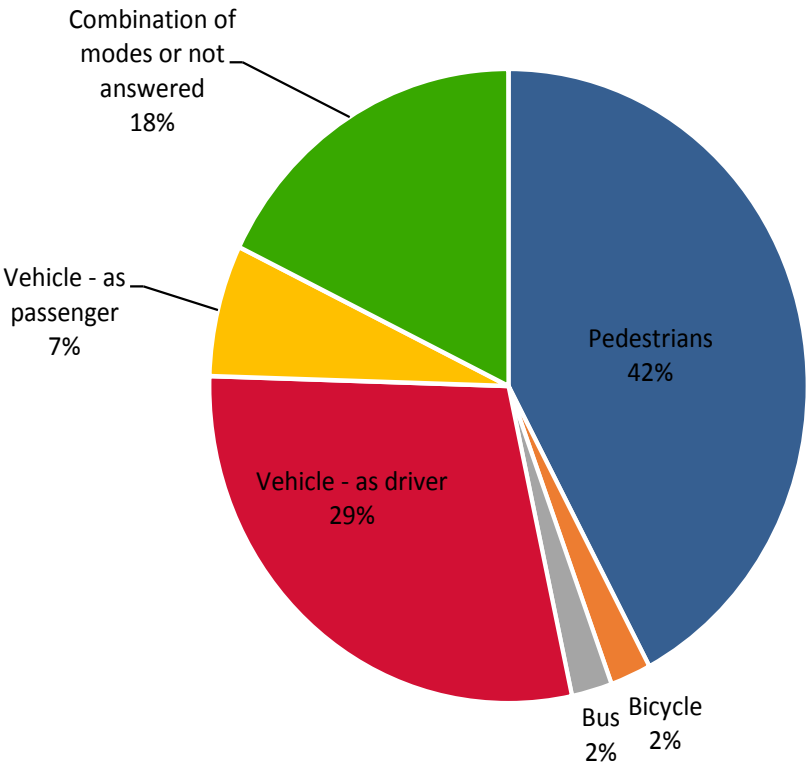
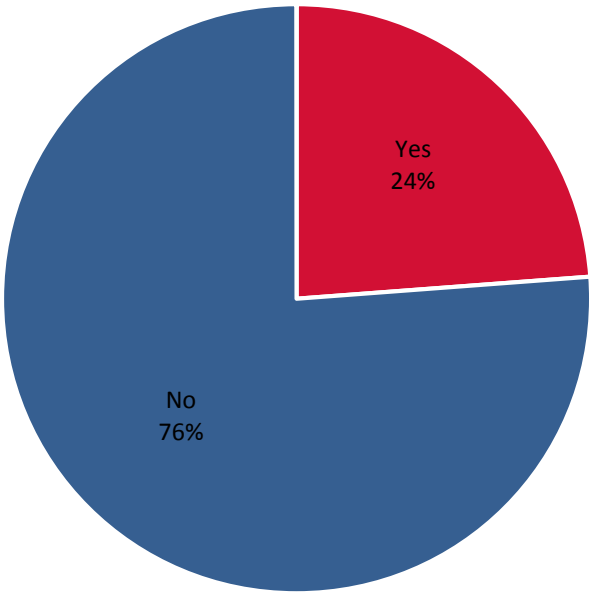


Figure 16: Pedestrian Intercept Survey. Question: Do you ever feel unsafe walking on Morris Avenue?



Community and Stakeholder Input

Community Outreach

The project team held a community outreach event to gather input from community members (Figure 17), presenting the three design alternatives that follow. The goal of the outreach was two-fold: 1) to allow Elizabeth residents to be informed and comment upon which design alternative they preferred; and 2) to give feedback about other transportation issues in the study corridor that the project team may have overlooked. To achieve the first goal, community members were asked to examine the design drawing for each alternative (see side bar). The benefits and challenges of each alternative were described and community members were asked to select the design he or she preferred. Out of 34 participants, 14 chose Design Alternative #3, while 20 chose Design Alternative #2 (Figure 18). No one chose Design Alternative #1; however, it must be noted that it was not chosen largely because its traffic enforcement, street beautification, and infrastructure maintenance policies were included in the other two design alternatives. Participants were clear about that they wanted these policies to be included whichever design alternative was chosen.

Design Alternatives

1. Focus on maintenance of current street infrastructure; stronger enforcement of traffic laws (perhaps by officers on foot or bicycle); cleanliness of pedestrian and bicycle facilities and public spaces; and street beautification with amenities such as street trees, pedestrian benches, and bicycle parking racks.
2. Enforcement, maintenance, and beautification as in Design Alternative #1, plus adding bicycle lanes and/or sharrows to streets and narrowing travel lanes.
3. Enforcement, maintenance, and beautification as in Design Alternative #1, plus widening sidewalks where appropriate, adding bicycle lanes and/or sharrows to streets, and narrowing travel lanes.

Based on the project team's earlier compilation of demographic data about the study area, it was discovered that 69 percent speak Spanish as their primary language. With that in mind, one of the project team's members, who was fluent in conversational Spanish, spoke primarily to Spanish-speaking participants. In this way, the final plan was able to incorporate two of the study area's traditionally under-represented populations (Limited English Proficiency and Minority). Those belonging to others, such as Households in Poverty, were not immediately identifiable; however, it is likely that such a population was present given that the outreach was held in a Census Tract whose percentage of Households in Poverty exceeds the Regional Threshold.

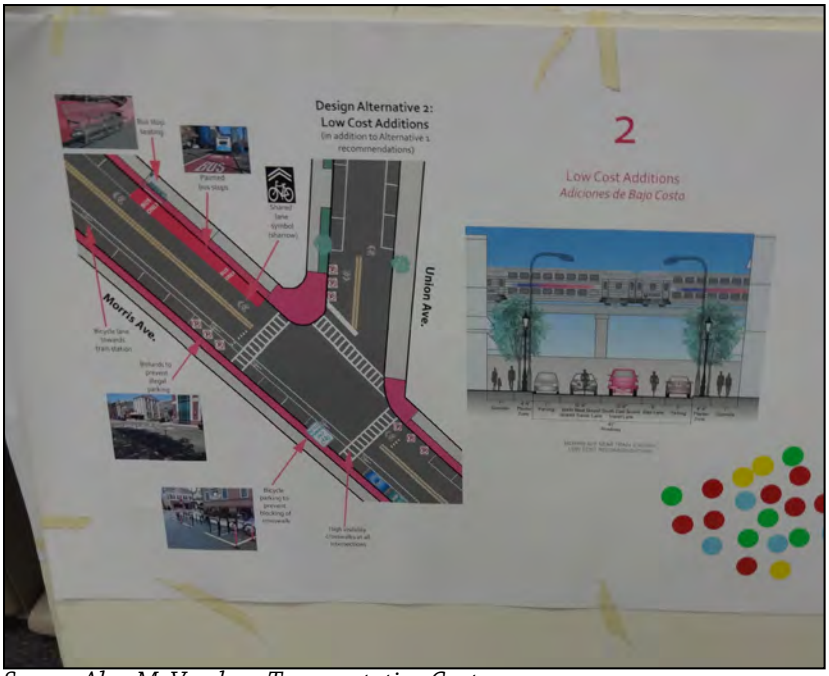
Two overarching concerns were most common amongst community participants. The first was that they all wanted some sort of change to Morris Avenue to make it safer for all road users, especially bicyclists and pedestrians. Even those who own a car and rarely or never ride bicycles were concerned for bicyclists' safety because of the dangerous driving and bicycle-automobile crashes observed. One stated that while he himself does not ride he would like to see bicycle lanes installed to keep bicyclists separated and safe from automobiles. Dangerous driving was a frequently mentioned concern, as was safety in general – the second overarching concern. However, automobile safety was not the only concern: most participants voiced concern about people loitering outside of businesses and near the train station. Some were intimidated to be at the train station after dark due to this behavior or even on Morris Avenue in general at that time of day, especially with children. Participants suggested several improvements to address this problem: heavier police presence, add security cameras at train station, add trees and other beautification measures to the station area, and clean up garbage on the sidewalks and around the station.

The other concerns were mostly related to cleanliness and safety. Many wanted to see more greenery throughout the study corridor, trash picked up by the city, and sidewalks repaired. A few expressed concern that traffic laws were not being enforced, such as double parking and speeding. They also wanted to see

Figure 17: Participants at the community outreach event.

Source: Alan M. Voorhees Transportation Center

Figure 18: Design Alternative #2 received 20 votes at the community outreach event.



Source: Alan M. Voorhees Transportation Center

more avenues for community involvement; many were frustrated at the lack of venues to express their concerns and work toward constructive solutions.

With these concerns in mind, participants were enthusiastic about the three design alternatives (see side bar). They were pleased that all three included increased road maintenance, safety enforcement, and greenery – which may explain why no one chose Design Alternative #1, which only recommended these improvements, without any design changes to roadways. Based on the input from community participants and analyses from the project team, it is clear that the Morris Avenue study corridor is a prime location for implementation of a Complete Streets plan; however, it is also evident that this alone will not suffice to improve safety and public enjoyment of the corridor. While its implementation is an important first step, there are deeper social, cultural, and economic issues that must be addressed in the long run if the Morris Avenue corridor is to thrive. Section 7 will go into further detail about next steps, but it suffices to say here that continued outreach with community members, along with stakeholder collaboration with local (municipal and county) and state departments of transportation, health, social services, education, public safety, and others will go a long way to addressing the community's concerns, many of which are systemic in nature.

Section 7 will elaborate on these issues, as well as the implementation of the Morris Avenue Concept Plan and next steps that could be taken upon completion of this report. The remainder of this chapter will discuss the input from the stakeholders, followed by a detailed examination of current conditions in the Morris Avenue study corridor as well as the three design alternatives.

Stakeholder Outreach

The project team held two stakeholder meetings to gather input from organizations working on or near Morris Avenue (see the Acknowledgments for a list of stakeholders). At the first meeting, the project team presented the project's goals to the stakeholders. Stakeholder input was gathered through a discussion and a survey that asked about their perception of Morris Avenue, many of which were similar to the questions asked on the pedestrian intercept and business survey.

The results of this survey show that the stakeholders usually travel on Morris Avenue by car (91%) and on foot (55%). They were also asked how safe they feel while traveling on Morris Avenue. While driving, 70 percent said that they felt either very safe or somewhat safe from crime. However, when respondents were asked how they felt while walking or bicycling on Morris Avenue, no one said they felt very safe. Only 50 percent said they felt very safe from crime and 38 percent said they felt somewhat safe from crime.

Respondents were also asked to rate the quality of street elements on or around Morris Avenue (Table 16). Curb ramps were the most common street element noted in very good or somewhat good condition (67%), while street trees were the most common element noted in somewhat bad or very bad condition (43%). Benches/street furniture were said to be the element that was most commonly missing (50%).

Table 16: Stakeholder Survey. Question: Rate the quality of the following street elements on or around Morris Avenue.

Street Element	Very Good Condition	Somewhat Good Condition	Neither Good nor Bad	Somewhat Bad Condition	Very Bad Condition	Element Missing	Total Responses
Sidewalks	11%	22%	11%	33%	0%	22%	9
Crosswalks	22%	11%	22%	33%	0%	11%	9
Pedestrians signals	25%	25%	25%	0%	0%	25%	8
Pedestrian pushbuttons	29%	14%	29%	0%	14%	14%	7
Curb ramps	50%	17%	17%	17%	0%	0%	6
Street trees	14%	0%	14%	43%	0%	29%	7
Trash receptacles	29%	14%	14%	0%	14%	29%	7
Benches/Street furniture	13%	0%	25%	13%	0%	50%	8
Other	0%	0%	0%	0%	0%	Lighting	1

Additionally, stakeholders were asked to rate their experience in the street on and around Morris Avenue (Table 17). Large number of vehicles, drivers not yielding to pedestrians and speeding vehicles were most commonly cited as always or frequently occurring on Morris Avenue (90%, 80%, and 70%), which were similarly cited in the business and pedestrian intercept surveys.

Finally, the project stakeholders were asked to comment on the kinds of improvements they thought would be most helpful on Morris Avenue and the study corridor side streets. Their suggestions for improvements included the following: bicycle path, sidewalk trees, better lighting, and better signage. Some respondents also commented on specific intersections. Recommended changes to Morris Avenue/North Avenue included reducing speeding and illegal turns. To Morris Avenue/Elm Street participants recommended redesigning sidewalks to make them safer and more attractive. Study corridor-wide (Morris Avenue and side streets) participants recommended restriping the roadways and repairing street lighting. In sum, like many of the responses received from the other surveys and community engagement event, the stakeholder comments focused on the safety and appearance of the study corridor. Their suggestions and concerns were accounted for during the design process of the three design alternatives.

Upon completion of the design alternatives, the project team again met with the stakeholders to gather their input about the design alternatives. They provided recommendations for changes to the report, as well as updates to the project team on changes to Morris Avenue that had been undertaken since the first stakeholder meeting. The project team also used the meeting as an opportunity to provide the stakeholders with the community outreach efforts that had been completed and to summarize the results.

Table 17: Stakeholder Survey. Question: Please rate your experience in the street environment on or around Morris Avenue.

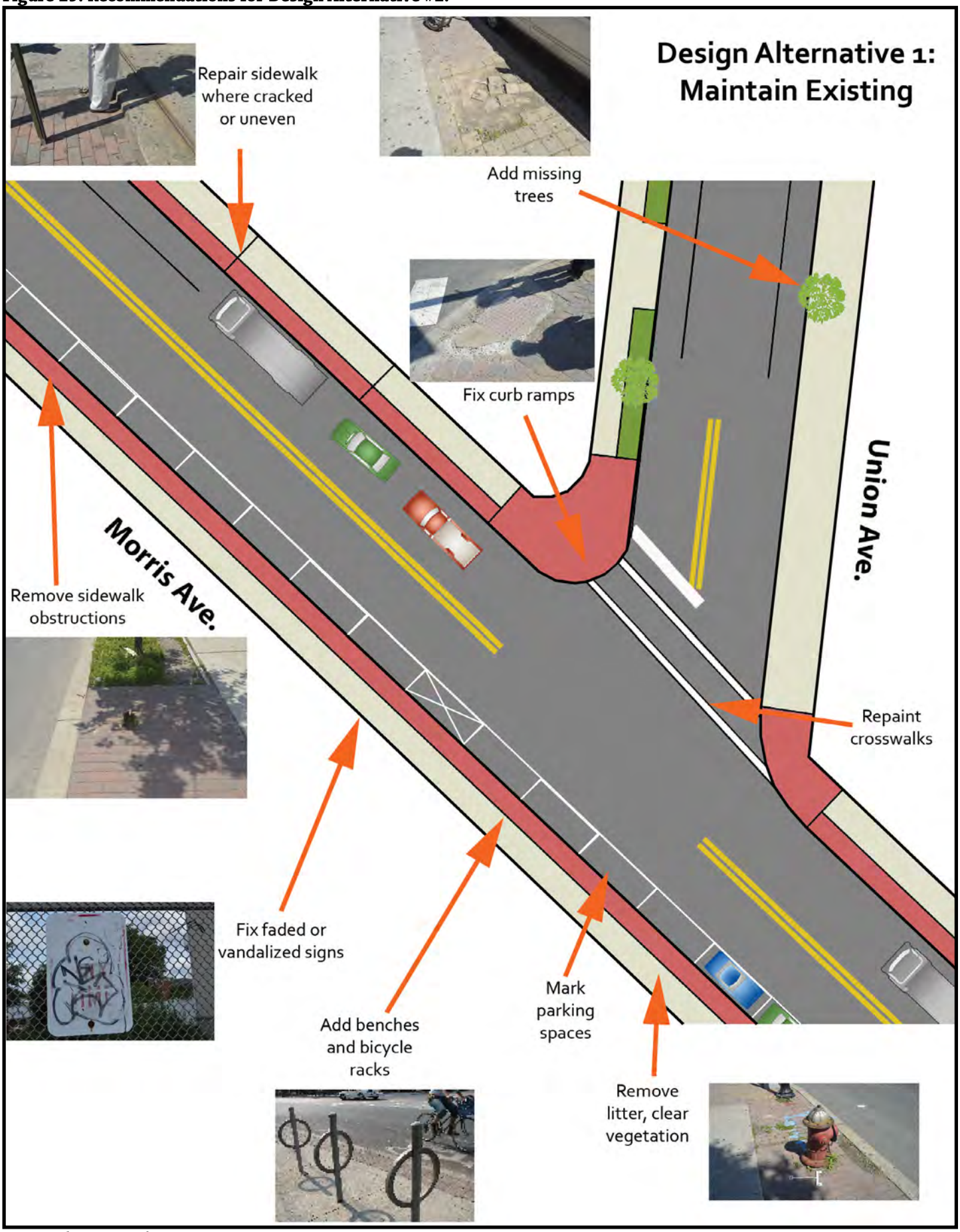
Problem	Always	Frequently	Occasionally	Rarely	Never	Total Responses
Vehicles too close to pedestrians	0%	40%	60%	0%	0%	10
Large number of vehicles	30%	60%	10%	0%	0%	10
Many turning vehicles	33%	56%	11%	0%	0%	9
Large number of driveways	11%	44%	33%	11%	0%	9
Drivers speeding	0%	70%	30%	0%	0%	10
Driver inattention	20%	40%	40%	0%	0%	10
Drivers not yielding to pedestrians	20%	60%	10%	10%	0%	10
Poor lighting	0%	38%	25%	25%	13%	8
Obstructions limiting visibility	10%	40%	30%	10%	10%	10
Other	0%	0%	0%	0%	0%	0

Existing and Proposed Corridor Conditions

The recommendations that follow are divided into three design alternatives (Figures 19, 20 and 21). In order to be inclusive and representative of the Morris Avenue community, all design alternatives should also accommodate the language needs of Spanish-speaking residents wherever possible (i.e., in the construction of Spanish-language directional signs). Additionally, all design alternatives include traffic enforcement, street beautification, infrastructure maintenance; these should be a priority for the city as it strives to maintain safe streets. Design Alternative #1 recommends that changes made to the study corridor be limited to aesthetics and enforcement, such as enforcing parking laws and planting sidewalk trees. It would not include any changes to the street design. Design Alternative #2, the “low-cost alternative”, recommends lower cost changes to street design that consist of enforcement and aesthetic improvements from Design Alternative #1, as well as road restriping, with an emphasis on on-street bicycle facilities. Finally, Design Alternative #3, the “high-cost alternative”, recommends more expensive improvements to street design that consist of the same aesthetic and enforcement improvements from Design Alternative #1 in addition to shifting curbs to provide improved accommodation for pedestrians. This is likely to be costlier than restriping but may be more effective in creating a truly Complete Street. Because their travel lanes are already narrow (10 feet) and have low traffic volumes, Elm Street, Stiles Street, and Sayre Street do not have Design Alternative #3, only #1 and #2. With a few low cost changes reflected in Design Alternative #2, these streets can become safer and more accessible.

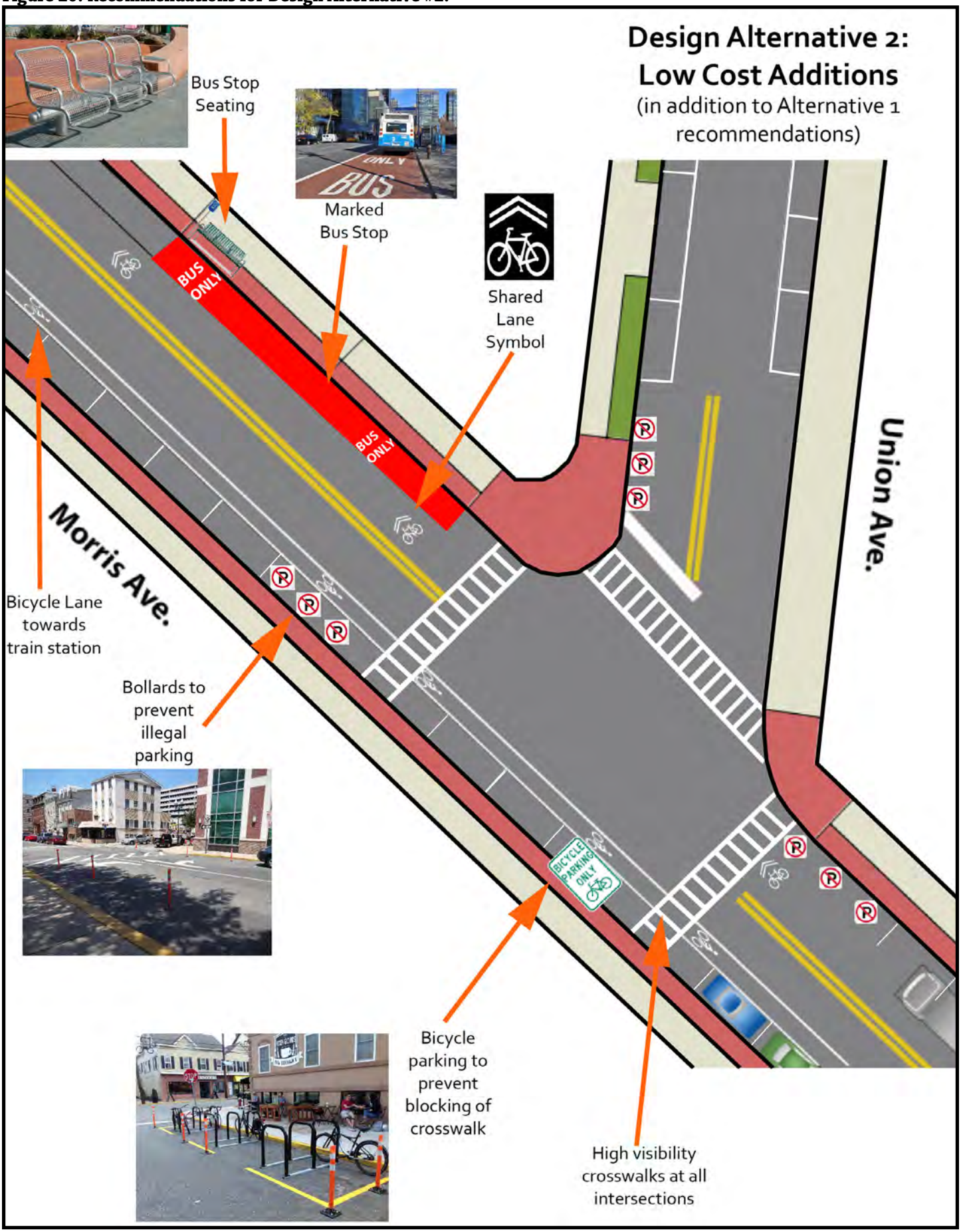
As this report is a concept plan, its implementation should be approached flexibly. The community may have capacity and money for the high cost alternative in some areas but only for the low cost in others. While the concept calls for ten feet wide travel lanes on the residential streets, for example, in order to accommodate an expansion of bicycle and pedestrian facilities, such specifications are examples only and are presented as concepts of two of many possible designs. But which improvements are ultimately chosen, they should reflect the needs of the Morris Avenue community.

Figure 19: Recommendations for Design Alternative #1.



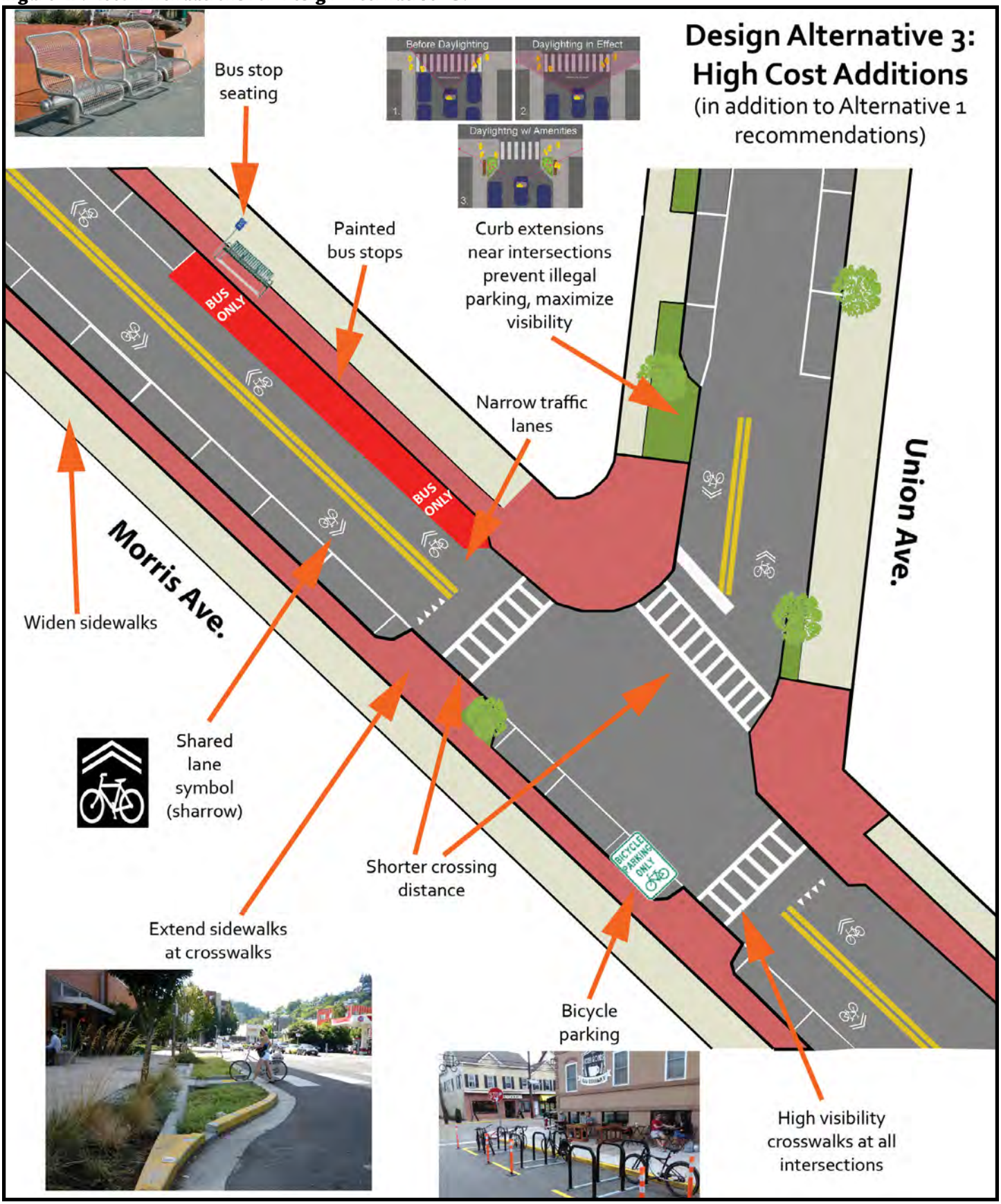
Source: Alan M. Voorhees Transportation Center

Figure 20: Recommendations for Design Alternative #2.



Source: Alan M. Voorhees Transportation Center

Figure 21: Recommendations for Design Alternative #3.



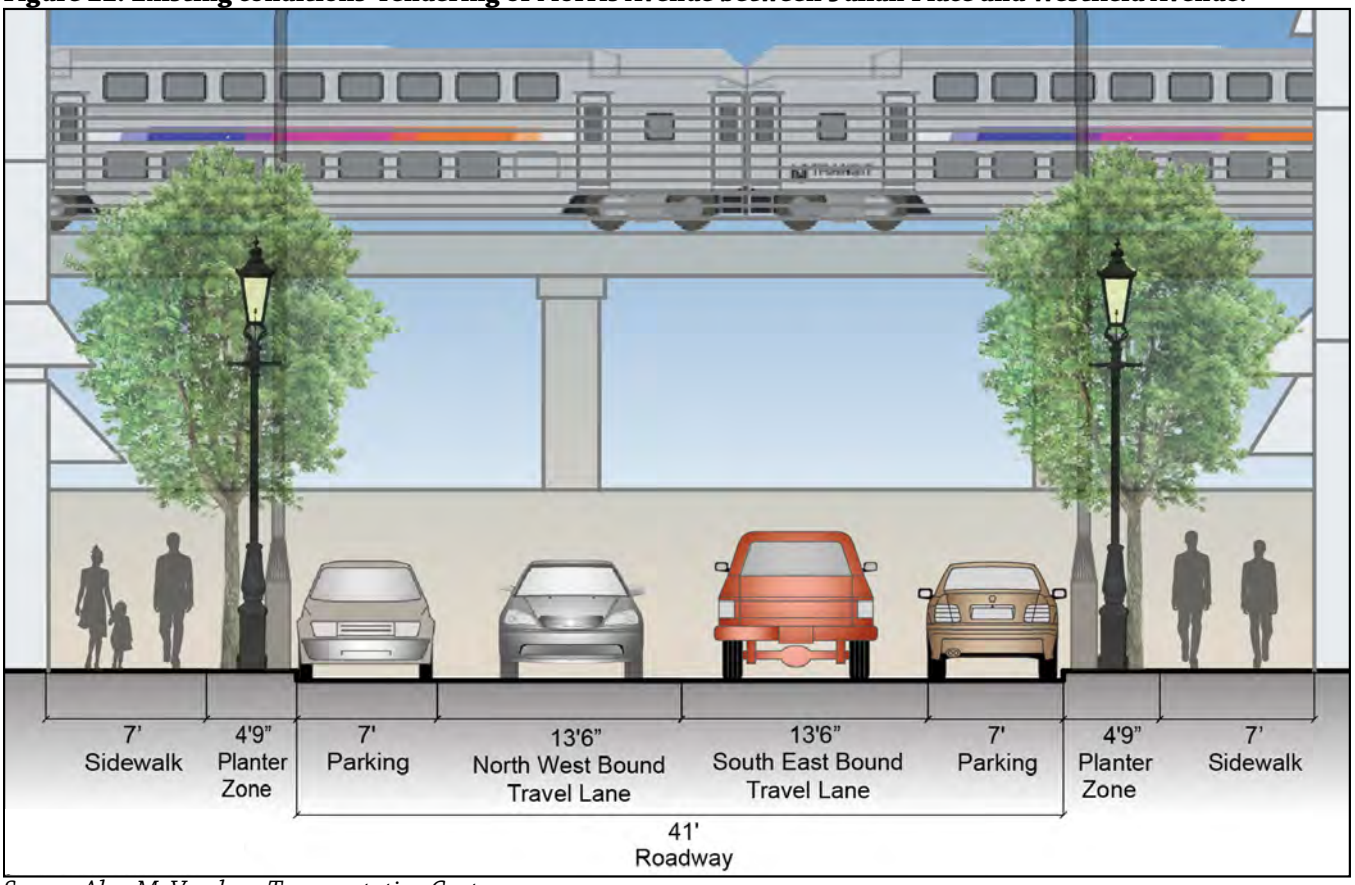
Source: Alan M. Voorhees Transportation Center

Julian Place Intersection, North to Westfield Avenue

Existing Conditions

The southern end of Morris Avenue terminates at Julian Place, creating an intersection directly across from the Elizabeth Midtown train station. South of Julian Place is a parking lot for the station, while the roadway to the east provides access to North Broad and East Broad Streets. The city recently installed a traffic signal at this intersection; however, it had not been activated as of July 29, 2014. Morris Avenue north of Julian Place is 41-feet wide and has two 13.5-foot lanes in each direction, with parking on both sides.

