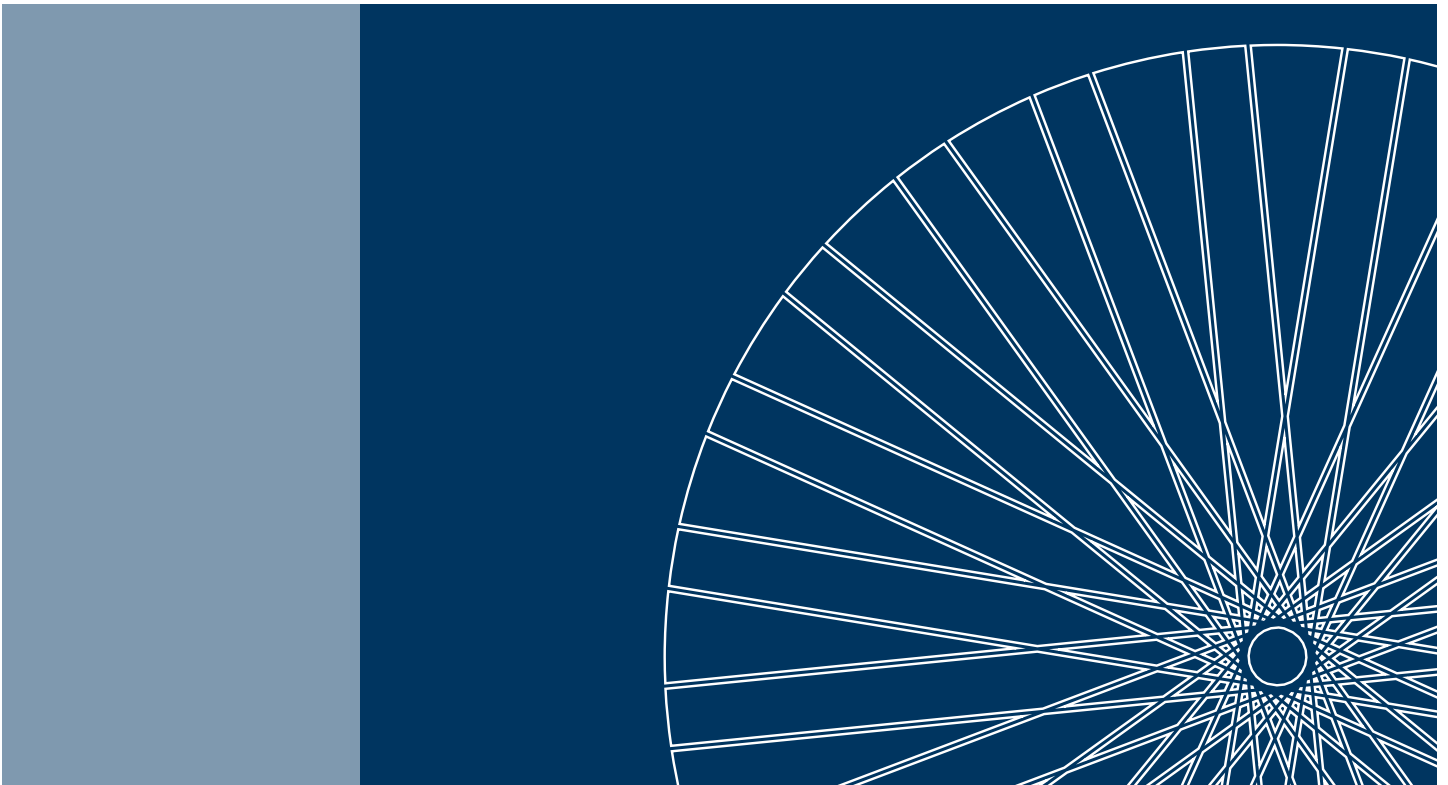


POLICY BRIEF

# Children's Health

A Growing Need to Incorporate Physical Activity  
into the Daily Lives of Youth



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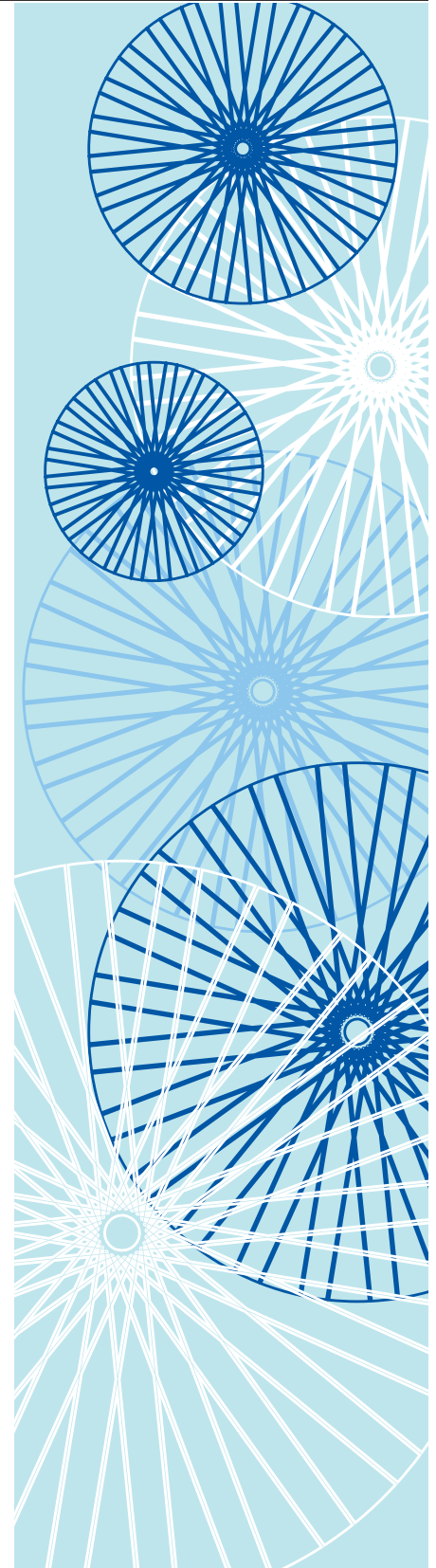


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## Introduction

According to the US Department of Health and Human Services, children should participate in at least 60 minutes of physical activity daily to be healthy. Children should use most of these 60 minutes engaging in aerobic activities such as walking, running, jumping, and biking. The remaining time should be spent on age-appropriate muscle and bone strengthening exercises [1]. Meeting these physical activity requirements is easiest if physical activity is incorporated into children's daily routines. Children can engage in active living in many different ways. They can travel to school using physically active means such as walking or bicycling. Children can participate in physical education classes and team sports at school. They can also simply enjoy unstructured active play at home or school.

Not all children have the opportunity to live an active lifestyle. While there are many barriers to children's physical activity, a significant barrier is the environment in which they live. Healthy Kids, Healthy Communities – Buffalo, a partnership of many organizations, works to identify and facilitate policy changes that result in a built environment that is conducive to children's physical activity in the City of Buffalo. This policy brief, produced on behalf of the partnership focuses on assessing the impact of the built environment on children's physical activity in Buffalo. It describes the context in which children live in the City of Buffalo. It also describes current trends and barriers to youth physical activity in the City of Buffalo.



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## Youth in Buffalo

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### Youth compose a large percentage of Buffalo residents

The City of Buffalo is home to 61,576 children under the age of 18. The number of male children, 31,121, slightly outnumbers females, 30,455, although the sex ratio is reversed in the adult population. Youth comprise about 22 percent of the city's population of 261,310 residents.\* The proportion of youth in Buffalo's population is marginally higher than that in Erie County and New York State [2].

### Buffalo's youth are a diverse group

A significant proportion of youth in Buffalo are African American (48%), while 35 percent are white. These proportions are different than in the overall population, wherein the majority of Buffalo residents report themselves to be white (50%) and 39 percent identify themselves as African American [2]. A small, but growing, number of Buffalo's youth were born in a country other than the United States. Of all youth, 2,416 (3.6%) are foreign-born (overall, 16,670, or 6.1 percent of, city residents are foreign-born) [3].

### Many youth live in families headed by single mothers

About 28,000 (46%) children in Buffalo are raised by a single mother, while 34 percent are raised by a married couple. Eleven percent of children live with either their grandparent or another relative, while seven percent live with a single father [2]. The percentage of children raised by married couples is significantly lower in Buffalo than in Erie County (60%) and New York State (61%).

### Buffalo's youth attend public and private schools

During the 2010-2011 school year, 43,000 youth were enrolled in public and private schools. Of these, 33,701 children were enrolled in 58 public schools in the City of Buffalo, while about 9,000 were enrolled in 39 private schools (Pre-K through 12) [3]. Seventy-two percent (24,157) of the 33,701 children attending public schools were enrolled in Pre-K through 8th grade while the remaining twenty-eight percent (9,544) were enrolled in 9th through 12th grades [4].

The 43,000 youth enrolled in school spend a considerable amount of time—about 180 days a year—in the built environment in and around their schools. Any changes in the built environment in and around the school, and the policies guiding those changes, have the potential to impact children's opportunities for engaging in physical activity.

\* This words "children" and "youth" are used interchangeably, and refer to individuals younger than 18 years old, unless specified otherwise.

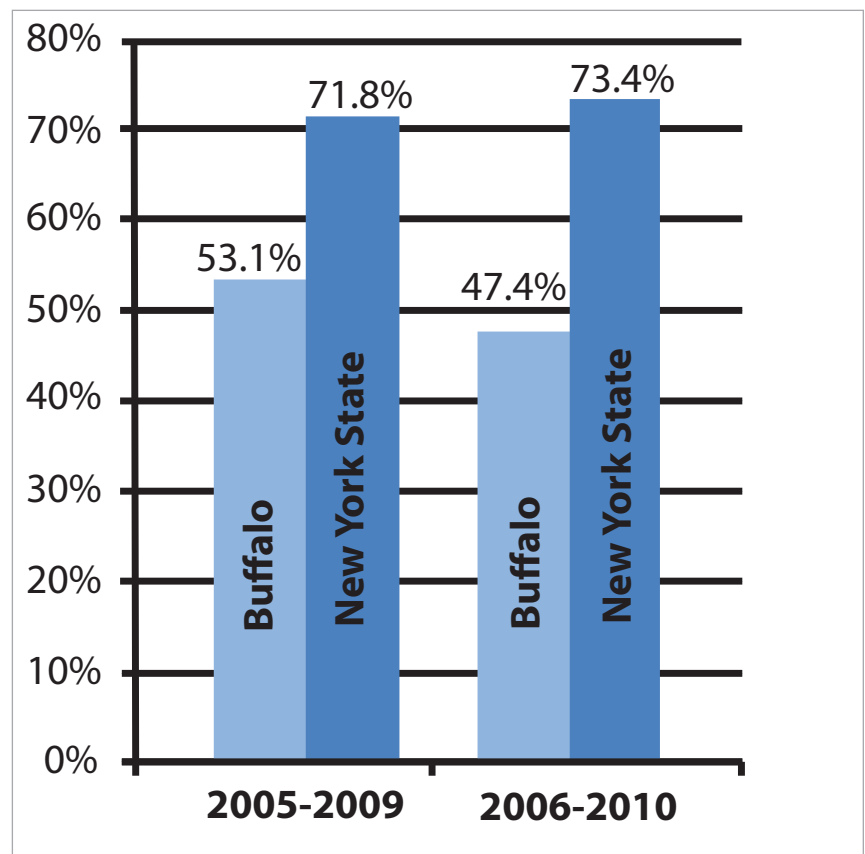


### High school graduation rates in Buffalo are low

High school graduation rates in Buffalo's public schools are low and worsening over time. Only 47.4 percent of students who entered public high schools in the fall of 2006 graduated by June of 2010, (within the standard four-year schedule for high school completion). This rate is even lower than the previous year, when 53.1 percent of high school students graduated in four years. The New York State Department of Education attributes this 5.7 percentage point decrease primarily to a large change in the number of students [5].

Dismal high school graduation rates mirror low educational attainment of adult residents, which have remained relatively stagnant over time. About 19 percent of Buffalonians over the age of 18 did not graduate from high school, a rate much higher than the county's 12 percent and state's 16 percent. Furthermore, only 27 percent of city residents have some form of college degree, lagging far behind both the county (36%) and the state (37%) [3].

Figure 1: 4-Year Graduation Rates



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## Youth in Buffalo

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### **Children Bear a Disproportionate Burden of Poverty in Buffalo**

Buffalo's children bear a disproportionate burden of poverty. Although children comprise only 22 percent of Buffalo's population, they comprise 36 percent (27,150) of Buffalo's poor [3]. Buffalo residents' median family income is only \$37,488 and nearly 30 percent of city residents have incomes below the federal poverty line. Children in families with limited resources face far greater health-related barriers.

### **A majority of Buffalo's youth live in rental housing**

The quality of houses in which children live, and the neighborhoods in which their homes are located, matter for children's health and well-being. Compared to home-owners, renters typically have less control over the quality of their dwellings. The majority (59%) of occupied housing units in Buffalo are home to renters, a rate much higher than that of the county and the state [2]. Although the cost of renting in Buffalo (where the median rent is \$453) may be marginally lower than the cost of renting in the county (where the median rent is \$505), the health consequences of living in poor quality rental housing may be significantly higher [3].

Compared to the overall population, Buffalo's children are also more likely to live in rented homes. Of all occupied housing units, 31,650 units are home to youth under the age of 18. Of these youth-inhabited houses, about 63 percent are renter-occupied, while the remaining 37 percent are owner-occupied [2].

Many homes exist in neighborhoods struggling with vacancy and blight, making neighborhoods unsafe and unattractive for children's outdoor physical activity. Sixteen percent of the city's 133,444 housing units are vacant. Although the housing vacancy rate has decreased dramatically from previous years, it is still much higher than the county's (9%) and the state's (10%) vacancy rates. Policy efforts to facilitate children's outdoor physical activity must ensure a safe and welcoming neighborhood environment.

### **A significant proportion of households lack access to a vehicle**

About 30 percent of households in Buffalo do not have access to a vehicle, a rate much higher than that in the county (13.72 %). Automobile ownership is more limited among renters than home owners. Of the Buffalo households that do not have access to a vehicle, approximately 83.5 percent are renters [3]. Given that most youth in Buffalo live in rental housing, many of them may not have access to a family vehicle and therefore may need to walk, bicycle, or ride a bus to get around. Incidentally, only seven percent of Buffalo residents walk or bike to work and 12 percent take public transportation. These rates are higher than those in the surrounding county, where only three percent walk or bike to work and four percent take public transportation [3].

**Physical activity levels among Buffalo City School District (BCSD) middle and high school students are low**

A 2011 survey of BCSD students reports dismal physical activity rates among students in grades 6-12. Seventy-one percent of students are not physically active at least 60 minutes each day. Furthermore, nearly 20 percent of students grades 6-12 are not physically active for at least 60 minutes on any day of the week. Compared to high school students, a higher percentage of middle school students reported being physically active for at least 60 minutes every day (32% of middle school students and 25% of high school students). Conversely, more middle school students than high school students reported not being physically active any day of the week (21% of middle school students and 18% of high school students) [6].

**Youth obtain limited physical activity through school physical education classes**

Physical Education (PE) classes are an important opportunity for Buffalo's children to be physically active in a safe and adult-supervised setting. Unfortunately, the BCSD does not require the 60 minutes per day of moderate daily physical activity that is recommended by the federal government [1]. Moreover, the PE requirement for children in kindergarten through third grades does not meet minimum PE standards set by the New York State Department of Education, which requires that students participate in PE class every day [7, 8].

Figure 2: BSCD Physical Activity Requirements and Federal Physical Education Recommendations by Grade

Grade	City of Buffalo PE Requirements	Federal PE Recommendations
Kindergarten – 3 <sup>rd</sup> Grade	1-30 mins, once every 6 days*	60 mins per day
4 <sup>th</sup> -6 <sup>th</sup> Grade	40 mins, once every 3 days	
7 <sup>th</sup> -12 <sup>th</sup> Grade	40 mins, every other day	

\*Not compliant with the NYS Department of Education standards.

Limited PE opportunities impact youth physical activity behavior. In a recent survey, about 10 percent of Buffalo School District students from grades 6-12 reported never having attended PE classes [6]. Increasing PE requirements, options, and opportunities in the schools would help Buffalo's children obtain the minimum 60 minutes of moderate physical activity required to be healthy.

