Syracuse Bicycle Plan

Syracuse

New York





A Component of the Syracuse Comprehensive Plan

SYRACUSE BICYCLE PLAN 2040

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2012, City of Syracuse

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Executive Summary

The ***Syracuse Bicycle Plan 2040*** is a component of ***Syracuse's Comprehensive Plan 2040*** – an update of the ***Comprehensive Plan 2025*** adopted by the Common Council in 2005. This component addresses both the justification for creating a rigorous bicycle network, as well as outlining how the City of Syracuse can expand its current system.

The Syracuse Bicycle Plan is broken out into four main chapters, each address a different guiding principal for the component:

Making the Case

Inform the public about the personal and social benefits engendered with bicycle transportation.

Inventory Measures and Maps

Provide a clear methodology for determining the best corridors for bicycle infrastructure.

Tool Kit

Highlight appropriate bicycle infrastructure options for the City of Syracuse environment.

Neighborhood Recommendations

Propose conceptual designs for corridors and identify which users would be accommodated.

Introduction

Origin of the Bicycle Plan

In the 21st Century, bicycling is becoming a more desirable transportation option for many people. Cities across the county have responded with expanded bicycle networks, which in turn have increase bike ridership and lowered accident rates. In Syracuse, bike lanes first began appearing in 2006. Going through various corridors in the City's Eastside, these bike lanes were the result of neighborhood requests to both accommodate existing cyclists and slow down motorized vehicles. Since this time, bike lanes have continued to expand based, on citizen feedback and safety needs.

In 2010, the demand for more bicycle infrastructure remained strong, and the City administration determined a need to create a plan for a cohesive and connected bicycle network, or a blueprint for future growth. This blueprint would ensure that development along targeted corridors would accommodate bicycle users, and that city resources would be deployed most effectively in expanding and maintaining bike infrastructure. It is from this initial vision of an interconnected city-wide bike network that the ***Syracuse Bicycle Plan 2040*** was created.

Plan Organization

During the initial outreach process it became clear that a network plan alone would not suffice. Many people in the City of Syracuse were were unconvinced of the need for any cycling infrastructure. A series of five white papers were developed and incorporated into the Bicycle Plan. Highlighting five areas (both personal and societal) in which bicycling has a positive effect, these papers provide targeted education to interested citizens. These five areas are:

- **Economic.** Cycling as a transit mode has positive effects on the local economy with regard to tourism dollars and also has less impact on a household's monthly transportation budget.

- **Health.** Cycling is a low-impact cardio-vascular activity that can become incorporated into one's daily commuting routine, provides improved air quality and emits no greenhouse gasses.

- **Equity.** Bicycle networks can provide a dignified mode of travel for individuals without the ability to afford a car, and increase mobility for children and the elderly.

- **Safety**. Large-scale bike networks have been shown to reduce the rate of cyclist accidents, and also make streets safer for all people by slowing down the speed of motorized vehicles.

- **Community.** Cities who have embraced a cycling culture have found that a sense of community is instilled in both residents and commuters along bike corridors.

In **Chapter One: Making the Case,** the statements above are expanded. Each of the five white papers contain images and graphs, and all supporting statements are cited for those who wish to research further.

Chapter Two: Inventory Measures and Maps contains the main body of the Syracuse Bicycle Plan. In this section, the 13 metrics of bicycle appropriateness are listed, along with weighted ranking criteria for each. These metrics are broke into three general areas: Safety, Connectivity, and Design. The safety measures look at factors of speeds, presence of heavy vehicles, and volume of cars. The connectivity measures determine how well an individual corridor fits into the City-wide network. The design measures identify physical conditions of a corridor such as roadway width, topography, and presence of on-street parking.

Many people in Syracuse were also unfamiliar with many of the new options for bicycle infrastructure that were emerging in other parts of the county. Still others had concerns about the uniquely snowy climate of Syracuse and how these infrastructure investments would weather. To that end, **Chapter 3: Tool Kit** was developed. This chapter catalogues various infrastructure options appropriate for the City of Syracuse. The first section contains recommendations for pathways which are infrastructure treatments along a corridor. The parking section recommends appropriate bike racks and other parking facilities for Syracuse.

Finally, **Chapter Four: Neighborhood Recommendations** combines the inventory from Chapter Two with the Tool Kit from Chapter Three. This chapter is broken into 8 sections, each conforming to one of the City's TNT (Tomorrow's Neighborhoods Today) planning areas. Each corridor identified in the Inventory is discussed in further detail here. A photo simulation is provided, along with targeted user groups, and a brief discussion about why the corridor was chosen and how it fits into the overall network. These recommendations are only intended as a starting point for neighborhood discussion and should not be considered final design decisions.

In this way, what started as a network vision became expanded into a full planning document with multiple goals.

Guiding Principles

The following four principles represent this Plan's vision for a successful bicycle network in the City of Syracuse.

Making the Case

Inform the public about the personal and social benefits engendered with bicycle transportation.

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making the case

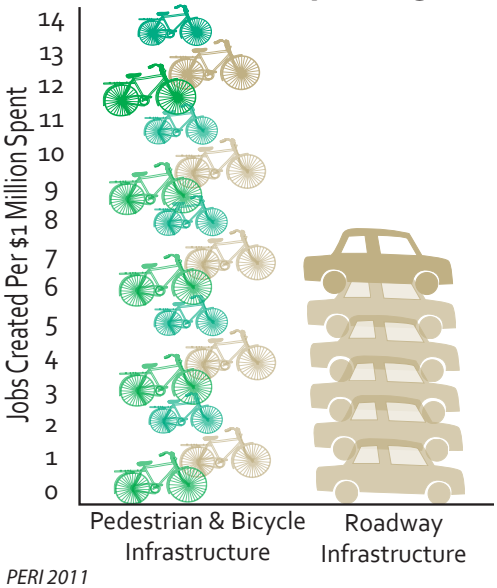
BENEFITS OF A CYCLING CITY

economics
health
equity
safety
community

ECONOMICS

industry, fuel, & efficiency

Jobs Created by Type of Infrastructure Spending



PERI 2011

Stephen D. Cannerelli, The Post-Standard

Erie Canal Tour cyclists in 2009

The bicycle industry in the United States is a powerful economic engine that contributes about **$133 billion per year** to the U.S. economy from jobs to taxes to local businesses[1].

Jobs

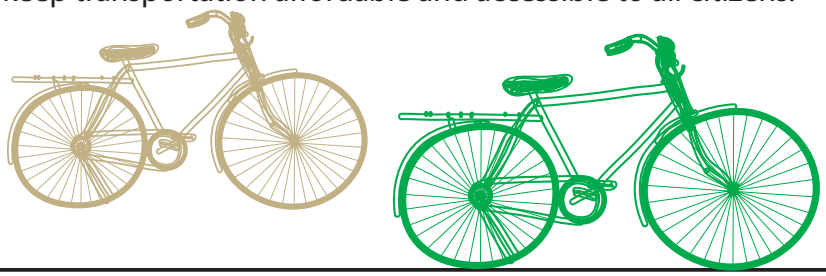
On a local, citywide level, the cycling industry has been shown by many studies to generate economic stimulation through boosting local employment and commercial activity. A recent study in Baltimore, Maryland concluded that pedestrian and bicycle infrastructure projects create nearly twice the number of jobs compared to road infrstructure projects (11 to 14 jobs per $1 million of spending versus 7 jobs per $1 million of spending)[2]. More importantly, nearly half of these employment opportunities are created in industries outside of construction, specifically in the areas of healthcare, retail, and food services. The economic stimulation generated by bike infrastructure extends beyond the initial construction and has a ripple effect on the local economy.

Tourism

Bicycle tourists spend on average $17 more in communities than tourists travelling by other means and dedicate much more time to enjoying local culture, providing incentive to preserve historical attractions such as Syracuse's Erie Canalway trail[1,3]. These tourists' vehicles do not congest traffic or occupy parking spots, and have minimal impact on city infrastructure. By establishing a strong bicycle tourism industry, our city could cultivate a large flow of income with little impact to maintenance costs. Parks and Trails of New York (PTNY) encourages all canalway communities, like Syracuse, to take advantage of the historical attraction and connectivity of our location by providing a thorough bicycle network for tourists to explore.

Energy Independence

The implications of peak oil warrant a critical shift in American transportation policy. Oil is an escalating financial burden to the public as recoverable oil supplies in the U.S. and globally continue to decline. Each day, over $1.22 billion is spent on gasoline in America. It is not only desirable, but necessary to invest in a full range of viable alternatives to oil-dependent mobility if we are to keep transportation affordable and accessible to all citizens.



Infrastructure

Bicycle infrastructure allows for more than five times as many travellers as car lanes. Prioritizing bicycle traffic contributes to decreased fossil fuel demand by both decreasing the number of motor vehicles on the road and limiting the amount of construction and maintenance needed for automobile infrastructure[4].

The monetary benefits of bicycles over automobiles for individuals and society, from energy and congestion reduction to vehicle and infrastructure savings, are estimated to total $2.73 per mile biked[4].

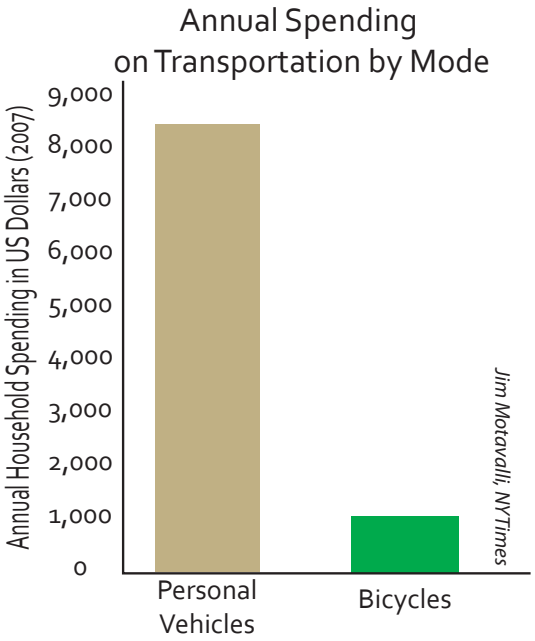
Victoria Transport Policy Institute

Streetfilms.org

Cyclists in lane in NYC

Individual Costs

Owning a bicycle is much less expensive than owning an automobile. When comparing the cumulative costs of purchasing and maintaining a family vehicle to a bicycle, the bicycle will save an average American family of three more than $6,000 per year. In 2009, the average American household spent roughly $8,000 on vehicles and maintenance[5]. During the same year, purchasing and maintaining a bicycle cost, on average, $400 per cyclist. During times of volatile fuel prices, this gap between bicycle and motorized vehicle costs will likely continue to grow.



Ultimately, Syracuse is in an excellent position for an improved bicycle network due to its dense urban grid built predominantly on a human scale, as well as a strong population density near the urban core. Cities show the most potential for a significant return on bike network investments due to existing infrastructure, density of economic interactions, and minimal infrastructure investment required for a potentially maximized user population. By investing in bicycle mobility, Syracuse stands to establish a functioning alternative transportation system prior to potential fuel shortages and escalating prices, placing our city steps closer to a mobile, sustainable future.

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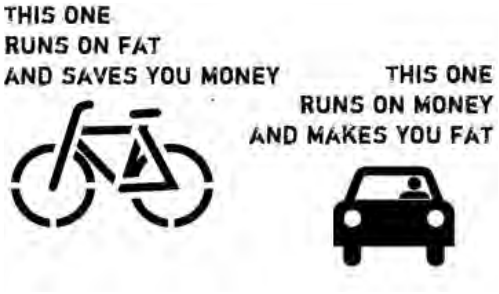
6. Motavalli, Jim. (2009) The Costs of Owning a Car, New York Times.

HEALTH

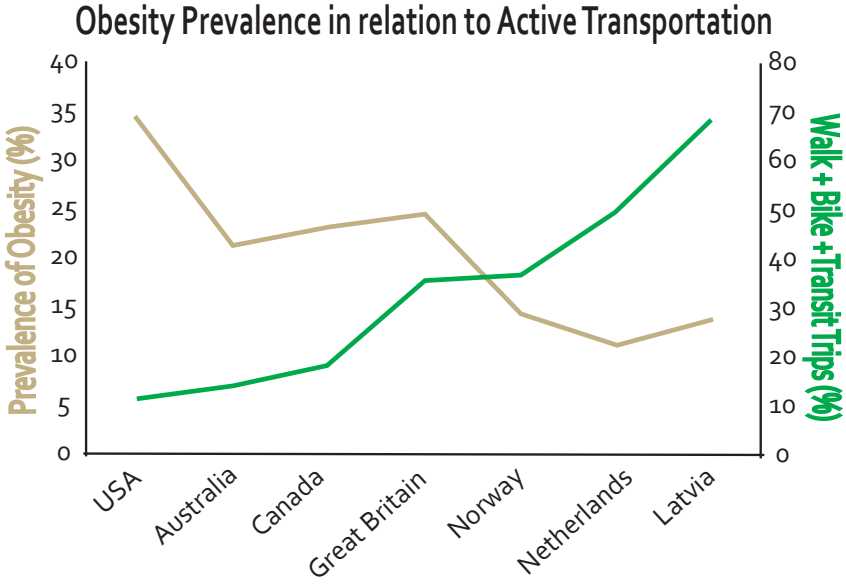
physical & environmental



Peter Drew

Motor vehicles have made transportation into an inactive activity.

Overcomingobesity.wordpress.com

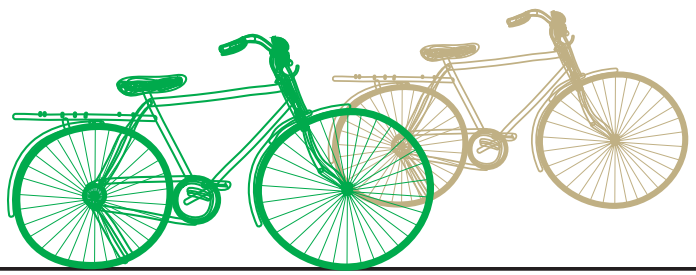


Journal of Physical Activity & Health

Personal

In the past two decades, the United States and countries around the world have seen a sharp rise in obesity and associated increases in risk of major health problems such as cardiovascular disease, certain types of cancer, and type-2 diabetes[1]. Compared to Americans at **34% obesity prevalence**, some European countries, such as the Netherlands, have populations with only about 10% defined as obese. With longstanding, extensive, and well-used active transportation systems, Europeans generally walk more than twice and cycle almost five times more annually than the average American, suggesting an inverse relationship. This connection between high levels of active transportation and obesity rankings has been confirmed by studies in the US and Europe[2]. As such, government has an obligation to update transportation infrastructure to include and emphasize access to walking, cycling, and public transit. Active transportation networks address the major determinants of obesity, diet and exercise, with opportunities to:

- increase density of local services,
- provide safe routes to access grocery stores with affordable, fresh food,
- encourage daily physical activity through safe and connected neighborhoods.



Guernseypersonaltrainer.com

Challengeyourpotential.wordpress.com

Transportation cycling improves health and saves time by making exercise into an enjoyable, outdoor part of your daily routine.

Portland, OR, New York, NY, and now Syracuse are a few examples of US cities addressing obesity and general health issues by investing in urban planning strategies that reduce reliance on automobile transportation and encourage healthy, active lifestyle choices. These strategies include:

- creating recreation facilities and opportunities for more outdoor, active engagement with the environment,
- encouraging private businesses to provide safe bicycle parking and locker rooms to make commuting more convenient and attractive,
- promoting programs that provide health education and resources.

Regional

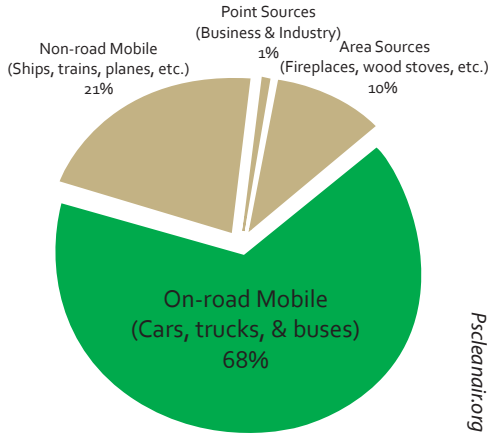
Beyond personal health, shifting from car dominance to bike engagement offers opportunities for improving the health of the city as an ecosystem through **reducing vehicular emissions of harmful chemicals** like sulphur oxides and nitrogen oxides. Syracuse, while no longer a nonattainment area for atmospheric concentrations of carbon monoxide, is nearing the threshold levels for ozone (as designated by the US Environmental Protection Agency). In addition to air quality improvement, a robust bicycle network could reduce the area of impermeable surface needed for roads and parking lots, and consequently, increase the land available for vegetative cover, which:

- further decreases air pollution,
- decreases impacts of polluted run-off and combined sewer overflow,
- decreases the urban heat island effect,
- provides more habitat for native species,
- improves visual character of urban environment.

Global

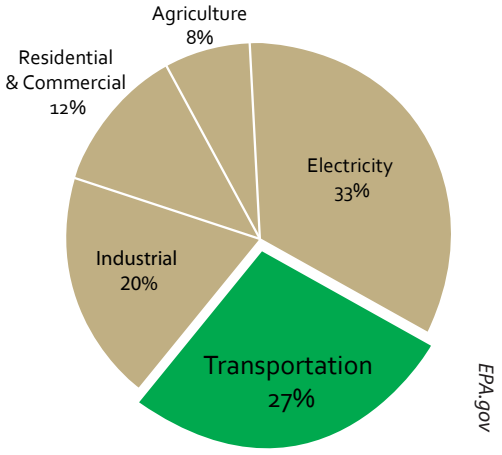
Beyond regional ecosystem health, cycling produces **no emissions of** greenhouse gases, which are responsible for altering the global climate. Syracuse's contributions to climate change can be drastically reduced by encouraging non-motorized transportation.

Sources of Air Pollution



Pscleanair.org

US Greenhouse Gas Emissions by Sector



EPA.gov

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EQUITY

ethnicity, income, gender, & age

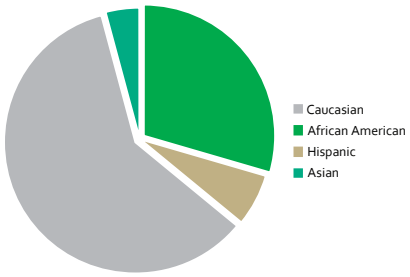
"A bikeway is a symbol that shows that a citizen on a $30 bicycle is equally important as a citizen in a $30,000 car."

Enrique Penalosa, former mayor of Bogota, Colombia

Citiesforpeople.net

Cyclists enjoying a safe, two-way dedicated bike path in Bogota , Colombia

Major Racial Groups in Syracuse

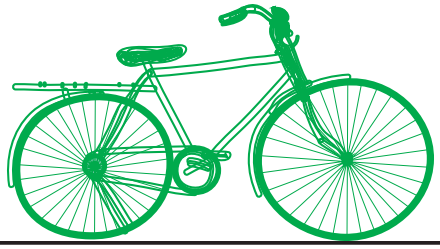


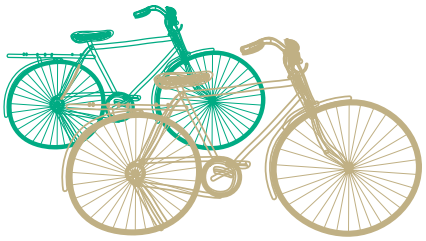
City-data.com

Ethnicity & Income

The physical health effects mentioned in the previous section are not equally distributed among the population in terms of ethnicity as the incidence of obesity is 51% higher for African-Americans and 21% higher for Hispanics compared to Caucasians[1]. The City of Syracuse is 57.4% Caucasian, 28.3% African-American, and 6.5% Hispanic[2]. Many minority communities in the city are in the low to middle income levels with over **one third of the city's population facing poverty** and limited resources. Limited financial resources due to social disadvantages for education and employment opportunities result in a much higher vulnerability to poor diets and sedentary lifestyles for minority groups. In addition, transportation costs from motor vehicle purchase, fuel, and maintenance can take **up to 40% of expenditures** for lower income families.

With a well-established, accessible bike network connecting underserved neighborhoods to destinations throughout Syracuse, these families would be able to reallocate much of their transportation spending to better food, housing, recreation, and other areas vital to evening the differences in quality of life between households of different income levels.





Gender & Age

Women, children, and the elderly - who comprise the majority of the population and are underrepresented in the cyclist and pedestrian community - are generally interested in joining the active transportation network, but reluctant to regularly walk or bike in areas that feel unsafe and difficult to navigate.

Women only make up **24% of the total cyclist population** in the US. Commonly cited reasons are that women don't want to arrive at destinations sweaty and unkempt and are more wary of dangerous surroundings. However, a recent survey shows that **convenience and infrastructure** are the top two reasons for the low percentage of female cyclists[3]. Females generally have more errands to run. Household duties from dropping kids at school to picking up groceries continue to fall into the hands of women, even with full time employment[4]. Both convenience and infrastructure can be improved directly with bikeway planning.

Children and the elderly are also a vulnerable population. They need access to means of frequent public socialization and recreation, but often are relient on others to transport them for fear of safety and disorientation.

Lacyclechic.blogspot.com

Woman in Los Angeles

Bikefancy.blogspot.com

Woman and kids in Chicago

Integrating bicycle and pedestrian routes into a continuous and regular multi-modal transportation network can address the need for equity in gender and age active mobility, as well as between income levels.

Bikesbelong.org

Children and elderly man cycling in Boulder, Colorado

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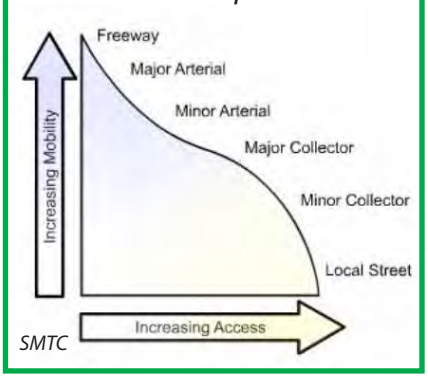
SAFETY

calm traffic & complete streets

Mobility vs. Access

Mobility measures how far you can go and accessibility measures how close you are to where you want to go. Transportation policy that prioritizes personal mobility via automobiles and highways is one of the factors that induced the decline of the urban core and spread of suburban sprawl in Syracuse's surrounding neighborhoods[1]. By reframing transportation planning to fulfill the need for access to resources like schools, community spaces, and local retail stores, we can re-emphasize the importance of dense, mixed use development.



Active Design Guidelines NYC

Bus lane separated from bicycle and motor vehicle lanes by a median that also serves as a pedestrian refuge in New York City

Streets play an integral role in the daily life of our neighborhoods for travel, activities, and socialization. For the past half century, the automobile has been the dominant mode of transportation, demanding wider and straighter roads to accommodate increases in speed and volume of car traffic. This yielding to the automobile has led to the decline of other street uses and activities, like cycling and walking, vital to sustaining safe and interactive communities. Transportation planning for smart growth must shift from promoting mobility to accessibility (see sidebar).

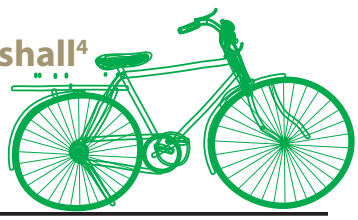
Traffic calming is a road design strategy that creates safer streets and promotes balanced multi-modal mobility by engaging a variety of streetscape changes that slow the speed of motorized traffic. By utilizing bump outs (left) and medians (above) to narrow the width of streets and providing separate or shared travel lanes, streets can safely accommodate a variety of transit modes.

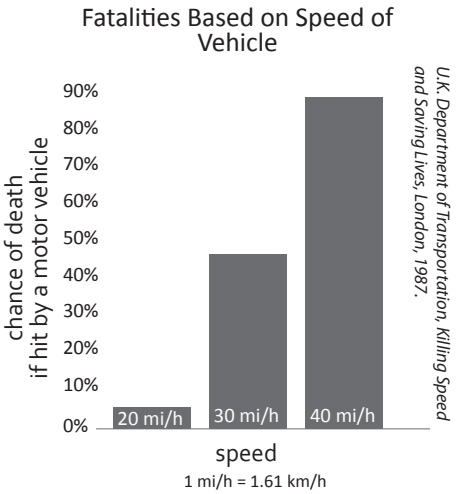
"Street design strategies that attract bike riders are the same ones that inprove safety for all road users."

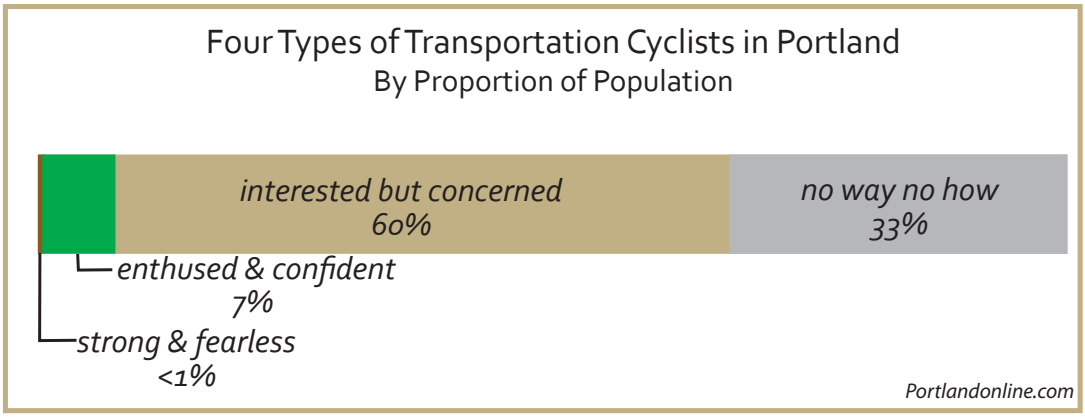
Norman Garrick & Wesley Marshall[4]

Water Street, Syracuse NY

bump out

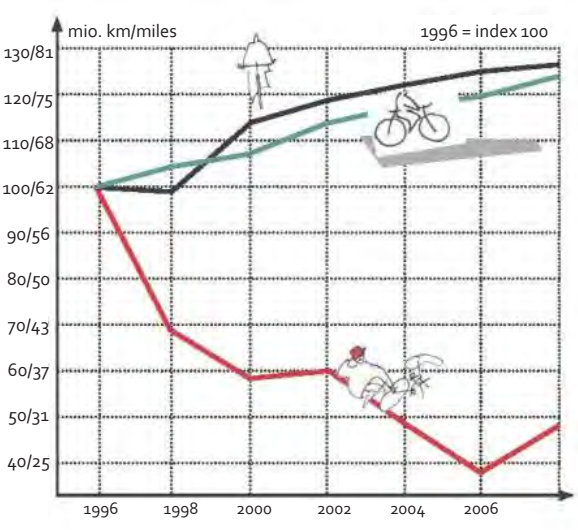






Accidents & Attitudes

The level of safety along multi-modal transportation corridors is primarily determined by the speed and volume of car traffic. The frequency and severity of automobile crashes can be reduced by lowering speed limits on roadways. According to a U.K. Department of Transportation study, on average, for every one mile per hour reduction, collisions decrease by 5%; the fatality rate would drop by at least 80% if a 40 mph zone were reduced to a 20 mph zone[2]. **Data shows that cyclists and pedestrians are over-represented in road deaths at almost 14% of fatalities[3].** Even though 12% of all trips taken in America are by bicycle or foot, cyclists and pedestrians are under-represented in road infrastructure spending taking only about 1% of the budget[3]. The death rate of U.S. pedestrians and cyclists is two to six times higher per kilometer traveled than in Europe due to our lack of investment in safe and integrated various transport infrastructures in streetscapes. These accident rates reflect the fear and discomfort felt by 60% of urban citizens, who are interested but concerned about bicycling as their main mode of transport on car-dominated roads. Transportation cycling should be accessible for the whole population, rather than only for the confident and fearless (see bar graphic above). As the number of cyclists on the streets grows with infrastructure, driver awareness and road safety will increase (see graph to the right).



Jan Gehl, Cities for People

Graphic showing a decrease in cyclist accidents as the numbers of miles cycled and miles of bicycle pathways increase

Providing adequate funding to create delineated and respected space for multi-modal transportation infrastructure would improve the overall incidental and perceived safety of urban streets with quality streetscapes and transportation facilities. In Syracuse, two intersections were noted as part of a list of most dangerous intersections for pedestrians and cyclists of upstate New York: **Seymour Street & South Geddes Street** with 10 incidents, **East Fayette Street & South Salina Street** with 7 incidents. The safety of both can be improved much through implementing bicycle treatments that would balance street activity and calm traffic.

