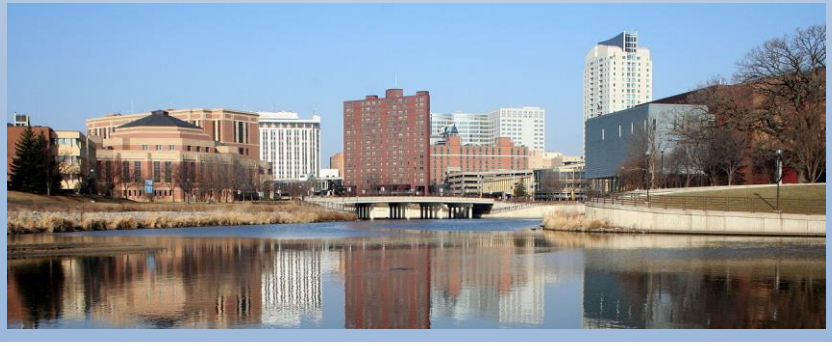
Study of Neighborhood With Limited Access and Mobility.

Access and Mobility Choices in Rochester at Neighborhood Level



Introduction, Goals & Objectives and Identification of Focus Area (Part I)

The study of neighborhoods having a limited access and mobility in low and moderate income neighborhoods in Rochester was undertaken to assess the mobility and access needs. The purpose of the study was to identify low and moderate income neighborhoods in Rochester and develop improvement guidelines to reduce the negative impact of limited transportation choices in low and moderate income neighborhoods and to provide an infrastructure framework to improve access and mobility limitations in those neighborhoods.

To analyze and evaluate mobility and access limitations in low and moderate income neighborhoods, US Census 2010 data, the American Community Survey 2009-2013 data, US Census Bureau's Longitudinal-Employer Household Dynamics Program (LEHD), EJSCREEN and online Justice Map Tool were used to visualize race and income data in low & moderate income neighborhoods in Rochester.

There are total of ninety Census Block Groups in the City of Rochester and fifteen Census Block Groups with high concentration of low to moderate income and Environmental Justice populations were selected as a focus area.

INTRODUCTION

In 2014 Rochester-Olmsted Planning Department received a Community Development Block Grant (CDBG) under the Entitlement Communities Program from US Department of Housing and Urban Development (HUD). The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs. Beginning in 1974, the CDBG program is one of the longest continuously run programs at HUD. The CDBG program provides annual grants on a formula basis to 1209 general units of local government and States.

The CBDG entitlement program allocates annual grants to larger cities and urban counties to develop viable communities by providing decent housing, a suitable living environment, and opportunities to expand economic opportunities, principally for low-and moderate income persons. The projects on Mobility and Access Limitation in Low to Moderate Income Neighborhoods in Rochester was undertaken to evaluate mobility and access limitation in low and moderate income neighborhood. The purpose of this project was to identify and develop mitigation strategies and measures to reduce the negative impact of limited transportation choices in low and moderate income neighborhoods and to provide an infrastructure framework to improve access and mobility limitation in those neighborhoods.

To analyze and evaluate mobility and access limitations in low and moderate income neighborhoods, US Census 2010 data, and the American Community Survey 2009-2013 data was used to identify neighborhoods with limited transportation choices. The other resources used in this study include the US Census Bureau's Longitudinal-Employer Household Dynamics Program (LEHD), EJSCREEN: Environmental Justice Screening and Mapping Tool, and online Justice Map Tool to visualize race and income data. The Geographic Information System and other online tools were used to analyze non-motorized transportation data and data on transit facilities to propose an interconnected network of primary and secondary travel corridors to improve access limitations in low and moderate income neighborhoods in the needy neighborhoods in Rochester.

The preliminary results show a number of low income households with limited transportation choices and depended upon the non-motorized modes of transportation or transit. The analysis recommends strategies, keeping in view the mobility and access needs of low income, no auto or non-motorized dependent neighborhoods and the minority population. The general mitigation strategies and measures proposed to improve access and mobility needs in low and moderate income areas are generic in nature. Those strategies are also applicable in other parts or neighborhoods where high income population or well to do population lives. Along with general strategies to improve access and mobility needs, infrastructure improvement facility maps were also developed for each neighborhood included in the focus area.

See Figure 1-1 for project issues, goals and objectives.

PROJECT ISSUES, GOALS AND OBJECTIVES

- Mobility and access limitations in low and moderate income neighborhoods where the majority of the Environmental Justice population reside;
- Measures to reduce the negative impact of limited transportation choices;
- Mitigation plan and strategies for needy neighborhoods and the development of a framework for identifying and developing mitigation strategies that could be used in other areas of the community in the future.

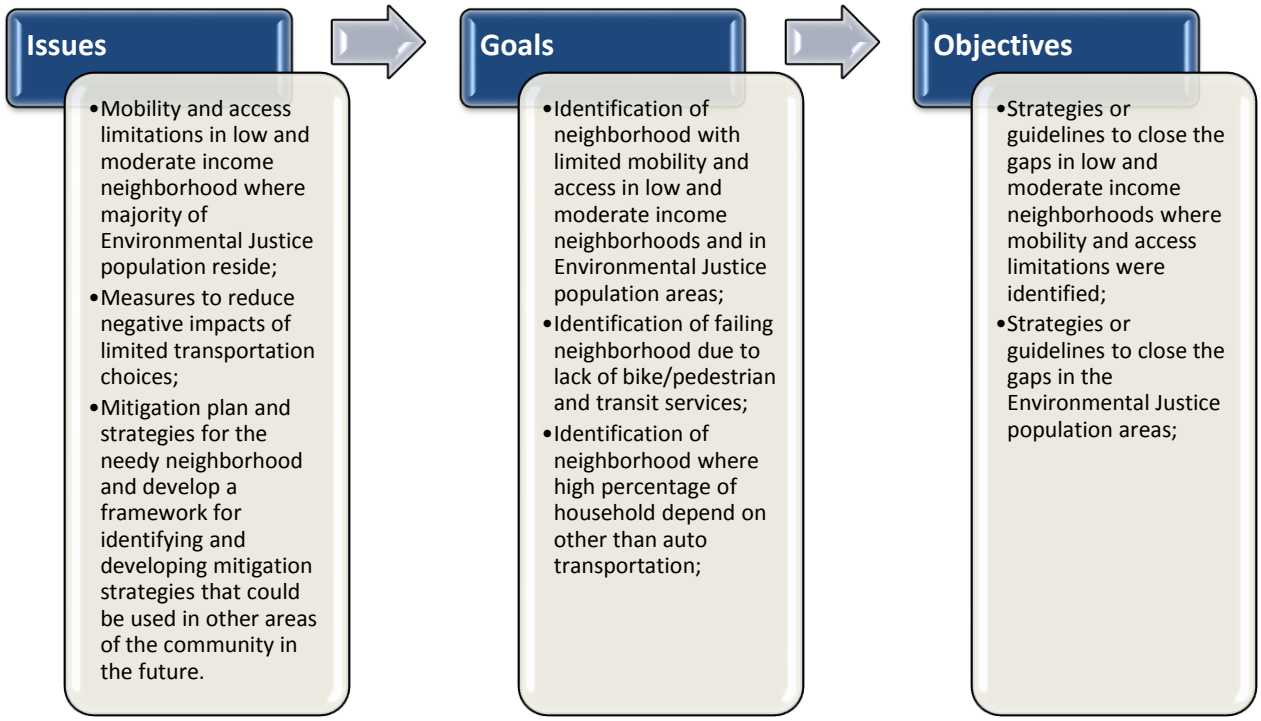
GOALS

- To identify neighborhoods with limited mobility and access in low and moderate income neighborhoods and in the Environmental Justice population areas;
- Identification of failing neighborhoods due to lack of bicycle, pedestrian, intersection safety facilities and transit services;
- Identification of neighborhoods where a high percentage of the household depends on other than automobile (OTA);
- Development of strategies and infrastructure plan where mobility/access gaps exist in low and moderate income areas.

OBJECTIVES

- Strategies or guidelines to close the gap in low and moderate income neighborhoods where mobility and access limitations were identified;
- Strategies or guidelines to close the gap in the Environmental Justice areas where mobility and access limitations were identified;

Figure 1-1: Project Issues, Goals and Objectives



Identification of Target Areas

The City of Rochester is defined by the Census Blocks, Census Block Groups, Census Tracts and other geographic measures. For the purpose of this study, the Census Tracts and Census Block Groups level data is used to identify and analyze the target areas. All the Census Block Groups and Tracts have some level of bicycle, pedestrian and transit facilities present, though not at a level that would meet the need of target areas and the objectives of this study. The city has addressed some of the mobility and access issues in a few neighborhoods in the past but more facilities are needed in low to moderate income neighborhoods in particularly in northwest, central and southeast areas where a high concentration of the needy population lives.

The Census 2010 and ACS 2009-20013 data at Census Tract and Census Block levels shows that a high percentage of minority population from low to moderate income groups live in the northwestern, central and southeastern areas in Rochester. Land use and demographic data at Census Block Group level in those areas have shown a mixture of land uses and people from different economic status that offers various residential living environments ranging from low to high density and low, moderate and high income neighborhoods. Although different races of population are spread all over the City but the majority of the low to moderate income population groups resides in the northwest, central and southeastern areas of Rochester. Therefore Census data of those geographic areas was the main focus of this study.

It is a federal requirement under the Civil Right Act of 1964 to adopt policies and strategies to deal with disadvantage communities and equitable investment in transportation investment particularly where low income and Environmental Justice populations are located in the community. Rochester and Olmsted County metropolitan area is committed to adhering to principles of environmental justice in its planning and programming area. Rochester-Olmsted Council of Governments (ROCOG) has adopted, Public Involvement Policy, Title VI Policy and Environmental Justice Policy dealing with disadvantaged communities, citizen participation, and equitable access in transportation investment decisions reflecting environmental justice principles. Moreover, Rochester-Olmsted Planning Department is committed to the following:

- avoiding or mitigating the adverse impact, wherever practical, in low to moderate income areas, neighborhoods where minority races, people with disabilities and population that have no auto ownership are concentrated;
- involving representatives of affected populations in identifying issues with regards to limited access and mobility gaps;
- involving affected residents in developing plans, programs, and mitigation measures;
- ensuring any adverse impact that cannot be mitigated is not concentrated in environmental justice neighborhoods.

Demographic Analysis at Census Tract Level

Census Tracts that include the study area are shown in Figure 1-2. Four major demographic components at Census Tract level are shown in the Table 1-1. It demonstrates data on race, means of transportation, travel time and car ownership in the northwest, central and southern areas of Rochester.

It is reflected in the table that generally high number of minority population lives in the northwest, central and southeast side of the city. The data shows that total of 26% non-white population resides in the south side of the city out of which 10% were black and 9% were Hispanic. Other predominant non-white population includes Asian (6%) and a very low percentage of other minorities.

The data on means of transportation to work shows that majority (79%) of people from south side of the city drive alone to work. Approximately 7% of the population from that part of the city uses non-motorized and transit services for their journey to work. Carpooling (11%) and working from home (3%) was also popular modes of transportation that were used by the residents from south side of the city.

The travel time to work data shows that it takes less than 9 minutes to get to work for 15% of population and 60% of people take 10-20 minutes to get to work from southernmost part of Rochester.

The auto ownership data shows that approximately 5% of the population living in the southeast side of the city that has no auto. 7% of residents own 4 or more cars in that part of the city.

Similarly, data from northwestern and central areas of Rochester reflect that 20% of non-white population resides in the central and northwestern part of the city out of which 6% were black and 4% Hispanic. Other non-white population includes Asian (8%) and some other minority populations.

Means of transportation to work data shows that the majority of the population (78%) from this side of the city drives alone to work and about 9% of the population uses non-motorized and transit services as a mode of transportation for their journey to work. Carpooling (9%) and working from home (4%) was also used by the population as a mode of transportation to work from the northwester and central areas of Rochester.

The travel time to work data shows that it takes less than 9 minutes to get to work for 20% of the population and 59% of people take 10-19 minutes to get to work from those areas of Rochester. The travel time to work data shows that 12% people takes less than 29 minutes to get to work and 9% of population takes 30 or more minutes to get to work.

The auto ownership data shows that approximately 5% of the population does not own a car and only 4% of the population owns more than 4 vehicles in northwest and central part of Rochester.

Figure 1-2: Focus Area by Census Tracts

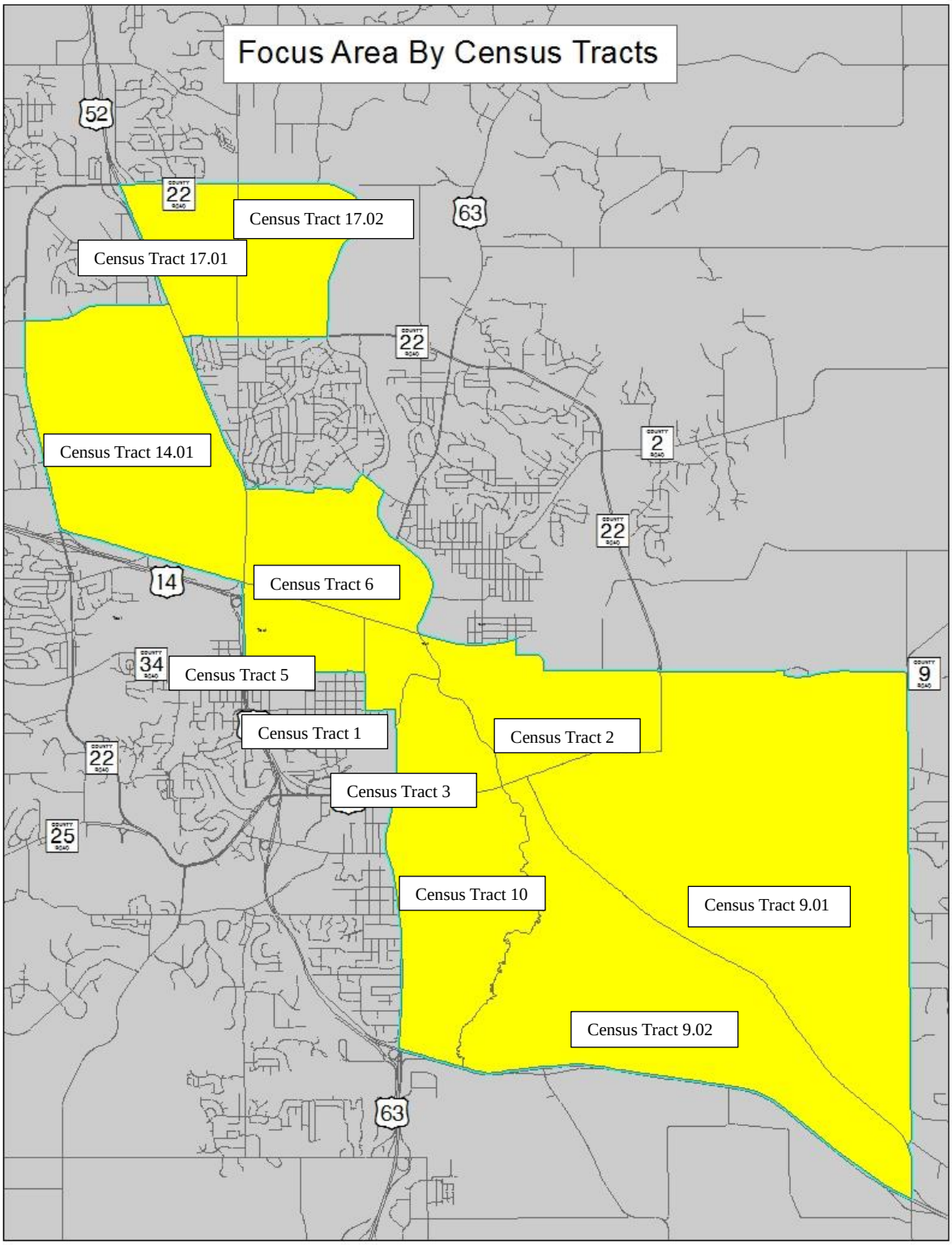


Table 1-1: Summary of Synopsis of Demographic Data (ACS 2009-2013)

Data Type	Northwest and Central Area		Southeast Area	
Race Data	White population	41,696(80%)	White population	19,447 (74%)
	Black population	2,943(6%)	Black population	2,620 (10%)
	American Indian	93(0%)	American Indian	89 (0%)
	Asian	4,027 (8%)	Asian	1,139 (6%)
	Native Hawaiian & Pacific Islander	21(0%)	Native Hawaiian & Pacific Islander	7 (0%)
	Other Races	117(0%)	Other Races	47 (0%)
	Two or More Races	1,080(2%)	Two or More Races	650 (2%)
	Hispanic or Latino	1,940(4%)	Hispanic or Latino	2,333 (9%)
Means of Transportation	Drove Alone	21,480 (78%)	Drove Alone	10,105 (79%)
	Carpooled	2,574 (9%)	Carpooled	1,382 (11%)
	Transit	1,375 (5%)	Transit	469 (4%)
	Railroad	5 (0%)	Railroad	-
	Taxi	12 (0%)	Taxi	-
	Motorcycle	44 (0%)	Motorcycle	31 (0%)
	Bicycle	160 (1%)	Bicycle	71 (1%)
	Walked	728 (3%)	Walked	249 (2%)
	Other Means	120 (0%)	Other Means	138 (1%)
	Worked at Home	1,177 (4%)	Worked at Home	414 (3%)
Travel Time	Less than 5 minutes	664 (3%)	Less than 5 minutes	369 (3%)
	5-9 minutes	4,372 (17%	5-9 minutes	1,496 (12%)
	10-14 minutes	8,339 (31%)	10-14 minutes	3,440 (28%)
	15-19 minutes	7,483 (28%)	15-19 minutes	3,963 (32%)
	20-24 minutes	2,718 (10%)	20-24 minutes	1,745 (14%)
	25-29 minutes	626 (2%)	25-29 minutes	259 (2%)
	30 minutes & above	2,296 (9%)	30 minutes & above	1,175 (9%)
Car Ownership	No vehicle	1,082 (5%)	No vehicle	447 (5%)
	1 vehicle	7,423 (36%)	1 vehicle	3,558 (37%)
	2 vehicles	8,868 (43%)	2 vehicles	3,775 (39%)
	3 vehicles	2,300 (11%)	3 vehicles	1,289 (13%)
	4 vehicles	551 (3%)	4 vehicles	475 (5%)
	5+ vehicles	234 (1%)	5+ vehicles	184 (2%)

Table 1-2 highlights the income and race data by Census Tracts. Census Tract 1 has the smallest population living compared to other Census Tracts included in the study area. Total of 1385 people are living in the Census Tract 1. This tract also shows a lowest number of non-white living compared to other Census Tracts in the study area.

The top two Census Tracts where non-white population lives are Census Tract 17.01 and 2 followed by Census Tract 5 and 9.01. Census Tracts that have shown the highest number of non-white population in the study area are generally located in northwest and southeast side of Rochester. The highest percentage (17.3%) of the Black population lives in Census Tract 9.02. Census Tract 9.01 has high percentage (17%) of Hispanic population followed by Census Tract 5 and 2. The population having the lowest level of income exists in the Census Tract 1 followed by Census Tract 5 and 6. One of the reason could be that majority of people living in the downtown area are renting as it is difficult to buy high priced properties in downtown area. Three Census Tracts out of ten used in this analysis can be considered as moderate income tracts. Their income ranges from forty to forty-four thousand per annum. There are couple of Census Tracts that are considered as moderate to high income. The highest percentage (15.5%) of the Asian population lives in Census Tract 17.01 followed by Census Tract 17.02 and 2.

Figure 1-3 highlights the Race and Income Data by Census Tracts. Highest percentage of nonwhite and minority population lives in Census Tract 17.01, 2, 5 and 9.01. Census Tract 1, 6 and 14.01 accounts for top three white populated areas. Census Tract 9.02 has the highest percentage (17.3%) of Black population followed by CT 17.02 (13.3%) and CT 2 (12.9%). A small proportion of American Indian and multi-racial population also reside in the study area predominantly in CT 2, 3 and 17.01.

Table 1-3 provides a summary of Journey to Work by Census Tract. The top line in the table provides the total worker population in each tract and the rest of the table provides the detail of modes of transportation workers use to get to/from the work. With the exception of Census Tract 1 and 5, the use of auto transportation ranges between 80-93% in other eight Census Tracts considered for this analysis. Non-motorized mode of transportation utilization is highest in the Census Tract 1 and 5. The table also shows the number of workers in each Census Tract who us public transit as a mode of transportation. 9% of population living in Census Tract 1 and 8% of population living in CT 9.02 uses public transit as a mode of transportation. On average, workers from all Census Tracts takes 16 minutes to get to work.

Figure 1-4 highlights the different modes of transportation used in ten Census Tract where majority of low to moderate income and minority population resides. Census Tract 1 has the highest percentage (60%) of population walk to/from work. On average 3-4% population in other Census Tracts used walking as a mode of transportation. Driving alone and use of automotive is the most popular mode of transportation in all Census Tracts with the exception of Census Tract 1 and 5 where high percentage of trips were made by walking or by public transportation.

Table 1-2: Summary of Income and Race Data by Census Tract

Race & Income Data	Census Tract 1	Census Tract 2	Census Tract 3	Census Tract 5	Census Tract 6	Census Tract 9.02	Census Tract 14.01	Census Tract 9.01	Census Tract 17.01	Census Tract 17.02
Income	$ 22K	$ 40K	$ 44K	$ 37K	$ 38K	$ 43K	$ 39K	$ 58K	$ 49K	$ 48K
Population	1385	4916	3299	2804	4469	3372	4450	5478	4512	4430
American Indian	.3%	.3%	.2%	1%	.3%	.2%	.4%	.1%	.5%	.2%
Asian	6.4%	8.0%	5.6%	7.1%	5.9%	2.3%	4.8%	3.4%	15.5%	8.4%
Black	6.5%	12.9%	8.5%	8.3%	5.8%	17.3%	9.8%	9.1%	11.1%	13.3%
Hispanic	2.6%	8.7	5.4%	12.9%	7.4%	5.1%	3.4%	17.0%	4.0%	4.7%
Multi-Racial	1.8%	4.7%	3.9%	3.7%	2.3%	2.0%	3.3%	3.0%	3.6%	3.4%
Non-White	17.5%	32.7%	23.3%	32.2%	21.2%	26.6%	21.9%	31.8%	34.1%	29.6%
White	82.5%	67.3%	76.7%	67.8%	78.8%	73.4%	78.1%	68.2%	65.9%	70.4%

Source: American Community Survey (ACS 2009-13)

Figure 1-3: Race and Income Data by Census Tracts (ACS Data 2009-2013)