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## Physical Activity Behaviors

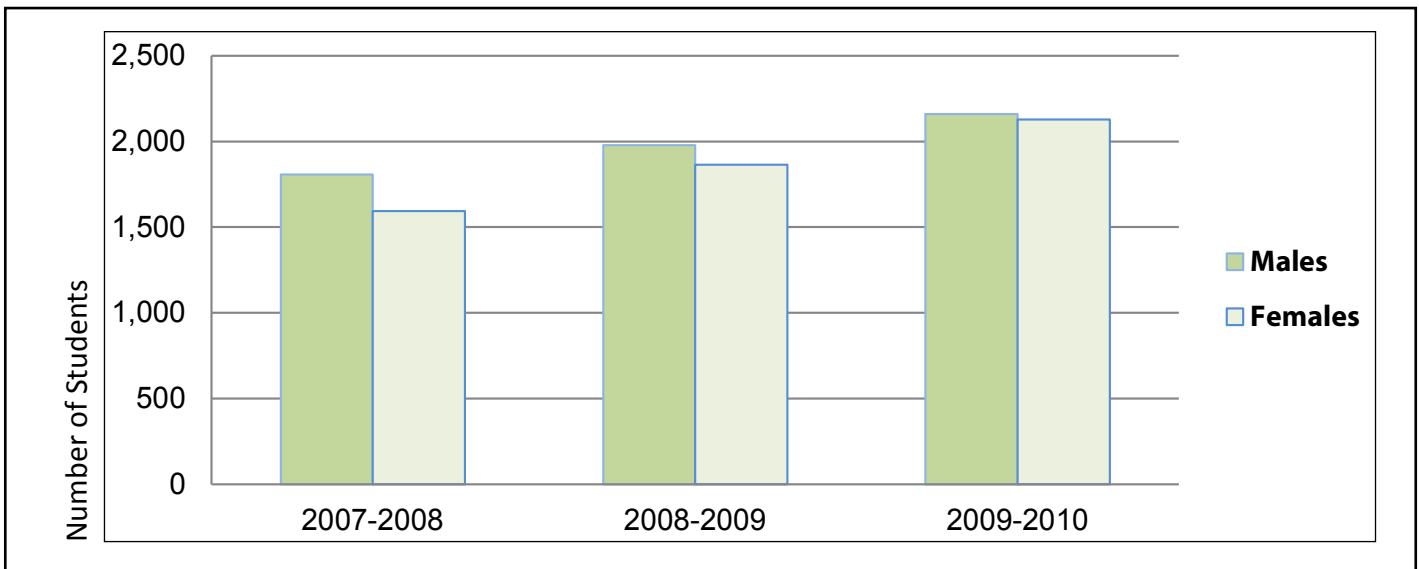
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### Children's participation in after-school sports

After school sports leagues, supported by school or community programs, are an opportunity for youth to engage in physical activity in a safe environment. Participation in after-school sports programs is limited to students in 7th grade or above. Youth below 7th grade are limited to playing on community sports leagues that usually require a fee. Youth must arrange their own transportation to practices and games because leagues are not affiliated with the school district.

Buffalo City School District students in 7th grade and above have many more sports team options than students below 7th grade. In the 2011-2012 school year, students (depending on gender) can try out for football, volleyball, soccer, golf, cross country, cheerleading, rowing, basketball, bowling, swimming, baseball, softball, track, tennis, and lacrosse. Many of these teams are varsity level, but there are also junior varsity, modified, and club sports teams. During the 2009-2010 school year, only 4,288 BCSD students (of approximately 15,300 7th-12th grade BCSD students) participated in a school sport [9]. Although this number represents a 22.5 percent increase in student participation over a three-year period (27% increase for girls and 18% increase for boys), there is still reason to be concerned [10]. In the 2011 BCSD student survey, nearly 40 percent of 6-12 grade students reported not belonging to any sports team in their school or community during the past 12 months [6]. Lack of participation in a sports team limits physical activity, as well children's ability to learn teamwork.

*Figure 3: Participation in After-school Sports by Gender*



### Children's travel to school

One opportunity for children to be physically active is by using a physically-active mode of transportation—such as walking or bicycling—on their daily journey to school. Most school students in Buffalo take the bus to school rather than walk or bicycle. During the 2008-2009 school year, 90.7 percent of BCSD elementary school students were bused to school [11]. This is almost an 11 percentage point increase from the 2006-2007 school year, during which 80 percent of BCSD elementary school students were bused [12]. Students who were not bused walked, biked, or were driven to school.

Children's transportation behaviors are a reflection of the district's policies around busing, as well as the absence of neighborhood-based schools which children can reach easily by walking or bicycling. BCSD Policy #5730 deems the following students eligible for bus transportation to and from school:

- \* *Students attending schools located within the City of Buffalo and more than one and one-half miles and less than fifteen miles walking distance from their home. A student's "home" is defined as the legal residence of that student's parent or guardian. Legal residence must be within the boundaries of the Buffalo City School District (BCSD).*
- \* *Students attending schools whose transportation pattern was developed as a result of the BCSD's response to Court Ordered Desegregation.*
- \* *Students with disabilities if they need these services to receive an appropriate education. The child's Individual Education Plan (IEP) or 504 Plan must include transportation needs in order for the child to be eligible.*
- \* *Under limited circumstances, the BCSD may modify transportation guidelines to prevent serious safety hazards [13].*

Students are permitted to attend almost any public school in the district and are not required to attend a school within their immediate neighborhood. As a result, most students are eligible for transportation.

Usually, elementary and middle school students (Pre-K to 8th grade) are transported on "yellow" school buses operated by the school district. Currently, the district operates 631 "yellow" buses. During the 2010-2011 school year, the district buses drove 34,208 miles per day. The cost of operating these buses averaged \$1,200 per student [14].

High school students (9th to 12th grades) use the Niagara Frontier Transportation Authority's metro transit system. On school days, NFTA buses supplement the BCSD bus system by running along school routes immediately before and after the school day [15]. Students riding the NFTA metro system receive route-specific passes for use on the transit system on school-days. These route-specific transportation passes, however, may interfere with youths' access to after-school programs not located on their designated route. The student metro pass system costs \$640 per student—significantly less expensive than the school buses [14].



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## Physical Activity Behaviors

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The combined impact of school locations, transportation policies, and transportation methods is costly. In 2010-2011, nearly \$32 million were spent on the district's buses and about \$6.5 million were spent for metro passes [14]. If the BCSD returned to using neighborhood-based schools, the city would see several benefits: transportation costs would decrease and more children would be able to walk and bicycle to school. Reducing busing and increasing walking among school children would also generate less pollution, thereby creating attendant health benefits, like reduced asthma rates.<sup>1</sup>

### Children's non-school travel

The availability, cost, and quality of public transportation are pivotal aspects of children's ability to engage in active transportation. In Buffalo, public transportation is provided by the Niagara Frontier Transportation Authority Metro system. The system consists of a 6-mile MetroRail system and a bus system with 313 buses. The bus system includes 42 local bus routes, 17 express bus routes, 8 Metrolink bus routes, and 8 school bus routes. On average, over 80 percent (69,411) of daily boardings occur on the transit system within the City of Buffalo.<sup>2</sup> During the weekdays, the MetroRail records over 20,000 daily boardings. Between 3,000 and 7,000 daily boardings occur on each of the ten most used bus lines. Youth account for about 21% of MetroRail riders (about 4,200) and 13 percent of bus riders (between 390 to 910 per line) [16].

On non-school days, youth aged 12 to 18 cannot use their route-specific school-issued NFTA passes and must pay adult fares to ride the NFTA system [17]. A single trip fare is \$1.75 for adults. For the following groups, a single trip fare is \$0.75 per person: children aged 5 to 11, people over 65 years old, the disabled, and Medicare recipients. Riding on the system is free for children under 5 years old. Day passes cost \$2 for children aged 5-11 and \$4 for people older than 11. Monthly passes are also available, costing \$32 or \$64, respectively [15].<sup>3</sup>

Bus stops within the city are spaced approximately 0.1 and 0.25 miles apart [16]. Spacing stops farther apart may decrease stop delays, increase service speeds, and require people to walk or bicycle farther. However, increased spacing might also decrease ridership if children find the longer distances between stops to be a nuisance. Ideally all buses should have bike racks to encourage multi-modal transportation. In Buffalo, however, less than half of the bus fleet (147 buses) is equipped with bicycle racks [18].

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1: In neighborhood-based school system means children attend school in the neighborhood in which they live.

2: The remainder occurs in the NFTA's service area outside the City of Buffalo.

3: These fares will increase on May 1, 2012. As of May 1, 2012, a single trip fare will cost \$2 for adults and \$1 for children, seniors, the disabled, and Medicare recipients. Day passes will cost \$2.50 for children and \$5 for adults. Monthly passes will cost \$37.50 and \$75 for children and adults, respectively.

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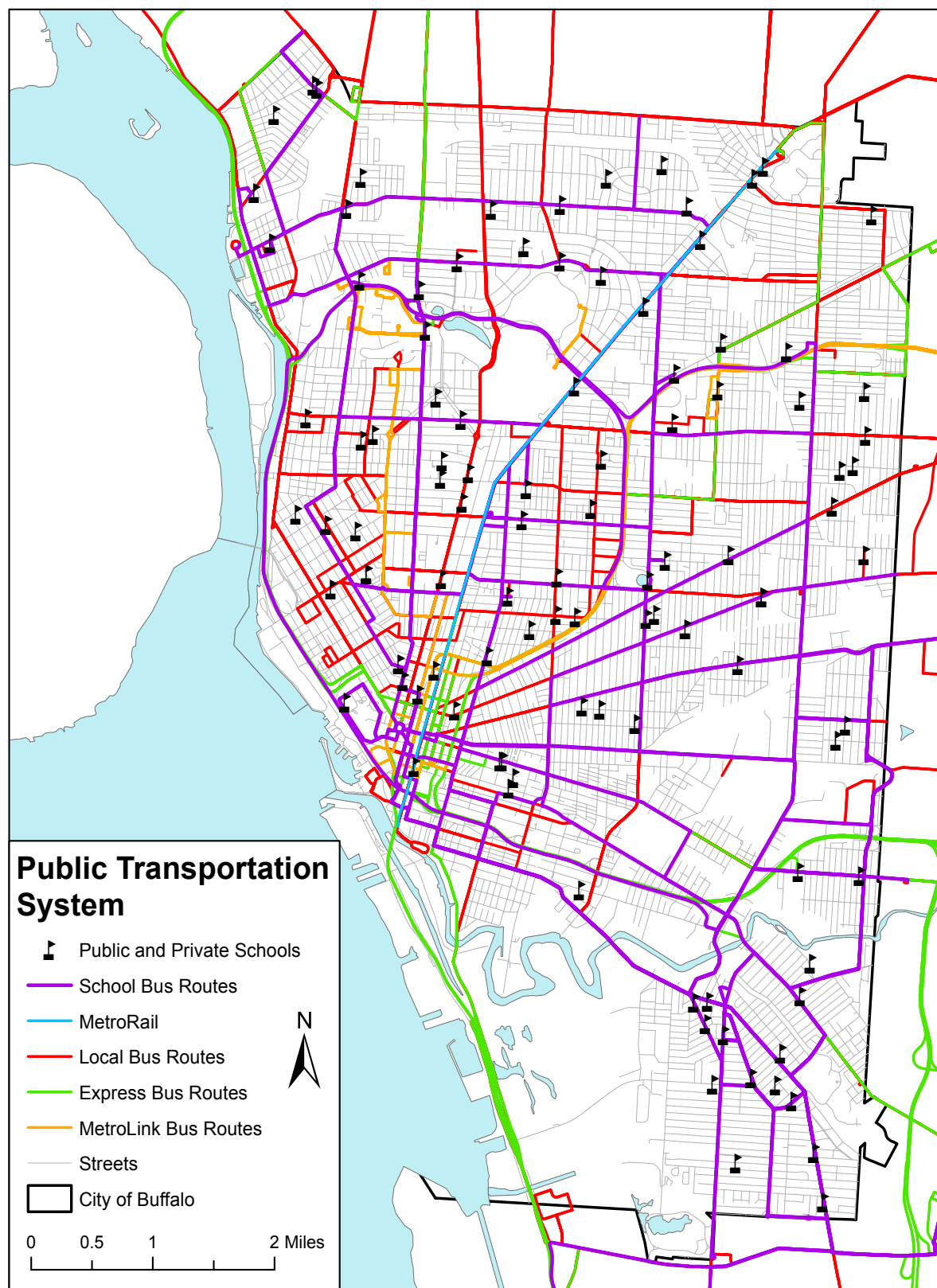


Figure 4:  
Public  
Transportation  
Network  
in Relation  
to School  
Locations

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## Youth Behavior

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The availability and placement of bus shelters in Buffalo's cold climate impacts children's ability and willingness to use the transit system. In Buffalo, bus shelters are located at popular stops throughout the bus route system in the city of Buffalo [16]. Increasing the number of bus shelters and cleaning and maintaining existing bus shelters will likely increase the number of children using the bus system.

Making Buffalo's transit system friendlier, cheaper, more convenient, and safer for Buffalo's children is an important step for promoting physical activity among children.

Figure 5: NFTA MetroRail Station in Downtown Buffalo



## Obesity and Overweight are high among BCSD Students

The most visible consequence of children's physical inactivity is the growing incidence of childhood overweight and obesity. Overweight and obesity are external indicators of a person's health status and possible future health problems, including heart disease, some cancers, and type-2 diabetes. Consequently, it is concerning that more than 25 percent of all BCSD students are overweight or obese.

BCSD overweight and obesity trends show that the incidence of overweight and obesity in BCSD students increases as they progress from elementary through middle school, then decreases slightly when students are in high school. During the 2008-2009 school year, nearly 30 percent of Pre-K and Kindergarten students were overweight or obese. By the 2009-2010 school year, 37 percent of students in the same grades were overweight or obese (a seven percentage point increase). Rates decreased below 30 percent during the 2010-2011 school year for Pre-K students; however, rates increased to nearly 40 percent for Kindergarten students. In the same time period (school years 2008-2009, 2009-2010, 2010-2011), second grade students' overweight and obesity rates increased from 37 percent to 41 percent, then decreased to 40 percent [19].

Of all grade levels, fifth and seventh grade students have the highest incidence of overweight and obesity. During the 2008-2009 school year, more than 43 percent of 5th and 7th grade students were overweight or obese. The following year (2009-2010), the rate increased to 46 percent and 47 percent, respectively. The rate of overweight and obesity among 5th and 7th graders decreased slightly to approximately 43% and 45%, respectively, during the 2010-2011 school year [19].

Tenth grade was the only grade level to show an overall reduction in overweight and obesity rates during the 2008-2009 and 2010-2011 school years. Overweight and obesity levels decreased from 37.5 percent in 2008 to 35.5 percent in 2009. Rates increased slightly to 36.7 percent in 2010, but remained under the 2008 level of 37.5% [19]. These rates, however, are still much higher than New York State and national overweight and obesity rates. The Centers for Disease Control and Prevention (CDC) report that nearly 16 percent of NYS high school students are overweight and 11% are obese. Nationally, the trend is reversed: 12% of 9-12 grade students are overweight and nearly 16% are obese [20].

During the 2010-2011 school year, the highest rates of obesity and overweight students in the BCSD were reported at: Public School (PS) 3, located on the West Side (73% of students were overweight (18%) or obese (55%); PS 69<sup>4</sup> in South Buffalo (56%); and PS 96 on the Buffalo State College Campus (56%) [19]. See Figure 6.

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4: PS96 is now closed.



## Obesity Trends

Figure 6:  
Rates of  
Overweight  
and Obese  
Youth by  
School

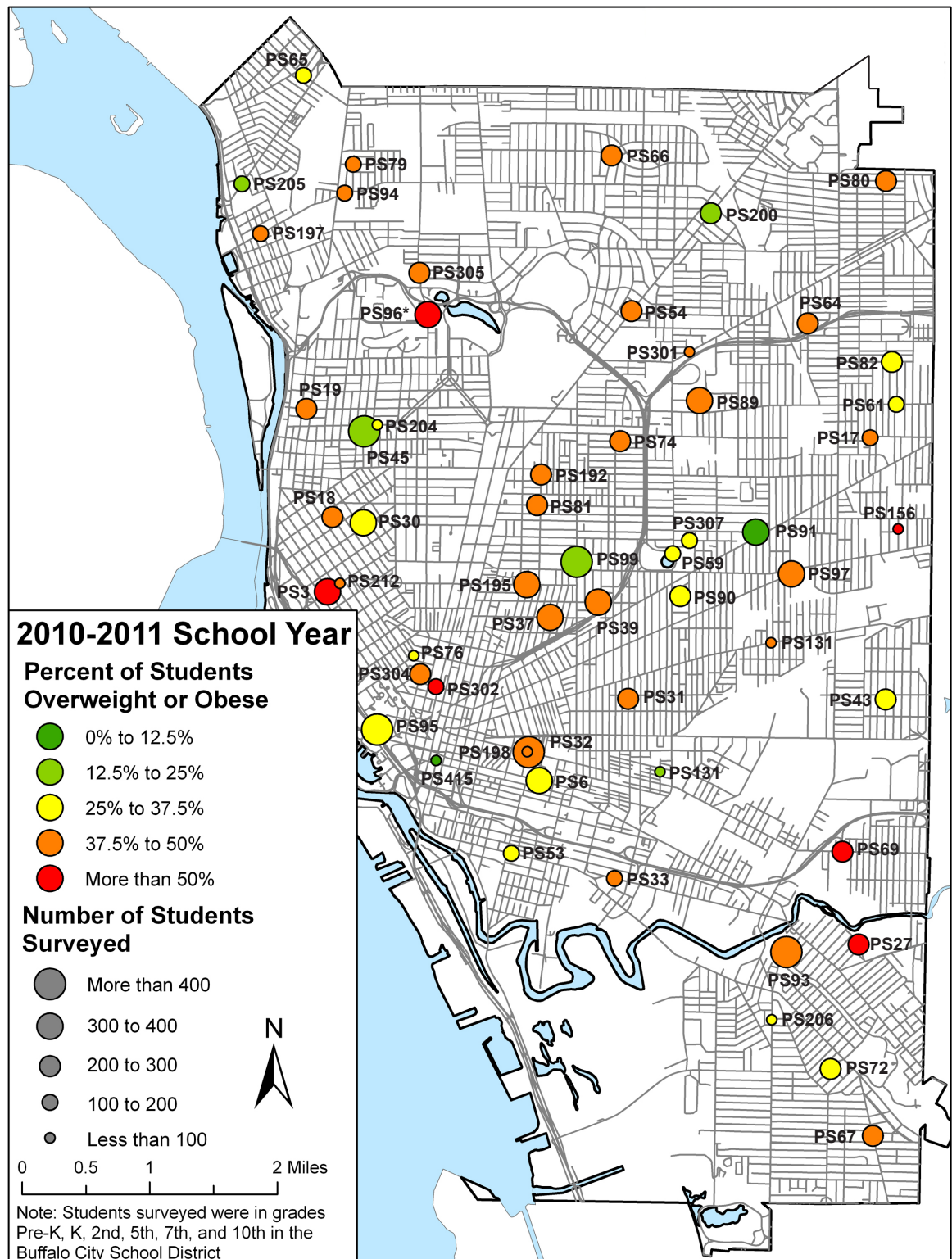
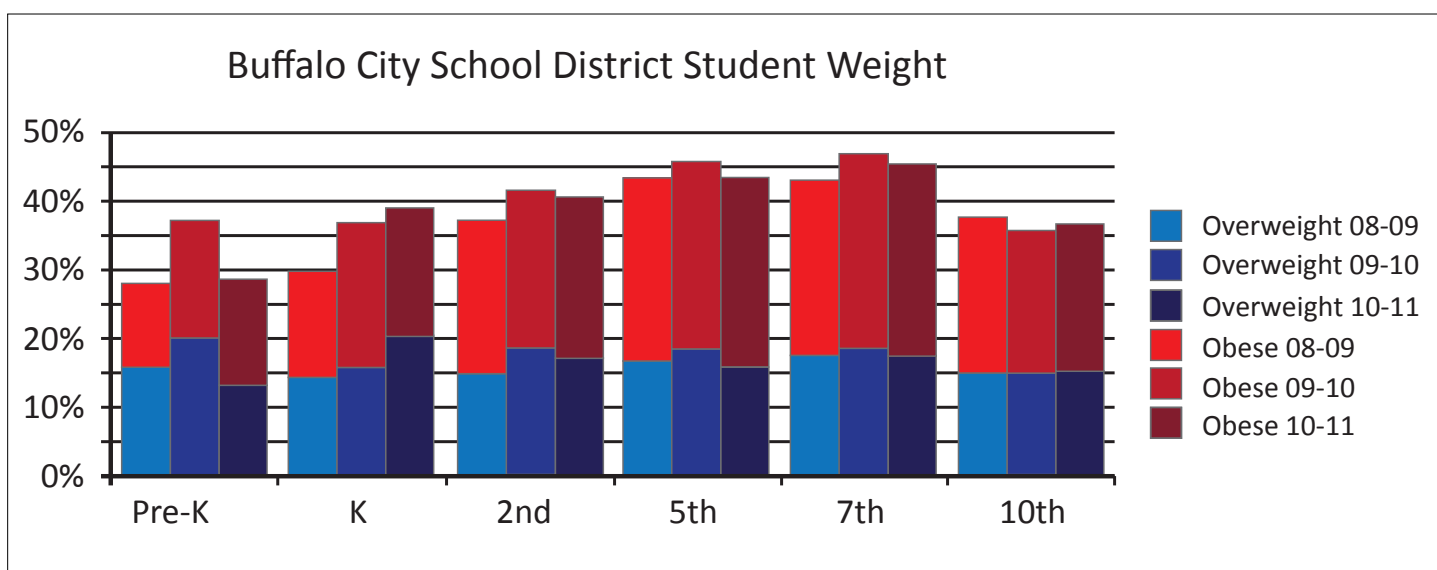