Figure 22: Existing conditions rendering of Morris Avenue between Julian Place and Westfield Avenue.



Source: Alan M. Voorhees Transportation Center

- **Sidewalks:** The sidewalks are in generally good condition, with a concrete walking area and a decorative five foot brick furnishing zone. The furnishing zone contains street trees, parking meters, and road signs, leaving about eight feet of sidewalk mostly clear for pedestrians.

- **Street Crossings:** A recent traffic signal project included the installation of curb ramps at all four corners of the intersection. The ramp on the northeast corner is not flush with the asphalt, creating a potentially dangerous lip. It is possible that this will be fixed in the near future as part of the project.

  Painted continental crosswalks exist across Julian Place at both sides of Morris Avenue. There is no crosswalk across Morris Avenue, but the new traffic signals include pedestrian signals and buttons. As the signal has not been activated, crosswalks may be forthcoming.

- **Safety:** The new traffic signal should enhance pedestrian safety at the intersection. Some of the trees on the northwest-facing sidewalk have broken up the bricks in the furnishing zone, creating a hazard.

Julian Place Intersection, North to Westfield Avenue

- **Comfort and Appeal:** There are three types of streetlights on Morris Avenue. Older highway-style cobra lighting that illuminates the road exists throughout the corridor, and is complemented by newer decorative lights that are intended to better illuminate the sidewalk. As a result of the traffic signal project, two silver cobra-style streetlights have been replaced with the type of decorative lights found on Broad Street. These lights have a historical charm, and have two lighting heads – one over the roadway, and one over the sidewalk. The amount of lighting they produce when combined makes the street brighter and feel safer.

  The furnishing zone contains multiple open trashcans, on both sides of the street. There are also newspaper boxes and advertising signs, but no benches. While most of the tree-boxes contain trees, some do not and pose a hazard to pedestrians. Those that do contain mature trees. Some businesses have added to the furnishing zone by placing their own outdoor planters. Flyers and posters are attached to many of the streetlights, creating visual clutter. Many bicycles were observed locked to trees or street furniture as the area has no bicycle racks.

  There are no amenities, such as a shelter, for bus passengers at the southbound stop south of Westfield Avenue, and the boarding area is crowded with obstructions.

- **Driver Behavior:** No speeding was observed. Drivers were observed failing to yield to pedestrians when turning left from Morris Avenue to Julian Place.

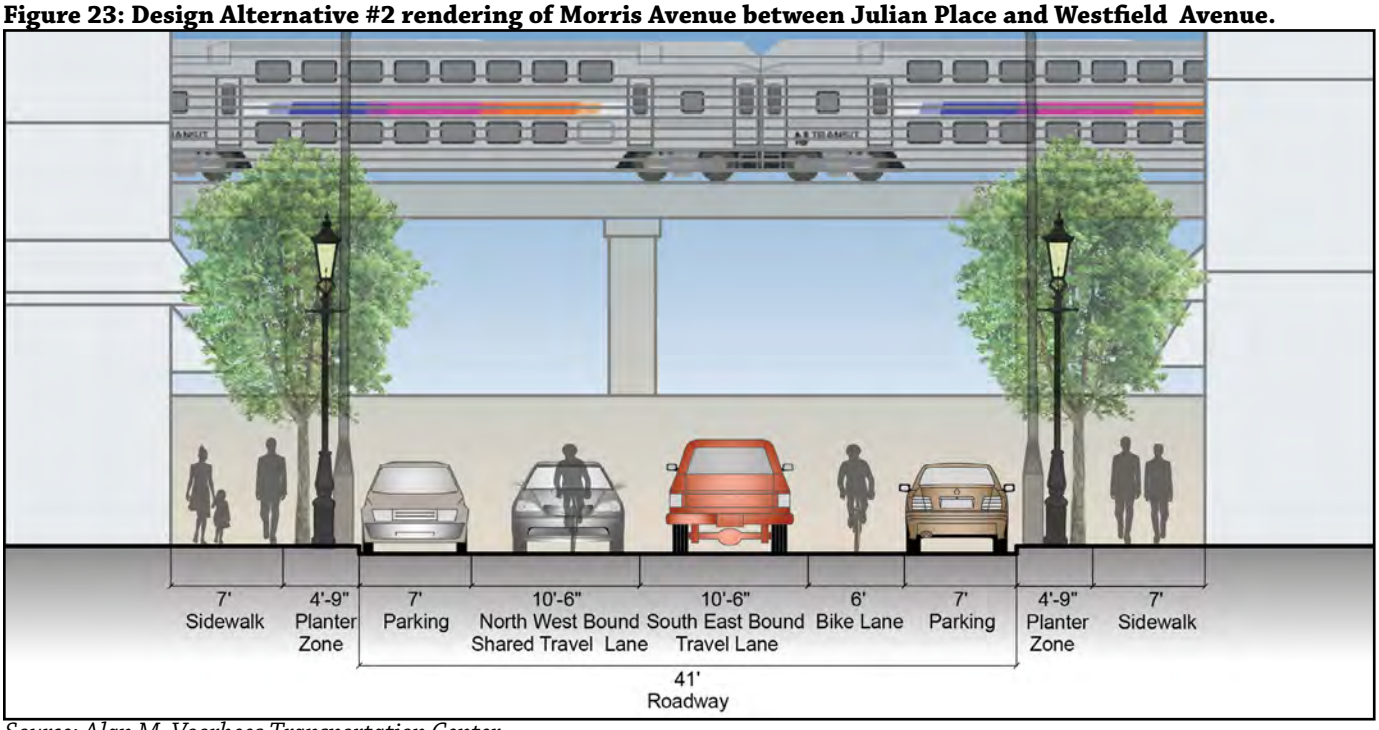
- **Pedestrian Behavior:** Pedestrians were observed crossing mid-block. Bicyclists were observed riding very close to parked cars on the street.

Recommendations

The project team developed three design alternatives, varying based on costs and types of improvements. Design Alternative #1 consists primary of increased maintenance of existing sidewalks, roads, and public transportation facilities, as well as enforcement of current traffic and parking laws. These could include: repairing cracked sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia (i.e., signs that welcome visitors); enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The resulting corridor would provide a more pleasant and safe walking and bicycling experience, and could help make walking safer with the increased enforcement. However, the other two design alternatives would likely have a greater safety effect since the travel lanes would be narrowed.

Design Alternative #2 adds to the first, including the enforcement and maintenance recommendations in addition to recommendations that focus on adding bicycle infrastructure and accommodations for bus passengers. This Design Alternative is more expensive since it involves repainting the travel lanes and adding bus passenger infrastructure. Specifically, in addition to the maintenance and enforcement recommendations listed above, recommendations for Design Alternative #2 include: adding a bicycle lane to the southeast travel lane, adding a sharrow to the northwest travel lane, indicating bus stop with road paint, and adding sleep-proof benches at bus stop. The result of this Design Alternative will be the narrowing of the travel lanes – which will help slow down traffic – and accommodating bicyclists on Morris Avenue. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow.

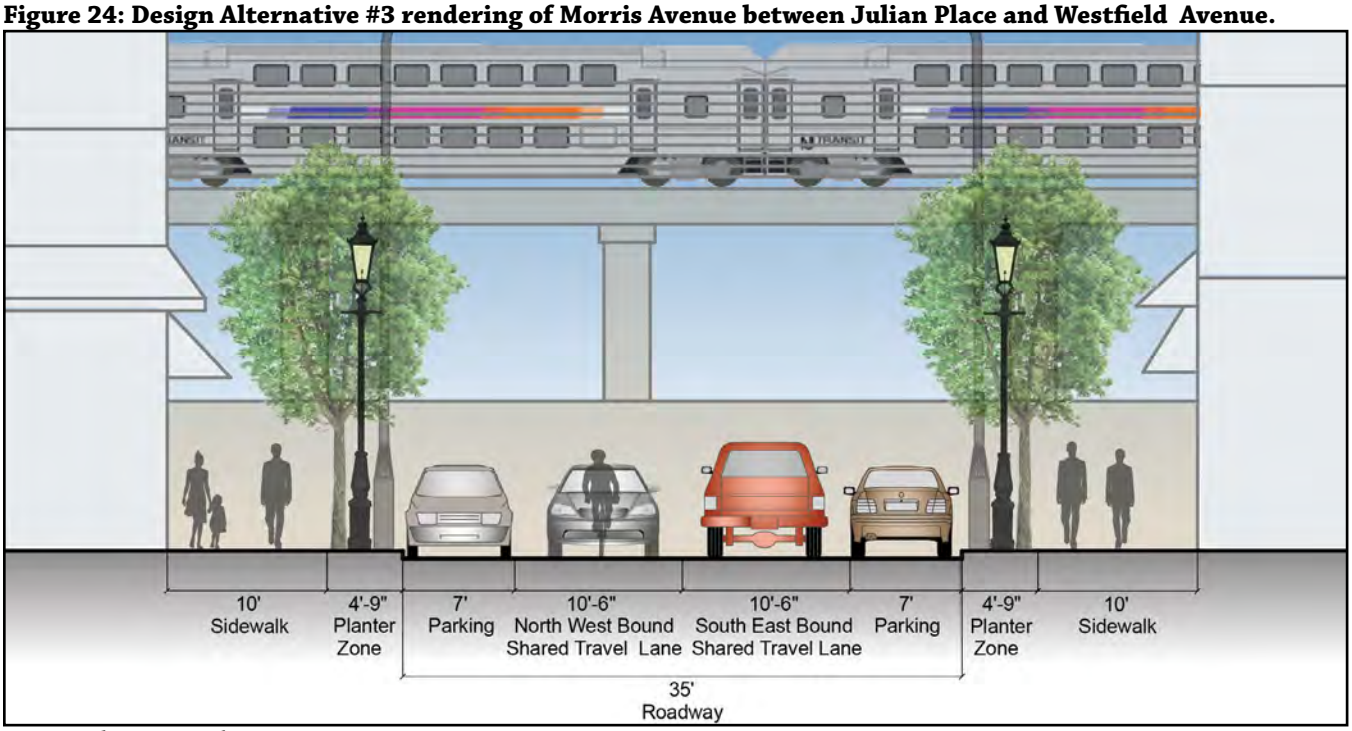
Figure 23: Design Alternative #2 rendering of Morris Avenue between Julian Place and Westfield Avenue.



Source: Alan M. Voorhees Transportation Center

Finally, Design Alternative #3 would include the improvements from the first Design Alternative as well as other improvements. These would involve pedestrian accommodation through the widening of sidewalks, adding sharrows to both travel lanes, and the addition of bulb-outs at intersections, as well adding bus accommodations in the form of sleep-proof benches and indicating bus stops with road paint. While this design would be the most expensive option, it would provide the safest facilities for pedestrians and lay the groundwork for other beneficial investments.

Figure 24: Design Alternative #3 rendering of Morris Avenue between Julian Place and Westfield Avenue.



Source: Alan M. Voorhees Transportation Center

Julian Place Intersection, North to Westfield Avenue

Fraying flyers on a sign post could be placed instead on a community bulletin board.

Source: Alan M. Voorhees Transportation Center

Bicycles locked to poles suggest a need for bicycle racks.

Source: Alan M. Voorhees Transportation Center

Morris Avenue and Julian Place intersection. Handicap ramps and truncated domes are properly placed parallel to the intersection.

Source: Alan M. Voorhees Transportation Center

Westfield Avenue Intersection, North to Sayre Street

Existing Conditions

The intersection of Morris Avenue and Westfield Avenue (also known as Lincoln Highway and Route 27) is signal-controlled. Union Street also enters on the southern side. Westfield Avenue has one lane in each direction. There are no dedicated turning lanes and right turns on red are prohibited in all directions.

- **Sidewalks:** The sidewalks are in worse condition than the segment to the south. There are large cracks and the furnishing zone is overgrown with weeds.

  Just before Sayre Street, Morris Avenue crosses the Elizabeth River. The transition between the regular sidewalk and the concrete bridge sidewalk presents a hazard as it is not level in the furnishing zone.

- **Street Crossings:** The intersection has crosswalks on all legs. The paint on the crosswalks are mostly washed out. All corners have curb ramps and truncated domes; however, the northwest corner has a single diagonal ramp, rather than two parallel ramps. There are no pedestrian signals.

  The intersection with Union Street has a crosswalk across Union Street only. There are curb ramps on the east side, but none on the west side of Morris Avenue. There are no pedestrian signals. There is also a large pothole next to the curb ramp on the southeastern corner.

- **Safety:** Pedestrian safety is enhanced at the intersections by extra lighting. Bollards are placed near the curb ramps, preventing vehicles encroaching on the sidewalk. The river is wrapped by a chain-link fence and does not present a hazard. The poor sidewalk condition is a safety hazard.

- **Comfort and Appeal:** The features on Morris Avenue are similar to the previous section, including the style of streetlights and furnishings. Although there continue to be many trashcans, some litter is still present on the street. More businesses on this stretch have placed signage on the street, including sandwich boards and flyers. These signs have the potential to be a hazard. Bicycles are parked attached to sign posts.

  The bus stop on the northbound side after Union Avenue lacks passenger amenities, and the presence of trees and lights limits the area available for riders to board the bus. Additionally, the Elizabeth River has not been used as an asset.

- **Driver Behavior:** No speeding was observed. The "No Parking" sign over the Elizabeth River is washed out; motorists may not see the sign and park there.

- **Pedestrian Behavior:** Pedestrians were observed crossing midblock. Multiple bicyclists were observed on the sidewalk and in the street.

Bicyclist traveling on Morris Ave between Westfield Avenue and Sayre Street.

Source: Alan M. Voorhees Transportation Center

Westfield Avenue Intersection, North to Sayre Street

Repainting the crosswalks at the intersection of Westfield Avenue and Morris Avenue would help drivers be more aware of the presence of pedestrians.

Source: Alan M. Voorhees Transportation Center

An uneven sidewalk approaching the Elizabeth River poses a danger to pedestrians.

Source: Alan M. Voorhees Transportation Center

Pedestrians are protected from falling into the Elizabeth River, which is a potential recreational asset.

Source: Alan M. Voorhees Transportation Center

Westfield Avenue Intersection, North to Sayre Street

Recommendations

Like the previous roadway section, Design Alternative #1 consists of maintenance of existing sidewalks, roads, and public transportation facilities, as well as enforcement of current traffic and parking laws. These would include: repairing sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia; enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The resulting corridor would provide a more pleasant walking and bicycling experience, and could help make these activities safer with the increased enforcement. However, the other two design alternatives would likely have a greater safety effect with the narrowing of travel lanes.

Design Alternative #2 adds to the first, including the enforcement and maintenance recommendations in addition to recommendations that add bicycle infrastructure and accommodations for bus passengers. This Design Alternative would be more expensive as it involves repainting the travel lanes and adding bus passenger infrastructure. Specifically, in addition to the maintenance and enforcement recommendations listed above, recommendations for Design Alternative #2 include: adding a bicycle lane to the southeast travel lane, adding a sharrow to the northwest travel lane, indicating bus stops with road paint, and adding sleep-proof benches at the bus stop. The result of this Design Alternative will be the narrowing of the travel lanes – which will help slow down traffic – and accommodating bicyclists on Morris Avenue. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow.

Finally, Design Alternative #3 also would include the improvements from the first Design Alternative. The other changes would involve improved pedestrian accommodation through the widening of sidewalks, adding a sharrow in both travel lanes, and the addition of bulb-outs at intersections, as well as adding bus accommodations in the form of sleep-proof benches and a roadway bus paint indicating the presence of a bus stop. While this design would be the most expensive option, it would provide the safest facilities for pedestrians.

Sayre Street Intersection, North to Orchard Street

Existing Conditions

Sayre Street terminates at Morris Avenue from the west, forming a t-intersection. It is stop sign-controlled; Morris Avenue has the right of way. The northbound lane of Morris Avenue narrows at the intersection to give way for a painted median.

North of Sayre Street, the character of Morris Avenue changes. Rather than a dense urban environment with a continuous street wall, parking lot and driveway curb-cuts are more frequent.

- **Sidewalks:** North of Sayre Street the sidewalks narrow in both directions to four feet. The furnishing zone continues to be five-feet wide. The many driveway curb-cuts decrease pedestrian safety because of the high frequency of turning vehicles. The Dunkin' Donuts parking lot lacks a barrier to prevent vehicles from backing onto the sidewalk.

  There is a bus stop on the southbound side of Morris Avenue just south of Orchard Street. It has been redone with modern brick pavers, but an old driveway curb cut was not removed causing the waiting area to slope onto the street.

- **Street Crossings:** A continental crosswalk is painted on the west side of Morris Avenue to cross Sayre Street. There are no painted crosswalks to cross Morris Avenue, although a painted median is present. There are no pedestrian signals at the intersection. The curb ramps at Sayre Street are oriented diagonally, but there are no complementary ramps on the other side of Morris Avenue to form an accessible crosswalk. The ramp on the south side of Sayre Street is in poor condition and presents a hazard to pedestrians, and especially to those in wheelchairs.

- **Safety:** Drivers not yielding to pedestrians is the most serious safety concern in this area.

- **Comfort and Appeal:** A U.S. Post Office relay box on the corner of Sayre and Morris has been vandalized by graffiti. The grass planting strip on the south side of Sayre Street is overgrown with weeds, as is the private property on the corner. As in other locations, litter is a problem. Additionally, The bus stop south of Orchard Street does not provide amenities for riders, although the surface of the stop consists of attractive pavers.

- **Driver Behavior:** Drivers were observed speeding and failing to yield to pedestrians.

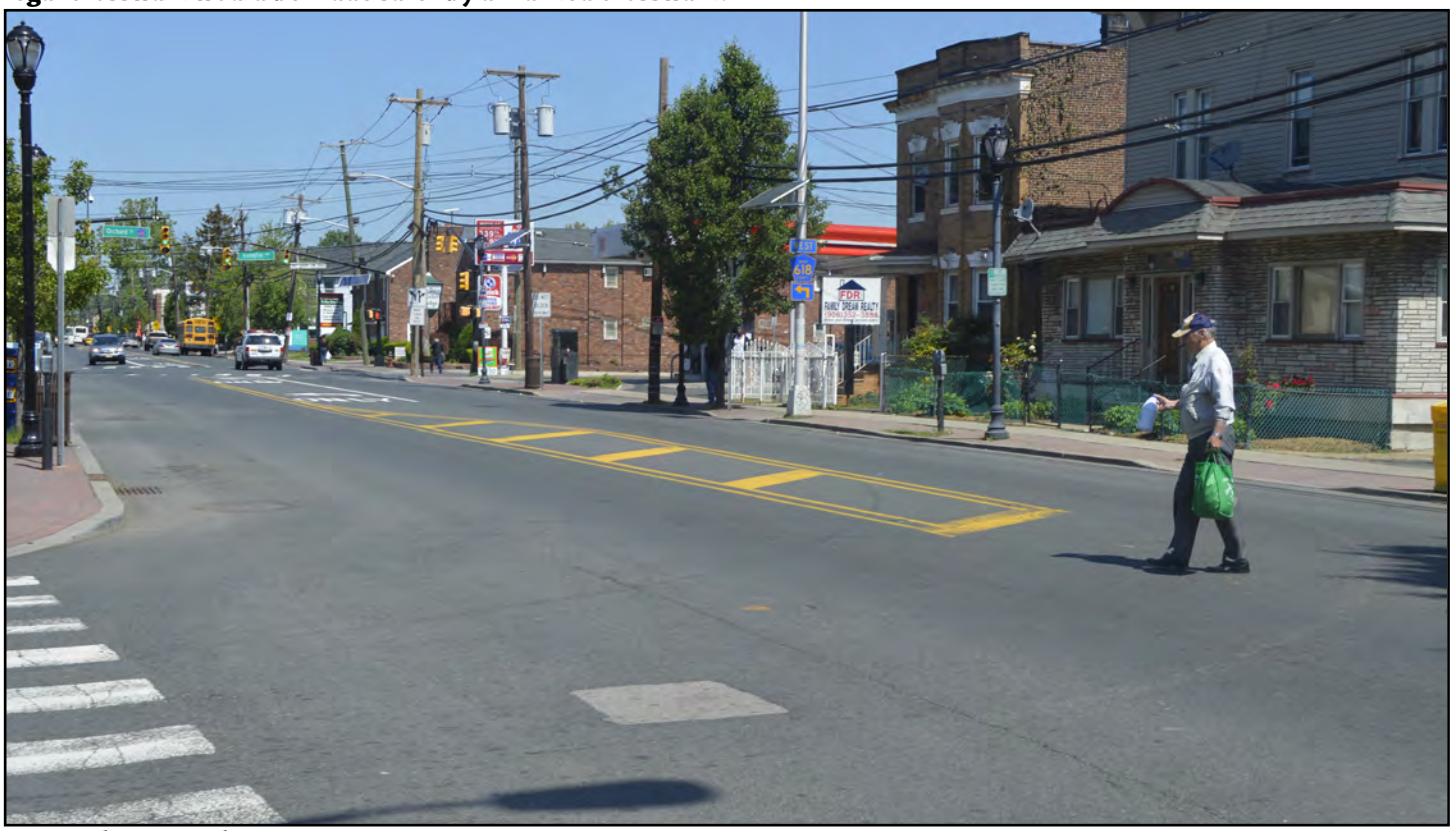
- **Pedestrian Behavior:** Pedestrians were observed crossing Morris Avenue within the unmarked crosswalk. Bicyclists were observed riding on Morris Avenue, two of whom on the wrong side of the street.

This curb at the Morris Avenue and Sayre Street is a safety hazard to pedestrians and wheelchair users.

Source: Alan M. Voorhees Transportation Center

Sayre Street Intersection, North to Orchard Street

Pedestrian traveling on Morris Avenue between Westfield Avenue and Sayre Street. He is crossing at an unmarked but legal crosswalk would be made safer by a marked crosswalk.



Source: Alan M. Voorhees Transportation Center

The bus stop Morris Avenue could benefit from benches for passengers and road paint to make it more prominent.

Source: Alan M. Voorhees Transportation Center

Adding a buffer between the Dunkin Donuts parking lot and the sidewalk would make pedestrian trips safer and more pleasant.

Source: Alan M. Voorhees Transportation Center

Sayre Street Intersection, North to Orchard Street

Recommendations

Like the previous roadway section, Design Alternative #1 would again consist of maintaining the quality and safety of existing sidewalks, roads, and public transportation facilities, as well as enforcement of traffic and parking laws. These would include: repairing sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia; enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The resulting corridor would provide a more pleasant walking and bicycling experience, and could help make these activities safer with the increased enforcement.

Design Alternative #2 adds to the first, including the enforcement and maintenance recommendations in addition to recommendations that add bicycle infrastructure. In this section of Morris Avenue it differs from some of the others in that there are no bus stops and therefore accommodations for bus passengers are not necessary. Again, this Design Alternative would be more expensive than the first as it involves repainting the travel lanes. Specifically, in addition to the maintenance and enforcement recommendations listed above, recommendations for Design Alternative #2 include: adding a bicycle lane to the southeast travel lane and adding a sharrow to the northwest travel lane. The result of this Design Alternative would be the narrowing of the travel lanes – which will help slow down traffic – and accommodating bicyclists on Morris Avenue. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow.

Finally, Design Alternative #3 also would include the improvements from the first Design Alternative. The other changes would involve improved pedestrian accommodation through the widening of sidewalks, adding a shared travel lane, and the addition of bulb-outs at intersections. While this design would be the most expensive option, it would provide the safest facilities for pedestrians.

Orchard Street Intersection, North to Elm Street

Existing Conditions

The intersection of Morris Avenue and Orchard Street is signal-controlled. All four approaches have dedicated left turn lanes, but only turns off Morris Avenue have a dedicated turning phase. Although a right turn lane from Morris is not striped, the space exists, creating a de-facto lane and causing pedestrians to cross four lanes of traffic.

- **Sidewalks:** Concrete sidewalks are four feet wide on each side of Morris Avenue, with a five foot brick furnishing zone. A new Bravo Supermarket at the northwest corner of Morris Avenue and Orchard Street built a landscape buffer between the parking lot and the sidewalk to prevent vehicles from crossing the sidewalk onto Morris Avenue. However, the old curb-cut still exists, meaning that this section of the sidewalk lacks the protection for pedestrians that a raised curb provides.

- **Street Crossings:** Though faded, all four legs of the Morris Avenue and Orchard Street intersection are outfitted with crosswalks. The corners on the east side of Morris Avenue have two ramps each, parallel to the intersection. On the west side, each corner only has one curb ramp, facing diagonally into the intersection. The traffic signals have pedestrian signals in each direction. The turning radii appear to have been widened during a recent project, increasing pedestrian crossing distance and encouraging greater vehicle speeds.

- **Safety:** The bollards that were present at previous intersections are no longer installed, possibly decreasing pedestrian safety. There are also no supplemental two-headed lights that provide excellent lighting for pedestrians.

- **Comfort and Appeal:** Pedestrian amenities continue in the same manner as previous sections. The tree wells continue to lack maintenance and litter is present. The City has installed an attractive wayfinding sign in the furnishing zone directing motorists downtown.

- **Driver Behavior:** Cars were parked too close to crosswalks, inhibiting turning drivers' ability to see pedestrians crossing the street. Drivers were observed not yielding to pedestrians. Vehicles were also observed speeding.

- **Pedestrian Behavior:** Bicyclists were observed riding on the sidewalk and the street. Pedestrians were observed resting on walls bordering adjacent properties, indicating a need for benches.

Orchard Street intersection facing northwest.

Source: Alan M. Voorhees Transportation Center

Orchard Street Intersection, North to Elm Street

An old sign pole post presents a hazard to pedestrians.

Source: Alan M. Voorhees Transportation Center

Signage directs travelers to downtown Elizabeth.

Source: Alan M. Voorhees Transportation Center

Old curb cut adjacent to Bravo. A vegetative buffer between the sidewalk and the parking lot is on the left.

Source: Alan M. Voorhees Transportation Center

Orchard Street Intersection, North to Elm Street

Recommendations

Like all the previous roadway sections, Design Alternative #1 involves maintaining of existing sidewalks, roads, and public transportation facilities, as well as enforcing current traffic and parking laws. These would include: repairing sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia; enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The resulting corridor would provide a more pleasant walking and bicycling experience, and could help make these activities safer with the increased enforcement. However, the other two design alternatives would likely have a greater safety effect with the narrowing of travel lanes.

Design Alternative #2 adds to the first, including the enforcement and maintenance recommendations in addition to recommendations that add bicycle infrastructure and accommodations for bus passengers, because of the bus stop on Morris Avenue. This design would be more expensive than the first one as it would involve repainting the travel lanes and adding bus passenger infrastructure. Specifically, in addition to the maintenance and enforcement recommendations listed above, recommendations for Design Alternative #2 include: adding a bicycle lane to the southeast travel lane, adding a sharrow to the northwest travel lane, indicating bus stops with road paint, and adding sleep-proof benches at the bus stop. The result of this Design Alternative will be the narrowing of the travel lanes – which will help slow down traffic – and accommodating bicyclists on Morris Avenue. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow.