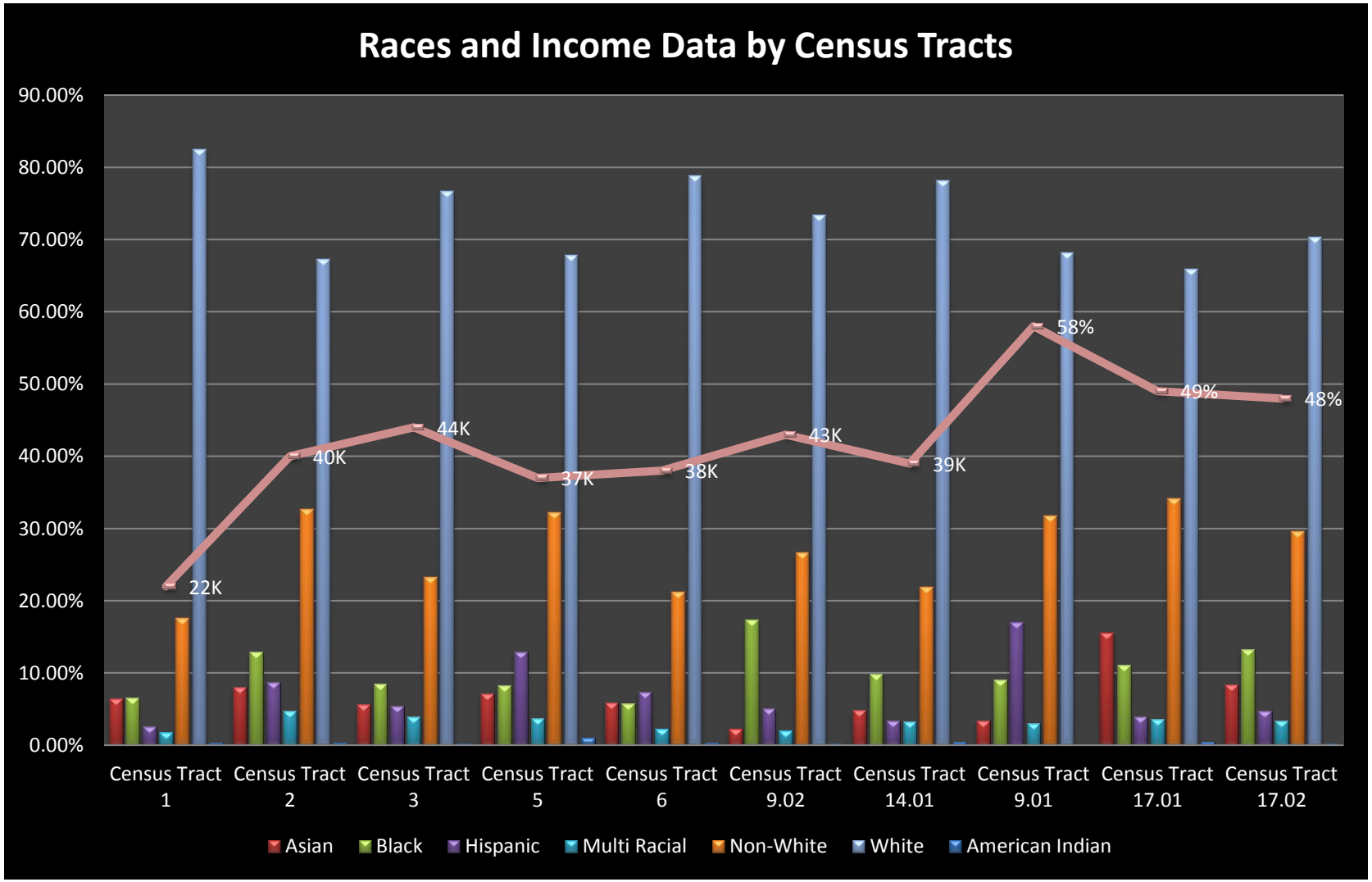
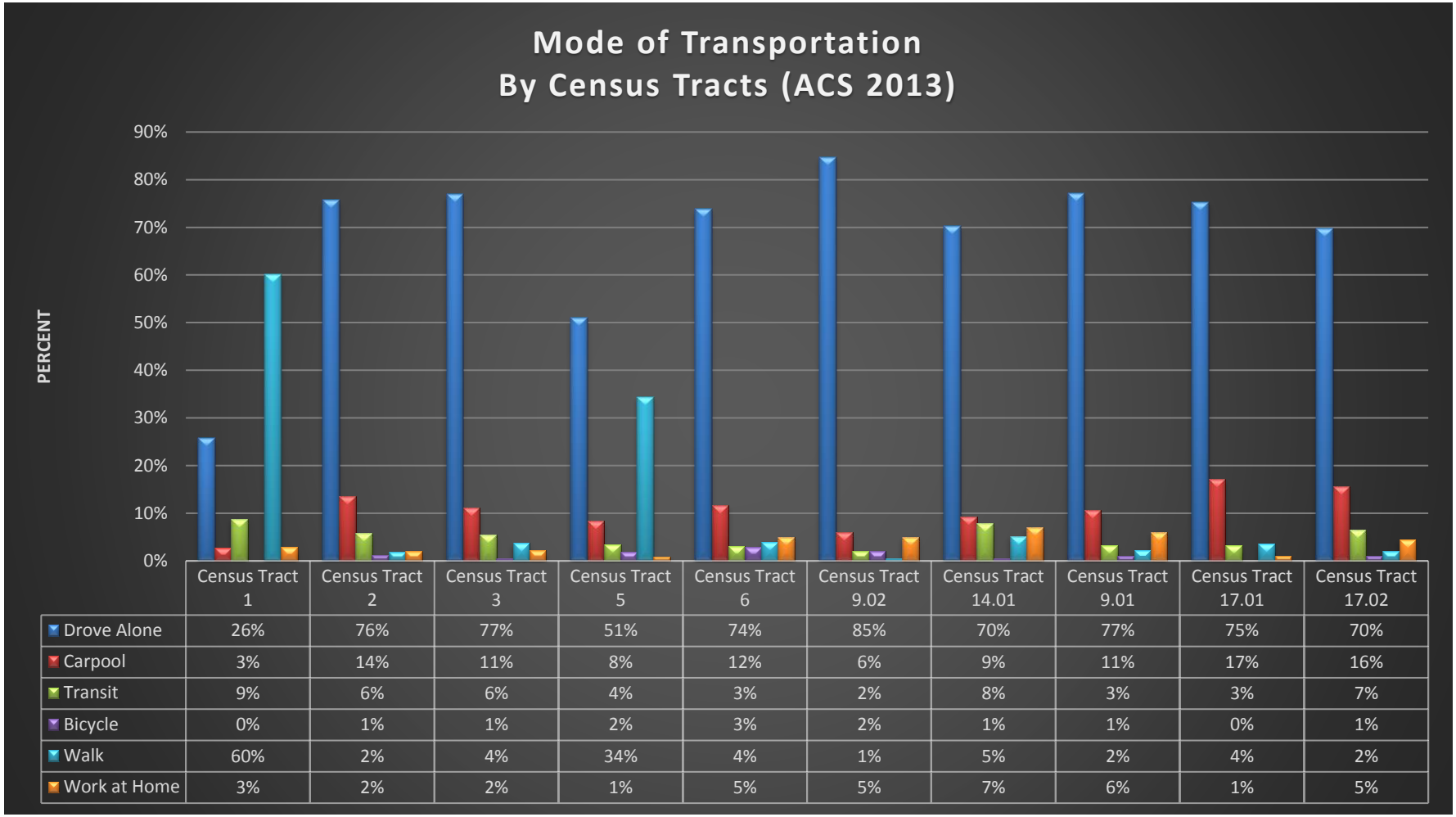


Table1-3: Summary of Commute to Work by Census Tract

Commute to Work Data	Census Tract 1	Census Tract 2	Census Tract 3	Census Tract 5	Census Tract 6	Census Tract 9.02	Census Tract 14.01	Census Tract 9.01	Census Tract 17.01	Census Tract 17.02
Workers =/> 16 years	373	2,333	1,800	1,685	2,138	1,617	2,370	2,825	2,391	2,546
Car, Truck, or Van	106 (28.4%)	2,081 (89.2%)	1,566 (89%)	977 (58%)	1,825 (85.4)	1,454 (89.9%)	1,885 (79.5%)	2,480 (87.8%)	2,211 (92.5%)	2,177 (85.5%)
Drove Alone	96 (25.7%)	1,766 (75.7%)	1,366 (75.9%)	837 (49.7%)	1,577 (73.8%)	1,369 (84.7%)	1,664 (70.2%)	2,171 (77.1%)	1,801 (75.3%)	1778 (69.8%)
Carpooled	10 (2.7%)	315 (13.5%)	200 (11.1%)	140 (8.3%)	248 (11.6%)	85 (5.3%)	221 (9.3%)	301 (10.7%)	410 (17.1%)	399 (15.7%)
Public Transit	33 (8.8%)	136 (5.8%)	97 (5.4%)	56 (3.3%)	66 (3.1%)	17 (1.1%)	184 (7.8%)	92 (3.3%)	78 (3.3%)	166 (6.5%)
Bicycle	0 (0%)	27 (1.2)	8 (.4%)	32 (1.9%)	59 2.8%)	21 (1.3%)	12 (.5%)	0	0	10 (.4%)
Walk	224 (60.1%)	43 (1.8%)	67 (3.7%)	579 (34.4%)	73 (3.4%)	8 (.5%)	123 (5.2%)	66 (2.3%)	85 (3.6%)	52 (2%)
Work at Home	10 (2.8%)	46 (2%)	39 (2.2%)	16 (.9%)	66 (3.1%)	60 (3.7%)	152 (6.4%)	153 (5.4%	17 (.7%)	115 (4.5%)
60 or More Minutes Commute	10 2.8%)	58 (2.5%)	24 (1.4%)	52 (3.2%)	38 (1.8%)	81 (5.7%)	22 (1%)	113 (4.2%)	60 (2.5%)	115 (6.2%)
Average Commute Time	14 min	14 min	14 min	13 min	16 min	19 min	14 min	19 min	17 min	20 min

Source: Census Explorer, American Community Survey (ACS 2013)

Figure 1-4: Modes of Transportation by Census Tracts (ACS Data 2009-2013)



	Census Tract 1	Census Tract 2	Census Tract 3	Census Tract 5	Census Tract 6	Census Tract 9.02	Census Tract 14.01	Census Tract 9.01	Census Tract 17.01	Census Tract 17.02
Drove Alone	26%	76%	77%	51%	74%	85%	70%	77%	75%	70%
Carpool	3%	14%	11%	8%	12%	6%	9%	11%	17%	16%
Transit	9%	6%	6%	4%	3%	2%	8%	3%	3%	7%
Bicycle	0%	1%	1%	2%	3%	2%	1%	1%	0%	1%
Walk	60%	2%	4%	34%	4%	1%	5%	2%	4%	2%
Work at Home	3%	2%	2%	1%	5%	5%	7%	6%	1%	5%

Synopsis of Demographic Data of Focus Area by Census Block Groups

There are total of ninety Census Block Groups in the City of Rochester and fifteen Census Block Groups with high concentration of low to moderate income and non-white population were selected as a focus area. The Census Block Group data is used for in-depth analysis of focus areas comprising fifteen neighborhoods as shown in Figure 1-5.

The data shows that the residential land uses at Census Block Group level comprises of mixture of land uses and people from different economic status offering various residential living environment ranging from group homes to multi-family high density residential areas. Although different races of population are spread all over the City but concentration of low to moderate income populations are situated in those fifteen neighborhoods selected as a focus area. The analysis shows that those selected neighborhoods are in dire need of access and mobility improvements.

Figure 1-6 illustrates types of residential uses in fifteen neighborhoods in focus area at the Census Block Groups level. The analysis includes multiple housing unit sites such as group housing, senior housing, medical and nursing care units. With exception of Satterley Park, all selected neighborhoods are showing multi-family residential units.

Figures 1-7 shows the percentage of low to moderate income population living in fifteen selected neighborhoods at the Census Block Level. Longfellow neighborhood has the highest percentage (72%) of low and moderate income population. Rochester Village (68%), Park Lane (63%) and Northgate (62%) are also classified as the neighborhoods with the highest percentage of low and moderate income population. The selected Downtown area has 51% population that belongs to the low and moderate income group. 49% of the population residing in Valleyhigh neighborhood belong to low and moderate income group. Data shows less concentration of people from low to moderate income group in Slatterly and Cooke Park neighborhoods.

Figure 1-8 shows the percentage of non-white population in the selected areas. Longfellow (45%) neighborhood again present the highest percentage of non-white populations residing in that area. Downtown (44%), Rochester Village (43%), and Hudson Park (42%) are also classified as the neighborhoods with the high percentage of non-white populations. Innsbruck data shows 37% of population belonging to non-white group. Cooke Park, Slatterly Park and Park Lane has the lowest percentage of non-white populations among the selected neighborhoods, however, this percentage is lot higher when compared to compared to neighborhoods in northeast and southwest of Rochester.

Figure 1-5: Focus Area Neighborhoods by Census Block Groups

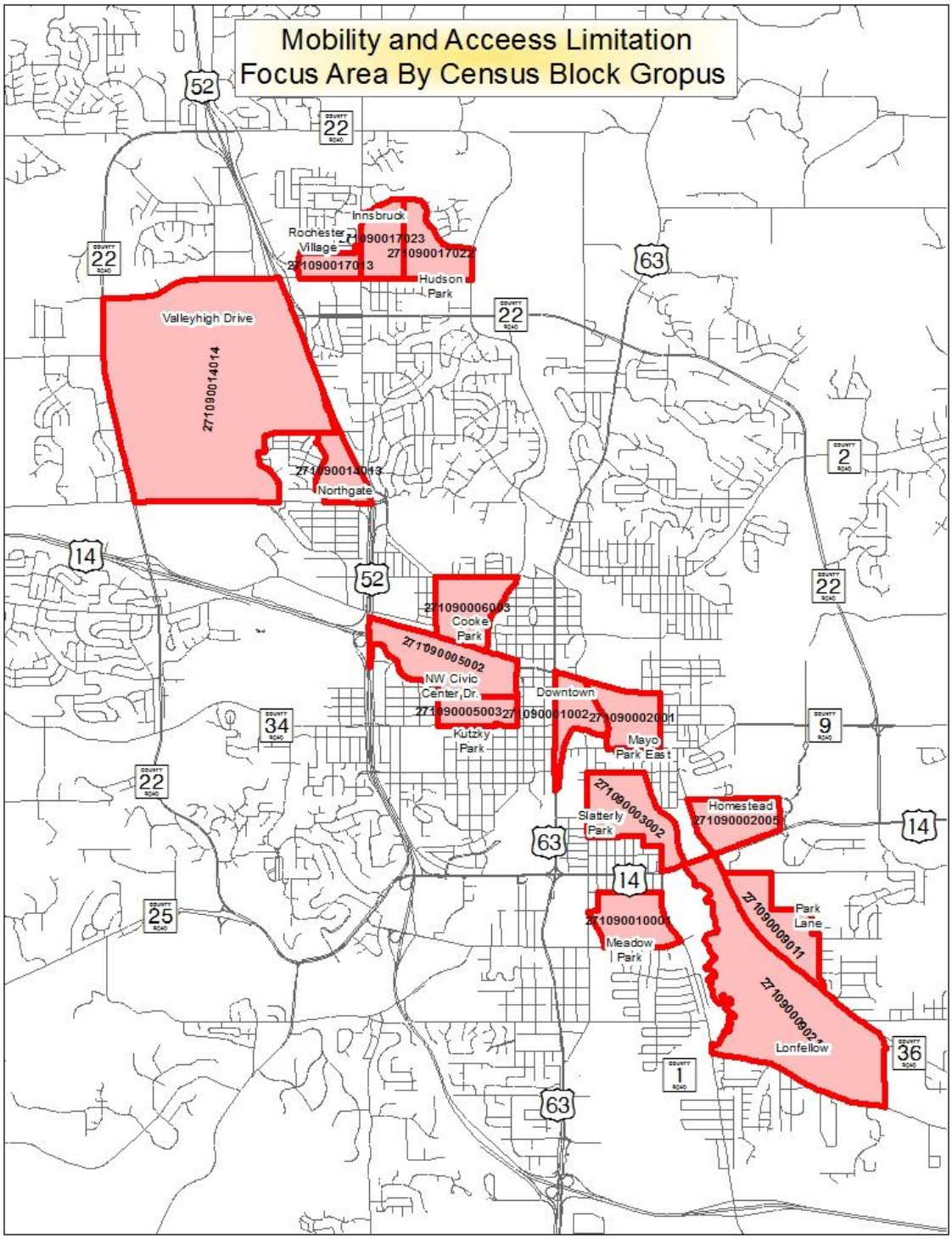


Figure 1-6: Type of Residential Housing Units in Focus Area

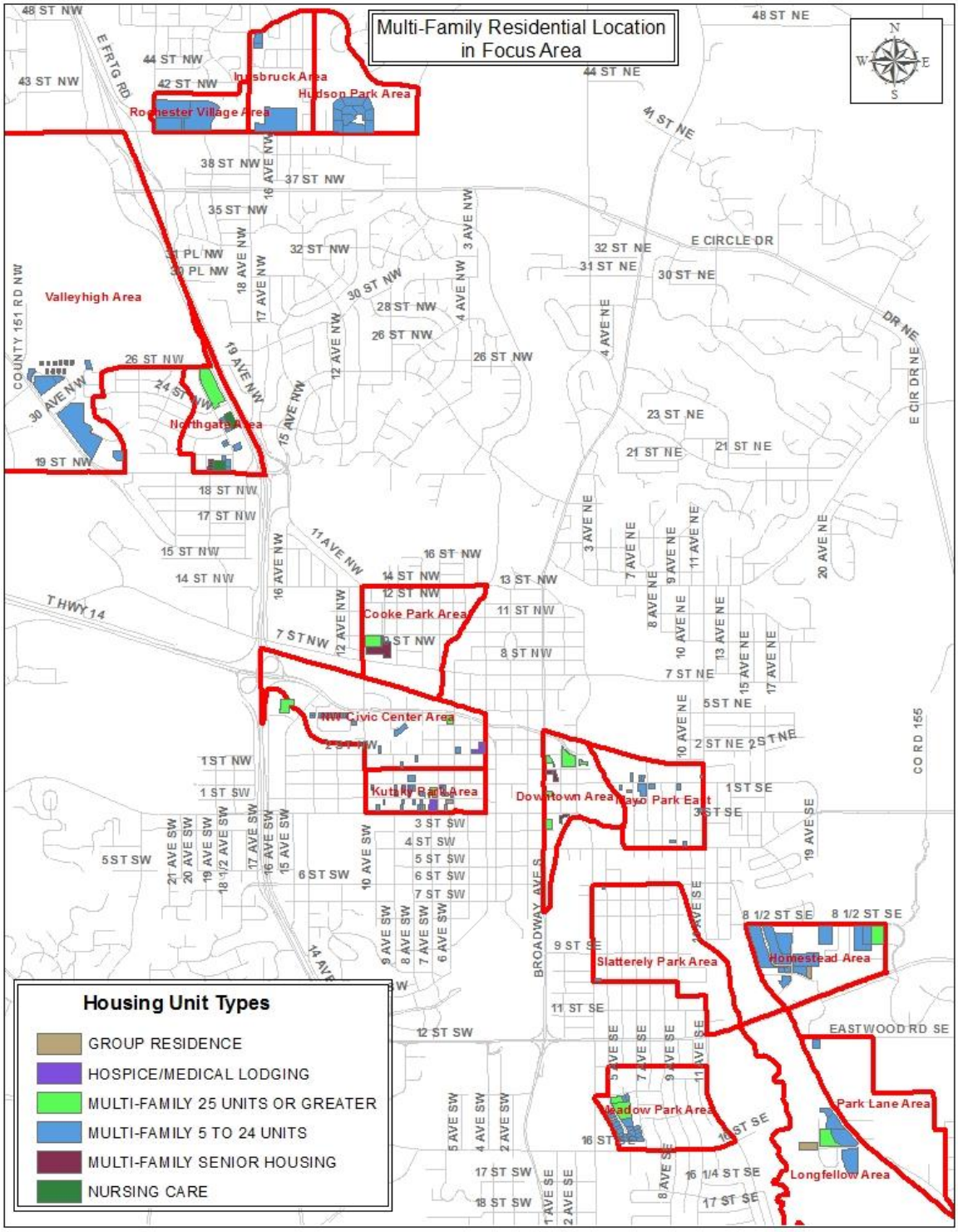


Figure 1-7: Percentages of Low and Moderate Income Populations in Focus Area

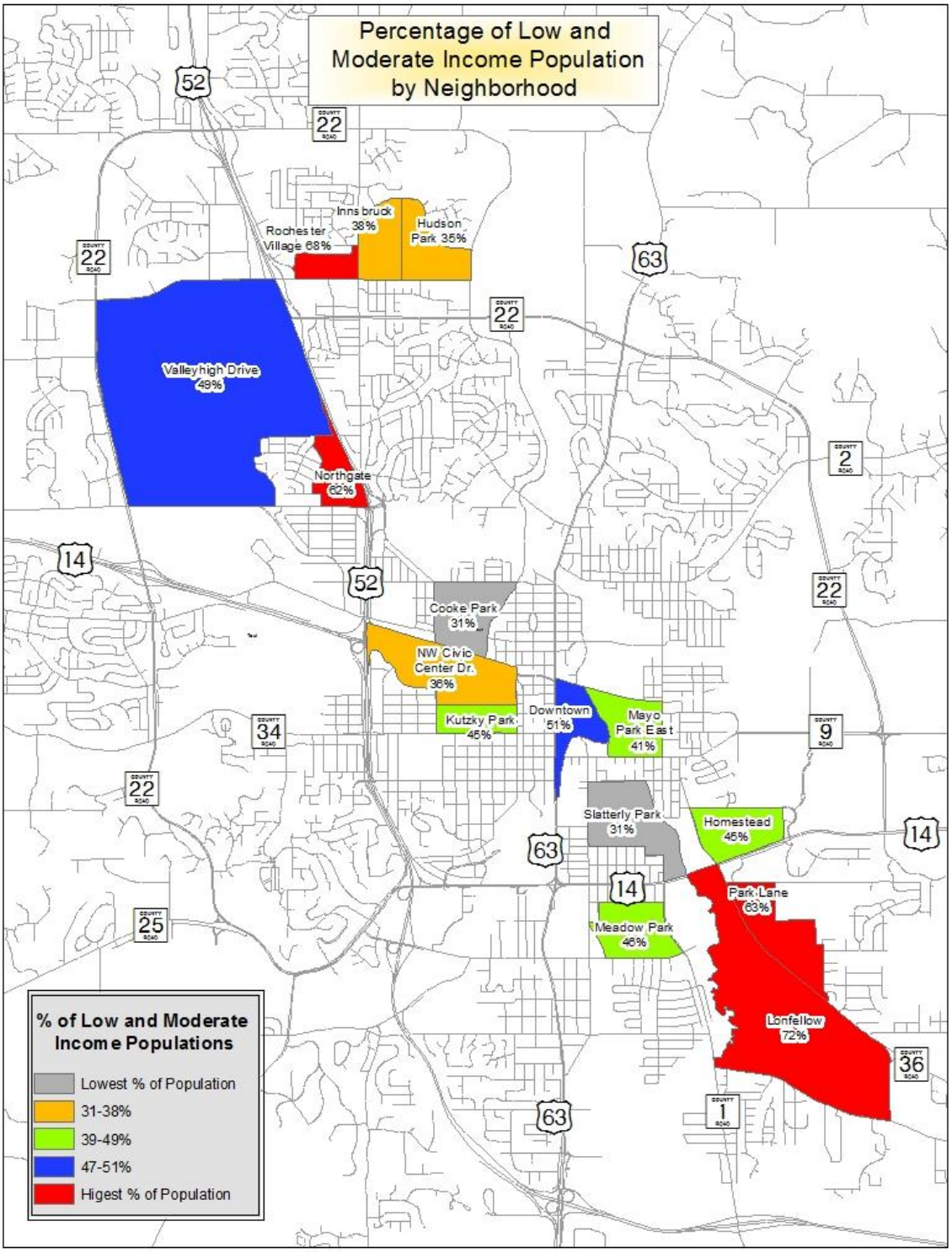

Percentage of Low and Moderate Income Population by Neighborhood
Inns bruck 38%
Hudson Park 35%
Rochester Village 68%
Valley high Drive 49%
Northgate 62%
Cooke Park 31%
NW Civic Center Dr. 38%
Kutzky Park 45%
Downtown 51%
Mayo Park East 41%
Slatterly Park 31%
Homestead 45%
Park Lane 63%
Meadow Park 46%
Lonfellow 72%
% of Low and Moderate Income Populations
Lowest % of Population
31-38%
39-49%
47-51%
Higest % of Population

Figure 1-8: Percentages of Non-white Populations in Focus Area

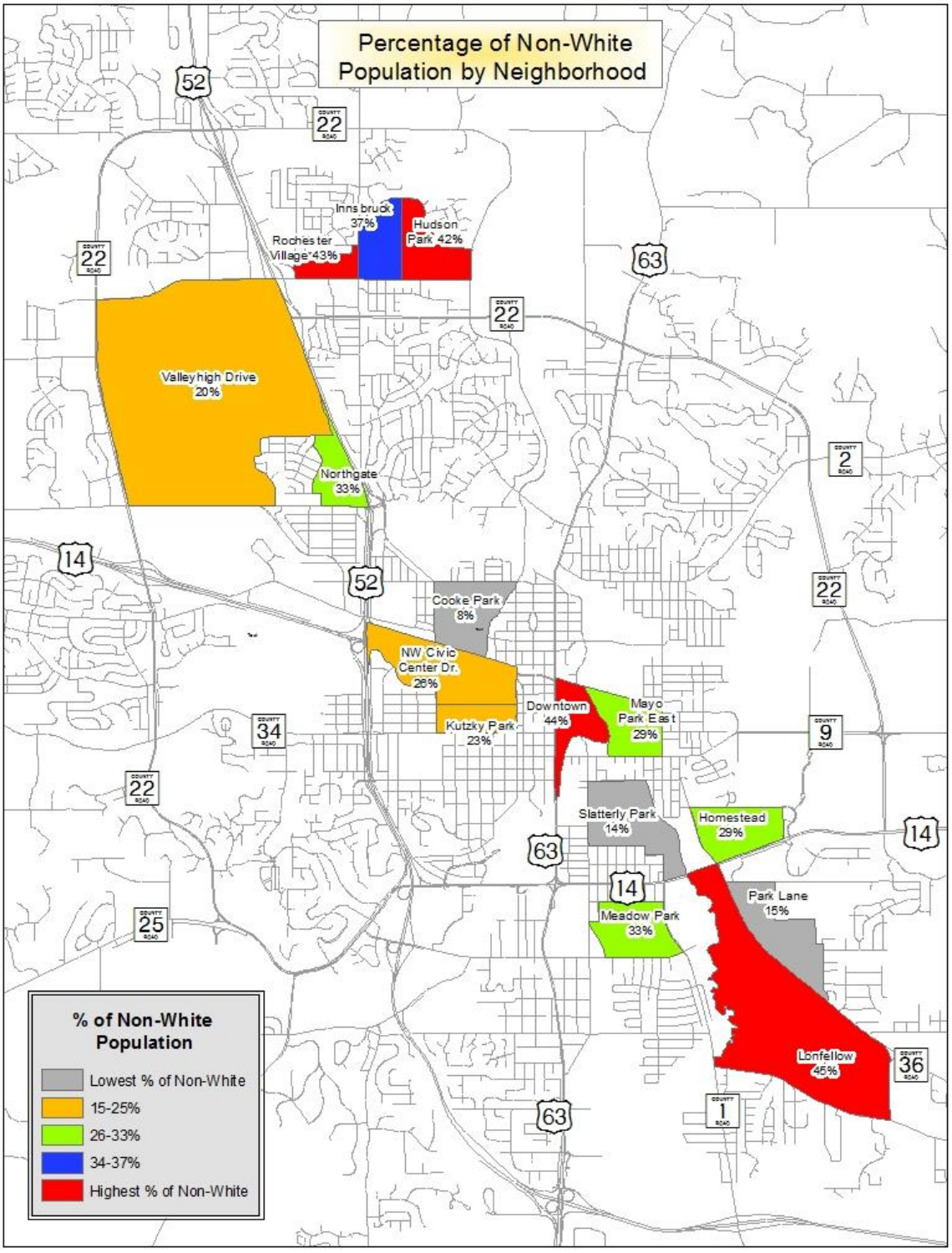


Table 1-5 in the following section highlights the synopsis of income and race data in low to moderate income groups in focus area and relative concentration of non-white population in the fifteen neighborhoods selected for in-depth analysis.

Figure 1-9 shows the total number and percentage of low to moderate income population in the selected neighborhoods by the Census Block Group.