Figure 7:  
Buffalo City School District Student Weights



In Buffalo, measures to prevent overweight and obesity should first target pre-adolescents, as children settle into their life-long physical activity patterns during adolescence. Physical activity programs should be promoted for both pre-adolescents and adolescents. Moreover, policy and built environment interventions that aim to decrease the rates of overweight and obese children should first target the largest schools with high rates of overweight or obese students. A balance must be found between helping schools with the largest population of obese and overweight students, and helping schools with the highest rates of childhood overweight and obesity.

### Traffic and Crime

#### Traffic: Endangering pedestrians and bicyclists

During a one-year period, 8,705 motor vehicle accidents within city limits were reported to the Buffalo Police Department.<sup>5</sup> Of those, 483 (5.6%) involved pedestrians or bicyclists. Youth were involved in 26.5 percent, or 128, of all pedestrian and bicyclist accidents with motor vehicles. Consequently, youth are involved in a disproportionate amount of pedestrian and bicyclist accidents with motor vehicles because 26.5 percent of accidents involve youth, but only 22 percent of city residents are youth [21].

Figure 8: Age of Youth Pedestrians and Bicyclists Impacted by Motor Vehicle Accidents

	Pedestrian MVA		Bicycle MVA		Combined Pedestrian and Bicycle MVA	
	<i>Ped. Age</i>	<i>MVD Age</i>	<i>Bic. Age</i>	<i>MVD Age</i>	<i>Ped/Bic Age</i>	<i>MVD Age</i>
<b>Average</b>	10.8	39.3	11.5	42.5	11.1	40.5
<b>Median</b>	12	38.5	12	39.5	12	39
<b>Mode</b>	15	28	11	20	11	39

The average age of youth pedestrians involved in accidents with motor vehicles (MVA) was approximately 11 years.<sup>6</sup> The average youth bicyclists involved in motor vehicle accidents was 11.5 years.<sup>7</sup> The average age of the motor vehicle drivers involved in the accidents was approximately 40 years.<sup>6</sup> Only three pedestrian and bicycle accidents with motor vehicles involved drivers (MVD) under the age of 18 [21].

Of the 128 accidents involving youth, 80 were pedestrian with motor vehicles. Most of these occurred in the spring (March, April, and May) and the fewest occurred in the winter (December, January, and February). Pedestrian-motor vehicle accidents usually happened on Mondays or Wednesdays, while the fewest occurred on Sundays. Accidents typically occurred when children were returning home from school and most adults were returning home from work—between 3:00pm and 6:00pm. No youth pedestrian-motor vehicle accidents occurred between 3:00am and 6:00am [21]. See Figures 9-11.

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5: The year beginning September 1, 2010 and ending August 31, 2011.

6: The median and mode were higher than the average age, suggesting most youth involved in accidents were actually older than 11. The median is the middle number in a sequential list of numbers. The mode is the number which occurs most often in a list of numbers.

7: Median and mode were also near 11.5.

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Figure 9: Youth Pedestrian and Bicycle Accidents with Motor Vehicles (MVA): Seasons\*

	Pedestrian MVA		Bicycle MVA		Bicycle and Pedestrian MVA	
	Number	%	Number	%	Number	%
<b>Fall</b>	19	24%	8	17%	27	21%
<b>Winter</b>	12	15%	1	2%	13	10%
<b>Spring</b>	26	33%	8	17%	34	27%
<b>Summer</b>	23	29%	31	65%	54	42%

Figure 10: Youth Pedestrian and Bicycle Accidents with Motor Vehicles (MVA): Days of the Week

	Pedestrian MVA		Bicycle MVA		Pedestrian and Bicycle MVA	
	Number	%	Number	%	Number	%
<b>Monday</b>	15	19%	7	15%	22	17%
<b>Tuesday</b>	13	16%	12	25%	25	20%
<b>Wednesday</b>	16	20%	6	13%	22	17%
<b>Thursday</b>	8	10%	9	19%	17	13%
<b>Friday</b>	8	10%	4	8%	12	9%
<b>Saturday</b>	13	16%	4	8%	17	13%
<b>Sunday</b>	7	9%	6	13%	13	10%

Figure 11: Youth Pedestrian and Bicycle Accidents with Motor Vehicles (MVA): Time of Day

	Pedestrian MVA		Bicyclist MVA		Pedestrian and Bicyclist MVA	
	Number	%	Number	%	Number	%
<b>12:00am-02:59am</b>	1	1%	1	2%	2	2%
<b>03:00am-05:59am</b>	0	0%	0	0%	0	0%
<b>06:00am-08:59am</b>	10	13%	1	2%	11	9%
<b>09:00am-11:59am</b>	8	10%	1	2%	9	7%
<b>12:00pm-02:59pm</b>	10	13%	12	25%	22	17%
<b>03:00pm-05:59pm</b>	26	33%	13	27%	39	30%
<b>06:00pm-08:59pm</b>	15	19%	12	25%	27	21%
<b>09:00pm-11:59pm</b>	10	13%	8	17%	18	14%

\*The percentages in figures 9-11 are rounded to the nearest whole number, resulting in columns summing to values between 99% and 102%.

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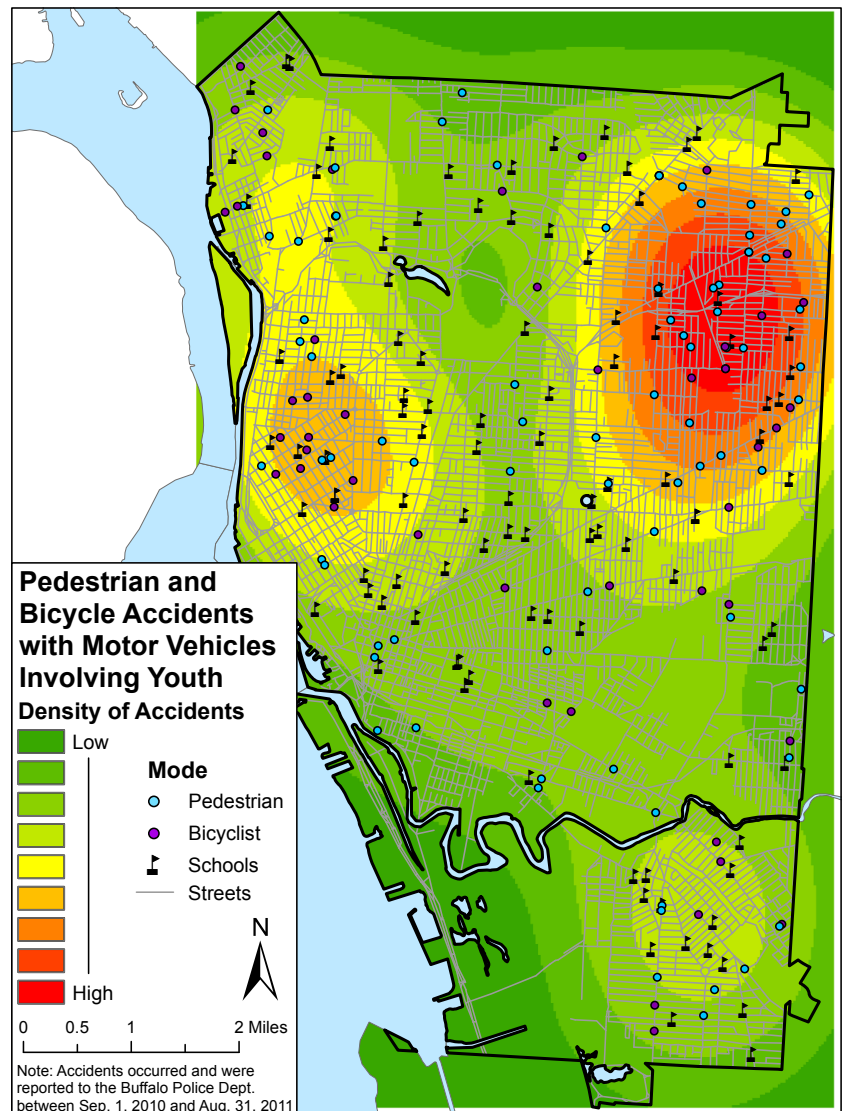
## Barriers to Active Living

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In addition to 80 pedestrian-motor vehicle accidents, youth were involved in 48 bicycle-motor vehicle accidents. Unlike pedestrian accidents, most accidents involving youth bicyclists and motor vehicles occurred in the summer (June, July, and August). The fewest occurred in the winter (December, January, and February), as few youth ride bicycles in the winter. Bicycle-motor vehicle accidents typically happened on Tuesdays, while the fewest occurred on Fridays and Saturdays. Similar to those involving pedestrians, most bicycle-motor vehicle accidents occurred between 3:00pm and 6:00pm. None occurred between 3:00am and 6:00am [21]. See Figures 9-11.

Most accidents resulted in minor injuries; however, one youth pedestrian accident resulted in death.<sup>8</sup> The highest concentration of youth pedestrian and bicycle accidents with motor vehicles occurred around Bailey Avenue between Winspear and Walden Avenues. A second concentration of youth accidents occurred on the West Side between West Delavan and Porter Avenues. Thirteen accidents involved youth four years and younger. These occurred in two areas: a swath extending north from downtown to Black Rock and Riverside; and around the William L. Gaiter Parkway. Sixty-four accidents involved primary school children aged 5-13. These accidents were highly concentrated along Bailey Avenue between Minnesota and Walden Avenues. Finally, 46 accidents involved secondary school children aged 14-17. These crashes were concentrated between Bailey and Fillmore Avenues from Kenmore to Walden Avenues. A moderate concentration was also reported on the West Side [21]. Improving traffic safety, as well as pedestrian and bicycle infrastructure, in these areas would decrease youth pedestrian and bicycle motor-vehicle accidents and make the built environment safer for youth physical activity. See Figures 12-16.

Figure 12:  
Pedestrian and Bicycle Crashes with Motor Vehicles  
Involving Youth



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8: There were an additional two pedestrian deaths involving only adults.

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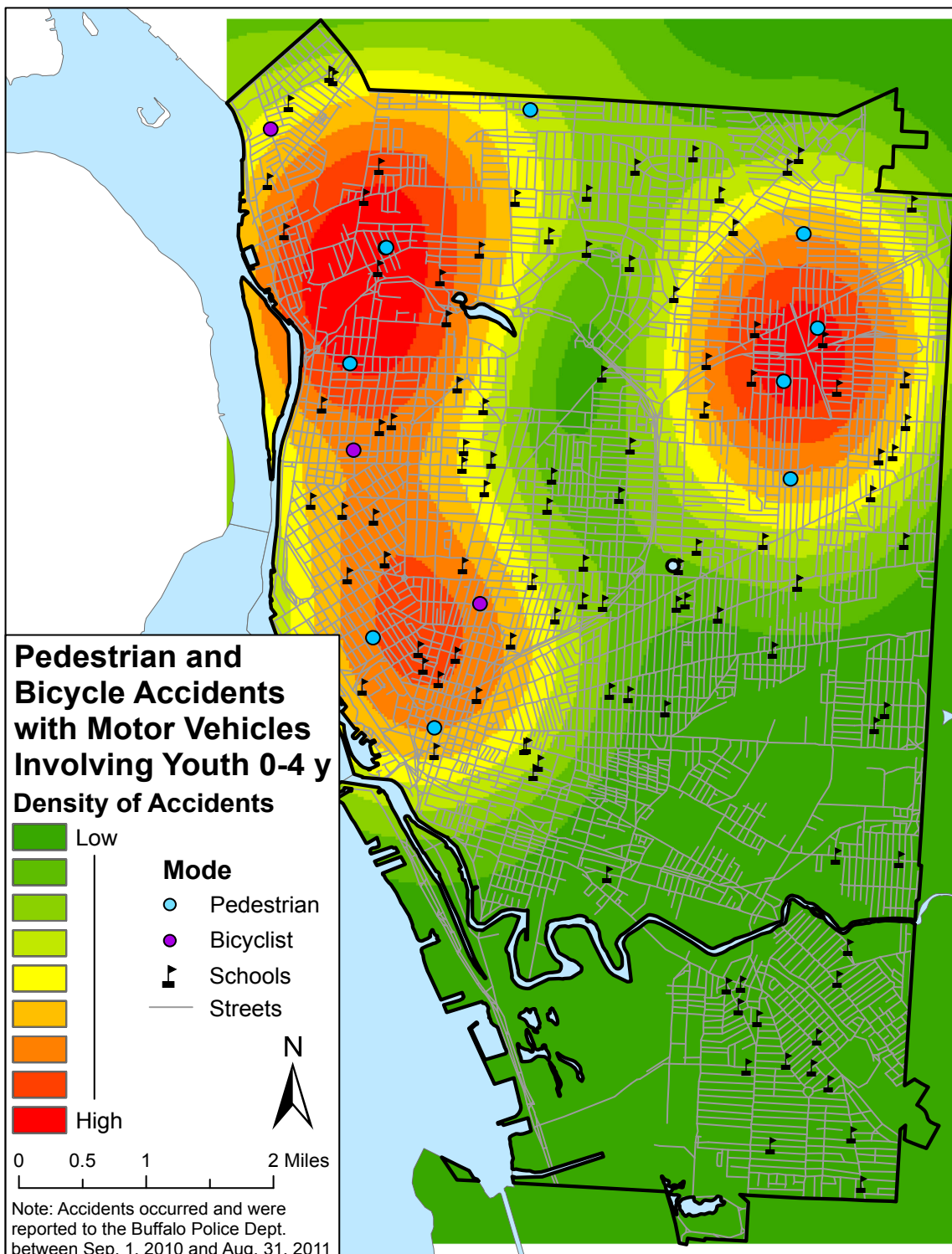
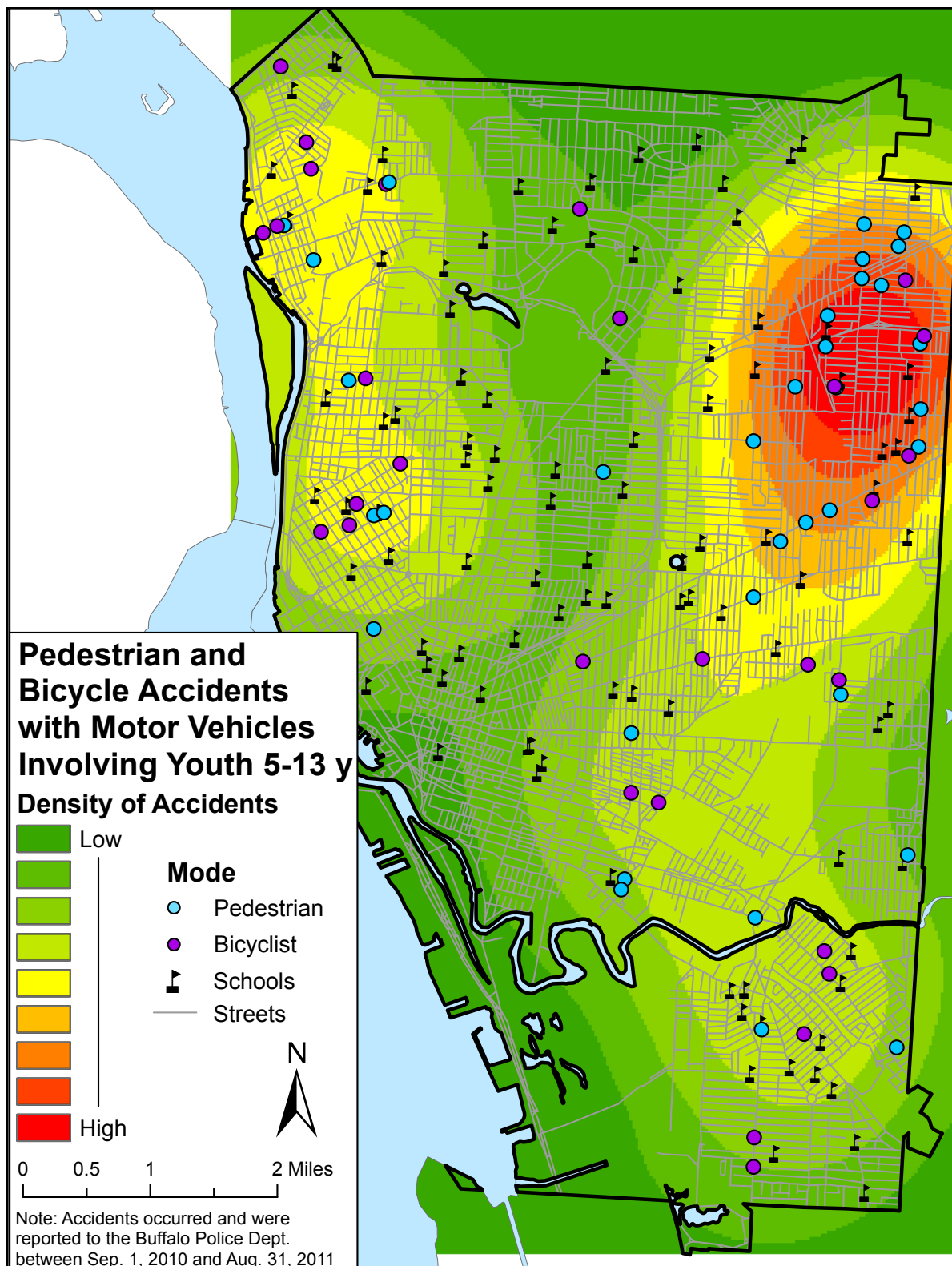