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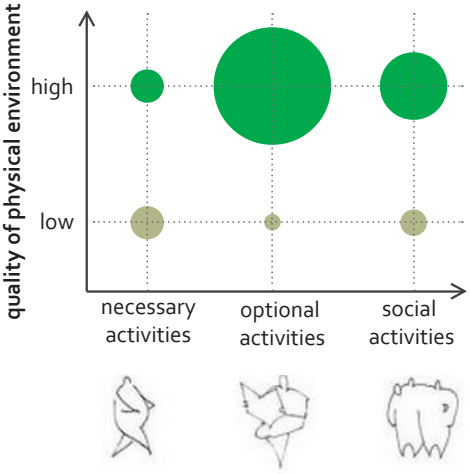
COMMUNITY

activity & understanding

Streetswiki.wikispaces.com

Cyclists and pedestrians interacting in a farmers market in New York City

Outdoor Quality & Outdoor Activity



Jan Gehl, Cities for People

Activity

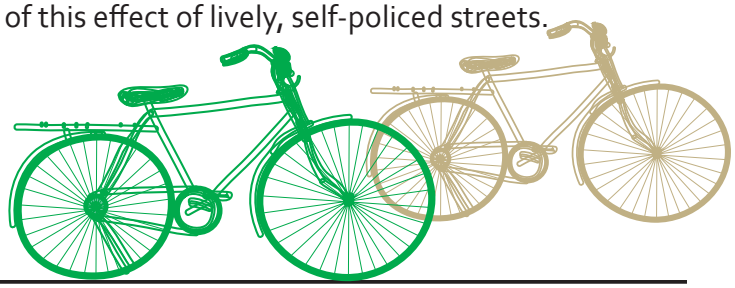
In addition to the many other tangible benefits, emerging studies are showing that bicycle infrastructure helps foster community interaction.

A safe, connected, well-designed bicycle network improves the quality of outdoor spaces, which is linked to the amount of social outdoor activities (see graph on left). The higher the quality of public spaces, the higher the frequency and density of social activities. More social activities cultivate stronger communities of active citizens through enabling and encouraging more diverse public interactions. Reinvestment in the shared public realm can improve social connections for people of all backgrounds by engaging citizens in a travel mode that allows for more **active awareness of their streets** and **participation in their neighborhoods**.

Active streets also strengthen safety by creating public places that are used regularly by all citizens. A consistent density of people on the streets provides a greater sense of community, as well as security against crime with more eyes on the street. Multi-modal transportation infrastructure is extremely socially valuable because of this effect of lively, self-policed streets.

"What attracts people most, it would appear, is other people."

William H. Whyte



Understanding

Without two tons of steel and glass separating them from their surroundings, cyclists are able to better understand the social atmosphere in which they liveand forge **deeper connections** with their city and fellow citizens.

In building a cycling-friendly environment with easily accessible and integrated infrastructure, we provide the opportunity for Syracuse's citizens to consider cycling as a rational mode of transport. This would overcome the fundamental attribution error (see box on bottom right) and invalidate the view that Syracuse is inherently a car-centric city. Understanding other citizens and the possibilities for Syracuse will allow us to move forward in providing infrastructural and social support for more sustainable individual choices.

Communities are formed by individuals who are aware and understanding of the shared physical and social aspects of urban living. It is in shared spaces and resources, like a bicycle network, that we are able to cultivate an appreciation for both similarities and differences, along with a resilience that enables coordination and cooperation in the face of economic and environmental challenges.

Nicholas Lisi, The Post-Standard

Cyclist on Comstock Avenue bicycle lane

Fundamental Attribution Error (FAE)

The FAE is an effect described in social psychology. It is the tendency to attribute other people's choices to personal disposition and overlook the situational factors that one acknowledges as powerful in one's own choices[1]. In other words, we assume other people are acting more irrationally than they are, and that we ourselves are acting more rationally. This undermines the ability for people to understand that every individual chooses the mode of transport most available and suitable to their provided surroundings.

John. Berry, The Post-Standard

Syracuse's first bicycle showcase in Near West Side in 2009

References

1. Drucker, Michael. (2010) The Fundamental Attribution Error in Transportation, Psystenance: sustainability through the minds eye

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INVENTORY MEASURES

safety
connectivity
design

INVENTORY MEASURES

In determining which streets should be included in Syracuse's bicycle network, 13 metrics, or "appropriateness measures", were used. These were developed by the SMTC for use at a planning level. All data was evaluated and ranked using GIS. Many of the metrics are quantitative in nature, however, some are qualitative. For these qualitative measures, direct observation and professional judgment determined the rank.

The appropriateness measures were separated into three major categories: safety, connectivity, and design. Points of varying weights were assigned to each appropriateness measure. Criteria were then developed for each appropriateness measure and assigned a positive, neutral, or negative score. Positive scores received full points. Neutral scores received half points. Negative scores received no points.

SAFETY MEASURES

Many factors play a role in determining the bicycle safety of existing streets. Assessed below are primarily physical characteristics of streets from road quality, traffic speeds and volumes, to signal locations and heavy vehicle presence. All of these play an integral role in determining the level of cyclist comfort and security in participating in Syracuse's active transportation network.

Quality of Surface (5 Points)

High quality paved streets provide the best conditions for biking with smooth and regular surfaces that reduce bicyclists' need to swerve to avoid dangerous cracks or potholes. Streets with uneven pavement generally create unsafe conditions for biking.

The following criteria were developed to assess the appropriateness of surface conditions:

- smooth surface, uniform width
- irregular surface, non-uniform width
- surface deterioration, cracks, bumps

Our assessments are based on the 2010 annual assessment of all city roads in Syracuse by the Public Works Department, utilizing a scale of 1 to 10 (with 10 being the best road conditions). These figures were then divided by two and matched to the positive, neutral, and negative categories of the appropriateness measure 1-5 point criteria.

Traffic Volumes (15 Points)

Streets with low traffic volumes are preferable for bike treatments. The fewer the number of cars, the less chance there is for car-bike conflict. As a result, these streets are more safe and comfortable for the average bicyclist than high volume streets, which are generally avoided when planning bicycle treatments.

The following criteria were developed to assess the appropriateness of streets based on traffic volumes:

- low volume (<5,000 AADT)
- medium volume (5,000 – 10,000 AADT)
- high volume (>10,000 AADT)

Traffic volumes were determined by counts provided by the SMTC. In areas without counts, professional judgment was used. On the map showing traffic volumes, official count data is shown by a solid line and estimated data by a dotted line.

Average Traffic Speeds (10 Points)

Streets with low traffic speeds provide a desirable environment for bicyclists. As motor vehicle speeds increase, cyclist comfort decreases and the potential for conflicts increases.

The following criteria were developed for assessing the suitability of streets based on traffic speeds:

- +/- 25 miles per hour (desirable)
- +/- 35 miles per hour (possible)
- +/- 55 miles per hour (not recommended)

Due to a lack of actual speed data, the speed assessments used in our inventory measures are based on direct field observation and professional judgment. The three categories above allow a +/- 5 mph range of flexibility in classification. The gap between the yellow and red categories is a result of posted speed limits and conditions on major arterials and highways.

Presence of Signals (5 Points)

Depending on the distance between signals, the prevalence of signalized intersections can be viewed as positive or negative for bicycle mobility. Frequent, closely spaced signals require cyclists to constantly stop and go, which disrupts their momentum and requires more effort to build up speed after each signal. If bicyclists are required to make frequent stops, they may avoid the route or disregard traffic control devices. Infrequent signals were favored in our assessment.

The following criteria were developed for assessing the suitability of road segments with regard to signal frequency:

- infrequent signals (less than half of intersections on a street are signalized)
- occasional signals (about half of intersections are signalized)
- frequent signals (more than half of intersections are signalized)

The signal frequency data used in our inventory assessment was established by the City Traffic Control Center database and field verification.

Presence of Heavy Vehicles (5 Points)

Buses and trucks often pose problems for bicyclists. Visibility is a major factor, especially during right turning movements. Frequent starting and stopping can also increase the opportunity for car-bicycle conflicts. Bicycle treatments are generally avoided on streets with large numbers of transit or truck routes.

The following criteria were developed to assess appropriateness of streets based on the presence of heavy vehicle routes:

- no truck or bus routes
- either truck or bus routes
- both truck and bus routes

Our assessment of heavy vehicle presence was based on comparison of maps delineating Centro bus routes and approximated Designated Heavy Vehicle corridors, along with direct field observation of bus and truck activity on streets.

CONNECTIVITY

The appropriateness of streets for bicycle facilities is also assessed based on the potential to connect to existing facilities, origins, and destinations in the community.

Connections to Existing Bike Facilities and Lanes (10 Points)

Bike facilities function best as a network – a system of connected, continuous treatments that allow bicyclists to access many destinations. Streets that connect to existing facilities, such as bike paths or lanes, are preferable for new bike facilities.

The following criteria were developed to assess connectivity to existing facilities:

- several connections to other bike routes
- few connections to other bike routes
- no connections to other bike routes

Our assessment of connectivity to existing bike routes was based on two-to-four block adjacency to existing bicycle routes, including those to be implemented by the end of 2011.

Connections to Destinations and Other Neighborhoods (15 Points)

The most important indicator of connectivity is the ability to link origins, and destinations, and connect across neighborhoods. Destinations are locations that people visit, such as libraries, parks, schools, retail districts, and employment centers. Streets that provide direct routes between these locations function best for a wide range of cyclists in reducing travel time and increasing the accessibility of bicycling.

The following ratings for connectivity to destinations and neighborhoods were developed:

- access to destinations and other neighborhoods
- access to destinations or other neighborhoods
- access to neither destinations nor other neighborhoods

Our assessments on connectivity to destinations and other neighborhoods were made based on professional judgment and direct observation.

Access to Bus Routes (5 Points)

Unlike car users, bike users often switch modes and can easily utilize bussing systems to greatly increase their range. In Syracuse, Centro buses are all equipped with bike racks, making such transitions easier. Bussing can allow bicyclists to more easily access long distance destinations and can help reduce commute times. Therefore, streets that cross multiple transit routes are preferable for new bike facilities.

The following criteria were used to assess bus route connectivity:

- crosses multiple bus routes
- follows/parallels bus routes
- no nearby bus routes

Bus route connectivity of various roads was assessed using the Centro 2010 bus maps. The high incidence of positive rankings is due to the density of Syracuse's public transit options.

Quality of Experience (5 Points)

Bike facilities should be placed in locations which are visually engaging. Scenic amenities, such as parks, natural features, and historic structures encourage use, especially among more recreational cyclists.

The following criteria were developed to assess quality of experience:

- scenic amenities along route
- some scenic amenities along route
- no scenic amenities along route

The assessments for quality of experience was based on direct observationand verified through public involvement.

DESIGN MEASURES

In addition to considering safety and connectivity, it is critical that new bike facilities are planned for locations that can best physically accommodate and integrate them.

Topography (10 Points)

The topography of bike routes dramatically affects use, especially for bicyclists with lower confidence levels. Generally, bicyclists will avoid streets with major grade changes, as these can create challenging and dangerous conditions. Level terrain or a moderate grade is preferred when planning for bike treatments.

The following grade criteria for topography were used:

- grades from 0%-2%
- grades 2% - 5%
- grades 5%-8%
- grades >8%

Slope categories were determined through by ADA guidelines. These guidelines delineate thresholds for physical exertion necessary when climbing specified grades. Our grade criteria assessments were made based on analysis provided by the SMTC using topographic data.

Width of Road from Curb to Curb (10 Points)

Travel lane width is critical in determining possibility and appropriateness of various bike treatments.For most treatments, the distance from curb to curb must be wide enough to accommodate both cars and bikes safely. Wide, paved right-of-ways allow for the comfortable coexistence of travel lanes, delineated shoulders, and bicycle lanes.

The criteria for appropriate distance from curb to curb are:

- distance is more than 42 feet
- distance is between 28 and 42 feet
- distance is less than 28 feet

These criteria assume that a desirable bicycle lane width is 6 feet wide with an absolute minimum of 4 to 5 feet depending on road conditions and an 11 feet motor vehicle lane.

Our assessments of width from curb to curb were based on information provided by the Department of Engineering and the Department of Public Works, as well as supplemented field investigation.

Presence of Parking Lanes (5 Points)

Since parking is at a premium in our city, preference is given to streets where bike treatments will not supplant existing parking supply. Streets with no on-street parking are prioritized for bike treatments. Streets with parking on one side (i.e. alternating or one-side metered parking) generally provide sufficient room for the addition of bike lanes, but can be problematic. This is especially true with alternate parking due to a lack of consistency in day-to-day lane usability.

The following criteria were developed for appropriateness of parking lane presence:

- no parking lane
- alternating or one side metered parking
- parking on both sides of street

Our assessments were made based on data assembled through remote sensing and Google Street View and direct observation.

Road Diet Feasibility (10 Bonus Points)

Preference is also given to streets that have the capacity for a "road diet" (car lane reduction), as well as other long-term capital enhancements, such as intersection treatments, traffic calming, and traffic diversion. These enhancements increase rider comfort, especially for less-experienced cyclists, while also benefiting pedestrians and property owners in slowing down traffic and enhancing the streetscape.

The following criteria were developed to measure the feasibility of long-term traffic calming:

- existing or future road diet
- no possibility of road diet

Our assessments on road diet feasibility were based on professional judgment and field observations of car lanes and road widths. The assumption was any road greater than or equal to 40 feet wide is a potential candidate for traffic calming measures.

INVENTORY MAPS

This section is concloded with the following maps:

Total Composite Score Map

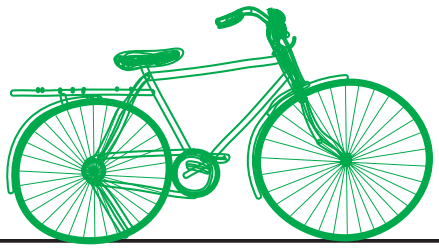
This map is a combination of all 13 aforementioned metrics. It is the gross aggregate map of corridors in Syracuse appropriate for cycling. The irregualr results are due to the fact that analysis was done in a block by block fashion. The three rankings were broken out by quanitile, giving a relatively even distribution to the blocks rated "good," "average" and "poor."

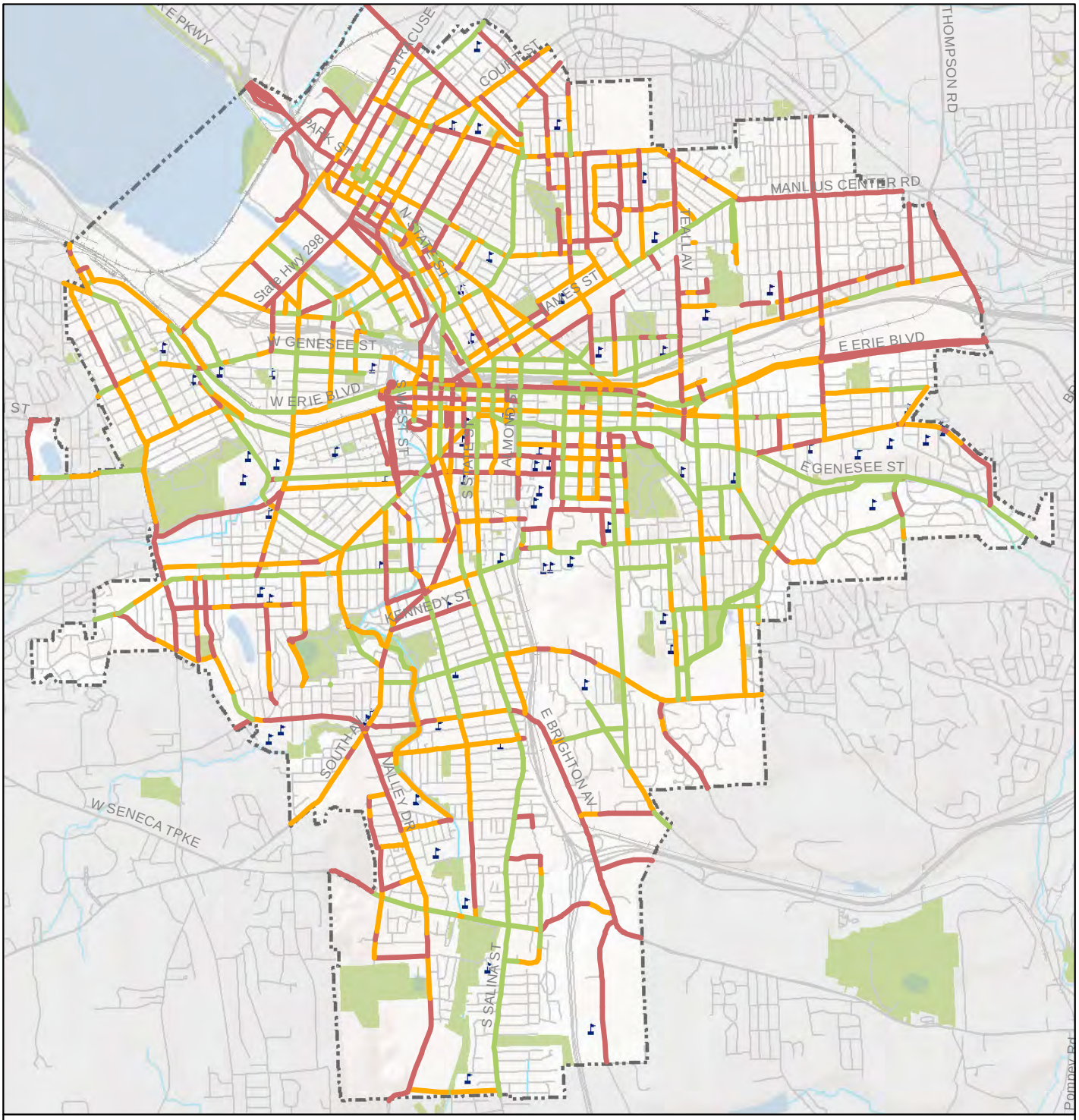
Priority Corridor Map

This map takes the "Total Composite Map" and cuts out the lower ranking corridors to create a blueprint for the city-wide bike network. In addition to removing the lowest rank streets, many other factors assisted in the creation of the final map. Creating common sense connections was essential, both internally for the creation of a coherent network and externally to ensure Syracuse's bike corridors connect with outside destinations and commuting patterns. Finally, extensive citizen feedback (See Apendix B) was instrumental in this final interation of the map. Many low volume neighborhood streets were added based on this feedback, many of which were not ranked through the aforementioned process. The short- to long-term priorities were developed based upon the original ranked value

Proposed Bicycle Network Treatments Map

This map highlights the possible treatments for each corridor. An explaination of these treatments is found in Chapter 3: "Tool Kit." Further discussion of these corridors is found in Chapter 4: "Neighborhood Recommendations."





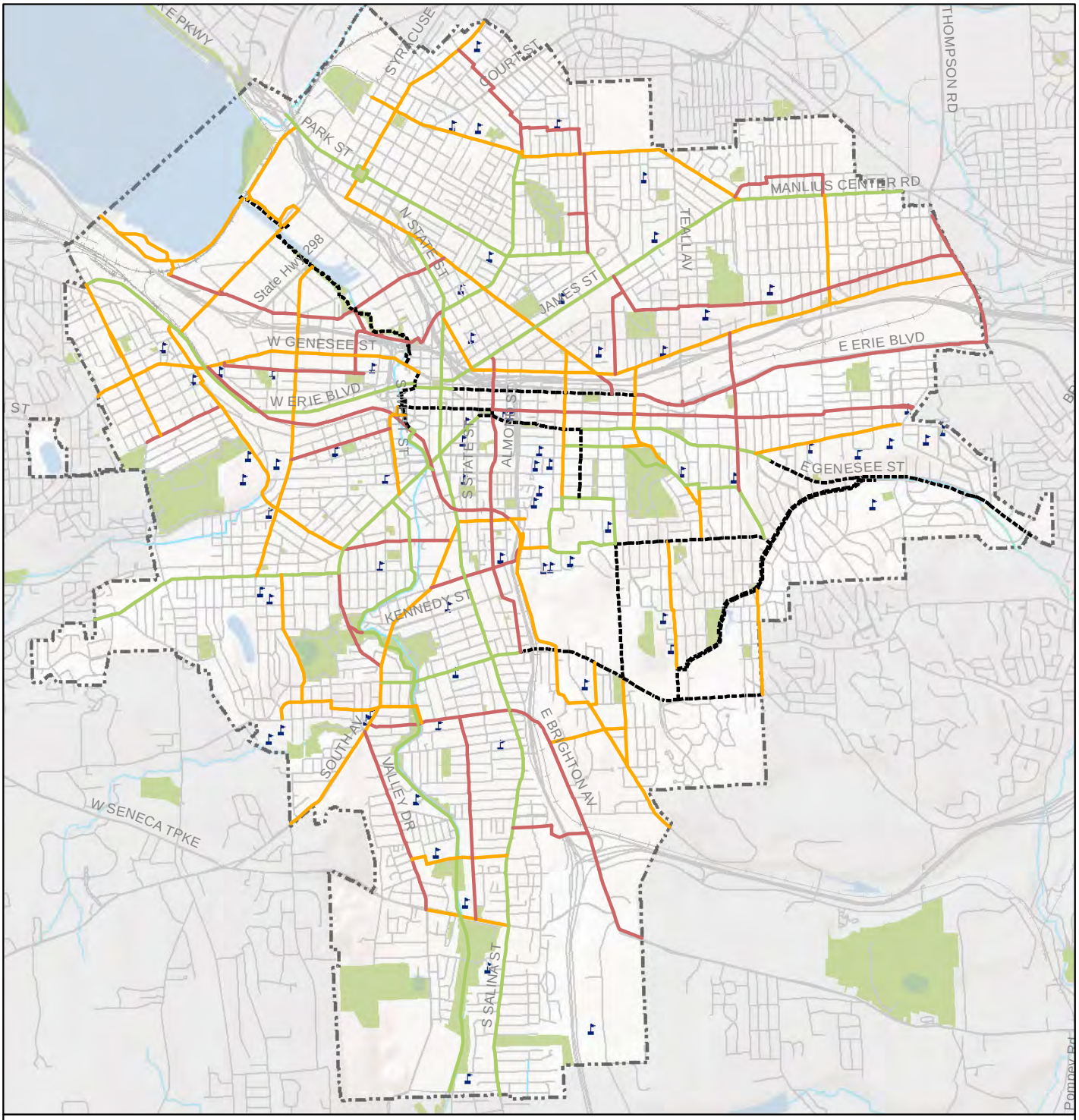
Syracuse Bike Plan: Total Composite Score

N
W E
S

0 0.3 0.6 1.2
Miles

Syracuse City Boundary
Streets
Composite Ranking
Parks
Good
Schools
Average
Railroad
Poor
Creek

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011. Classification based on Natural Breaks (Jenks).
PriorityMap_BikePlan_100912.mxd
10/09/2012



Syracuse Bike Plan: Priority Bike Lanes

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011. Classification based on Natural Breaks (Jenks).
PriorityMap_BikePlan_100912.mxd
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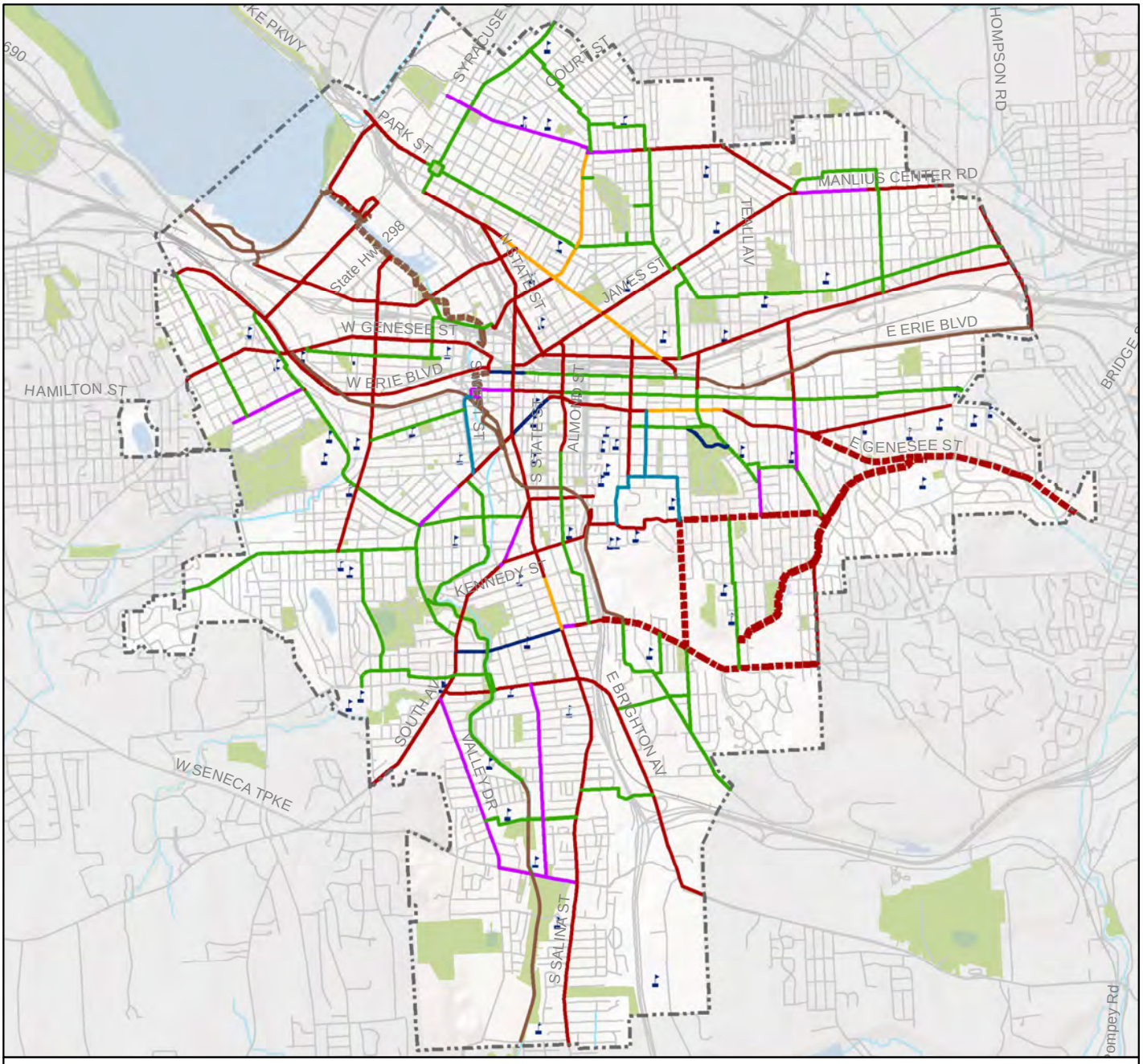

Syracuse Bike Plan: Proposed Bicycle Network Treatments

Proposed Treatments

- Standard Bike Lane
- Existing Lane
- Sharrow
- Existing Sharrow
- Curbside Bike Lane
- Neighborhood Greenway
- Cycle Track
- Contraflow Lane with Bike Lane or Sharrow
- Proposed Multi-use Path
- Existing Multi-use Path

- Syracuse City Boundary
- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.3 0.6 1.2
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
Treatments_BikePlan_100912.mxd 10/09/2012

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TOOLKIT

pathway
parking

Recognizing the many benefits of increasing the population of regular cyclists in Syracuse from safety to recreation, Syracuse can facilitate a shift towards more balanced and access-oriented transportation planning through providing citizens with a safe, connected, and appropriately designed bicycle network.

To achieve this goal, we will utilize a variety of tools in building the infrastructural support for a cycling city. This Toolkit consists of two sections: Pathway & Parking. Each outlines the recommended designs with overall benefits, constraints, and suitability for Syracuse.