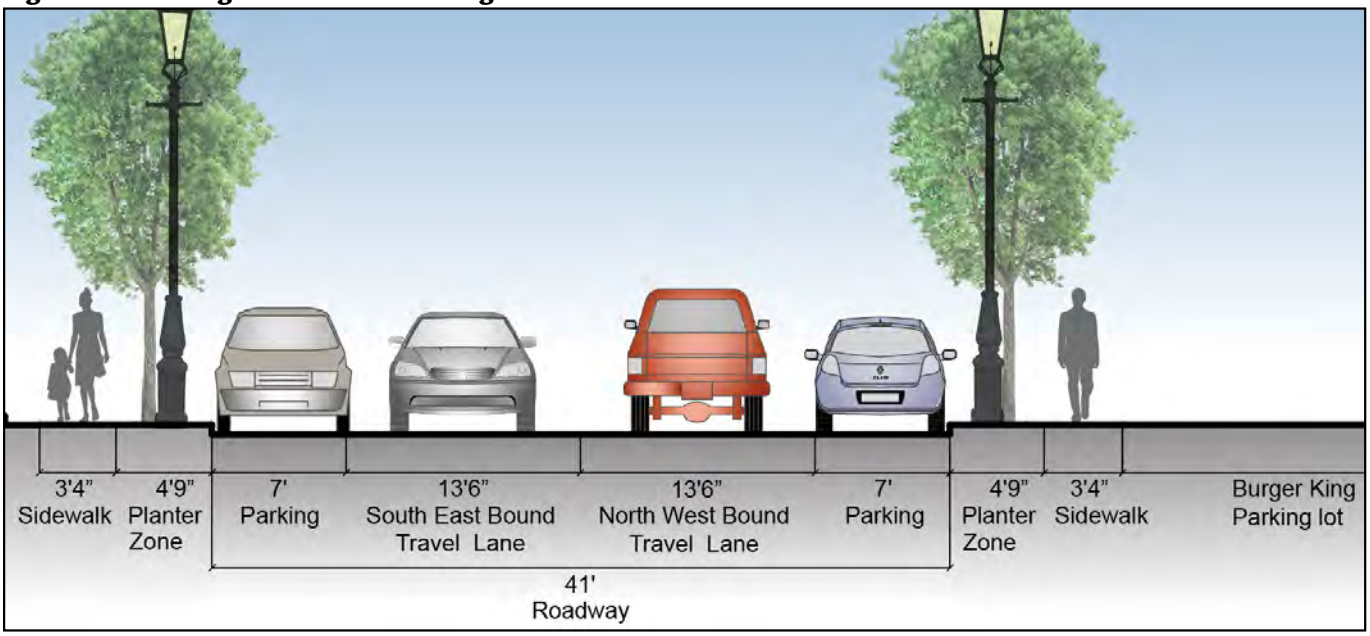
Finally, Design Alternative #3 would also include the improvements from the first Design Alternative. The other changes would improve the pedestrian accommodations through the widening of sidewalks, adding a sharrow in both travel lanes, and the addition of bulb-outs at intersections, as well as adding bus accommodations in the form of sleep-proof benches and indicating bus stops with road paint. While this design would be the most expensive option, it would provide the safest facilities for pedestrians.

Elm Street Intersection, North to Stiles Street

Existing Conditions

The intersection of Morris Avenue and Elm Street is a t-intersection, where Elm Street terminates from the west. However, the east side of Morris Avenue is a driveway entrance, allowing vehicles exiting Elm Street to continue straight. Elm Street is stop sign-controlled, while Morris Avenue has the right of way. Space on Morris Avenue for a left turn lane has been replaced with a painted median.

Figure 25: Existing conditions rendering of Morris Avenue between Elm Street and Stiles Street.



Source: Alan M. Voorhees Transportation Center

- **Sidewalks:** In this section of Morris Avenue, sidewalks are 3'4" wide on each side of the street, with a five-foot brick furnishing zone. The Burger King on the east side of Morris Avenue has no buffer between its parking lot and the sidewalk. As with the Dunkin' Donuts, this decreases the safety and attractiveness of the sidewalk.

- **Street Crossings:** Only two crosswalks are present at the intersection: on south end of Morris Avenue and the west end of Elm Street. The former has signage alerting drivers to the presence of pedestrians.

  On Elm Street, curb ramps are oriented diagonally toward the intersection. On the east side, the curb ramp is parallel to the crosswalk. A poorly placed utility pole is in the middle of the sidewalk on the southwest corner of the intersection.

- **Driver Behavior:** Drivers were observed speeding and not yielding to pedestrians in the crosswalk.

- **Safety:** Drivers not yielding to pedestrians is the most serious safety concern, along with speeding.

- **Comfort and Appeal:** Additional trees would improve the walking experience on both sides the street. A sign in the furnishing zone directs motorists to the train station. Typical in New Jersey, trash bags are placed in the furnishing zone for collection. On the east side, the Burger King parking lot lacks landscaping.

- **Pedestrian Behavior:** No dangerous or aberrant behavior was observed. No bicyclists were observed.

Elm Street Intersection, North to Stiles Street

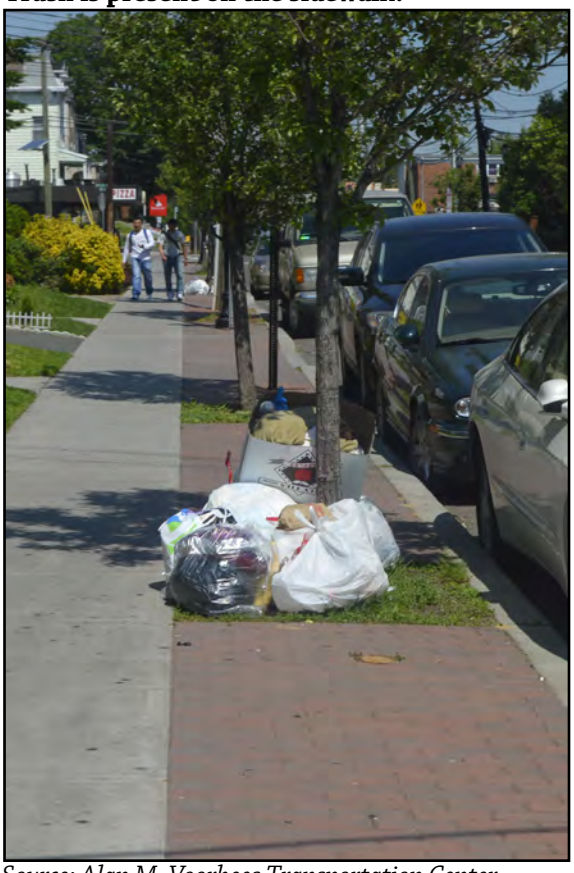
This wide, unprotected surface lot on Morris Avenue encourages drivers to speed while making turns.

Source: Alan M. Voorhees Transportation Center

Sign directs travelers to the Elizabeth Midtown Train Station.

Source: Alan M. Voorhees Transportation Center

Trash is present on the sidewalk.



Source: Alan M. Voorhees Transportation Center

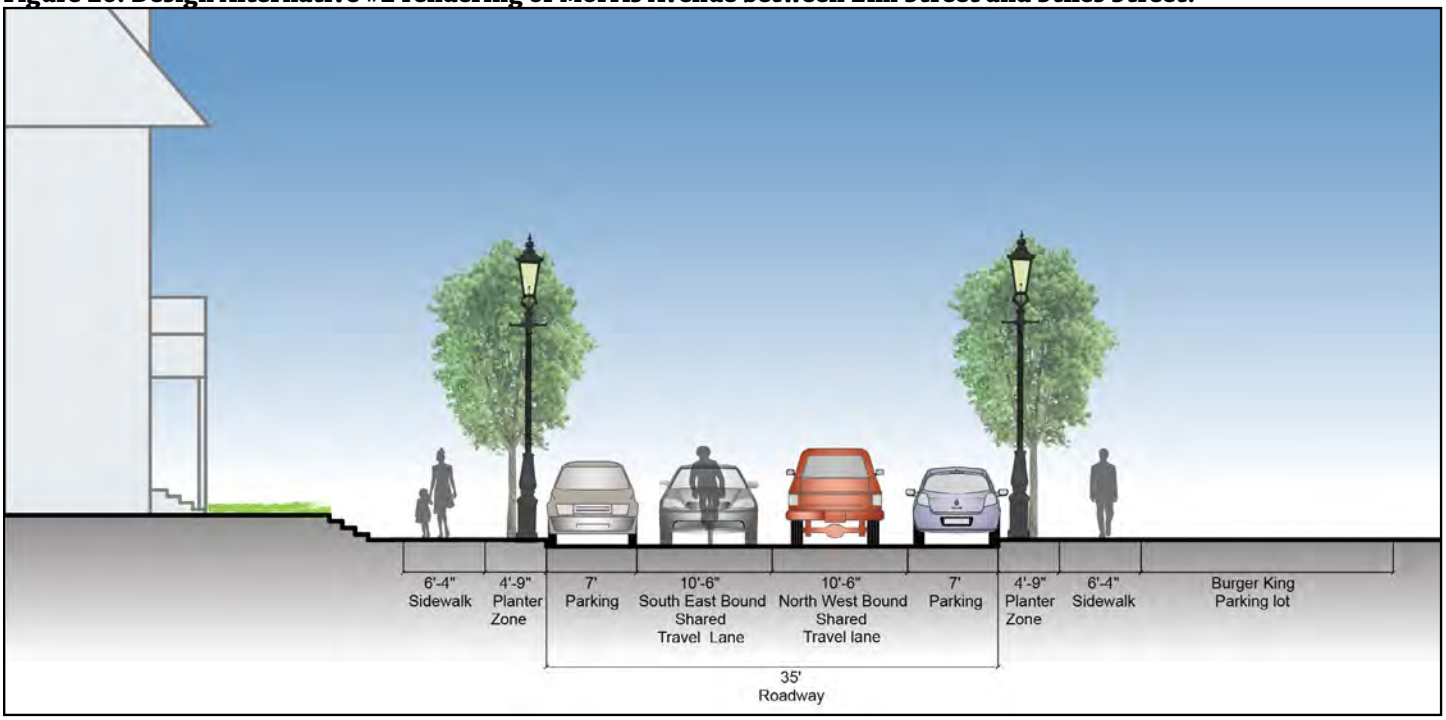
Elm Street Intersection, North to Stiles Street

Recommendations

Like all the previous roadway sections, Design Alternative #1 between Elm Street and Stiles Street involves maintaining of existing sidewalks, roads, and public transportation facilities, as well as enforcing current traffic and parking laws. These would include: repairing sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia; enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The resulting corridor would provide a more pleasant walking and bicycling experience, and could help make these activities safer with the increased enforcement. However, the other two design alternatives would likely have a greater safety effect with the narrowing of travel lanes.

Design Alternative #2 adds to the first, including the enforcement and maintenance recommendations in addition to recommendations that add bicycle infrastructure and accommodations for bus passengers, because of the bus stop on Morris Avenue. This design would be more expensive than the first one as it would involve repainting the travel lanes and adding bus passenger infrastructure. Specifically, in addition to the maintenance and enforcement recommendations listed above, recommendations for Design Alternative #2 include: adding a bicycle lane to the southeast travel lane, adding a sharrow to the northwest travel lane, indicating bus stops with road paint, and adding sleep-proof benches at the bus stop. The result of this Design Alternative will be the narrowing of the travel lanes – which will help slow down traffic – and accommodating bicyclists on Morris Avenue. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow.

Figure 26: Design Alternative #2 rendering of Morris Avenue between Elm Street and Stiles Street.

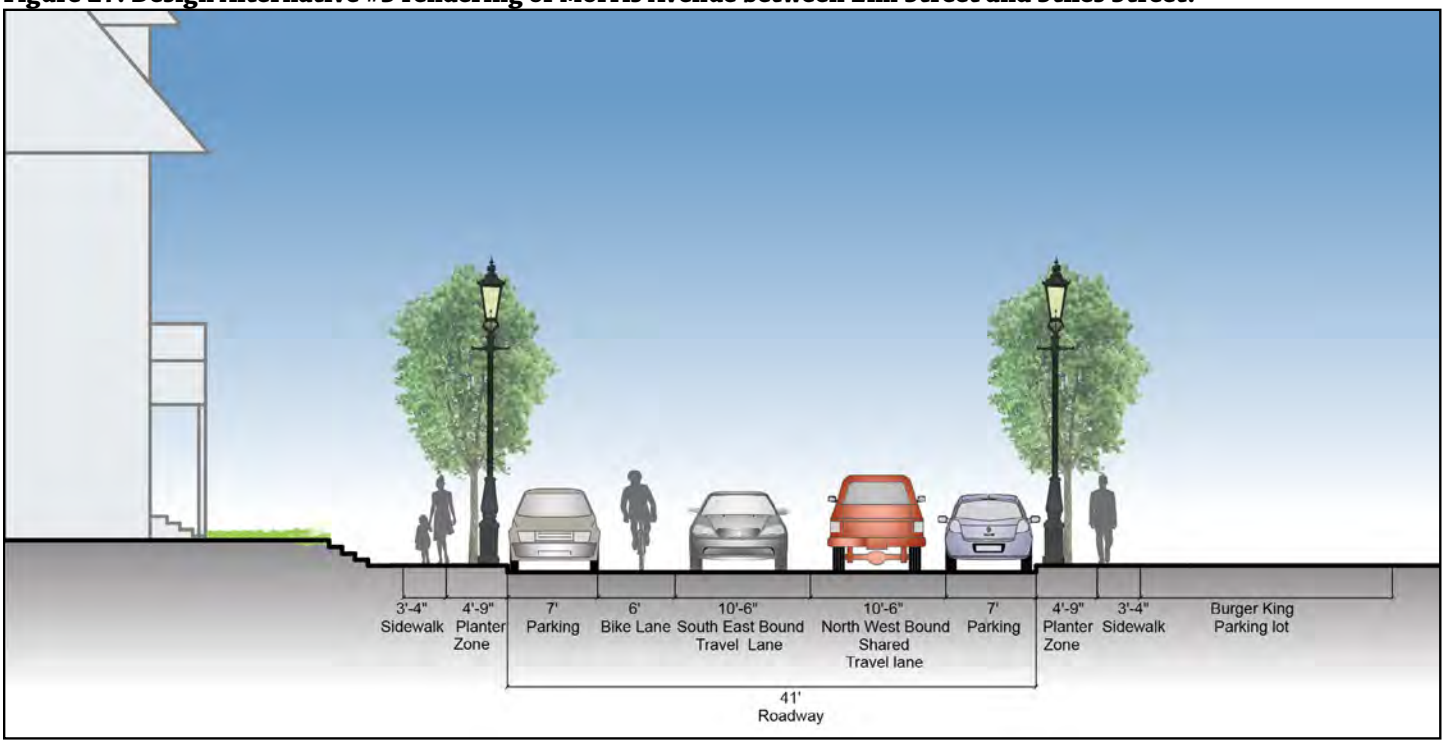


Source: Alan M. Voorhees Transportation Center

Finally, Design Alternative #3 also would include the improvements from the first Design Alternative. The other changes would improve the pedestrian accommodations through the widening of sidewalks, adding a sharrow

in both travel lanes, and the addition of bulb-outs at intersections, as well as adding bus accommodations in the form of sleep-proof benches and indicating bus stops with road paint. While this design would be the most expensive option, it would provide the safest facilities for pedestrians.

Figure 27: Design Alternative #3 rendering of Morris Avenue between Elm Street and Stiles Street.



Source: Alan M. Voorhees Transportation Center

Stiles Street Intersection, North to Parker Road

Existing Conditions

Morris Avenue and Stiles Street create another t-intersection, the latter approaching from the west and terminating at Morris Avenue with a stop sign. Morris Avenue has no traffic control. Though it is the same width as the previous intersection, it does not have a painted median.

- **Sidewalks:** Immediately north of Stiles Street is a southbound bus stop. Its waiting area is separated from the sidewalk with a decorative brick pattern, allowing passengers to board and exit the bus with no obstruction.

  The Number 27, Dr. Antonio Pantoja School on the east side of Morris also features unique sidewalk treatment. A loading area has cut into the sidewalk, eliminating the furnishing zone. The remaining space is concrete, with no trees, benches, or other amenities for pedestrians. Additionally, a fruit and vegetable store's parking lot blends into the sidewalk and lacks a buffer to protect pedestrians.

- **Street Crossings:** Two crosswalks are present at the intersection. One crosses Stiles Street and one crosses the southern end of Morris Avenue, but there is no crosswalk on across Morris Avenue on the northern end. The curb ramp on the east side is aligned parallel with the crosswalk. On the west side of Morris Avenue there are two ramps on the southwest corner, each aligned with a crosswalk. There is only one ramp on the northwest corner.

- **Driver Behavior:** Cars were parked too close to crosswalks for turning drivers to see pedestrians; this also makes it difficult for pedestrians to see drivers without stepping out into the road. Drivers also did not yield to pedestrians crossing streets and frequently sped.

- **Safety:** Drivers failing to yield to pedestrians is the most serious safety concern. The school loading zone also widens the roadway. This encourages speeding by creating one twenty-foot lane.

- **Comfort and Appeal:** On the west side of Morris Avenue, detached residences set back from the street create an attractive vegetated buffer. The school is set back by asphalt and lacks greenery. Trees in the planting area have bases that are covered in attractive metal grating. Some grates have litter in them. There are no benches for pedestrians.

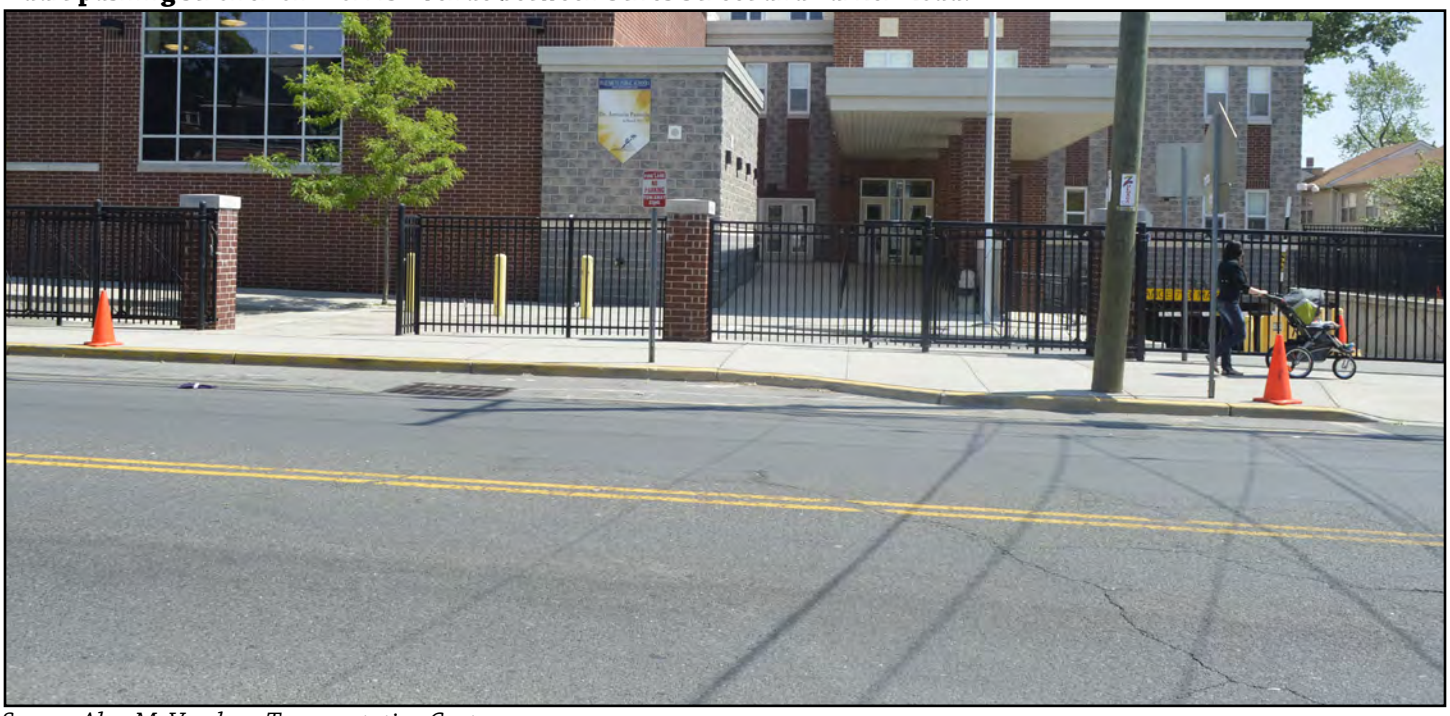
- **Pedestrian Behavior:** Pedestrians were observed jogging on the sidewalk. Bicyclists were observed riding on the sidewalk and the road.

Intersection of Stiles Street and Morris Avenue.

Source: Alan M. Voorhees Transportation Center

Stiles Street Intersection, North to Parker Road

Adult pushing stroller on Morris Avenue between Stiles Street and Parker Road.

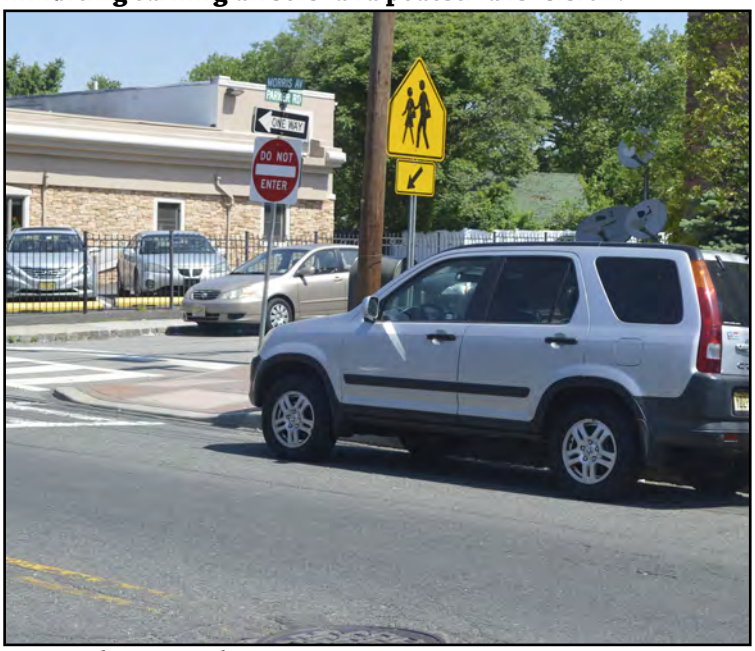


Source: Alan M. Voorhees Transportation Center

A bus stop between Stiles Street and Parker Road would benefit from the addition of benches for bus passengers and paint on the road to indicate the presence of buses.

Source: Alan M. Voorhees Transportation Center

Car parked on Morris Avenue too close to the corner curb, inhibiting turning drivers' and pedestrians' vision.



Source: Alan M. Voorhees Transportation Center

Stiles Street Intersection, North to Parker Road

Recommendations

Like all the previous roadway sections, Design Alternative #1 in this section involves maintaining of existing sidewalks, roads, and public transportation facilities, as well as enforcing current traffic and parking laws. These would include: repairing sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia; enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The resulting corridor would provide a more pleasant walking and bicycling experience, and could help make these activities safer with the increased enforcement. However, the other two design alternatives would likely have a greater safety effect with the narrowing of travel lanes.

Design Alternative #2 adds to the first, including the enforcement and maintenance recommendations in addition to recommendations that add bicycle infrastructure and accommodations for bus passengers, because of the bus stop on Morris Avenue. This design would be more expensive than the first one as it would involve repainting the travel lanes and adding bus passenger infrastructure. Specifically, in addition to the maintenance and enforcement recommendations listed above, recommendations for Design Alternative #2 include: adding a bicycle lane to the southeast travel lane, adding a sharrow to the northwest travel lane, indicating bus stops with road paint, and adding sleep-proof benches at the bus stop. The result of this Design Alternative will be the narrowing of the travel lanes – which will help slow down traffic – and accommodating bicyclists on Morris Avenue. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow.

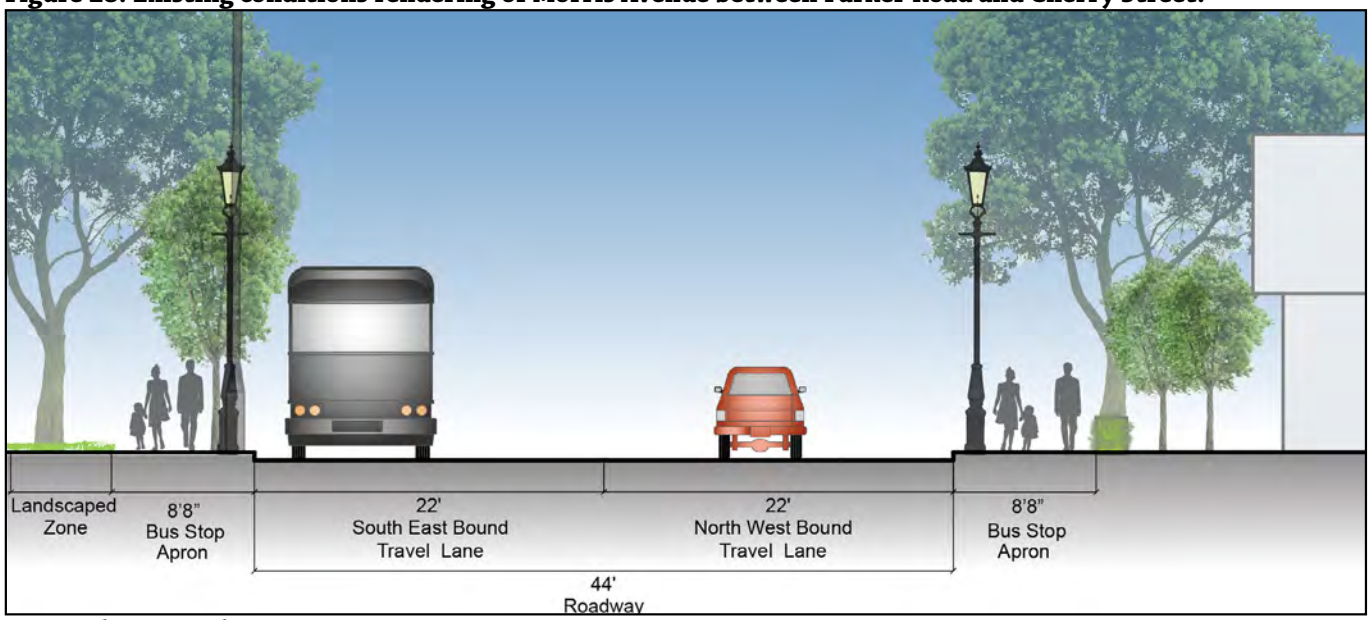
Finally, Design Alternative #3 would also include the improvements from the first Design Alternative. The other changes would improve the pedestrian accommodations through the widening of sidewalks, adding a sharrow in both travel lanes, and the addition of bulb-outs at intersections, as well as adding bus accommodations in the form of sleep-proof benches and indicating bus stops with road paint. While this design would be the most expensive option, it would provide the safest facilities for pedestrians.

Parker Road Intersection, North to Cherry Street

Existing Conditions

Parker Road is a one-way street that approaches from the east and terminates at Morris Avenue. It is stop sign-controlled, while Morris Avenue has no traffic control.

Figure 28: Existing conditions rendering of Morris Avenue between Parker Road and Cherry Street.



Source: Alan M. Voorhees Transportation Center

- **Sidewalks:** North of Parker Road, the land use along Morris Avenue changes. While the sidewalk remains the same, the setbacks become wider. The setbacks are a mixture of grassy landscaping and parking lots. The furnishing zone lacks trees, which makes the sidewalk seem barren. Vegetation in front of a residence has completely taken over the sidewalk on a small section of the eastern side of Morris.

- **Street Crossings:** Ladder crosswalks cross Morris Avenue on the south side of Parker Road, and Parker Road. Parking is permitted on the west side of Morris Avenue right up to the crosswalk, which blocks the view of pedestrians. There is no painted median on Morris Avenue. All three curb ramps are directly aligned with the crosswalk. Signs at the intersection notify drivers that pedestrians are nearby.

- **Driver Behavior:** Cars were parked at corners and crosswalks, reducing the sightline of pedestrians. Speeding was also frequently observed. Drivers were observed failing to yield to pedestrians.

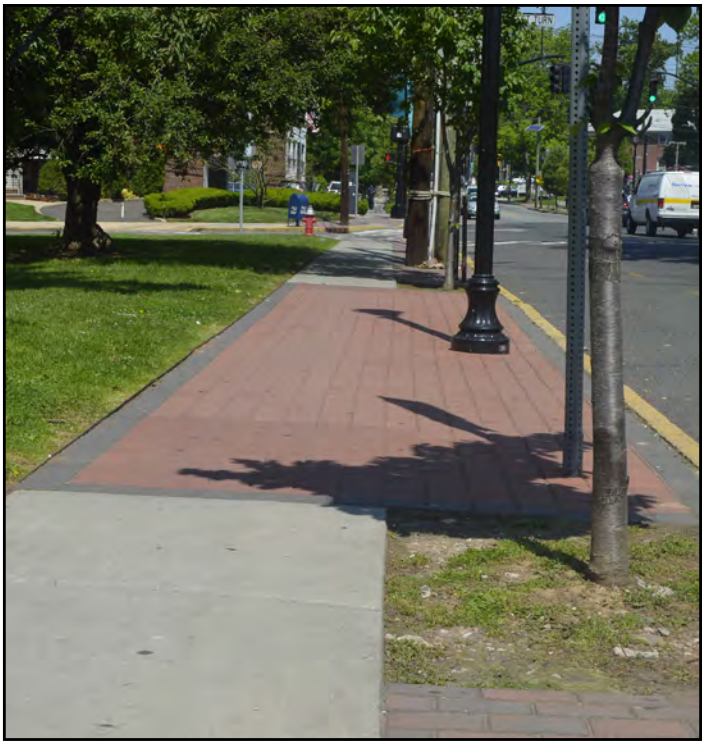
- **Safety:** Drivers failing to yield to pedestrians is the most serious safety concern in this area. Larger setbacks and a lack of a street wall also encourages speeding. There is a small school (The Patrick School), but no signs warning motorists of the increased presence of children.