Figure 14:  
Pedestrian  
Accidents  
with Motor  
Vehicles  
Involving  
Youth 0-4  
Years Old



## Barriers to Active Living

Map 15:  
Pedestrian and Bicycle  
Accidents with  
Motor Vehicles  
Involving  
Youth 5-13  
Years Old



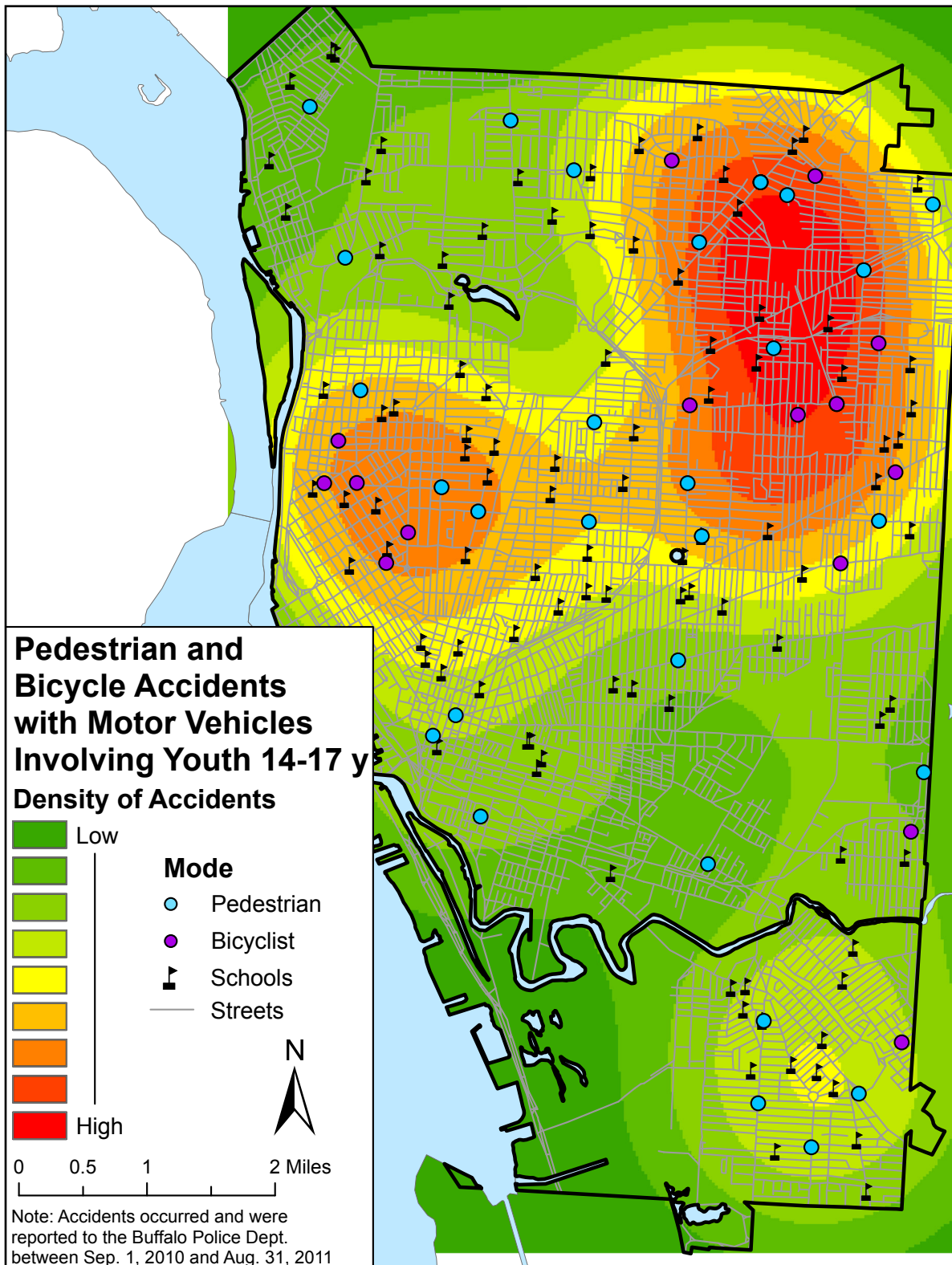


Figure 16:  
Pedestrian  
and Bicycle  
Accidents  
with Motor  
Vehicles  
Involving  
Youth 14-17  
Years Old

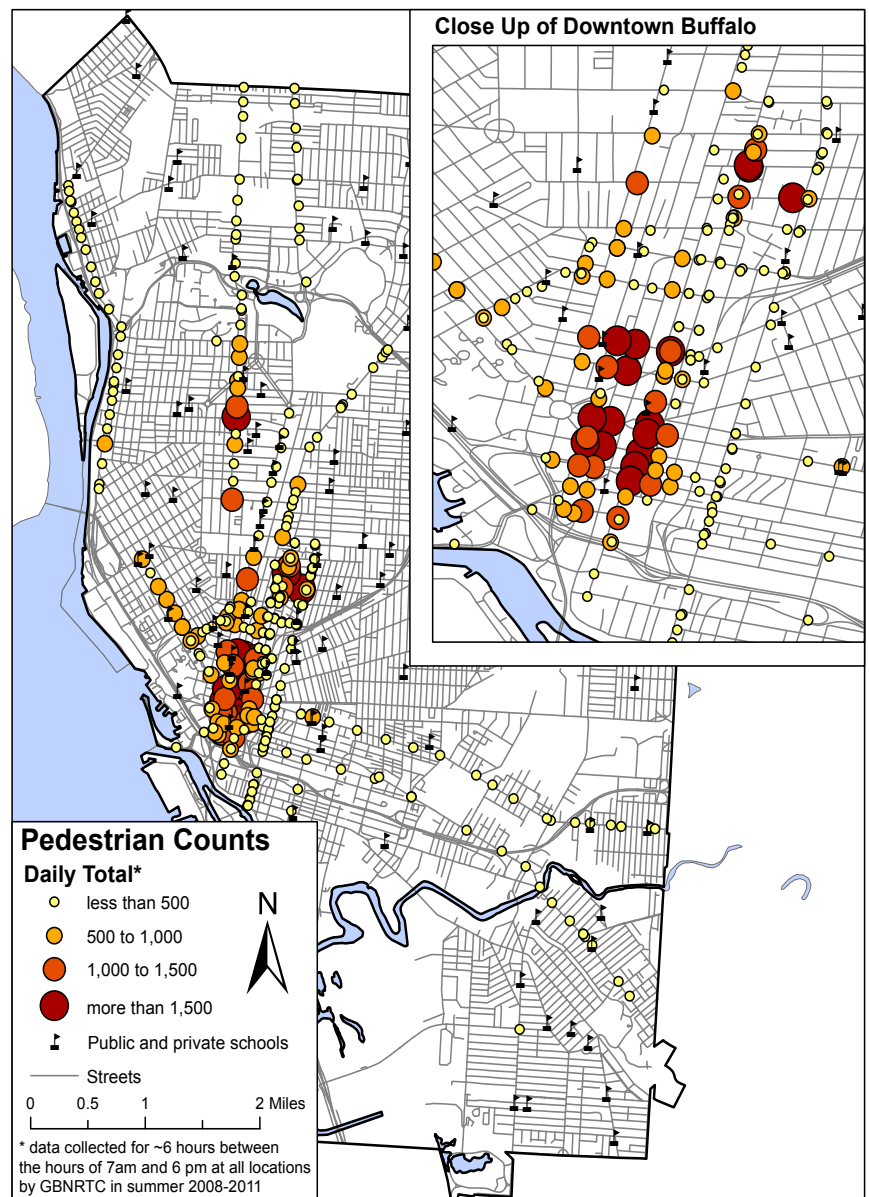
## Barriers to Active Living

### Model Active-Living Neighborhoods: The Elmwood Village, BNMC, and Downtown

The design and quality of pedestrian environments in children's neighborhoods impact their desire and ability to lead active lives. Pedestrian activity varies throughout the city and indicates the built environments that are conducive to walking. Pedestrian counts are high downtown, around the Buffalo Niagara Medical Campus (BNMC), and in the Elmwood Village [22].

Compared to weekends and evenings, downtown's pedestrian traffic is heavier on the weekdays during traditional work hours. This may be attributed to the concentration of offices and service destinations, rather than a well-designed pedestrian environment. The BNMC, conversely, has made considerable effort to improve its pedestrian environment, as seen in the campus's improved sidewalk infrastructure and construction of the linear Ellicott Park. Still, most of the campus's pedestrian activity likely results from a high concentration of health-care related research and service facilities. High pedestrian counts in the Elmwood Village, however, are most likely attributable to the high density of shops, restaurants, and residents, as well as the neighborhood's active living culture. Conversely, pedestrian counts on many of the City's arterial streets show low to moderate amounts of pedestrian traffic. This is due to factors such as: a lack of densely-arranged desirable destinations; a poorly designed pedestrian environment; and barriers like high volumes of traffic or crime [22].

Figure 13:  
Pedestrian Counts Along Major Streets

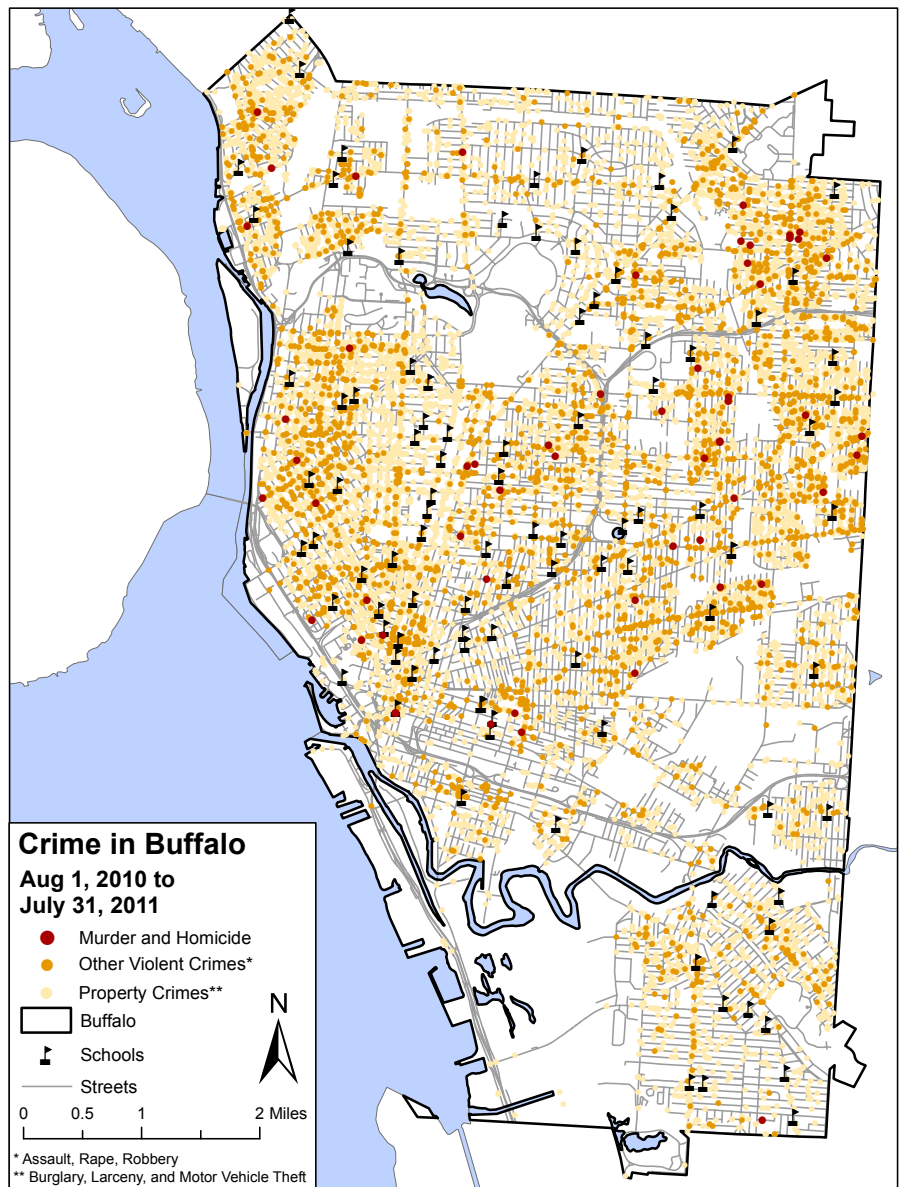




### Crime: A major barrier to youth physical activity

Parents' fears about their children's safety negatively impact children's physical activity. Compared to parents who feel their neighborhood is safe, parents who feel their neighborhood is unsafe are less likely to allow their children to go outdoors to be active. From 8/1/2010 to 7/31/2011, 17,432 crimes were reported in the City of Buffalo. Of these crimes, 81.7 percent were property crimes (burglary, larceny, and motor vehicle theft). An additional 18.0 percent were violent crimes, such as assault, rape, and robbery. Murder and homicide accounted for only 0.3 percent of all reported crimes [23].<sup>9</sup> The highest densities of violent crime (including homicide or murder) were reported in the City's West and East Sides. Murders and homicides were densely clustered on the East Side in an area bounded by Kensington Avenue and Genesee Street, and Fillmore and Bailey Avenues. Improving safety—as well as people's perceptions of safety—between Kensington Avenue and Genesee Street has great potential to increase opportunities for youth to engage in active living.

Figure 17:  
Location of Crimes in Buffalo



9: More crimes were reported two years ago. Between August 1, 2008 to July 31, 2009, 18,008 crimes were reported in the City of Buffalo. While the spatial density of violent crimes has remained similar between 2008/2009 and 2010/2011, the density of murders and homicides shifted north, with an increased density in downtown Buffalo.