Figure 1-10 shows the number and percentage of non-white population living in the selected neighborhoods at Census Block Group.

Table 1-5: Synopsis of Income and Race Data of Focus Areas (ACS 2009-2013)

Focus Area Neighborhood	Total Number of People Living in the Focus Area	Number of Low & Moderate Income People	% of Low & Moderate Income People	Number of Non-White Population in Target Area	% of Non-White Population in Target Area
Cooke Park Area	1069	331	31%	87	8%
Downtown East	679	347	51%	297	44%
Hudson Park Area	1437	505	35%	618	43%
Homestead Area	1399	630	45%	404	29%
Innsbruck Area	1745	661	38%	646	37%
Kutzky Park East	836	376	45%	192	23%
Longfellow Area	1076	775	72%	481	45%
Meadow Park North	1674	772	46%	562	34%
Mayo Park East	903	369	41%	277	31%
Northgate Area	1097	689	63%	402	37%
NW Civic Center Drive	1290	466	36%	332	26%
Park Lane Area	1671	1047	63%	254	15%
Rochester Village	983	667	68%	422	43%
Slatterly Park Area	1587	502	32%	223	14%
Valleyhigh Drive Area	1268	615	49%	259	20%
Total	**18714**	**8752**		**5456**	

Figure 1-9: Low and Moderate Income Population in Focus Area Neighborhoods

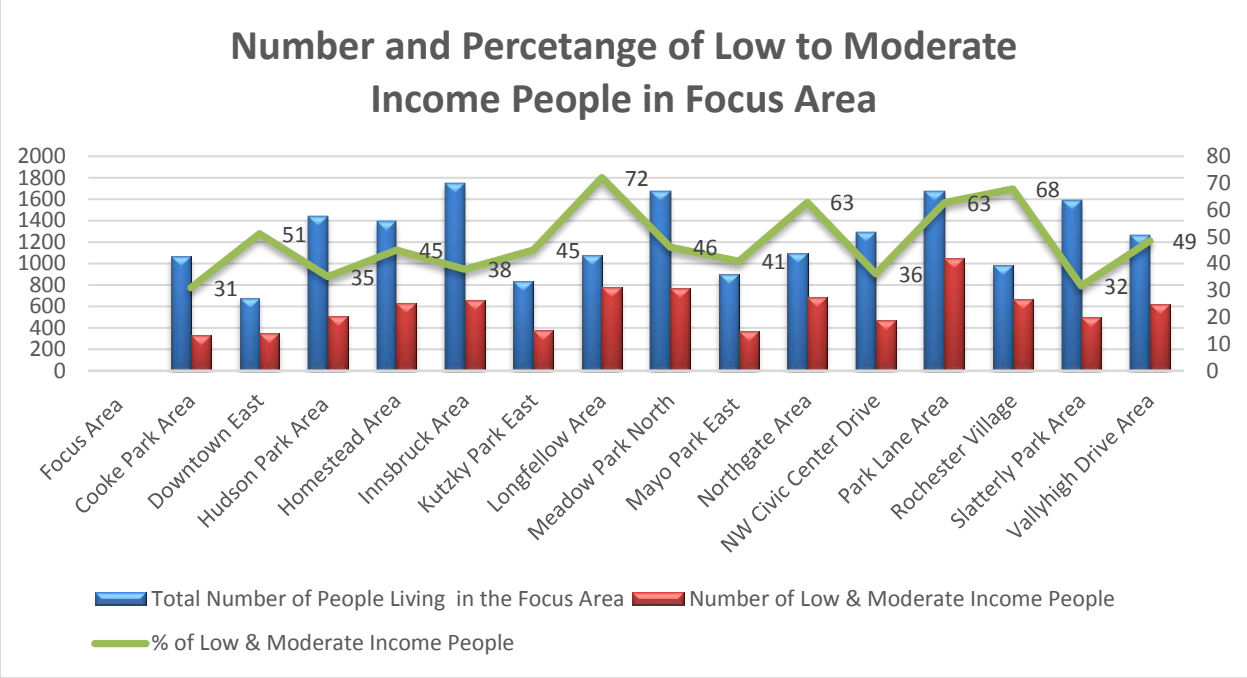
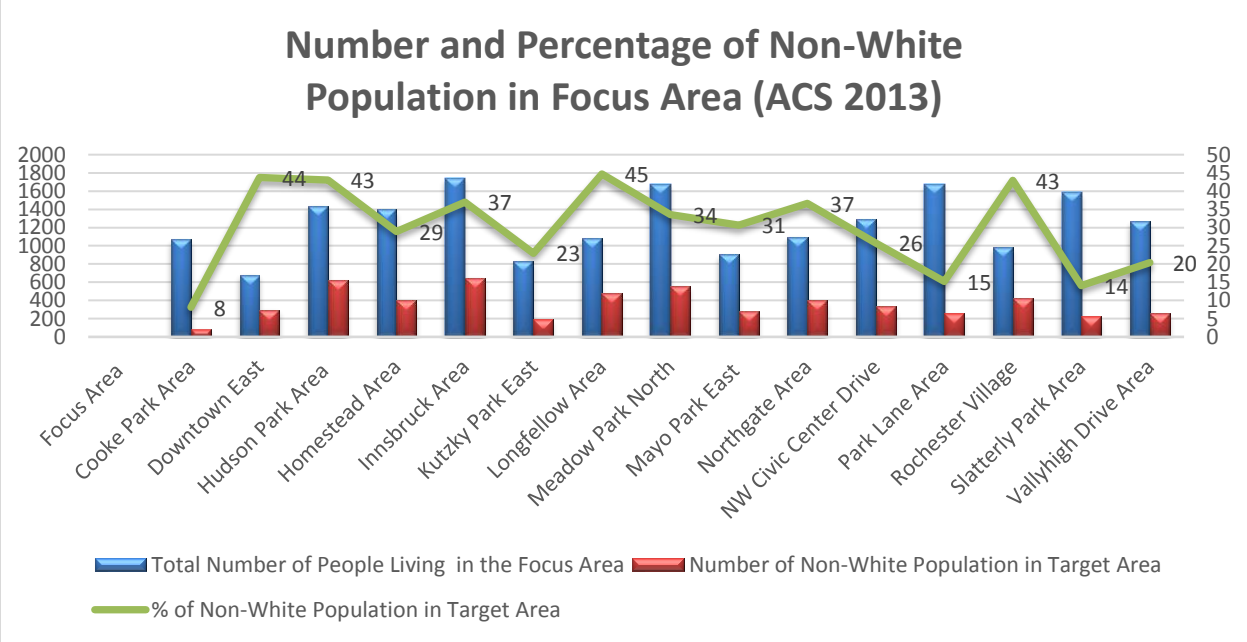


Figure 1-10: Concentration of Non-White Population in the Focus Area Neighborhoods



Other Major Demographic Data by Census Block Groups

Figure1-11 shows the number of minority population by Census Block Group in Rochester. Yellow and green dots represent the high concentrations of minority population. The figure also shows the existing bus route and missing segments of sidewalk (red lines). It is witnessed that missing sidewalks are spread all over the city specifically in the low and moderate income areas as well as in legacy neighborhoods in southwest area which were built before sidewalks were legally required by local ordinances on one or both sides of the local and higher level streets.

Figure 1-12 and 1-13 shows the location of a high concentration of African American and Hispanic populations in relation to the existing bus route and sidewalk facilities. The data at Census Block Group level shows that the limited sidewalk facilities are available where Environmental Justice and low to moderate income populations live.

Figure 1-14 reflects the percentage of households with 1 or more disabled person by block groups. The household with one or more disable person are widespread. The block groups in the downtown area of Rochester have the highest concentrations of households with person with disability (45%). As shown in the map, all of Farmington Township, parts of Cascade, Marion, and Rochester townships fall into the 80th percentile class in terms of proportion of households that include persons with a disability.

Figure 1-15 highlights percentage of households with no vehicle by Census Block Group. The households in downtown area, fringe areas of downtown, portion of northwest and southeast side of Rochester have the highest concentrations of population without auto. High concentration of households without the vehicle falls in focus area.

Figure 1-16 reflects the number of dwelling units within a walking distance from public parks and trails. The map shows that majority of households fall within ¼ miles from parks and trails. Only 13% of households are located more than a miles from public parks and trails. The majority of households are located within walkable or bike able distance including the focus areas.

Figure 1-17 shows dwelling units within walking distance from elementary schools. With the exception of George Gibbs Elementary School most of the household fall within 1 mile of the elementary schools. Less than 20% households are located more than 1 mile of elementary school that require some other means of transportation. The analysis shows that 80% of dewing units fall within walkable distance and majority of students can walk or bike on fair-weather conditions.

Figure 1-11: Number of Minority Population by Census Block Group Data

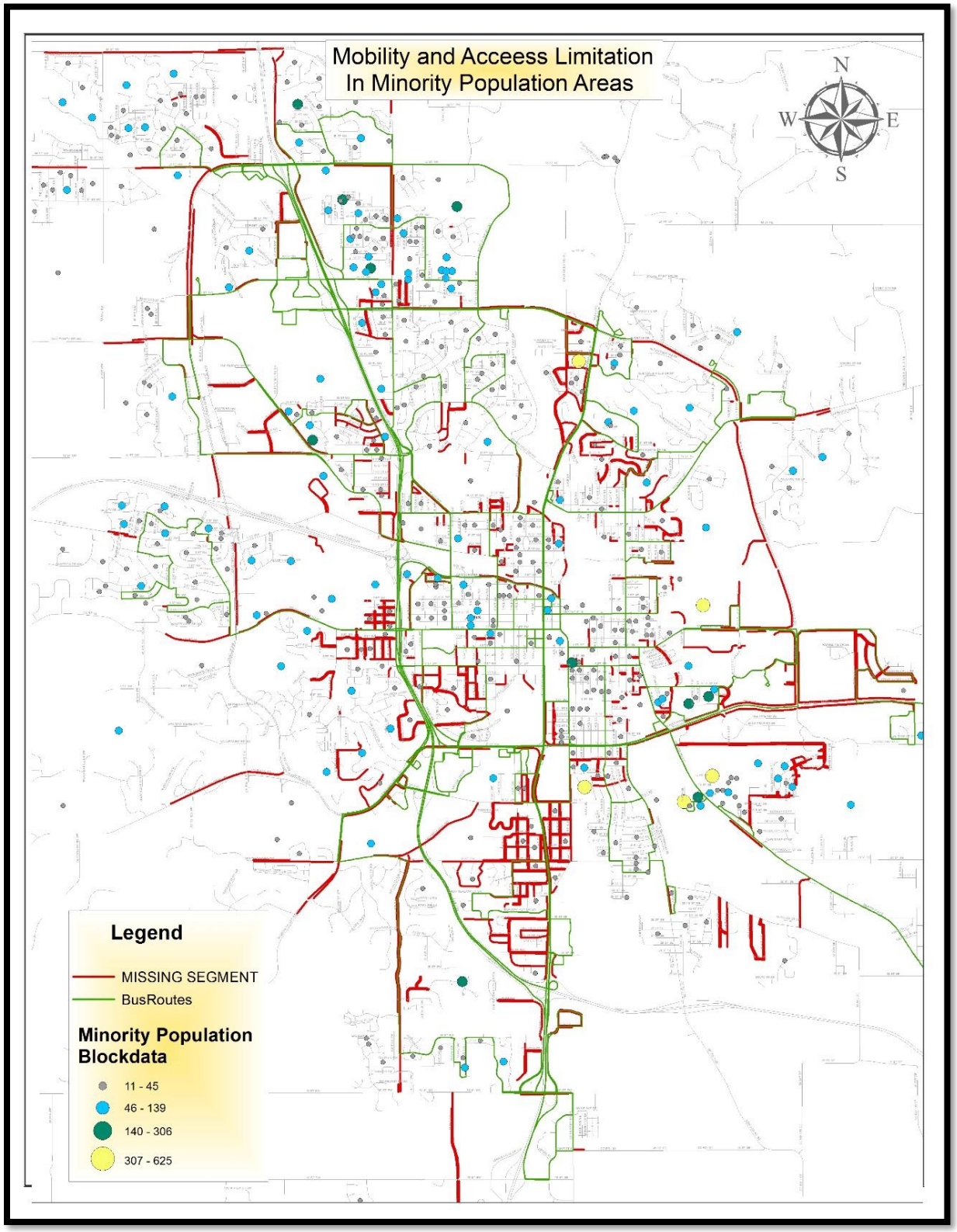


Figure 1-12: Location of African American Population by Census Block Group Data

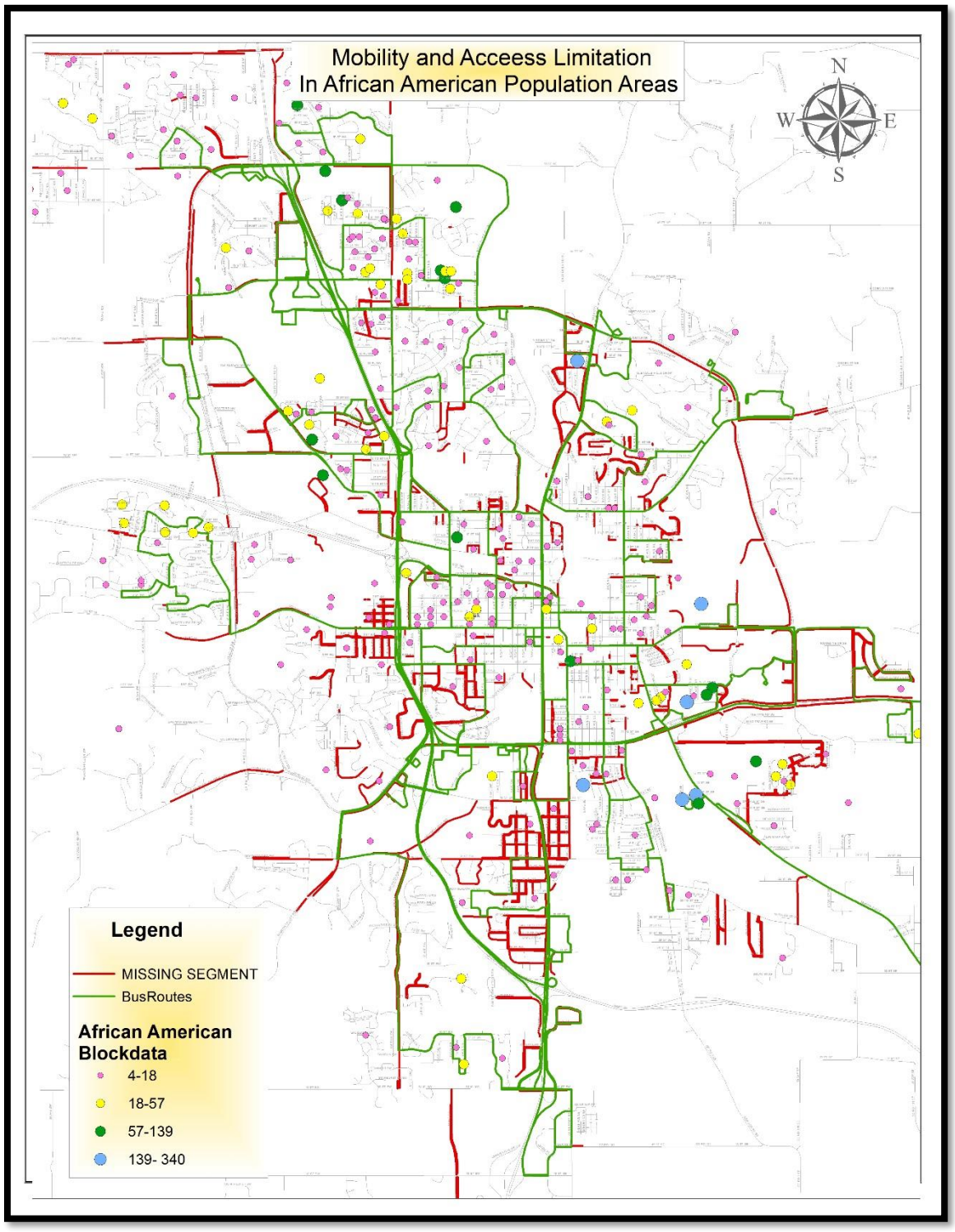


Figure 1-13: Location of Hispanic Population by Census Block Group Data

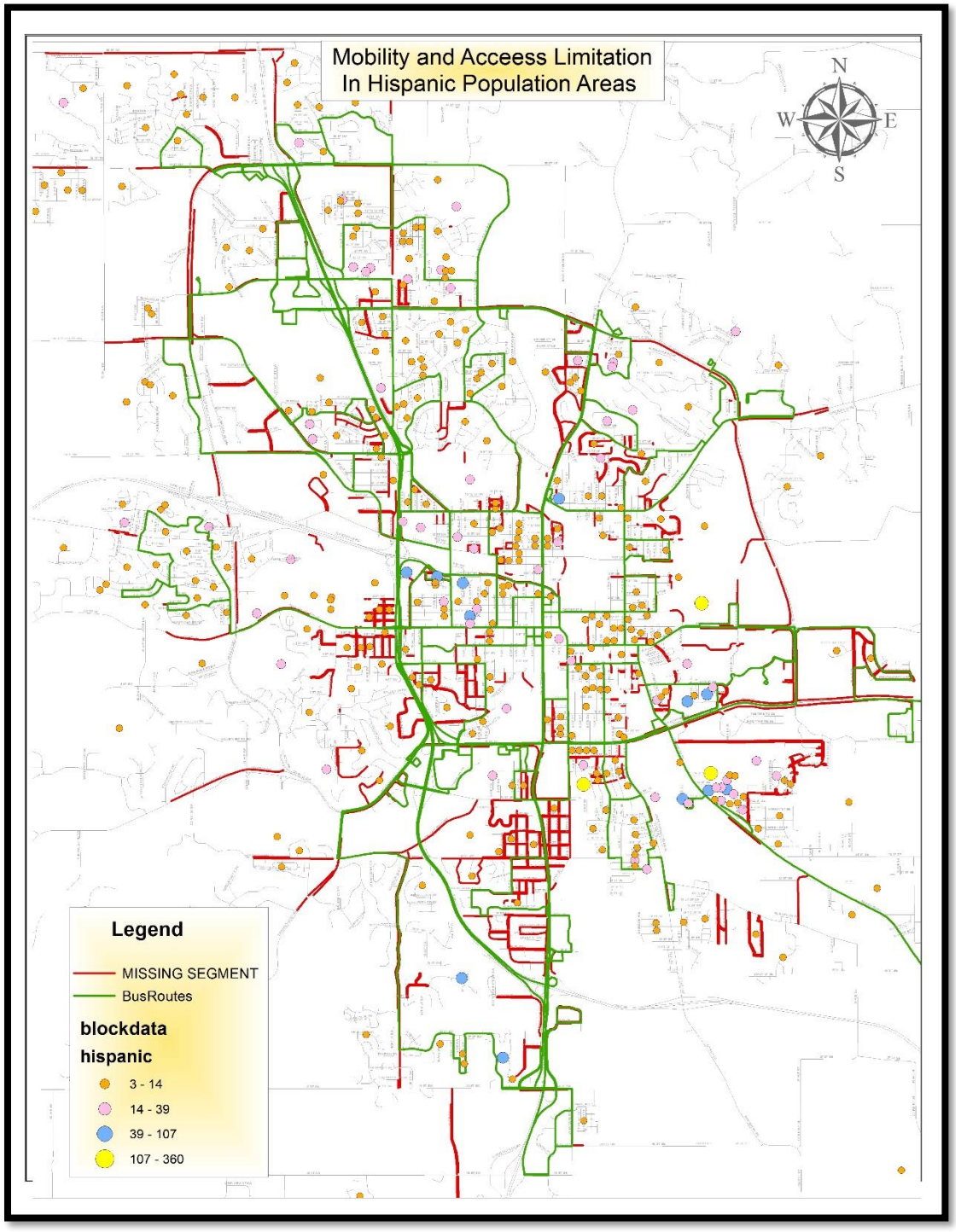


Figure 1-14: Location of Households with 1 or More Disabled Person

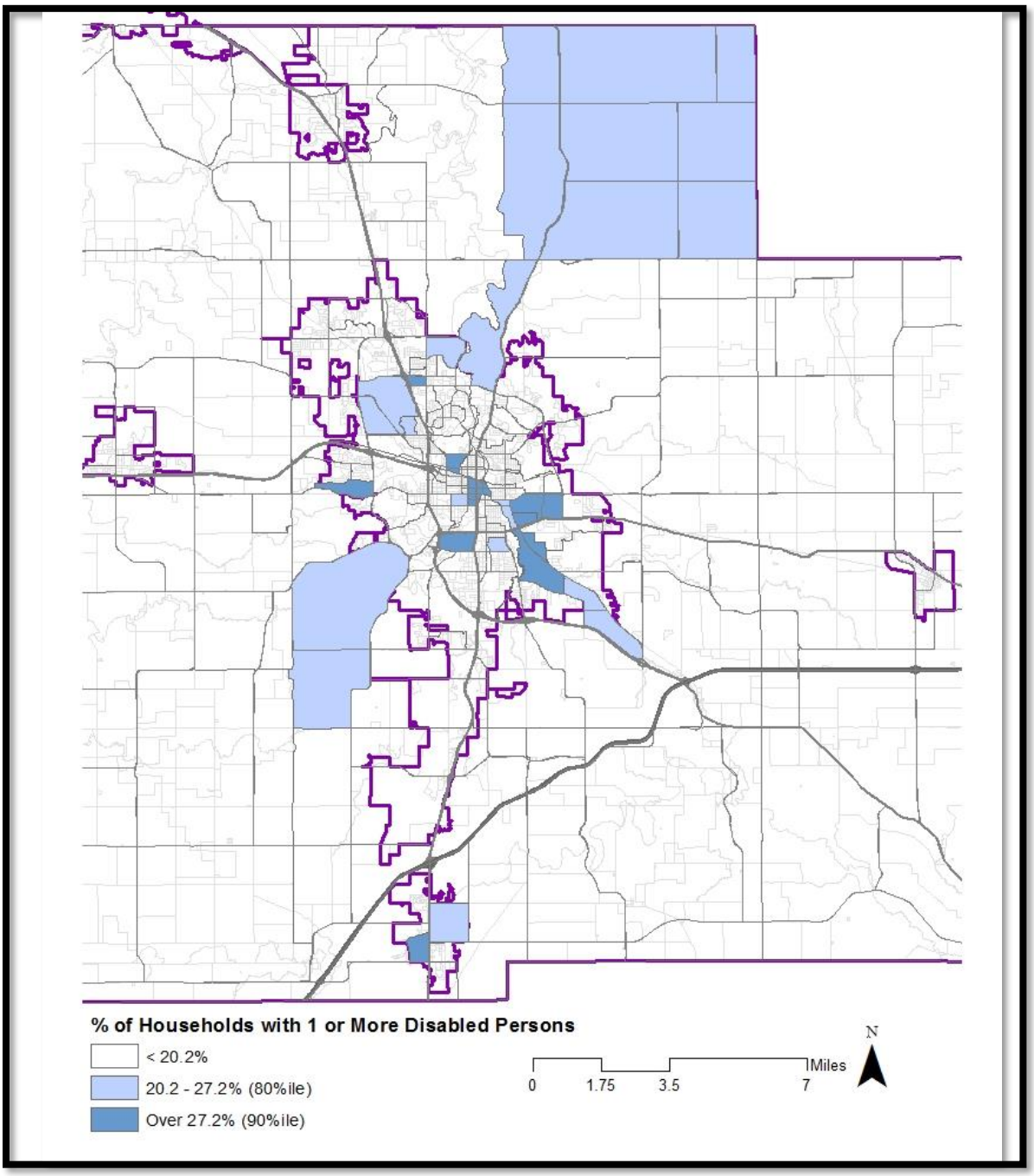

% of Households with 1 or More Disabled Persons
< 20.2%
20.2 - 27.2% (80%ile)
Over 27.2% (90%ile)
0
1.75
3.5
7
Miles
N

Figure 1-15: Percentage of Households without Vehicles by Census Block Group Data