- **Comfort and Appeal:** There are fewer trees and trashcans than at the locations to the south. Litter is present. The two bus stops south of Cherry Street have been redone with a decorative brick paver, different from the brick used in the furnishing zone. The remodeled bus stops provide clear boarding areas, but no amenities for riders such as a shelter or bench, though there is plenty of room.

- **Pedestrian Behavior:** Pedestrians were observed crossing Morris Avenue in the middle of the block to get to and from the bus stops. No bicyclists were observed.

Parker Road Intersection, North to Cherry Street

Bus stop on Morris Ave facing northwest.



Source: Alan M. Voorhees Transportation Center

Pedestrian crossing street at the bus stop on Morris Avenue between Parker Road and Cherry Street.

Source: Alan M. Voorhees Transportation Center

Morris Avenue and Parker Road intersection facing east.

Source: Alan M. Voorhees Transportation Center

Complete Streets changes to Morris Avenue should account for the presence of school-aged children, such as those attending the Patrick School.

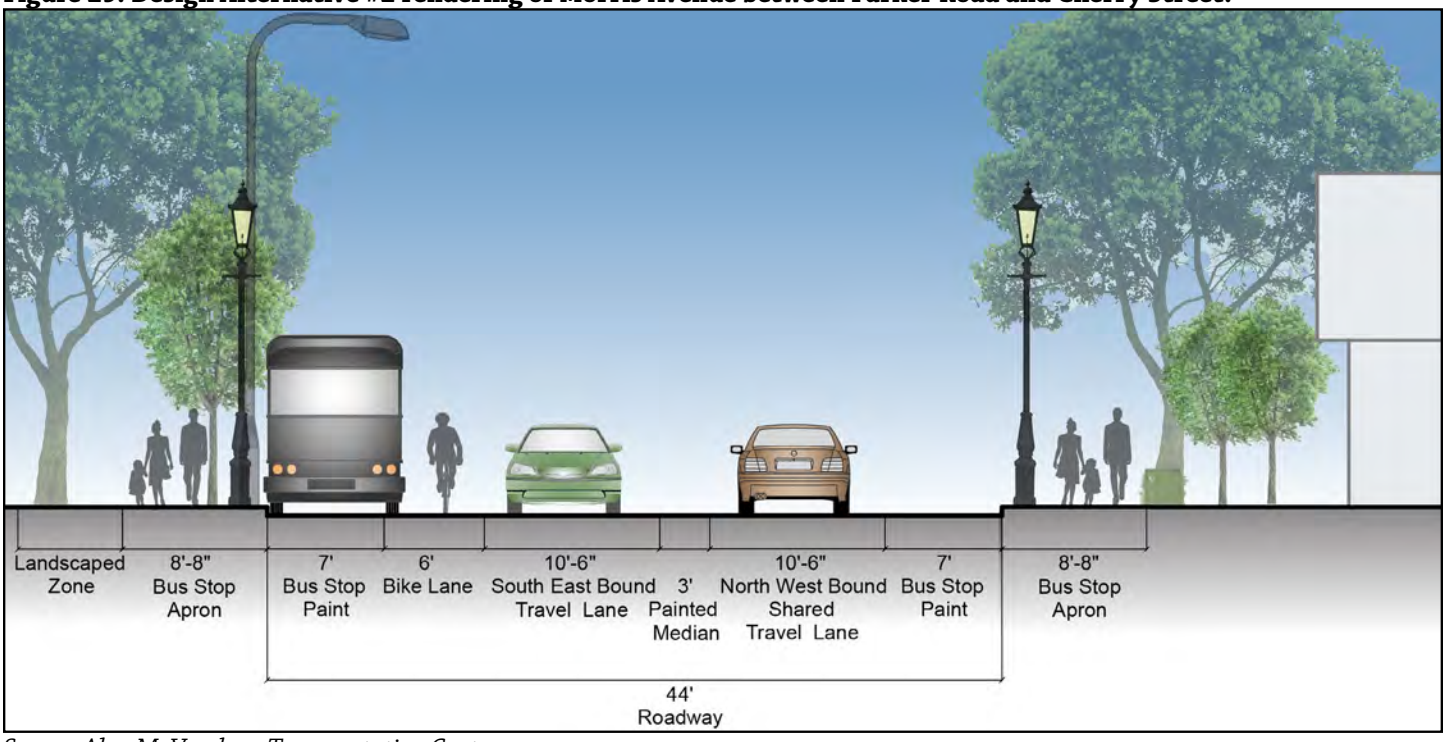
Source: Alan M. Voorhees Transportation Center

Recommendations

Like the other previous roadway sections, Design Alternative #1 between Parker Road and Cherry Street involves maintaining of existing sidewalks, roads, and public transportation facilities, as well as enforcing current traffic and parking laws. These would include: repairing sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia; enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The result would create a more pleasant walking and bicycling experience, and could help make these activities safer with the increased enforcement. However, the other two design alternatives would likely have a greater safety effect because of traffic calming effect of the narrowing of travel lanes.

On this section of Morris Avenue, Design Alternatives #2 and #3 differ more significantly from the previous sections because of the combination of a wider road and bus stop. The wider road affords the opportunity to build bus facilities for passengers that increase their safety. In addition to the enforcement and maintenance recommendations from Design Alternative #1, Design Alternative #2 adds bicycle infrastructure and accommodations for bus passengers, making it more expensive than the first one. Creating a midblock crossing could also help ameliorate the dangers of pedestrians and bus passengers crossing mid-block. Additional recommendations include adding a bicycle lane to the southeast travel lane, a sharrow to the northwest travel lane, indicating bus stops with road paint, and sleep-proof benches at the bus stop. The road width would also permit a painted median, narrowing the travel lane and calming traffic. The result will be the accommodation of bicyclists and bus passengers on Morris Avenue. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction as well as the bus stop improvements, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow.

Figure 29: Design Alternative #2 rendering of Morris Avenue between Parker Road and Cherry Street.

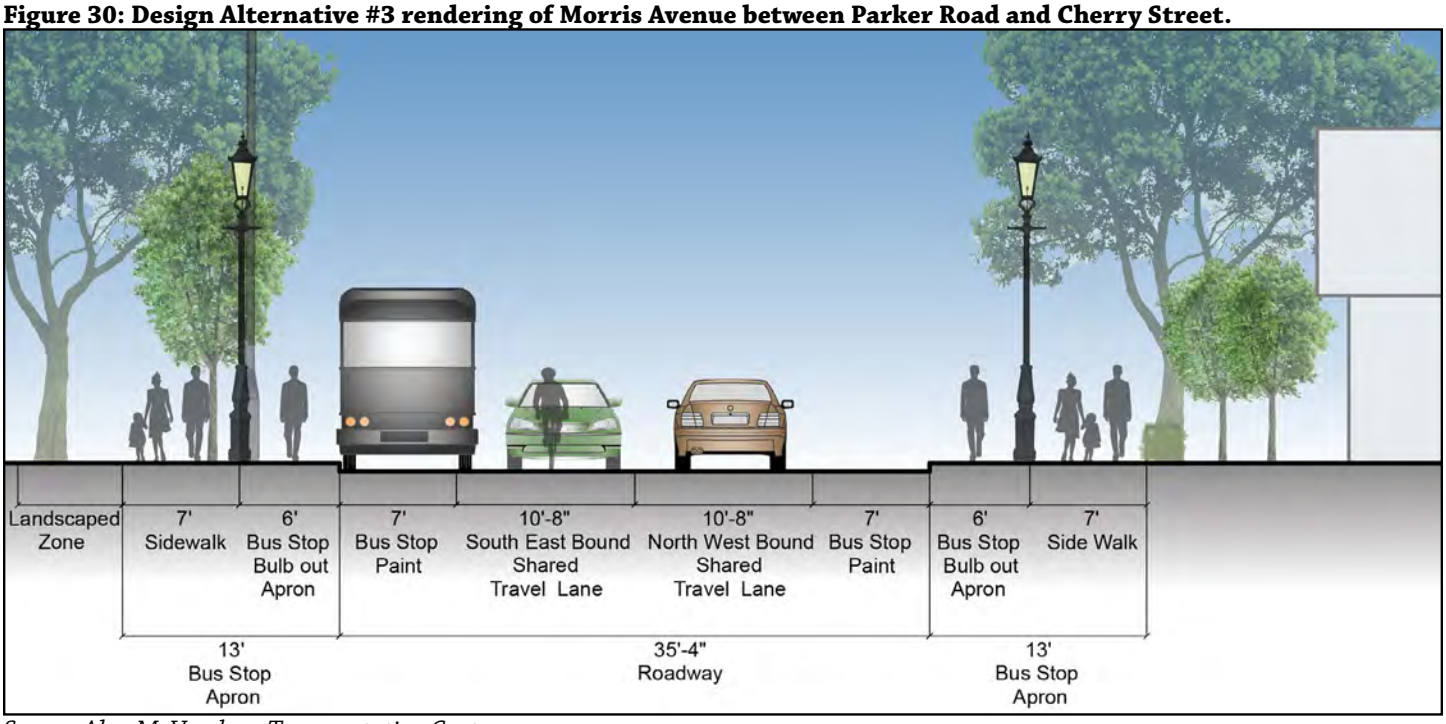


Source: Alan M. Voorhees Transportation Center

Parker Road Intersection, North to Cherry Street

Finally, Design Alternative #3 also would include the improvements from the first Design Alternative. The other changes would improve the pedestrian and bus passenger accommodations through the widening of sidewalks, adding a sharrow in both travel lanes, a vegetative median, and adding bulb-outs at intersections, as well as adding bus accommodations in the form of sleep-proof benches, a bus bulb-out, and indicating bus stops with road paint. While this design would be the most expensive option, it would provide the safest facilities for pedestrians and bus passengers. Finally, adding a midblock crossing could also help limit the dangers of pedestrians and bus riders crossing in the middle of the block.

Figure 30: Design Alternative #3 rendering of Morris Avenue between Parker Road and Cherry Street.



Source: Alan M. Voorhees Transportation Center

Cherry Street Intersection, North to Trotters Lane

Existing Conditions

Cherry Street is a one-way street that approaches Morris from the south. The intersection of Morris Avenue and Cherry Street is angled, creating a very wide intersection and offset crosswalks. The intersection is signal-controlled, and the signals have been recently modernized. Right turns on red are prohibited from Cherry Street onto Morris.

- **Sidewalks:** North of Cherry Street along Morris Avenue, the sidewalks continue to be four-feet wide with a furnishing zone of five-feet. There are large setbacks from the street, placing the sidewalk next to wide landscaped areas or parking. On the east side of Morris, an automobile sales business' parking lot occupies the entire frontage between Cherry Street and Trotters Lane.

- **Street Crossings:** There are crosswalks on three of the legs, the south, west, and east sides. Only one curb ramp on the east side, is aligned properly with the crosswalks; the other two are placed diagonally.

  Pedestrian signals are present only on the south and west sides of the intersection; the instructions are partially torn off of one pole. The pedestrian signal on the southeastern side was installed improperly, allowing for only 29 inches of sidewalk space. ADA requires 36 inches. The pedestrian signal on the west side of Morris, in the southbound direction was not working.

- **Driver Behavior:** Cars parked too close to the intersection decreased pedestrian sightlines.

- **Safety:** Drivers failing to yield to pedestrians is the most serious safety concern in this area. The increased setbacks encourage more speeding. The wide turning radius also allows vehicles to turn quickly, endangering pedestrians.

- **Comfort and Appeal:** North of Cherry, the property to the west of Morris is very unkempt, with lots of litter and unmanaged vegetation.

- **Pedestrian Behavior:** Pedestrians were observed jogging in the street. Bicyclists were observed riding on the sidewalk.

Morris Avenue and Cherry Street intersection facing northwest.

Source: Alan M. Voorhees Transportation Center

Cherry Street Intersection, North to Trotters Lane

Crosswalk across Cherry Street needs repainting. Photo is facing southeast.

Source: Alan M. Voorhees Transportation Center

Vegetation inhibits passage on the sidewalk.

Source: Alan M. Voorhees Transportation Center

ADA law requires that sidewalks allow 36 inches of sidewalk space. A portion of the sidewalk between Cherry Street and Trotters Lane is 28 inches.

Source: Alan M. Voorhees Transportation Center

Cherry Street Intersection, North to Trotters Lane

Recommendations

Like all the previous roadway sections, Design Alternative #1 in this section involves maintaining of existing sidewalks, roads, and public transportation facilities, as well as enforcing current traffic and parking laws. These would include: repairing sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia; enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The resulting corridor would provide a more pleasant walking and bicycling experience, and could help make these activities safer with the increased enforcement. However, the other two design alternatives would likely have a greater safety effect with the narrowing of travel lanes.

Design Alternative #2 adds to the first, including the enforcement and maintenance recommendations in addition to recommendations that add bicycle infrastructure and accommodations for bus passengers, because of the bus stop on Morris Avenue. This design would be more expensive than the first one as it would involve repainting the travel lanes and adding bus passenger infrastructure. Specifically, in addition to the maintenance and enforcement recommendations listed above, recommendations for Design Alternative #2 include: adding a bicycle lane to the southeast travel lane, adding a sharrow to the northwest travel lane, indicating bus stops with road paint, and adding sleep-proof benches at the bus stop. The result of this Design Alternative will be the narrowing of the travel lanes – which will help slow down traffic – and accommodating bicyclists on Morris Avenue. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow.

Finally, Design Alternative #3 would also include the improvements from the first Design Alternative. The other changes would improve the pedestrian accommodations through the widening of sidewalks, adding a sharrow in both travel lanes, and the addition of bulb-outs at intersections, as well adding bus accommodations in the form of sleep-proof benches and indicating bus stops with road paint. While this design would be the most expensive option, it would provide the safest facilities for pedestrians.

Torn pedestrian crossing instructions should be replaced; given the large Spanish-speaking community, instructions in Spanish are recommended.

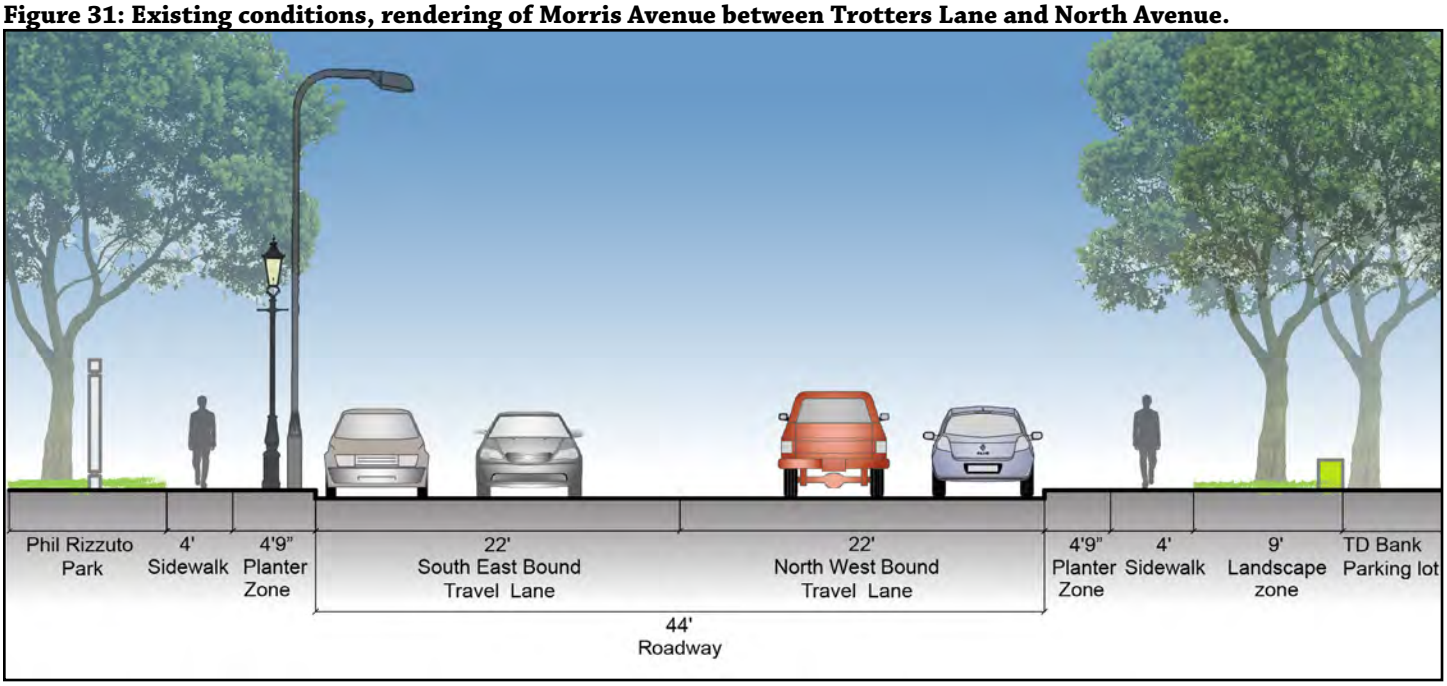
Source: Alan M. Voorhees Transportation Center

Trotters Lane Intersection, North to North Avenue

Existing Conditions

Trotters Lane is a two-way street that terminates at Morris Avenue from the east. It is stop controlled, though lacks a stop bar, and Morris Avenue has the right of way. A driveway across from Trotters Lane leads to Phil Rizzuto Park. Drivers exiting the park are prohibited from turning left.

Figure 31: Existing conditions, rendering of Morris Avenue between Trotters Lane and North Avenue.



Source: Alan M. Voorhees Transportation Center

- **Sidewalks:** On the west side of Morris Avenue very large trees block the four-foot sidewalk, leaving only the furnishing zone for walking. An auto business with a small parking section adjacent to the sidewalk had vehicles encroaching onto the pedestrian way. The east side of the street has poles impeding pedestrian and wheelchair access. The east side also has the only section of discontinuous sidewalk in the study area. The Morris Family Medical Center, located in what was once a residence, has paved over their front yard to create parking. Parked cars overshoot onto the sidewalk, forcing pedestrians to walk in the street.

- **Street Crossings:** The only painted crosswalk is across Trotters Lane; it is very faded. Due to the angle at which Trotters Lane meets Morris Avenue, the crosswalk is long for such a minor street; the generous turning radius means that vehicles turning right onto Morris are more likely to speed. The crosswalk is book-ended by one parallel ramp and one diagonally-placed ramp with truncated domes amidst attractive brick pavers. The entrance to the park also has parallel-placed ramps.

- **Driver Behavior:** Drivers were observed making the right turn from Trotters Lane onto Morris Avenue rapidly without stopping. Near the end of the study corridor no drivers were observed parked on-street. Instead, these parking areas were being used as a lane for turning cars.

- **Safety:** Drivers failing to yield to pedestrians is the most serious safety concern. The increased setbacks also encourage speeding. The lack of stop bar at Trotters Lane may influence the behavior of drivers at the intersection, who were observed running the stop sign. A 25 mph sign is placed on the west side of Morris Avenue, facing east. This sign is either on the wrong side of the street, or is facing the wrong way.

- **Comfort and Appeal:** The park could be an asset to the street, but it is shielded by fencing and parking. Opportunities to enter the park on foot are also limited. The landscaping between the park fence and the sidewalk is poorly maintained. The park features an attractive plaza oriented towards the intersection of Morris and North.

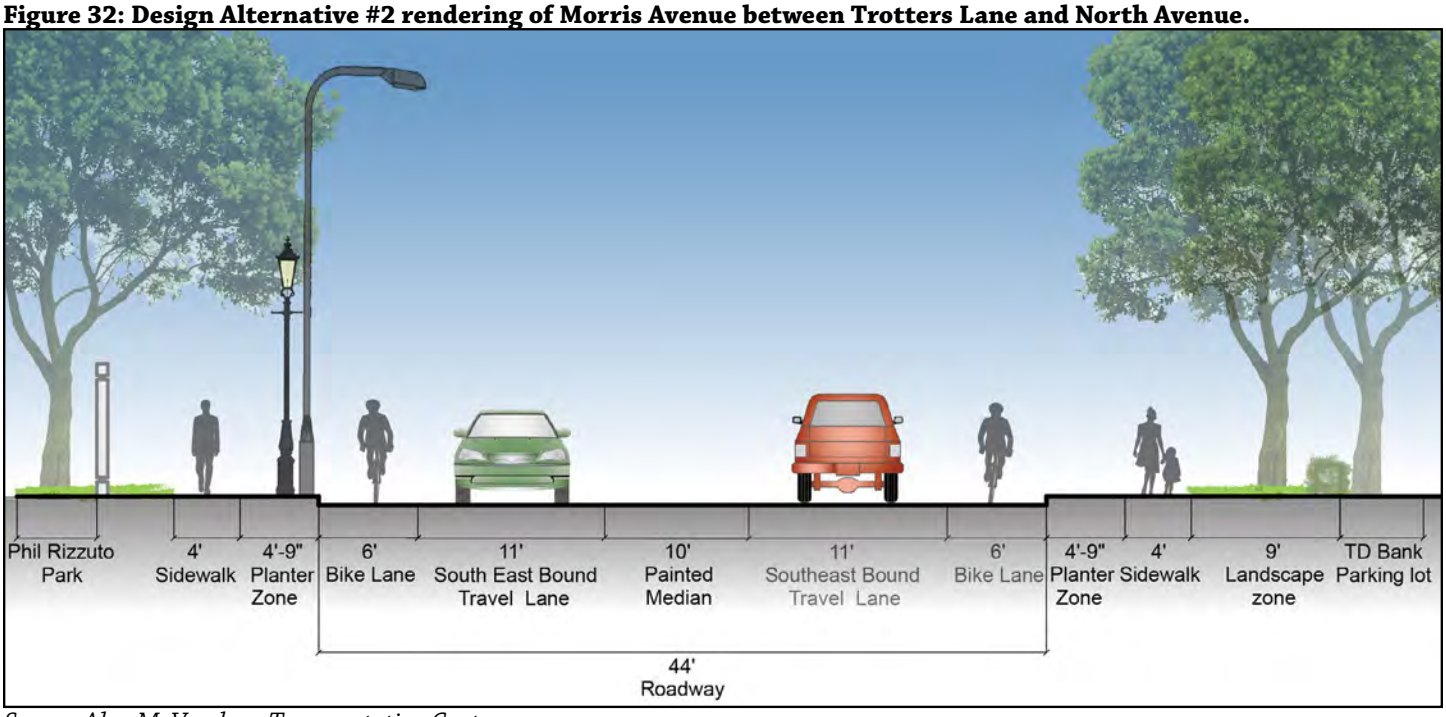
- **Pedestrian Behavior:** No dangerous or aberrant behavior was observed in this location. No bicyclists were observed.

Recommendations

Like all the previous roadway sections, Design Alternative #1 in this section involves maintaining of existing sidewalks, roads, and public transportation facilities, as well as enforcing current traffic and parking laws. These would include: repairing sidewalks; removing obstructions and litter from sidewalks; adding benches, trees, and bicycle parking racks; replacing faded parking signs; painting parking spaces; adding community branding elements for Little Colombia; enforcing parking and driving laws; removing items that reduce sightlines of drivers at intersections; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. The resulting corridor would provide a more pleasant walking and bicycling experience, and could help make these activities safer with the increased enforcement. However, the other two design alternatives would likely have a greater safety effect with the narrowing of travel lanes.

The end of Morris Avenue is significantly wider than that near the train station; yet because of the trip generators nearby (such as the schools, Phil Rizzuto Park, and the office buildings) there are many people walking and bicycling in this area. The goal for the second two design alternatives, then, is to narrow the roadway and build safer pedestrian accommodations. Design Alternative #2 add bicycle infrastructure to the first set of enforcement and maintenance recommendations. This design would be more expensive than the first one as it would involve repainting the travel lanes and adding bus passenger infrastructure. Specifically, recommendations would include: adding a bicycle lane to the southeast travel lane, adding a bicycle lane in both directions and narrowing the travel lane width by adding a painted median. The result of the narrowed travel lanes would help slow down traffic. Since Morris Avenue is not wide enough to accommodate a bicycle lane in each direction, only the southeast-bound travel lane would have a bicycle lane; the northwest-bound direction would have a sharrow; both would give bicyclists a safe space on which to travel.

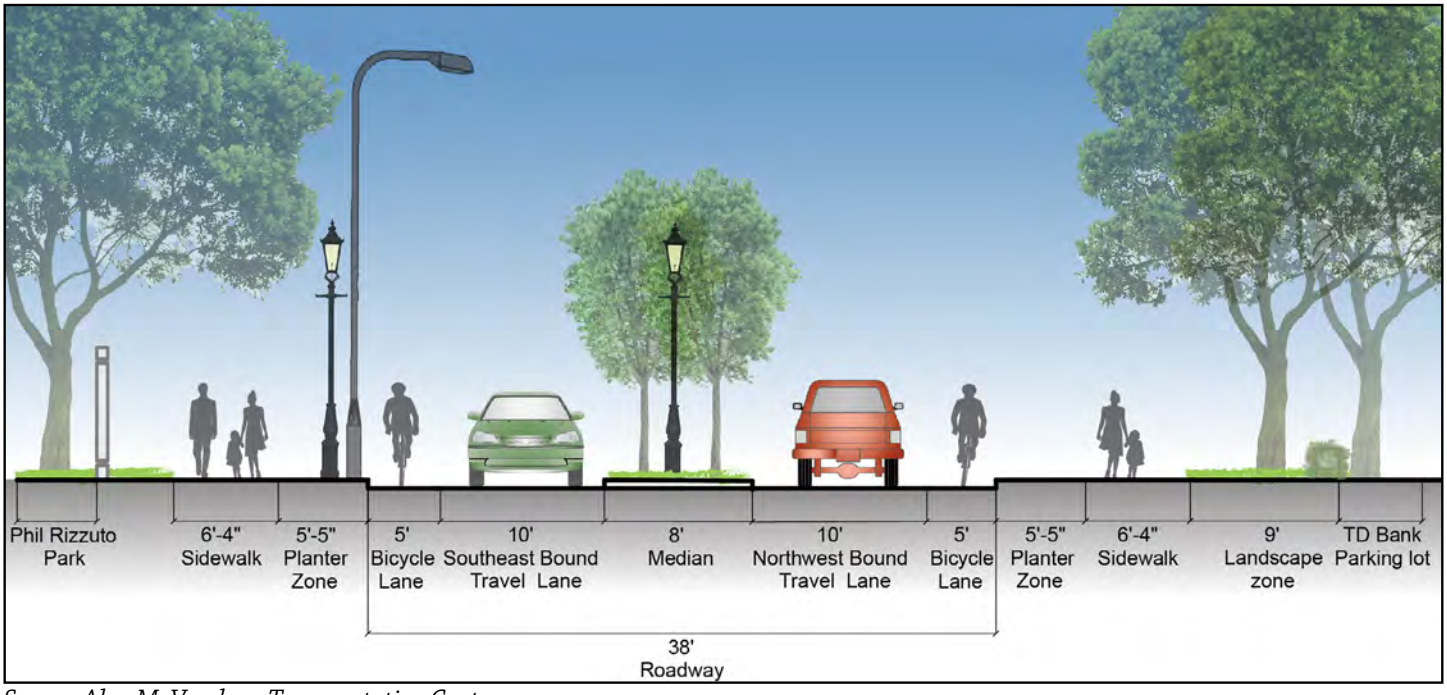
Figure 32: Design Alternative #2 rendering of Morris Avenue between Trotters Lane and North Avenue.



Source: Alan M. Voorhees Transportation Center

Finally, Design Alternative #3 would also include the improvements from the first Design Alternative. The other changes would improve the pedestrian accommodations through the widening of sidewalks, adding a sharrow in both directions, and the addition of bulb-outs at intersections, as well as adding bus accommodations in the form of sleep-proof benches and indicating bus stops with road paint. While this design would be the most expensive option, it would provide the safest facilities for pedestrians.

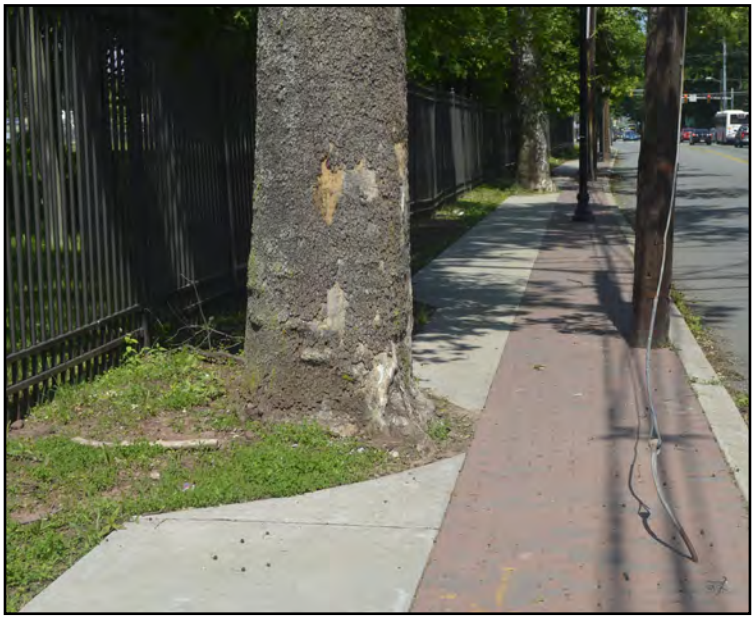
Figure 33: Design Alternative #3 rendering of Morris Avenue between Trotters Lane and North Avenue.



Source: Alan M. Voorhees Transportation Center

Trotters Lane Intersection, North to North Avenue

A tree and pole impede access for pedestrians and wheelchair users.