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## Barriers to Active Living

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Figure 18:  
Density of Violent Crimes

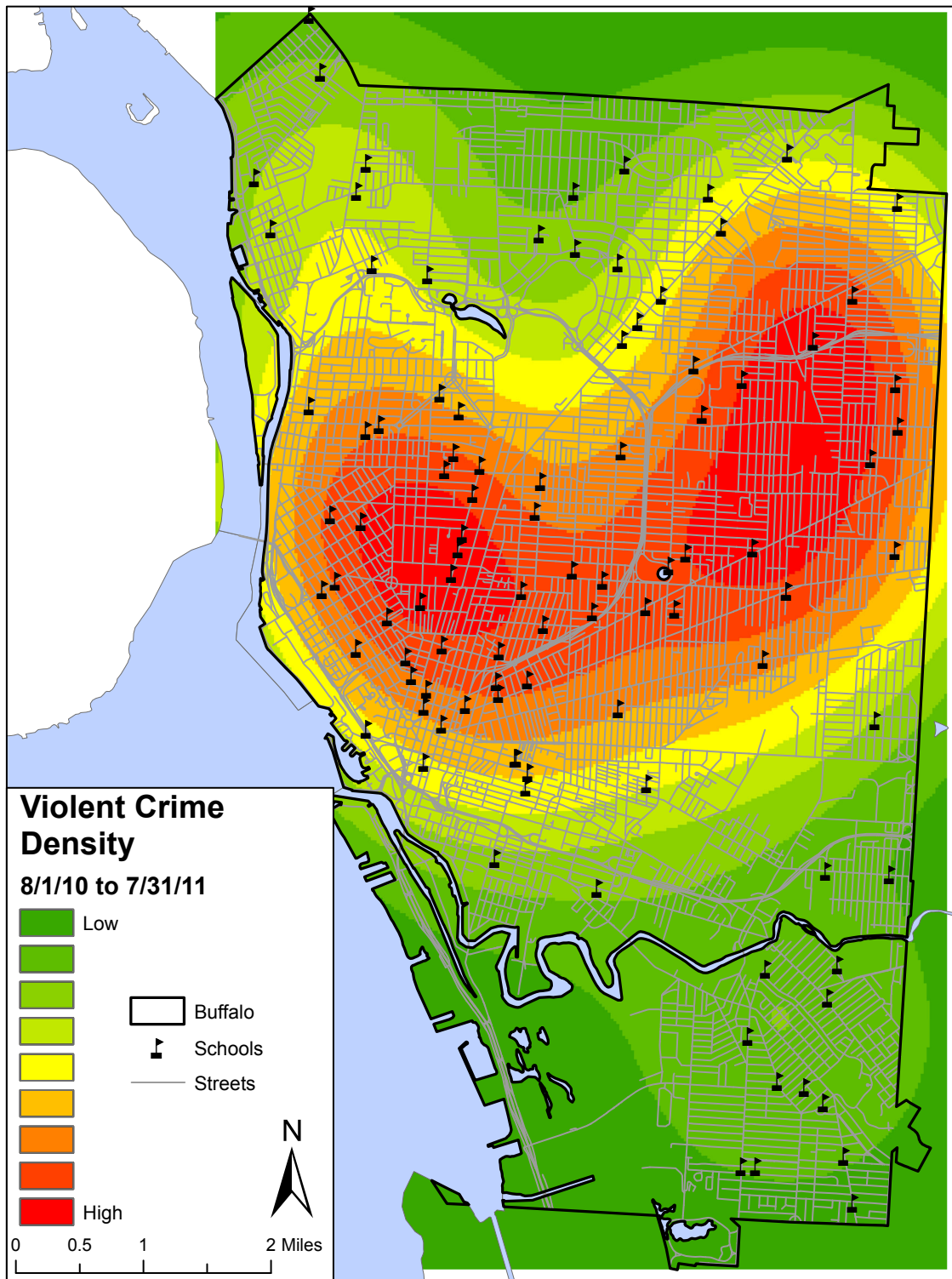
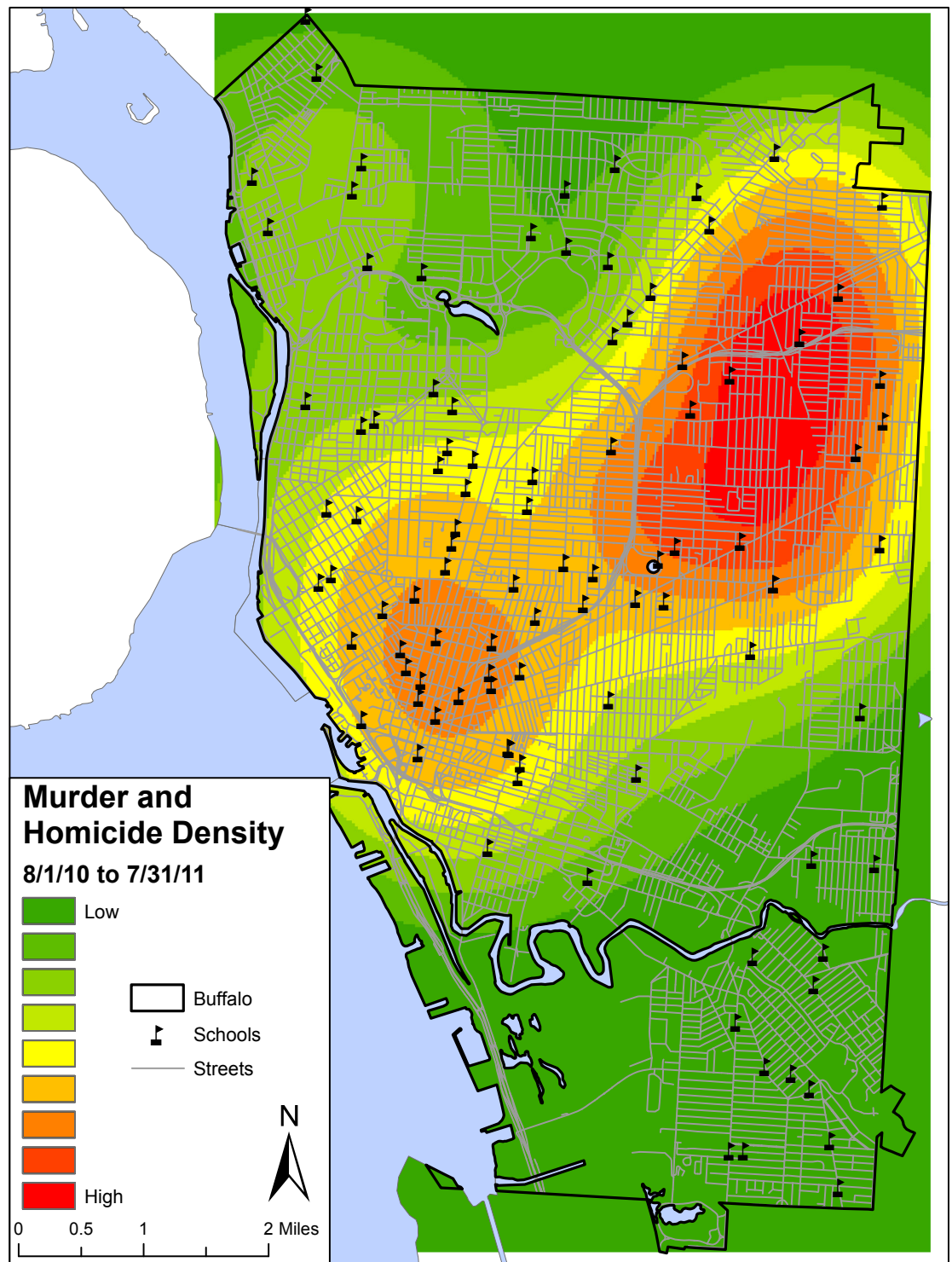




Figure 19:  
Density of Murder and Homicide



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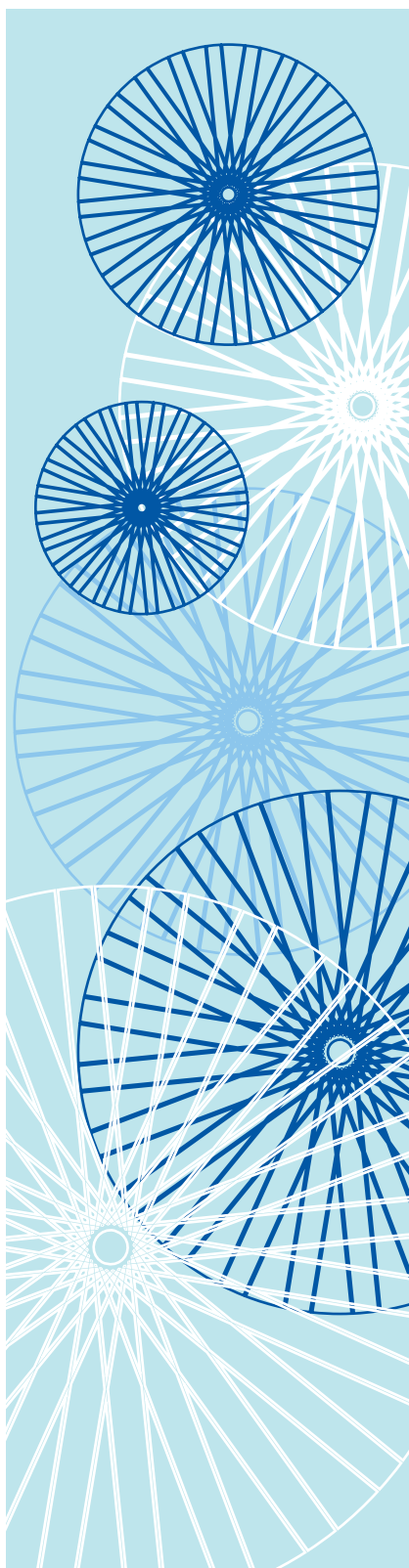
## Conclusion

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Most Buffalo youth do not engage in enough physical activity each day to be healthy. Compared to youth in New York State and around the U.S., a higher proportion of Buffalo youth are obese and overweight. For many of Buffalo's children, getting enough physical activity is a challenge. Opportunities to be physically active are limited by poverty, school and public policies, transportation systems, safety concerns, and the poor quality of the built environment. This report illuminates specific impediments to youth physical activity, such as:

- \* Buffalo's youth bear a disproportionately high burden of poverty, which impacts their ability to be physically active. Poor families may not have enough money to pay for children's community sports league fees and to purchase transit passes for children to travel to games or practices. Compared to wealthier families, poor families more often live in high-crime areas with unsafe traffic conditions, impacting the safety of outdoor physical activity.
- \* The BCSD's physical education requirements do not meet minimum national physical activity recommendations for youth. In order to be healthy, youth must obtain physical activity outside of the school setting.
- \* The absence of neighborhood schools in the BCSD makes walking and biking to school a challenge, limiting children's active living options.
- \* Several large areas of the City of Buffalo are unsafe pedestrian and bicycle environments. Youth were involved in a disproportionate amount of pedestrian and bicycle accidents with motor vehicles.
- \* Large swaths of Buffalo are home to high densities of violent crime. In high crime areas, children are less likely to go outside to be physically active.
- \* People's perceptions are created by a mixture of their personal beliefs and knowledge. Parents' perceptions of traffic and crime safety impact youth physical activity. Parents fearful of traffic danger and criminal activity in their neighborhood are unlikely to allow their children to play or walk outside.

Unless policy and environmental changes are made to support increased youth physical activity, Buffalo's children face severe health consequences. Their chances of struggling with heart disease, cancer, and type-2 diabetes can be greatly reduced if policy makers increase and improve children's options for active living and physical activity.



Policy makers can consider the following ideas to increase children's physical activity levels:

- \* **Make community sports leagues more affordable to poor families and children, such as by working with health insurance companies to subsidize community sports leagues for children from families on Medicaid.**
- \* **Provide more physical activity time during school in the BCSD by instituting daily physical education classes or unstructured on-site play for all BCSD students.**
- \* **Give children the opportunity to walk and bike to schools by reinstituting the neighborhood-based school system. Any savings resulting from reduced expenditures on bus transit could be redirected towards improving BCSD school quality.**
- \* **Improve traffic safety in the areas with the highest densities of motor vehicle accidents (MVA) with pedestrians and bicyclists. Some strategies include: decreasing speed limits; adding traffic lights; methodically ticketing traffic violations; crafting bump-outs; re-striping road markings; improving sidewalk quality; widening and planting the buffer-area between the sidewalk and street; and adding bicycle lanes.**
- \* **Decrease crime by increasing police presence, promoting neighborhood watch groups, and working with neighborhood leaders to build community capacity to deter crime.**
- \* **Develop an effective and accurate system to share information about crime, and pedestrian and bicycle MVAs, so parents can make informed decisions about where they encourage their children to play.**

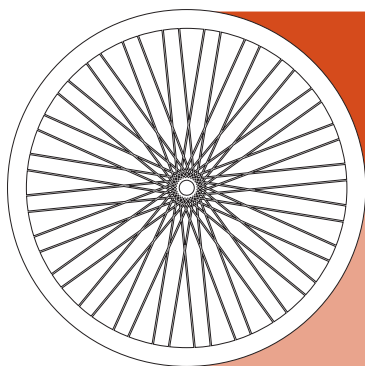
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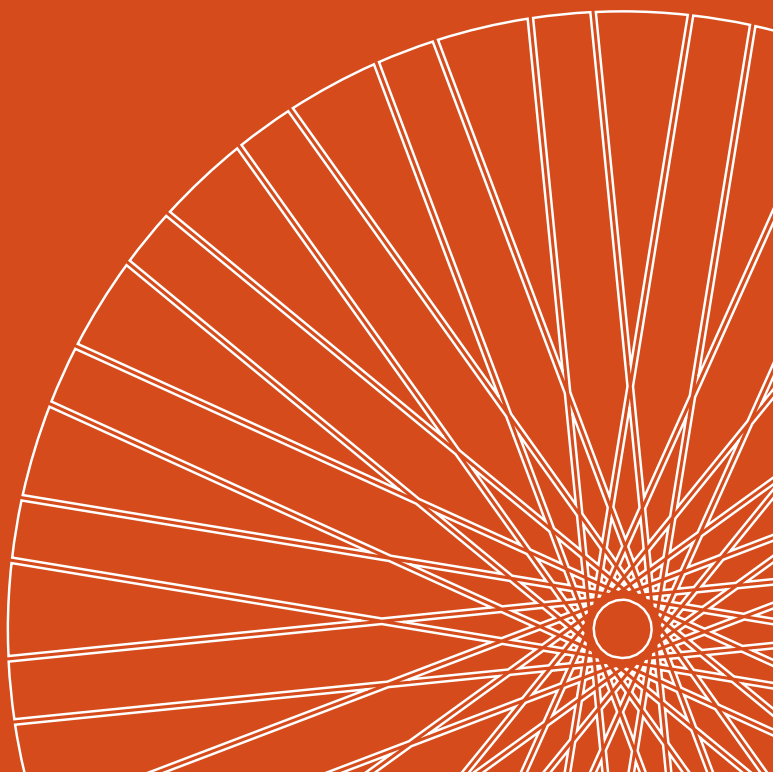




POLICY BRIEF

# Do Kids Want to Play in the Queen City?

Buffalo's Built Environment and its Impact on Youth Physical Activity





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## Built Environment and Youth Physical Activity

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### Policy Brief Prepared for the Healthy Kids, Healthy Communities – Buffalo (HKHC-Buffalo) Partnership

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**Wellness Institute of Greater Buffalo** | Philip Haberstro and Claire Waldron

**Other HKHC-Buffalo partners**

## 2012



*Figure 1 - Right:  
Privately maintained  
playspace on vacant  
lot with poor quality  
sidewalks*



*Figure 2 - Left:  
Playspace at a local  
community center*



### *Presence and Quality of the Built Environment Influences Children's Ability to Play, Walk and Bicycle*

## Introduction

The built environment's form and quality greatly determine youth physical activity, significantly influencing kids' health and overall wellness. This report details the current strengths and weaknesses of Buffalo's built environment in relation to youth physical activity. First, we report on land use topics, such as housing density, land use mixture, and open space. Next, we look at Buffalo's physical infrastructure—the road and bicycle network; sidewalk quality and location; and tree canopy. Thirdly, we deliver the results of a youth neighborhood-audit, during which sixteen Buffalo youth examined two city neighborhoods to discover actual and perceived built environment elements that encourage and discourage youth physical activity. Lastly, we recommend that Buffalo policy makers implement seven built environment changes to enable and increase the attractiveness of physical activity for youth.

### Open Space: Room for Youth to Play

Youth are likely to be physically active in areas of open space, such as parks, playgrounds, parkways, nature trails, athletic fields, and recreation areas. The city of Buffalo contains 3,585 acres of open space, amounting to 598 square feet of open space per resident, or 2,536 square feet per youth resident—slightly less than half of a standard basketball court per youth. To use play spaces, kids need to be able to safely and easily travel to them. The map below shows Buffalo's open space in dark green; areas within a half mile (considered a comfortable walking and biking distance for kids) of open space in light green; and, in white, the areas more than a half mile from open space. As is shown, most of the city is within a half mile of open space; however, a large swath of North Buffalo is more than a half-mile away from public open space. Thus, strategically situating open space in North Buffalo would place almost all city youth within a comfortable walking and biking distance of public open spaces [1, 2].