We have reviewed publications for bicycle path and parking design provided by the National Association of City Transportation Officials, Initiative for Bicycle and Pedestrian Innovation, and the Association of Pedestrians and Bicycle Professionals. Our design recommendations for appropriate public investments are also based on successful models of bicycle facilities from cities around the world with Syracuse's specific conditions in mind.

pathway

sharrows

STRENGTHS

increase awareness for vehicles of possible cyclist traffic

create environments that facilitate predictable behavior and transit by both cyclists and motorists

low cost strategy for existing low-volume streets

WEAKNESSES

potential risk of being 'doored,' as lanes are often located between vehicular travel and parking lanes

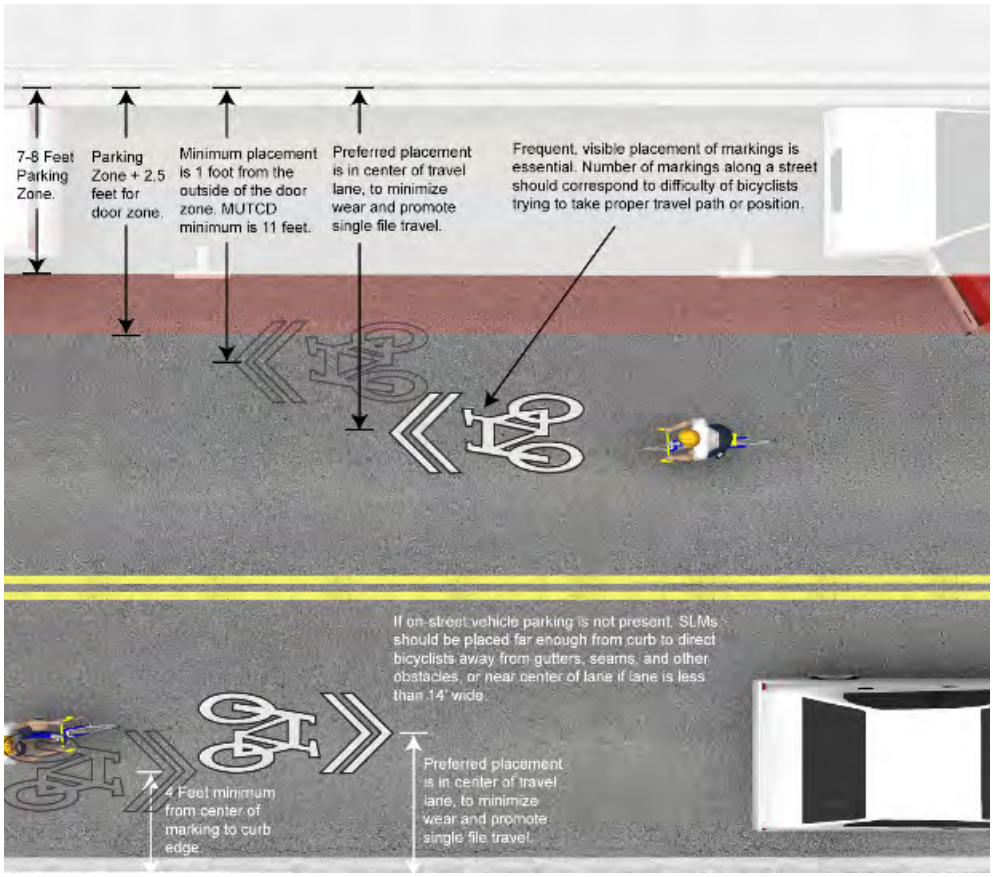
result in tendency for bicyclists to be pushed to edges of roadway due to lack of defined travel lane

painted marking can quickly fade in Syracuse climate unless durable material is used

Photo: PSM

Sharrow on a San Francisco street

Sharrows are shared streets with painted symbols located along the roadway to guide bicyclists to the best locations for travel. They are different from bike lanes and many other methods of infrastructure, because they do not designate a specific area of the road for only cyclists; the purpose of the markings is to help locate bicyclists on the road outside of the "dooring" zone and away from the main flow of cars.



NACTO

Diagram of shared roadways for cyclists and motorists

APPLICATIONS & SPECIAL CONSIDERATIONS

Sharrows are generally low cost and most appropriate as a short-term initial implementation strategy on low-volume streets, as well as untreated but popularly cycled streets. The double arrows indicate where the cyclist should be centered.

For more on design and application, refer to pages 273 to 284 in the Urban Bikeway Design Guide by NACTO.

standard bicycle lanes

Bicycle lanes dedicate a portion of the roadway to bike movement, separated from automobile traffic. This is particularly necessary along streets with higher speed limits and moderate traffic volumes. They occur on roads with sufficient width for two separate travel lanes and are designated by striping, signage, and pavement markings.

NYdailynews.com

Bike lane on two way street with parking in New York City

Applications & Special Considerations

Applications for bicycle lanes generally include streets with (> / =) 3,000 average daily vehicular traffic (AADT) , with a posted speed of (> / =) 25 mph. On streets with higher traffic volumes that may include regular truck traffic, high parking turn-over, or a speed limit >35 mph it is recommended to consider options with greater separation between cyclist and vehicular traffic (see cycle tracks and neighborhood greenways).

Strengths

increase awareness for vehicles of possible cyclist traffic

allow bicyclists to travel at preferred speed without interference from vehicular traffic conditions

create an environment that facilitates predictable behavior and transit by both cyclists and motorists

provide separate movement corridors for cyclists and vehicular traffic

potentially act as a traffic calming device by narrowing travel lanes, or being installed in conjunction with car lane reductions

Weaknesses

create potential risk of being 'doored,' as lanes are often located between vehicular travel and parking lanes

location along the street shoulder can be a safety hazard if not clearly marked as cycling on the road edge can be beyond the visibility range of motorists

far side of road often contains debris (like yard waste or broken glass) and can be a hazard to cyclists

painted marking can quickly fade in Syracuse climate unless durable material is used

For more on design and application, refer to pages 3 to 54 in the Urban Bikeway Design Guide by NACTO.

curbside bicycle lanes

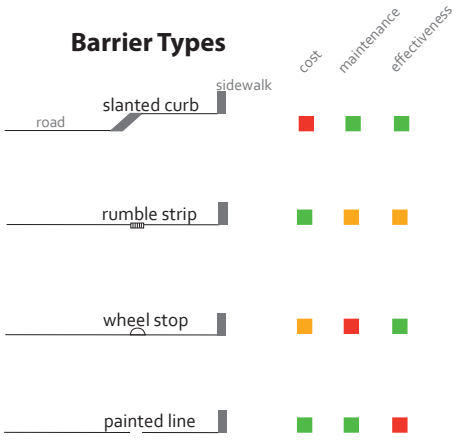
Curbside bicycle lanes are lanes that allow cyclist movement between car parking lanes and sidewalk curbs, providing a strong buffer between moving cars and cyclists.

Tastybite, flickr.com

Curbside bicycle lane with wheel stops as barrier in Budapest, Hungary

Applications & Special Considerations

Applications for curbside bicycle lanes are the same as those for regular bicycle lanes. However, curbside lanes provide a unique solution to streets with alternate parking. Depending on the treatment between the parking lane and curbside bike lane, snow removal may be a concern (see diagram below).



Strengths

reduce risk of dooring by traveling on passenger side

allow bicyclists to travel at preferred speed without interference from vehicular traffic conditions

create an environment that facilitates predictable behavior and transit by both cyclists and motorists

increase capacity and efficiency of streets to incorporate bike lanes along vehicular routes

invite more users of all confidence levels

traffic calming

increases sense of safety

Weaknesses

requires public outreach and enforcement

must be wide enough for rider comfort and snow removal

visibility concern at intersections

painted marking can quickly fade in Syracuse climate unless durable material is used

For more on design and application, refer to pages 3 to 54 in the Urban Bikeway Design Guide by NACTO.

contra-flow bicycle lanes

Contra-flow bicycle lanes are lanes designed to allow bicyclists to ride in the opposite direction of motor vehicle traffic.

Thecityfix.com

Contra-flow bicycle lane in New York City

Strengths

provide connectivity and access for bicyclists traveling in both directions

eliminate dangerous wrong-way riding

allow bicyclists to use safer, low volume streets

increase capacity and efficiency of streets to incorporate bike lanes along vehicular routes

low cost solution to increasing accessibility of bike lanes

potential traffic calming

Weaknesses

create potential traffic conflicts at intersections if not clearly marked and made visible through the intersection

painted marking can quickly fade in Syracuse climate unless durable material is used

Applications & Special Considerations

Many of Syracuse's one-way roads could be converted into multi-modal, two-way streets by reducing the number or width of car lanes and providing a bicycle path heading in the opposite direction. This contra-flow lane is delineated by a double yellow line and can be on either side of the parking lane.

For more on design and application, refer to pages 31 to 45 in the Urban Bikeway Design Guide by NACTO.

cycle tracks

Cycle tracks are one or two way bicycle paths integrated into the urban streetscape, but separated from vehicular traffic & on-street parking. This separation is achieved through raised medians, on-street parking buffers, or bollards. The lane is often delineated by consistent and visible road markings, signage, and painted lanes.

Strengths

provide separate and buffered movement corridors for cyclists and vehicular traffic

improve comfort and safety for bicyclists with a protected lane dedicated to cyclist traffic

invite a diverse user group due to more protected condition (i.e. more families, children, elderly, etc.)

eliminate fear of collisions when passing along vehicular traffic

Weaknesses

create potential traffic conflict at intersections if not clearly marked and made visible through the intersection

require more road width in order to provide adequate buffer space between cycle track and traffic or parking

high cost investment

painted marking can quickly fade in Syracuse climate unless durable material is used

http://www.bartonandloguidice.com

Two-way cycletrack on University Ave, part of the Connective Corridor.

Applications & Special Considerations

Applications for cycle tracks are often streets where bicycle lanes feel unsafe from conditions such as high traffic volumes, multiple lanes, and high speed traffic. To accommodate Syracuse's winter conditions, there must be adequate snow storage space between the cycle lane and vehicle lanes and enough width for small plows to clear these lanes.

Bikedenton.wordpress.com

One way cycle track buffered by bollards and striping on New York City street

For more on design and application, refer to pages 58 to 104 in the Urban Bikeway Design Guide by NACTO.

neighborhood greenways

Neighborhood greenways are streets with low traffic volumes, often residential, that run parallel to major arterials and often connect to neighborhood parks and schools. At major intersections, traffic calming devices are installed to assist the crossing of bicyclists and pedestrians. These devices may also prevent motorists from using the greenway as a cut-through. Other traffic calming measures, such as traffic circles or speed humps slow local traf using the greenway. Green infrastructure and street tree plantings further enhance these corridors.

miabirk.com

Families enjoying a neighborhood greenway in Portland, OR

Applications & Special Considerations

Often located on routes that run parallel to major arterials. The selected streets should be fairly direct and intuitive. Ideal streets are already low traffic volume at <3000 AADT. Neighborhood greenways can be designed to accommodate emergency vehicles and snow removal vehicles, especially when traffic calming interventions are restricted to main crossing streets.

For more on design and application, refer to pages 5 to 52 in the Fundamentals of Bicycle Boulevard Planning & Design by IBPI.

Strengths

improvements benefit pedestrians, cyclists, and residents

reduce motor vehicle speeds and volume to provide an increased sense of safety

invite more youth and families to use due to reduced motor vehicle presence

Weaknesses

may increase congestion on major arterial roads

requires more investment in new traffic-calming infrastructure and signage

painted marking can quickly fade in Syracuse climate unless durable material is used

snow removal concerns

Photo: PSM

Crossing treatment at a neighborhood greenway in Portland, OR

www.seattlepi.com

Miniature traffic circle along a neighborhood greenway in Seattle, WA

bike boxes

Bicycle boxes, a.k.a. 'advanced stop lines,' are markings on the roadway that designate an area for bicyclists to wait ahead of cars at traffic signals. They provide a space for bicyclists in front of vehicular traffic when stopped at lighted intersections

Strengths

allow cyclists to queue in front of cars

reduces right-turn conflicts between bicyclists and motorists

increase visibility of bicyclists on streets

cyclists don't have to breathe in tail pipe emissions

cost effective

Weaknesses

require public outreach and education to ensure proper usage of marked bicycle boxes

painted marking can quickly fade in Syracuse climate unless durable material is used

Photo: PSM

Intersection treatments in New York City, NY including a bike bix

Applications & Special Considerations

Many busy or complicated intersections would be more comfortable and safe for cyclists with delineated bicycle boxes for waiting ahead of motor vehicles at traffic signals. They are mainly used at intersections when rights on red and cyclists conflict.

For more on design and application, refer to page 26 in the Fundamentals of Bicycle Boulevard Planning & Design by IBPI.

bicycle signals

Bicycle signals are traffic lights that include a bicycle symbol and allot a certain amount of time for cyclists to move apart from motor vehicle traffic at intersections. Just like pedestrian and car signals, bicycle signals ensure safe crossing for a growing mode of transport.

Overthebarsinmilwaukee.wordpress.com

Bicycle signal in New York City

Applications & Special Considerations

Major intersections frequented by cyclists can be made safer with reduced vehicle conflicts by signalling bicycle movement apart from motor vehicle traffic. They are used frequently with cycle tracks and contra-flow bike lanes; they can used with neighborhood greenways. There are no snow considerations.

For more on design and application, refer to pages 203 to 220 in the Urban Bikeway Design Guide by NACTO.

Strengths

improves predictability of vehicle movement at intersections

provides high visibility and awareness of cyclists

helps eliminate conflicts between cyclists and drivers, especially with protected left arrows

Weaknesses

high cost for installation and signal coordination

require public outreach and education to ensure proper use

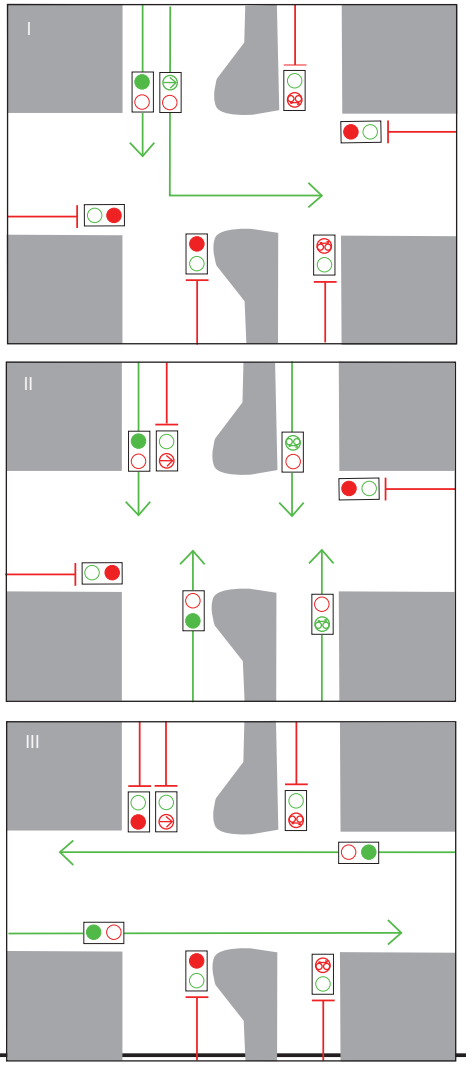


Diagram of traffic phasing with bicycle signals

parking

When it comes to bicycle racks, not all designs are equal. While a wide range of sizes and styles of racks has been developed over the years, there are a few common criteria that determine which racks are suitable for municipally provided, public use today. Looking at standards from municipalities with well-established bicycle infrastructure, such as Portland (OR) and Davis (CA), appropriate bicycle storage must provide enough support to keep a bicycle upright, untangled, and secured at a minimum of two points.

inappropriate racks

Grid Racks

Grid-style bicycle racks frequently cause wheel bending and tangling of closely parked bicycles. They do not offer a way to secure vehicles at two points and are very susceptible to theft.

Cycledallas.blogspot.com

Wave Racks

Wave-style bicycle racks are a variation of the recommended bicycle staple rack (see next page), but do not offer any of the same advantages due to the connected, linear design. Bicycles cannot be secured at two points and positioned stably.

Rooseveltislander.blogspot.com

staples

Bicycle staples are simple, inverted U-shaped metal piping, fastened to or set within the sidewalk. Each staple can secure two bicycles.

Melsky, flickr.com

Bicycle staple in Syracuse

Applications & special considerations

The clean design, low cost, and sheer effectiveness of bicycle staples make them the ideal rack style for the varying physical and security conditions on Syracuse streets, allowing for an easily recognizable and trusted image of the Syracuse public bicycle facility. These staple racks are an excellent choice financially, functionally, and visually as accommodation for Syracuse's growing bicycle parking demand.

Strengths

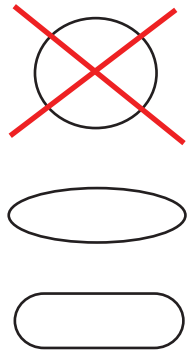
offer a high variability in orientation options

require a minimal investment and maintenance cost per unit. In Portland, each staple rack costs $120 for material, tools, and labor when bought in bulk and so, offers secure parking for a low $60 per vehicle

can be used to create linear, curvilinear, perpendicular, and mass configurations in the streetscape in a uniform, cohesive manner

Weaknesses

metal piping must have non-circular cross-section to provent theft (see below)



Inappropriate and appropriate shapes for bicycle staple piping

For more on design and application, refer to page 2-16 in the Bicycle Parking Guidelines by APBP.

corrals

Corrals are high-density parking facilities that most commonly are located in place of one or two on street parking spots. They are made up of a series of ground racks, preferably the recommended bicycle staples.

Kevin Buchanan, grist.org

Bicycle corrals are in demand by storeowners in Portland.

Weaknesses

high initial investment ; costs can vary depending on the roadside treatment of the corral such as fencing, reflective, or bollard structures, and the selection of the bicycle racks themselves

difficult to maintain with traditional street cleaning equipment; cities like Portland, Oregon have solved this problem by deferring the maintenance of these spaces to adjacent shop owners

Strengths

keep bicycle parking off of the sidewalk

provide parkign for 12 customers via bike in the same space as 1 via car

allow for a greater field of vision for turning vehicles when located on a street corner as opposed to a car

serve the same function as a bump out, providing a traffic calming effect for automobiles and a shorter crossing distance for pedestrians.

installation can occur on road surfaces as they are, allowing for a fairly simple retrofit of the space

serve as a highly visible element of bicycle infrastructure to the public, improving awareness and supporting bicycle travel as a viable alternative to automobile travel

can create a concentrated location where parking can usually be found

Applications & Special Considerations

The use of bicycle corrals could be very effective in areas of Syracuse. Located along established bicycle routes, bike corrals in Syracuse can be constructed in areas where parking is in demand. Many cities require businesses to request corrals and maintain the area. In the winter, corrals are usually removed to accommodate snow plowing. Syracuse would likely adopt such policies.

For more on design and application, refer to page 2-18 and pages 2-44 to 2-52 in the Fundamentals of Bicycle Boulevard Planning & Design by IBPI.

wall-mounted racks

Wall-mounted bicycle storage racks are arranged vertically on walls, rather than horizontally on the ground. These can be installed on any unused wall space, indoors or outdoors.

mycentralnewyork.blogspot.com & Jonah Gruber

Covered wall-mounted bicycle storage at SUNY ESF

Applications & special considerations

With many under-utilized walls outside and inside of buildings throughout the city, Syracuse can easily install wall mounted racks for efficient and free supplemental bicycle storage without concerns about snow removal.

Strengths

utilize excess capacity of blank walls

maximize efficient use of space

minimize costs associated with construction, rental, and use

positioning of bikes on walls lessens the risk of vehicle theft

Weaknesses

vertical orientation of racks requires that bicyclists be able to lift their bikes into position

should supplement ground larking and not be used in isolation

For more on design and application, refer to page 2-19 in the Bicycle Parking Guidelines by APBP.

lockers

Bicycle lockers are parking areas incorporating boxed storage space for bicycles and associated accessories. Like an oversized gym locker, bicycle lock boxes can be rented out with personalized keys for a monthly or bi-annual fee. These lockers can be placed within a parking garage, business bike room, or on an uncongested sidewalk or alley.

La.curbed.com

Bicycle lockers in Los Angeles

Strengths

provide secure storage for bikes and other belongings with a lock and key system

shelter cyclists' belongings from the elements

offer consistent access to daily parking spaces with reservation system

costs of maintenance would be paid for through rental fees

Weaknesses

high initial investment cost

requires a higher amount of dedicated space and maintenance

Applications & Special Considerations

There are many opportunities to establish bicycle lockers and offer demanded, secure bike storage in existing parking facilities and less used street spaces throughout Syracuse. These sheltered facilities would be extremely useful to cyclists in inclement weather. The city of Portland offers bicycle lockers for $15 - $17 per month with a refundable $20 - $95 key deposit. Organizations such as Portland's TriMET bus transit stations provide lockers as cheap as $25 for six months with a $50 refundable key deposit. Syracuse may follow the example of Portland's systems in implementing our own.

For more on design and application, refer to pages 2-7, 2-11, 2-13, 2-15, and 2-31 in the Bicycle Parking Guidelines by APBP.

possible corridor treatments

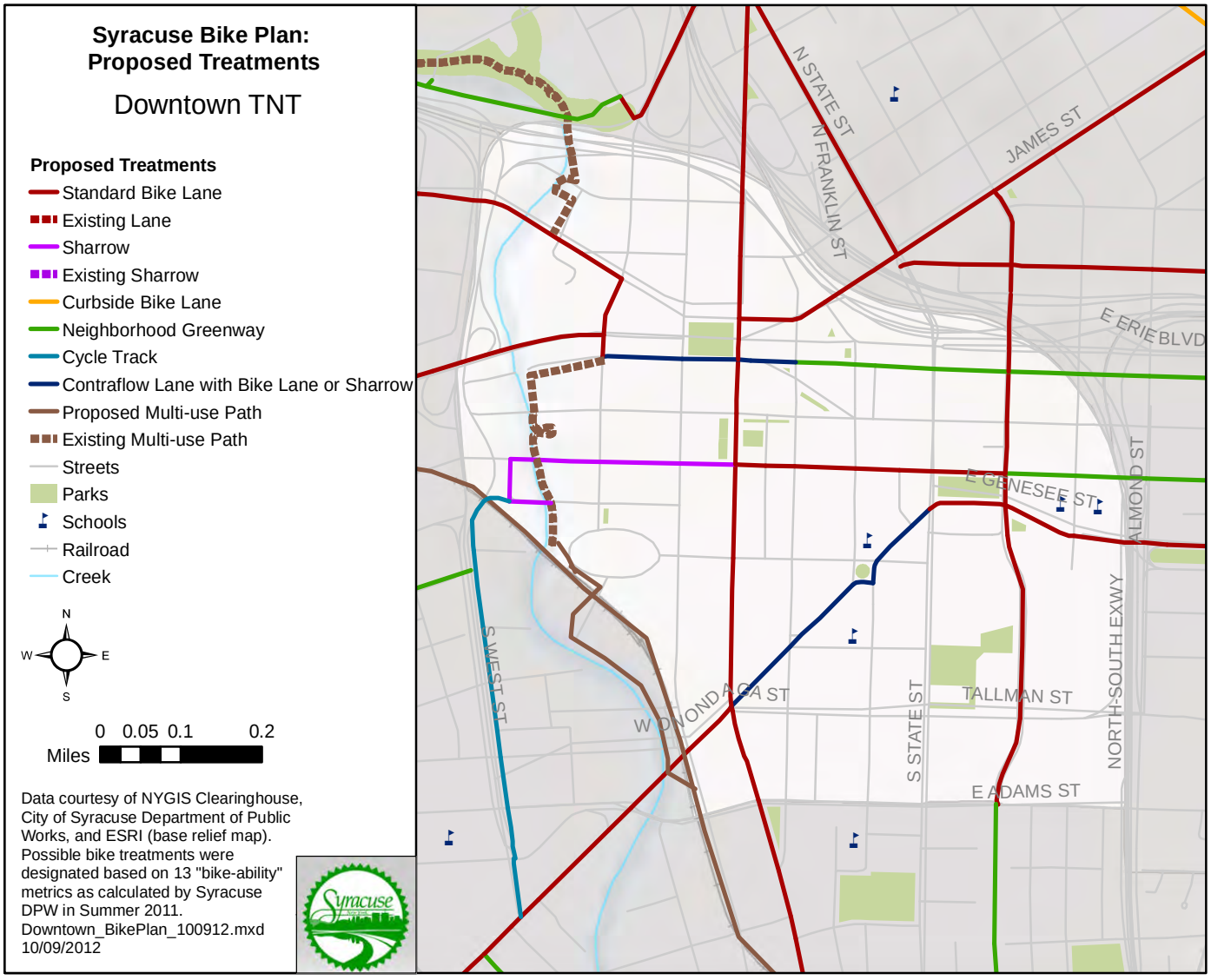
NEIGHBORHOOD RECOMMENDATIONS

Downtown
Westside
Southside
Valley
Eastside
Eastwood
Northside
Lakefront

Downtown

Downtown is the center of the Syracuse bicycle network and connects corridors radiating out across the City. The main location for Centro bus transfers for riders within the City and traveling to outlining communities is also Downtown. The Onondaga Creekwalk starts in Armory Square and connects users to Lakefront amenities. Downtown currently has .2 miles of sharrows along Water Street, and more being added as the Connective Corridor progresses.

The Syracuse Bike Plan adds 4.2 miles of bicycle infrastructure to Downtown streets. This includes:
2.7 miles of standard bike lanes
.6 miles of contraflow bike lanes
3 miles of sharrows
.2 miles of neighborhood greenways



Short-Term Recommendations

South Salina Street

South Salina is the major north-south arterial that connects Downtown amenities to the Northside and Southside. South Salina has the most available space for bicycle infrastructure.

Users
Fast-Speed Commuters

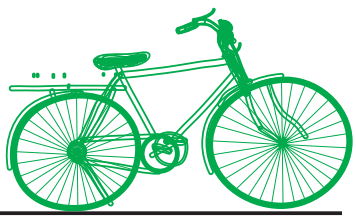
Treatment
In areas with multiple lanes, a "road diet" is proposed to reduce car traffic from two lanes in either direction to one lane in either direction, with a center turn lane. Standard bike lanes are proposed as a corridor for commuters and other high speed cyclists. Bike boxes should be placed at high turning volume intersections to reduce bike-car conflicts. On-street parking will have to be addressed as part of the bike lane installation, and sharrows may need to be used in places.

Erie Boulevard West

Erie Boulevard West is the primary east-west connector, connecting Solvay with Downtown, and serving Tipperary Hill and Park Avenue. This corridor is also anticipated to serve as part of the Erie Canalway Trail, a regional trail from Buffalo to Albany. This corridor contains a mix of offices and industrial uses.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
Standard bike lanes are proposed along this corridor.
A road diet/lane reduction will be necessary
in some areas.



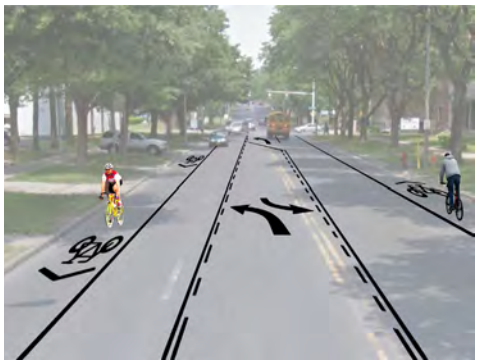
Water Street

Water Street is a low volume street that extends east from Downtown. Water Street currently has a mix of sharrows and bike lanes. The Creekwalk follows Water Street for one block. Water Street connects East and West Erie Boulevard and Genesee Street through Downtown and gives access to Clinton Square. Water Street is expected to be part of the Erie Canalway Trail connection across Syracuse.

Users
Families
Fast-Speed Commuters
Slow-Speed Recreational Users
School Children & Students

Treatment
Contraflow lanes are proposed between Franklin and Warren Streets to accommodate two-way bike traffic on the one-way streets. This will close the gap between the exisiting bike lanes and the Creekwalk.

James Street

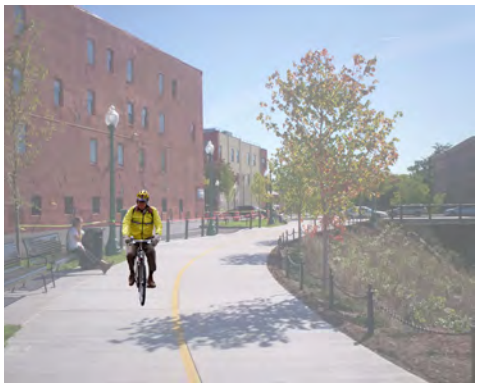


James Street connects Downtown to the Northside and Eastwood.

Users
Fast-Speed Commuters

Treatment
James Street has a completed road diet feasibility study. The planning document furthers the recommendations of this study and proposes that the two traffic lanes in either direction be reduced to one traffic lane in either direction and a center turn lane. This could be done in conjunction with installing pull off areas for buses. Standard bike lanes are proposed for the extra space created by the road diet.

Onondaga Creekwalk



Currently the Creekwalk connects Downtown and Armory Square to Lakefront amenities and provides off-street recreation and connectivity for Downtown users. This Creekwalk should be continued south of Armory Square into the Southside.

Users
Slow-Speed Recreational Users

Treatment
The Creekwalk is proposed to go through the tunnel to the "Trolley Lot" parking lot behind the Museum of Science and Technology and south parallel Onondaga Creek to West Onondga Street.

East and West Onondaga Streets

This arterial connects Downtown to the South and West sides of Syracuse and to western suburbs. It also connects to the Connective Corridor at Fayette Park. Between Clinton Street and Midland Avenue, this corridor will potentially also double as part of the Onondaga Creekwalk.

Users
Families
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
Standard bike lanes are proposed between Slocum Avenue and South Salina Street, with a road diet accompanying these improvements. A contraflow bike lane with a sharrow is proposed between South Salina Street and State Street.

Mid-Term Recommendations

West Street

West Street is a north-south arterial road between Downtown and the Westside, serving regional traffic needs. This corridor has eight lanes of traffic and is nearly 150 feet across with few crossing streets. It provides a connection from West Onondaga Street to Downtown and Armory Square, as well as a connection along the edge of the Rescue Mission campus.

Users
Families
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
A cycle track is proposed along this corridor from West Onondaga Street to Walton Street. The existing West Street service lane would be removed to provide space for the cycle track as well as create a safe buffer between cyclists and drivers. A sharrow would link West Street to the Creekwalk along Walton Street.

Genesee Street Corridor

East and West Genesee Street is a main east-west corridor, connecting neighborhoods and suburbs to the east and west of Downtown.

Users
Fast-Speed Commuters

Treatment
Standard bike lanes are proposed along West Genesee. A road diet/lane reduction will be necessary to accomplish such infrastructure. Standard bike lanes are also suggested on the section of East Genesee that runs from Downtown to University Avenue.