Source: Alan M. Voorhees Transportation Center

This is the only bench in the study area, at the Morris Avenue and North Avenue intersection.

Source: Alan M. Voorhees Transportation Center

Morris Ave and North Avenue intersection facing north.

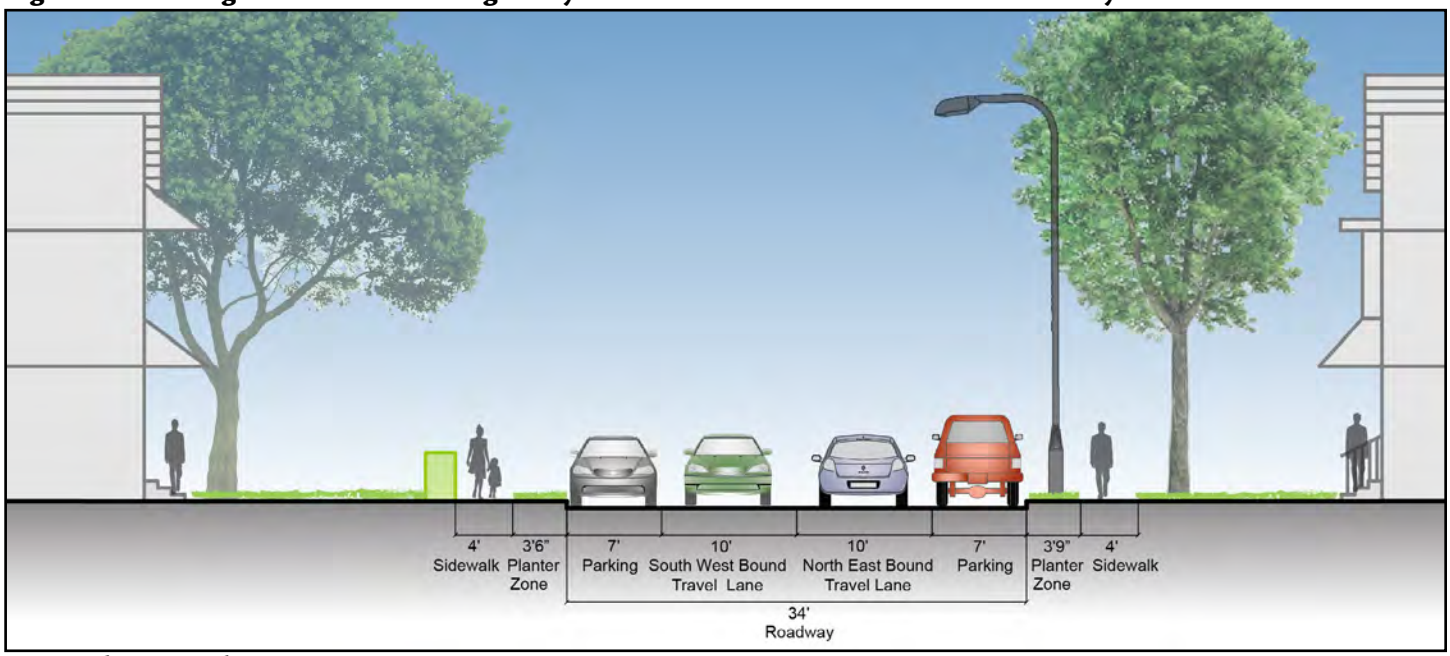
Source: Alan M. Voorhees Transportation Center

Sayre Street, West to Cherry Street

Existing Conditions

Sayre Street is a 34-foot wide residential roadway with bi-directional traffic and street parking. The street is lined by residential uses on both sides. Most of the residences are two-family detached homes with individual driveways. Lowden Street, a one-way road, intersects Sayre Street from the south.

Figure 34: Existing conditions rendering of Sayre Street between Morris Avenue and Cherry Street.



Source: Alan M. Voorhees Transportation Center

- **Sidewalks:** Each side is lined by four-foot sidewalks, which are separated from the street with a planting area. However, that planting area only has grass, and not trees. Part of the sidewalk is made from slate, leading to cracks between each slab. On the northern side of the road is a driveway under construction, and temporarily is covered with rocks, a dangerous situation for wheelchairs and the elderly. There are other obstructions, such as old signpost bases and parked cars blocking the right-of-way. Many of the driveway ramps are in especially poor condition.

- **Street Crossings:** Faded crosswalks are present at the Morris and Lowden intersection, as well as pedestrian crossing signs and parallel-placed ramps. See Morris Avenue and Sayre Street section for more information about the Morris/Sayre intersection.

- **Driver Behavior:** No aberrant or dangerous behavior was observed.

- **Safety:** The most dangerous characteristics are the broken and cracked nature of much of the sidewalks. This discourages or outright inhibits residents from using it.

- **Comfort and Appeal:** There are no amenities for pedestrians on Sayre, which is typical of residential streets. Garbage is placed by residents in the planting zone for collection, which decreases the visual appeal of the street. There are few trees on Sayre, which makes the road seem barren. The southern side of the road has a lot of litter.

- **Pedestrian Behavior:** No dangerous or aberrant behavior was observed. No bicyclists were observed.

Sayre Street, West to Cherry Street

Uneven sidewalk on Sayre Street should be fixed for pedestrian safety and wheelchair accessibility.

Source: Alan M. Voorhees Transportation Center

This gravel on this driveway Sayre Street poses a safety hazard to pedestrians and wheelchair users.

Source: Alan M. Voorhees Transportation Center

A faded crosswalk at the intersection of Sayre Street and Cherry Street should be repainted.

Source: Alan M. Voorhees Transportation Center

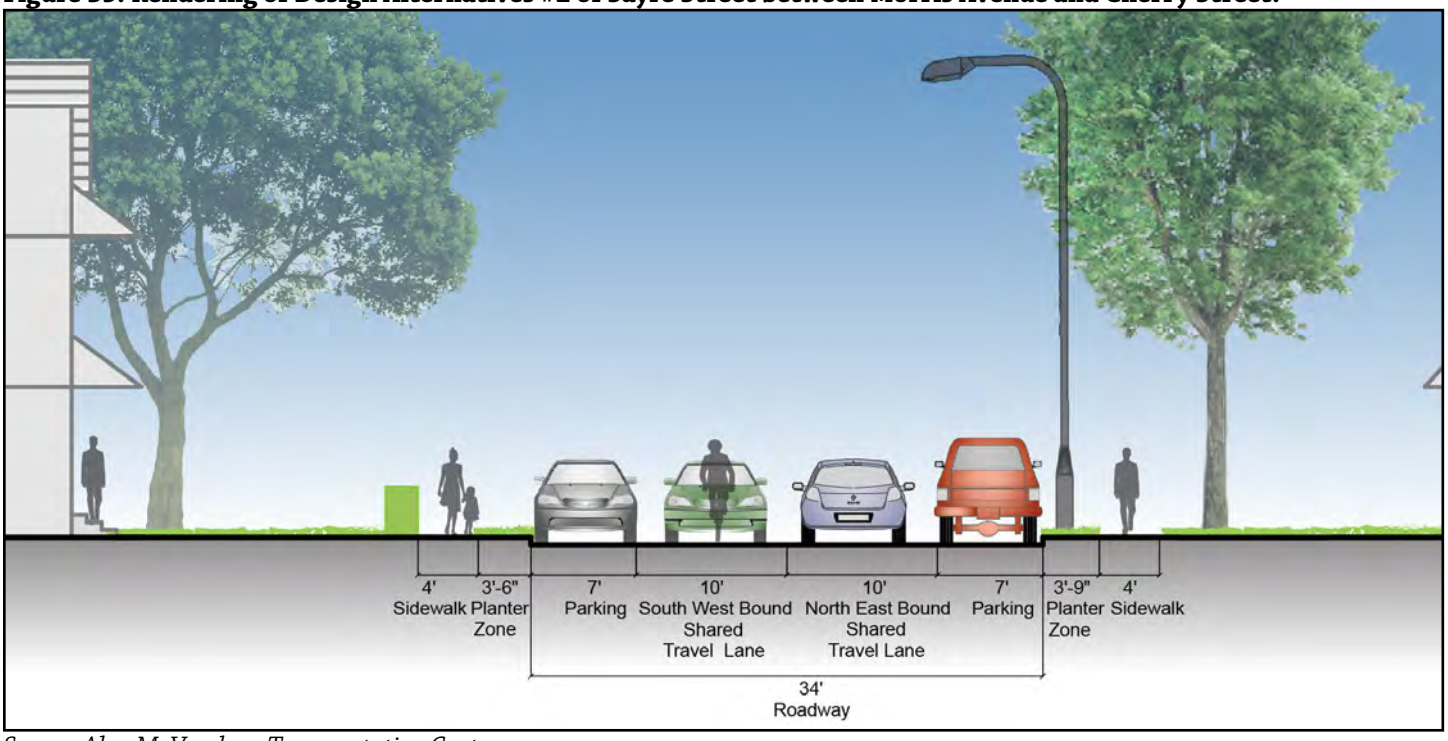
Sayre Street, West to Cherry Street

Recommendations

Because of the quieter and residential nature of the five side streets, the recommendations differ significantly from those for Morris Avenue. Recommendations for Design Alternative #1 continue to be focused on maintenance of existing facilities and enforcement of traffic laws. These would include repairing cracked and uneven sidewalks; removing obstructions and litter from sidewalks; planting trees; replacing faded parking signs; removing unruly vegetation; enforcing parking and driving laws; removing items that decrease sightlines of drivers at intersections; painting parking spaces; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. Some of these improvements may be more challenging for the City to implement – such as sidewalk repair – because they may be the responsibility of residents; however, it is important for the City to be aware of these issues since they immediately impact the ability of residents to safely and easily access Morris Avenue by foot or bicycle.

Given the narrow width of the existing roadways, only recommendations for the low cost Design Alternative #2 is given for Sayre, Elm, and Stiles Streets. On Sayre Street, this Design Alternative builds upon the improvements of the first, adding a sharrow on both travel lanes to accommodate bicyclists, while keeping the travel lane widths at 10 feet and parking at seven feet.

Figure 35: Rendering of Design Alternatives #2 of Sayre Street between Morris Avenue and Cherry Street.



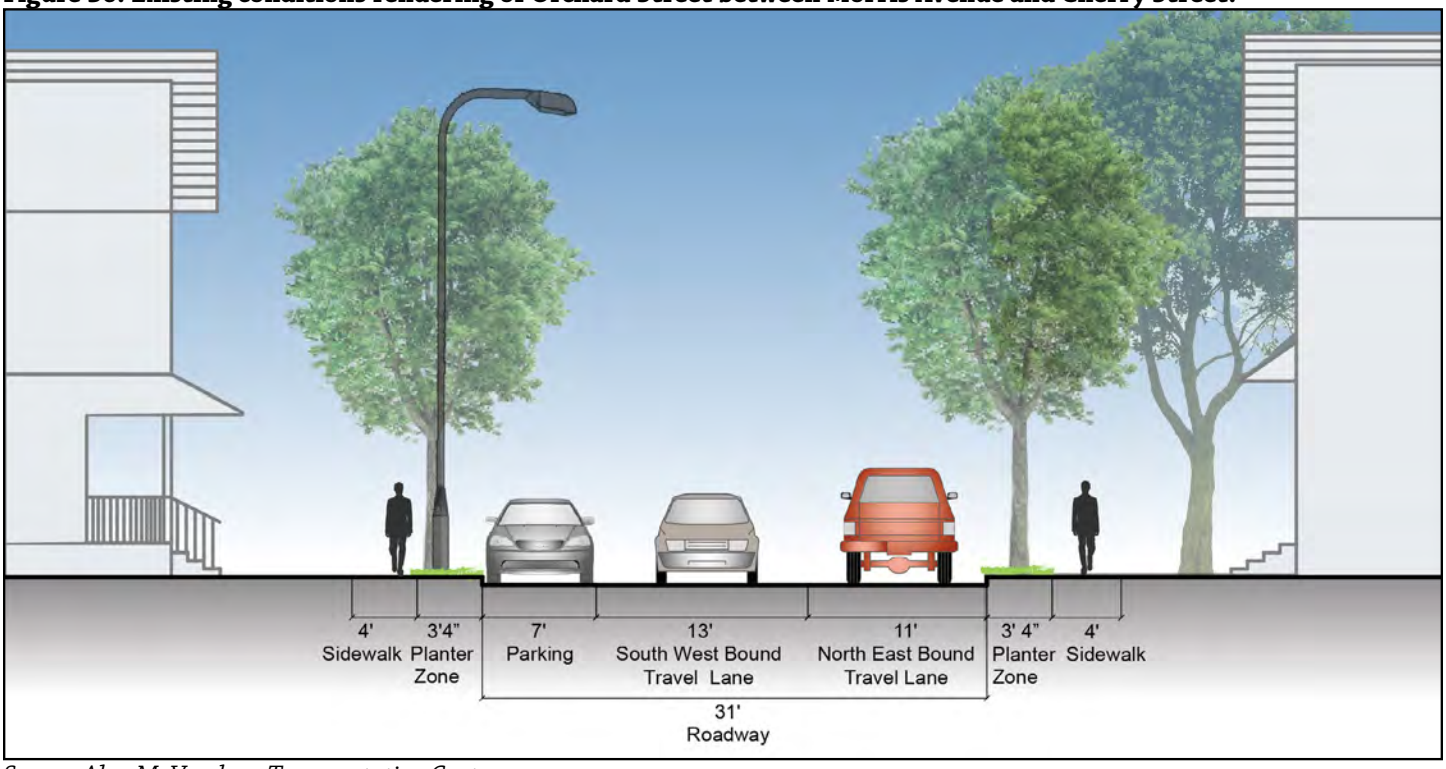
Source: Alan M. Voorhees Transportation Center

Orchard Street, West to Cherry Street

Existing Conditions

Orchard Street is a 31-foot wide roadway, with two lanes of bi-directional traffic, and a parking lane on the north side of the street. Aside from the parcels directly abutting Morris Avenue and Cherry Street, the street is residential in nature.

Figure 36: Existing conditions rendering of Orchard Street between Morris Avenue and Cherry Street.



Source: Alan M. Voorhees Transportation Center

- **Sidewalks:** Each side has four-foot sidewalks that are separated from the street with a planning area. The planting area is home to both trees and utility poles. Some of the trees have uprooted the sidewalk.

  The new driveway access to the Bravo shopping area was improperly built, as it is entirely at a slope. ADA requires a flat movement area.

- **Street Crossings:** The intersection of Orchard and Cherry is in good condition. Every corner has properly aligned ramps, ladder crosswalks, and pedestrian signals. See Morris Avenue and Orchard Street section for more information about that intersection.

- **Driver Behavior:** Parked cars were observed in driveways blocking sidewalks.

- **Safety:** Once again, the most dangerous characteristics of this street are the broken sidewalks. Overgrown vegetation are also an annoyance, as they interfere with walking.

- **Comfort and Appeal:** Occasional trees exist within the planting area. Trashcans are located at the Cherry Street intersection.

- **Pedestrian Behavior:** A bicyclist was observed riding on the wrong side of the road.

Orchard Street, West to Cherry Street

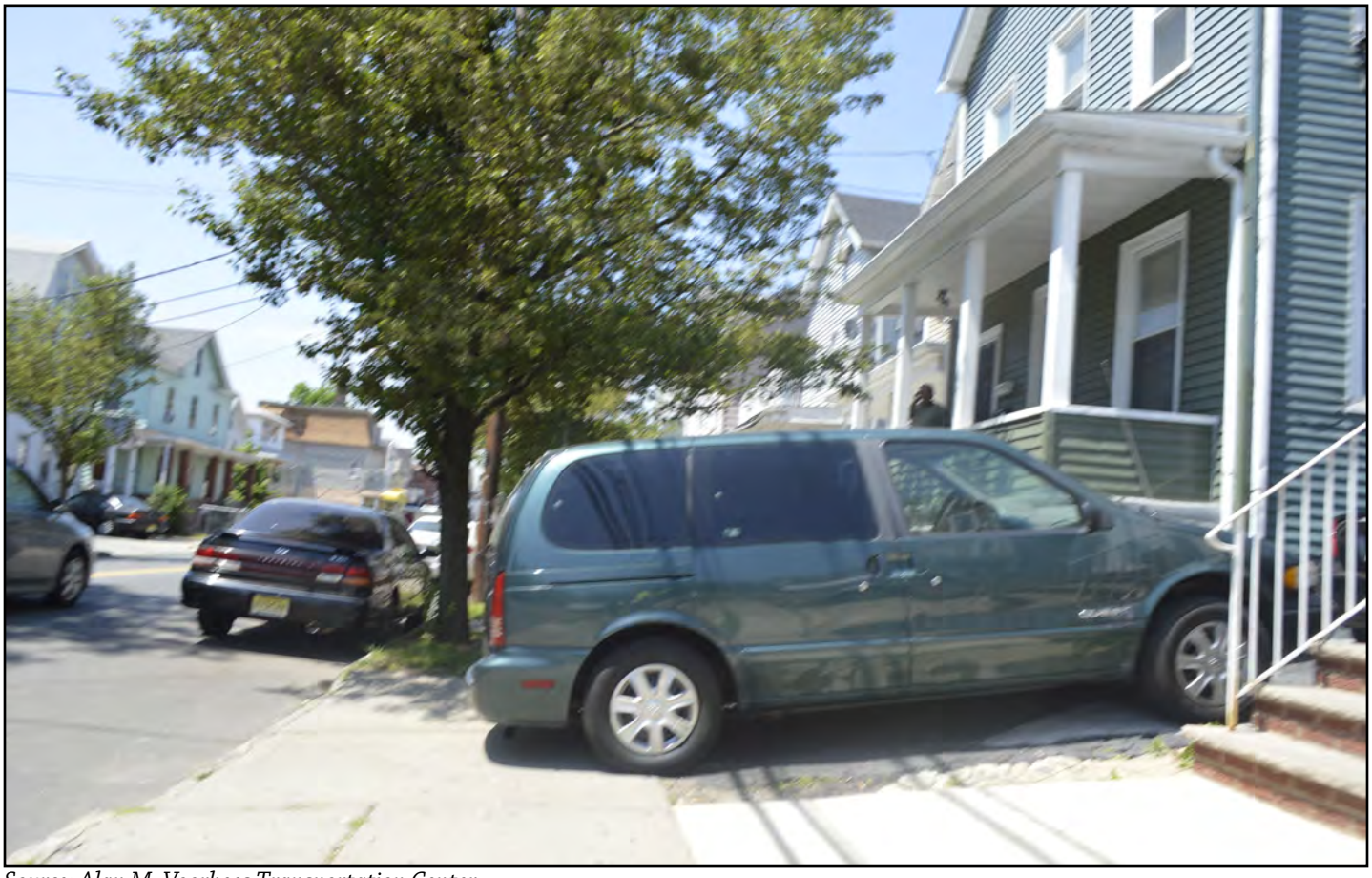
Cracked sidewalk on Orchard Street.

Source: Alan M. Voorhees Transportation Center

Uneven sidewalk on Orchard Street.

Source: Alan M. Voorhees Transportation Center

Education and enforcement is needed to prevent cars from being parked in a way that blocks pedestrian passage on the sidewalks on Orchard Street.



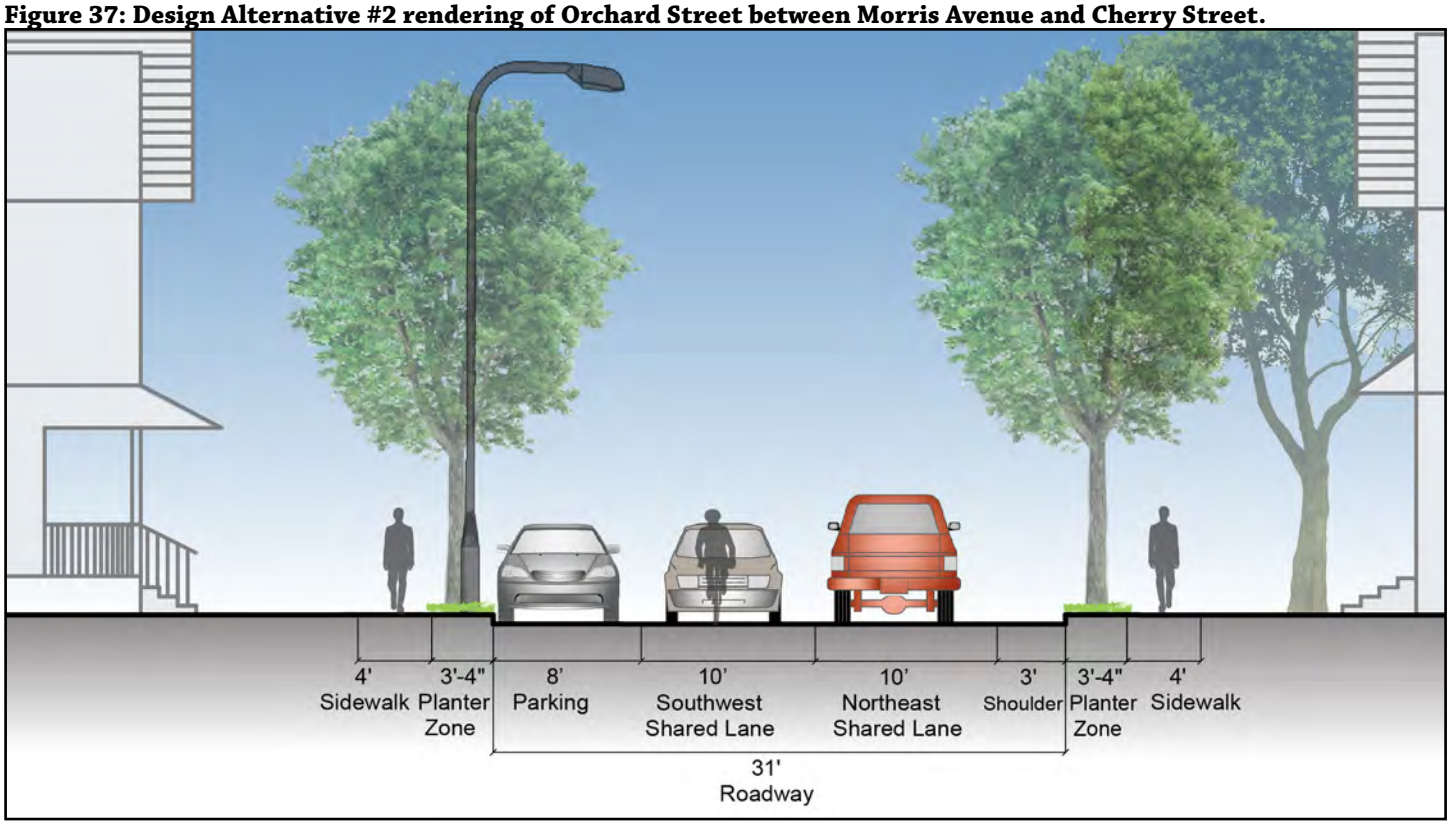
Source: Alan M. Voorhees Transportation Center

Recommendations

On Orchard Street, recommendations for Design Alternative #1 continue to be focused on maintenance of existing facilities and enforcement of traffic laws. These would include repairing cracked and uneven sidewalks; removing obstructions and litter from sidewalks; planting trees; replacing faded parking signs; removing unruly vegetation; enforce parking and driving laws; removing items that decrease sightlines of drivers at intersections; painting parking spaces; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines.

In addition to the improvements in Design Alternative #1, Design Alternative #2 recommends the construction of a sharrows in both travel lanes. Both travel lanes would be restriped and narrowed to 10 feet and a three-foot shoulder would be added to the northeast-bound lane to accommodate bicyclists. Parking is not currently allowed there, so there is space for this accommodation.

Figure 37: Design Alternative #2 rendering of Orchard Street between Morris Avenue and Cherry Street.

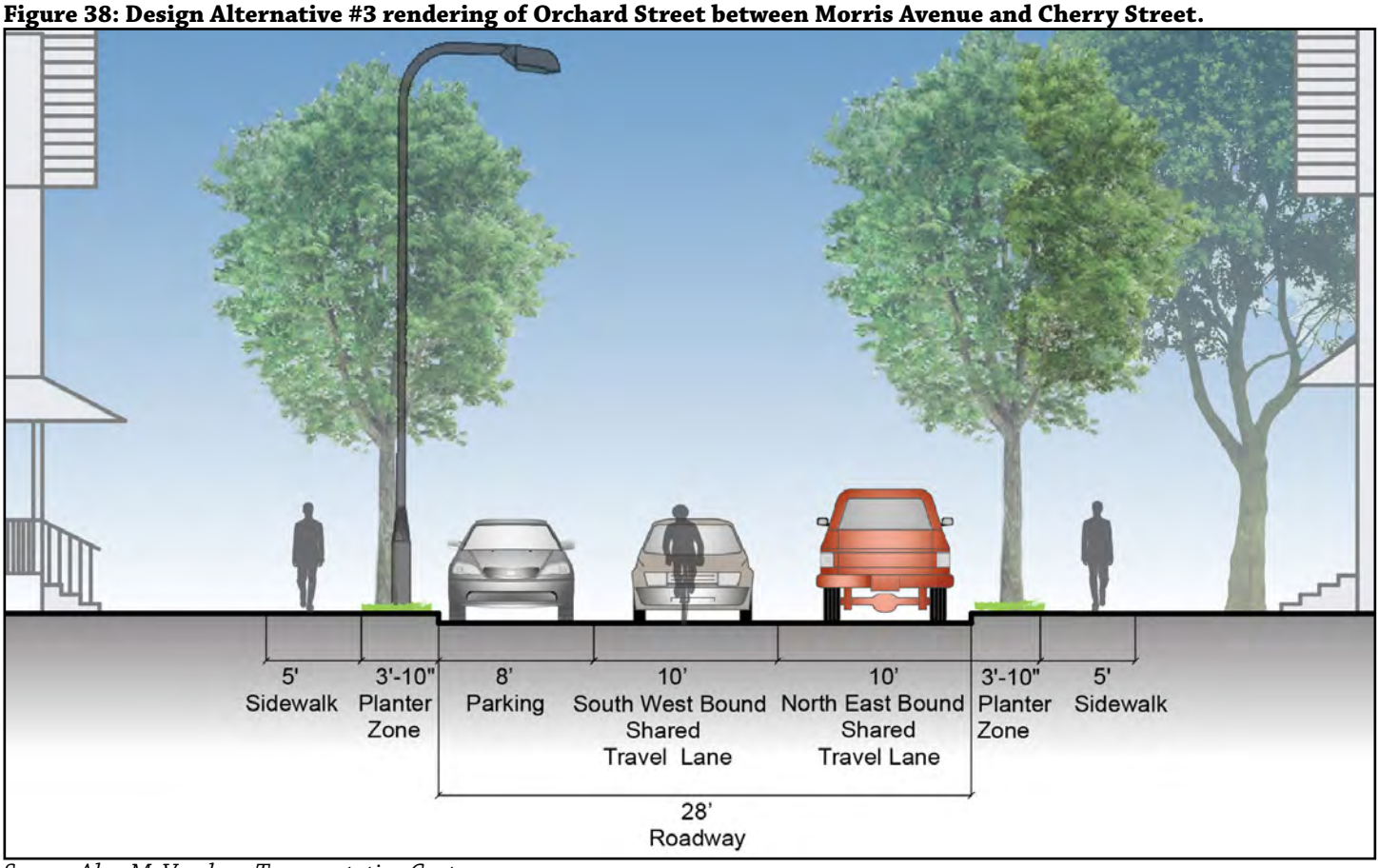


Source: Alan M. Voorhees Transportation Center

Finally, Design Alternative #3 would again add sharrows to both travel lanes (in addition to continued maintenance and traffic enforcement), but would also widen the sidewalks by one foot on each side thereby narrowing each travel lane to ten feet in each direction.

Orchard Street, West to Cherry Street

Figure 38: Design Alternative #3 rendering of Orchard Street between Morris Avenue and Cherry Street.