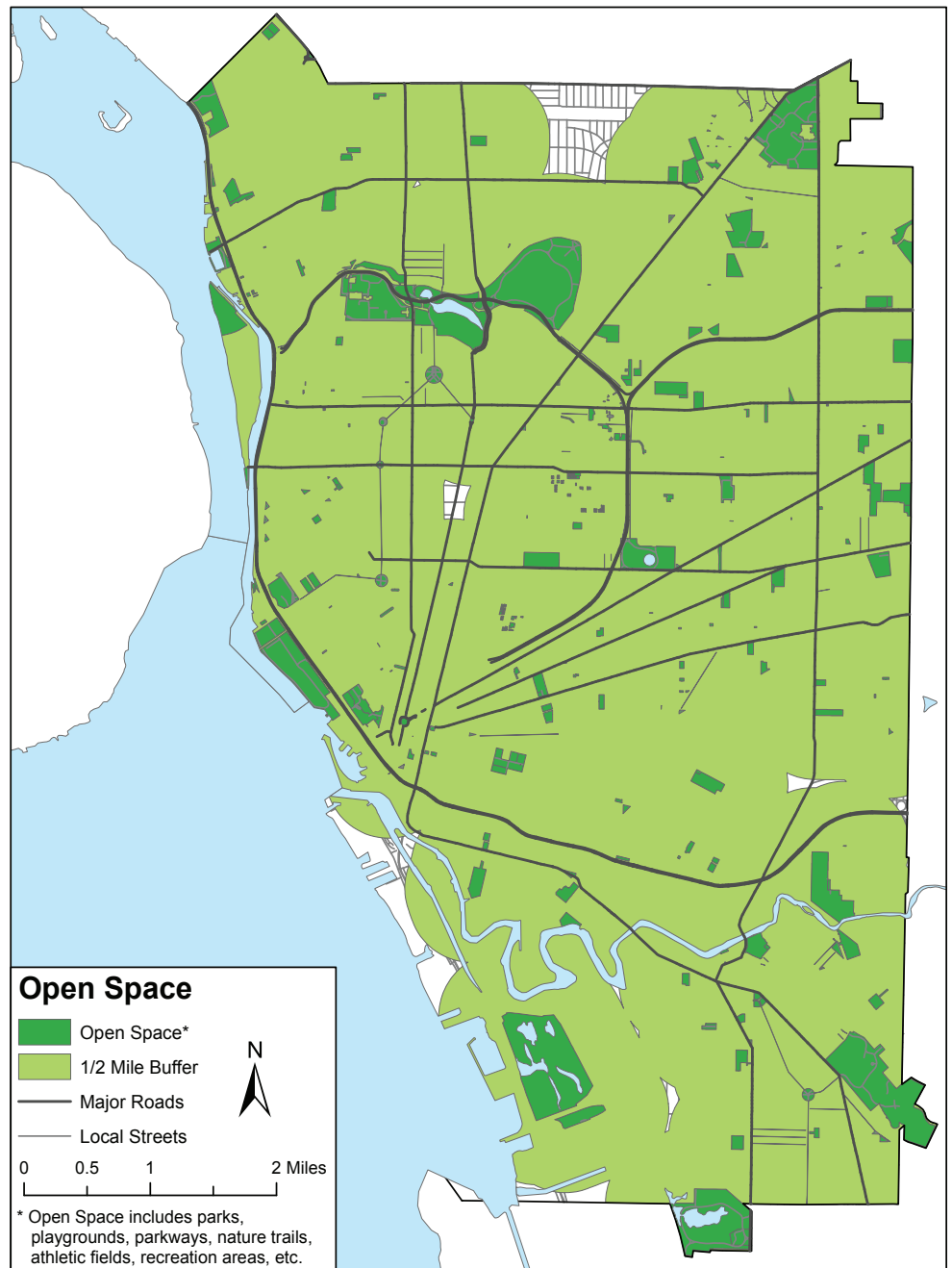


Figure 3: Proximity to Green Open Space, City of Buffalo

## Dense Built Environments Promote Physical Activity

Kids are more likely to walk and bike in neighborhoods with dense built environments. Today, the average Buffalo neighborhood has 18.9 housing units per acre of residential land, while the city as a whole has a net residential density of 17.06 housing units per acre of residential land. In 2009, the net residential density of the city as a whole was 20.09, which means that there are fewer housing units per acre of residential land today than there were in 2009 [3, 4]. The impact of this change, which stems partly from the demolition of vacant residences, is that children are less likely to walk and bike.

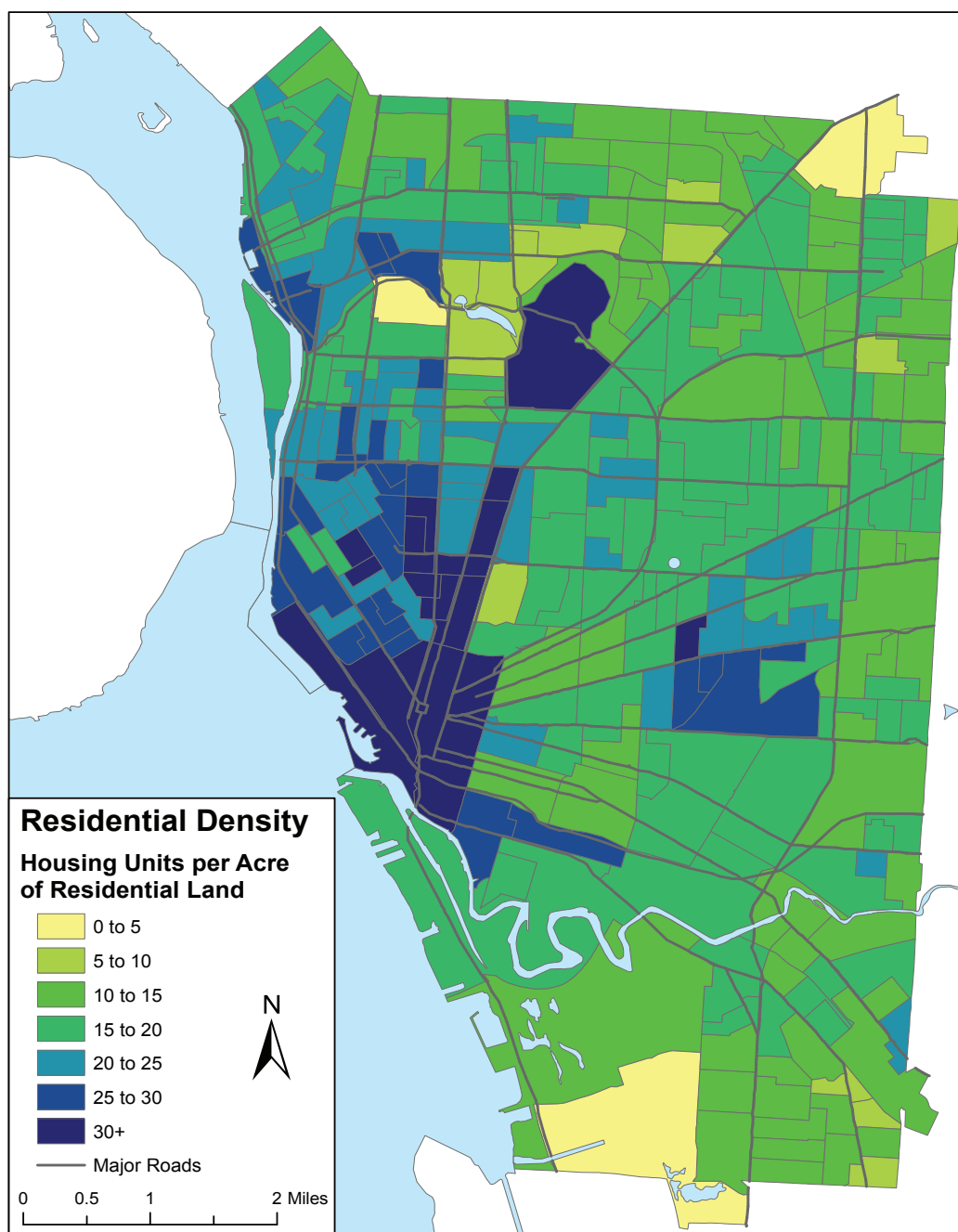
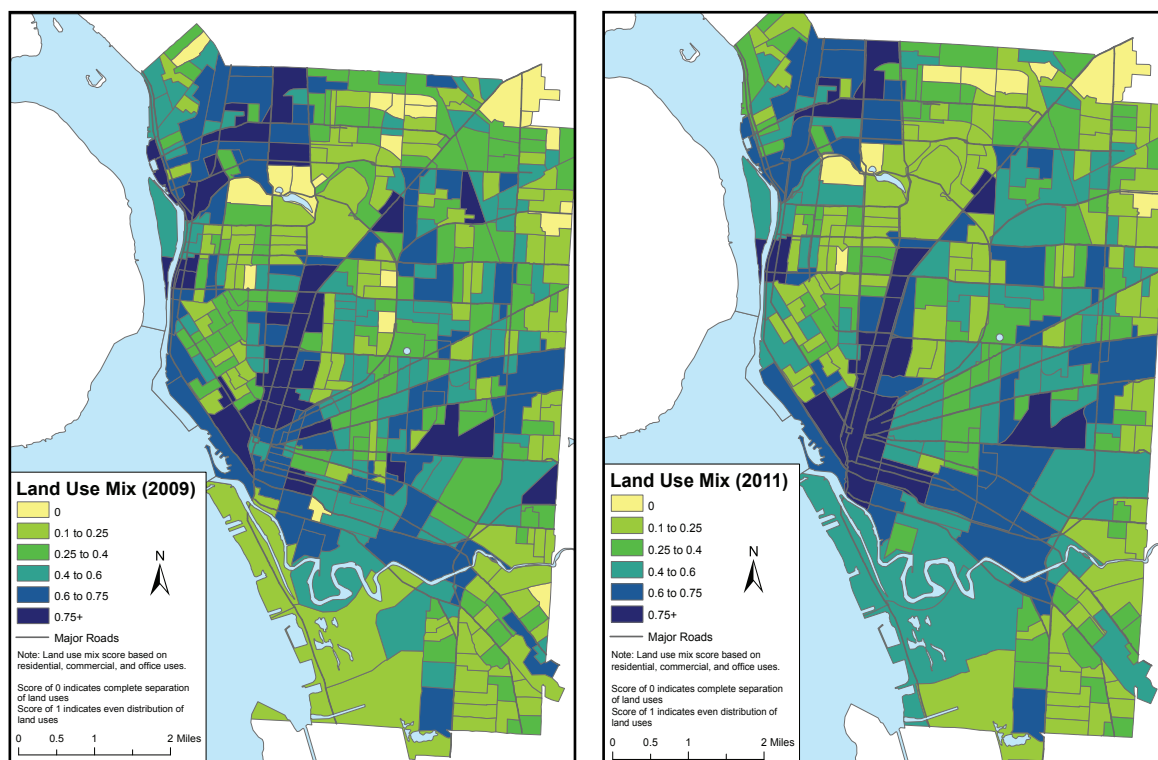


Figure 4: Housing Density, City of Buffalo

### Mixed Land Uses Engender More Physical Activity

Youth are likely to walk and bicycle if they live in neighborhoods that offer a variety of destinations to visit. Neighborhoods with diverse land uses—such as those containing houses, retail stores, and youth-friendly spots like schools, playgrounds, basketball courts, parks, and community centers—are environments in which youth are more likely to be physically active than in neighborhoods with non-mixed land uses. Measured on a scale from 0 to 1 (respectively, no land use diversity to high land use diversity), the average Buffalo neighborhood currently scores 0.35. This illustrates that, despite being urban, most Buffalo neighborhoods tend toward homogenous land uses. Exceptions that offer a mix of amenities include downtown; the vicinity of Main St.; between William St. and Broadway west of Bailey; and northwest Buffalo [3].

Despite the presence of these mixed use neighborhoods, Buffalo's land use today is less diverse than it was two years ago. In 2009, the average Buffalo neighborhood scored higher (0.39) on the land use diversity scale than it does today (0.35) [3, 4]. To encourage youth to be physically active in their neighborhoods, the city must enable neighborhoods to diversify their land uses. The Buffalo Green Code—the city's proposed land use plan and zoning code—offers this opportunity. Simultaneously, the Buffalo Green Code can ensure that any reduction in land use diversity is offset by an increase in healthier land uses like open spaces and playgrounds.



*Left - Figure 5:  
Land Use Mix, 2009*

*Right - Figure 6:  
Land Use Mix, 2011*



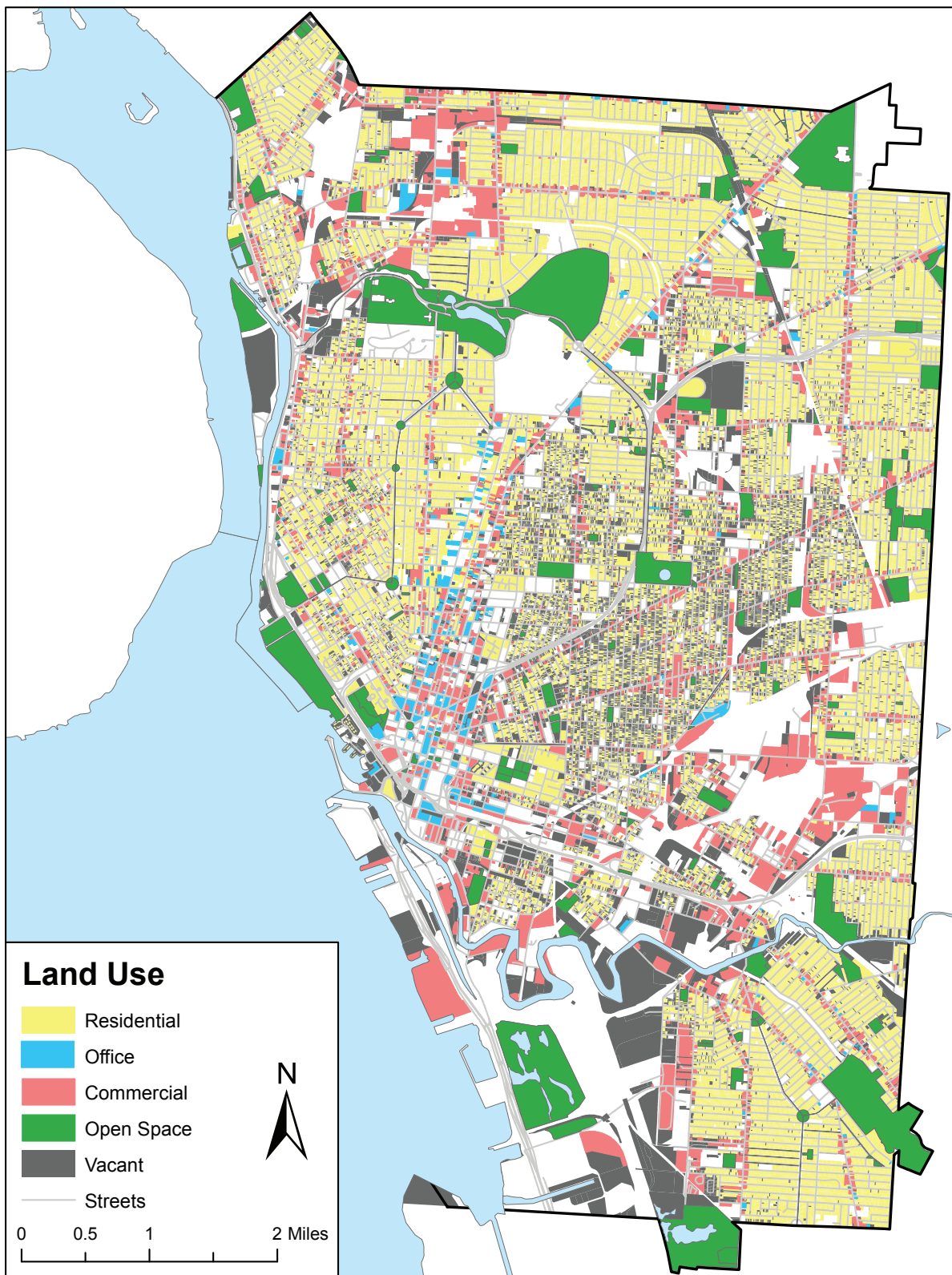
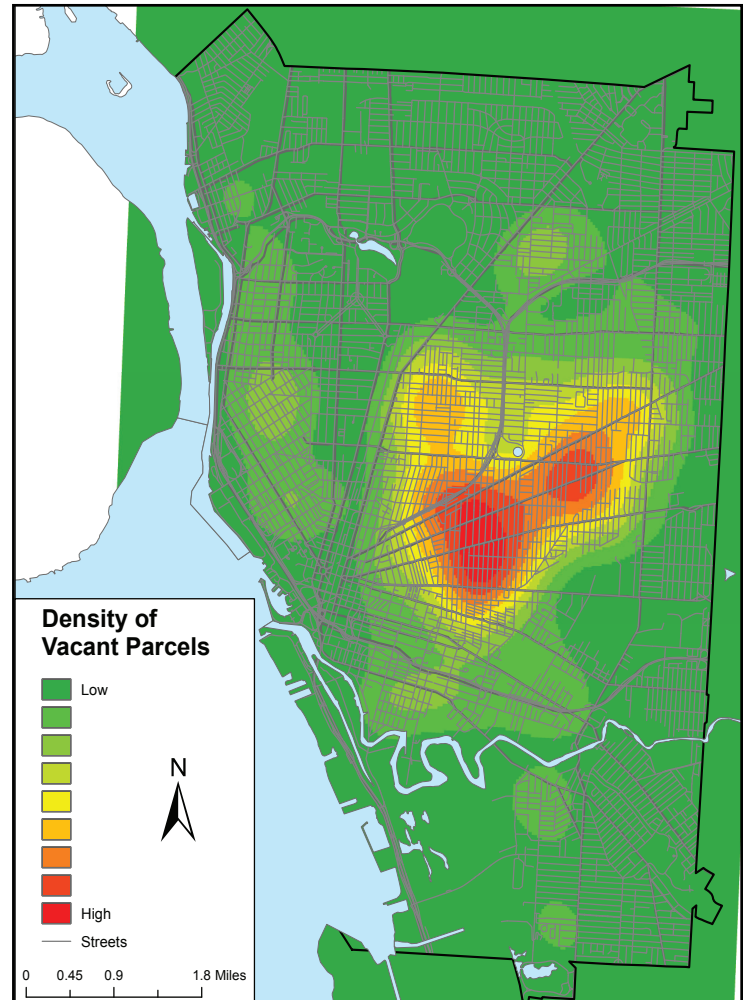


Figure 7:  
Types of Land  
Uses

### Vacant Properties: Opportunities Disguised as Eyesores

Youth are not likely to be physically active in areas with unkempt or vacant properties. Vacant and unkempt properties discourage youth from being physically active in their neighborhoods in several ways: the buildings and unkempt lots are eye sores; structurally unsound buildings are dangerous; and vacant buildings attract crime. Children are not likely to want to play outside in these conditions, and, moreover, their parents often discourage it.

Today, Buffalo is home to 3,291 acres of vacant land—more than nine times the acreage of Delaware Park [3]. Buffalo will not repopulate to mid-20th century levels in the near future, so there is little market demand to rebuild on many of the vacant properties. To ignore them, however, is to overlook their potential to detract from or benefit children's health. The City can play a major role in strategizing how to reuse these lands in ways that stimulate physical activity, such as by enabling community gardens, open space, and athletic fields.