Long-Term Recommendations

East Fayette Street

Fayette Street is an east to west corridor which connects Downtown to the Eastside via Fayette Square Park.

Users
Families
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
Sharrows are suggested between the Creekwalk trail and the Salina Street Corridor due to the narrow street width, on-street parking, and heavy bus traffic. Standard bike lanes are proposed between Salina Street and Almond Street. A neighborhood greenway is suggested from Almond street to the east.

South Townsend Street to Garfield Avenue
Corridor via Oakwood Avenue

This corridor is a north-south arterial connecting the Southside to the Northside neighborhoods through Downtown. This corridor also provides access to the Dr. King School and St. Joe's Hospital.

Users
Fast-Speed Commuters

Treatment
Standard bike lanes are proposed through this high traffic section of the Corridor.

CSX Rail Line

While not a street, the CSX rail line has the potential for bike infrastructure. This corridor provides access between Tipperary Hill and University Hill with no crossing vehicular traffic. Similar to the former OnTrack service, there could be access points at Lipe Art Park, Armory Square, the Syracuse Community Health Center, and Syracuse University.

Users
Families
Slow-Speed Recreational Users
School Children & Students

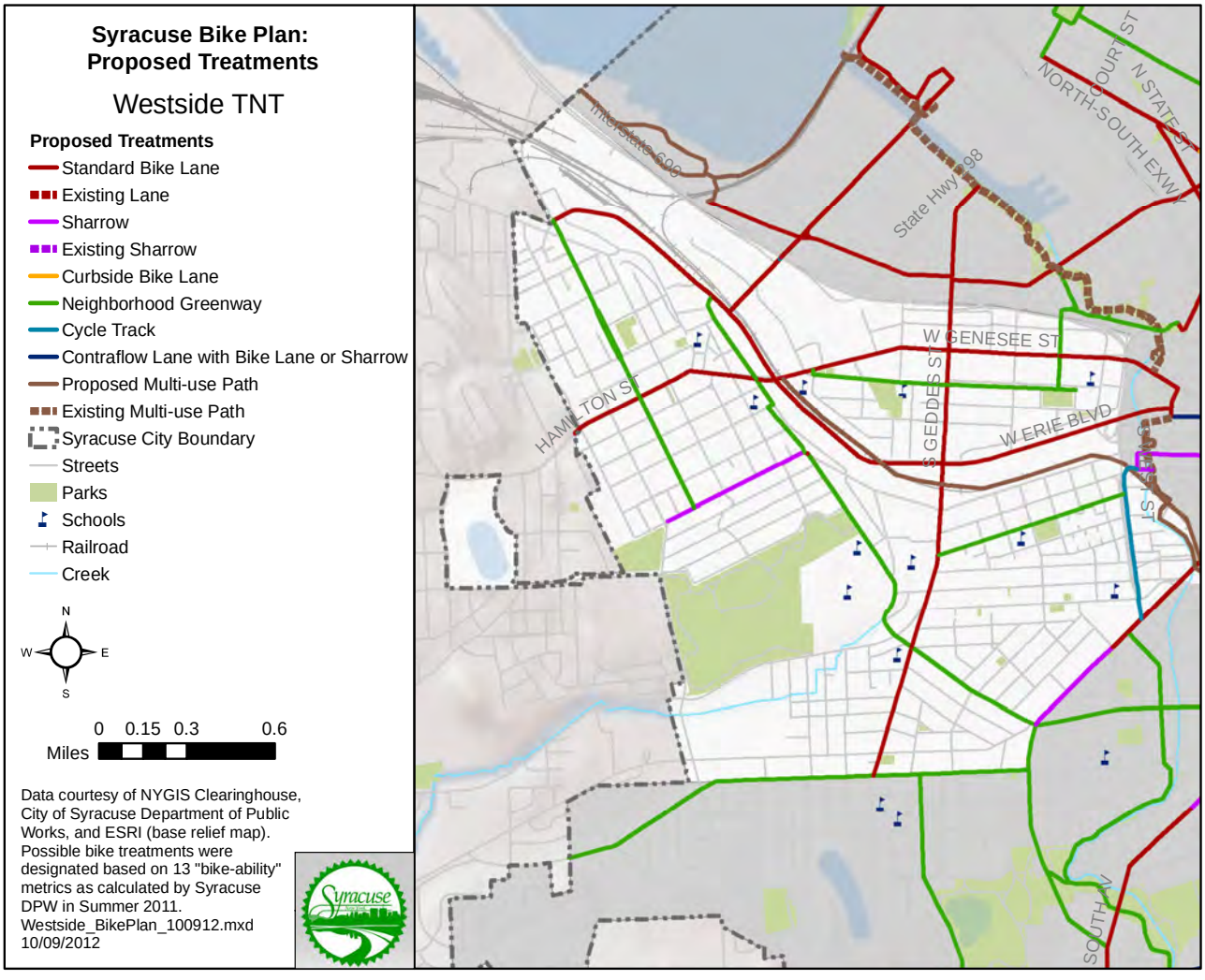
Treatment
A rail with trail is considered for the CSX rail line. This pedestrian/cyclist shared-use trail would parallel the active rail line.

Westside

The Westside contains several important streets in Syracuse's bicycle infrastructure network. The Westside currently does not have any designated bike routes. Erie Boulevard is the main east-west corridor across the city. North Geddes Street connects Lakefront amenities to the Westside and Southside. The West Fayette-Delware-Wilbur corridor allows diagonal access through the Westside, and connects schools and parks to the rest of the City.

The Syracuse Bike Plan adds 14.75 miles of designated on-street bicycle infrastructure to Westside streets. This includes:

7.4 miles of standard bike lanes
.5 miles of curbside bike lanes
.8 miles of sharrows
1.2 miles of cycle tracks
3 miles of neighborhood greenways
1.8 miles of off-road multi-use paths



Short-Term Recommendations

West Onondaga Street

This arterial connects the South and West sides of Syracuse to western suburbs and across Downtown, connecting to the Connective Corridor at Fayette Park. Between Clinton Street and Midland Avenue, this corridor will potentially also double as part of the Onondaga Creekwalk.

Users
Families
Fast-Speed Commuters
Slow-Speed Recreational Users

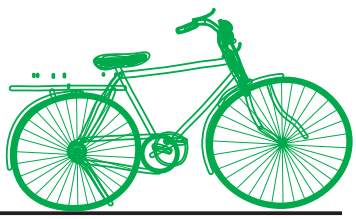
Treatment
Standard bike lanes are proposed between Slocum Avenue and South Salina Street, with a road diet accompanying these improvements. Sharrows are anticipated between Slocum Avenue and Tallman Street, as the street is narrower and has a lower volume of traffic.

Erie Boulevard West

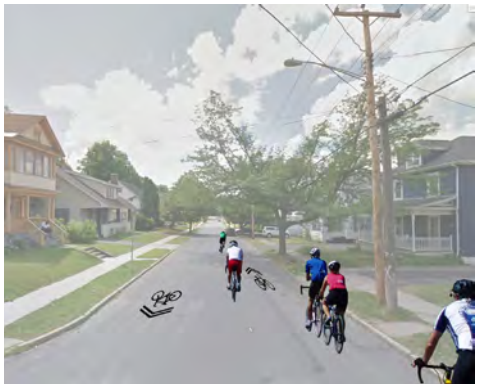
Erie Boulevard West is the primary east-west connector, connecting Solvay with Downtown, and serving Tipperary Hill and Park Avenue. This corridor is also anticipated to serve as part of the Erie Canalway Trail, a regional trail from Buffalo to Albany. This corridor contains a mix of offices and industrial uses.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
Standard bike lanes are proposed along this corridor with the ability to include a striped buffere between the car and bike lanes. A road diet is anticipated in some areas.



Bellevue Avenue
from Onondaga Avenue to the west



This east-west arterial connects the southwest side to major streets running through the core of the City. It will provide a safe route to Corcoran High School. Bellevue Avenue runs parallel to West Onondaga Street.

Users
Fast-Speed Commuters
School Children & Students
Slow-Speed Recreational Users

Treatment
A neighborhood greenway is considered for Bellevue Avenue and should accommodate continued heavy car traffic on West Onondaga Street.

Mid-Term Recommendations

West Street

West Street is a north-south arterial road between Downtown and the Westside, serving regional traffic needs. This corridor has eight lanes of traffic and is nearly 150 feet across with few crossing streets. It provides a connection from West Onondaga Street to Downtown and Armory Square, as well as a connection along the edge of the Rescue Mission campus.

Users
Families
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
A cycle track is proposed along this corridor from West Onondaga Street to Walton Street. The existing West Street service lane would be removed to provide space for the cycle track as well as create a safe buffer between cyclists and drivers. A sharrow would link West Street to the Creekwalk along Walton Street.

Geddes Street (North and South)

Geddess Street is a major arterial road connecting every neighborhood in the west side of Syracuse from north to south, and to points beyond. At the extreme southern end of this corridor is Corcoran high School, while in the Lakefront, this corridor terminates at the Creekwalk. This corridor also connects to Delaware and Fowler Schools, as well as the South Geddes commercial corridor.

Users
Fast-Speed Commuters
School Children & Students
Slow-Speed Recreational Users

Treatment
Standard bicycle lanes are proposed along this corridor due to the speeds and volume of automobiles. A road diet and lane reduction is possible in some areas.

Road narrowing and bike lanes possible between Delaware and Elliot Sts

West Genesee Street

West Genesee Street is a main east-west corridor, connecting western suburbs with Downtown, and serving Tipperary Hill and Park Avenue. Within the city, it has the same connectivity as Erie Boulevard West. However, West Genesee connects to more neighborhoods outside Syracuse.

Users
Fast-Speed Commuters

Treatment
Standard bike lanes are proposed along this corridor. A road diet/lane reduction will be necessary to accomplish such a treatment.

Delaware Street - West Fayette Street Corridor (including Wilbur Ave)

West Fayette, Wilbur Avenue, and Delaware Street provide diagonal northwest-southeast access across the Westside of Syracuse and connect Tipperary Hill with the Near Westside and Southwest neighborhood. These streets are primarily low-volume and low-speed, with a mix of use from all residential to some industrial. This corridor also connects to Burnett Park, the Rosamond Gifford Zoo, and Fowler High School.

Users
Families
School Children & Students

Treatment
A mix of infrastructure is proposed along this corridor. Along Delaware, sharrows are anticipated, though in areas without on-street parking, standard bike lanes are proposed. Wilbur Avenue is proposed to have curbside bicycle lanes with a few sections of sharrows, and a cycle track where the street becomes one way. Standard bike lanes are proposed along West Fayette.

Willis Avenue

Willis Avenue is a low-volume, low-speed road in a residential setting. This roughly north-south street is part of the Tipperary Hill grid. Willis Avenue has many crossing streets and parallels the higher volume Avery and Milton Streets. This street could provide a safe cycling connection from Tipperary Hill to Solvay and the Erie Canalway Trail.

Users
Families
Slow-Speed Recreational Users

Treatment
A neighborhood greenway is proposed for Willis due to the street's low traffic volumes, the higher volume parallel streets, and the residential character of the corridor.

Hiawatha Boulevard

Hiawatha Boulevard connects from the Carousel Center to Erie Boulevard West. While there are high speeds and high volumes on this corridor, the mall also provides a high generator of demand for use.

Users
Families
Slow-Speed Recreational Users

Treatment
Standard bike lanes are proposed along this corridor. A road diet/lane reduction will be necessary in some areas.

Long-Term Recommendations

Tompkins Street

Tompkins is part of the Tipperary Hill grid, connecting roughly east-west. It is a relatively higher volume road for the neighborhood that goes along many local businesses and contains the iconic upside-down traffic light. This corridor would connect the Wilbur and Willis bike infrastructure and is anticipated to be used primarily by neighborhood residents.

Users
Families
Slow-Speed Recreational Users

Treatment
As the road is not wide enough for standard bike lanes without removing parking, sharrow symbols are proposed for the corridor.

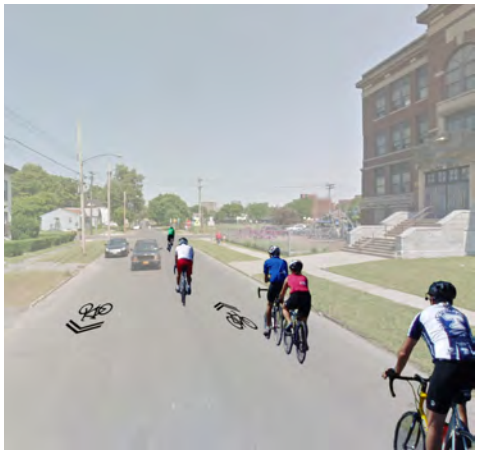
Park and Leavenworth Avenues

These two corridors are proposed to be an alternate connection to the Creekwalk. These scenic roads offer low traffic volumes and speeds to families and recreation users who wish to avoid the on- and off-ramps at I690 and North Geddes St.

Users
Families
Slow-Speed Recreational Users

Treatment
Along Park Ave, a cycle track is recommended from Geddes Street to Leavenworth Ave in the Central Park median to provide a sheltered green space for children and families. Bike lanes are proposed along Leavenworth Avenue from Park Avenue north to Evans and the Creekwalk. It is suggested that on-street parking be removed along Leavenworth Avenue to provide room for standard bike lanes.

Otisco Street



Otisco Street provides bike connectivity within and across the Near Westside neighborhood. It is a low volume corridor, with slower speeds. This corridor connects Fowler and Lodgett Schools, Skiddy Park, and across West Street at a proposed new crosswalk.

Users
Families
Slow-Speed Recreational Users
School Children & Students

Treatment
Given the grid nature of the Near Westside, Otisco Street is proposed to become a neighborhood greenway.

CSX Rail Line

While not a street, the CSX rail line has the potential for bike infrastructure. This corridor provides access between Tipperary Hill and University Hill with no crossing vehicular traffic. Similar to the former OnTrack service, there could be access points at Lipe Art Park, Armory Square, the Syracuse Community Health Center, and Syracuse University.

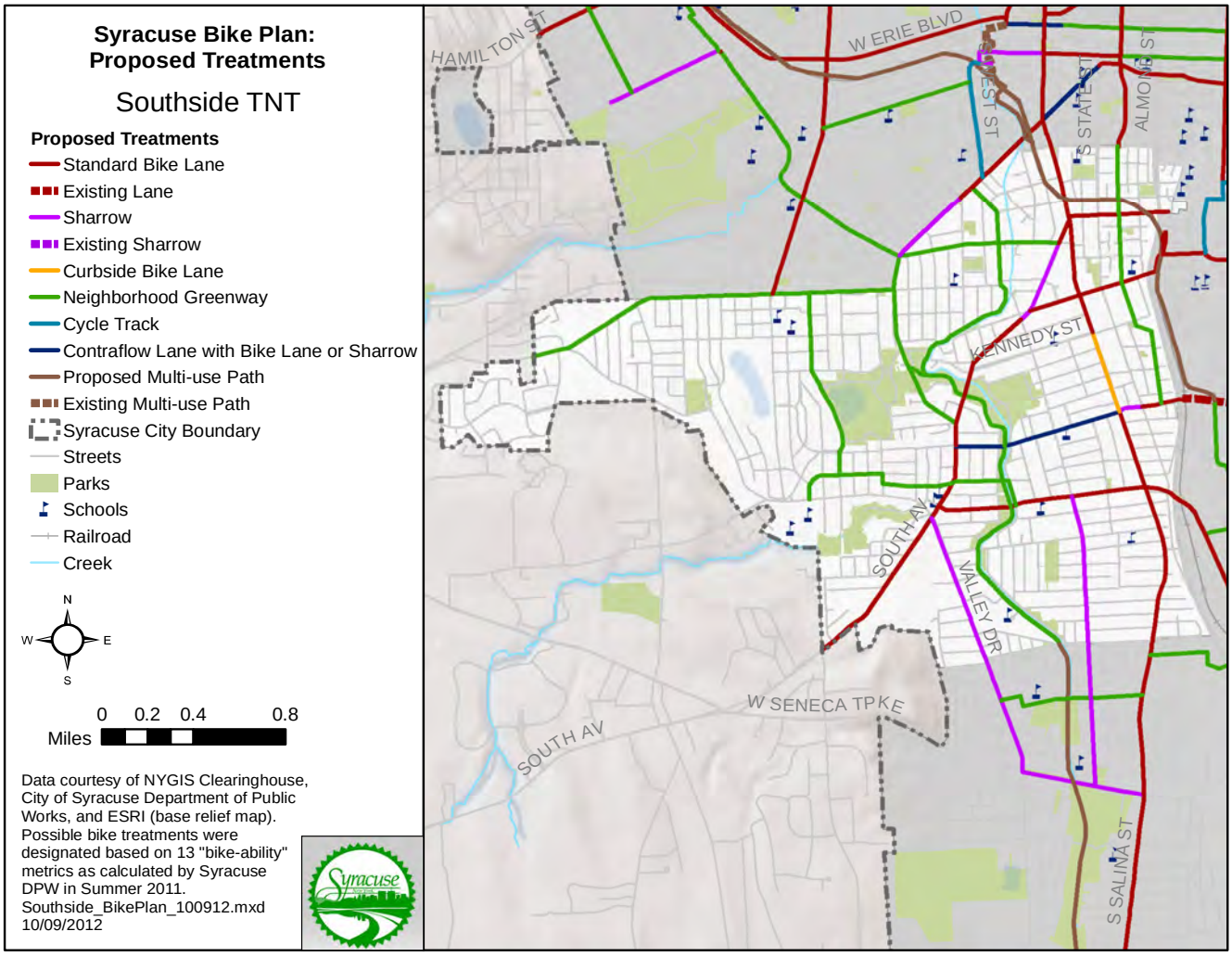
Users
Families
Fast-Speed Commuters
Slow-Speed Recreational Users
School Children & Students

Treatment
A rail with trail is considered for the CSX rail line. This pedestrian/cyclist shared-use trail would parallel the active rail line.

Southside

The Southside contains several important streets in Syracuse's bicycle infrastructure network. South Salina is the main north-south route through the city for commuter and high speed bike traffic. Onondaga Creek Boulevard/ Creekwalk will serve all riders as they wind through neighborhoods and green spaces along Onondaga Creek. The Southside currently does not have any designated bike routes.

The Syracuse Bike Plan adds 17.25 miles of designated on-street bicycle infrastructure to Southside streets. This includes:
6.5 miles of standard bike lanes
.4 miles of curbside bike lanes
.75 miles of contraflow bike lane
2 miles of sharrows
6.9 miles of neighborhood greenways
.7 miles of off-road multi-use path



Short-Term Recommendations

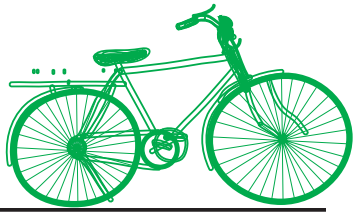
Onondaga Creek Boulevard/Creekwalk

This corridor is anticipated to be the primary north-south corridor in the City for al users and will have an ecological and recreational focus due to the proximity of Onondaga Creek. This corridor is also being considered for an extension of the Onondaga Creekwalk that currently connects Downtown with the Inner Harbor and Lakefront. One possible rout for this corridor is Hovey Street to marginal Street to Onondaga Creek Pathway to Onondaga Creek Boulevard.

Ultimately this corridor will connect the Valley, Southside, Downtown, and Lakefront. The route provides great scenic and recreation value and connects green space within the Southside like Upper and Lower Kirk Park, and green spaces through the city like the Inner Harbor, Onondaga Park, and Meachem Park. The corridor also connects to Danforth School and schools in the Valley.

Users
Families
Fast-Speed Commuters
School Children & Students
Slow-Speed Recreational Users

Treatment
A neighborhood greenway is proposed on this low-volume street for commuter and pleasure cyclists. Traffic calming infrastructure will be places at intersections to prioritize bike traffic and discourage or slow car through-traffic. Signage will provide way-finding and advertise the use of the boulevard as a safe route to school.



South Salina Street

South Salina is the major north-south arterial that connects the Southside to Downtown amenities and through to the Northside. South Salina has the most available space for bicycle infrastructure.

Users
Fast-Speed Commuters

Treatment
In areas with multiple lanes, a "road diet" is proposed to reduce car traffic from two lanes in either direction to one lane in either direction, with a center turn lane. Standard bike lanes are proposed as a corridor for commuters and other high speed cyclists. Bike boxes should be placed at high turning volume intersections to reduce bike-car conflicts. On-street parking will have to be addressed as part of the bike lane installation, and sharrows may need to be used in places.

Onondaga Street Corridor

From Townsend Street to Bellevue Avenue

This corridor connects commuters from the western neighborhoods to commercial centers along Onondaga Street and Downtown Syracuse. The corridor is also being considered as a connection between the current Creekwalk and Onondaga Creek Neighborhood Greenway.

Users
Fast-Speed Commuters

Treatment
West Onondaga Street from South Avenue to downtown will undergo a "road diet." The street is proposed to be reduced from two lanes in either direction to one lane in either direction, with a center turn lane. Bike lanes could be placed on either side of the travel lanes.

Bellevue Avenue

From Onondaga Avenue to the West

This east-west arterial connects the southwest side to major streets running through the core of the City. It will provide a safe route to Corcoran High School. Bellevue Avenue runs parallel to West Onondaga Street.

Users
Fast-Speed Commuters
School Children & Students
Slow-Speed Recreational Users

Treatment
A neighborhood greenway is considered for Bellevue Avenue and should accommodate continued heavy car traffic on West Onondaga Street.

Colvin Street

This Colvin Street is the major east-west arterial street connecting the Southside with the Eastside and Syracuse University under I-81.

Users
Fast-Speed Commuters
School Children & Students

Treatment
A contra-flow lane is proposed between South Avenue and South Salina Street to accommodate two-way bicycle traffic along the one-way street. On-street parking need to be removed to facilitate this treatment. A standard bicycle lane or sharrows are proposed to complete the corridor as it continues under I-81 to the Eastside.

Mid-Term Recommendations

Elmwood Neighborhood Greenway

This corridor connects many schools in this area: Roberts Elementary, Corcoran, Elmwood and Danforth Magnet. It also connects to the proposed Creekwalk along Onondaga Creek Boulevard. This greenway utilizes low volume neighborhood streets, taking the blocks with the most gentle slope.

Users
Families
School Children & Students
Slow-Speed Recreational Users

Treatment
A neighborhood greenway would be appropriate for this corridor and provides a safe route to school for children in the neighborhood. Mini-traffic circles could be used for wayfinding. Pedestrian median refuges should be used when crossing high volume streets, like South Avenue.

South Avenue to Burt Avenue Corridor
via Cortland Avenue

This corridor is a major diagonal connecting the Southside with Onondaga Community College and the South Salina arterial. This corridor runs through Onondaga Lake Park, Kirk Park, and Elmwood school.

Users
Fast-Speed Commuters
Students

Treatment
A standard bike lane is proposed for most of the corridor. Sharrows are proposed between Castle Street and Tallman Street where the street is too narrow for a standard bike lane, but connectivity is still important.

Roberts Avenue Greenway

This corridor connects through the Strathmore neighborhood, and accesses Onondaga Park. It also provides a safe route to school for students going to Bellevue Elementary and Corcoran.

Users
Families
School Children & Students
Slow-Speed Recreational Users

Treatment
In this section of South Geddes where there are lower volumes of traffic, sharrows are recommended to allow both cars and bikes to share the road.

Long-Term Recommendations

Onondaga Ave

Onondaga Avenue connects the bike lanes on West Onondaga Street, Bellevue Avenue, and South Avenue. It also provides access to the recreational facilities at Onondaga Park.

Users
Fast-Speed Commuters

Treatment
A neighborhood greenway is proposed for recreational riders and commuters. The 600 block could potentially be closed to cars and remain open to cyclists.

West Brighton Avenue

West Brighton Avenue provides a secondary east-west route, connecting South Avenue and South Salina Street. Added treatments will need to be utilized at high volume intersections near I-81.

Users
Fast-Speed Commuters
School Children & Students

Treatment
On-street parking may need to be removed from South Avenue to Webster Avenue to accommodate a standard bike lane.

Castle Street Corridor

Castle Street runs east-west through the near Southside and gives access to Dr. King Elementary School, Onondaga Park, and the Onondaga Creekwalk. The corridor also connects with the streets leading to SUNY College of Environmental Sciences and Forestry, Syracuse University, and the Eastside.

Users
School Children & Students
Slow-Speed Recreational Users

Treatment
A standard bike lane is proposed.

Tallman Street
from West Onondaga Avenue to Cortland Avenue

Tallman Street is an east-west connector between South Salina and the west of the city, toward Fowler School and Rosamond Gifford Zoo. Tallman Street extends the northern reach of the Onondaga Creek neighborhood greenway and allows access from the surrounding residential neighborhoods.

Users
Families
Fast-Speed Commuters
School Children & Students
Slow-Speed Recreational Users

Treatment
A neighborhood greenway between Onondaga Creek Boulevard and Onondaga Avenue with an intersection treatment at Tallman and Rich is proposed because of the existence of on-street parking and the relatively low traffic volume. A standard bicycle lane is recommended between Onondaga Creek Boulevard and Cortland Avenue.

South Townsend Street to Garfield Avenue Corridor
via Oakwood Avenue

This corridor is a north-south arterial connecting the Southside to the Northside neighborhoods through Downtown, and gives access to Dr. King School and St. Joe's Hospital.

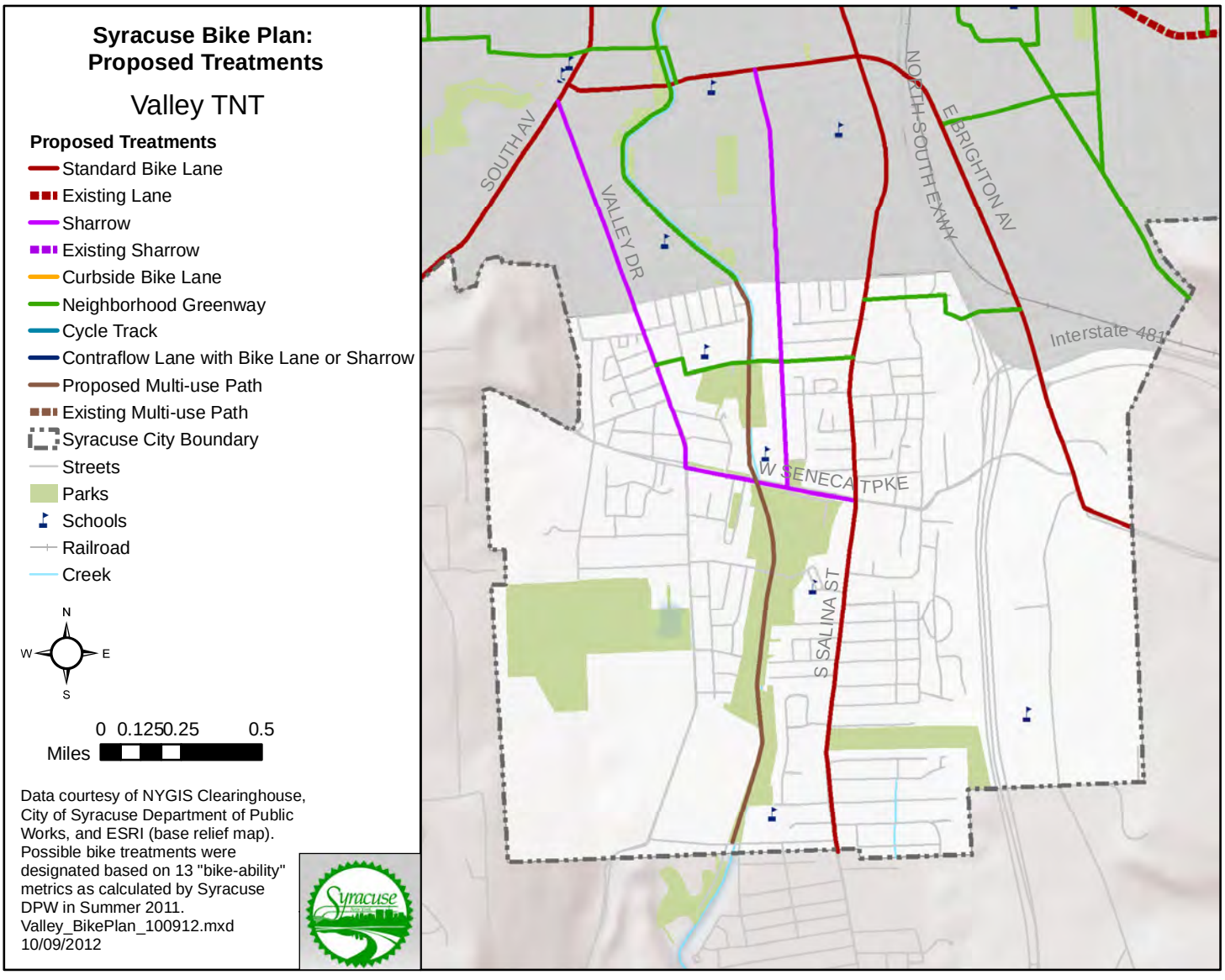
Users
Fast-Speed Commuters
School Children & Students
Slow-Speed Recreational Users

Treatment
A neighborhood greenway is proposed to calm traffic for commuters and youth using this corridor.