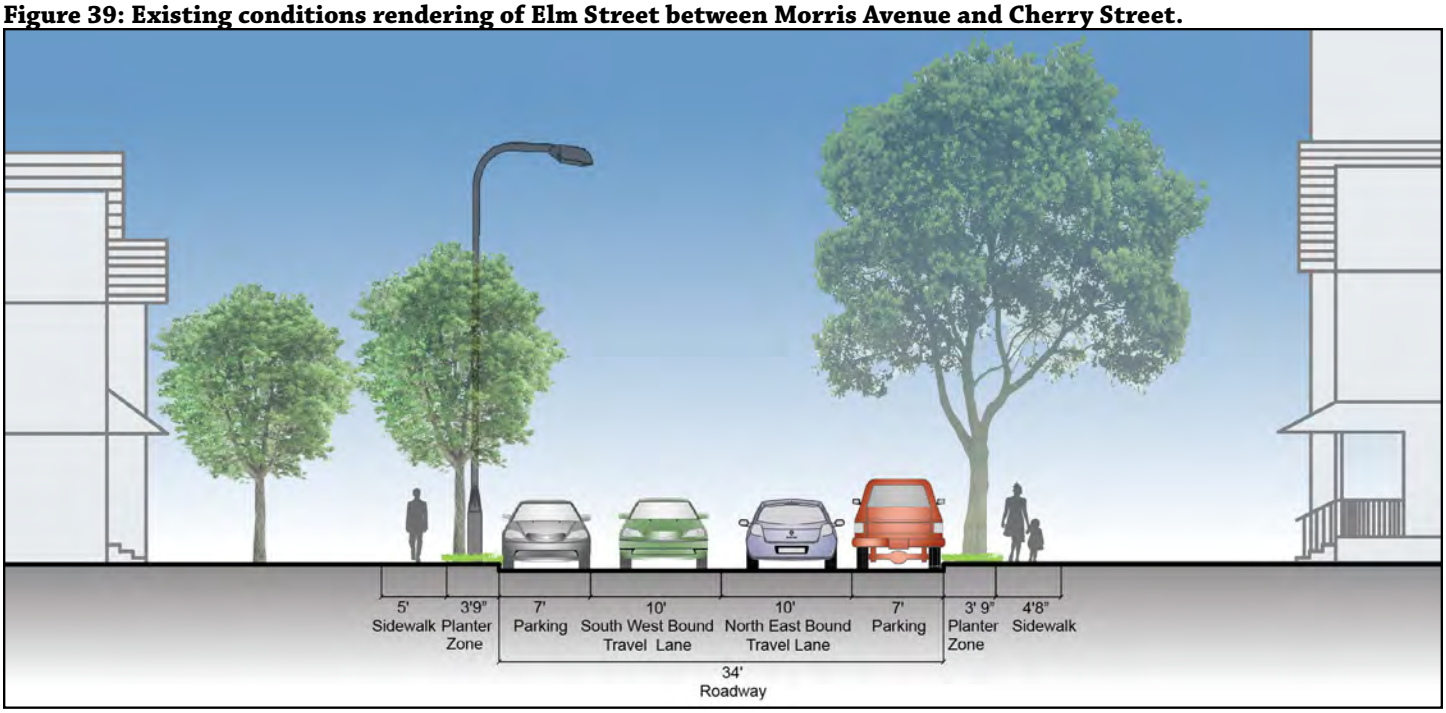


Source: Alan M. Voorhees Transportation Center

Existing Conditions

Elm Street is a 34-foot wide roadway, with two lanes of bi-directional traffic, and a parking lane on each side of the street. Aside from the parcels directly abutting Morris, the street is residential in nature. The street includes a 5-story apartment block, along with typical detached multi-family homes.

Figure 39: Existing conditions rendering of Elm Street between Morris Avenue and Cherry Street.



Source: Alan M. Voorhees Transportation Center

- **Sidewalks:** Each side is lined by sidewalks that are separated from the street with a planting area, and vary in width from 4.5-feet to 5-feet. The planting area is home to both trees and utility poles. Cracks and grass between slate slabs again are present. Sidewalks are uneven at driveways, and are sloped towards the street.

- **Street Crossings:** The intersection at Cherry Street has two parallel-facing ramps at each corner, as well as a crosswalk in each direction. There were no pedestrian signals. See the Morris Avenue and Elm Street section for information about the Morris/Elm intersection.

- **Driver Behavior:** No aberrant or dangerous behavior was observed.

- **Safety:** The most dangerous characteristic of this street are the broken and cracked sidewalks, which can be dangerous for the elderly and children, and inaccessible to wheelchairs.

- **Comfort and Appeal:** The street is home to some large, mature trees that greatly enhance the visual appeal of the block. However, there are many gaps where additional trees could be planted. The street is littered with garbage and the greenery uncut.

- **Pedestrian Behavior:** Pedestrians were observed crossing mid-block. No bicyclists were observed.

Elm Street, West to Cherry Street

Trash on an Elm Street sidewalk.

Source: Alan M. Voorhees Transportation Center

Uneven sidewalk on Elm Street.

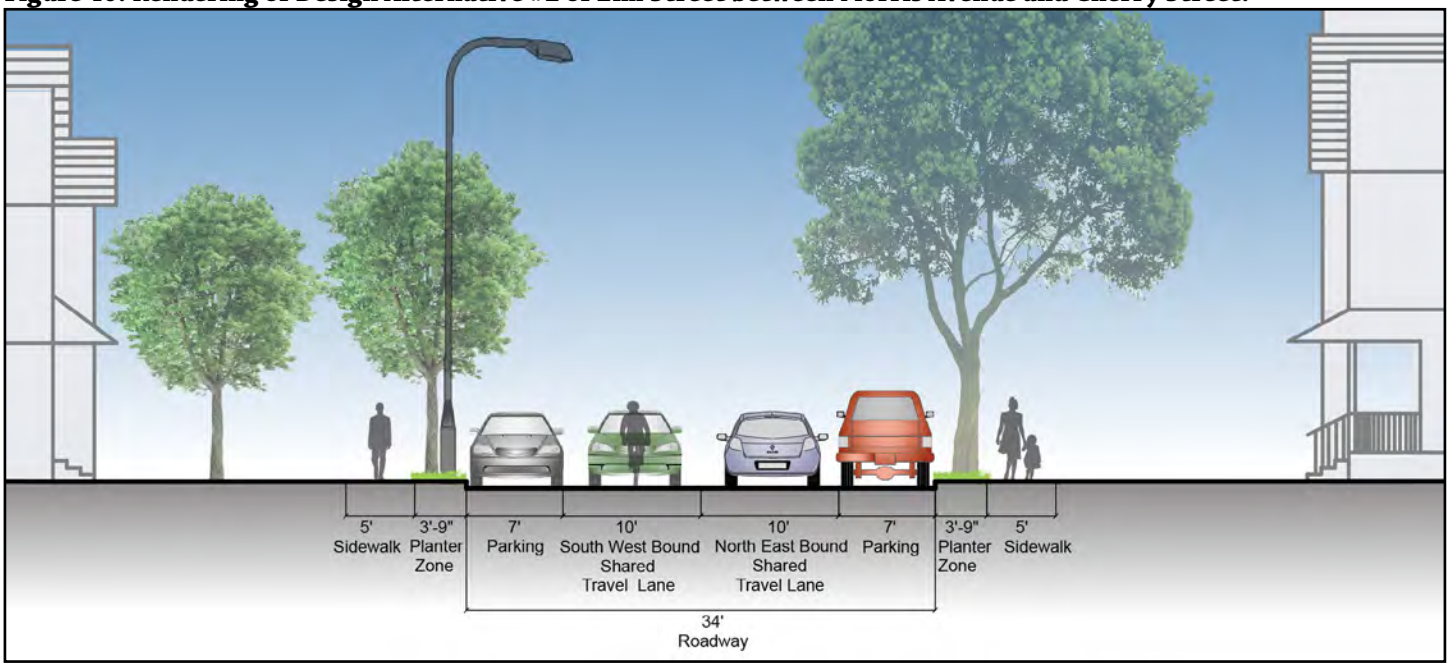
Source: Alan M. Voorhees Transportation Center

Recommendations

Recommendations for Design Alternative #1 continue to be focused on maintenance of existing facilities and enforcement of traffic laws. These would include repairing cracked and uneven sidewalks; removing obstructions and litter from sidewalks; planting trees; replacing faded parking signs; removing unruly vegetation; enforce parking and driving laws; removing items that decrease sightlines of drivers at intersections; painting parking spaces; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. Some of these improvements may be more challenging for the City to implement – such as sidewalk repair – because they may be the responsibility of residents; however, it is important for the City to be aware of these issues since they immediately impact the ability of residents to safely and easily access Morris Avenue by foot or bicycle.

Given the narrow width of the existing roadway, Elm Street, like Sayre and Stiles Streets, only has recommendations for the low cost Design Alternative #2. This Design Alternative builds upon the improvements of the first with the addition of a sharrow on both travel lanes to accommodate bicyclists, while keeping the travel lane widths at 10 feet and parking at seven feet.

Figure 40: Rendering of Design Alternative #2 of Elm Street between Morris Avenue and Cherry Street.



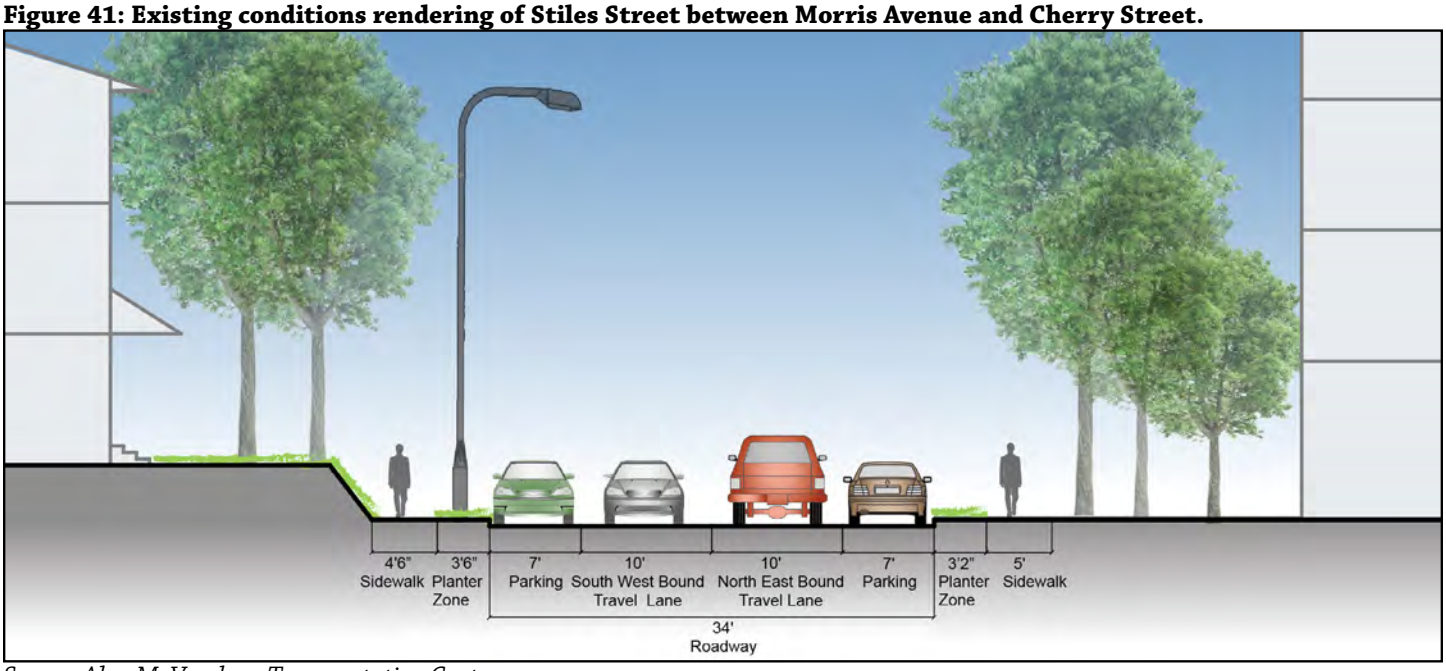
Source: Alan M. Voorhees Transportation Center

Stiles Street, West to Cherry Street

Existing Conditions

Stiles Street is a 34-foot wide roadway, with two lanes of bi-directional traffic, and a parking lane on each side of the street. As it approaches Morris Avenue, Stiles Street is home to large commercial properties. Further away, the street is built up with large residential apartment blocks set back from the street. Driveways lead to large parking lots in the rear, rather than individual garages.

Figure 41: Existing conditions rendering of Stiles Street between Morris Avenue and Cherry Street.



Source: Alan M. Voorhees Transportation Center

- **Sidewalks:** Stiles Street is lined by five foot sidewalks on the south side and four and a half foot sidewalks on the north side. They are separated from the street with a planting area. The planting area is home to utility poles, with some trees that are set back closer to the properties. The sidewalks, especially at driveway entrances, are cracked and uneven. The sidewalk on the north side of Stiles Street, close to Morris Avenue, is sloped, creating a hazard for wheelchair users.

- **Street Crossings:** This intersection has one diagonally-placed ramp at each corner and a crosswalk at each direction. See Morris and Elm section for information about the Morris/Elm intersection.

- **Driver Behavior:** No dangerous or aberrant behavior was observed in this location.

- **Safety:** The most dangerous characteristics of this street is the broken and cracked sidewalk, which can be dangerous for the elderly and children, and inaccessible to wheelchairs.

- **Comfort and Appeal:** The section of Stiles Street closest to Morris is made up of large surface parking lots, which detract from the visual appeal. Further, while the apartments down the block have large landscaping area, they are mostly filled with grass, rather than trees, bushes, or flowers. This leaves the street feeling too open and barren.

- **Pedestrian Behavior:** No dangerous or aberrant behavior was observed. Bicyclists were observed using the street.

Stiles Street, West to Cherry Street

Cracked sidewalk on Stiles Street.

Source: Alan M. Voorhees Transportation Center

Bicyclist on Stiles Street.

Source: Alan M. Voorhees Transportation Center

Runner being cut off by an automobile at the intersection of Stiles Street and Morris Avenue.

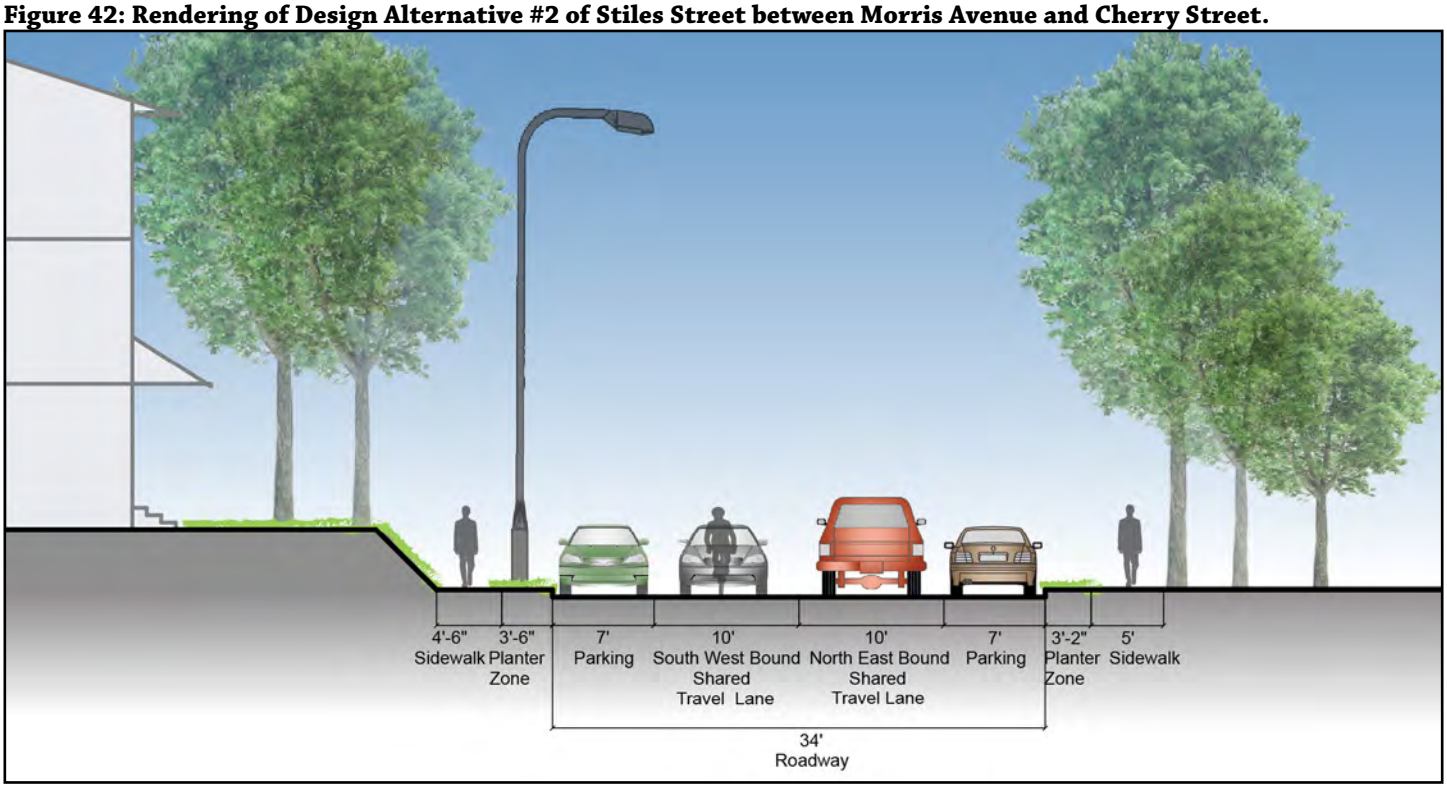
Source: Alan M. Voorhees Transportation Center

Recommendations

Recommendations for Design Alternative #1 continue to be focused on maintenance of existing facilities and enforcement of traffic laws. These would include repairing cracked and uneven sidewalks; removing obstructions and litter from sidewalks; planting trees; replacing faded parking signs; removing unruly vegetation; enforce parking and driving laws; removing items that decrease sightlines of drivers at intersections; painting parking spaces; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. Some of these improvements may be more challenging for the City to implement – such as sidewalk repair – because they may be the responsibility of residents; however, it is important for the City to be aware of these issues since they immediately impact the ability of residents to safely and easily access Morris Avenue by foot or bicycle.

Given the narrow width of the existing roadway, Stiles Street, like Elm and Sayre Streets, only has recommendations for the low cost Design Alternative #2. This Design Alternative builds upon the improvements of the first with the addition of a sharrow on both travel lanes to accommodate bicyclists. The width of the travel lanes remain at 10 feet and parking at seven feet.

Figure 42: Rendering of Design Alternative #2 of Stiles Street between Morris Avenue and Cherry Street.



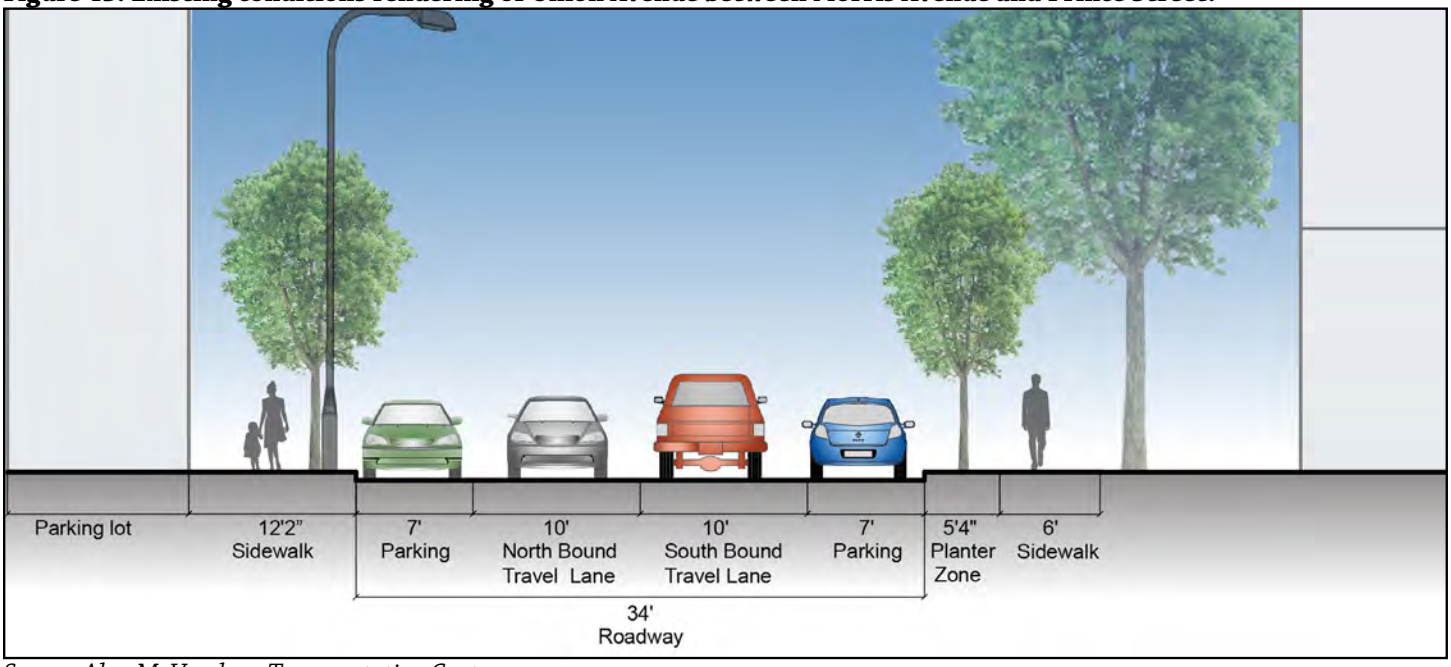
Source: Alan M. Voorhees Transportation Center

Union Avenue, East to Prince Street

Existing Conditions

Union Avenue is a 34-foot wide roadway, with two lanes of bi-directional traffic, and a parking lane on each side of the street. As it approaches Morris Avenue, Union Avenue is fronted by the sides of commercial buildings. The next section is bordered on each side with very large surface parking lots. Indeed, the majority of the street has parking lots on either side.

Figure 43: Existing conditions rendering of Union Avenue between Morris Avenue and Prince Street.



Source: Alan M. Voorhees Transportation Center

Sidewalks: The eastern side of the street has twelve-foot sidewalks, a portion of which is used for utility poles and trees. Unlike Morris Avenue, this section is not delineated by a different paving material. Further from Morris Avenue, the sidewalk shrinks to make way for a planting strip. The sidewalks are cracked in places, but not as badly as the other four cross streets. The western side of the road has a 6-foot sidewalk, with a grass planting strip throughout the length of the block.

Street Crossings: The intersection of Union Avenue and Prince Street has a diagonally-placed ramp at each corner, as well as continental-style crosswalks in each direction. There are no pedestrian signals. See the Morris Avenue and Westfield Avenue section for more information about the Union/Morris intersection.

Driver Behavior: No dangerous or aberrant behavior was observed in this location.

Safety: The cracks on the sidewalk could cause trouble for the elderly, children, and the wheelchair-bound.

Comfort and Appeal: The lack of a landscaping strip on the eastern side of the street can overwhelm the pedestrian with barren concrete. There are also few trees in this location.

Pedestrian Behavior: No dangerous or aberrant behavior was observed in this location. No bicyclists were observed, although bicycles were chained to trees.

Union Avenue, East to Prince Street

Pothole at the intersection of Morris Avenue and Union Avenue.

Source: Alan M. Voorhees Transportation Center

A cracked sidewalk on Union Avenue should be repaired for pedestrian safety.

Source: Alan M. Voorhees Transportation Center

Sidewalk on Union Avenue facing north. Adding a planter zone would improve the walk for pedestrians.

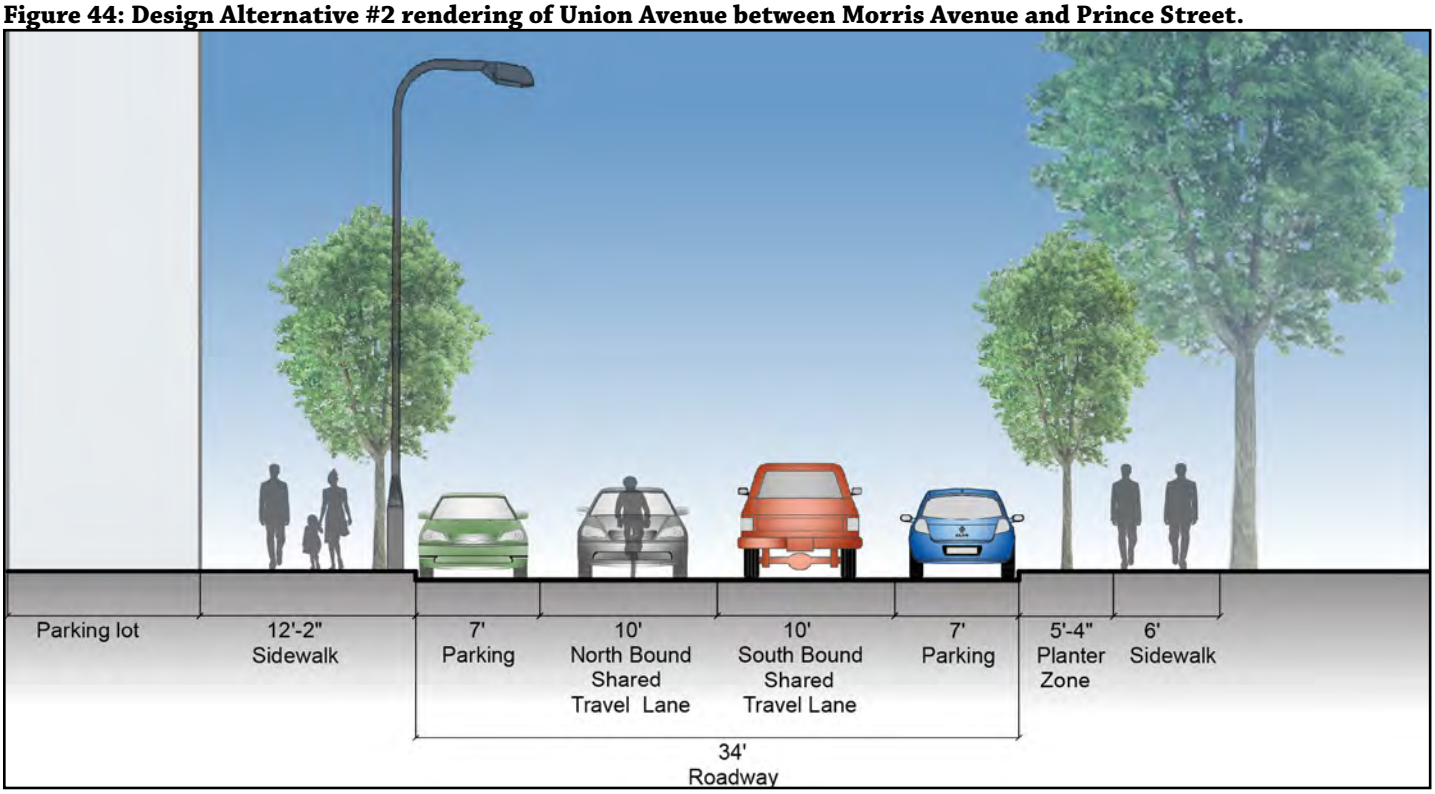
Source: Alan M. Voorhees Transportation Center

Recommendations

Recommendations for Design Alternative #1 continue to be focused on maintenance of existing facilities and enforcement of traffic laws. These would include repairing cracked and uneven sidewalks; removing obstructions and litter from sidewalks; planting trees; replacing faded parking signs; removing unruly vegetation; enforce parking and driving laws; removing items that decrease sightlines of drivers at intersections; painting parking spaces; and adding plastic bollards or bicycle parking by intersections to prevent illegal parking and preserve sightlines. Some of these improvements may be more challenging for the City to implement – such as sidewalk repair – because they may be the responsibility of residents; however, it is important for the City to be aware of these issues since they immediately impact the ability of residents to safely and easily access Morris Avenue by foot or bicycle.

Design Alternative #2 builds upon these improvements with the addition of a sharrow on both travel lanes. Because the travel lanes are quite narrow in each direction and traffic volumes are low, narrowing of the travel lanes was not necessary.

Figure 44: Design Alternative #2 rendering of Union Avenue between Morris Avenue and Prince Street.

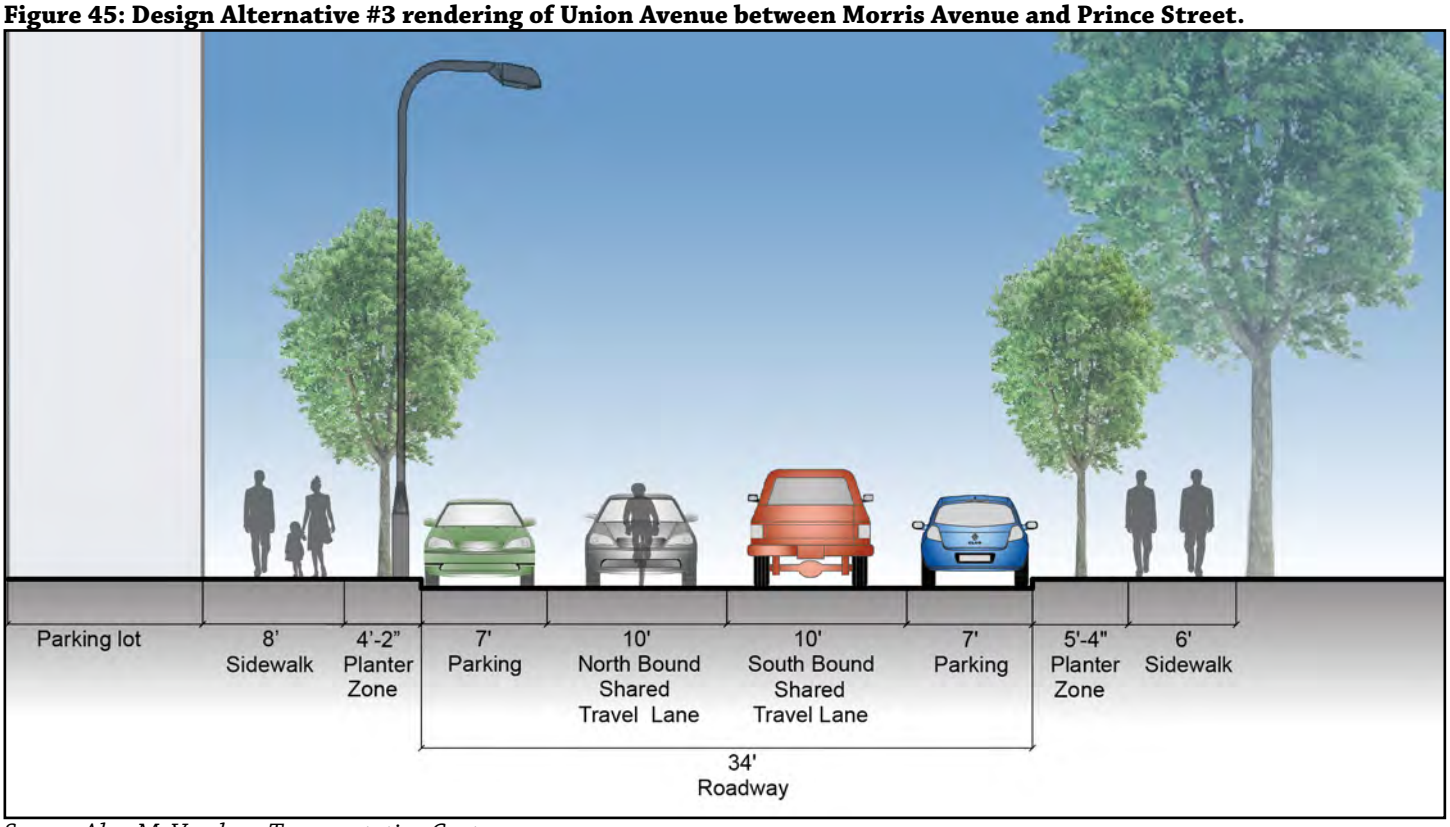


Source: Alan M. Voorhees Transportation Center

Design Alternative #3 would also add sharrows to both travel lanes (in addition to continued maintenance and traffic enforcement). The recommendations would narrow the sidewalks, but would replace the lost pedestrian space with planter zones. The widths of the travel lanes would remain the same.