*Top - Figure 8:  
Vacant Parcel Density*

*Bottom - Figure 9:  
Vacant home on the West Side*





## Physical Infrastructure

### The City's Road Network: A Motorist's Playground

Buffalo has an extensive road network, including major highways which move people efficiently throughout the region. Many of these thoroughfares, however, create barriers against physical activity. Our highway system severely limits access to the waterfront and splits the original Olmsted Park System, as well as many old neighborhoods. Route 198 and Interstate 190 hamper youth from walking or biking to two of the likeliest places for physical activity—the waterfront and the city's largest park. A NYDOT project to redesign approximately three-miles of Route 198 into a landscaped boulevard is currently in development [5]. Additional effort should be made to convert portions of Interstate 190 to pedestrian and bicycle friendly boulevards.

Many other major roads pose traffic safety threats to pedestrians and bicyclists. Motorists travel faster than the posted speed limits because many of Buffalo's major roads are underutilized and excessively wide. A "road diet"—which targets roads that carry 12,000 to 18,000 vehicles per day, eliminating excess lanes and reducing the width of remaining lanes—may make these roads safer for pedestrians and bicyclists [6]. Fewer, narrower lanes slow vehicles down and lessen the distance pedestrians and bicyclists must travel to cross the road. Moreover, the space left from narrowing and eliminating lanes can be used to create or improve existing pedestrian and bicycle infrastructure [6, 7].

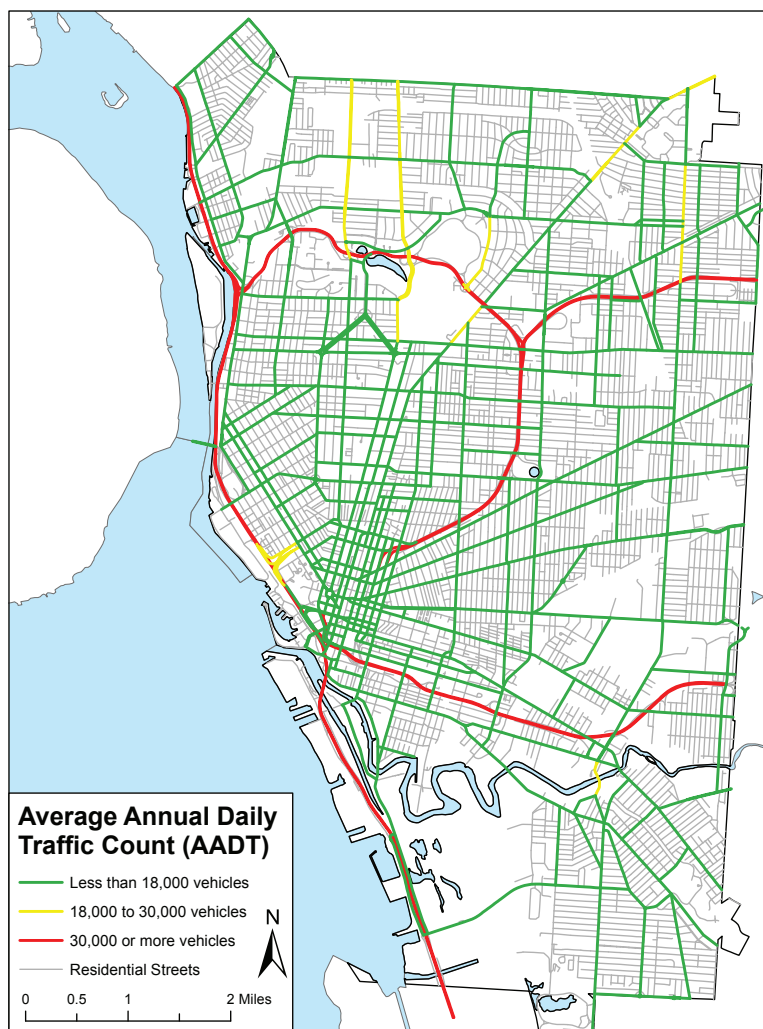


Figure 10:  
Traffic Volume on Buffalo's Roadways

### The City's Pedestrian Network: An Extensive System in Need of Improvements

Sidewalks and crosswalks are important infrastructure because they encourage walking. Many city sidewalks, however, need to be repaired or replaced because they have shifted from their original position, have large cracks, or are overgrown with vegetation. Additionally, snow removal is a major issue for pedestrians because residents—not the City—are responsible for clearing sidewalks. High-renter and high-vacancy areas are less likely than owner-occupied areas to have snow cleared from sidewalks, and dangerous sidewalk conditions result. Furthermore, many painted crosswalks are faded or non-existent, and pedestrian crossing aids<sup>1</sup> are available only at major intersections. Data documenting local streets' sidewalk location and condition needs to be collected in order for the City to prioritize areas for pedestrian infrastructure investment.

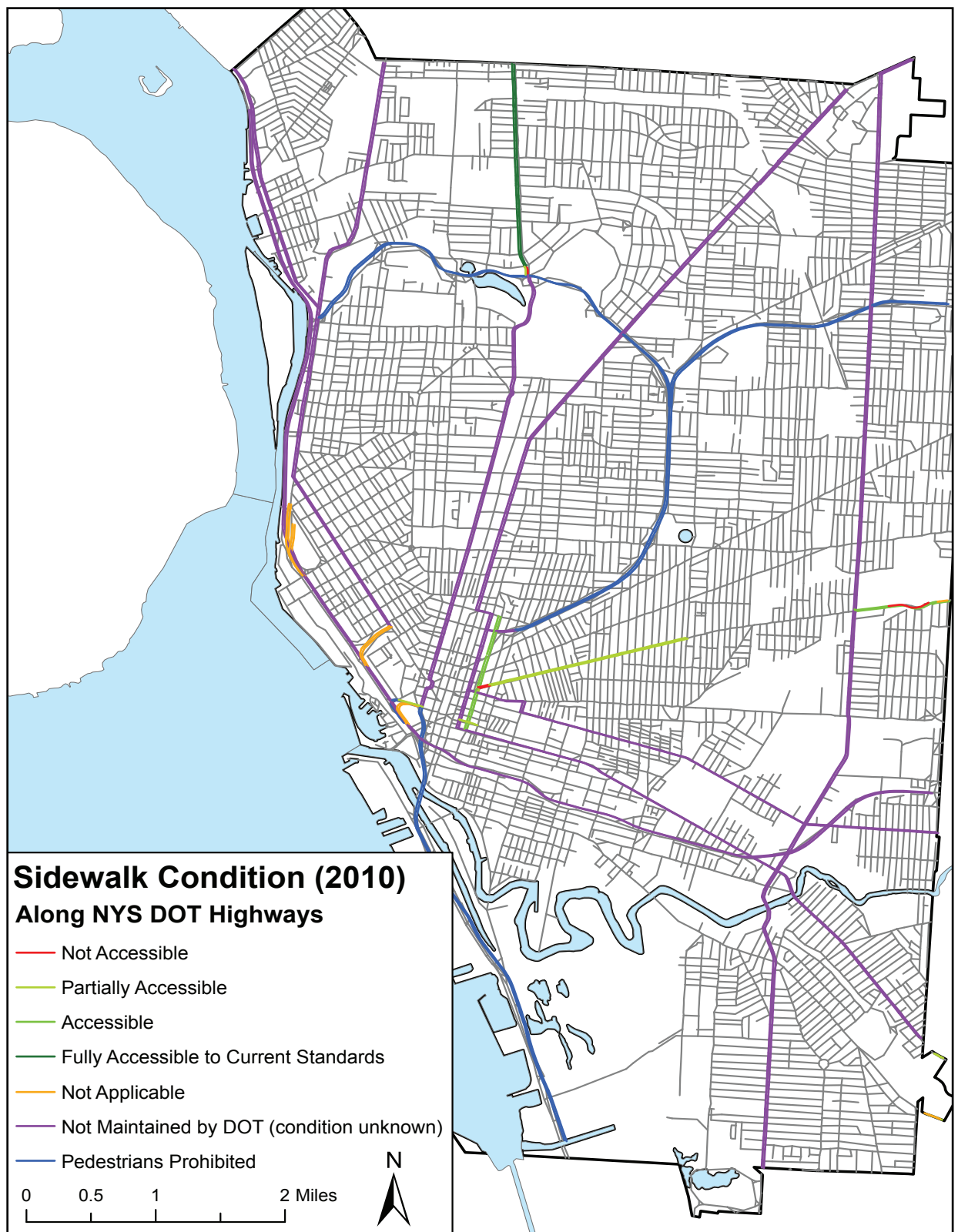
Data on the exact location and condition of Buffalo's sidewalks are limited to a small percentage of sidewalks along New York State Department of Transportation (NYSDOT) highways<sup>2</sup>. NYSDOT has an inventory of 5.6 miles of sidewalk in Buffalo, but only 1.9 miles (34%) are classified as fully accessible by the 2004 Americans with Disabilities Act (ADA) Accessibility Guidelines. 1.3 miles (23%) are classified as having minor maintenance problems; 2.0 miles (36%) are classified as partially accessible; and 0.4 miles (7%) require full replacement because they are classified as inaccessible [8].

Additionally, NYSDOT has an inventory of 595 curb ramps. Of these curb ramps, 106 (18%) are classified as ADA compliant. To make the remaining 82% ADA compliant, 147 (25%) require Detectable Warning fields—walking surfaces with tactile cues for the visually impaired—and 342 (57%) need to be completely replaced. Condition ratings are not available for marked crosswalks along NYSDOT highways. NYSDOT typically replaces most pavement markings on a three-year cycle unless conditions warrant otherwise [8, 9].

1: A crossing aid is a pedestrian crossing timer or a flashing warning sign.

2: Many sidewalks along these routes, however, are not owned by NYSDOT and their conditions were not determined.

*Figure 11:  
Next Page - Sidewalk Condition Map*





### The City's Bicycle Network: Create More Signed Bike Lanes

Bicycling is a very common way youth play and travel. The city of Buffalo has a limited bicycle network comprised of multi-use trails, signed lanes, sharrows, and non-signed streets. Within the city, there are twenty-two miles of multi-use trails, 14 miles of on-street signed bicycle lanes, and approximately 1.5 miles of sharrows. Sharrows—or shared roadway bicycle markings—are painted markings on the street depicting a bicycle and two arrows. They are used to alert motorists to expect bicycles to occupy the travel lane. The bicycle network, however, is composed predominantly of non-signed streets (126 miles) which have been safety rated by the Greater Buffalo-Niagara Regional Transportation Council (GBNRTC). Only 8% (10 miles) are rated “suitable” for biking, while 114 miles are rated “caution advised” and 2 miles are rated “extreme caution advised” [10, 11]. New York State law allows bicyclists under thirteen years old to ride on the sidewalk; however, Buffalo law prohibits all people from bicycling on the sidewalk. Consequently, youth are forced to ride on the many “caution advised” streets, or to ride illegally on the sidewalk [12, 13]. Extending the signed bike lane network would make bicycling much safer and more attractive for youth.

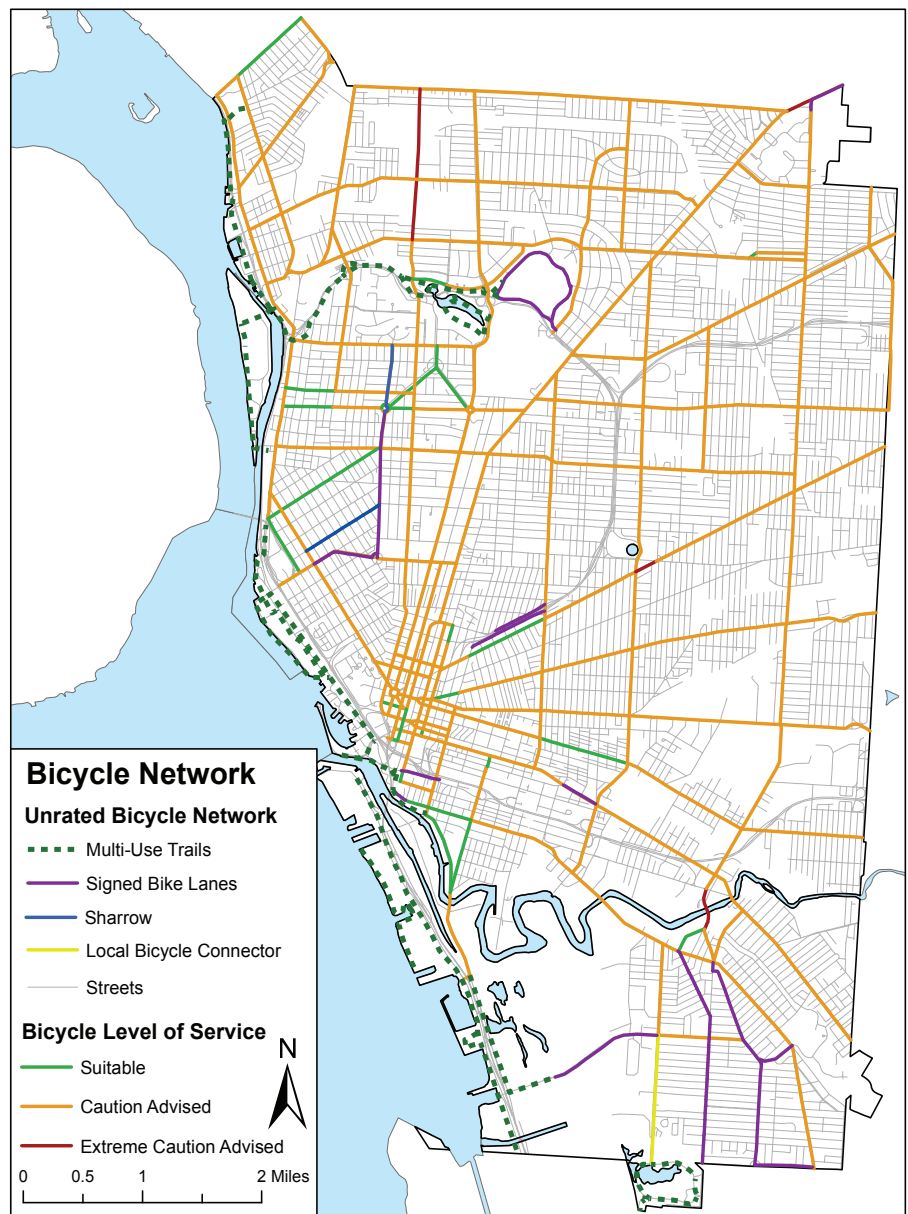


Figure 12:  
Bicycle Network

### The City's Street Trees: Disparities in our Canopy

The benefits of street trees for promoting physical activity are numerous. Tree-lined streets are aesthetically pleasing and invite pedestrian activity. Trees provide shade during hot days, and they protect passersby and waiting transit-riders during rain and snow storms. Youth exercise by climbing trees during their play. Lastly, tree-lined streets calm traffic, increasing the safety of pedestrians and bike riders.

South Buffalo's McKinley Parkway and the majority of West Side and North Buffalo streets are tree-lined, but the East Side, Black Rock/Riverside, and much of South Buffalo have the opportunity to re-tree their streets. In fact, throughout the city, and especially in these neighborhoods, there are nearly 47,000 vacant street-tree locations. Today, approximately 55% of street-tree locations are planted—far from the City's 2014 goal of 85% [14, 15].

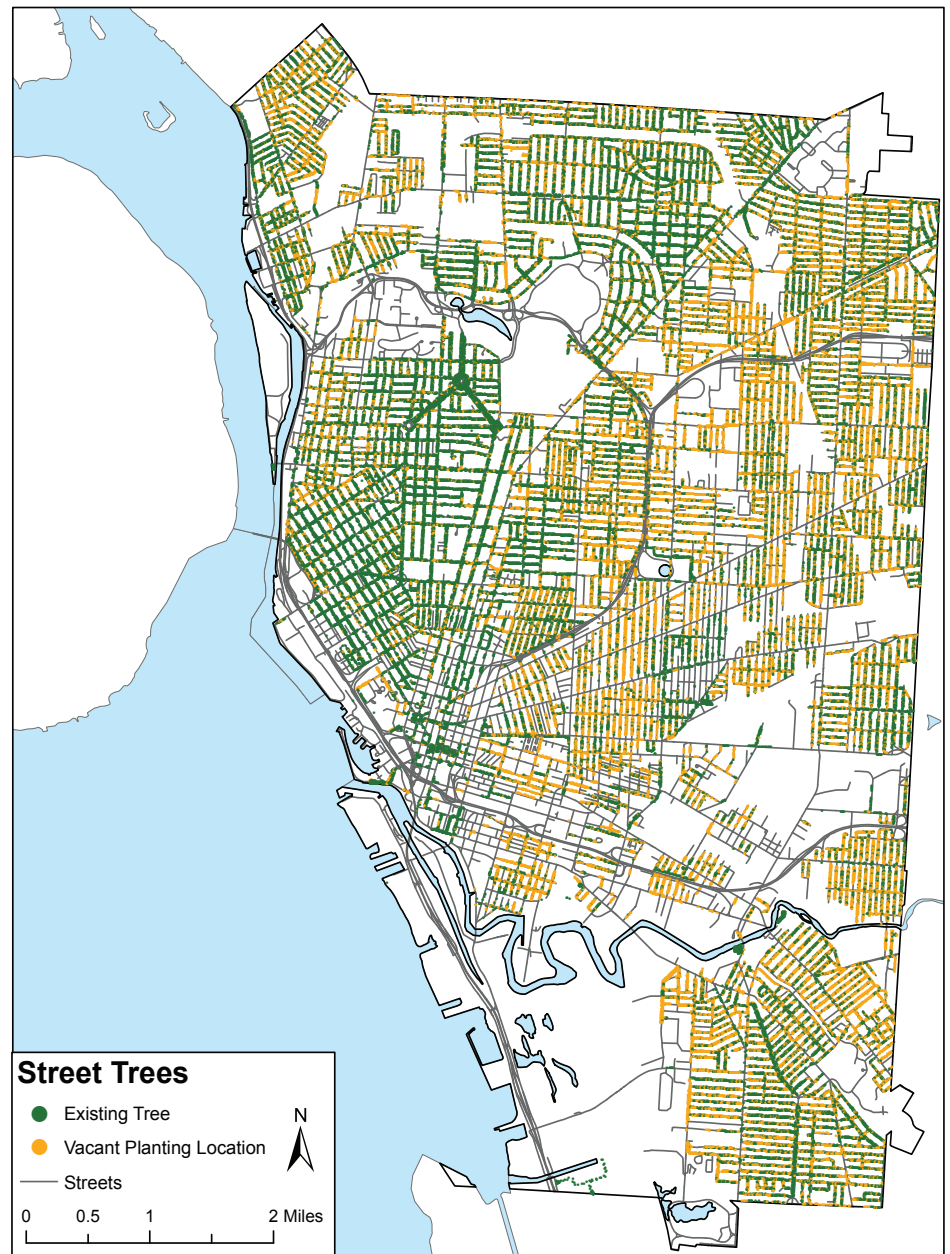


Figure 13:  
Tree Coverage

Youths Investigation and Report:  
What Elements Make Neighborhoods Attractive for Physical Activity?