Valley

The Valley is the southern end of the Syracuse bicycle infrastructure network and will contain the entry points for cyclists riding in from points south of the City line. The Onondaga Creekwalk neighborhood greenway and the Salina Street corridor will provide access to Downtown amenities, the Lakefront, and neighborhoods on the Northside. The Valley currently has bike lanes on South Salina Street from Dorwin Ave to Seneca Turnpike.

The Syracuse Bike Plan adds 3.2 miles of designated on-street bicycle infrastructure to Valley streets. This includes:
.7 miles of standard bike lanes
1.8 miles of off-road multi-use path
.5 miles of sharrows
.5 miles of neighborhood greenways



Short-Term Recommendations

South Salina Street

South Salina is the major north-south arterial that connects the Valley to Downtown amenities and through to the Northside. This corridor includes many businesses. South Salina has the most available space for bicycle infrastructure. South Salina also connects to Clary Middle School, Meachem Elementary School and Heath Park

Users
Fast-Speed Commuters

Treatment
In areas with multiple lanes, a "road diet" is proposed to reduce car traffic from two lanes in either direction to one lane in either direction, with a center turn lane. Standard bike lanes are proposed for commuter cyclists. Special care will be taken at the intersection with East Seneca Turnpike. Bike boxes are proposed to reduce bike-car conflicts. On-street parking will have to be revisited in some areas as part of the bike lane installation.

Onondaga Creekwalk

This path is anticipated to be the primary north-south corridor in the City for all users and will have an ecological and recreational focus due to the proximity to Onondaga Creek. This path would connect to Onondaga Creek Boulevard, which is being considered for an extension of the Onondaga Creekwalk that currently connects Downtown with the Inner Harbor and Lakefront. Within the Valley, this corridor will connect Meachem Field, Meachem Elementary School, and the green space along Onondaga Creek.

Users
Families
Slow-Speed Recreational Users
School Children & Students

Treatment
An off-road multi-use path along the creek is proposed for commuter and recreational cyclists. Traffic calming infrastructure is suggested at intersections to prioritize bike traffic and discourage, or slow, car through-traffic. Signage will provide way-finding and advertise the path as a safe route to school.

Mid-Term Recommendations

Seneca Turnpike Corridor

Seneca Turnpike connects neighborhoods along South Salina Street with the Onondaga Creekwalk and provides an east-west route across the valley neighborhood.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
A sharrow is proposed to take advantage of wide shoulders and to accommodate the center turn lane. No traffic patterns will be affected with this choice of infrastructure, though the center turn lane is proposed to be narrowed to ten feet.

Florence Avenue

This low volume neighborhood corridor provides an important link across Onondaga Creek, via a pedestrian bridge, and also provides a safe route to Van Duyn School.

Users
Families
Slow-Speed Recreational Users
School Children & Students

Treatment
A neighborhood greenway is suggested. Minimal infrastructure changes would need to be made, as many traffic calming solutions are already in place.

Long-Term Recommendations

Valley Drive

While not rated highly based on the inventory measures, Valley Drive has been included due to public demand. This corridor connects the west side of the Valley up to the Elmwood business

Users
Slow-Speed Recreational Users

Treatment
Due to the narrow nature of this corridor, either sharrows would be utilized, or on-street parking removed to create standard bike lanes.

Midland Avenue

Midland Avenue is another corridor that was not rated highly by the inventory, but was requested by residents. This corridor provides an on-street north-south option with a lower volume of cars and slower speeds than South Salina Street.

Users
Slow-Speed Recreational Users

Treatment
Due to the narrow nature of this corridor, either sharrows would be utilized, or on-street parking removed to create standard bike lanes.

Filmore and Glen Avenues

Filmore and Glen Avenues provide a low traffic connection between the eastern uplands of the Valley with the central part of this neighborhood. This corridor is recommended over E Seneca Turnpike as a connection.

Users
Slow-Speed Recreational Users

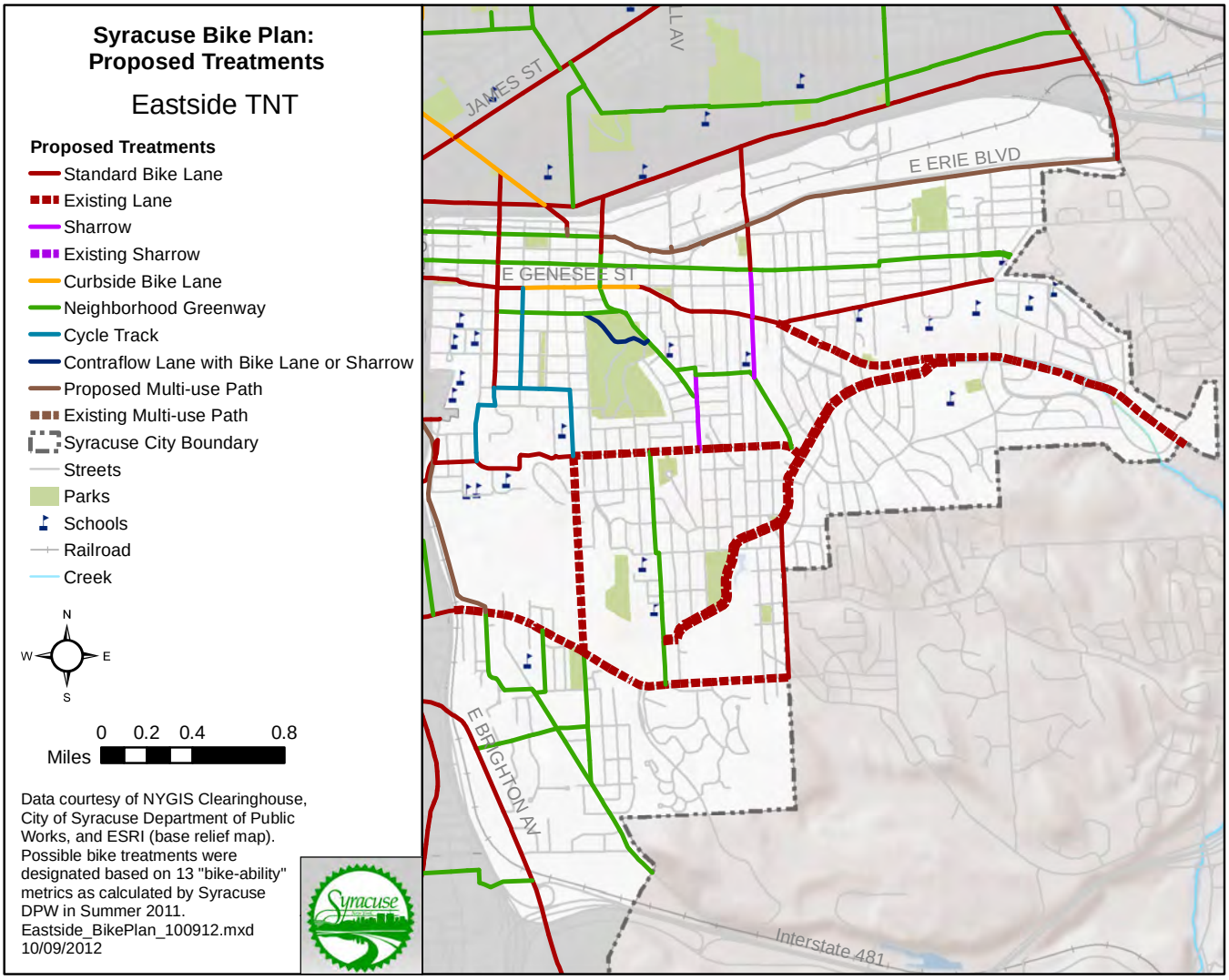
Treatment
Sharrows would be recommended for these low volume streets.

Eastside

The Eastside neighborhood has the highest density of bike lanes in the city, and some of the first. Dense bike infrastructure is proposed throughout the University Hill District to accommodate the already high volume of bicycle traffic and to increase safety for pedestrians, cyclists, and drivers alike.

The Eastside currently had 7 miles of bike lanes. The Syracuse Bike Plan adds 18.8 miles of designated on-street bicycle infrastructure. This includes:

- 3.8 miles of standard bike lanes
- 0.5 miles of curbside bike lanes
- 5 miles of sharrows
- 1.5 miles of cycle tracks
- 4.5 miles of neighborhood greenways
- 3.3 miles of off-road multi-use path



Short-Term Recommendations

East Genesse Street

This is a major east-west corridor and connects neighborhoods and businesses on the Westside with those on the Eastside. Standard bike lanes already exist between Salt Springs Road and the City line, and provide a route for commuters coming in from Dewitt.

Users
Fast-Speed Commuters
School Children

Treatment
A road diet is being considered in portions where the road has four travel lanes. In areas that are not subject to a road diet, standards bike lanes are intended to be used.

Syracuse University Circumferential Cycletrack

This corridor includes the four-lane sections of Waverly Avenue and Comstock Avenue, as well as Irving Avenue between Waverly and East Raynor Avenues

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
A cycletrack is proposed along this corridor, with a road diet wherever feasible. This cycletrack should be adjacent to Syracuse University campus so that vehicular conflicts are minimized and the high volume of users are accommodated. Bike boxes are suggested at high volume intersections.

Campus Roads

While not part of the public right-of-way, the City of Syracuse supports increased bicycle infrastructure through Syracuse University's campus.

Users
Fast-Speed Commuters
Students & School Children

Treatment
It is proposed that signs and sharrows be placed throughout campus roads to increase awareness.

Thornden Park Neighborhood Greenway

This neighborhood greenway includes parts Madison Street, South Beech Street, Dell Street, Harvard Place and Houston Avenue. It would connect the existing contraflow bike lane on Thornden Park Drive to the University Hill District, the Westcott district, and Levy School through a relatively flat route.

Users
Slow-Speed Recreational Users
School Children

Treatment
A neighborhood greenway is suggested on these lower volume roads. Intersection treatments will encourage through-traffic to take alternate routes.

Mid-Term Recommendations

Crouse Avenue

Crouse Avenue connects the Hawley-Green Historic District south to the University Hill under I-690. Expected users are commuters and students.

Users
Fast-Speed Commuters

Treatment
Standard bike lanes and contra-flow lanes are proposed along this slow speed, but high volume corridor.

Beech Street

South Beech Street is a direct, low volume corridor that connects the Eastside and Northside via Burnet Avenue. While parts of the corridor are steep, this route was well received by the public.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
A combination of sharrows and standard bike lanes are proposed along this corridor as on-street parking, slope and street width varies greatly.

Salt Springs Road

Salt Springs Road is a gradually sloping corridor with LeMoyne College and H. W. Smith Elementary along it. It provides the most direct access to the Salt Springs neighborhood.

Users
Fast-Speed Commuters
Students & School Children

Treatment
Sharrows and standard bike lanes are recommended as widths along the corridor change.

Outter Comstock Sharrows

Jamesville Avenue, Smith Lane and Moore Avenue, are low volume corridors that provides connection from East Colvin Street to the south end of the Eastside neighborhood. Comstock Avenue and Thurber Street are higher volume, but also provide direct connectivity. These corridors would serve students at H. W. Smith School, would connect to the Southside. They also connect the Oakwood Trail to the southeast of the City, which when combined with the Westside rail with trail, would create the most significant multi-modal diagonal arterials through the City.

Users
Slow-Speed Recreational Users
School Children

Treatment
Sharrows are suggested due to narrow street widths and slower posted speed limits.

East Raynor, Renwick, and Fineview Corridors

These three streets connect the West Campus of University Hill with the Southside. They also provide a more gentle slope than Van Buren Street.

Users
Fast-Speed Commuters
School Children

Treatment
Standard bike lanes are proposed along East Raynor and Renwick Avenues. Sharrows are suggested along Fineview Place.

Westcott Street

Westcott Street south of Beech Street provides a direct connection between the business district and Euclid Avenue. Bike infrastructure is not proposed through the business district in order to prioritize pedestrian infrastructure there.

Users
Fast-Speed Commuters

Treatment
A sharrow is suggested between Beech Street and Euclid Avenue to increase driver awareness of the presence of cyclists.

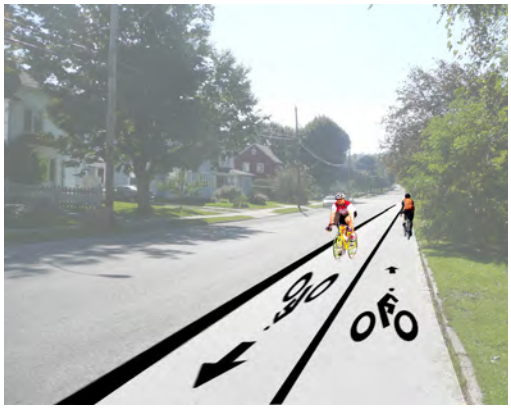
Nottingham Road

Nottingham Road connects the southeast suburbs with the bike infrastructure already in place in the City.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
Standard bike lanes are proposed due to the ample width of the street, and speed of traffic.

Lancaster Avenue



Lancaster Ave is a low volume corridor that provides a connection between Euclid Avenue and East Colvin Street. The corridor will also provide access to Ed Smith School.

Users
Slow-Speed Recreational Users
School Children

Treatment
Sharrows are recommended north of Broad Street due to the narrow street width and heavy on-street parking. A cycle track on the west side of the street is proposed south of Broad Street due to the wider street width. An intersection treatment is proposed at Broad and Lancaster Streets to guide cyclists between the two treatments.

Oakwood Cemetary Trail

While not public right-of-way, a trail is proposed along the western edge of Oakwood Cemetary to connect to the Westside rail with trail and Outter Comstock. This trail would create an off-road connection from the Eastside to Downtown amenities while providing increased access to existing open space in the City.

Users
Slow-Speed Recreational Users

Treatment
A multi-use stone dust trail is proposed.

Long-Term Recommendations

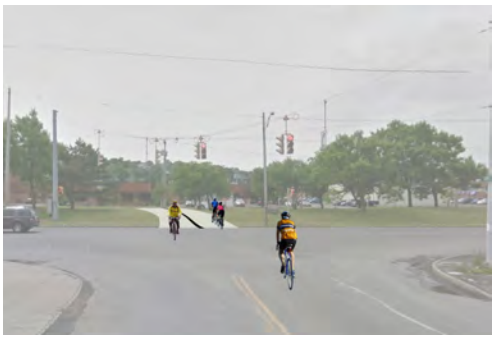
Westmoreland Avenue

Westmoreland Avenue proves an important north to south connection between Eastwood and the Eastside, and also provides students access to Levy School and Henniger High School.

Users
Slow-Speed Recreational Users
School Children

Treatment
Standard bike lanes are proposed between Burnet Avenue and East Fayette Avenue, with sharrows between East Fayette Street and Harvard Place.

Lodi Street Cut-Through



Currently Lodi Street ends at Erie Boulevard and does not connect to the bike infrastructure along Water Street and the Erie Canalway Trail. This cut-through would provide that direct connectivity.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
A multi-use trail is proposed to connect Lodi Street and Water Street Bike through the green space south of Erie Boulevard.

Erie Boulevard East / Erie Canalway Trail

Erie Boulevard is the main east-west corridor through the center of the city. Multiple commercial centers are located along Erie Boulevard. The green median running down the center of Erie Boulevard East is currently being explored as part of the Erie Canalway Trail connection through Syracuse. This trail route aligns with Erie Canal's original path, and offers economic benefits to nearby businesses.

Users
Slow-Speed Recreational Users

Treatment
An off-road multi-use trail is proposed to offer touring cyclists and residents the opportunity to ride separated from traffic along this high speed road.

East Fayette Street Greenway

East Fayette Street is an east to west corridor which runs through the north end of the Eastside neighborhood. This corridor allows continuous connectivity from LeMoyne College at the far east of the City to the Tipperary Hill neighborhood in the west.

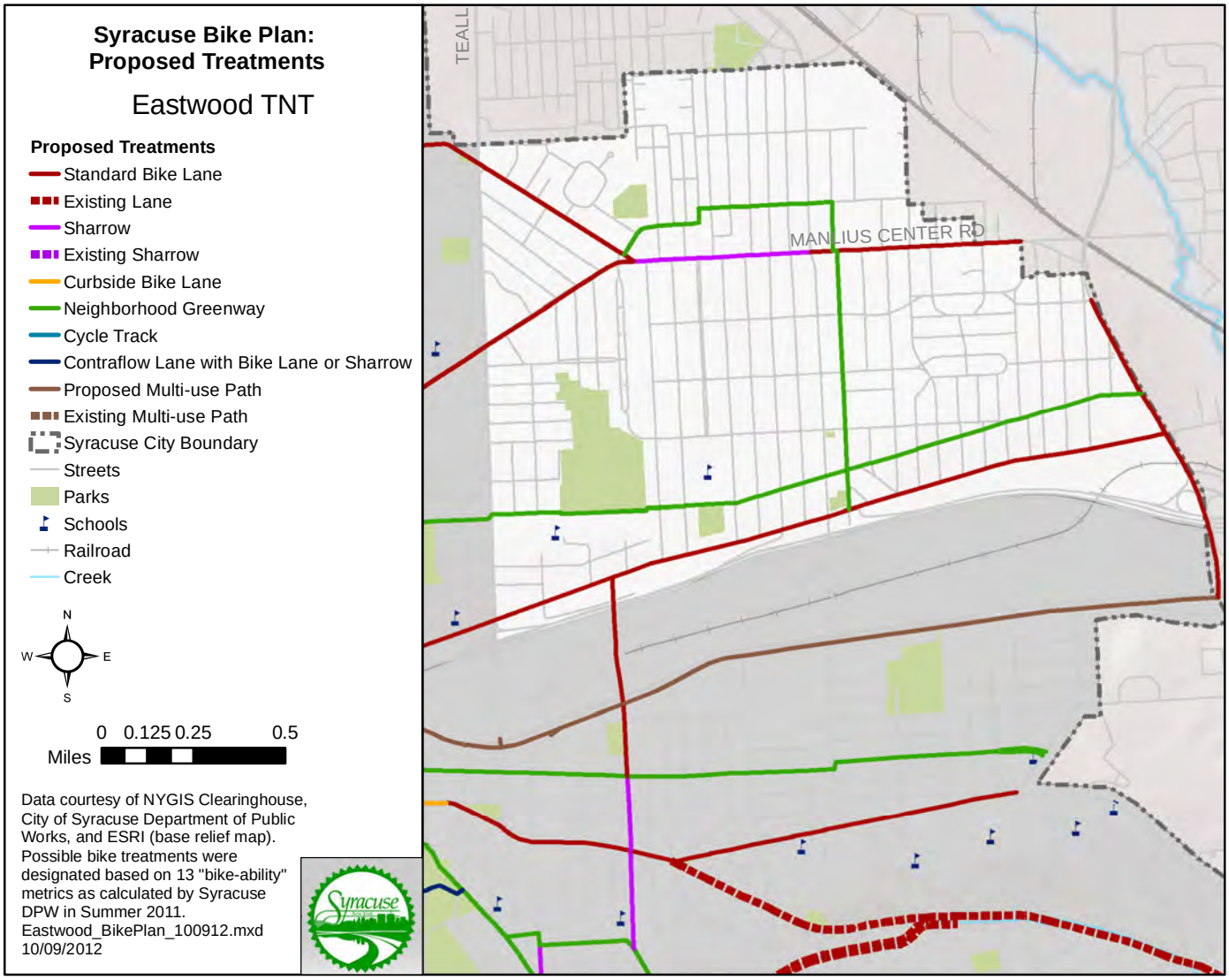
Users
Slow-Speed Recreational Users

Treatment
A neighborhood greenway is proposed due to narrow street widths. Fayette Street is a good fit for a neighborhood greenway as it parallels the highly traffic corridors of East Genesee Street and Erie Boulevard East.

Eastwood

Several important corridors for bicycle transportation are proposed for the Eastwood neighborhood. James Street and Burnet Avenue are two critical corridors that connect east-west across Eastwood. Bike infrastructure here will also also improve access for the Eastwood commercial district. The Sunnycrest Road neighborhood greenway will create a safe, bike friendly route for anyone not comfortable cycling on major corridors, and connect residents to destinations like Sunnycrest Park.

The Syracuse Bike Plan adds 7.6 miles of designated on-street bicycle infrastructure to Eastside streets. This includes:
3.75 miles of standard bike lanes
1.9 miles of sharrows
2 miles of neighborhood greenways



Short-Term Recommendations

James Street

James Street from Teall Avenue out to East Syracuse is a major arterial connecting Eastwood and commuters from points east to Downtown Syracuse. It also supports a walkable neighborhood business district.

Users
Fast-Speed Commuters

Treatment
Sharrows are proposed through the business district to ensure there is room for on-street vehicle parking. Standard bicycle lanes are proposed outside of the business direct. A road diet / lane reduction will be necessary west of Grant Boulevard, with the construction of pull-off areas to provide a separate space for cars to pass buses.

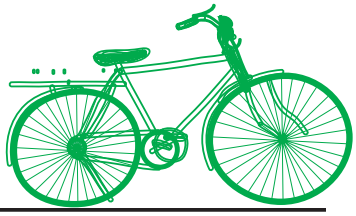
Mid-Term Recommendations

Grant Boulevard

Grant Boulevard is a major east-west corridor that connects from James Street across the northern edge of the City of Syracuse.

Users
Fast-Speed Commuters

Treatment
Standard bike lanes are suggested from James Street to Teall Avenue due to the width of the street and the lack of on-street parking.



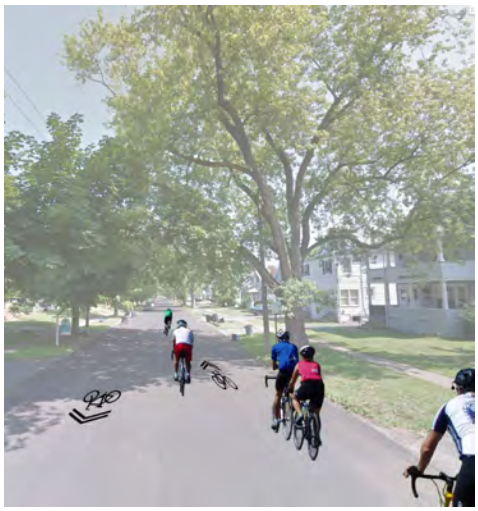
Burnet Avenue

Burnet Avenue runs parallel to the I-690 and, similar to James Street, provides an east-west connection on the Northside neighborhood through to the eastern suburbs.

Users
Fast-Speed Commuters

Treatment
Standard bicycle lanes are proposed along this corridor because of adequate street widths. In locations where there is highly used on-street parking, sharrows or curb-side bike lanes may be considered.

Nichols Avenue



Nichols Avenue was selected by the Eastwood neighborhood as the preferred corridor for a north-south bike lane connection between James Street and Burnett Avenue. This corridor provides a relatively gentle slope, with low traffic volumes, making it comfortable for cyclists.

Users
Slow-Speed Recreational Users
School Children

Treatment
A neighborhood greenway would be considered for Nichols Avenue as it has a lot of problematic cut-through traffic and parallel a major road better suited to through-traffic.

Long-Term Recommendations

Thompson Road

Thompson Road skirts the edge of the City of Syracuse, runs north to south across I-690. While this road is outside the jurisdiction of this document, it was important to identify from a connectivity standpoint.

Users
Fast-Speed Commuters

Treatment
Standard bicycle lanes are proposed due to the high speed of traffic and anticipated users.

Caleb Avenue / Robinson Street

This neighborhood corridor was chosen by Eastwood residents as a preferable east-west corridor given the lack of school buses and very few cars. This corridor can also act as a safe route to school as it accesses Henninger, Huntington and Dr. Weeks.

Users
Slow-Speed Recreational Users
School Children

Treatment
A neighborhood greenway is suggested due to the residential nature of the street. Traffic calming treatments at major intersections, such as Midler and Teal Aves, will help bicyclists and pedestrians cross these busy streets.

Tyson Greenway

This corridor provides an alternative for cyclists uncomfortable along the high traffic and on-street parking of the James Street business district. It constitutes one block of Rigi Ave between Tyson Pl and Nichols Ave, along Tyson Pl to Grant Blvd by way of Fobes Ave, Amett St and Eastwood Rd. It also connects to Cummings Field.

Users
Slow-Speed Recreational Users
School Children

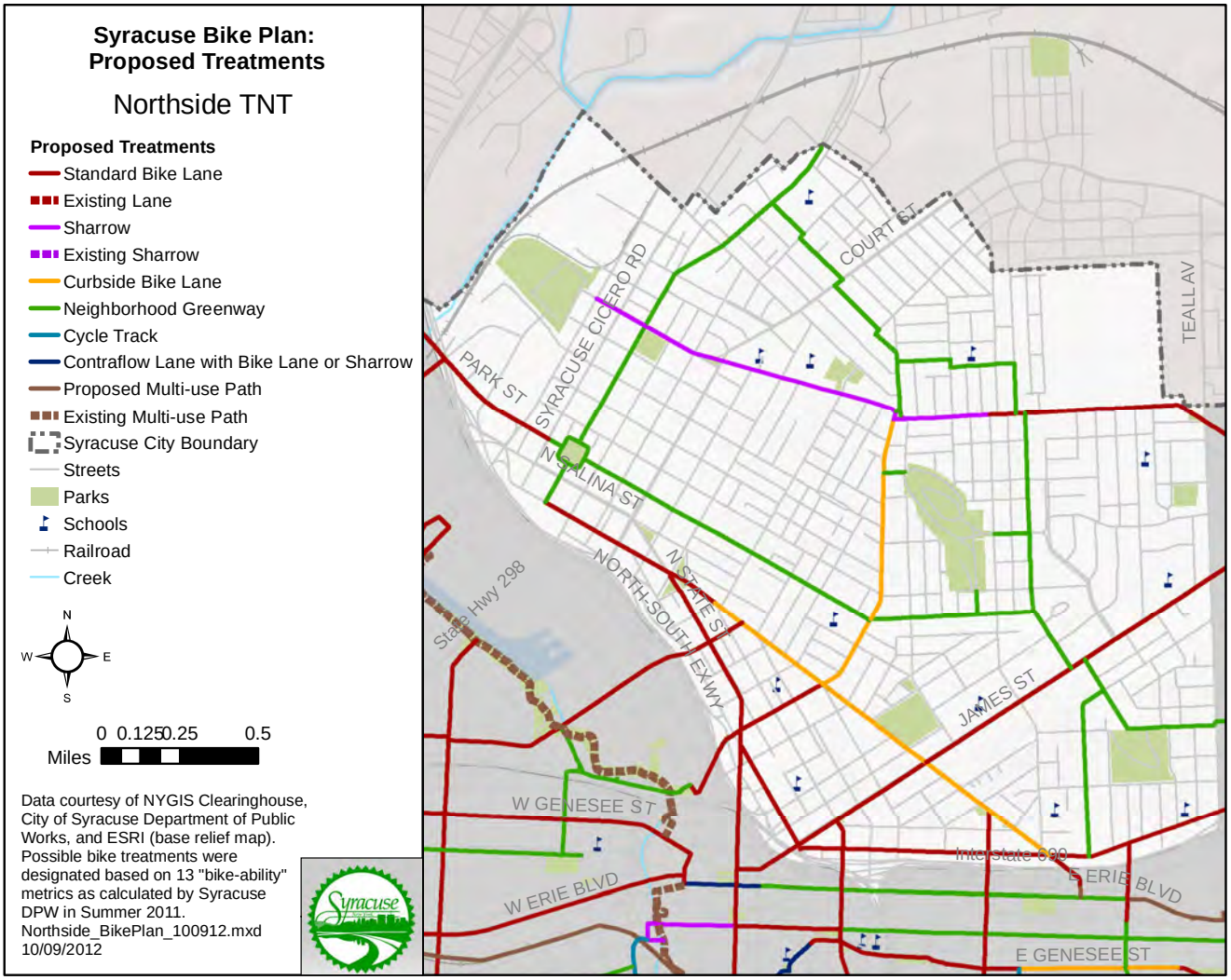
Treatment
A neighborhood greenway is suggested due to the residential nature of the street. Traffic calming treatments at Midler Ave will help bicyclists and pedestrians cross this busy street.

Northside

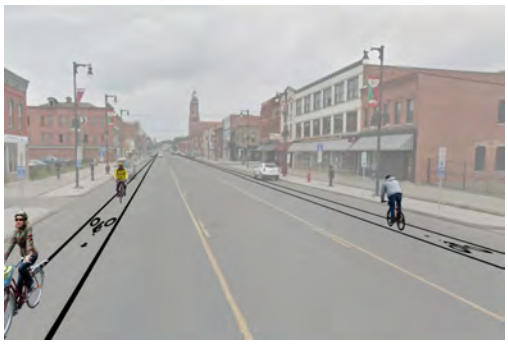
The Northside is a collection of many unique neighborhoods. Among the many neighborhood amenities, this part of the City also has the regional attractions of the Regional Market and the Alliance Bank Stadium. As such, several corridors are suggested to provide access to these important amenities. Lodi Street and James Street are also two diagonal street that provides a high level of connectivity for people commuting through Syracuse. Finally, the North Salina Street Corridor houses a vibrant mixed use district that brings an extension of the Downtown character into this part of town.