Union Avenue, East to Prince Street

Figure 45: Design Alternative #3 rendering of Union Avenue between Morris Avenue and Prince Street.



Source: Alan M. Voorhees Transportation Center

Project Funding

Many sources of funding for Complete Streets improvements in the study corridor are available, from local, state, and federal sources. Most are available from departments of transportation in the form of various competitive grant programs, although funds may also be found through less typical sources, such as New Jersey's Transportation Management Association (TransOptions covers Elizabeth), and capital works funding. The City may be able to fund the entire project from one source, or it may find it necessary to acquire funds from a number of smaller pots. The funding sources listed in Appendix E are divided into two types of funding, 1) planning and programmatic activities, and 2) projects. Table E-1 may help the city prepare more detailed plans as well as educational efforts, while Table E-2 provides information for funding construction projects.

Each funding source listed in the Appendix varies in its application requirements; the most pertinent website(s) is listed to assist in finding more detailed information. Not listed, but still of importance are partnerships with other municipalities – in this case Union Township, which shares Morris Avenue with Elizabeth – and community groups, non-profit organizations, other city and county departments, and nearby post-secondary institutions. Collaboration may provide opportunities for more funding than would otherwise be unattainable. The City should think expansively when considering funding for this project – and indeed all Complete Streets projects are, by their nature, multi-faceted and collaborative undertakings.

Regional Connections, Implementation, and Next Steps

TOGETHER North Jersey's Local Government Capacity Grant Program (LGCGP) provides financial and technical assistance to members of the coalition to conduct planning activities for local governments in Northern New Jersey. The goal of the program is to build capacity within these communities to advance the development of a Regional Plan for Sustainable Development in the 13-county North Jersey region. The LGCGP is funded by a Sustainable Communities Regional Planning Grant, a partnership between the U.S. Department of Housing and Urban Development, the Federal Highway Administration, and the U.S. Environmental Protection Agency. It is administered to TOGETHER North Jersey members through the North Jersey Transportation Planning Authority. In order to facilitate the inter-agency review process, the funding agencies have developed guidance for all LGCGP final reports. This section of the report summarizes the key elements that the guidance requires be addressed.

General Recommendations

Policy & Legislative Changes

No specific additional policy recommendations were recommended. The City of Elizabeth currently has a Complete Streets policy, which it adopted in 2014. Any future roadway design project should take into consideration the requirements and goals of the policy.

Future Planning Studies

Downtown Elizabeth – including Morris Avenue – has been the recipient of numerous planning studies, as outlined in Chapter 5. However, pedestrian and bicyclist access and use was not explored in depth. While this study does provide some information about the travel habits, behaviors and needs of the study corridor residents, this was not its primary mission. Morris Avenue could benefit from future planning studies that explore these issues as it could build further community support for the Complete Streets improvements. The initial surveys and discussions with residents suggest an interest in being involved with the planning process,

which would be integral to improving the safety and enjoyment of all road users. By doing so, the goal of inclusion and engagement of traditionally under-represented populations established by the Regional Plan for Sustainable Development would also be furthered. Additionally, recommendations should be included in specific redevelopment area designations for Morris Avenue.

Implementation Strategies and Actions

Upon completion of the study, a number of strategies and actions are recommended. The City of Elizabeth should select a design alternative for implementation. This discussion should involve the Department of Planning and Community Development, the Elizabeth Development Company, and the Department of Public Works, among others. Concurrently, funding opportunities should be examined and pursued, depending on which design alternative is chosen. Stakeholders and community groups should also be more intimately involved in the decision-making process so as to build community support. Finally, more community outreach meetings should be held to explain the proposed changes and to receive feedback from residents.

Specific Projects

This project provides design and implementation recommendations for a segment of Morris Avenue and its side streets. This set of recommendations will help guide the development of future Complete Streets projects for Morris Avenue and its side streets. They have been prepared to address the needs and deficiencies associated with the right-of-way in accordance with the principles of the Elizabeth Complete Streets policy. Future development projects should try to incorporate appropriate elements of this plan into their efforts. In combination with the funding information provided in Chapter 6, this report provides strategies to improve Morris Avenue.

Inclusion & Engagement

By its very nature, Complete Streets policies and implementation plans strive to be inclusive by making the streets safe for all users, regardless of who lives in the community. A number of strategies were undertaken to ensure that the study corridor's community was engaged in this project's process. The project team completed an analysis of the study area's traditionally under-represented populations (see next section below). The project team used this information to inform the design alternatives, community surveying, and community outreach. The project team found that many residents in the study area are immigrants and speak Spanish as their primary language. The pedestrian and business surveys were translated into Spanish; a fluent Spanish speaker was present at the community outreach event.

Consideration & Inclusion of Data About Traditionally Under-Represented Communities

The project team produced maps and tables that show the extent of traditionally under-represented populations within the study area. Results show that the study area has many indicators that exceed the regional threshold. Of particular significance were the minority populations, number of carless households, and persons with Limited English Proficiency (see Chapter 5 for more information). The information gathered informed the project's community outreach efforts and the final design alternatives, reflecting in particular the many people who do not have cars and the cultural propensity for walking.

Regional Context

The Morris Avenue Complete Streets Concept Plan recommends the implementation of one of the design alternatives provided in this report. It is in line with the principles and philosophy of the City of Elizabeth

Complete Streets policy and is consistent with the goals of TOGETHER North Jersey's Regional Plan for Sustainable Development (RPSD). When implemented, the Morris Avenue Complete Streets plan can be an example for other communities in the TOGETHER North Jersey region with similar community and transportation challenges. It would be most applicable to city place-types in particular because of likely density, demographic, and traffic pattern similarities. The experience of this project could influence the RPSD or be applied to future projects throughout the North Jersey region that seek to implement Complete Streets policies. Table 18 shows which RPSD topics are primarily or secondarily associated with the Morris Avenue Complete Streets Concept Plan. Lessons learned from the study process – in particular the importance of outreach to traditionally underrepresented populations and working with stakeholders – should be incorporated into the RPSD. Given the diversity of Northern New Jersey's communities, the experience of this study should inform the RPSD and future projects and programs about the importance of building a group of community members committed to the project and to conducting an inclusive planning process.

Table 18: Associated RPSD Topics

Livability & the Environment		**Economic Competitiveness & Workforce Development**		**Society & Community**	
Land use & urban design	●	Asset-based infrastructure development	●	Health & safety	**X**
Transportation	**X**	Workforce preparedness & training		Arts & culture	
Housing		Industry sector development		Education	
Energy & climate	●	Business environment & entrepreneurial support			
Natural lands					
Air quality	●				
Water resources					

X = Primary association with topic ● = Secondary association with topic

Additionally, because Morris Avenue does not end at the border of Elizabeth but rather continues into Union Township, future plans should strive to incorporate that section of Morris Avenue and engage stakeholders in that area, especially Kean University. Kean University students are frequently in Elizabeth and on Morris Avenue, given its short distance – within walking and bicycling distance – from Morris Avenue and the Midtown Elizabeth Train Station. Collaboration with stakeholders in that area of Union Township could help ensure that Morris Avenue is safe and accessible to all users and linkages to the Midtown Elizabeth Train Station are strengthened.

Conclusion

The Alan M. Voorhees Transportation Center (VTC), in cooperation with the North Jersey Transportation Planning Authority, undertook an effort to provide technical assistance to the City of Elizabeth, New Jersey to identify strategies to make changes to the street that would improve accessibility by users of all transportation modes, improve the quality of life for residents living nearby, and attract customers to local businesses. The result of this effort is a Complete Streets Concept Plan. To do this, VTC engaged with stakeholders and community members, conducted a walkability audit, and reviewed previous studies and demographic data. These efforts revealed that while the Morris Avenue study is primarily automobile-oriented, it has good basic pedestrian infrastructure, especially in the vicinity of the Elizabeth Midtown Station. However, the study corridor lacks basic bicycle and bus passenger infrastructure that would help improve the safety of those

users. Bicyclists were observed bicycling on sidewalks and on the wrong side of the street, while and boarding/ disembarking bus passengers were observed crossing midblock, which is where the bus stops are located. The danger of these behaviors is compounded by drivers who often sped and did not yield to pedestrians and bicyclists. Aesthetic issues were also noted, including litter, a lack of benches for pedestrians, cracked and broken sidewalks, potholes, a lack of crosswalks, and a lack of trees.

The importance of improving conditions for pedestrians, bicyclists, and bus passengers is supported by background research. It revealed residents of the study area are poorer than those in the rest of Union County, indicating that they likely rely non-automobile forms of transportation more. The median household income is $45,263, compared with $75,235 in Union County. Additionally, nearly half of the residents (48%) spend more than 30% of their income on housing (and therefore meeting the federal definition of being “housing burdened”), leaving them less money with which to buy a car. This is reflected in the commuting characteristics of residents in the study area. Twenty-two percent do not have a vehicle available for commuting purposes, about twice that of Union County (12%). (For renters in the study area it increases to 32%). Many people therefore commute by foot and by public transportation (which typically includes some walking, especially for bus commuters): five percent and 11 percent, respectively. Because Morris Avenue contains multiple bus stops and is a main thoroughfare to access the Elizabeth Midtown Station, enhancing the pedestrian environment will benefit many commuters, as well as those who frequently shop at the businesses in the corridor.

The design alternatives reflect the current conditions of the study corridor as observed during the walkability audit on May 29, 2014 and a follow-up site visit on July 24, 2014, data collection on the demographics of the study corridor, and collection of input from the stakeholders and the project team. This effort provides the City of Elizabeth with intimate knowledge of the current infrastructure conditions of the study corridor and information about its residents, which will ultimately allow the City to tailor Complete Streets improvements to the needs of the residents and business owners. Future Complete Streets efforts by the City of Elizabeth would ideally follow a similar effort to help make traveling within the City a safe, enjoyable experience.

Notes

1. America Walks and Sam Schwartz Engineering, Steps to a Walkable Community: A Guide for Citizens, Planners, and Engineers (Centers for Disease Control and Prevention, 2012), http://americawalks.org/walksteps/.
2. Nelson Nygaard, Complete Streets Handbook (Mid-America Regional Council, 2012), http://nelsonnygaard.com/wp-content/uploads/2014/04/MARC-Complete-Streets-Handbook.pdf.
3. Los Angeles County, Model Design Manual for Living Streets (Los Angeles County, 2011), http://www.modelstreetdesignmanual.com/chapters.html.
4. Parsons Brinkerhoff, Making Complete Streets a Reality: A Guide to Implementation (New Jersey Department of Transportation, 2012), http://www.state.nj.us/transportation/eng/completestreets/pdf/cspolicydevelopmentguide2012.pdf.
5. City of Colusa, California, Market Street/SR20 & 45 Complete Streets Concept Plan (City of Colusa, California, 2010), http://www.dot.ca.gov/hq/tpp/offices/ocp/pp_files/new_ppe/complete_streets/Colusa/31_Colusa_Summary_Final.pdf.
6. New Jersey Department of Transportation, Complete Streets Policy, (2009) http://www.state.nj.us/transportation/eng/completestreets/pdf/completestreetspolicy.pdf.
7. Parsons Brinkerhoff, Making Complete Streets a Reality: A Guide to Implementation.
8. "Safety," National Complete Streets Coalition, http://www.smartgrowthamerica.org/complete-streets/complete-streets-fundamentals/factsheets/safety
9. "Who We Are," National Complete Streets Coalition, http://www.smartgrowthamerica.org/complete-streets/who-we-are.
10. Nelson Nygaard, Complete Streets Handbook.
11. Parsons Brinkerhoff, Making Complete Streets a Reality: A Guide to Implementation.
12. U.S. Department of Transportation (January 3, 2014), "Transportation and Housing Costs," Livability Initiative, https://www.fhwa.dot.gov/livability/fact_sheets/transandhousing.cfm#foot1.
13. America Walks and Sam Schwartz Engineering, Steps to a Walkable Community: A Guide for Citizens, Planners, and Engineers.
14. Los Angeles County, Model Design Manual for Living Streets.
15. New Jersey Department of Transportation, Complete Streets Policy.
16. America Walks and Sam Schwartz Engineering, Steps to a Walkable Community: A Guide for Citizens, Planners, and Engineers.
17. Los Angeles County, Model Design Manual for Living Streets.
18. McCahill, Chris. "Per capita VMT drops for ninth straight year; DOTs taking notice." State Smart Transportation Initiative, http://www.ssti.us/2014/02/vmt-drops-ninth-year-dots-taking-notice/.
19. Parsons Brinkerhoff, Making Complete Streets a Reality: A Guide to Implementation.
20. City of Colusa, California, Market Street/SR20 & 45 Complete Streets Concept Plan.
21. Barbara McCann, and Suzanne Rynne., eds., Complete Streets: Best Policy and Implementation Practices (American Planning Association, 2010), http://www.smartgrowthamerica.org/documents/cs/resources/cs-bestpractices-chapter5.pdf.
22. Philadelphia Mayor's Office for Transportation and Utilities, Philadelphia Complete Streets Design Handbook.
23. Ibid.
24. America Walks and Sam Schwartz Engineering, Steps to a Walkable Community: A Guide for Citizens, Planners, and Engineers.
25. Los Angeles County, Model Design Manual for Living Streets.
26. "Elizabeth Through the Ages: Elizabeth NJ – A Concise Historical Overview," Historical Society of Elizabeth, http://www.visithistoricalelizabethnj.org/timeline.htm.
27. Phillips Preiss Grygiel, Larisa Ortiz Associates, and Eng-Wong, Taub & Associates, A Corridor Revitalization Plan for Morris Avenue (2010).
28. Urban Engineers, Elizabeth Parking and Traffic Circulation Study (2010).
29. North Jersey Transportation Planning Authority, Elizabeth Midtown Multi-Modal Integration Study (2011), http://www.njtpa.org/Planning/Regional-Studies/Recently-Completed-Studies/Elizabeth-Midtown-Multi-Modal-Integration-Study/ElizabethMidtownMultiModal/ElizabethMMStudyFinal_September2011.aspx.
30. U.S. Census Bureau, "Profile of General Population and Housing Characteristics: 2010," 2010 Census Summary File 1 Table DP-1, http://factfinder2.census.gov (accessed April 07, 2014).
31. Social Explorer, "Population Density (per sq. mile)," 2010 Social Explorer Table T2, http://www.socialexplorer.com/ (accessed April 07, 2014).
32. U.S. Census Bureau, "Hispanic or Latino Origin by Race," 2010 Census Summary File 1 Table P-5, http://factfinder2.census.gov (accessed April 24, 2014).
33. U.S. Census Bureau, "Sex by Age," 2010 Census Summary File 1 Table P-12, http://factfinder2.census.gov (accessed April 07, 2014).
34. U.S. Census Bureau, "Selected Economic Characteristics," 2008-2012 American Community Survey 5-Year Estimates Table DP03, http://factfinder2.census.gov (accessed April 07, 2014).
35. Ibid.
36. Ibid.
37. U.S. Census Bureau, "Sex by Age by Educational Attainment for the Population 18 Years and Over," 2008-2012 American Community Survey 5-Year Estimates Table B15001, http://factfinder2.census.gov (accessed April 07, 2014).
38. U.S. Census Bureau, "Housing Units," 2010 Census Summary File 1 Table H1, http://factfinder2.census.gov (accessed April 07, 2014).
39. U.S. Census Bureau, "Occupancy Status," 2010 Census Redistricting Data Summary File Table H1, http://factfinder2.census.gov (accessed April 07, 2014).
40. U.S. Census Bureau, "Average Household Size by Age," 2010 Census Summary File 1 Table P17, http://factfinder2.census.gov (accessed April 21, 2014).
41. U.S. Census Bureau, "Group Quarters Population by Sex, Age, and Type of Group Quarters," 2010 Census Summary File 1 Table QT-P13, http://factfinder2.census.gov, (accessed April 24, 2014).
42. U.S. Census Bureau, "Median Year Structure Built," 2008-2012 American Community Survey 5-Year Estimates Table B25035, http://factfinder2.census.gov (accessed April 07, 2014).
43. U.S. Census Bureau, "Median Value (Dollars) of Owner-Occupied Housing Units," 2008-2012 American Community Survey 5-Year Estimates Table B25077, http://factfinder2.census.gov (accessed April 21, 2014).

44. U.S. Census Bureau, "Median Contract Rent (Dollars) of Renter-Occupied Housing Units," 2008-2012 American Community Survey 5-Year Estimates Table B25058, http://factfinder2.census.gov (accessed April 07, 2014).
45. U.S. Census Bureau, "Tenure by Housing Costs as a Percentage of Household Income in the Past 12 Months," 2008-2012 American Community Survey 5-Year Estimates Table B25106, http://factfinder2.census.gov, (accessed April 21, 2014).
46. Uniform Crime Reporting Unit, Uniform Crime Report (State of New Jersey, Division of State Police, 2011), http://www.njsp.org/info/ucr2011/index.html.
47. U.S. Census Bureau, "Selected Economic Characteristics," 2008-2012 American Community Survey 5-Year Estimates Table DP03, http://factfinder2.census.gov (accessed April 07, 2014).
48. U.S. Census Bureau, "Tenure by Vehicles Available," 2008-2012 American Community Survey 5-Year Estimates Table B25044, http://factfinder2.census.gov (accessed April 14, 2014).
49. Walkability Guide. Walk San Diego.

Appendices

Appendix A. City of Elizabeth Complete Streets Policy

RESOLUTION OF THE MUNICIPAL COUNCIL OF THE CITY OF ELIZABETH
TO ESTABLISH A COMPLETE STREETS POLICY

WHEREAS, the City of Elizabeth is committed to creating street corridors and intersections that safely accommodate all users abilities; and

WHEREAS, the New Jersey Department of Transportation supports Complete Street policies and adopted its own policy on December 3, 2009, which policy encourages municipalities to provide complete streets; and

WHEREAS, a Complete Street is defined as means to provide safe access for all users by designing and operating a comprehensive, integrated, connected multi-modal network of transportation options.

WHEREAS, the benefits of Complete Streets include the following:

- Improve safety for pedestrians, bicyclists, children, older citizens, non-drivers and the mobility challenged as well as those that cannot afford a car or choose to live car free;
- Provide connections to bicycling and walking trip generators such as employment, education, residential, recreation, retail centers and public facilities;
- Promote healthy lifestyles;
- Create more livable communities;
- Reduce traffic congestion and reliance on carbon fuels thereby reducing greenhouse gas emissions;
- Make fiscal sense by incorporating sidewalks, bike lanes, safe crossings and transit amenities into the initial design of a project, thus sparing the expense of retrofits later; and

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

WHEREAS, the City of Elizabeth wishes to implement the Complete Streets Policy through planning, design, construction, maintenance, and operation of new and retrofit transportation facilities, enabling safe access and mobility of pedestrians, bicyclists, transit users of all ages and abilities;

NOW, THEREFORE, BE IT RESOLVED by the Municipal Council of the City of Elizabeth that the City of Elizabeth adopts a Complete Streets Policy with the following goals and objectives:

1. City of Elizabeth public street projects, both new construction and reconstruction, shall be designed and constructed as "Complete Streets." The "Complete Street" accommodates all modes of transportation, including but not limited to, travel by pedestrians, bicyclists, public transit, and other motorized vehicles and their passengers.

2. Create a comprehensive, integrated, connected multi-modal network by providing connections to bicycling and walking trip generators such as employment, education, residential, recreational and public facilities, as well as retail and transit centers.

3. Provide safe and accessible accommodations for existing and future pedestrian, bicycle and transit facilities.

4. Establish a checklist of pedestrian, bicycle and transit accommodations such as accessible sidewalks curb ramps, crosswalks, countdown pedestrian signals, signs, curb extensions, pedestrian scale lighting, bike lanes, and shoulders for consideration in each project where City jurisdiction applies.

5. As all streets are different, evaluate resurfacing projects for complete streets inclusion according to length of project, local support, environmental constraints, right-of-way limitations, funding resources and bicycle and/or pedestrian compatibility.

6. Transportation facilities constructed for long-term use shall anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements.

7. Designs shall address the need for bicyclists and pedestrians to cross corridors, as well as travel along them, in a safe, accessible and convenient manner; therefore, the design of intersections, interchanges and bridges shall accommodate bicyclists and pedestrians.

8. Design bicycle and pedestrian facilities to the best currently available standards and practices including the New Jersey Roadway Design Manual, the AASHTO Guide for the Development of Bicycle Facilities, AASHTO's Guide for the Planning, Design and Operation of Pedestrian Facilities, NACTO Urban Bikeway Design Guide and the Manual of Uniform Traffic Control Devices.

9. Stay abreast of and support new technologies in improving safety and mobility.

10. Make provisions for pedestrians and bicyclists when closing roads, bridges or sidewalks for construction projects as outlined in NJDOT Policy #705 – Accommodating Pedestrian and Bicycle Traffic During Construction.

11. Improvements should also consider connections for Safe Routes to Schools, Safe Routes to Transit, Transit Villages and and areas or population groups with limited transportation options.

12. Improvements shall comply with Title VI/Environmental Justice, Americans with Disabilities Act (ADA) and should complement the context of the surrounding community.

13. Update the City's Design Standards to provide guidance for private developers to follow when private development affects elements of a complete street, such as sidewalks, crosswalks, handicapped ramps, street furniture, street lighting, street landscaping and roadway surfaces.

14. Exemptions to the Complete Streets policy shall be presented for final decision to the Director of Public Works in writing and documented with supporting data that indicates the reason for the decision and are limited to the following:

    a) Non-motorized users are prohibited on the roadway.

    b) Insufficient space in an existing right-of-way to design a Complete Street.

c) Scarcity of population, travel and attractors, both existing and future, indicate an absence of need for such accommodations.

d) Detrimental environmental or social impacts outweigh the need for these accommodations.

e) Cost of accommodations is excessively disproportionate to cost of project.

f) The safety or timing of a project is compromised by the inclusion of Complete Streets.

g) An exemption other than those listed above must be documented with supporting data and must be approved by the Director of Public Works.

15. This policy shall be incorporated into the next Master Plan Reexamination report and the adoption.

ADOPTED BY CITY COUNCIL OF
ELIZABETH, NJ AT MEETING
MAR 25 2014
YOLANDA M. ROBERTS
CITY CLERK

Mayor
Bus. Admin.
City Atty.
Finance Dir.
Fire Dir.
Police Dir.
Pub. Works Dir.
Recreation Dir.
Treasurer
Auditor
Purchasing
Personnel
Judge
Engineer
Bd. Mbrs
Bd. Adjust.
Plan. Bd.
Chief Fin. Off.
Policy & Plan. Dir
Health Care Dir.

Others

City Clerk

Date

Appendix B. Pedestrian Intercept Survey Instrument

RUTGERS
Alan M. Voorhees Transportation Center

Morris Avenue: Pedestrian Intercept Survey

Rutgers-VTC, in coordination with the City of Elizabeth and NJTPA, is producing a **Complete Streets Concept Plan** for the Morris Avenue corridor and its connecting streets. The Plan will address the transportation needs and concerns of the community and the City of Elizabeth. The Plan will include recommendations centered on improving economic development, traffic safety, public safety, pedestrian connectivity (especially to the train station), aesthetics of the urban environment, and social integration.

When answering all of the questions on this survey, think about your use and experiences along the 1-mile portion of Morris Avenue, from the Elizabeth train station, to North Avenue (south of Kean University)

1. Which of these applies to you? (Select all that apply)

- ❍ I live within walking distance of Morris Avenue
- ❍ I own a business on Morris Avenue
- ❍ I work on Morris Avenue
- ❍ Other _____

2. Why do you usually travel on Morris Avenue? (Select all that apply)

- ❍ Commute (going to or from work)
- ❍ Access train station
- ❍ Dining
- ❍ Shopping
- ❍ Journey to school
- ❍ Recreation
- ❍ Medical appointment
- ❍ Visiting friends or family
- ❍ Attending place of worship
- ❍ Visiting community organization
- ❍ Other _____

3. Which mode of transportation do you **MOST** frequently use when traveling on Morris Avenue? (Select one)

- ❍ Pedestrian (walking, wheelchair)
- ❍ Bicycle
- ❍ Bus
- ❍ Vehicle – as driver
- ❍ Vehicle – as passenger
- ❍ Other _____

4. How frequently do you travel along Morris Avenue?

- ❍ Multiple times a day
- ❍ Once a day
- ❍ Once or twice a week
- ❍ Once or twice a month
- ❍ Less than once a month

5. Do you ever feel unsafe walking on Morris Avenue?

- ❍ Yes If so, why:_____
- ❍ No

6. Do you feel that the current design of Morris Avenue balances the needs of pedestrians, bicyclists, buses, and motor vehicles?

- ❍ Yes
- ❍ No

7. Please rank which of the following you think should receive the highest priority when making improvements to Morris Avenue: (1 being highest priority, 4 being lowest)

__ Bicyclists
__ Buses
__ Motor vehicles
__ Pedestrians

Please continue to back 

RUTGERS
Alan M. Voorhees Transportation Center

8. What changes would you like to see on Morris Avenue? (Select all that apply)

- ❍ Wider sidewalks
- ❍ More or improved curb ramps at corners
- ❍ Better maintenance and painting of crosswalks
- ❍ Better maintenance of sidewalks
- ❍ More pedestrian crossing signals
- ❍ More time to cross street
- ❍ Bike lanes
- ❍ More bicycle racks
- ❍ Increased enforcement of traffic laws
- ❍ More police presence
- ❍ More greenery (such as trees)
- ❍ More street furniture, such as benches, trashcans, etc.
- ❍ More street lighting
- ❍ Fewer traffic lanes
- ❍ More on street parking
- ❍ Less on street parking
- ❍ More bus shelters
- ❍ Other _____

9. How frequently do you observe motorists engaging in the following behaviors on Morris Avenue? (Check one option per row)

	Never	Rarely	Sometimes	Frequently
Speeding				
Illegal turns				
Rolling stops				
Running red lights				
Not yielding to pedestrians				
Honking				
Tailgating				
Texting while driving				
Distracted driving				
Other _____				

10. Do you have any additional thoughts on Morris Avenue?

Appendix C. Business/Merchant Survey Instrument

RUTGERS

Morris Avenue: Merchant Survey

Rutgers-VTC, in coordination with the City of Elizabeth and NJTPA, is producing a Complete Streets Concept Plan for the Morris Avenue corridor and its connecting streets. The Plan will address the transportation needs and concerns of the community and the City of Elizabeth. The Plan will include recommendations centered on improving economic development, traffic safety, public safety, pedestrian connectivity (especially to the train station), aesthetics of the urban environment, and social integration.

When answering all of the questions on this survey, think about your use and experiences along the 1-mile portion of Morris Avenue, from the Elizabeth train station, to North Avenue (south of Kean University)

1. What kind of business do you own, operate, or work for? (Select one)

- ❍ Restaurant
- ❍ Store
- ❍ Service (nails, travel, etc.)
- ❍ Medical or legal office
- ❍ Religious or community organization
- ❍ Other _____

2. How long have you owned, operated, or worked for a business on Morris Avenue?

- ❍ Less than one year
- ❍ 1-2 years
- ❍ 2-5 years
- ❍ 5-10 years
- ❍ Over 10 years

3. How do you think MOST of your customers arrive at your business? (Select one)

- ❍ They drive and park on the street
- ❍ They drive and park in a garage or surface lot
- ❍ They walk
- ❍ Other _____
- ❍ They come by train
- ❍ They come by bus
- ❍ They bike

4. Would you support the addition of public bicycle racks near your business?

- ❍ Yes
- ❍ No

  If you do not, please explain why:

5. How important do you think public transportation is to all Morris Avenue businesses?

- ❍ Very important
- ❍ Somewhat important
- ❍ Not important
- ❍ Public transportation hurts businesses

RUTGERS
Alan M. Voorhees Transportation Center

6. How do you travel to your business/work most often?

- ❍ I drive and park on the street
- ❍ I drive and park in a garage or surface lot
- ❍ I walk
- ❍ Other _____
- ❍ I come by train
- ❍ I come by bus
- ❍ I bike

7. Do you ever feel unsafe walking on Morris Avenue?

- ❍ Yes
- ❍ No

8. If yes, why do you feel unsafe? (Select all that apply)

- ❍ Too many cars and trucks
- ❍ Speed of cars and trucks
- ❍ Unsafe driver behavior
- ❍ Difficulty crossing street
- ❍ Sidewalks too narrow
- ❍ Sidewalks not well maintained
- ❍ Drug activity
- ❍ Fear of physical assault
- ❍ Fear of sexual assault
- ❍ Fear of robbery
- ❍ Loitering
- ❍ Pollution
- ❍ Poor lighting
- ❍ Other _____

9. How frequently do you observe motorists engaging in the following behaviors on Morris Avenue?

	Never	Rarely	Sometimes	Frequently
Speeding				
Illegal turns				
Rolling stops				
Running red lights				
Not yielding to pedestrians				
Honking				
Tailgating				
Texting while driving				
Distracted driving				
Other _____				

10. Please rate the condition of the following street elements (select one per row)

	Very Good	Somewhat Good	Neither Good nor Bad	Somewhat Bad	Very Bad	N/A
Sidewalks						
Crosswalks						
Pedestrian Signals						
Curb Ramps						
Street Trees						
Trash Receptacles						
Benches / Street Furniture						

RUTGERS
Alan M. Voorhees Transportation Center

11. Do you feel that the current design of Morris Avenue balances the needs of pedestrians, bicyclists, buses, and motor vehicles?