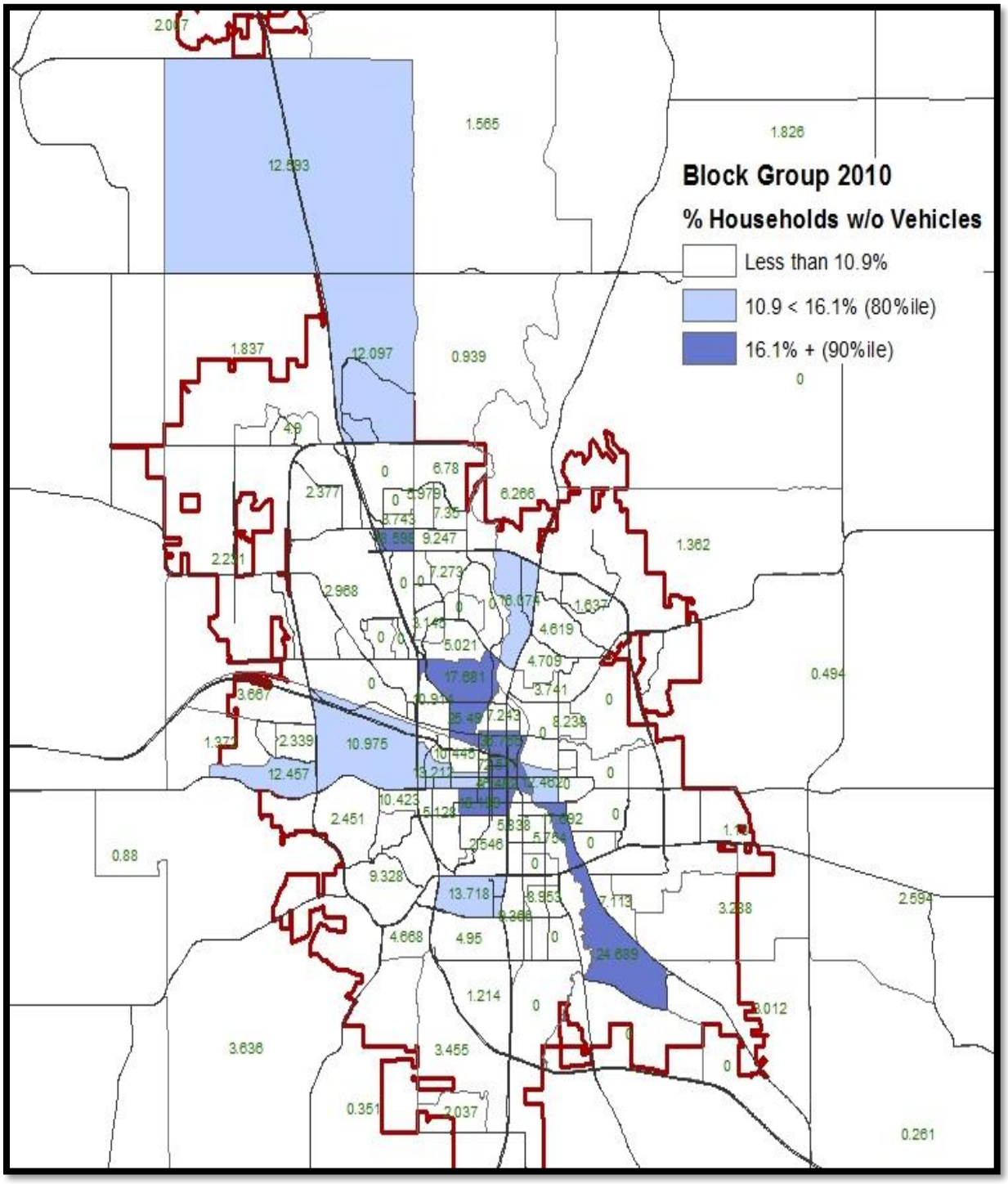


Figure 1-16: Dwelling Units within Walking Distance from Parks and Trails

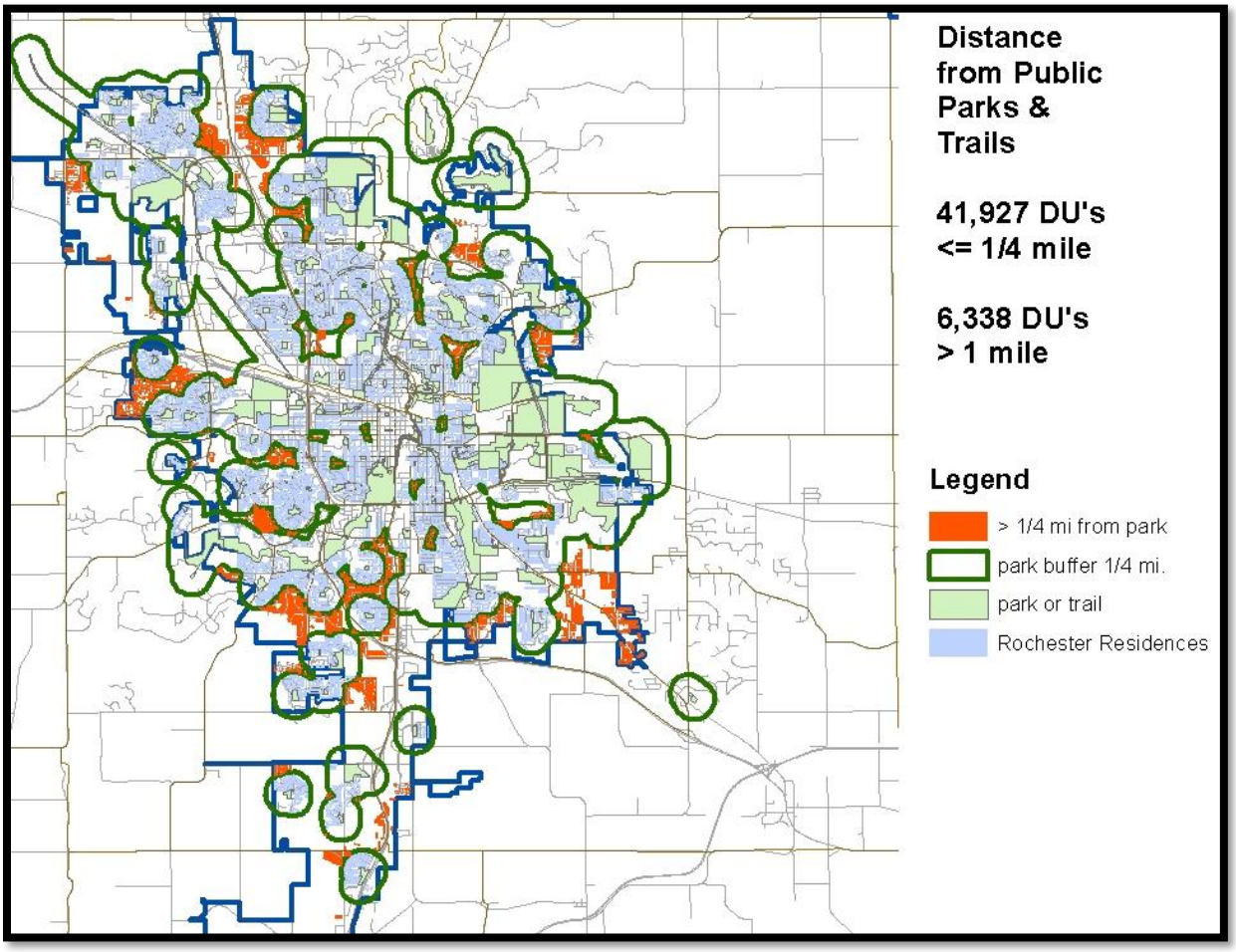
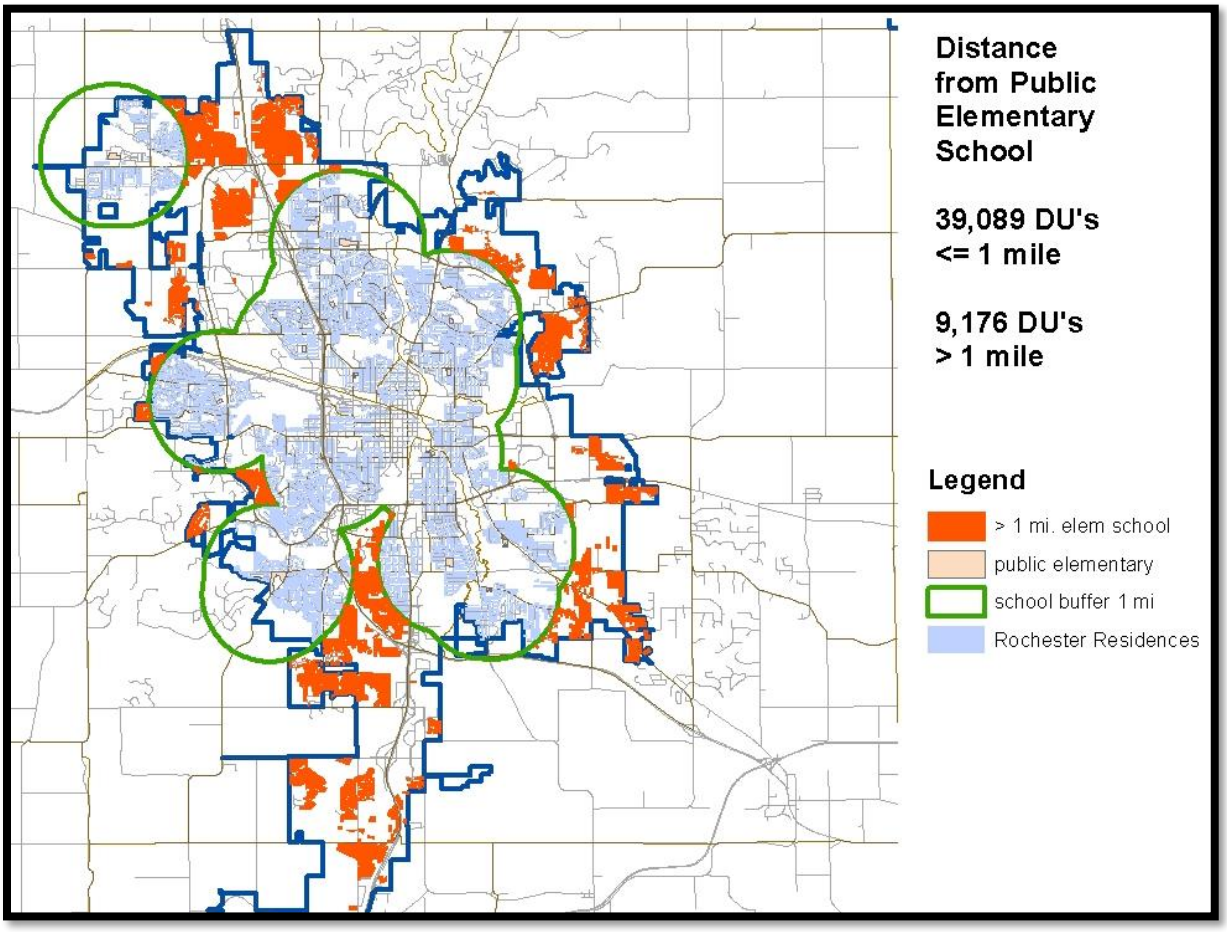


Figure 1-17: Dwelling Units within Walking Distance from Elementary Schools



Methodology, Ranking Criteria and Focus Area Analysis (Part II)

The following section of the study talks about the methodology and analysis of fifteen selected neighborhoods against the assessment factors that are important for mobility and access limitation. Along with the analysis of selected neighborhoods against the assessment factors, an audit checklist has been filled out for each selected neighborhoods to gage their infrastructure standing.

To assess the need for roadway improvements in the selected neighborhoods, the road controlling authorities Pavement Condition Index (PCI) data was used.

Given that funds are anticipated to be limited for the type of investments needed to improve access and mobility, an effort was made to prioritize the identified areas based on consideration of the relative size of various subgroup populations in each area who would be anticipated to benefit the most from either infrastructure or service enhancements.

Methodology to prioritize the focus area neighborhoods was developed based on the eight assessment factors. American Community Survey data was used for this analysis. The priority is given to those neighborhood that scored lower in the analysis. The neighborhoods getting the lower score gets the high priority in terms of getting selected for infrastructure improvements.

METHODOLGY AND FOCUS AREAS ANALYSIS

The previous section of the study identified fifteen neighborhoods where majority of low and moderate income population resides. In this section those selected neighborhoods will be analyzed against the eight assessment factors that are important for mobility and access limitation. Along with the analysis of selected neighborhoods against the transportation factors, an audit checklist has been filled out for each selected neighborhoods to gage their infrastructure standing.

Table 2-1 shows the audit checklist. The goal of site audit was to document infrastructure conditions that may discourage walking and bicycling or create barriers to transit services and non-motorized facilities. The audit involves identification of the built environment and includes the questions under the following broad categories:

- Major Barriers
- Sidewalk System
- Site Access
- Mobility and Access Limitations
- Trail and Path System Access
- Crosswalks adjacent to bus stops and schools
- Crosswalk along major connector routes in walk/bike Zone

The need assessment audit checklist for each selected neighborhood at Census Block Group will help determine the gaps in facilities where majority of low and moderate income population reside. The audit examine the infrastructure facilities such as sidewalks, bike paths, trails and road network and bus stops etc. The audit also examined the crosswalk marking and street conditions in the selected Census Tracts.

The bikeway, pedestrian and transit network data was reviewed for the selected neighborhoods at Census Block Groups. The review of key gaps was presented in the context of "Corridor Assessment Worksheet" for fifteen neighborhoods included in the focus area for in-depth analysis. An audit assessment sheet has identified lack of adequate bike, pedestrian and transit facilities that limits access and mobility needs to/from those neighborhoods or connectivity to nearby land uses and major destinations such as schools, neighborhood shopping areas or to the work places.

Fifteen selected Census Block Groups have some neighborhoods lacking bike, pedestrian and transit facilities. The Census data has shown that the high percentage of households in the selected Census Block Groups depends on other than auto mode of transportation. It is analyzed that high percentage of households with the selected neighborhoods depends on non-motorized modes of transportation for journey to work or for other activities. In some neighborhoods there are missing segments of sidewalk and bikeway connections to the major destinations and schools that makes it difficult to use alternative modes of transportation in those areas. Some of the

residential units in the selected neighborhoods are too far from the bus stops and bus routes which makes it harder to use transit service out of those neighborhoods. The presence of highways, a river or creek creates lengthy diversions on route. Additionally, the presence of wide roads (four or more lanes) makes it hard for people with disabilities and school children to cross those corridors safely. People who are dependent on the non-motorized modes of transportation are also affected by lengthy diversions and long walking distance to the bus stops or bus routes. High percentages of neighborhoods in low and moderate income Census Block Groups have shown at least one or two major barriers within walk/bike zones.

The audit shows that some neighborhoods along arterial or collector streets are missing sidewalks/paths on one or both sides. Some local street segments are also missing a sidewalk within walk-able or bike-able distance. The neighborhoods in the close proximity to downtown area have shown little problems with the sidewalk and transit system compared to the other areas selected in the study area.

Anecdotal evidence suggests that some groups, such as immigrants or low income populations are excluded from the planning process due to their limited understanding of the planning process, particularly the challenges they face in a new living environment or due to their limited English proficiency. To improve this situation, it is important to involve minority groups and the Environmental Justice population in the early stages of the planning process. By addressing the needs of low to moderate income groups, the local jurisdictions not only fulfill their Environmental Justice obligations but also improve living conditions for all citizens including low income, moderate income and minority populations in Rochester.

The local road controlling authority maintains Pavement Condition Index (PCI) data for each street in Rochester. PCI is a numerical index between 0 and 100 which is used to indicate the general condition of a pavement. It is widely used by the local road controlling authorities throughout USA. It is statistical measure and require manual survey of the pavement by the professional technicians. Rochester City Public Works Department conducts the PCI data analysis and recommended the following four actions for each street in the City:

1. Do Nothing
2. Overlay
3. Chip seal
4. Reconstruction

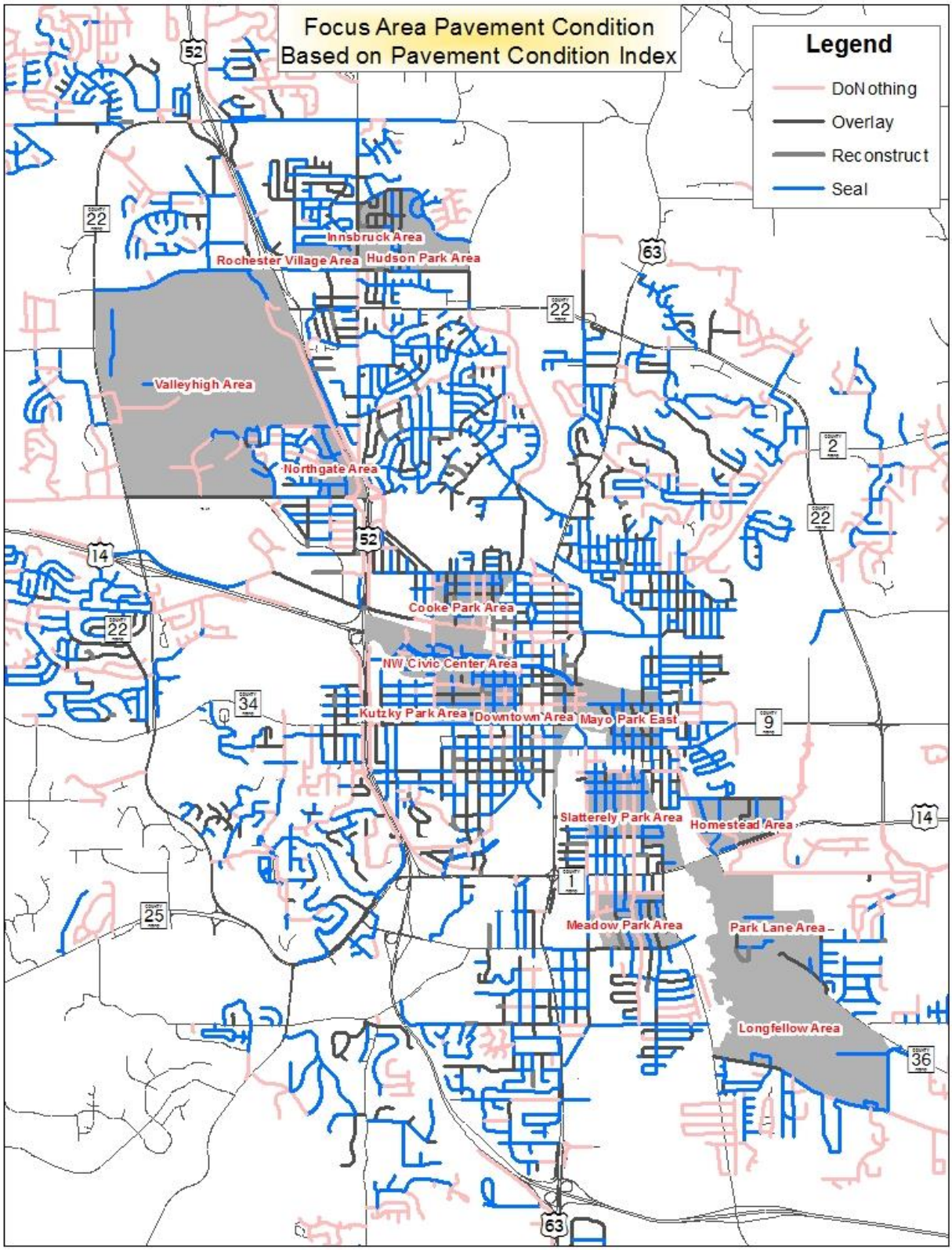
Figure 2-1 illustrates the pavement conditions in Rochester Urban Area based on the Pavement Condition Index data. The recommended actions are for the purpose of guidance only.

The next section would explain the methodology to prioritize the focus areas against the eight assessment factors. Those eight factors includes: zero vehicle ownership, number of kids, English speaking ability in the household, elderly population, disability, employment, and journey to work. Each neighborhood was then scored to prioritize. The priority is given to those neighborhood that scored lower in the analysis. The neighborhoods getting the lower score gets the high priority in terms of getting selected for infrastructure improvements.

Table2-1: Mobility and Access Limitation Audit Checklist

Major Audit Categories	Responses		
MAJOR BARRIERS	Need		Type
Is there any limited access highway within the selected area?	Y	N	
Is there any river or creek creating a lengthy diversion within walk/bike or transit route and bus stop?	Y	N	
Is there any street with four or more total lanes within selected area without a median refuge area?	Y	N	
SIDEWALK SYSTEM			
Is there any arterial/collector or any local street that does not have sidewalks or a path on both sides within the selected area?	Y	N	
Are there any local streets segments serving more than 20 homes that do not have sidewalks?	Y	N	
MOBILITY & ACCESS LIMITATIONS			
Are there any discontinued streets or walkway or bikeway within the selected area that limits accessibility to the schools and other major destinations?	Y	N	
Are ADA ramps at intersections within the selected area?	Y	N	
Are the bus stops located one block away from residences?	Y	N	
Are there any residences two or more blocks away from the bus stops or transit route in the selected area?	Y	N	
TRAIL AND PATH SYSTEM			
Are there any trails or paths within the selected area that connects to the school and other major destinations?	Y	N	
Are there any designated on-street bicycle facilities within the selected area?	Y	N	
CROSSWALKS / ADJACENT TO BUS STOPS & SCHOOLS			
Do crosswalks adjacent to the school and bus stops have pavement markings and highly visible signage present?	Y	N	
Are there non-intersection locations adjacent to school and bus stops at which children and other road users crossing streets without benefit of crosswalk improvements?	Y	N	
Are any of the designated crossing locations adjacent to the school or bus stops controlled by traffic signals? Do signals have pedestrian crossing indicators incorporated?	Y	N	
Do any designated crosswalks have flashing beacons or other indicators installed at crossings located within walking distance to school and other destinations?	Y	N	
CROSSWALKS / ALONG MAJOR CONNECTOR ROUTES IN WALK/BIKE ZONE			
Are there crosswalk markings and signage along primary connector roads to the school and at major street intersections?	Y	N	
Are there traffic signals present at major street crossings in the walk/bike routes?	Y	N	
Do traffic signals within the walk/bike zone have pedestrian crossing signals incorporated into the signal design?	Y	N	

Figure 2-1: Pavement Condition in the Focus Area



Methodology to Prioritize Census Block Groups

This study focuses on neighborhood areas where low income populations are more prevalent for the purpose of identifying neighborhoods mobility and access improvement needs may be the greatest. The process has identified 15 Census Block Group (BG) areas for consideration as illustrated in Figure 2-2.

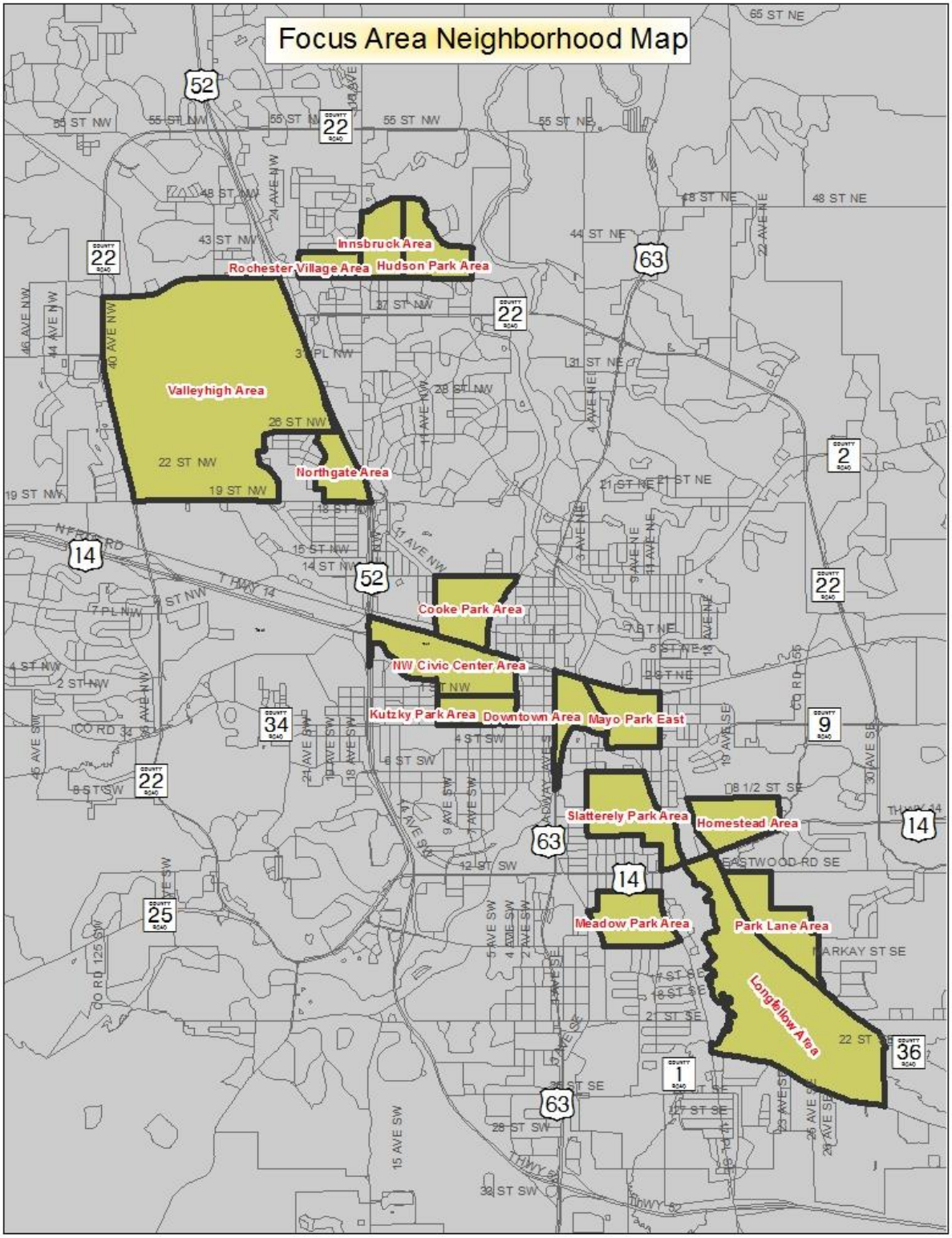
Given that funds are anticipated to be limited for the type of investments needed to improve access and mobility, an effort was made to prioritize the identified areas based on consideration of the relative size of various subgroup populations in each area who would be anticipated to benefit the most from either infrastructure or service enhancements.

The subgroups that were focused on for the purpose of prioritizing need in the fifteen neighborhood areas identified are described in Table 2-2 along with the rational for selecting this subgroups.