The Syracuse Bike Plan adds 15.6 miles of designated on-street bicycle infrastructure to Northside streets. This includes:

- 7 miles of standard bike lanes
- 2.6 miles of curbside bike lanes
- 1.3 miles of sharrows
- 4.7 miles of neighborhood greenways



Short-Term Recommendations



North Salina Street

North Salina Street is the "main street" of Syracuse, and a major arterial connecting neighborhoods northwest of Syracuse though the Northside to Downtown and the University Hill.

Users
Fast-Speed Commuters

Treatment
Standard bike lanes are proposed for this corridor. Where appropriate, curb extensions and lane recongifurations may be implemented to further calm the traffic flow.

James Street

James Street is a major arterial connecting Eastwood to Downtown Syracuse. Due to its high connectivity, many buses and cyclists already utilize this corridor.

Users
Fast-Speed Commuters

Treatment
James Street has a completed feasibility study, which recommends a road diet: reducing the four travel lanes down to three (one in each direction and a center turn lane). This would need to be done in conjunction with installing bus pull offs. With this accomplished, standard bike lane could be installed.

Butternut Street

Butternut Street is a major arterial running through the middle of the Northside commercial and residential districts. Butternut Street also runs parallel to the west side of Schiller Park.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
Curbside bicycle lanes would be most appropriate from Lodi Street northward due to the high traffic volumes, sufficient road space, and alternate side parking. Standard bike lanes are suggested between North Salina Street and Lodi Street as there is no on-street parking.

Park Street

Park Street connects neighborhoods in the Northside to regional destinations. It also provides the primary access to cyclists going to or from Onondaga Lake Park and Liverpool. The corridor also passes by Franklin School and within one block of Schiller Park.

Users
Slow-Speed Recreational Users
School Children

Treatment
A neighborhood greenway is proposed between James Street and Wolf Street because of the connection to Washington Square Park, low traffic volumes, and parallel adjacency to a main arterial, Lodi Street.
Standard bike lanes are proposed beyond Wolf Street to extend northwest out of Syracuse due to the higher speed and volume of cars.

Mid-Term Recommendations

Lodi Street

Lodi Street is a diagonal road providing a connection from the northwest to the southeast, and is anticipated to be a heavy commuter corridor for cyclists coming to the University Hill. Lodi Street also connects to Water Street and provides direct connection to the future Erie Canalway Trail.

Users
Fast-Speed Commuters

Treatment
Standard bike lanes are proposed from Isabella Street to Wolf Street. Curbside bike lanes are suggested between Burnet Street and Isabella Street due to the existence of alternate parking and the sufficient width of the road.

Lemoyne Avenue

Lemoyne Avenue connects to Washington Square Park, Lemoyne School, and towns north of City limits. This corridor could both be used by commuters, neighborhood families, and recreational cyclists.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users
School Children

Treatment
A neighborhood greenway is suggested as a low volume corridor running parallel to the more trafficked Wolf Street and Hiawatha Boulevard. A neighborhood greenway will also provide a safe route to school for children in the area.

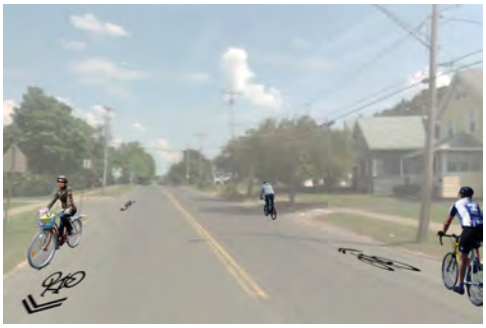
Burnet Avenue

Burnet Avenue from James Street to Teall Avenue runs parallel to the I-690 and provides an east-west connection on the edge of the Northside.

Users
Fast-Speed Commuters

Treatment
Curbside bike lanes are suggested because of sufficient road width and higher volumes of traffic, and existence of on-street parking.

Grant Boulevard



Grant Boulevard is a major east-west corridor for those living near the northern edge of Syracuse and connects into Eastwood. It provides access to Woodlawn Cemetery, and runs close to Schiller Park. The corridor also provides access to the Convent School, Sisters 3rd Franciscan Hospital and Grant Junior High School and the open space in the area.

Users
Fast-Speed Commuters
School Children

Treatment
Sharrows are suggested from Oak Street to Hiawatha Boulevard East due to the narrow width of the street. Standard bike lanes are suggested from Oak Street to the east, due to the width of the street and the lack of on-street parking.

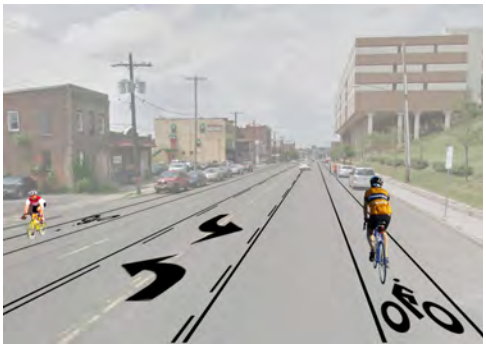
Crouse Avenue

Burnet Avenue from James Street to Teall Avenue runs parallel to the I-690 and provides an east-west connection on the southern edge of the Northside neighborhood.

Users
Fast-Speed Commuters

Treatment
Curbside bike lanes are suggested because of sufficient road width and higher volumes of traffic, and existence of on-street parking.

North State Street



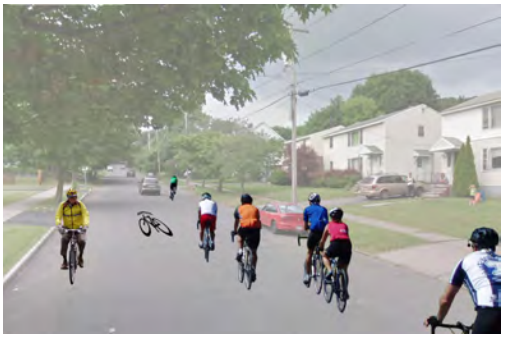
This short segment connects Burnet Avenue and James Street to the Salina Street Corridor, which is a major north-south arterial in the City. North State Street also provides access to Saint Joe's Hospital.

Users
Fast-Speed Commuters

Treatment
Lane reductions, combined with the adequate width of the street could allow for standard bike lanes.

Long-Term Recommendations

Elm Street / Shuart Avenue



This corridor provides a north-south connection between two major arterial roads, James Street and Burnet Avenue.

Users
Slow-Speed Recreational Users
School Children

Treatment
A neighborhood greenway system is proposed on this corridor. It connects to the Caleb / Robinson Greenway and creates a continuous bicycle friendly route for recreational cyclists and families that roughly parallels the higher speed James Street corridor.

Catawba Street

Catawba Street connects Lodi Street, North Salina Street, and the Northside neighborhood to the Lakefront under I-81.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
A standard bike lane is proposed because of the adequate width of the street.

Court Woodlawn Greenway

This corridor of many low volume residential streets creates a safe route to school for Webster and Lemoyne Schools and connects to Schiller Park along Oak Street.

Users
Slow-Speed Recreational Users
School Children

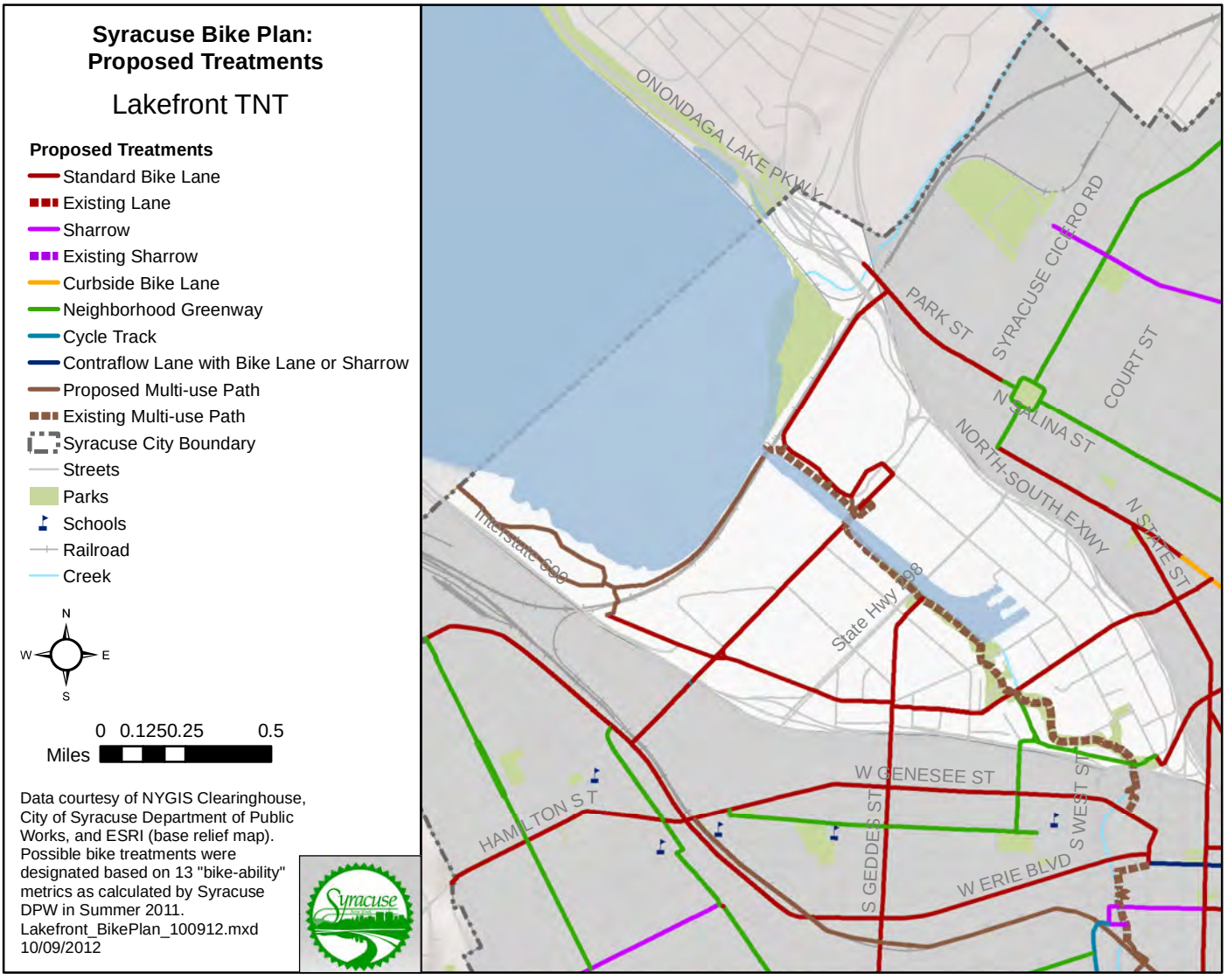
Treatment
A neighborhood greenway is suggested due to the residential nature of the street. The intersections at Court St and Grant Blvd would have traffic calming treatments to assist with crossing.

LAKEFRONT

The Lakefront is currently home to the Onondaga Creekwalk, a multi-use path that connects Onondaga Lake, the Inner Harbor, Franklin Square, and Armory Square in Downtown Syracuse. This trail is an important recreational and transportation amenity for Syracuse residents. Future plans for a "loop-the-lake" trail will conect all communities along Onondaga Lake to the Creekwalk and beyond to the south of the city. Hiawatha Boulevard and Spencer Street make important connections between the Northside and Westside.

The Lakefront currently has 1.75 miles of of off-road multi-use path. The Syracuse Bike Plan adds 6.7 miles of designated on-street bicycle infrastructure to this area. This includes:

- 3.7 miles of standard bike lanes
- 0.5 miles of neighborhood greenway
- 2.5 miles of multi-use paths



Mid-Term Recommendations

North Geddes Street

Geddes Street is a major arterial road connecting every neighborhood in the west side of Syracuse from north to south, and to points beyond. This section of Geddes will provide a direct connection to the Creekwalk and future Loop-the-Lake Trail.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
Standard bicycle lanes are proposed along this corridor due to the speeds and volume of automobiles.

Hiawatha Boulevard West

Hiawatha Boulevard West connects the Westside and Erie Canalway Trail to the Creekwalk, Carousel Mall, and Loop-the-Lake Trail.

Users
Slow-Speed Recreational Users

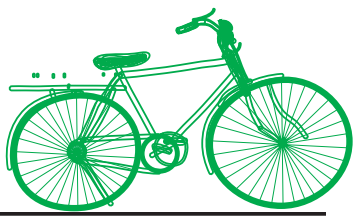
Treatment
A multi-use trail is proposed along the east side of this corridor due to the high volume of automotive traffic.

Harborside Drive (Carousel Mall)

While not a public road, the connections this access drive affords are critical to providing connectivity between Loop-the-Lake, the Creekwalk, and regional destinations.

Users
Slow-Speed Recreational Users

Treatment
Standard bike lanes are suggested.



Long-Term Recommendations

Spencer Street

The corridor connect the North Salina Street business district and Northside neighborhood to the Lakefront and Creekwalk. It also provides and east-west route across the Lakefront.

Users
Slow-Speed Recreational Users

Treatment
Standard bicycle lanes are proposed along this corridor because of adequate street widths.

Evans Street

As opposed to Hiawatha Boulevard and North Geddes Street, Evans Street provides a connection between the Westside and Lakefront on a route infrequently utilized by motorized vehicles.

Users
Slow-Speed Recreational Users

Treatment
A neighborhood greenway is suggested due to narrow street widths, and low traffic volumes. The Evans Street Bridge could potentially be closed to vehicle traffic to further facilitate this corridor as a bike route.

Butternut Street

Butternut Street provides a second connection to the Northside, and also to points east.

Users
Fast-Speed Commuters
Slow-Speed Recreational Users

Treatment
A road diet and standard bicycle lanes are suggested along Butternut Street in the Lakefront area.

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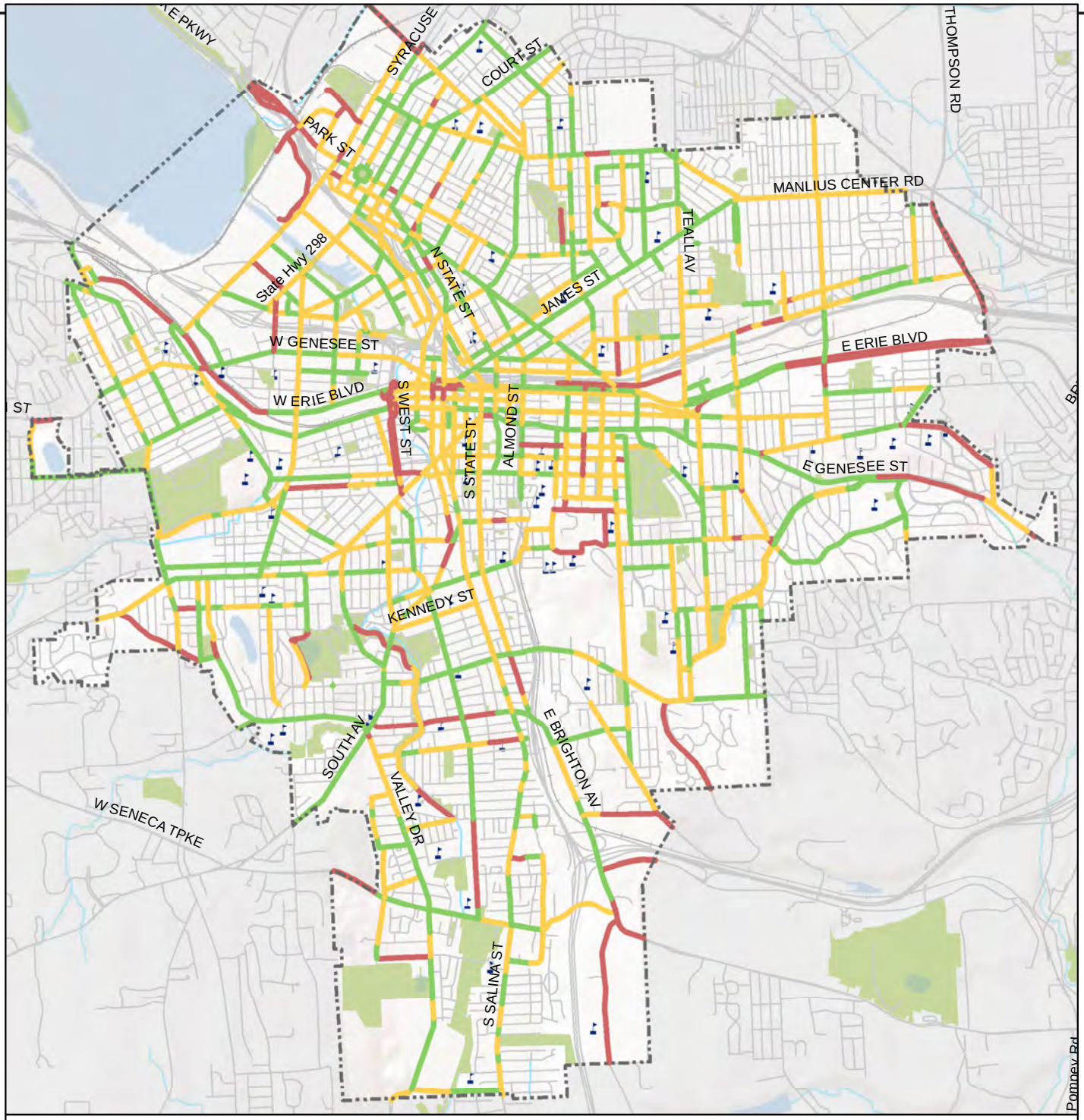
Appendix A

INVENTORY MAPS



Syracuse Bike Plan: Safety Measures
Quality of Surface

Safety Measures

Quality of Surface

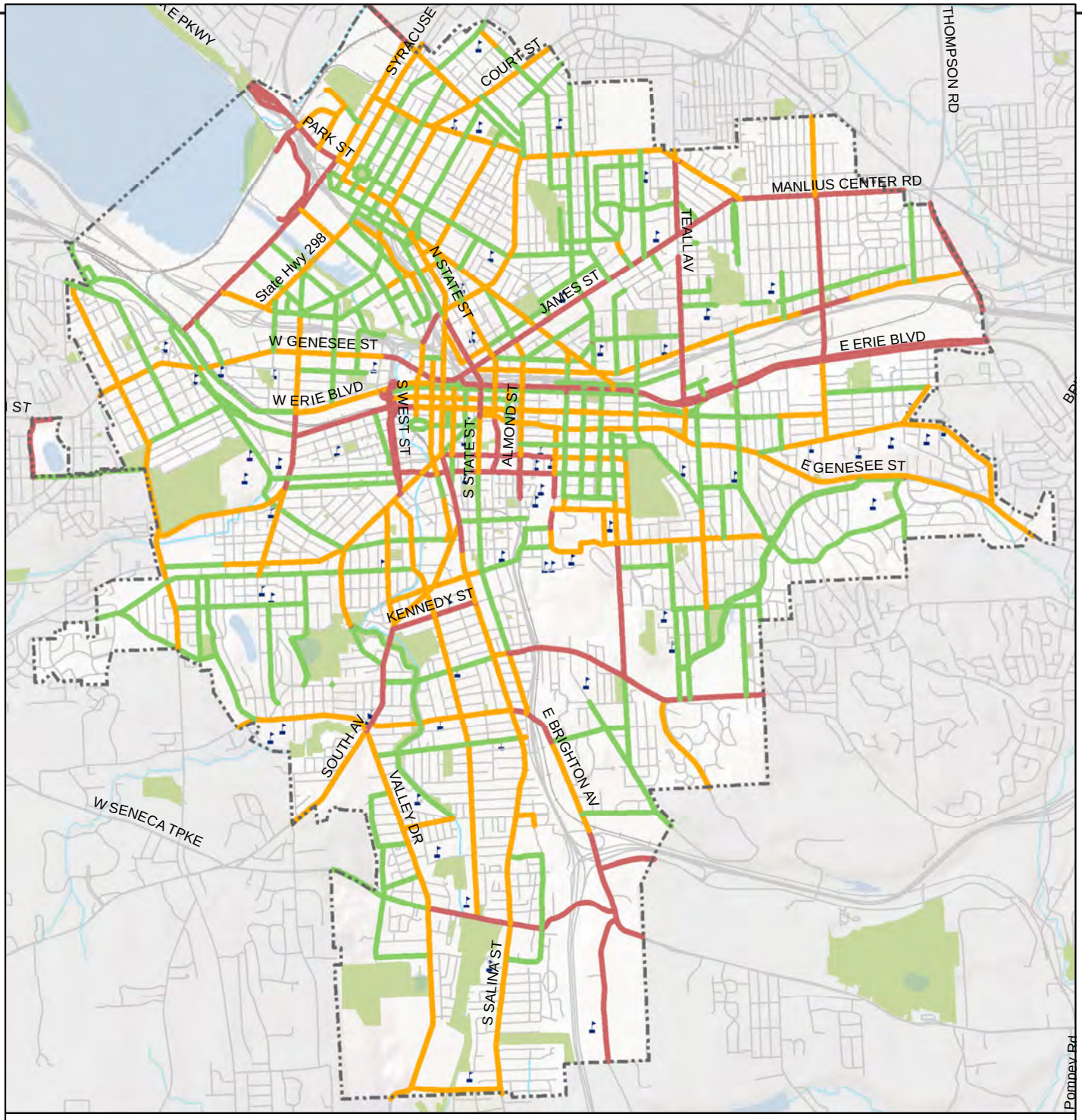
- smooth surface, uniform width
- irregular surface, non-uniform width
- surface deterioration, cracks, bumbs

- Syracuse City Boundary
- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.3 0.6 1.2
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
SafetyMeasures_SurfaceQuality_100912.mxd
10/09/2012



Syracuse Bike Plan: Safety Measures Traffic Volumes

N
W E
S

0 0.3 0.6 1.2
Miles

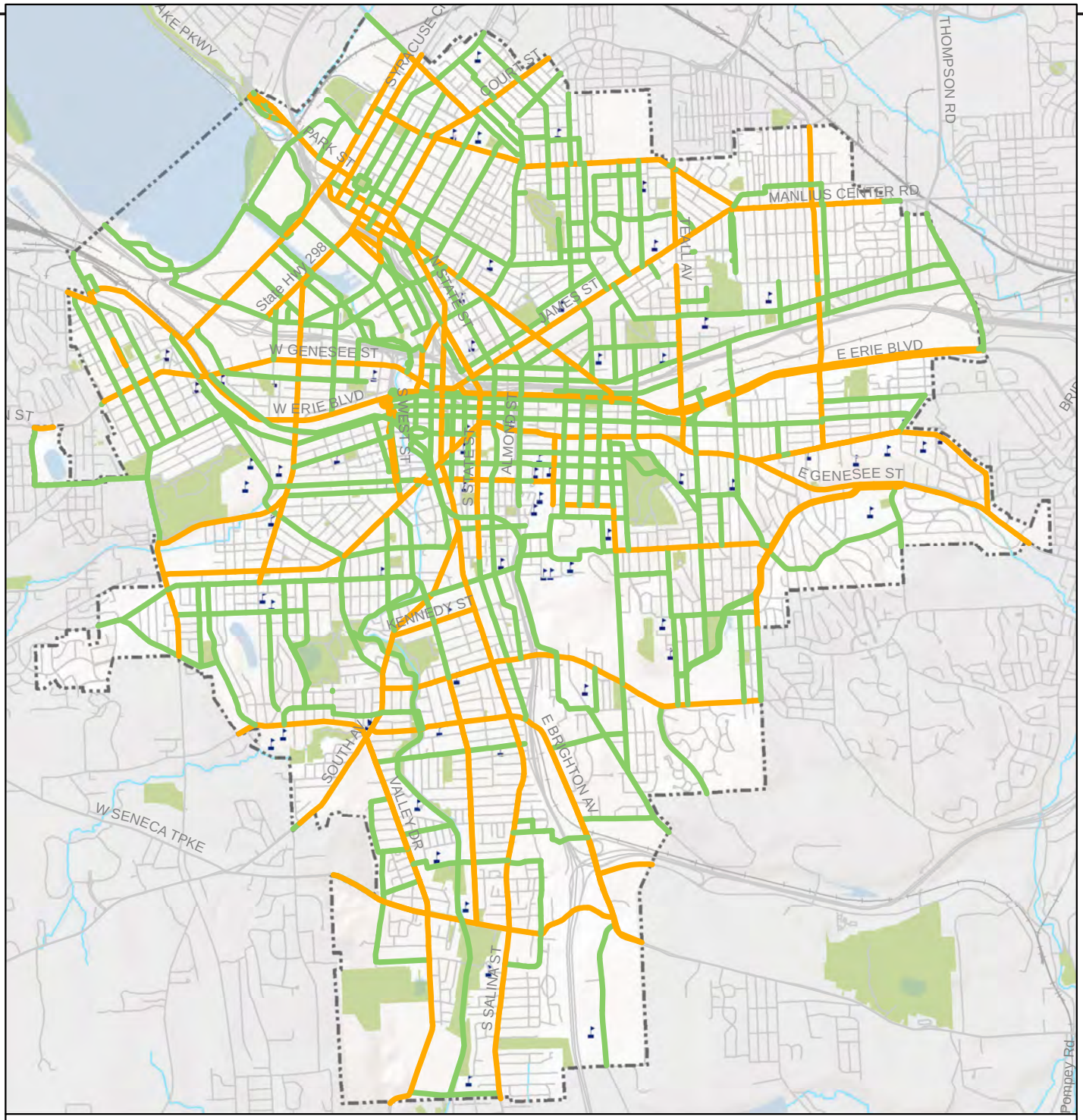
Safety Measures

Traffic Volume

- low volume (<5,000 AADT)
- medium volume (5,000 - 10,000 AADT)
- high volume (>10,000 AADT)

- Syracuse City Boundary
- Parks
- Streets
- Schools
- Railroad
- Creek

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
SafetyMeasures_TrafficVolumes_100912.mxd
10/09/2012



Syracuse Bike Plan: Safety Measures
Average Traffic Speeds

N
W E
S

0 0.3 0.6 1.2
Miles

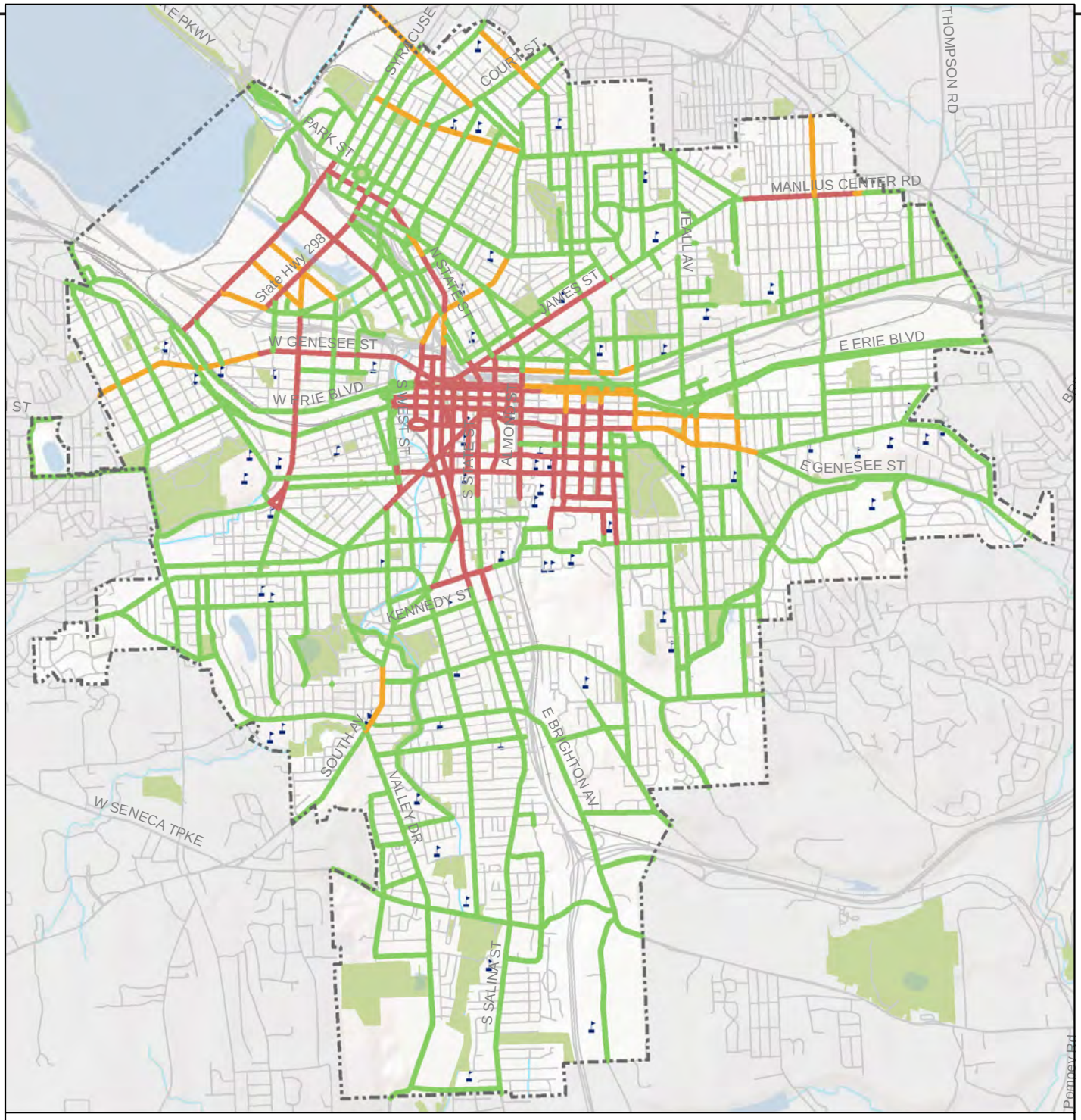
Safety Measures

Average Traffic Speeds

- +/- 25 miles per hour (desirable)
- +/- 35 miles per hour (possible)
- +/- 55 miles per hour (not recommended)