- ❍ Yes
- ❍ No

12. Please rank which mode you think should receive the highest priority when making improvements to Morris Avenue: (1 being highest priority, 4 being lowest)

__ Bicyclists
__ Buses
__ Motor vehicles
__ Pedestrians

13. Would you support reducing the number of parking spaces on Morris Avenue if it meant adding… (Select all that apply)

- ❍ Wider sidewalks
- ❍ More trees
- ❍ Bike lanes
- ❍ Bike Parking
- ❍ Bus lanes
- ❍ Sidewalk extensions at intersections
- ❍ Sidewalk extensions at bus stops
- ❍ Outdoor seating for businesses
- ❍ Public art
- ❍ Other _____
- ❍ I would not support removing parking spaces

14. What would you like to see changed on Morris Avenue? (Select all that apply)

- ❍ Wider sidewalks
- ❍ More or improved curb ramps at corners
- ❍ Better maintenance and painting of crosswalks
- ❍ Better maintenance of sidewalks
- ❍ More pedestrian crossing signals
- ❍ More time to cross street
- ❍ Bike lanes
- ❍ More bicycle racks
- ❍ Increased enforcement of traffic laws
- ❍ More police presence
- ❍ More greenery (such as trees)
- ❍ More street furniture, such as benches, trashcans, etc.
- ❍ More street lighting
- ❍ Fewer traffic lanes
- ❍ More on street parking
- ❍ Less on street parking
- ❍ More bus shelters
- ❍ Other _____

15. Do you have any additional thoughts on Morris Avenue?

Appendix D. Stakeholder Meeting Survey Instrument

RUTGERS
Alan M. Voorhees Transportation Center

MORRIS AVENUE COMPLETE STREETS CONCEPT PLAN
Stakeholder Meeting

1. What kinds of places do you visit on Morris Avenue and/or nearby streets? *(check all that apply)*

- ☐ Stores/shops
- ☐ Restaurants
- ☐ Friend or family member's home
- ☐ I live in the area
- ☐ Healthcare facilities
- ☐ Community organizations
- ☐ Schools
- ☐ Houses of worship
- ☐ Parks
- ☐ Use it as a through road
- ☐ Other _____

2. How do you usually get to/around Morris Avenue? *(check all that apply)*

- ☐ On foot/walking
- ☐ By car
- ☐ By bicycle
- ☐ By train
- ☐ By bus
- ☐ Other _____

3. On the maps provided, please trace the streets you usually use to get to/around Morris Avenue.

4. Please rate how safe you feel from the following **while driving** on or around Morris Avenue: *(check one per row)*

Element	Very Safe	Somewhat Safe	Neither Safe or Unsafe	Somewhat Unsafe	Very Unsafe	Not Applicable
Crime						
Traffic						

5. Please rate how safe you feel from the following while **walking or biking** on or around Morris Avenue: *(check one per row)*

Element	Very Safe	Somewhat Safe	Neither Safe or Unsafe	Somewhat Unsafe	Very Unsafe	Not Applicable
Crime						
Traffic						

6. Please rate the quality of the following street elements on or around Morris Avenue: *(check one per row)*

Element	Very Good Condition	Somewhat Good Condition	Neither Good nor Bad	Somewhat Bad Condition	Very Bad Condition	Element Missing	Not Applicable
Sidewalks							
Crosswalks							
Pedestrian Signals							
Pedestrian Pushbuttons							
Curb Ramps							
Street Trees							
Trash Receptacles							
Benches/ Street Furniture							
Other:							

7. Please rate your experience in the street environment on or around Morris Avenue: *(check one per row)*

Element	Always	Frequently	Occasionally	Rarely	Never	Not Applicable
Vehicles Too Close to Pedestrians						
Large Number of Vehicles						
Many Turning Vehicles						
Large Number of Driveways						
Drivers Speeding						
Driver Inattention						
Drivers Not Yielding to Pedestrians						
Poor Lighting						
Obstructions Limiting Visibility						
Other:						

8. On the maps provided, please circle the streets or intersections, if any, on the Morris Avenue corridor that you find difficult to use or cross when driving, walking, or biking.

9. On the maps provided, please star the streets or intersections, if any, that would you like to see improved for pedestrians and bicyclists.

10. Please list below the kinds of improvements you think would be most helpful. (New crosswalks, repairing sidewalks, less crime, more trash receptacles, etc.)

Name of Street(s)	Problem	Improvement/Solution

Thank you for your participation!

Appendix E. Tables of Project Funding Sources

Table E-1: Planning and programmatic activities funding

Funding Source	Description	For More Information...
Statewide Sources		
Transportation Management Association (TMA)	Undertake work programs that involve the promotion of bicycling and walking, such as bicycle maps and promotional efforts	**TRANSOPTIONS TMA** 973-267-7600 www.transoptions.org
Bicycle/Pedestrian Planning Assistance	Provides funds to construct new and repair existing bicycle facilities, as well as design phases in municipalities eligible for Urban Aid. Available to both counties and municipalities in order to implement New Jersey's Smart Growth land use and transportation policies. Priority: Designated New Jersey Transit Villages (of which Elizabeth is one) and new construction. Examples of projects: new bikeway mileage, separating existing bikeway from traffic using barriers, bikeways improving access to community facilities	New Jersey Department of Transportation, Division of Local Aid and Economic Development http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm

Table E-2: Project funding

Funding Source	Description	For More Information...
Federal Sources		
National Highway System (NHS)	Must be used for funding on NHS roadways. Funding may be used for bicycle and pedestrian improvements on NHS system roadways or designated on land adjacent to a NHS system roadway. Examples of projects: Incidental improvements within larger projects that enable bicycle compatibility are permitted, such as bicycle-safe drainage grates, designated bicycle facilities, and pedestrian accommodations (crosswalks, signals, overpasses, etc.).	U.S. DOT, Federal Highway Administration http://www.fhwa.dot.gov/planning/national_highway_system/ http://t4america.org/wp-content/uploads/2012/11/MAP-21-Explainer-NHPP.pdf
Highway Safety Improvement Program (HSIP)	The goal of this program is to reduce traffic fatalities and serious injuries on all public roads. It requires a data-driven, strategic approach to improving safety that focuses on performance. Examples of projects: bike lane installation, road diets, sidewalk construction, curb ramp installation, and shoulder modification. Non-infrastructure projects are eligible.	http://safety.fhwa.dot.gov/hsip/

Funding Source	Description	For More Information...
Federal Sources		
National Highway System (NHS)	Must be used for funding on NHS roadways. Funding may be used for bicycle and pedestrian improvements on NHS system roadways or designated on land adjacent to a NHS system roadway. Examples of projects: Incidental improvements within larger projects that enable bicycle compatibility are permitted, such as bicycle-safe drainage grates, designated bicycle facilities, and pedestrian accommodations (crosswalks, signals, overpasses, etc.).	U.S. DOT, Federal Highway Administration http://www.fhwa.dot.gov/planning/national_highway_system/
Surface Transportation Program (STP)	Flexible funding that may be used to preserve or enhance on any Federal-aid highway, pedestrian and bicycle infrastructure, and transit capital projects. May be incidental within larger projects or be used for independent bicycle and pedestrian projects. Examples of projects: shoulder paving, bicycle-safe drainage grates, construction of sidewalks or bike lanes, and the installation of pedestrian signals, crosswalks, and overpasses; may update facilities to comply with the Americans with Disabilities Act. See also specific funding programs within STP below.	New Jersey Department of Transportation, partially through MPOs http://www.fhwa.dot.gov/map21/factsheets/stp.cfm
Local Scoping and Local Lead Projects (STP)	Funding to move projects from final design to construction. Municipalities must work through their sub region, and the projects must be part of the National Highway System or be a Federal Aid Route.	Evaluated by the North Jersey Transportation Planning Authority http://www.state.nj.us/transportation/business/localaid/lead.shtm
Transportation Alternatives (STP)	Funds non-traditional projects that strengthen the cultural, aesthetic and environmental aspects of the transportation system. Examples of projects: construction of bicycle and pedestrian facilities and landscaping and beautification.	New Jersey Department of Transportation http://www.state.nj.us/transportation/business/localaid/alternatives.shtm
Transportation Enhancement Program (STP)	Projects support livable communities, enhance travel experience, preserve and protect environmental and cultural resources, and promote new transportation partnerships. Examples of projects: pedestrian and bicycle facilities, safety and education activities for pedestrians and bicyclists, and landscaping and other scenic and beautification projects.	New Jersey Department of Transportation http://www.state.nj.us/transportation/business/localaid/enhancements.shtm
Safe Routes to School	Funds projects and outreach to encourage elementary and middle school students (K-8) to walk and bicycle to school. Examples of projects: planning, design and construction of sidewalks, crosswalks, signals, traffic calming, and bicycle facilities; and public awareness campaigns, traffic education and enforcement, and student lessons on bicycle and pedestrian safety.	New Jersey Department of Transportation http://www.state.nj.us/transportation/business/localaid/srts.shtm http://www.ezride.org/6-0-SRTS.asp

Funding Source	Description	For More Information...
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	Provides funds for projects that help reduce congestion and improve air quality. Examples of projects: bicycle and pedestrian programs, which may include creating trails or bicycle storage facilities, marketing efforts, and education and public outreach that improve mobility and reduce automobile demand.	North Jersey Transportation Planning Authority and New Jersey Department of Transportation http://www.fhwa.dot.gov/map21/factsheets/cmaq.cfm
Section 402 Safety Funds	Funds non-construction activities to that improve transportation safety. Examples of projects: police traffic services/speed control, pedestrian safety, community safety programs, and roadway safety.	National Highway Safety Administration and Federal Highway Administration http://safety.fhwa.dot.gov/legislationandpolicy/policy/section402/ http://www.nj.gov/lps/grants_federal.htm#nhtsafhas4p
Federal Transit Administration Funds	Funds pedestrian and bicycle projects at rail stations. Examples of projects: pedestrian and bicycle walkways and access, storage equipment, and equipment for transporting bicycles on mass transit vehicles.	Federal Transit Administration http://www.fta.dot.gov/13747_14400.html
Federal Community Development Block Grant Program (CDBG)	Funding for low- and moderate-income communities. May include bicycle and pedestrian improvements within these communities. Examples of projects: acquisition of land for public purpose, building public improvements or facilities (i.e. sidewalks), and costs for planning these projects.	U.S. Department of Housing and Urban Development http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs
Statewide Resources		
Local Aid for Designated Transit Villages	Provides funds to designated Transit Villages to help revitalize communities within a half-mile of a rail station to make them appealing for people to live, work and play. Examples of projects: crosswalks, bulbouts, bus stop improvements, streetscape enhancements, bicycle route signs, bicycle parking, traffic calming measures.	New Jersey Department of Transportation http://www.state.nj.us/transportation/business/localaid/transitvillagef.shtm
Local Aid for Centers of Place	For municipalities who have participated in the NJ State Development and Redevelopment Plan. Municipalities must have the appropriate resolution in order to proceed. Examples of projects: non-traditional transportation improvements, such as pedestrian and bicycle facilities, beautification of transportation-related facilities, and rehabilitation of transportation structures.	New Jersey Department of Transportation http://www.state.nj.us/transportation/business/localaid/centerplace.shtm

Funding Source	Description	For More Information...
Safe Streets to Transit	Provides funding to counties and municipalities to improve access to public transit facilities. Examples of projects: sidewalk repair and widening, intersection safety improvements, pedestrian traffic control installation, pedestrian-scale lighting, and traffic calming measures.	http://www.state.nj.us/transportation/business/localaid/safe.shtm
County Aid Program	Improvement of public roads and bridges under county jurisdiction. Public transportation, bicycle and pedestrian projects are eligible. Examples of projects: sidewalks, repaving.	New Jersey Department of Transportation http://www.state.nj.us/transportation/business/localaid/countyaid.shtm
Municipal Aid Program	May be used for many types of transportation projects, including pedestrian and bicycle improvements, for public roads and bridges under municipal jurisdiction. 2015 program aims to award 10 percent of all funds to pedestrians safety improvements, bikeways and streetscapes. Additional funds are allotted for municipalities that qualify for Urban Aid. Examples of projects: road resurfacing, sidewalks.	New Jersey Department of Transportation http://www.state.nj.us/transportation/business/localaid/municaid.shtm
Discretionary Funding/ Local Aid Infrastructure Fund	Provides funding to address emergency and regional needs in New Jersey.	New Jersey Department of Transportation http://www.state.nj.us/transportation/business/localaid/descrfunding.shtm
Bikeways Projects	Funds bicycle and pedestrians projects in municipalities and counties, including roadway improvements that enable streets to safely accommodate bicycle and pedestrian traffic. Examples of projects: bicycle ways, including separated bikeways, bikeways connecting to regional bicycle system, and bikeway improving access to centers of activity (i.e. schools, parks, etc.) Priority: separated bicycle lanes.	NJDOT Division of Local Government Services http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm
Municipal and County Resources		
County or Municipal Capital (Public Work Funding)	Bicycle and pedestrian projects may be included in municipal and county budgets or transportation bonds. This may include sidewalks, crosswalk signals, and traffic calming.	Local and county governments http://www.state.nj.us/transportation/business/localaid/safe.shtm

Appendix F. Walkability Guide by Walk San Diego

Photo: SANDAG

Walkability Guide

Do You Enjoy Walking In Your Community?

Use this guide to learn more about walkability and how you can make your community safer to walk

WALK SanDiego

Promoting Walkable Communities

walksandiego.org

About This Guide

WalkSanDiego believes every resident of the San Diego region should be able to walk safely in his/her community. Many people would like to make their neighborhood more pedestrian friendly but don't know how. The Walkability Guide was created to help you. Read on to learn about five important ingredients of a walkable community and tips for working with your city to get what you want. Pages 4-7 also outline a Walkability Checklist which you can fill out for your neighborhood and submit to your city.

Five Important Ingredients To A Walkable Community

What makes a community more walkable? There are 5 basic ingredients to make your neighborhood a place where people of all ages and abilities have safe, enjoyable, and easy access to their community on foot.[1]

1. Good Sidewalks

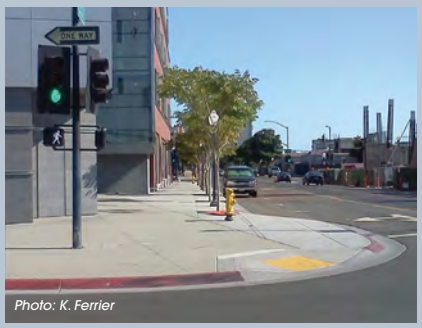


Photo: K. Ferrier

The basic design of a good sidewalk should include:

- **Pedestrian Zone:** wide, level sidewalks in good condition where pedestrians can walk and wheelchairs can roll
- **Parkway or Buffer Zone:** allows for vegetation and/or street furniture and buffers pedestrians from vehicles
- **Curb Zone:** border between the street and sidewalk with ramps for disabled and others to access sidewalk

2. Safe & Easy Street Crossings

Street crossings should be available every 300 feet (about half the length of a block) and should include:

- **Painted or Decorative Crosswalk:** makes crosswalk easier to see
- **Stop Bar**: painted line that stops cars before entering the crosswalk
- **Curb Extension/Bulb-out:** reduces pedestrian crossing distance; makes pedestrians more visible to drivers
- **Median/Island:** provides a halfway refuge point that allows pedestrians to cross safely


Photo: SANDAG

1. Bicycle Federation of America. (1998). Campaign to Make America Walkable: Creating Walkable Communities.

3. Traffic Calming


Photo: D. Passmore

Street improvements can slow vehicle speeds, increase pedestrian safety, and allow for smooth traffic flow:

- **Curb Extension/Bulb-out:** slows the speed of turning vehicles
- **Road Diet:** slows traffic by reducing number of lanes and lane widths
- **Other:** roundabout, median, pedestrian island, and diagonal parking

4. Safety, Comfort & Beauty

Street enhancements make walking feel safer, more comfortable and more inviting:

- **Pedestrian Lighting**
- **Landscaping & Trees**
- **Clean & Well-maintained Sidewalks**
- **Amenities:** such as drinking fountains, bathrooms, and benches
- **Public Art**

5. Great Destinations

Photo: SANDAG

A community is more vibrant and desirable if it has great walking destinations, like:

- **Shopping:** stores, markets, restaurants, etc.
- **Services:** clinics, post office, bank, etc.
- **Transportation:** trolley, bus stop, train
- **Recreation:** parks, gardens, etc.

Pedestrian Safety

Did you know a pedestrian is killed in a traffic collision every 109 minutes in the U.S.? WalkSanDiego wants you to be safe. Here are some tips:

- Obey all traffic signals and signs.
- Walk on the sidewalk. If there isn't one, walk on the left side of the street to face oncoming traffic.
- Use crosswalks if available, or cross at an intersection.
- Before crossing the street, (1) stop, (2) look left, right, and left again, and (3) listen for oncoming vehicles, and (4) make eye contact with drivers to make sure they see you.
- Be alert while crossing. Don't be distracted texting or talking on the phone.
- Be cautious around parked cars and driveways.
- Be predictable, don't run suddenly out into the street.

Be safe. Stay within the crosswalk if available.

Walkability Checklist

Conduct a walk audit and look for the 5 ingredients to a walkable community. To conduct a successful walk audit, complete the following steps:

Step 1 Choose your walk route and write the location on the lines below.

Step 2 Read through all sections of the checklist to know better what you'll be looking for.

Step 3 Start your walk. Check the box next to the problem(s) you find and write the street location in the space provided. Repeat for each section.

Step 4 Add the total number of boxes checked in each section and write the correct number in the Neighborhood Walkability Score section on page 7 for a total walk score. Areas with poor walkability will get a higher score and areas with good walkability will get a lower score.

Locations

Beginning Address: _____ Ending Address: _____

Street #1 _____ Street #2 _____

Street #3 _____ Street #4 _____

Section 1: Sidewalks

Check the box below and write the location in the space provided if you found a problem such as:

☐ No sidewalks or paths _____

☐ Sidewalks were broken or cracked _____

☐ Sidewalks were blocked by poles, signs, plants, vehicles, etc. _____

☐ Sidewalk was not continuous _____

☐ Sidewalk interrupted by many sloped driveways making it difficult to proceed ahead smoothly

_____

☐ Sidewalks were not wide enough for two people to walk together side by side (at least 5 feet across)

_____

☐ Sidewalk did not have a parkway (grass or trees) separating it from the street _____

☐ Intersections did not have curb ramps for wheelchairs, strollers, and wagons _____

☐ Other problems _____

_____

_____

_____

Total Number of Problems: 0 1 2 3 4 5 6 7 8 9

Section 2: Street Crossings

Check the box below for each problem you find and write the location in the space provided:

☐ The road was too wide to cross easily _____

☐ Traffic signals made us wait a long time _____

☐ Traffic signals did not give us enough time to cross the street _____

☐ The crosswalk was not marked or was poorly marked _____

☐ I had to walk too far (more than 300 feet) to find a safe, marked crossing _____

☐ There was no median on the street to provide a safe place to cross a wide street _____

☐ The crossing did not have a pedestrian activated button _____

☐ Other problems: _____

_____

_____

_____

Total Number of Problems: 0 1 2 3 4 5 6 7 8

Section 3: Driver Behavior

Check the box below if drivers did the following things and write the location in the space provided:

☐ Did not yield to people crossing the street _____

☐ Turned into people crossing the street _____

☐ Were driving too fast to make you feel safe _____

☐ Sped up to make it through traffic lights or drove through traffic lights _____

☐ Did not stop at stop signs _____

☐ Stopped inside of the crosswalk _____

☐ Did not look when backing out of driveways _____

☐ Other problems: _____

_____

_____

_____

Total Number of Problems: 0 1 2 3 4 5 6 7 8

Section 4: Safety

Check the box below for each problem that made you feel unsafe and write the location in the space provided:

☐ People loitering outside of buildings _____

☐ Presence of panhandling and/or homeless _____

☐ Speeding vehicles _____

☐ Insufficient or no lighting _____

☐ Vacant lots or rundown buildings _____

☐ Unleashed and/or noisy dogs _____

☐ Graffiti _____

☐ Other problems _____

_____

_____

_____

Total Number of Problems: 0 1 2 3 4 5 6 7 8

Section 5: Comfort and Appeal

Check the box below for each problem you find and write the location in the space provided:

☐ No grass, flowers, or trees _____

☐ Not enough lighting to make you feel safe _____

☐ Bus stop did not have shelter or shade _____

☐ Bus stop did not have a bench _____

☐ Lots of litter or trash and/or cigarette butts _____

☐ Dirty air due to automobile exhaust _____

☐ Bad smells or odors _____

☐ No place to sit and rest along my route _____

☐ Other problems _____

_____

_____

Total Number of Problems: 0 1 2 3 4 5 6 7 8 9

Section 6: Pedestrian Behavior

Check the box below for each problem you find and specify the location(s) where it was difficult to:

☐ Find a marked crosswalk _____

☐ See drivers and/or be seen by drivers _____

☐ Walk on the sidewalk because of overgrown bushes/plants/trees _____

☐ Make it across the street before the light changed _____

☐ Cross multiple, sloped driveways _____

☐ Locate the pedestrian push button _____

☐ Other problems: _____

_____

_____

_____

Total Number of Problems: 0 1 2 3 4 5 6 7

Neighborhood Walkability Score

Write your total scores below from the previous sections, and add those numbers to get your total neighborhood walkability score.

	+		+		+		+		+		=	
Section 1		*Section 2*		*Section 3*		*Section 4*		*Section 5*		*Section 6*		*Total Walkability*

0-9	**Very walkable**	**Celebrate! You have a great neighborhood for walking**
10-19	**Walkable**	**Good. Some improvements can be made.**
20-29	**Somewhat walkable**	**Okay. The neighborhood needs work to improve walkability.**
30-39	**Not very walkable**	**It needs a lot of work. Use this guide to help make change.**
40-49	**Not walkable at all**	**Start working. Your neighborhood is not safe to walk.**

Date _____ **Name** _____

Read further to see how you can get involved.

This walkability tool is adapted from the YEAH! Training Manual (www.ourcommunityourkids.org) *and was created from the following:*

The Pedestrian and Bicycle Information Center Walkability Checklist
By the California Department of Health Services' California Nutrition Network for Healthy, Active Families for the Communities of Excellence in Nutrition, Physical Activity, and Obesity Prevention Project.

Environmental Assessments *developed by Samuels & Associates* (www.samuelsandassocaites.com) *for the Healthy Eating, Active Communities Program.*

The Boyle Heights Walkable Neighborhoods for Seniors Project Walk Audit Form *by Safe & Healthy Communities Consulting.*

WalkSanDiego *input from ongoing community walk audits.*

How Can I Help Make My Neighborhood More Walkable?

Short Term:

- Call your city and give them a copy of your Walkability Checklist. They rely on community members like you to know where problems are located and are required to respond.
- Have your friends contact them, too, to emphasize the safety concern. Look on the back of this Guide for city contact information.
- For specific problem areas, ask city staff to meet you at the site and assess together.
- Some cities have a committee to discuss these kinds of problems. Find out which cities have these committees at www.walksandiego.org.
- Stay in touch with the city to find out what solutions are proposed and when they will be put in place.
- Contact your councilperson about your concern.
- Report illegally parked cars, graffiti and unsafe drivers to police.
- Contact WalkSanDiego for more information at walksandiego.org or 619-544-9255.

Long Term:

- Get involved with a local community planning group to talk more about safe walking and to work together for change.
- Contact your city's Planning Department and ask for information about existing community groups.
- Keep working with the city to ensure the problem is addressed. Get other neighbors involved to emphasize the safety concern.
- Gather a group of interested neighbors to create a coalition and monitor pedestrian safety issues within your community.

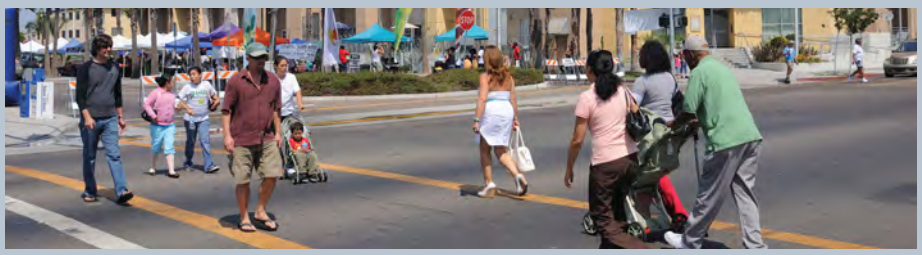
Benefits of Walkable Communities

Did you know that people who live in walkable neighborhoods make four times as many walking and biking trips, three times as many transit trips, take fewer car trips, and drive fewer miles?[1] In a walkable community, cars and traffic speeds are slower and more controlled making it a safer place for walking.[2] Read on to learn more about the many benefits of walking.

Health

Walkable communities promote physical activity and good health.

- Children who walk are more active and develop a sense of independence contributing to a life-long habit of walking.[2]
- Walking 30 minutes per day can reduce the risk of obesity, cancer, heart disease, high blood pressure, and diabetes, and improve your mood and mental performance.[3,4]
- Seniors living in a walkable community have greater mobility and independence, which helps reduce falls and gives them more energy for the things they enjoy.[5]



Economic

Photo: SANDAG

Walkable neighborhoods financially benefit the people who live & work there.

- People that live in a walkable community can walk to buy groceries, do their laundry, and other errands close to their home which supports local businesses and saves money that would otherwise go towards gas.[4]
- There are fewer cars on the road reducing the need for spending city funds on road improvements.[2]
- Residential property values are more likely to increase in walkable communities.[6]

Crime Prevention & Safety

Photo: SANDAG

Walking puts more 'eyes on the street'.

- Walking in your neighborhood helps prevent crime because there are more people around looking out for one another.[7]
- A walkable community means a pedestrian is less likely to get hit by a car and injured.[4]

Community Strength

Walking in your neighborhood builds a sense of community.

- People in walkable neighborhoods have a greater level of pride and sense of ownership.[8]
- Walking in your neighborhood allows you to interact with neighbors, forming connections and social support.[3,8]

Photo: J.A. Ramirez

Environment

Think globally, act locally.

- If there are more people walking, there are fewer cars on the roads and less traffic congestion, less air and noise pollution, and less gas being used, which creates a healthier world for all of us![2,3]

References:

1. **Parsons, Brinckerhoff, Quade, & Douglas.** (1993). The Pedestrian Environment: Making the Land Use Transportation Air Quality Connection.
2. **Bicycle Federation of America.** (1998). Campaign to Make America Walkable: Creating Walkable Communities.
3. **National Center for Environmental Health.** (2008). Walkable Communities. Centers for Disease Control and Prevention.
4. **U.S. Department of Transportation.** (2008). A Resident's Guide for Creating Safe and Walkable Communities.
5. **Centers for Disease Control and Prevention.** (2009). Physical Activity and Health: The Benefits of Physical Activity.
6. **Litman, T.** (1999). Evaluating Traffic Calming Benefits: Costs and Equity Impacts. Victoria Transport Policy Institute.
7. **Envision Utah Partnership.** (2002). Urban Planning Tools for Quality Growth: Making Our Community a Good Place to Walk.
8. **Burden, D.** (2001). Distinguished Lecture Presentation to the Transportation Research Board, Washington, D.C.

Resources

Promoting Walkable Communities
WALK SanDiego
walksandiego.org

Contact your city's traffic engineer to tell them about your walkability concern. Tips for what to say when working with the city and more detailed information on city contacts can be found on WalkSanDiego's website, www.walksandiego.org.

City of Carlsbad	760-602-2730
City of Chula Vista	619-691-5026
City of Coronado	619-522-7383
City of Del Mar	858-755-3294
City of El Cajon	619-441-1653
City of Encinitas	760-943-2298
City of Escondido	760-839-4595
City of Imperial Beach	619-423-8311
City of La Mesa	619-667-1144
City of Lemon Grove	619-825-3810
City of National City	619-336-4350
City of Oceanside	760-435-4373
City of Poway	858-668-4668
City of San Diego	619-527-7500
City of Santee	619-258-4100 x 167
City of San Marcos	760-744-1050 x 3229
City of Solana Beach	858-720-2470
City of Vista	760-726-1340 x 1383

Photo: R. Van Vleck

WalkSanDiego.org
740 13th Street, Suite 502
San Diego, CA 92101
619-544-9255

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