Youth perceive the built environment differently than adults. To create environments youth will use, decision makers must understand children’s perspectives. To better understand what kids view as opportunities and barriers to physical activity in the built environment, 16 youth leaders<sup>3</sup> from the HKHC-Buffalo partnership audited the built environment of two comparable Buffalo neighborhoods. During the neighborhood audit, youth documented walking and biking infrastructure; safety from crime and vehicular traffic; human activity; aesthetics; and attractive destinations.

The two neighborhoods - one on the East Side and one on the West Side (see figure 14) - were chosen based on the following commonalities: compared to the average Buffalo neighborhood, both neighborhoods had a higher youth density; a higher percentage of families with children living below the poverty level; and a higher percentage of households without access to a vehicle. The factor differentiating the two neighborhoods was the rate of youth pedestrian and bicycle accidents with motor vehicles.

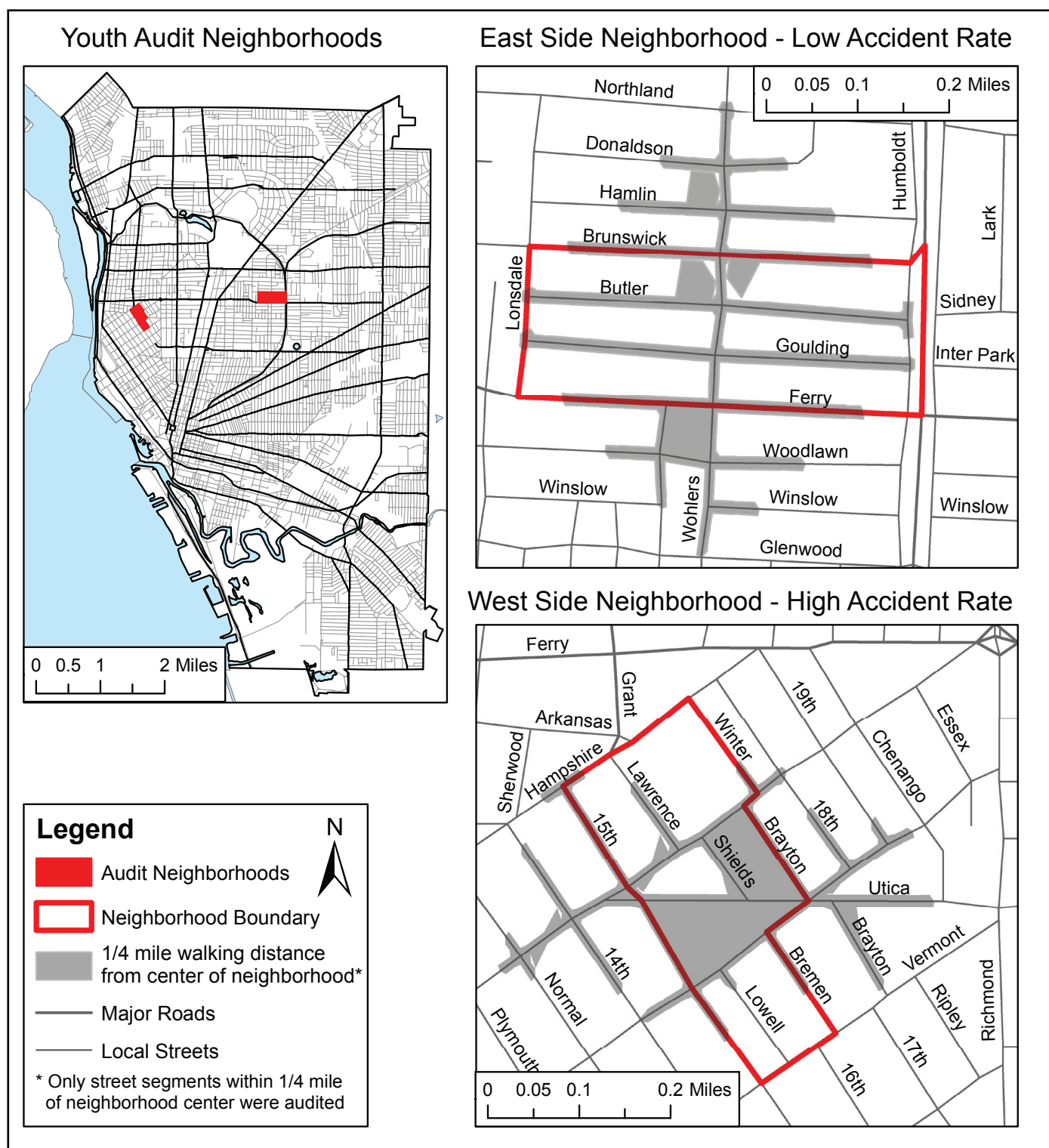
The East Side neighborhood experienced 18.7 accidents per 10,000 youth, while the West Side neighborhood reported 47.3 accidents per 10,000 youth—two and a half times more accidents than the East Side neighborhood.

3: All youth leaders were high school-aged.  
4: Audits were conducted along all street segments within ¼ mile walking distance from the center of the neighborhood.

Figure 14:  
Neighborhood Comparison

	East Side Neighborhood	West Side Neighborhood
Youth Density per Acre	11.6	12.0
Families with Kids Below Poverty	36.5%	26.3%
Housing Units without a Vehicle	42.5%	59.9%
Youth Accident Rate per 10,000 Youth	18.7	47.3

Figure 15:  
Audited Neighborhoods and Routes





### Sidewalks, Human Activity, and Aesthetics Determine the Attractiveness of Walking

In the low-accident rate East Side neighborhood, most youth responded positively when asked if the neighborhood was an attractive place to walk (i.e. if they enjoyed and felt comfortable walking there). When classifying 94% of street segments as attractive for walking, youth noted their feelings of safety, the neighborhood's calm atmosphere, and the good sidewalk conditions. In fact, the neighborhood had continuous sidewalks on both sides of the streets. Over 60% of these sidewalks were in excellent or good condition. Sidewalks in fair or poor condition (40%) were uneven, contained major cracks, or had overgrowing vegetation. Youth deemed only one street segment in the East Side neighborhood as an unattractive place to walk because of its bumpy sidewalks.

Compared to the East Side neighborhood, youth found the high-accident rate West Side neighborhood's street segments less attractive for walking. Youth leaders deemed 61% of street segments attractive for walking because of the neighborhood's aesthetics and bustling human activity. Nine segments were reported as unattractive for walking. Sidewalks were present on both sides of the streets; however, one street segment lacked continuous sidewalks. None of the sidewalks were rated "excellent," and only 35% were in good condition. Sidewalks rated fair or poor were uneven, contained major cracks, or were overgrowing with vegetation.

#### **From Top to Bottom:**

*Figure 16: East Side well-maintained sidewalk*

*Figure 17: East Side poorly-maintained sidewalk*

*Figure 18: West Side well-maintained sidewalk*

*Figure 19: West Side poorly-maintained sidewalk*





### Bike Lanes, Traffic Speed, and Sidewalks Matter for Bicycling in a Neighborhood

Youth expressed mixed opinions about the East Side neighborhood's attractiveness for biking. There were no marked bike lanes in the neighborhood; for this reason, the youth considered 60% of the street segments as unattractive for biking. Youth who found the neighborhood attractive for biking ignored the absence of bike lanes, and commented instead on the good sidewalk conditions. Although Buffalo law prohibits bicycling on sidewalks, many youth have adapted to the lack of bicycle infrastructure by using sidewalks for bike travel.

Compared to the East Side neighborhood, youth found the West Side neighborhood's street segments slightly more attractive for biking. Like the East Side neighborhood, the West Side neighborhood lacked marked bike lanes. Youth reported approximately 57% of the segments to be unattractive for bicycling because of the absence of bike lanes and the presence of heavy traffic. Street segments with light traffic, however, were considered attractive for bicycling.

### Traffic Speed Determines Youth's Perceptions of Intersection Safety

Youth considered 96% of the East Side neighborhood's intersections extremely or somewhat safe to cross. Streets had a mixture of light and medium traffic—none of the streets were heavily trafficked. Few intersections had painted crosswalks and only one intersection had a pedestrian crossing aid. Youth reported only one intersection somewhat unsafe to cross because they felt vehicles were traveling too fast.

Youth reported 93% of intersections within the West Side neighborhood extremely or somewhat safe to cross. None of the streets had heavy traffic and youth did not report any vehicles as traveling too fast. One intersection had painted crosswalks and two intersections had pedestrian crossing aids. Youth considered two intersections unsafe to cross.



*Figure 20:  
East Side Neighborhood – ADA  
compliant ramps but faded crosswalk*

### Human Activity in Neighborhoods Helps Kids Feel Safe From Crime

The youth auditors reported most East Side neighborhood street segments as extremely or somewhat safe from crime. Adults or youth were present on most of the neighborhood's street segments. All youth and approximately 50% of adults were engaged in physical activity, while the other 50% of adults were sitting and talking. Four street segments had no adults or youth present, but only two segments were reported as extremely or somewhat unsafe due to the dearth of human activity.

Similarly, youth reported most areas within the West Side neighborhood as extremely or somewhat safe from crime. Two street segments were reported as somewhat unsafe because of their reputation for having drug houses. While auditing the neighborhood, the youth observed an on-duty police officer. They found his presence comforting from a security standpoint, but were distressed that it was necessary for police to patrol the neighborhood. Most of the neighborhood's street segments were populated with adults or youth outside. The youth audit team recorded that most adults were engaged in physical activity (only a few adults were sitting) and all youth were engaged in physical activity. The difference between the East and West Side neighborhoods was that youth were observed two and a half times less often on the West Side than on the East Side—nearly 45% of the East Side neighborhood's segments had youth, but youth were observed on only 17% of the West Side neighborhood's street segments.



**Top to Bottom:**

*Figure 21: Police Presence, West Side Neighborhood*

*Figure 22: Signs of Kids' Physical Activity, East Side Neighborhood*

### Destinations and Aesthetics are Important to Kids

Youth place great importance on neighborhoods' destinations and aesthetics. The East Side neighborhood was predominantly residential with a few mixed-use street segments. The neighborhood's school, community garden, basketball courts, "high-security" church, and food market were destinations to which youth said they would go if they lived in the neighborhood. Youth liked that nearly 85% of street segments were lined with trees and that 40% had attractively-landscaped properties. Kids did not like street segments with graffiti (approximately 20%); substantial trash and litter (50%); or poorly maintained, abandoned, and vacant buildings or properties. The audit group particularly appreciated block club and other community organization signs posted throughout the neighborhood, as well as the many different national flags flown at individuals' homes.

The West Side neighborhood was primarily residential with a few mixed-use and commercial street segments. The neighborhood contained many destinations to which the youth would go, including: a school, a community center, corner stores, a garden, a playground, a car parts store, a daycare, and a laundromat. More than 80% of street segments were lined with trees and 35% had attractively-landscaped properties. Youth perceived fenced yards and playgrounds positively because they felt that fences protect children from traffic and crime. Approximately 35% of street segments were strewn with substantial trash and litter, and 35% of street segments had graffiti. The youth audit team considered gang-related and "pointless" graffiti negatively; however, they liked artistic graffiti—especially murals. The neighborhood's many poorly maintained, abandoned, and vacant buildings and properties were also considered unattractive. Additionally, youth viewed amenities that adults typically welcome—such as a community message board—negatively because they did not appear to be in use.

*Figure 23:  
West Side  
Neighborhood  
– Visually  
appealing  
mural*





## Built Environment and Youth Physical Activity

Elements of the Built Environment	East Side	West Side
Destinations	School, community garden, basketball courts, church, food market.	School, community center, corner store, garden, playground, car parts store, daycare, Laundromat.
Positive Aesthetics	Block club, community organizations, and national flags.	Fenced yards and playgrounds, murals.
Negative Aesthetics	Poorly maintained, abandoned, vacant buildings/properties.	Poorly maintained, abandoned, vacant buildings/properties. Unused community message board and bench.

Figure 24: East and West Side Neighborhoods: Destinations and Aesthetics Identified by Youth

Qualities in the Built Environment	East Side	West Side
Attractive for walking	94%	61%
Lined with trees	85%	80%
Attractive landscaping	40%	35%
Continuous sidewalks	100%	96%
Sidewalks in excellent or good condition	60%	35%
Sidewalks in fair or poor condition	40%	65%
Intersections safe to cross	96%	93%
Marked crosswalks	39%	4%
Crossing aids	6%	8%
Attractive for biking	39%	43%
Marked bike lanes	0%	0%
Perceived as safe from crime	89%	91%
Absence of graffiti (not all graffiti was viewed negatively)	80%	65%
Human activity	78%	78%
Youth activity	45%	17%
Absence of substantial trash and litter	50%	65%

Figure 25: East and West Side Neighborhoods: Percentage of Street Segments Exhibiting Qualities in the Built Environment





**Top to Bottom**

Figure 26: East Side Neighborhood – Well-maintained properties and landscaping

Figure 27: East Side Neighborhood – Highly visible school garden sign

Figure 28: West Side Neighborhood – Aesthetically pleasing landscape

Figure 29: West Side Neighborhood – Highly visible and active community organization

## Youth's Suggestions for Improving the Neighborhoods

The youth audit team had many suggestions for ways to encourage youth physical activity in the East Side and West Side neighborhoods. First, youth wanted parks, sports fields, courts, and playgrounds to be added to both neighborhoods. They adamantly voiced the need for healthy food retail destinations, and felt the neighborhoods needed more color and vibrancy, perhaps through murals. Youth wanted sidewalks in both neighborhoods to be repaired and maintained, and for additional bike lanes and crosswalks to be available. They also felt strongly that crime in both neighborhoods needed to be reduced. Lastly, in the West Side neighborhood only, youth felt safety would greatly improve if the City installed traffic circles at several multi-street intersections.

## Youth's Perceptions of Neighborhoods Matter

People's behaviors are heavily influenced by their perceptions, which are created by a complex intermingling of experience and knowledge. Youths, like adults, have perceptions that influence their understanding of people and places. The youth auditors demonstrated the power of perception when they accorded a less-than-perfect safety assessment (90% safe from crime) to the audit neighborhoods, despite not witnessing or recording any criminal activity in either neighborhood during the audit. They also proposed strongly, as noted earlier, that crime in both neighborhoods ought to be reduced. It is plausible that rather than relying on their own observations in the field, the youth drew on historic and learned notions of each neighborhood as having high levels of criminal activity. These notions may be introduced and reinforced by parents, other respected adults, peers, the news, and other popular media. Irrespective of whether or not the neighborhoods are actually safe, the youth's perceptions – and possible past experiences – decrease their likelihood of being physically active in these neighborhoods. Consequently, policy makers need to approach youth physical activity from two angles: improving the built environment and addressing children's and parents perceptions of these environments.

## Conclusion

Youth obesity and physical inactivity is a growing problem. Policy makers can vastly improve the health of Buffalo's youth by making our physical environment more conducive to and attractive for physical activity. This analysis of the connection between Buffalo's built environment and youth physical activity reveals many of our city's strengths, as well as its opportunities for improvement.

To change the physical environment in ways that promote youth physical activity, policy makers must understand how youth perceive the built environment.

### Kids want...

- \* to be connected to safe places to play sports and obtain healthy food.
- \* neighborhoods that are lively, colorful, and well-maintained.
- \* expanded and better maintained pedestrian and bicycle infrastructure.
- \* to feel safe from both vehicle traffic and crime, even if it requires fencing around desirable destinations.

To address youth's aforementioned broad concerns and ideas, we recommend implementing the following seven changes to Buffalo's physical environment:

- \* **Modify Buffalo's new land use plan and zoning code to increase density and diversify land use in our neighborhoods.**
- \* **Support conversion of vacant land into spaces that promote physical activity, such as community gardens, athletic fields/courts, and multi-use pathways.**
- \* **Make our waterfront and parks accessible to pedestrians and bicyclists by downgrading segments of Routes 198, 33, and Interstate 190 to pedestrian and bicycle-friendly boulevards. Implement road diets on four-lane roads that carry fewer than 12,000–18,000 vehicles per day.**
- \* **Develop a pedestrian priority matrix that identifies and prioritizes infrastructure needs including sidewalks, crossing aids, crosswalks, and repairs.**
- \* **Connect and extend the marked bike lane network.**
- \* **Re-tree neighborhoods with limited green cover—the East Side, Black Rock/Riverside, and South Buffalo—to reach the city's goal of an 85% tree canopy.**
- \* **Create open spaces in North Buffalo so all city youth will be within walking distance of an outdoor, public place to play and be physically active.**

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