Table 2-2: Selection Rational

Population of Interest	Rationale
Households with Zero Vehicles	Zero Vehicle households face greater challenges accessing dispersed employment and education opportunities as well as access to retail, recreation or other services
Persons who do not speak English well or for who English is second language	Persons who do speak English well may face greater barriers in identifying and understanding the available transportation services and options that are available to them to meet daily travel needs
Persons who do not speak English	Similarly, persons who do not speak English will face even greater barriers than those with some English familiarity in terms of understanding what transportation options and services may be available
Number of children enrolled in grades K – 8	This factor is included to recognize the desirability of identifying low income neighborhoods with significant numbers of elementary and kindergarten age children who could benefit from pedestrian and/or bicycling improvements along routes to school and parks.
Persons age 16 to 64 in the Labor Force with a Disability	Disabled persons in the labor force may have specific transportation issues related to access to employment
Persons age 16 to 64 in the Labor Force who are Unemployed	Unemployed individuals may face financial challenges that limit private mobility which could be mitigated to an some extent by public service improvements
Number of Persons over Age 70 Living Alone	Older individuals, particularly those who live alone, may begin to experience a loss of private mobility which could be mitigated by improved public services or infrastructure
Number of employed persons with a job who start or finish work between 12 Noon and 5 AM the next day	Workers on 2nd or 3rd shifts face limitations in terms of transit accessibility given the start or end times of their jobs

Figure 2-2: Focus Area Neighborhoods



Recognizing that there is probably no perfect mechanism for prioritizing which areas should be considered having the greatest need for investment first, the approach chosen to prioritize areas is based on taking a multi-dimensional approach that considers all the subgroup populations listed in Table 2-3 above and identifying those areas with the greatest composite needs. In doing so, the authors of this report recognize that in certain areas the actual need may be focused on a limited number of subgroups, which will be identified in the neighborhood analysis section of the report, while recognizing that the types of potential improvements to be considered for any one group will generally benefit multiple groups once implemented.

The following steps were followed in the prioritization process:

1) Using data from the 2009-2013 American Community Survey, the number of individuals or households in each subgroup population was identified for each of the 90 Block Group areas that are delineated for the Rochester urbanized area

2) For each subgroup population, the results from the ACS data were ranked in an order from highest to lowest across all block groups in the urbanized area and a decile or quintile score (1 to 10 or 1 to 5) based on the number of persons or households in a given BG in that subgroup. For example, for households with no vehicles, after the BG were rank ordered from highest to lowest in terms of the number of households with no vehicles, the nine block groups (out of 90 BG) with the highest number of Zero Vehicles Households were given a score of 1, the next nine highest a score of 2, etc. The number of block groups (nine) in each group represents the breakdown of 90 overall block groups into ten decile. For some factors the distribution of values was so narrow across block groups that a quintile breakdown (five groups instead of ten) was used.

3) Table 2-3 shows the factor scores across the eight population or household subgroups (assessment factors) of interest were then summed for each of the targeted fifteen low income block group areas targeted to come up with a composite need score. The results of this are shown in Figure 2-3 as a ranking of selected neighborhoods by assessment factors. .

4) As shown in Figure 2-3 that the block groups with lower total scores (i.e., the shortest column height) are the areas with the greatest composite need identified. The graph indicates that Longfellow, Park Lane and Slatterly Park areas are the neighborhoods with the largest composite number of potential beneficiaries based on this analysis.

5) Table 2-4 provides an alternate view of the results, listing which neighborhoods fell into which decile for each of the subgroup population factors.

Table 2-3: Focus Areas Ranking Based on Eight Assessment Factors

Focus Areas	People in Focus Area	Zero Vehicle HH	# Kids	English as a Secondary Language	Don't Speak English	Disabled	Unemployed	Elderly Population	Journey to Work	Total Scores	Priority
Cooke Park	1069	1	3	3	4	5	2	2	4	24	High
Downtown East	679	1	10	1	2	2	2	1	9	28	Medium
Hudson Park	1437	2	1	2	2	2	2	10	2	21	High
Homestead	1399	5	1	1	1	1	3	7	5	24	High
Innsbruck	1745	2	2	4	4	2	5	8	1	28	Medium
Kutzky Park	836	1	7	5	4	2	10	8	2	39	Low
Longfellow	1076	1	1	1	1	1	3	3	7	18	High
Meadow Park North	1674	2	1	6	4	3	1	3	2	22	High
Mayo Park East	903	1	1	7	4	9	10	6	4	42	Low
Northgate	1097	5	2	7	3	5	4	7	10	43	Low
NW Civic Center Dr.	1290	2	3	2	4	6	2	5	1	25	High
Park Lane	1671	2	1	1	1	1	2	9	3	20	High
Rochester Village	983	3	2	7	2	10	10	10	4	48	Low
Slatterly Park	1587	2	4	3	1	1	1	7	1	20	High
Valley-high Drive	1268	3	2	2	4	3	8	8	4	34	Medium

The above table provides a summary of eight assessment factors for selected neighborhoods by Census Block Groups. It provides information about the total number of people living in the selected areas and ranking of selected areas based on eight assessment factors. The ranking is based on the scoring system decile (0-10) or quantile (0-5) for each assessment factor. The lower score identifies the dire need for improvements whereas higher score represent no improvement is needed at this time. For example Rochester Village scored 48 for all eight assessment factors and 10 each for disability, unemployed and elderly living alone. Based on the scoring, Rochester Village stands at a low priority compared to the Longfellow, Slatterly Park and Hudson Park neighborhoods due to their lower scores.

Figure 2-3: Ranking of Selected Neighborhood by Assessment Factors

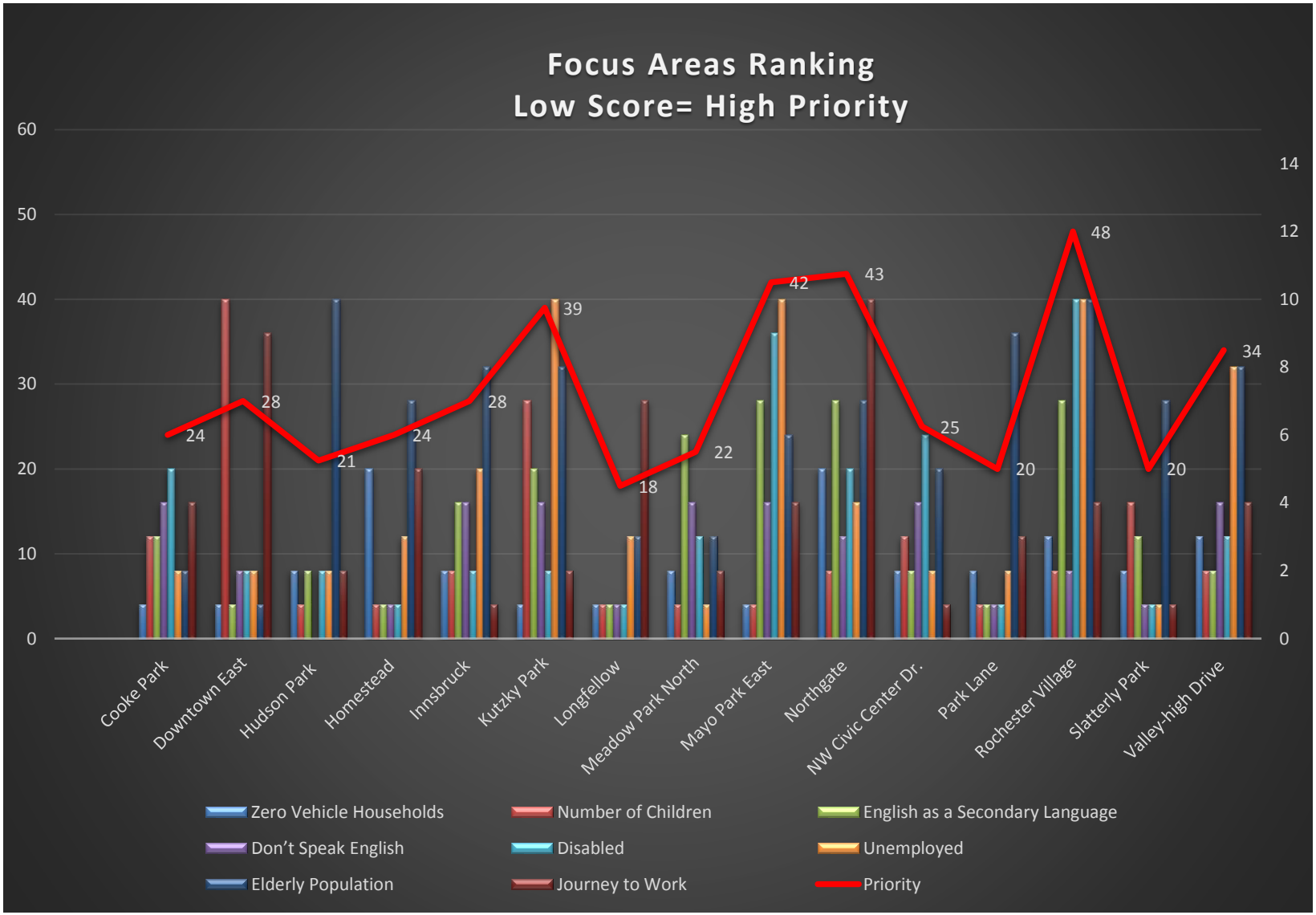


Table 2-4: Alternative View of Composite Score

Decile	Zero Vehicle Households	K-8 Children	ESL Total	Don't Speak English* (*Quintile*)	Disabled Workers	Unemployed	Elderly Living Alone	2nd/3rd Shift Job
1st	Longfellow Downtown Kutzky Park Mayo Park Cooke Park	Longfellow Park Lane Meadow Park Nor Homestead Mayo Park East Hudson Park	Longfellow Park Lane Downtown Ea Homestead	Longfellow Park Lane Homestead Slatterly Park	Longfellow Park Lane Homestead Slatterly Park	Meadow Park N Slatterly Park	Downtown East	Innsbruck Area Civic Center Slatterly Park
2nd	Park Lane Meadow Park Innsbruck Area NW Civic Center Dr. Hudson Park Slatterly Park	Rochester Village Northgate Area Valleyhigh Drive Innsbruck Area	Valleyhigh Drive NW Civic Center Dr Hudson Park	Rochester Village Downtown Hudson Park	Downtown East Kutzky Park East Innsbruck Area Hudson Park	Park Lane Downtown East NW Civic Center Dr Hudson Park Cooke Park	Cooke Park	Meadow Park Kutzky Park Hudson Park
3rd to 5th	Rochester Village Valleyhigh Dr. Northgate Homestead	NW Civic Cr Dr. Cooke Park Slatterly Park	Slatterly Park Cooke Park Innsbruck Area Kutzky Park	Northgate Area	Valleyhigh Driv Meadow Park N Northgate Area Cooke Park	Longfellow Homestead Northgate Area Innsbruck Area	Longfellow Meadow Park NW Civic Center Dr	Park Lane Rochester Village Valleyhigh Dr. Mayo Park Cooke Park Homestead
6th or Below		Kutzky Park Downtown	Meadow Park Nor Rochester Village Northgate Mayo Park	Valleyhigh Drive Meadow Park Kutzky Park Mayo Park Innsbruck Area Civic Center Dr. Cooke Park	NW Civic Center Dr Mayo Park East Rochester Village	Valleyhigh Dr. Rochester Village Kutzky Park Mayo Park	Mayo Park & Northgate Homestead, Slatterly Rochester Village Valleyhigh Dr. Kutzky Innsbruck Hudson Park Park Lane	Longfellow Downtown Northgate Area

Focus Areas Analysis

A brief over view about the methodology to prioritize the focus areas was provided in the previous section. Under this section we will analyze the focus area neighborhoods based on the eight assessment factors or matrices. American Community Survey data for 2009-2013 was used for this analysis. Each neighborhood was scored to prioritize according to criteria selected for this analysis. The priority is given to those neighborhood that scored lower in the analysis. The neighborhoods getting the lower score gets the high priority in terms of getting selected for infrastructure improvements. The following eight assessment factors were used for the analysis:

- Zero Vehicle Households
- No of Children
- English as Secondary Language
- Don't Speak English
- Disabled Workers
- Unemployed
- Elderly
- Journey to Work

Figure 2-4 shows the zero vehicle households in fifteen neighborhoods selected for the analysis. Red and blue colored neighborhoods represent the high concentrations of households without auto. Green and yellow colored neighborhoods represent the medium concentration of zero vehicle households. However, gray color represent the lowest number of households with an auto.

Figure 2-5 shows the number of households who use English as a second language. Red, purple, blue and green colored neighborhoods represent the high concentrations of households who use English as a second language. Green, orange and yellow colored neighborhoods represent the low concentration of households who speak English as a second language.

Figure 2-6 shows the number of persons who don't speak English. Red, blue and yellow colored neighborhoods represent the high concentrations of persons who don't speak English. Grey colored neighborhoods have the smaller number of persons who can't speak English.

Figure 2.7 shows the number of persons with worker disabilities. Red, blue and green colored neighborhoods represent the high concentrations of people with workers disabilities. Grey and yellow colored neighborhoods represent the low concentration of people with workers disabilities.

Figure 2-8 shows the number of unemployed people in the selected areas. Red, blue and green colored neighborhoods represent the high concentrations of unemployed people. Grey and yellows colored neighborhoods represent the low concentration of unemployed people.

Figure 2-9 shows the students enrollment in Grades K-8 by neighborhood. Red, blue and green colored neighborhoods represent the high concentrations of students enrolled in K-8. Grey and yellow colored neighborhoods represent the low enrollment of students in Grades K-8.

Figure 2-10 shows the number of second and third shift workers by neighborhood. Red, blue and green colored neighborhoods represent the high concentrations of second and third shift workers. Grey and yellows colored neighborhoods represent the medium to low concentration of second and third shift workers.

Figure 2-11 shows the number of people who uses public transit for journey to work. Red, blue and green colored neighborhoods represent the high concentrations of transit users for their journey to work. Yellows colored neighborhoods represent the low to medium concentration of public transit users.

Figure 2-12 shows the number of workers who walk or bike to work from the selected areas. Red, blue and green colored neighborhoods represent the high concentrations of people who walk or bike to work. Grey and yellows colored neighborhoods represent the low number of workers who walk or bike to work.

Figure 2-13 shows the number of elderly people living alone in the selected areas. Red, blue and green colored neighborhoods represent the high concentrations of elderly people living alone. Grey and yellows colored neighborhoods represent the low concentration of elderly people.

Figure 2-14 shows the composite prioritization score by neighborhood. Red and green colored neighborhoods have a lower scores and require infrastructure improvements sooner than later. Grey colored neighborhoods represent the lower need for infrastructure improvements. The graph indicates that Longfellow, Park Lane, Slatterly Park, Meadow Park, Civic Center Dr. and Hudson Park neighborhoods with the lower score but higher priority based on this analysis.

Cooke Park, Homestead, Innsbruck, Valleyhigh Dr. and Downtown neighborhoods ranked as a medium priority based on the ranking system. Kutzky Park, Mayo Park, Northgate and Rochester Village neighborhoods were ranked at the lowest priority based on this analysis.