- Syracuse City Boundary
- Streets
- Parks
- Schools
- Railroad
- Creek

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
SafetyMeasures_AvgTrafficSpeeds_100912.mxd
10/09/2012



Syracuse Bike Plan: Safety Measures
Presence of Signals

N
W E
S

0 0.3 0.6 1.2
Miles

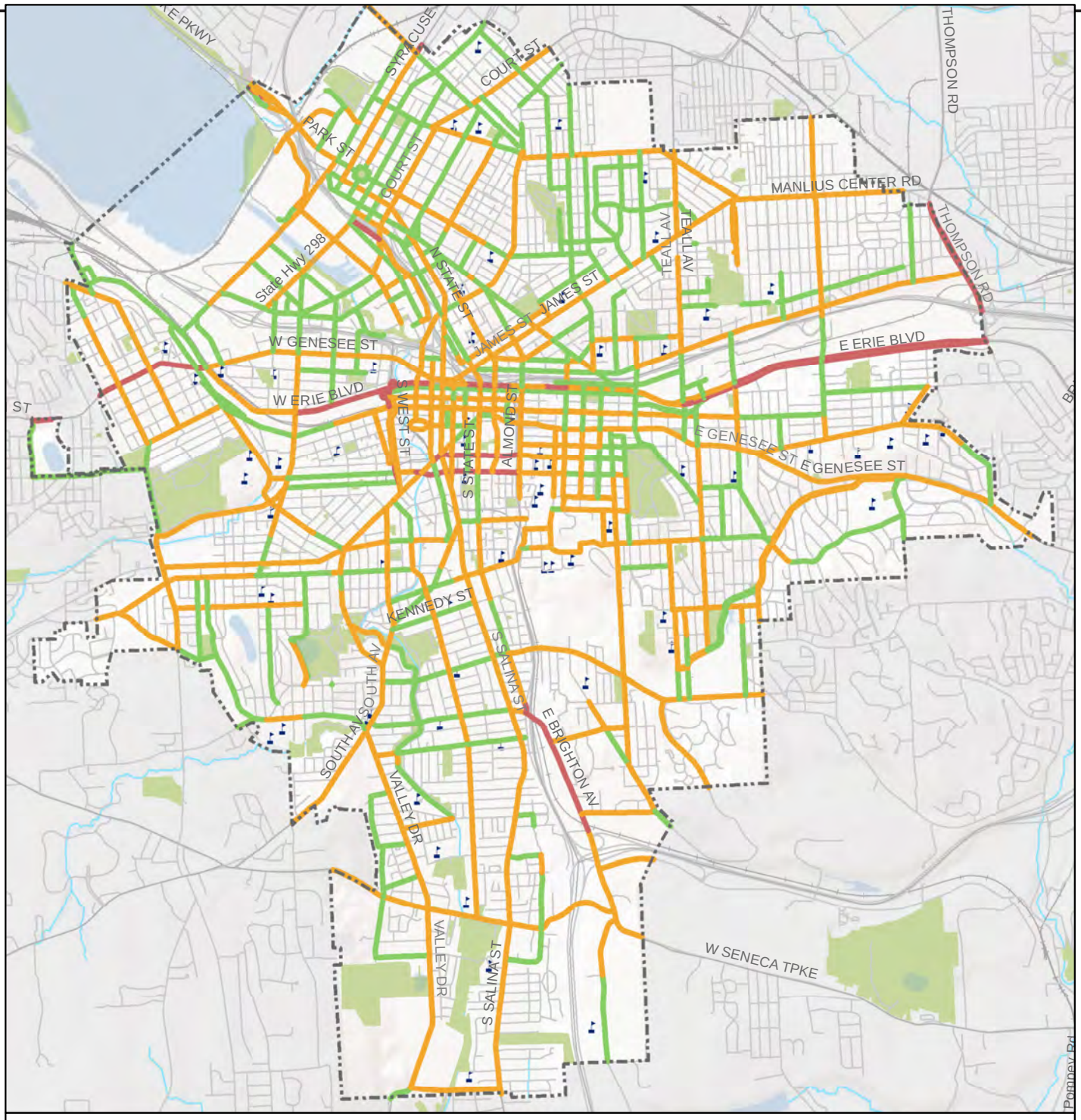
Safety Measures

Presence of Signals

- infrequent signals (less than half of intersections on a street are signalized)
- occasional signals (about half of intersections are signalized)
- frequent signals (more than half of intersections are signalized)
- Syracuse City Boundary

- Streets
- Parks
- Schools
- Railroad
- Creek

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
SafetyMeasures_PresenceSignals_100912.mxd
10/09/2012



Syracuse Bike Plan: Safety Measures
Presence of Heavy Vehicles

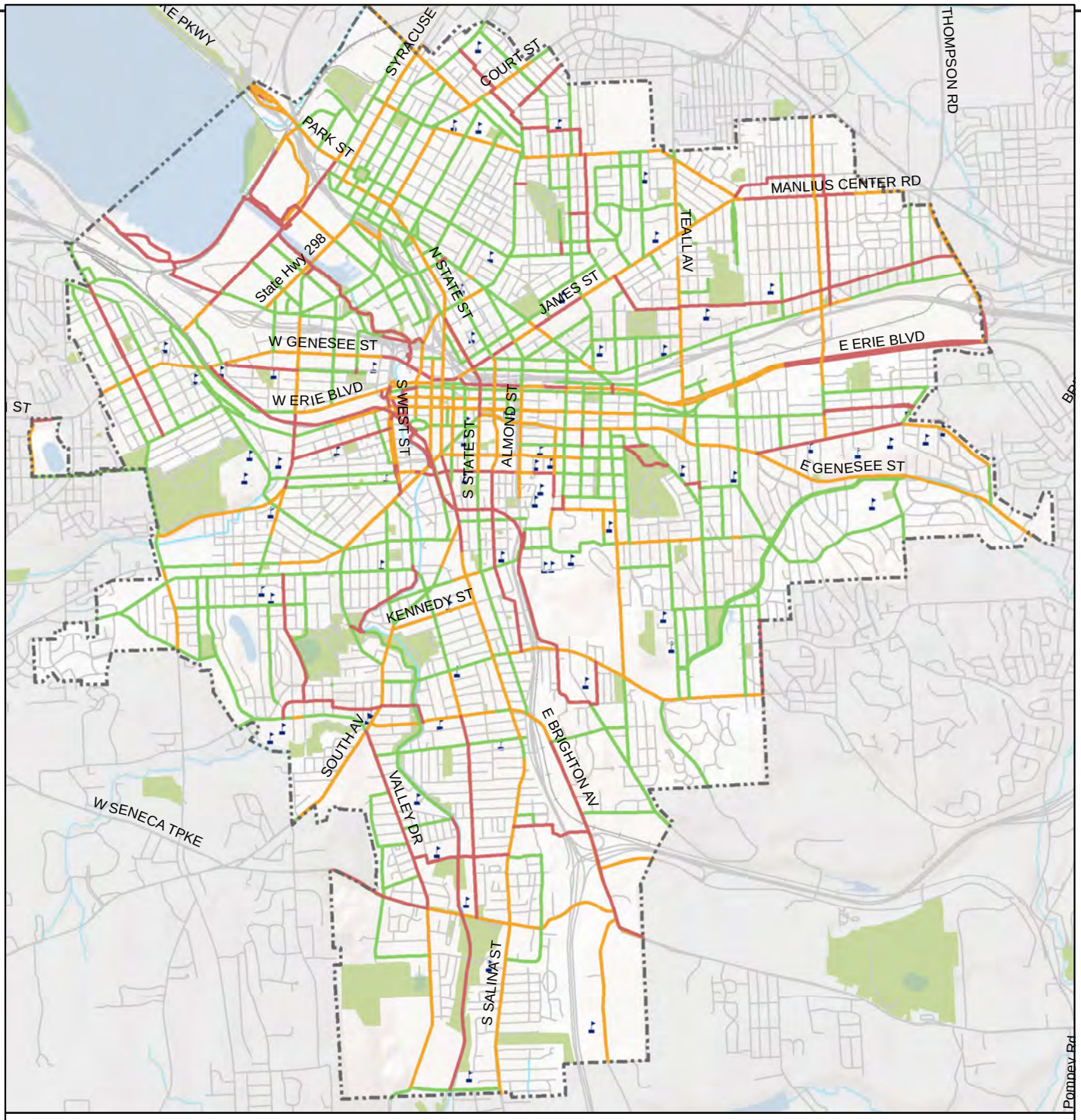
Safety Measures
Presence of Heavy Vehicles
- no truck or bus routes
- either truck or bus routes
- both truck and bus routes

- Syracuse City Boundary
- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.3 0.6 1.2
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
SafetyMeasures_HeavyVehicles_100912.mxd
10/09/2012



Syracuse Bike Plan: Safety Measures
Safety Composite

Safety Measures

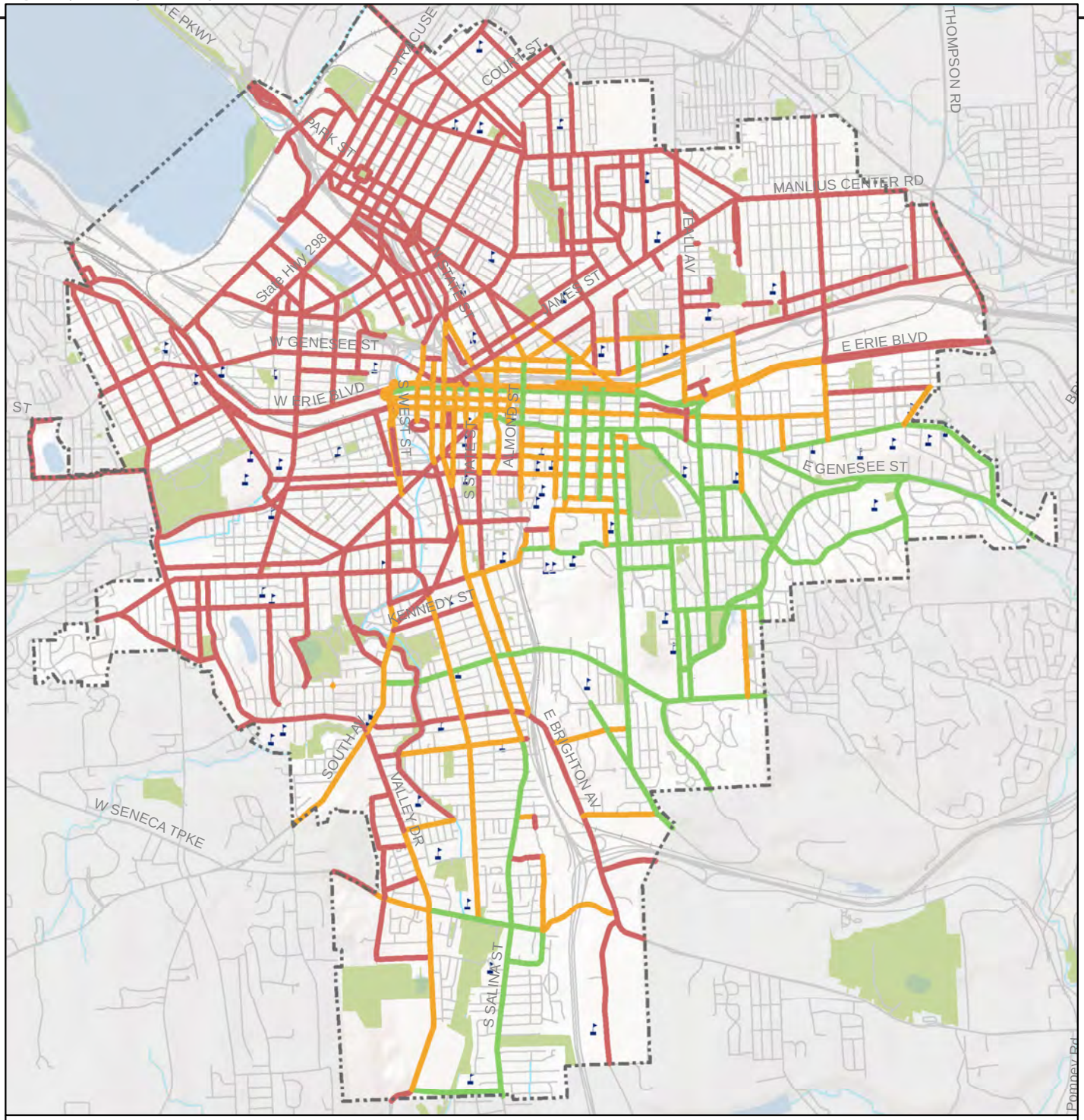
Composite Measures

- Priority
- Recommended
- Possible
- Syracuse City Boundary
- Streets
- Schools
- Parks
- Railroad
- Creek

N
W E
S

0 0.3 0.6 1.2
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
SafetyMeasures_SafetyComposite_100912.mxd
10/09/2012



Syracuse Bike Plan: Connectivity Measures
Connections to Exisiting Bike Facilities and Lanes

N
W E
S

0 0.3 0.6 1.2
Miles

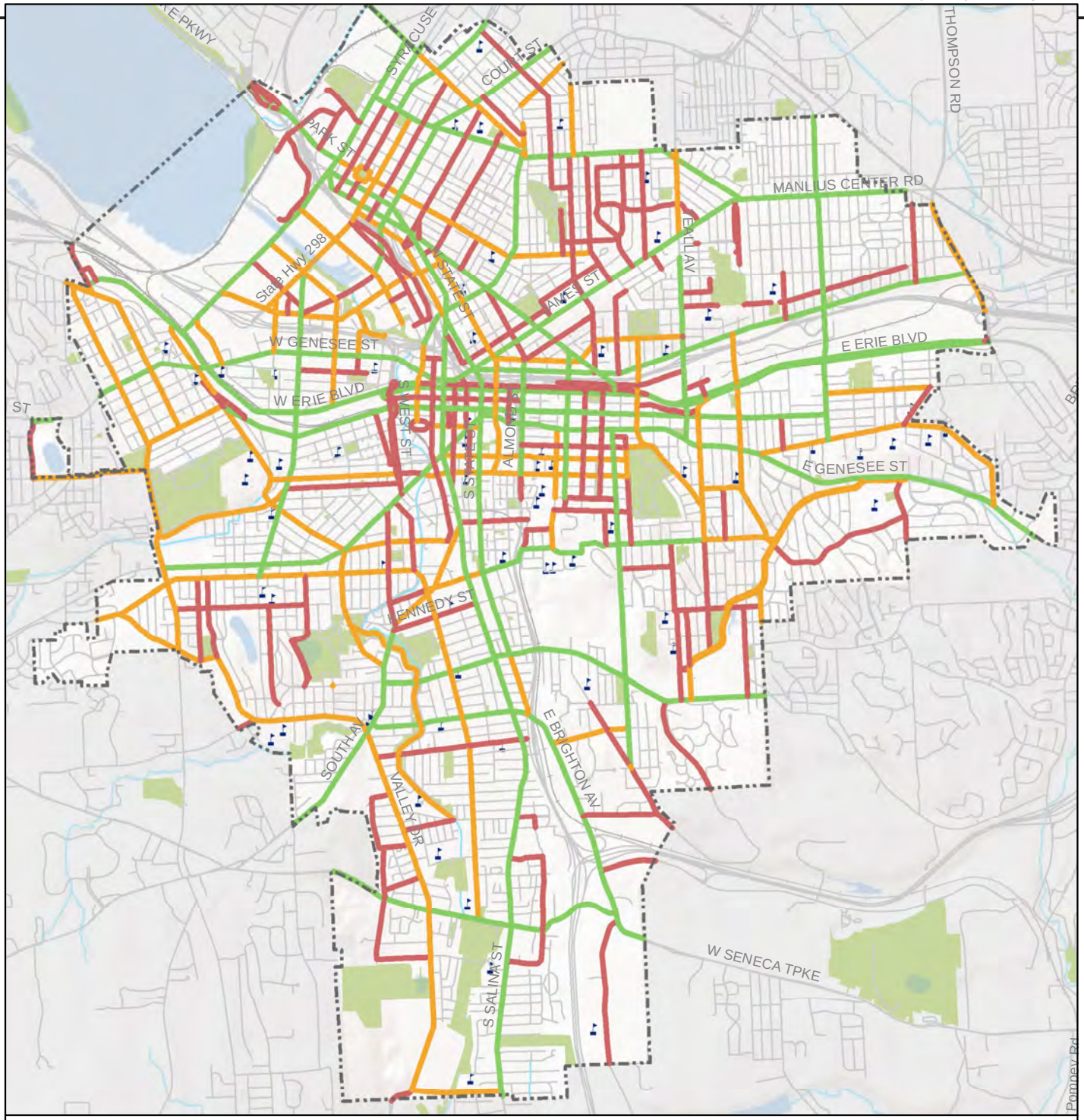
Safety Measures

Connections to Exisiting Bike Facilities and Lanes

- several connections to other bike routes
- few connections to other bike routes
- no connections to other bike routes
- Syracuse City Boundary

- Streets
- Parks
- Schools
- Railroad
- Creek

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
ConnectivityMeasures_ExisitingBike_100912.mxd
10/09/2012



Syracuse Bike Plan: Connectivity Measures
Connections to Destinations and Other Neighborhoods

N
W E
S

0 0.35 0.7 1.4
Miles

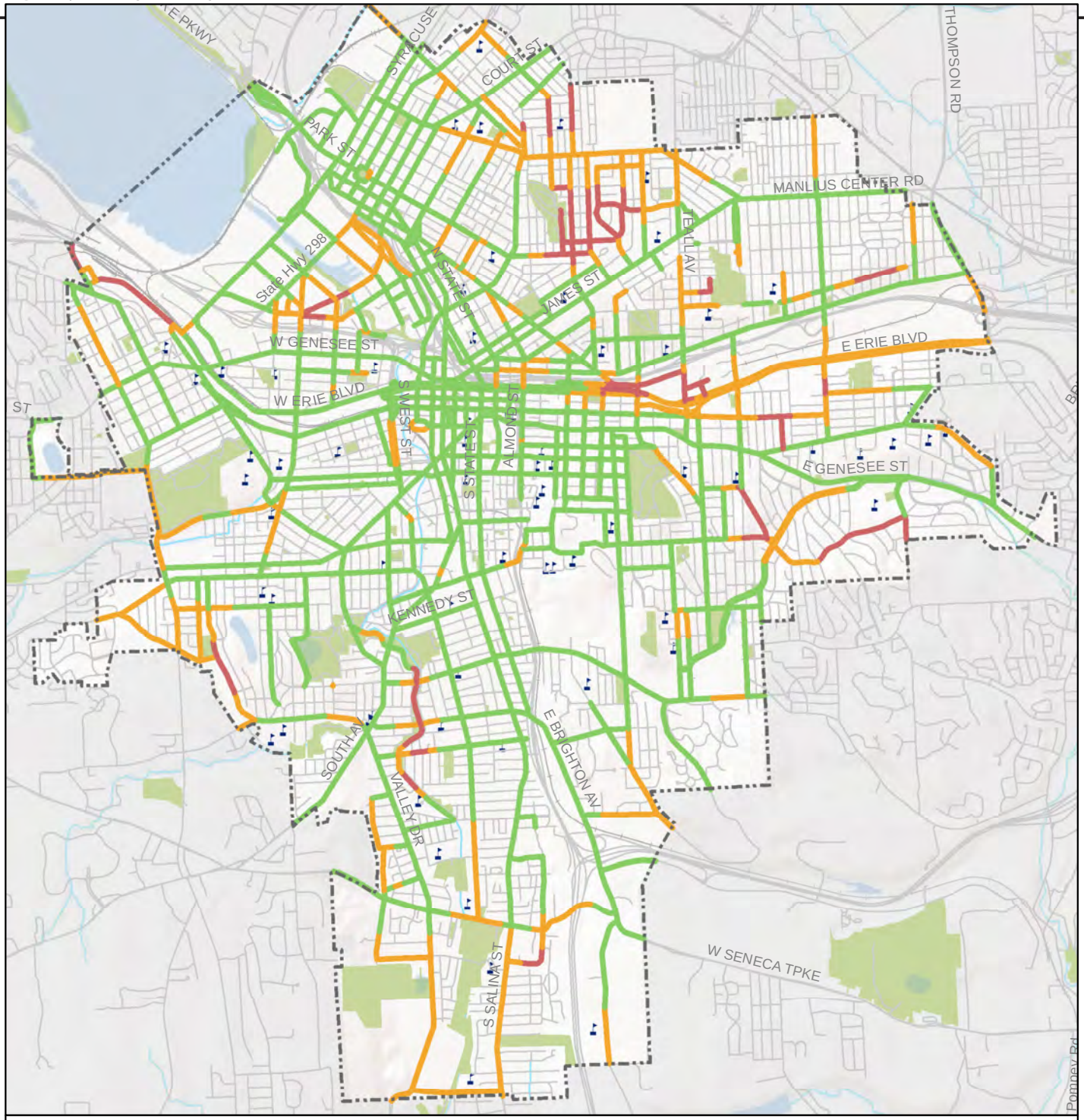
Safety Measures

Connections to Destinations and Other Neighborhoods

- access to destinations and other neighborhoods
- access to destinations or other neighborhoods
- access to neither destinations nor other neighborhoods
- Syracuse City Boundary

- Streets
- Parks
- Schools
- Railroad
- Creek

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
ConnectivityMeasures_Destinations_100912.mxd
10/09/2012



Syracuse Bike Plan: Connectivity Measures
Access to Bus Routes

Safety Measures

Access to Bus Routes

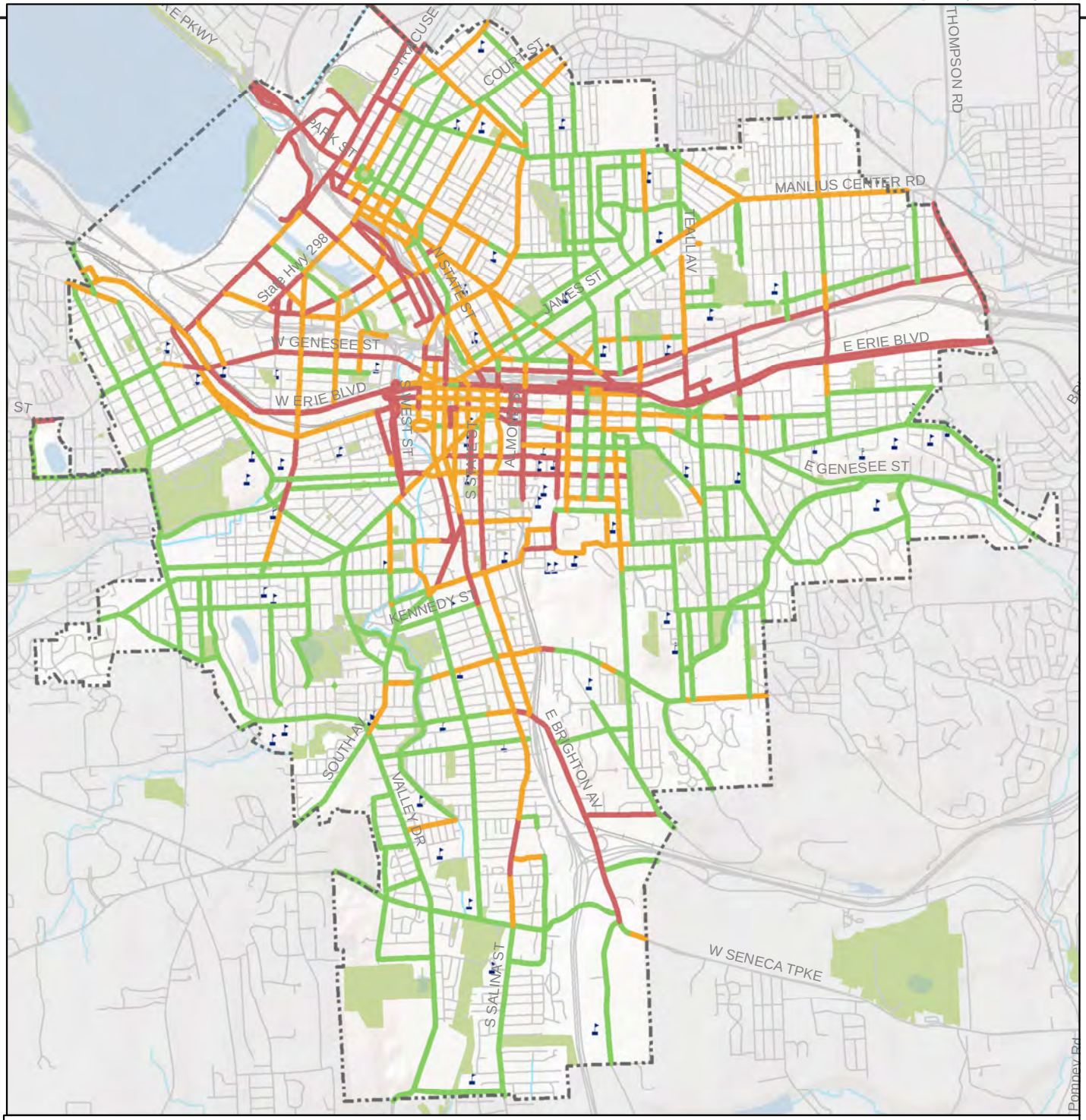
- crosses multiple bus routes
- follows/parallels bus routes
- no nearby bus routes
- Syracuse City Boundary

- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.35 0.7 1.4
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
ConnectivityMeasures_BusRoutes_100912.mxd
10/09/2012



Syracuse Bike Plan: Connectivity Measures
Quality of Experience

Safety Measures

Quality of Experience

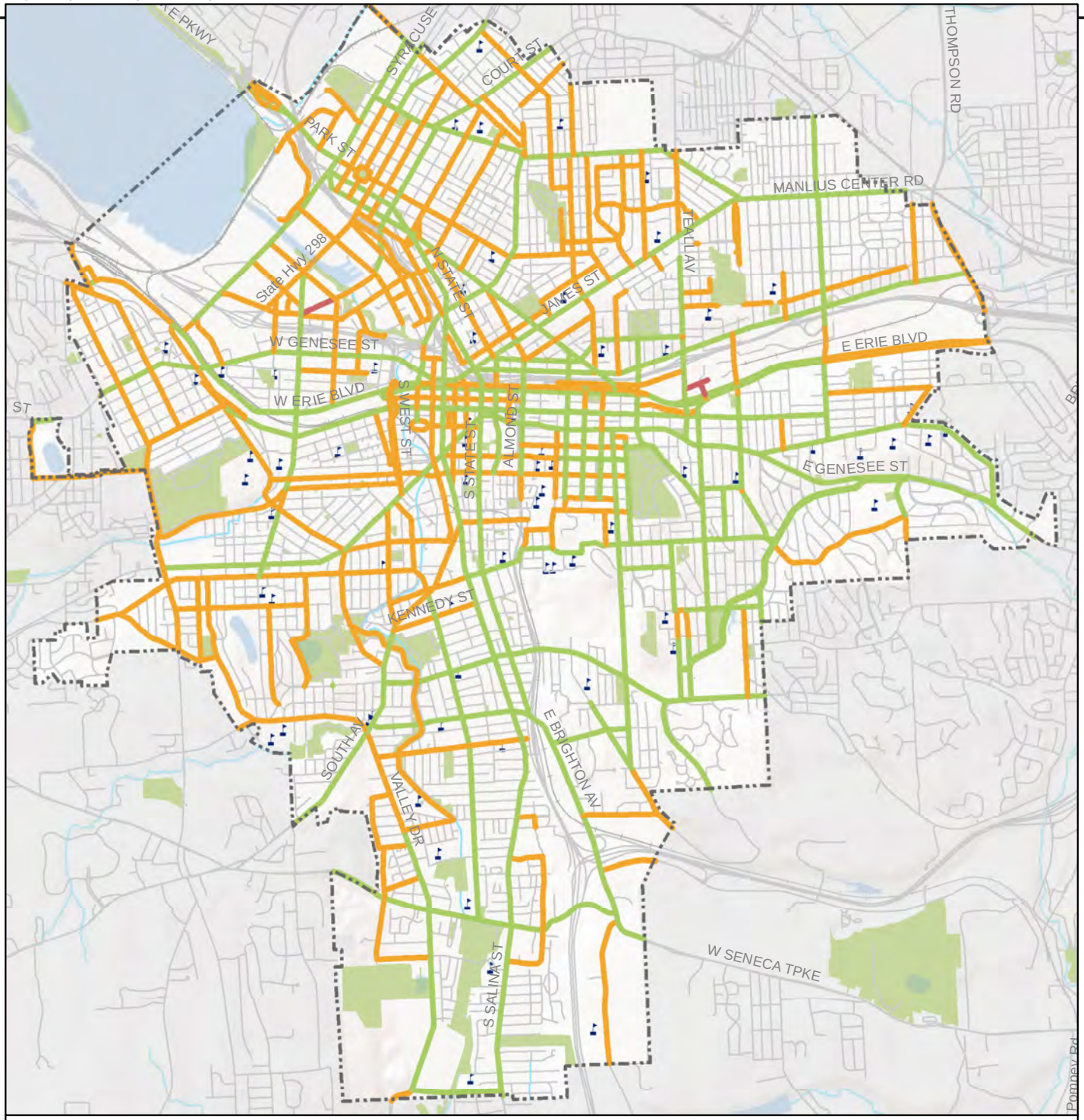
- scenic amenities along route
- some scenic amenities along route
- no scenic amenities along route
- Syracuse City Boundary

- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.35 0.7 1.4
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
ConnectivityMeasures_QualityExp_100912.mxd
10/09/2012



Syracuse Bike Plan: Connectivity Measures
Connectivity Composite

Safety Measures

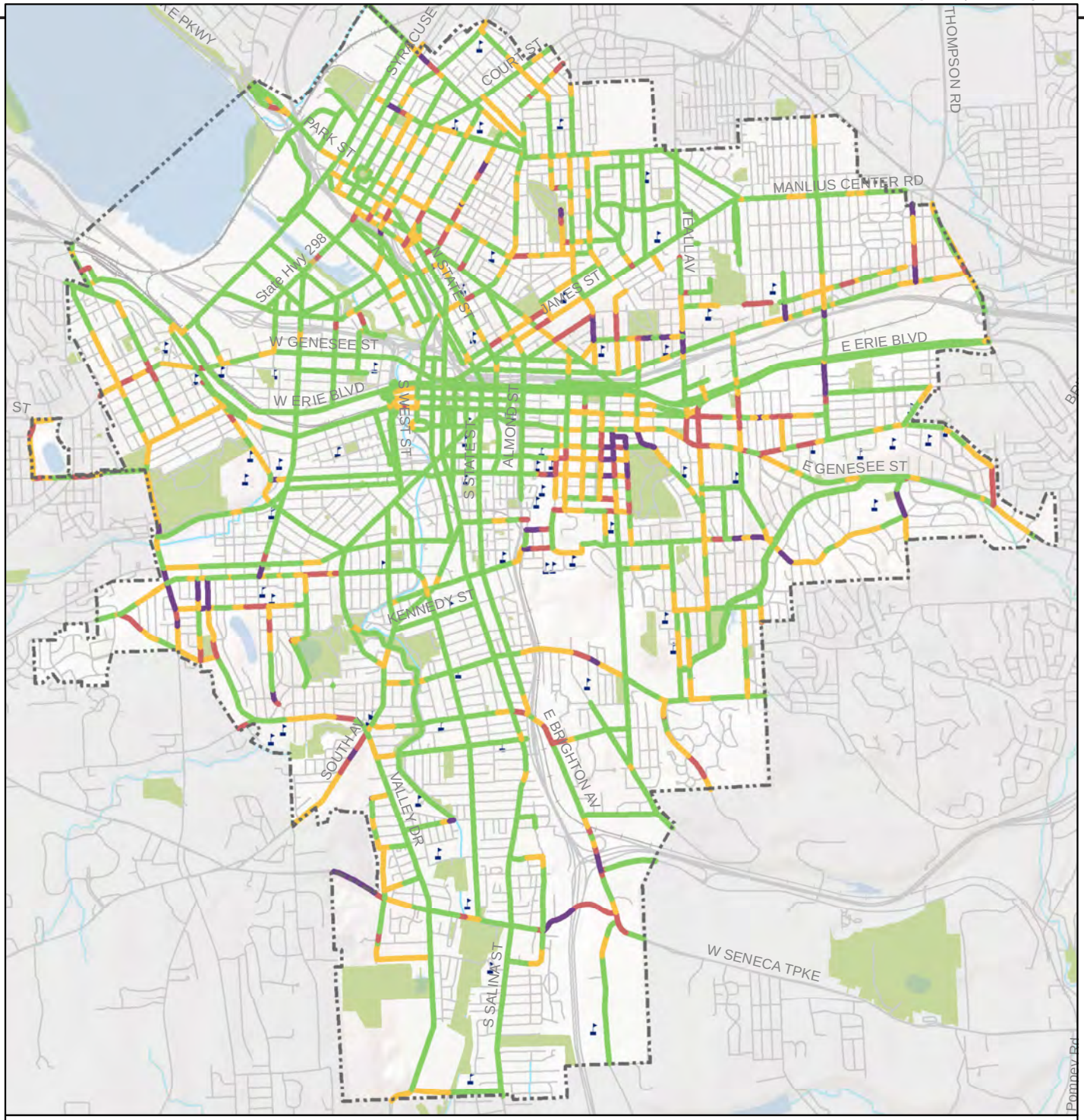
Connectivity Measures

- Recommended
- Possible
- Not Recommended
- Syracuse City Boundary
- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.35 0.7 1.4
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
ConnectivityMeasures_ConnectivityC_100912.mxd
10/09/2012



Syracuse Bike Plan: Design Measures
Topography

Safety Measures

Topography

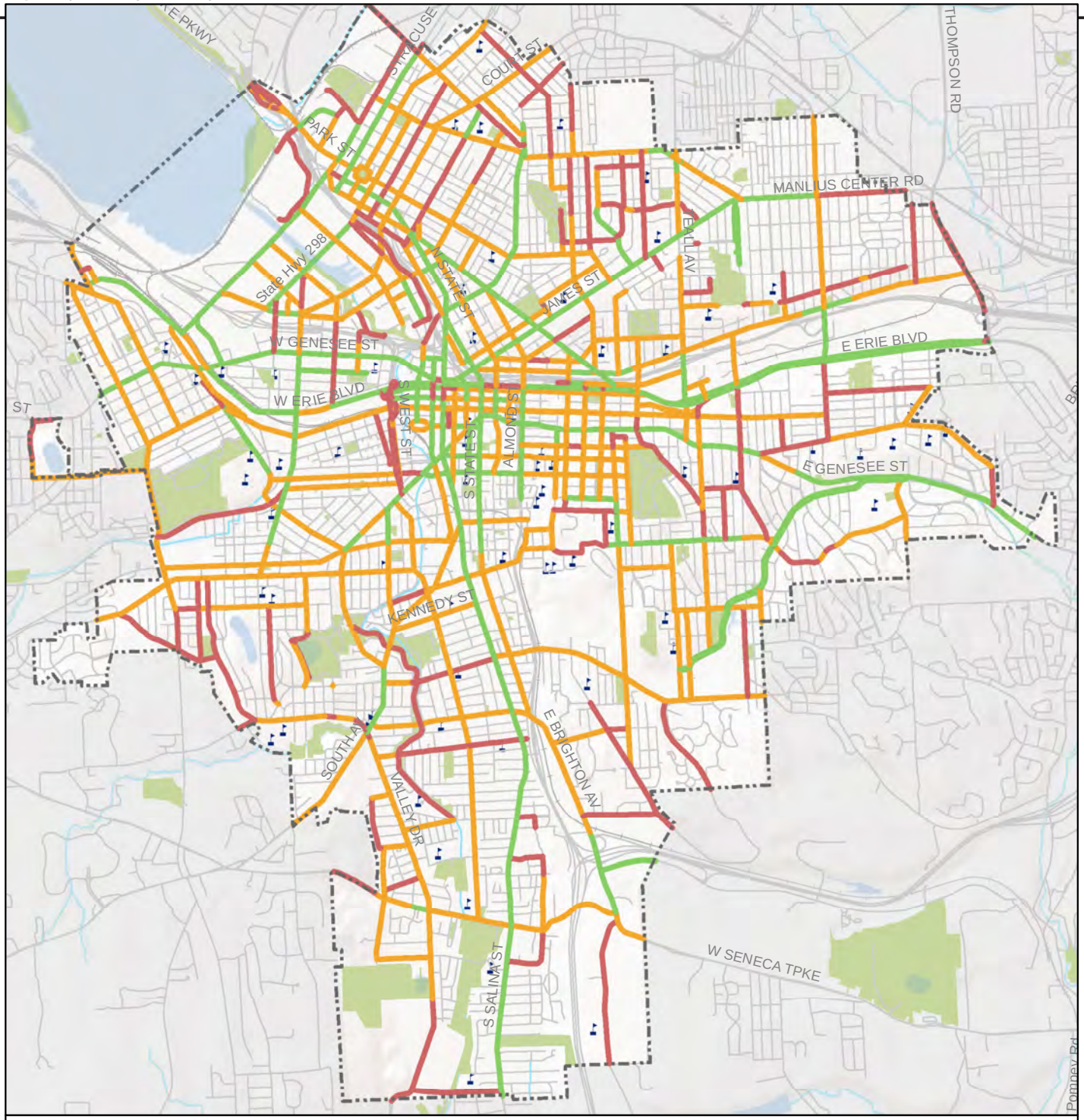
- grades from 0% - 2%
- grades from 2% - 5%
- grades from 5% - 8%
- grades > 8%

- Syracuse City Boundary
- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.35 0.7 1.4
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
DesignMeasures_Topo_100912.mxd
10/09/2012



Syracuse Bike Plan: Design Measures
Width of Road from Curb to Curb

Safety Measures

Width of Road from Curb to Curb

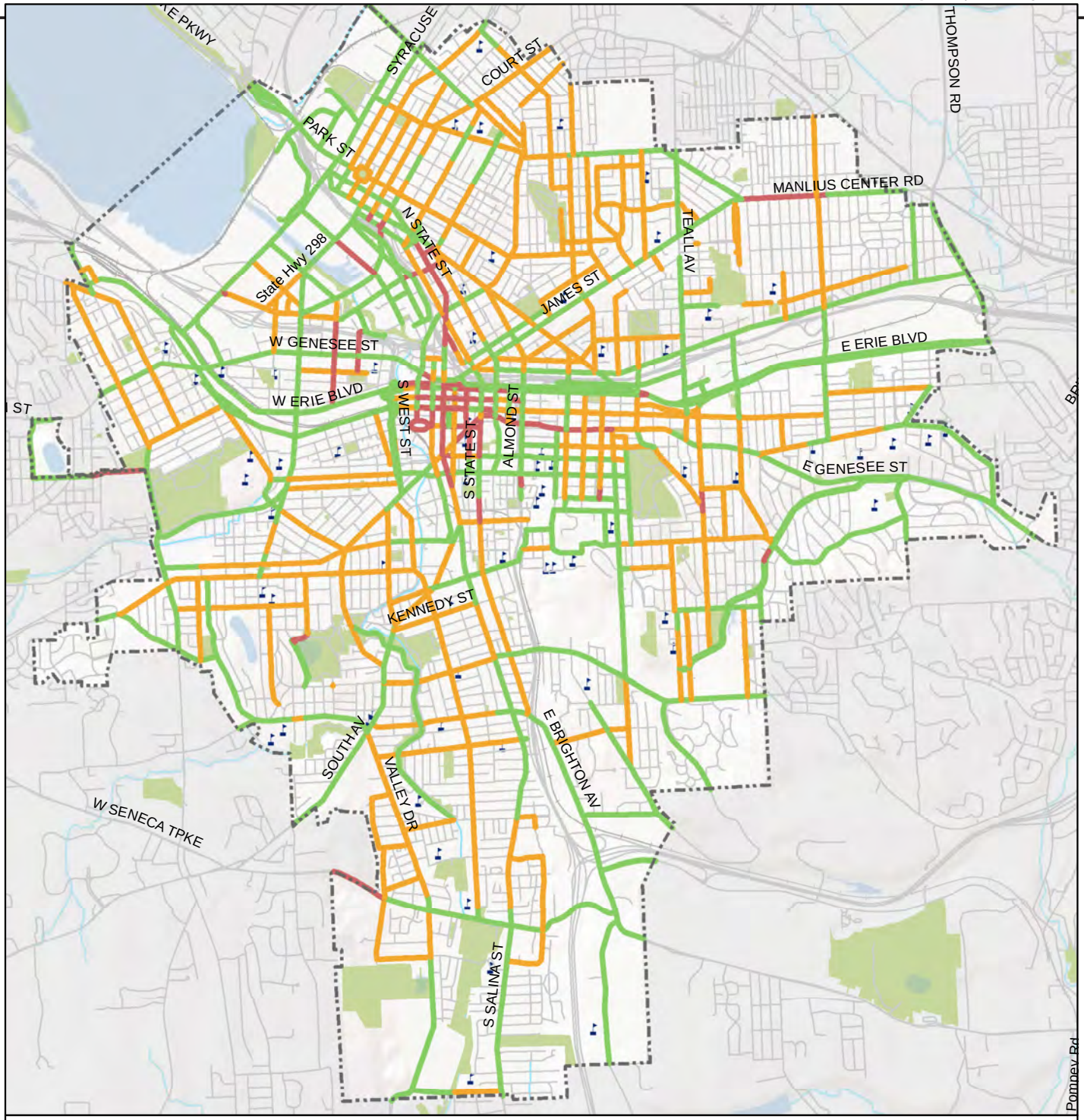
- distance is more than 42 feet
- distance is between 28 and 42 feet
- distance is less than 28 feet
- Syracuse City Boundary

- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.35 0.7 1.4
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
DesignMeasures_RoadWidth_100912.mxd
10/09/2012



Syracuse Bike Plan: Design Measures
Presence of Parking Lanes

Safety Measures

Presence of Parking Lanes

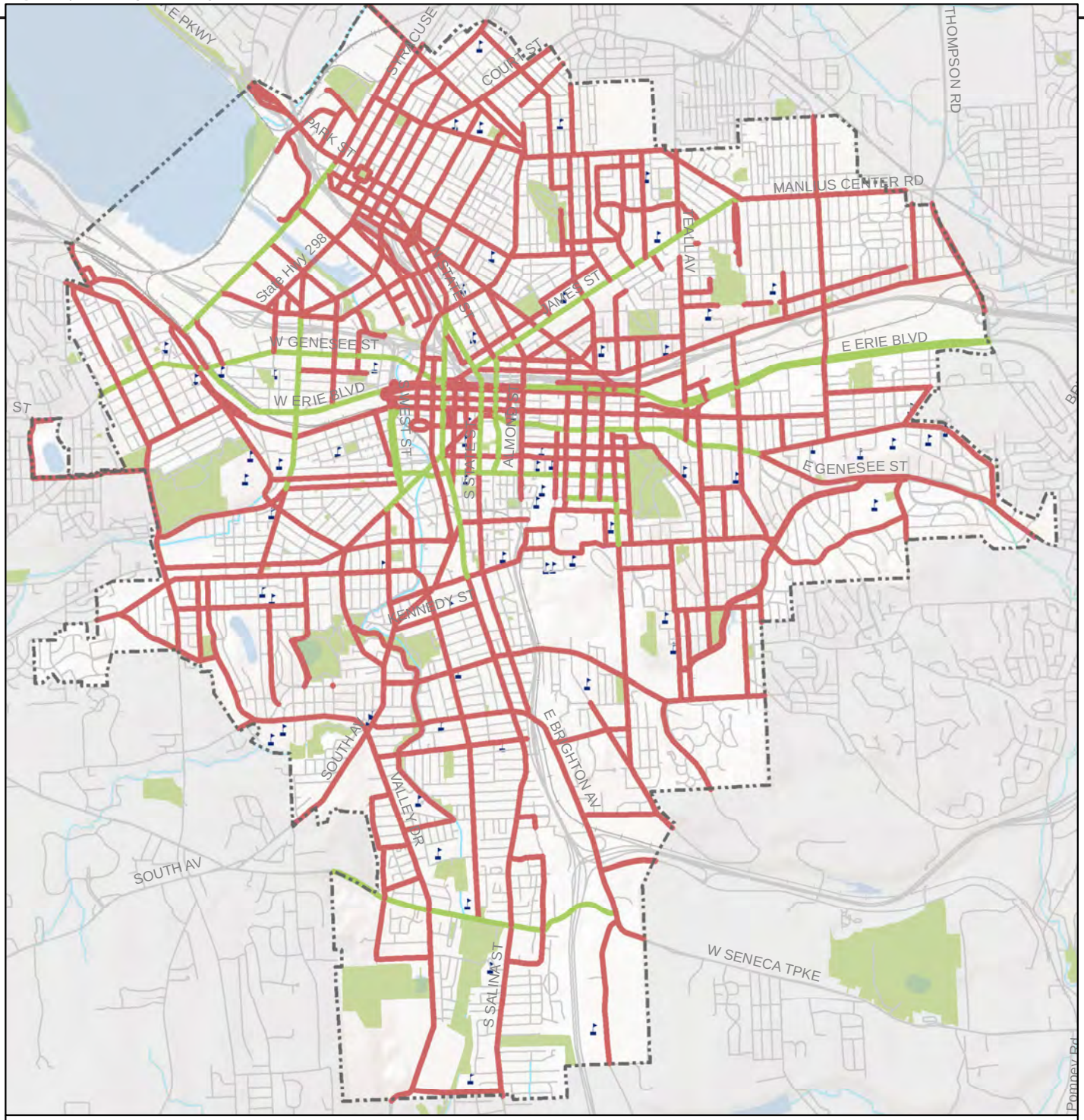
- no parking lane
- alternating or one side metered parking
- parking on both sides of street

- Syracuse City Boundary
- Streets
- Parks
- Schools
- Railroad
- Creek

N
W E
S

0 0.35 0.7 1.4
Miles

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
DesignMeasures_ParkingLanes_100912.mxd
10/09/2012



Syracuse Bike Plan: Design Measures
Road Diet Feasibility

N
W E
S

0 0.35 0.7 1.4
Miles

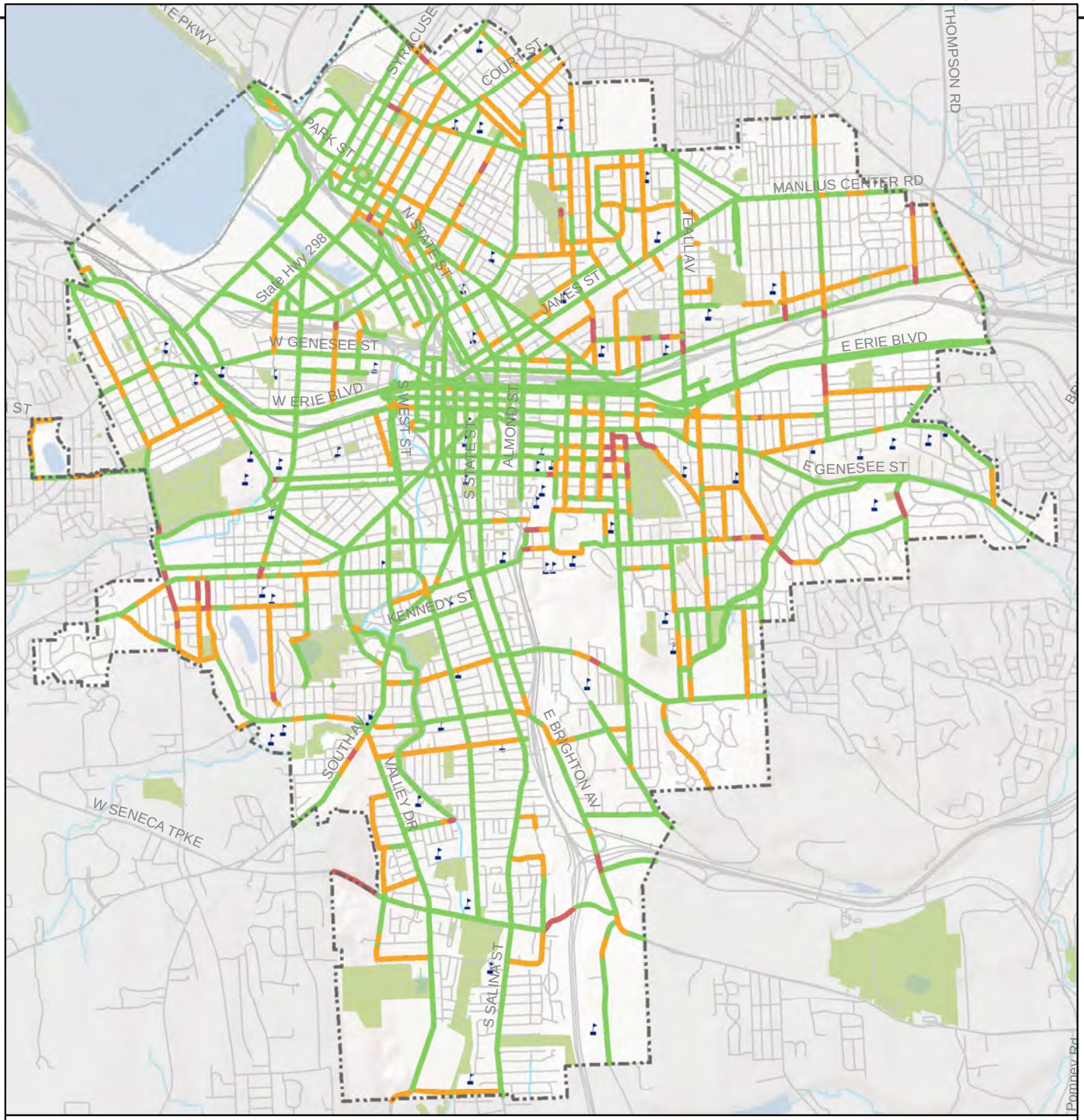
Safety Measures

Road Diet Feasibility

- exisiting or road diet
- no possibility of road diet
- Syracuse City Boundary

- Streets
- Parks
- Schools
- Railroad
- Creek

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
DesignMeasures_RoadDiet_100912.mxd
10/09/2012



Syracuse Bike Plan: Design Measures
Design Composite

N
W E
S

0 0.35 0.7 1.4
Miles

Design Measures

Composite Design Measures

- Recommended
- Possible
- Not Recommended
- Syracuse City Boundary

- Streets
- Parks
- Schools
- Railroad
- Creek

Data courtesy of NYGIS Clearinghouse, City of Syracuse Department of Public Works, and ESRI (base relief map). Possible bike treatments were designated based on 13 "bike-ability" metrics as calculated by Syracuse DPW in Summer 2011.
DesignMeasures_DesignC_100912.mxd
10/09/2012

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Appendix B

PUBLIC PARTICIPATION

The development of the Bicycle Infrastructure Component (Syracuse Bike Plan) included numerous opportunities for public input over a two-year period. The early concepts that provide the basis for the plan were vetted through a number of public meetings in 2010. In the summer of 2011, work began in earnest on drafting the Syracuse Bike Plan and evaluating corridors appropriate for various types of bicycle infrastructure. As they were drafted, all documents were published to the City of Syracuse's website with contact information provided for comment. Materials from public presentations were posted to the website, as well. As the plan was revised, additional feedback was sought throughout 2012. In January of 2012 the Bike Plan was presented at every TNT meeting, where additional input was solicited. In all, the Bike Plan was presented at sixteen public meetings.

In addition, the Bike Plan was covered in more than twenty local media stories between the summer of 2011 and fall of 2012, after which members of the public routinely provided additional input to the plan's author, City Transportation Planner, Paul Mercurio.

Public Meetings:

1. 7/27/10: 20 attendees at CNY Pathways meeting. Shared the conceptual framework for the inventory and analysis of this plan
2. 7/13/11: 70 attendees at CNY Pathways meeting. Presented the "Making the Case" information, as well as the results of the inventory, analysis, tool kit, and the first pass for the blueprint of the full bike network
3. 7/20/11: Syracuse Bike Plan first uploaded to the main page of the City website. All materials presented as part of this process (including draft versions of the plan, conceptual graphics, and presentation slides) have since become available for download and review via this site.
4. 8/3/11: 70 attendees at CNY Pathways meeting. Reviewed "Making the Case," inventory, and tool kit. Presented a revised version of the city-wide network, and 8 potential corridor designs
5. 10/18/11: 35 attendees at Westside TNT meeting. Presented Making the Case, Tool Kit, city-wide network, and Westside Recommendations
6. 1/10/12: 25 attendees at Near Westside Business Association meeting. Presented Making the Case, Tool Kit, and city-wide network
7. 1/10/12: 30 attendees at Eastside TNT. Presented Making the Case, Tool Kit, city-wide map and Eastside Recommendations. Didn't finish presentation. Returned in February (see below)
8. 1/11/12: 15 attendees at Downtown TNT. Presented Making the Case, Tool Kit, city-wide map and Downtown Recommendations
9. 1/11/12: 25 attendees at Valley TNT. Presented Making the Case, Tool Kit, city-wide map and Valley Recommendations
10. 1/12/12: 20 attendees at Southside TNT. Presented Making the Case, Tool Kit, city-wide map and Southside Recommendations. Didn't finish presentation. Intended to return for February meeting, but was asked not to.
11. 1/25/12: 35 attendees at Northside TNT. Presented Making the Case, Tool Kit, city-wide map and Northside Recommendations. Didn't finish presentation but will complete presentation in April.
12. 2/13/12: 15 attendees at Lakefront TNT. Presented Making the Case, Tool Kit, city-wide map and Lakefront Recommendations
13. 2/14/12: 30 attendees at Eastside TNT. Finished presenting Eastside corridor recommendations
14. 2/27/12: 20 attendees at Eastwood TNT. Presented Making the Case, Tool Kit, city-wide map and Eastwood Recommendations
15. 3/7/12: 35 attendees at Common Council DPW Committee. Presented overview of the plan and answered general questions for the Councilors.
16. 7/31/12: 50 attendees at Common Council Neighborhood Preservation Committee. Presented revisions of the Bike Plan that has occurred over the first half of 2012.

Media Coverage:

1. 7/13/11. Post Standard
   http://www.syracuse.com/news/index.ssf/2011/07/syracuse_plans_to_give_bike_ri.html
2. 7/13/11. Jim Reith Radio Show
   [No link available]
3. 7/13/11. WSYR News
   http://www.9wsyr.com/news/local/story/Syracuse-making-plans-for-new-bike-lanes/YscPpJOJkUan0N665xE-AQ.cspx
4. 8/2/11. Post Standard
   http://www.syracuse.com/news/index.ssf/2011/08/second_public_meeting_schedule.html
5. 8/13/11. WRVO
   http://wrvo.fm/post/bike-plan-shapes-syracuse
6. 8/17/11. New Times
   http://readperiodicals.com/201108/2457050481.html#b
7. 8/25/11. Post Standard
   http://blog.syracuse.com/neighbors/2011/08/getting_around_on_a_bike_cycling_in_the_city_continues_to_grow.html
8. 9/7/11. The Eagle
   http://www.theeaglecny.com/news/2011/sep/07/fixing-syracuses-bike-problems-requires-full-tool-/
9. 1/11/12. CNY Central
   http://www.cnycentral.com/news/story.aspx?id=706398
10. 1/12/12. YNN News
    http://binghamton.ynn.com/content/top_stories/570050/syracuse-looking-to-be-more-bike-friendly/
11. 1/20/12. WSYR News
    http://www.clipsyndicate.com/video/play/3202442/syracuse_bike_plan_1_20_12
12. 1/24/12. Daily Orange
    http://www.dailyorange.com/news/city-curb-appeal-city-constructs-bicycle-paths-to-offer-alternative-transportation-system-1.2750584
13. 1/25/12. Bridge Street / WSYR
    http://www.clipsyndicate.com/video/playlist/20640/3215665?title=bridge_street_highlights
14. 2/27/12. Democracy Wise
    http://democracywise.syr.edu/stories.cfm?storyid=1120
15. 3/7/12. Post Standard
    http://www.syracuse.com/news/index.ssf/2012/03/planner_syracuse_streets_are_n.html
16. 5/29/12. Newhouse.
    http://www.thenewshouse.com/story/syracuse-outpedals-rest-state-number-bicycle-commuters
17. 6/5/12. Post Standard
    http://blog.syracuse.com/opinion/2012/06/wanted_bike_culture_-_is_los_a.html
18. 7/31/12. YNN
    http://centralny.ynn.com/content/593574/push-to-create-bicycle-network-in-syracuse/
19. 8/1/12. Newhouse
    https://nccnews.expressions.syr.edu/?p=55234
20. 8/2/12. Post Standard
    http://www.syracuse.com/news/index.ssf/2012/08/post_636.html#incart_river_default
21. 8/20/12. YNN
    http://centralny.ynn.com/content/features/562886/going-green---bike-paths/