Figure 2-4: Zero Vehicle Households by Neighborhoods

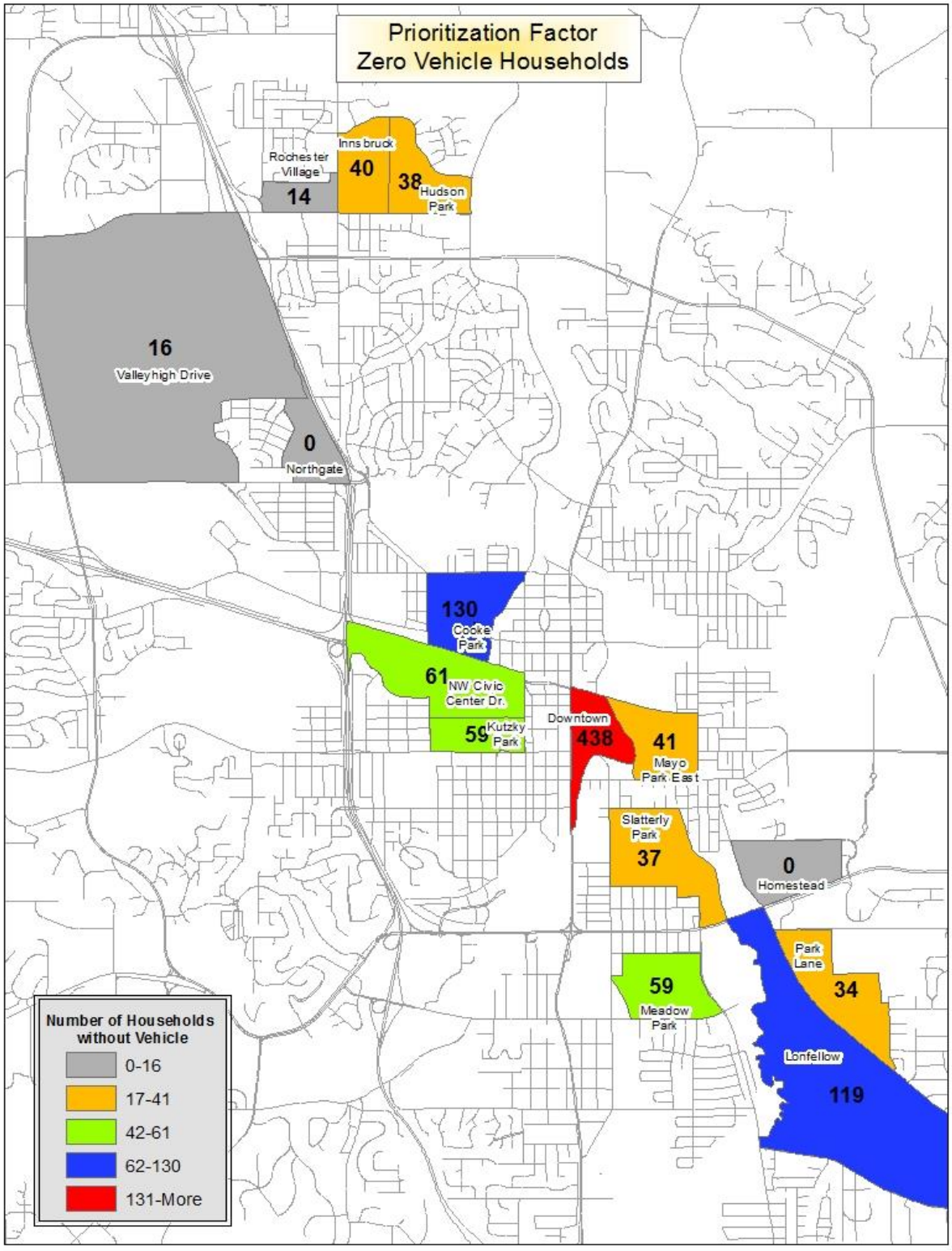


Figure 2-5: Number of People Who Use English as a Second Language

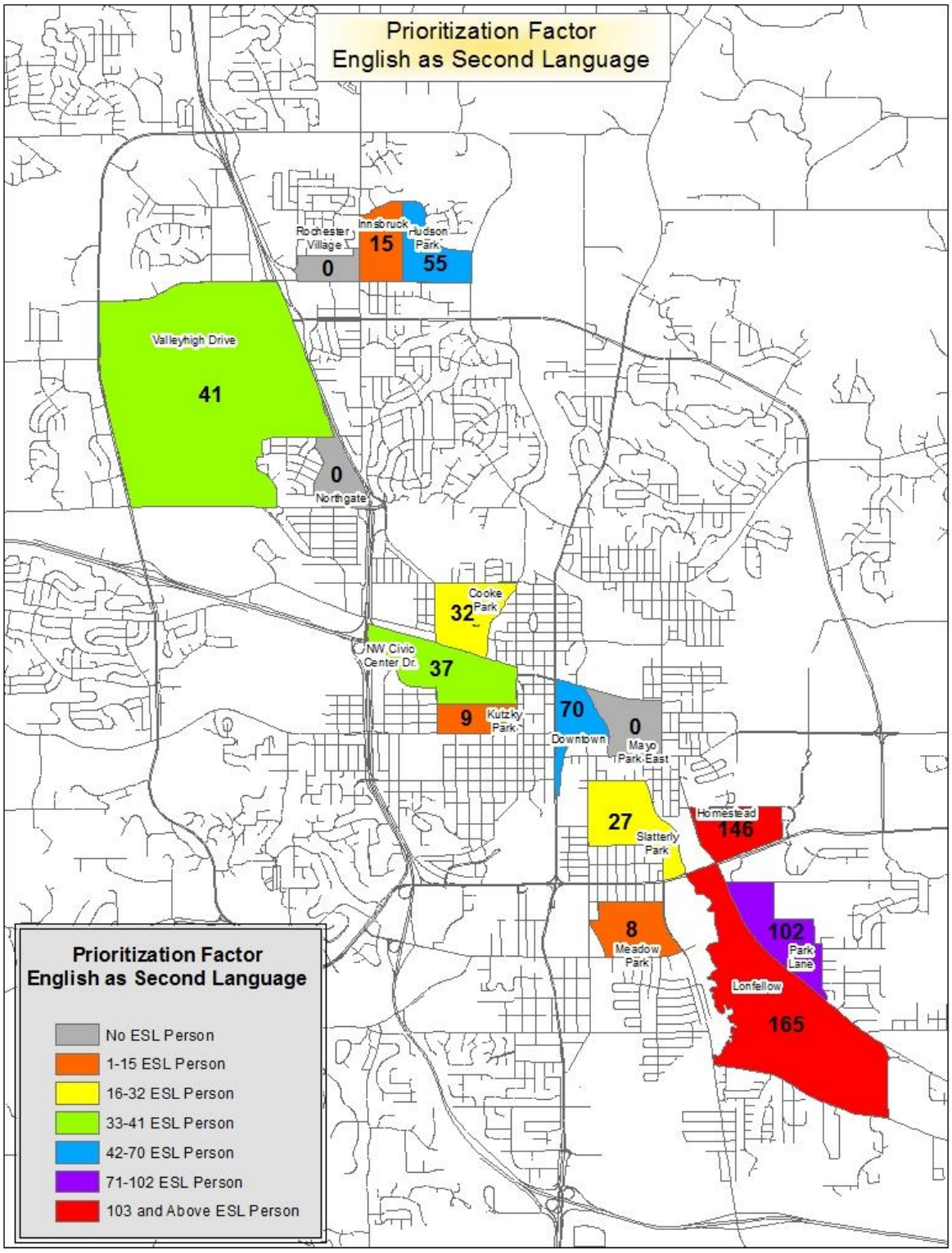


Figure 2-6: Person Who Don't Speak English

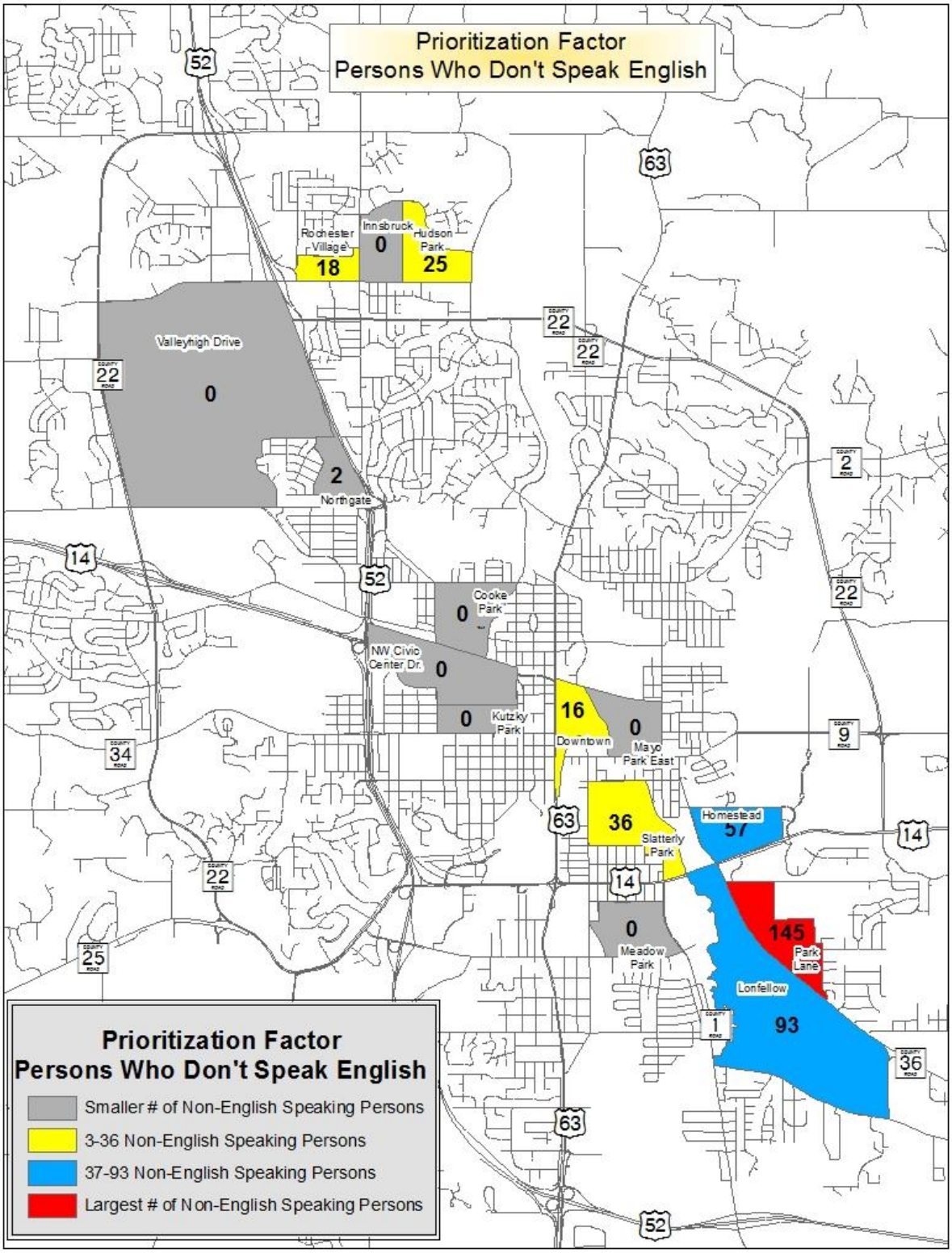


Figure 2-7: Person with Worker Disabilities

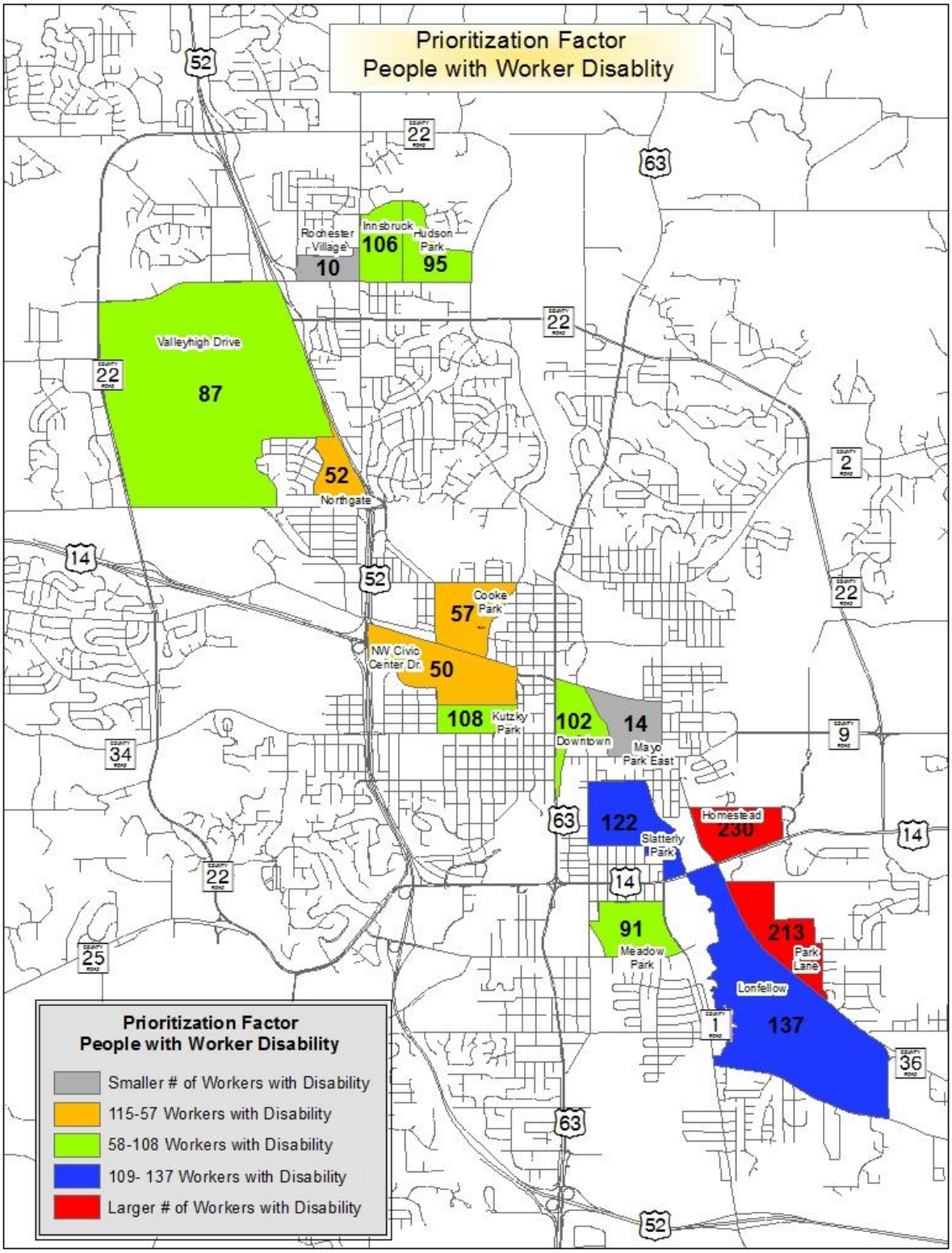


Figure 2-8: Number of People Who Are Unemployed

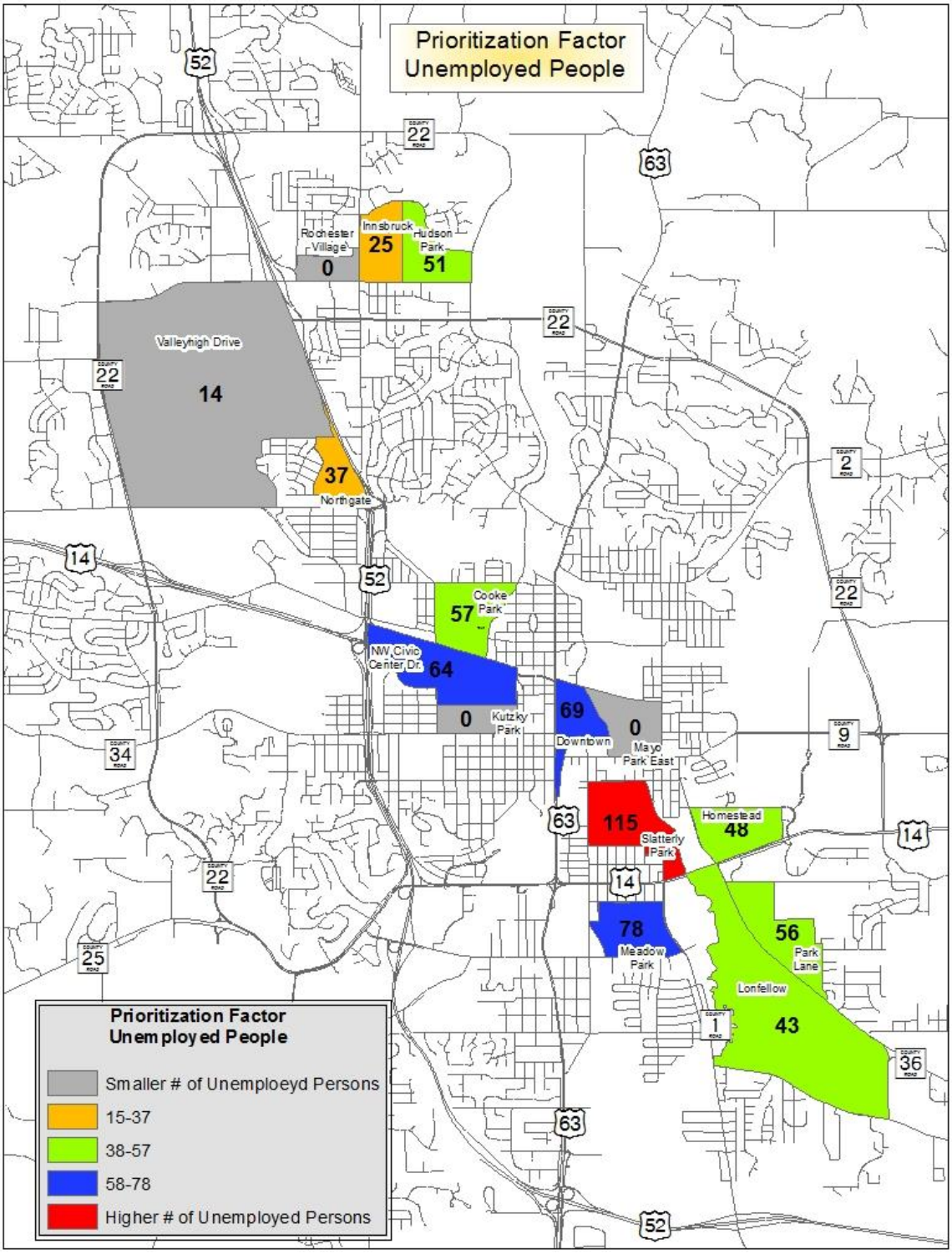


Figure 2-9: School Enrollment in Grades K-8

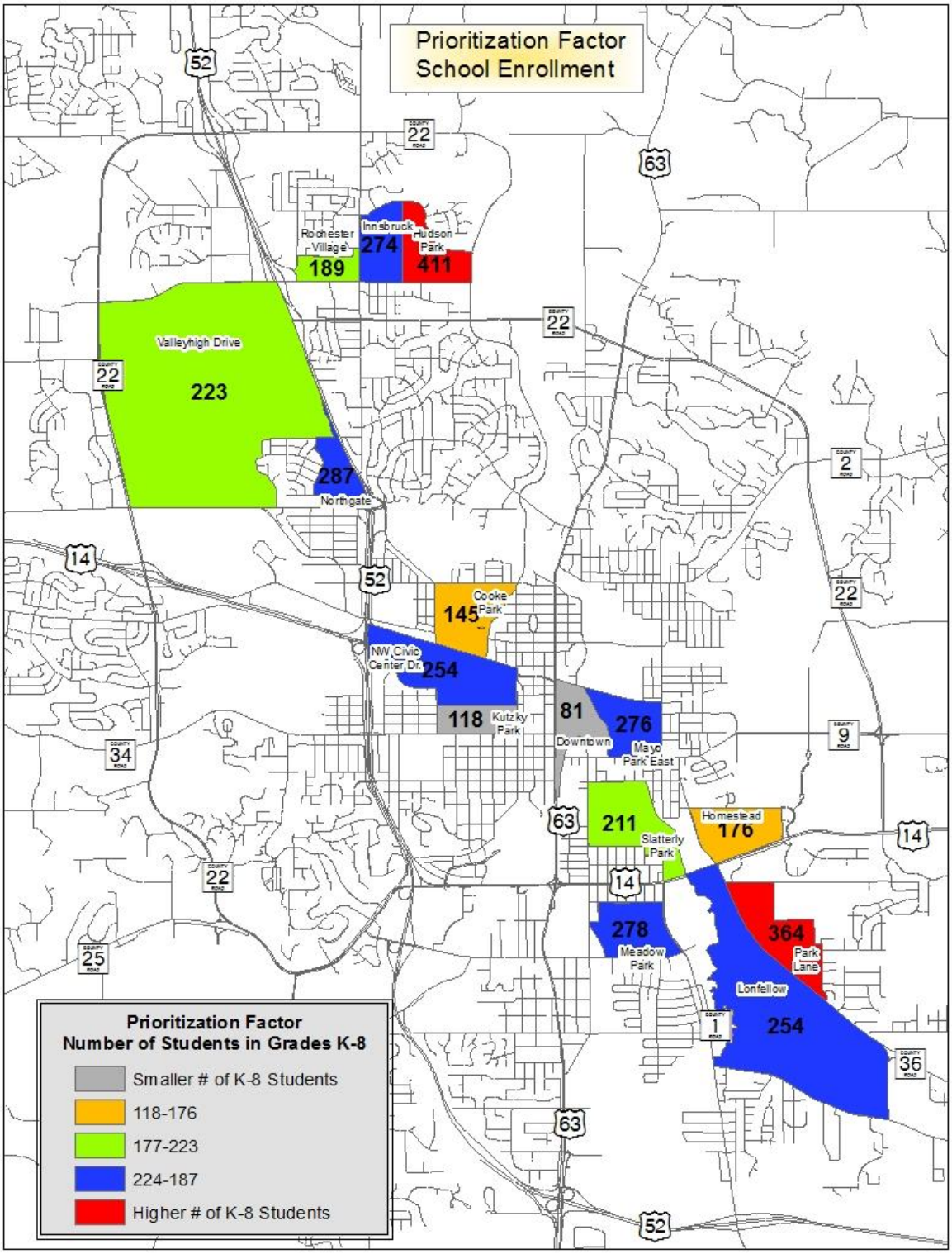


Figure 2-10: Second and Third Shift Workers by Neighborhood

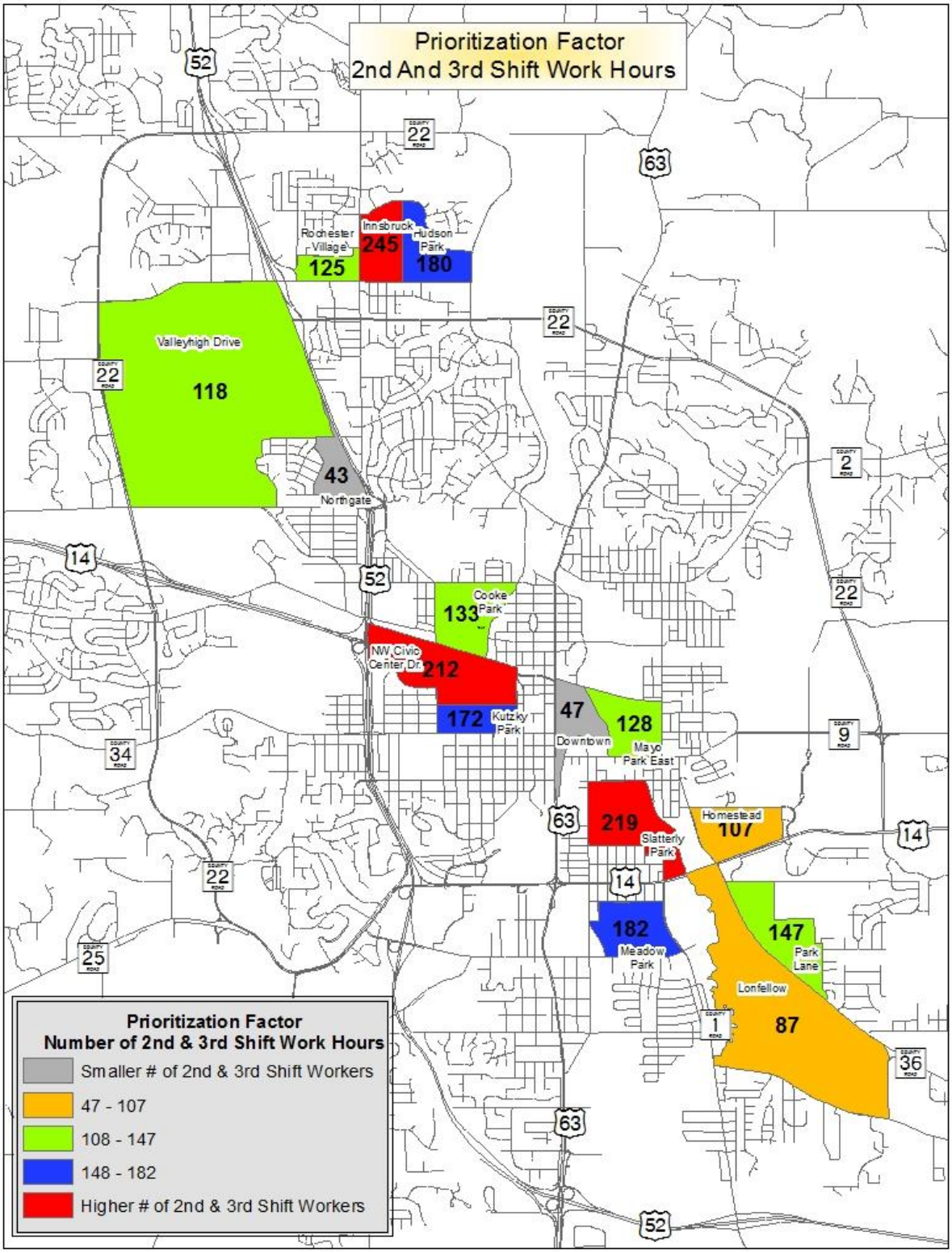


Figure 2-11: People Who Use Public Transit for Journey to Work

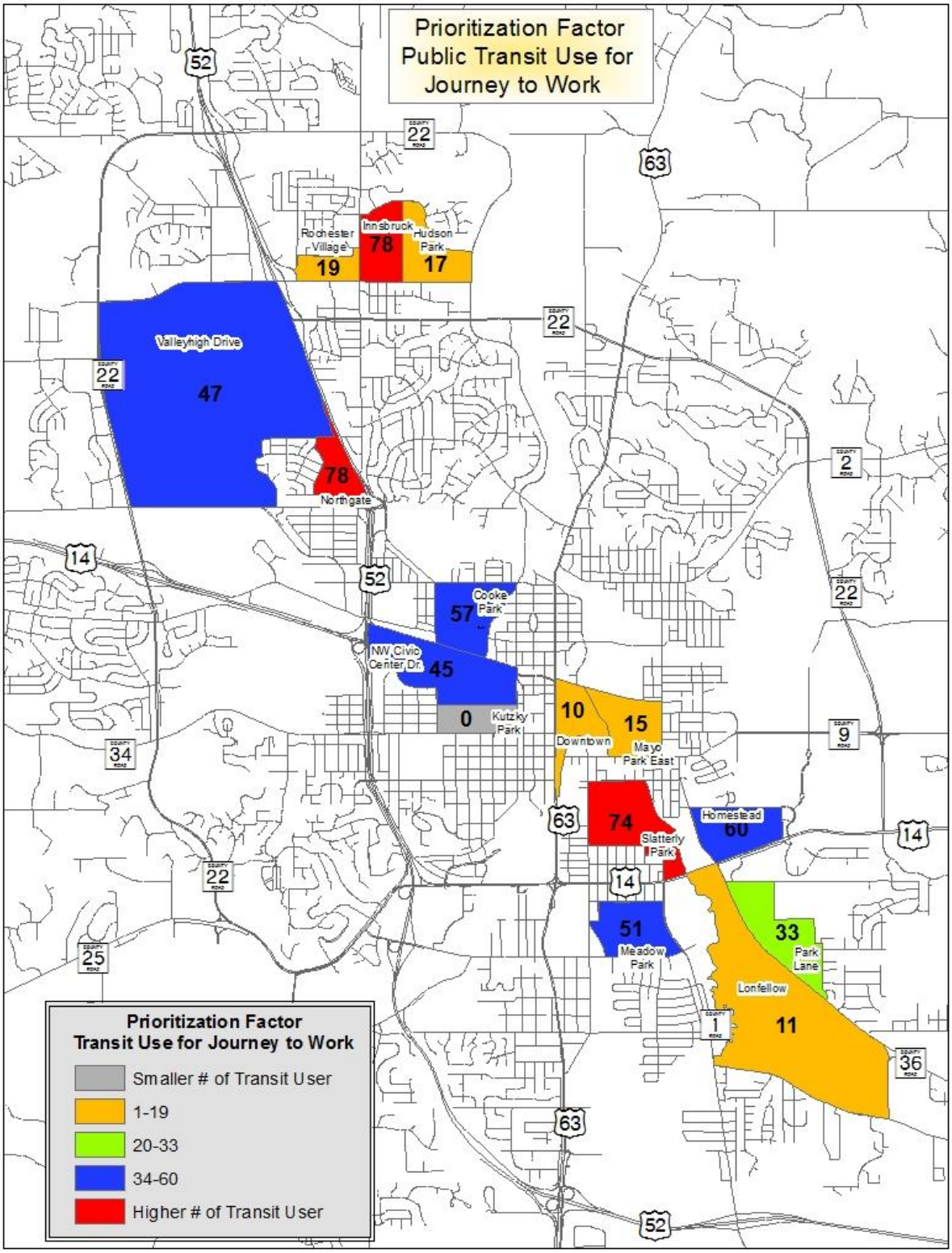


Figure 2-12: Workers Who Walk or Bike to Work

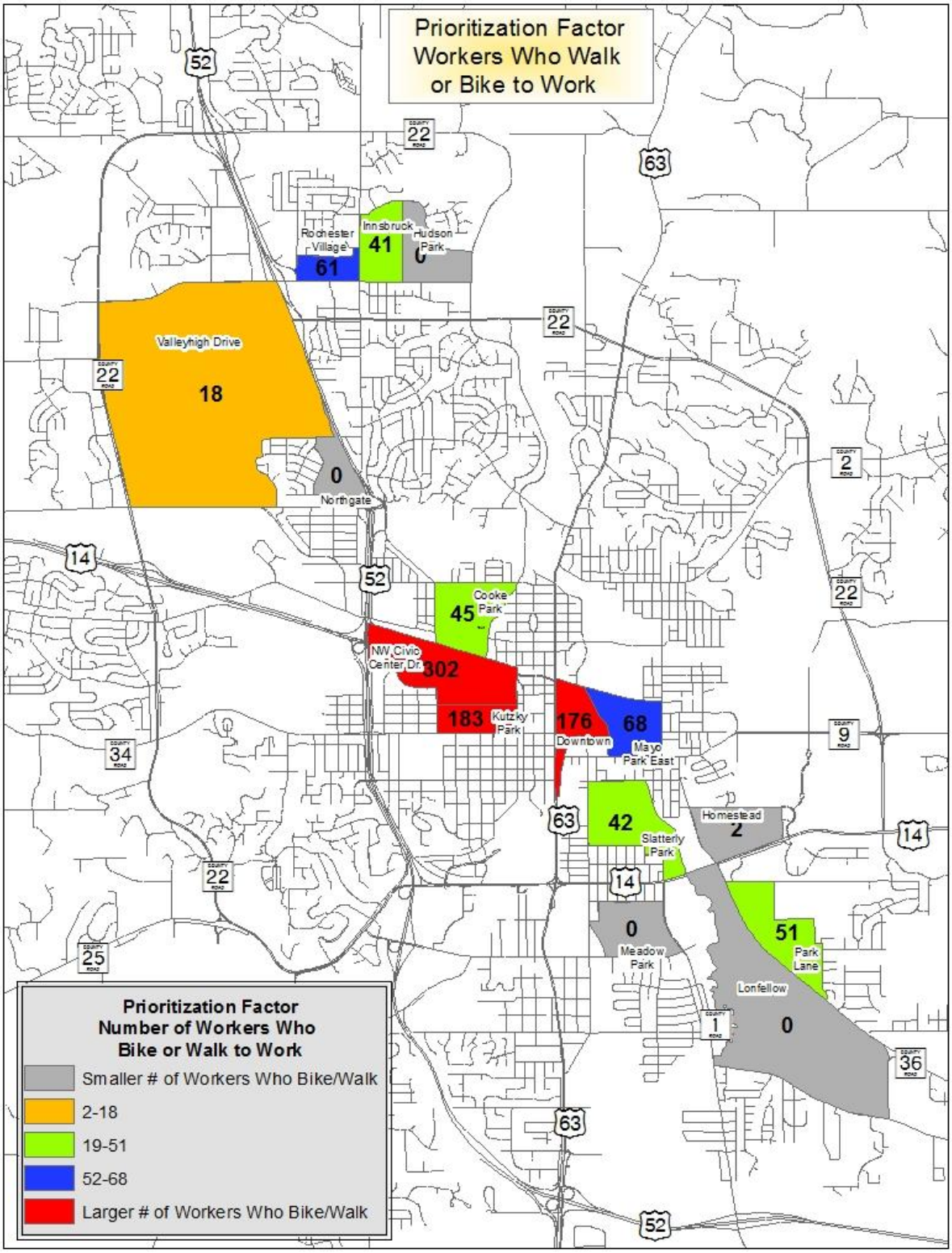


Figure 2-13: Elderly Population Living Alone

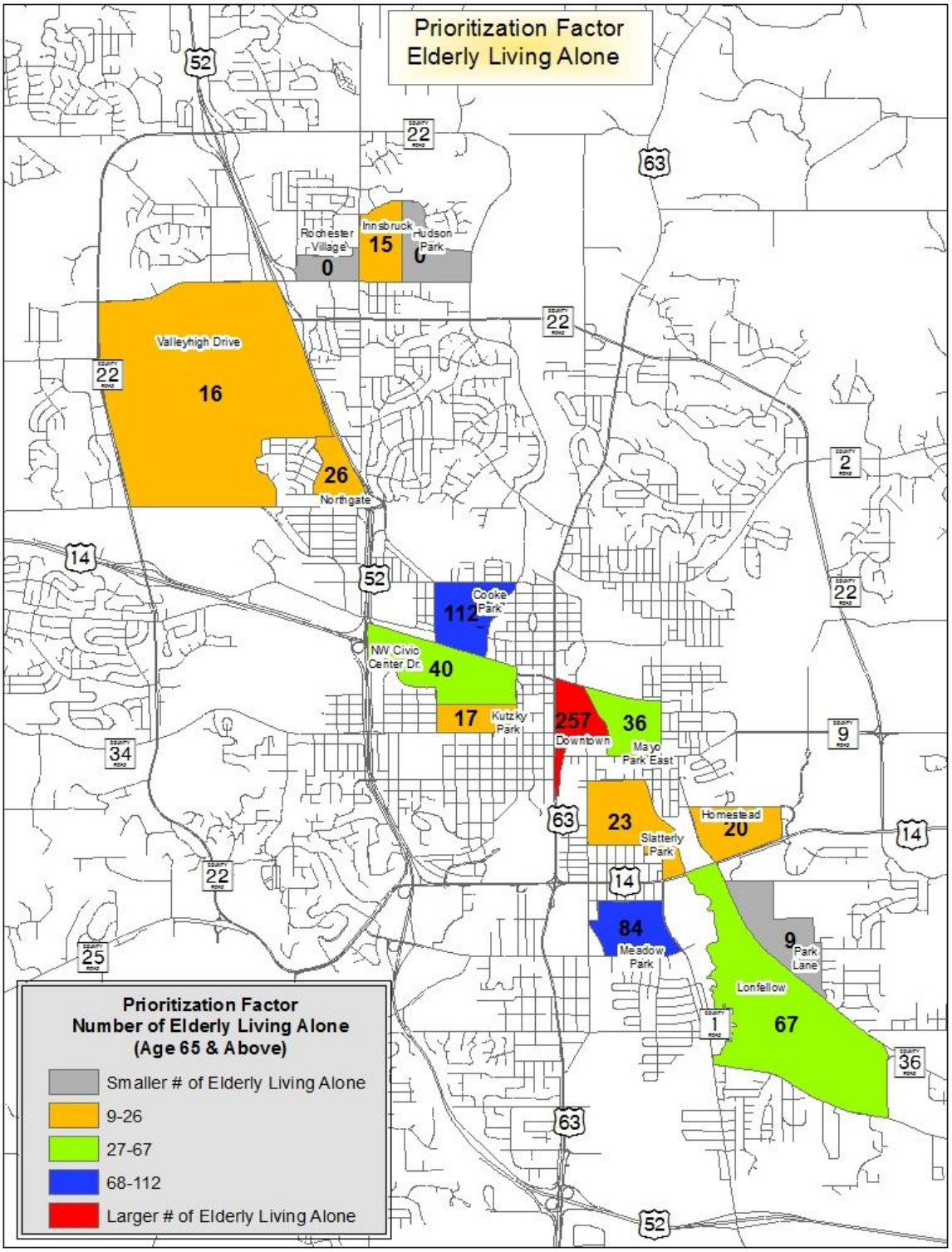
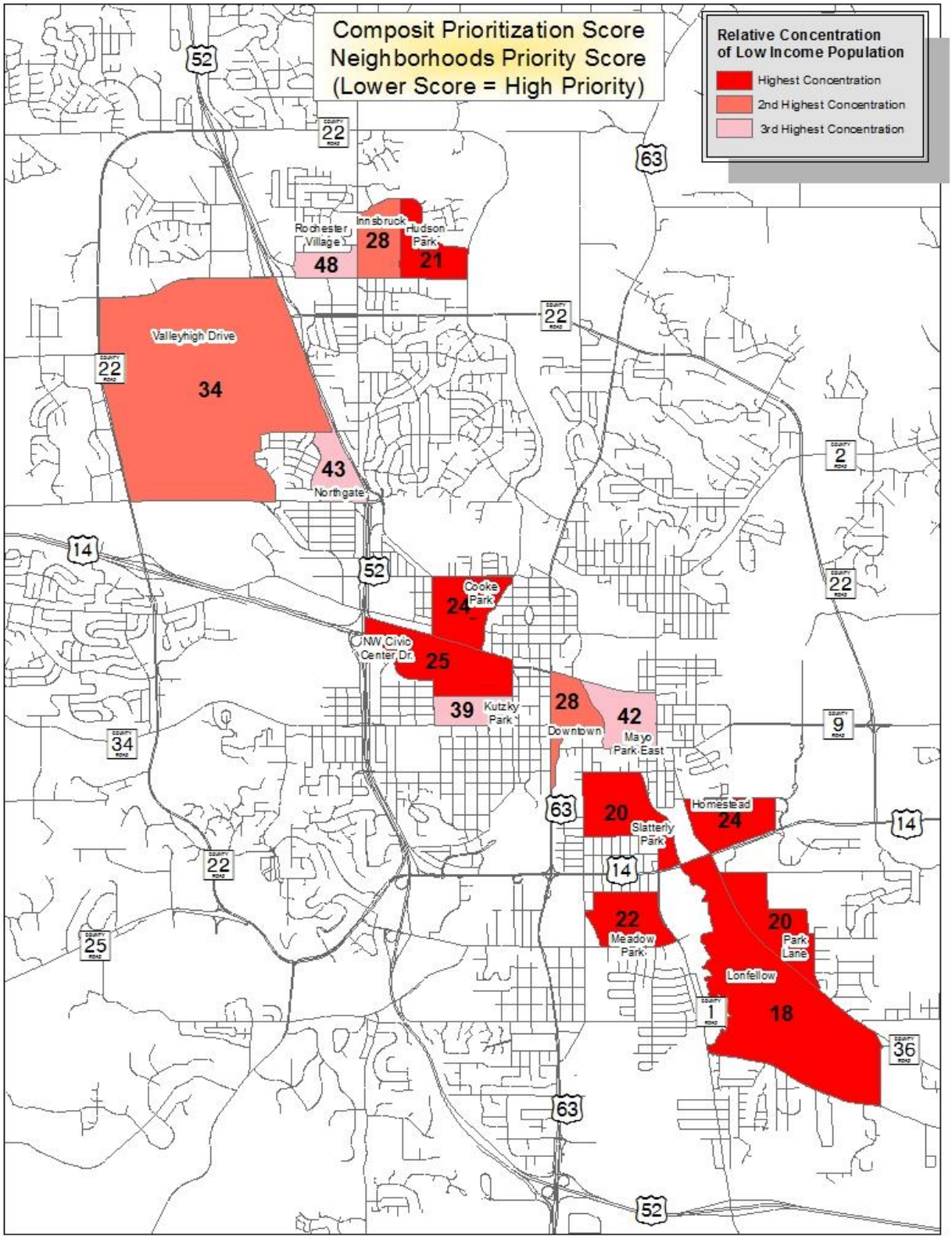


Figure 2-14: Composite Prioritization Score by Neighborhood



Strategies and Improvement Guide for Focus Area Neighborhoods (Part III)

The following section of the study presents general strategies and description of infrastructure improvements to fill in the facility gaps, roadway and transit improvements in the selected neighborhoods in low and moderate income areas of Rochester.

The improvement guideline involving actions related to building and maintaining infrastructure for the bicycle and pedestrian facilities, bus routes improvements and roadway and intersection improvements.

The suggested improvements are presented as part of this study to facilitate further discussion regarding the level of improvement or treatment that should be made to improve the mobility and access for low and moderate income people in general and the Environmental Justice population in particular.

In conclusion the study emphasized on identifying a leadership framework to ensure that ongoing efforts are being made to implement and develop support for the action guidelines recommended in the study.

Sustain efforts are needed at securing funding, particularly through various federal grant programs. Developing a strong partnership with the neighborhoods and nurturing of ongoing community involvement at neighborhood level is vitally important for the success of the study.

Strategies and Improvement Guide

This section of the study presents general strategies and description of infrastructure improvements to fill in the facility gaps and transit improvement facility in northwest, central and southern side of Rochester where high percentage of low to moderate income people live. They generally more dependent on non-auto and transit service for their journey to works, school or recreation. To achieve the goals and objectives of this study, a range of general strategies and actions are included in this part of the study. The general strategies included in this section involve actions related to improvements, building and maintaining sidewalks, off-road and on-road bikeway routes, bus routes, and major roadway and intersection improvements.

The Geographic Information System maps were developed for each selected areas to show the existing and missing bicycle, pedestrian and transit gaps and Pavement Conditions Index (PCI) at Census Block Group (CBG) level. An audit checklist was also completed for selected neighborhoods to identify the gaps and deficiencies in the system. The audit checklist worksheets for fifteen neighborhoods included in this study are placed at Appendix "A". Finally, actions for each selected neighborhood were developed for the use of local authorities to make the motorized, non-motorized and transit system more useable for Environmental Justice populations and people belonging to low to moderate income groups in Rochester. The benefit of infrastructure improvements in the selected areas is not only for low to moderate income populations but it will go to all walks of life including high income population living in the focus area or in the vicinity.

The following general strategies are applicable to the study area as well as all areas within the Rochester City limits. Those strategies are developed based on the research, public consultation for the long range transportation plan and the review of Census Data and American Community Survey 2009-20013:

- Rochester should adopt policies that require the inclusion of adequate bicycle and pedestrian access in all development and standards or guidelines for the dedication or acquisition of easements and rights-of-way for bikeways and walkways in conjunction with development approval;

- Require the provision of bikeways and walkways consistent with the local regulations, and in accordance with the adopted plans including ROCOG Long Range Transportation Plan;

- Rochester should consider forming a Working Group to study the issue of how gaps in the sidewalk network could be reduced. The group should identify priorities for filling in sidewalk system gaps, and recommend strategies to build sidewalks where they are missing in the Rochester urban area;

- Rochester should implement the adopted Neighborhood Traffic Management Program for the safety of bicyclists and pedestrian in residential neighborhoods;

- Rochester should monitor data on crashes involving bicyclists/pedestrians on a routine basis to determine where needs may exist;

    - a) for better signing, lighting or traffic control
    - b) for education initiatives targeted to users of the area, or
    - c) for new facilities to reduce the risks to bicyclists and pedestrians

- Consider a program of Road Safety Audits or Intersection Safety Audits to provide the level of detailed study needed to evaluate the significance of risks at high crash locations;

- Roadway crossings are one of the most challenging aspects of pedestrian travel and the location where nearly all pedestrian - motorist collisions occur. Particularly in areas of high pedestrian activity, methods to improve crossing safety should be considered including:

    - shortening the crossing distance such as with pedestrian refuge islands, curb extensions or by reducing the radii of intersection corners;
    - reduction of speed limits in the CBD, near schools and other areas of high pedestrian activity;
    - alerting motorists of the potential presence of pedestrians through use of measures such as enhanced signage, crosswalk markings, actuated signals, and lighting;
    - removing sight obstructions, such as parked cars, trees, and signs in the immediate vicinity of an intersection crossing to improve visibility of pedestrians and vehicles;
    - adjusting traffic signal timing at locations where a higher proportion of persons with mobility impairments or the elderly are present to provided additional crossing time.

- Rochester should experiment with innovative ways to increase pedestrian safety, testing strategies on a pilot project basis initially to identify their potential efficacy to improve safety;

- Transportation and Public Health agencies should coordinate with school district facility planners to support a Safe Routes to School (SR2S) program and identify improvements that can enhance bicycle and pedestrian access to schools;

- Adequate pathways for pedestrians and bicyclist should be provided within the service area of all bus route corridors to facilitate access to bus stops, park & ride lots or transit hubs. Facilities should meet ADA requirements to encourage transit use by those with physical limitations;

- Bus stop design should minimize conflicts between transit patrons and other non-motorized users, such as bicyclists on bike lanes or pedestrians walking past passengers waiting to board, and bike parking should be considered.

Suggested Infrastructure Improvements Guidelines

Rochester should identify the final list of infrastructure improvements and measures cooperatively with the help of affected neighborhood residents and should engage them in identifying appropriate mitigation in those neighborhoods with significant environmental justice populations. Public participation from low to moderate income and minority group is important for transportation projects. Environmental impacts and environmental justice issues can be addressed without extensive study and simply by involving such groups in the process. Rochester would be required to perform an extensive project-specific environmental justice analysis at a qualitative level except when a project triggers an Environmental Impact Statement (EIS).

If Rochester had even distributions of environmental justice populations, an equitable distribution of transportation benefits and impacts would automatically result. This is not the case, however, low income and minority populations are concentrated in certain parts of Rochester as shown in Figure 3-1. Although Rochester is less segregated than most Midwestern communities, certain neighborhoods have relatively high proportions of households with low income. The concentration of population by race is chiefly the result of the concentration of lower cost housing. Segregation of lower income households is undesirable by itself, but in addition, concentrating new lower cost housing will result in increasing segregation by race.

The infrastructure improvements for the selected areas are suggested under the following four major categories:

- Bikeway Improvements
- Pedestrian Facility Improvements
- Transit Improvements
- Roadway and Crossing Improvements

An audit checklist for each selected neighborhood within the study area was filled out by reviewing the existing bicycle, pedestrian and other infrastructure facilities. The available mobility and access limitation for people with disabilities was also looked into. GIS maps for each selected area showing the existing infrastructure facilities gaps was developed. A summary of improvement guidelines are included for each selected neighborhood to improve infrastructure facilities in low and moderate income neighborhoods where mobility and access limitations exists.

The improvement guidelines for fifteen selected neighborhoods is a vital part of the study suggesting actions related to building and maintaining infrastructure for the bicycle and pedestrian facilities, bus routes and bus stop improvements and roadway/intersection improvements. The improvement suggestions are presented as part of this study to facilitate further discussion regarding the level of improvement or treatment that should be made by the road controlling authorities to improve the mobility and access for low and moderate income people in general and the Environmental Justice population in particular. As with any system

planning effort, these recommendations are general guidelines as they have not been subjected to a complete engineering analysis and thus are presented as suggested improvements. ***Final designs for any specific improvement must be worked out by the unit of local government before including any suggested improvement in their Capital Improvement Program and take into account the level of resources that can be available for a project.***

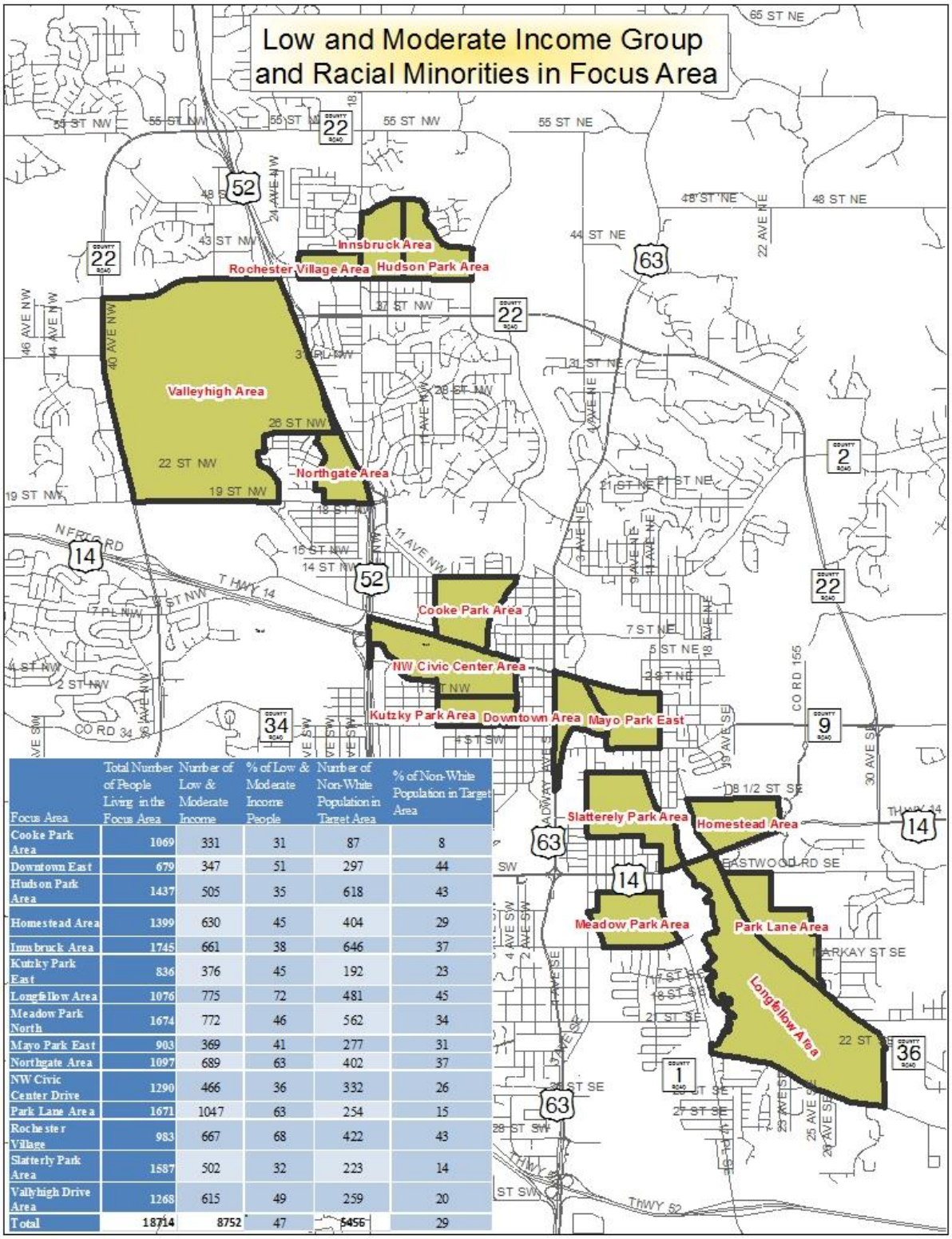
Summary of Improvements

Generally, the existing neighborhoods in the selected areas are reasonably served by bicycle trails, paths and on street bicycle facilities. Rochester has adopted a complete street policy and Bicycle Master Plan which has significantly increased the potential for development of bicycle and pedestrian facilities in the community. Rochester has had a long standing policy applying to pedestrian facilities that is implemented through its development process. The new development under local regulations are required to provide sidewalk on both sides of the new street along with the non-motorized facilities recommended in the Comprehensive Plan. There are some legacy neighborhoods without sidewalks that exist before those neighborhoods were incorporated into the Rochester City limits. Those legacy neighborhoods without pedestrian facilities pose a serious concern for the residents as well as local authority. As far as transit service is concerned, nearly all parts of the selected areas are within the transit routes with the exception of very few neighborhoods that require walking beyond two or more blocks to the bus stop.

Implementation of actions recommended in the Bicycle Master Plan, Downtown Master Plan and non-motorized section of the Long Range Transportation Plan is important for the success of mobility and limited access neighborhoods. All neighborhoods within selected study area requires convenient and walkable distance to bus stops and schools. Revisiting the transit facilities and implementation of transit improvements planning is also recommended to be covered in Transit Development Plan under preparation by the City. High volume pedestrian crossings intersections should be marked and sign posted especially near senior citizen housing areas and schools, where high percentages of people with disabilities and children are crossing the high speed and high traffic volume four or more lane streets.

Figures 3-2 to 3-16 are showing existing/missing bike, pedestrian, transit facilities and deficient intersections for fifteen selected neighborhoods at Census Block Group level. Table 3-1 through Table 3-15 provide summary of improvements guidelines for each selected neighborhood. Missing bicycle and pedestrian facilities are recommended to be constructed according to adopted plans by the local unit of governments to fill in the gaps to the major destinations and safe routes to school within the study areas and beyond. Toward the end a summary of improvements under major and minor categories is illustrated in Table 3.16 for fifteen neighborhood included in the focus area related to bikeway, pedestrian, transit, roadway and intersection. The table also reflects the matrix of improvements in each neighborhood under four categories in the study area.

Figure 3-1: Low to Moderate Income Group and Minority Population in Focus Area



Focus Area	Total Number of People Living in the Focus Area	Number of Low & Moderate Income People	% of Low & Moderate Income People	Number of Non-White Population in Target Area	% of Non-White Population in Target Area
Cooke Park Area	1069	331	31	87	8
Downtown East	679	347	51	297	44
Hudson Park Area	1437	505	35	618	43
Homestead Area	1399	630	45	404	29
Innsbruck Area	1745	661	38	646	37
Kutzky Park East	836	376	45	192	23
Longfellow Area	1076	775	72	481	45
Meadow Park North	1674	772	46	562	34
Mayo Park East	903	369	41	277	31
Northgate Area	1097	689	63	402	37
NW Civic Center Drive	1290	466	36	332	26
Park Lane Area	1671	1047	63	254	15
Rochester Village	983	667	68	422	43
Slatterly Park Area	1587	502	32	223	14
Vallyhigh Drive Area	1268	615	49	259	20
Total	18714	8752	47	5456	29

Figure 3-2: Key Demographics and Existing Infrastructure Facilities in Longfellow Area

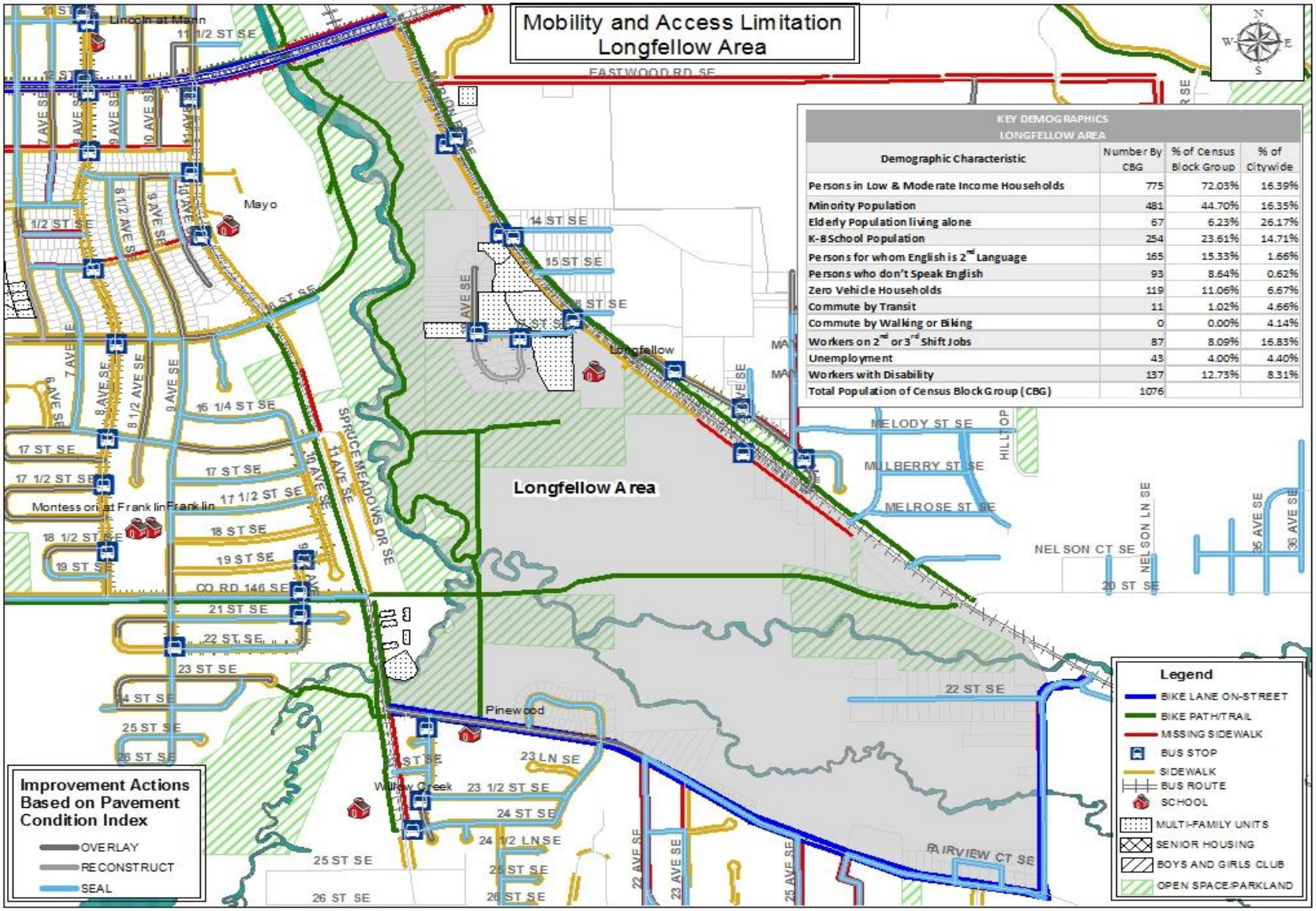


Table 3-1: Summary of Improvement Guidelines for Longfellow Area

Bikeway Improvements

The Longfellow area requires bicycle transition boxes at various locations such as at the intersections of 11th and TH14, 11th and 20th Street SE, and Marion Road and 20th Street SE. Colored bikelane treatment is recommended at the intersection of Marion and TH 14 SE. Bike facility design study is recommended for 11th Ave SE between 20th Street and TH 14 SE.

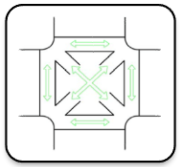
Bike route is recommended east of 11th Ave along 16th Street SE to connect the exciting bicycle trail in Bear Creek area.

Pedestrian Improvements

Recommended to fill the sidewalk gaps: On the west side of Marion Road from 20th St SE to Melrose St SE intersection, from Melrose St SE to the existing sidewalk facility on the west side of Marion Road, on the east side of 11th Ave between 24th St SE and Pinewood St, east side of 11th Ave north of Spruce Meadow Dr and soth side of Th14 between 11th Ave and the bridge.

Transit Improvements

Bus stop with shelter is needed along Pinewood Road east of 18th Ave SE. There is a big gap between the bus stop north of 24th Ave SE and Pearl Ct . New bus stop is needed in between those two stops. No bus shelter is located along Marion Road. One or two bus shelters are recommended and a an additional bus stop is recommended on 11th Ave SE.



Roadway and Crossing Improvements

Improvements are recommended for all major intersections along Marion Road and 11th Ave in Longfellow area. Median refuge at the intersection of 20th St and Marion Road and 20th St and 11th Ave SE is needed for the safe crossing. Marked crossing on Pinewood Road in front of the School and at the intersection of Pinewood at 11th Ave SE is recommended.

Figure 3-3: Key Demographics and Existing Infrastructure Facilities in Slatterly Park Area

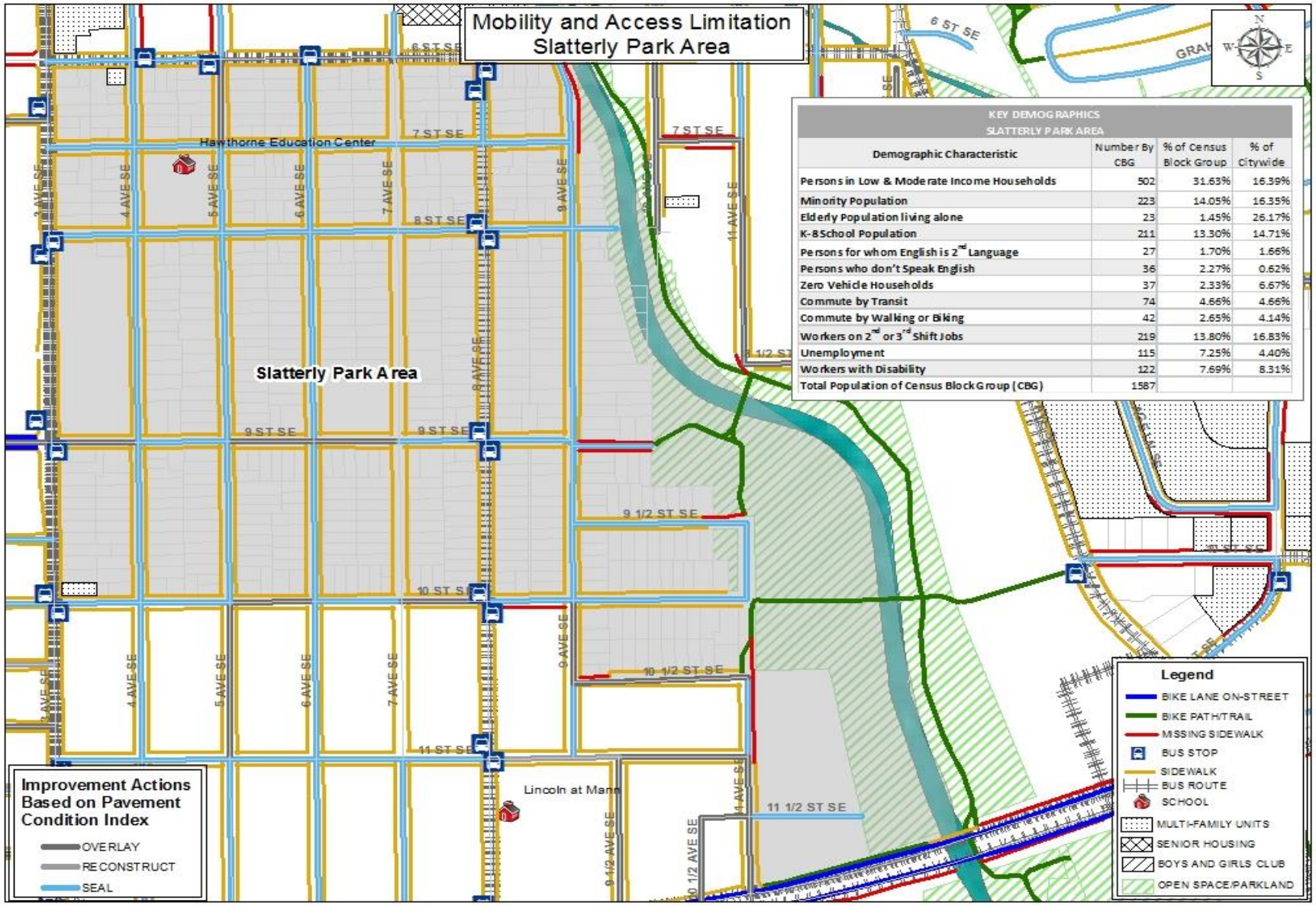


Table 3-2: Summary of Improvement Guidelines for Slatterly Park Area

Bikeway Improvements

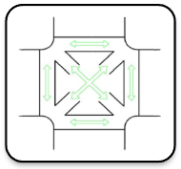
In Slatterly Park bicycle boulevards are recommended at two locations: one along 8th Ave between TH 14 and 6th Street SE and another along 9th Street SE between 3rd Ave SE and through to the existing bike trail at Bear Creek. Bicycle advisory lanes are recommended on 6th Street SE between 3rd Ave and 11th Ave SE. Median Refuge and bicycle crossing improvements is also advised at the intersection of 6th and 3rd Ave SE.

Pedestrian Improvements

Missing sidewalk facility is recommended to be built on both side of 9th Street SE from 9th Ave SE to the existing Bear Creek Trail. Sidewalk facility gaps are recommended to be filled out on the south side of 10th Street SE between 8th and 9th Ave SE and a portion of 10 1/2 Street SE between 9th and 11th Ave SE. There are sidewalk facility gap on the east side of 11th Ave between 11th Street and 10 1/2 Street SE and a small gap on the east side of 9th Ave SE between 6th and 7th Street SE that is recommended to be built.

Transit Improvements

The neighborhood is well served with the transit facility along major corridors in the area. However, some residents in the Slatterly Park Area have to walk more than two blocks to catch the bus that may be looked into. Bus shelters are missing on 8th Ave SE and 6th Street SE. Consider providing bus shelters at high use bus stops along 6th Street and 8th Ave SE. All crossing near by the bus stops needed to be marked and sign posted in Slatterly Park Area.



Roadway and Crossing Improvements

The study recommends improvement at all major intersections along 6th Street and 3rd Ave. Median refuge at the intersection of 3rd Ave and 6th Street SE is recommended. Marked crossing at 8th Ave and 6th Street SE and along 8th Ave is recommended in the Slatterly Park Area. All intersections with high crash rate history needs surface marking for improved safty.

Figure 3.4: Key Demographics and Existing Infrastructure Facilities in Park Lane Area

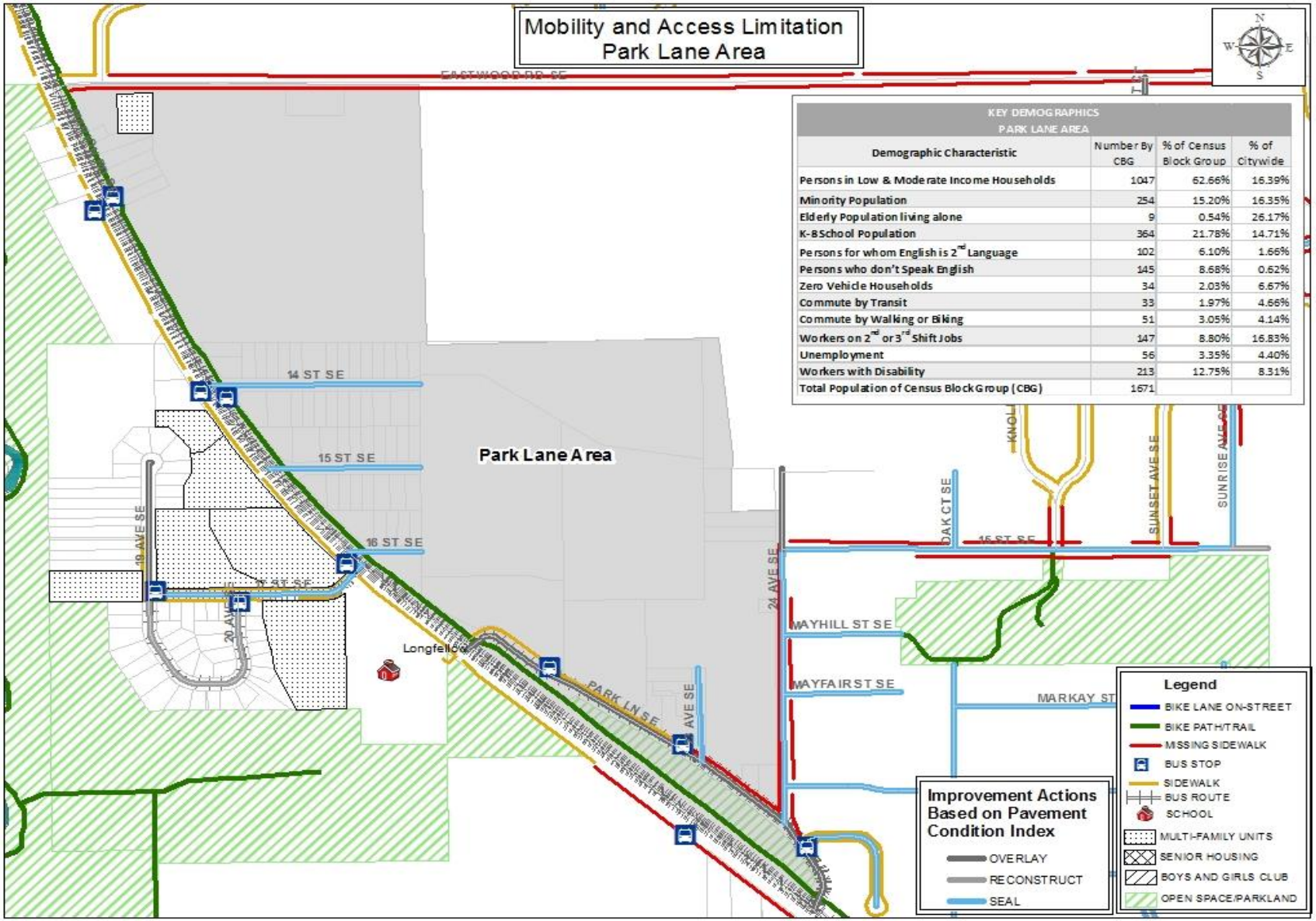


Table 3.3: Summary of Improvement Guidelines for Park Lane Area

Bikeway Improvements

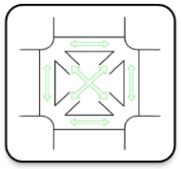
Bike route is recommended along Park Lane SE from the crossing to Longfellow School to 24th Ave SE and along 24th Ave and 15th Street SE. Existing bikeway shoulders and sidewalk along Marion Raod starting from Longfellow School to the intersection of 20th Street SE needs to be improved for bicycle users and students who walk to school. 17th Street link to Marion Road be improved for bicycle and pedestrian use. It will serve major multi-family and single family residential area. Major intersections in this neighborhood are also recommended for improvements that will be covered under roadway and crossing improvements section.

Pedestrian Improvements

The sidewalk gaps are identified at various locations. It is recommended to fill in the gap that exists on the north side of Park Lane SE from 23rd Ave to 24th Ave SE. Sidewalk facility is recommended to be constructed along both side of 24th Ave SE between Park Lane and 15th Street SE . Major sidewalk gap exists on both sides of Eastwood Road SE. At least first portion of Easwood Road from Marrion Road intersection is recommended to provide sidewalk facility to muti family housing units located on the south side of Eastwood Road.

Transit Improvements

There are bus stops on 17th Street SE, 19th Ave and at 20th Ave SE without shelter. Those bus stops serves multi-family housing units and also people with disabilities. It is recommended to built bus shelter at one or two existing bus stop locations. All three bus stops are serving multifamily residences that has high percentage of workers with disabilities and elderly population. Only one bus stop along Marrion Road has a shelter at 16th Street SE. Consider providing a shelter at one of the bus stop near Eastwood Road.



Roadway and Crossing Improvements

Intersection improvements are recommended at the intersection of Marion Road and Eastwood Road SE. Marion Road is wide at this intersection that pose a threat to pedestrian, bisyslists and people on wheel chair to safely cross the road. Two intersections along Marion Road one at the Longfellow School and the other at 24th Ave SE require safety improvements such marking and appropriate sign posting. May consider providing median refuge at Marion Road by the Longfellow School.

Figure 3.5: Key Demographics and Existing Infrastructure Facilities in Watson Park Area

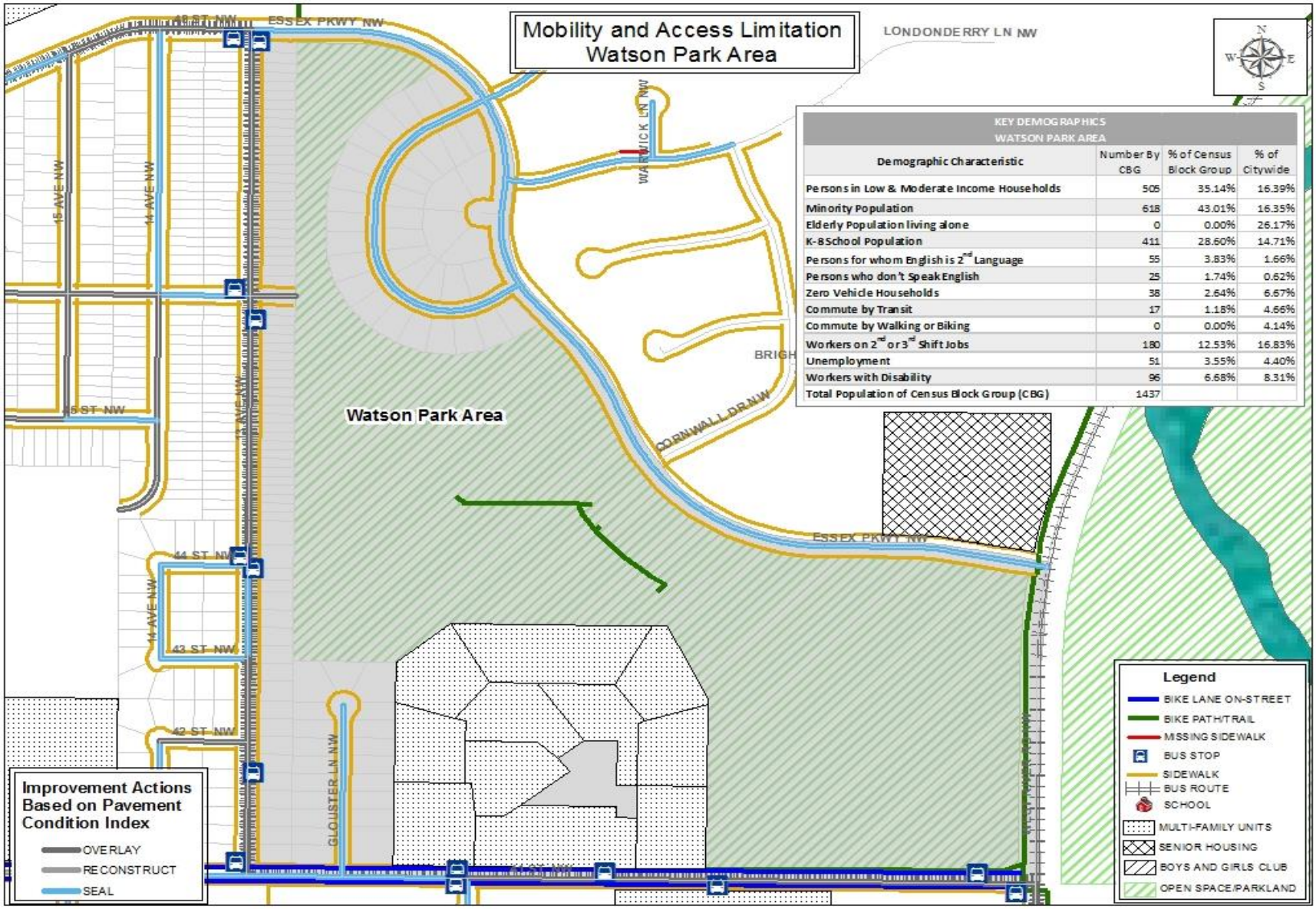


Table 3.4: Summary of Improvement Guidelines for Watson Park Area

Bikeway Improvements

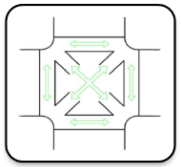
Shoulder bikeway facility exists along Essex Parkway starting from West River Parkway to 13th Ave NW. It is recommended to install bike Sharrow from 13th Ave to 18th Ave NW. Bike lanes exists along 41st Street from West River Parkway to 18th Ave NW. The parking is too narrow adjacent to bike lanes that makes the bicyclists to face the danger of hitting the opening door of parked vehicles. West River Parkway and 41st Street intersection requires Bike friendly crossing on West River Parkway for bicyclists who want to use bike trail on the west side of West River Parkway through to Essex Parkway and beyond.

Pedestrian Improvements

No major obvious sidewalk facility gap exist in the Watson Park area. However, improvements of existing sidewalk is recommended. Occasionally mid-block pedestrian crossing problem is seen along 41st Street NW during the football season or at any other supporting event at Watson Park. May consider providing a pavement crossing at intersection of 13th and 41st Street.

Transit Improvements

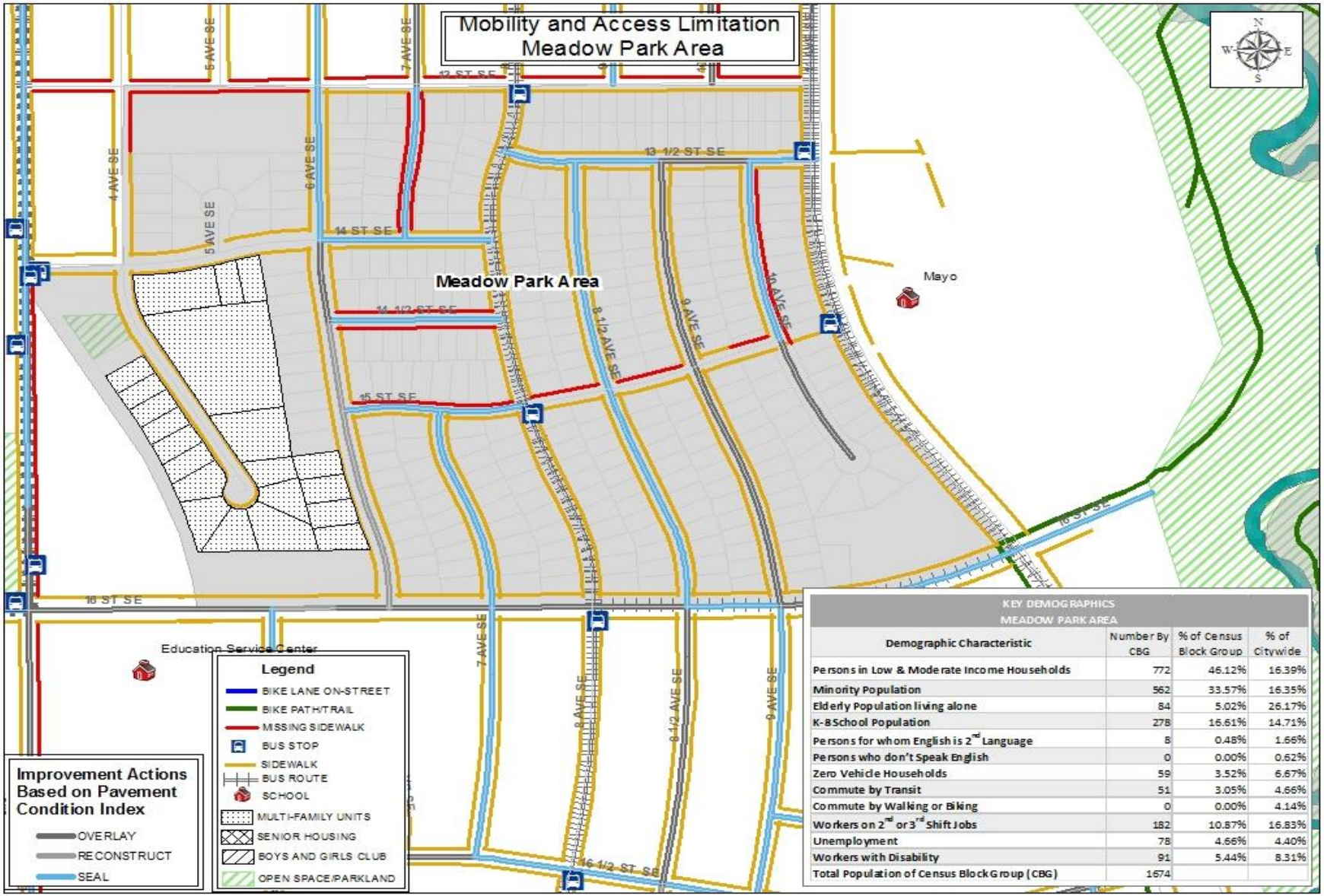
The area is well served by the transit servive. Bus stops shelter is needed along 13 Ave NW beacuse high number of worker with disabilities live in the Watson Park area. Bus stop shelter infront of multi-family residential units on the north side 41st Street NW is recommended.



Roadway and Crossing Improvements

Improvement at the intersections of West River Parkway and 41st Street and Essex Parkway and West Parkway is needed. Consider providing passby lane or other appropriate improvement at the intersection of Essex Parkway and West Riiver Parkway. Marked crossing is recommended at 41st Street at T-intersection with 13th Ave NW.

Figure 3.6: Key Demographics and Existing Infrastructure Facilities in Meadow Park Area



KEY DEMOGRAPHICS
MEADOW PARK AREA

Demographic Characteristic	Number By CBG	% of Census Block Group	% of Citywide
Persons in Low & Moderate Income Households	772	46.12%	16.39%
Minority Population	562	33.57%	16.35%
Elderly Population living alone	84	5.02%	26.17%
K-8 School Population	278	16.61%	14.71%
Persons for whom English is 2nd Language	8	0.48%	1.66%
Persons who don't Speak English	0	0.00%	0.62%
Zero Vehicle Households	59	3.52%	6.67%
Commute by Transit	51	3.05%	4.66%
Commute by Walking or Biking	0	0.00%	4.14%
Workers on 2nd or 3rd Shift Jobs	182	10.87%	16.83%
Unemployment	78	4.66%	4.40%
Workers with Disability	91	5.44%	8.31%
Total Population of Census Block Group (CBG)	1674		

Table 3.5: Summary of Improvement Guidelines for Meadow Park Area

Bikeway Improvements

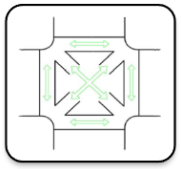
Bike Sharrow Route is recommended along 8th Ave SE from 16th Street to 12th Street SE and 14th Street SE between 3rd Ave and 8th Ave SE. Both future bike route facilities would enhance the connectivity with the existing bike lane facility on 12th Street and future bike boulevard 8th Ave north of 12th Street SE. Bike lanes are recommended along 3rd Ave SE staring from 20th Street SE. Road Diet is recommended along 16th Street starting from Broadway South to 11th Ave SE, creating both side bike lanes with middle turning lane and one travel lane eachway for east and west bound traffic. Multi-use trial is also recommended along the abandoned railroad that will improve north-south connectivity.

Pedestrian Improvements

Sidewalk is missing on both sides along 13th Street SE between 4th Ave and 6th Ave SE. Sidewalk is also missing on the north side of 13th Street SE from 6th Ave SE to 11th Ave SE. It is recommended to fill-in those gaps along with gaps that exists on both sides of sidewalk on 7th Ave SE between 13th and 14th Street SE. Sidewalk facility is required on 14 1/2 Street between 6th and 8th Ave SE. Other small sidewalk gaps on the north side of 15th Street SE between 6th Ave and a portion of 10th Ave SE needed to be filled.

Transit Improvements

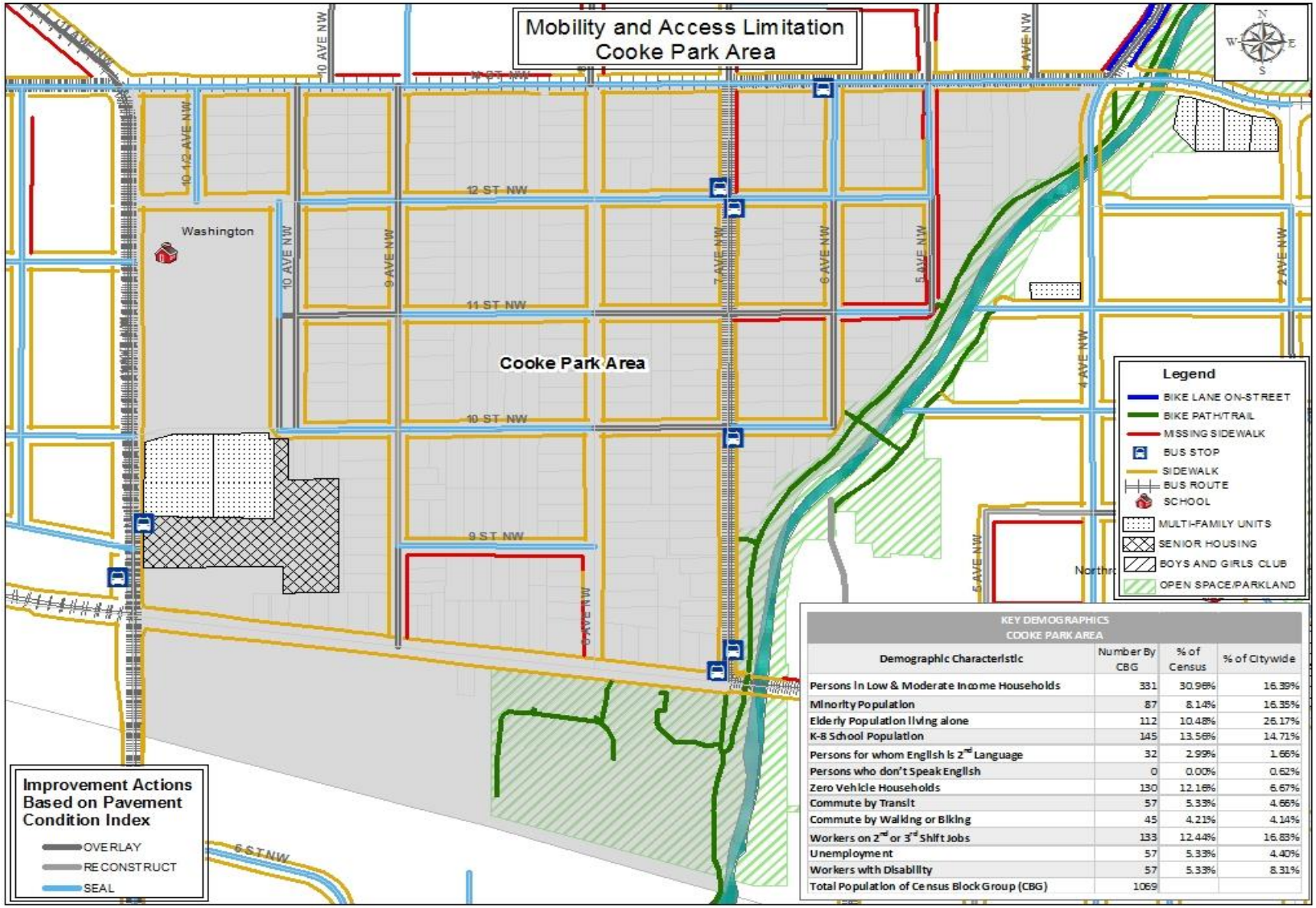
Bus stop shelter at high use bus stops is needed on 16th Street SE. Bus stop shelter along 8th Ave SE will attract more transit and bike users who wants to go to downtown. Generally bus stops are located at a walkable distance from residences.



Roadway and Crossing Improvements

Improvements are needed at all major intersections along 3rd Ave SE in Meadow Park area. Median refuge at the intersection of 16th Street and 8th Ave SE for the safe crossing of school children and elderly and people with disabilities. Marked crossing at the intersection of 8th Ave and 13th Street will also make safe crossing for school children and elederly population living in the Meadow Park area.

Figure 3.7: Key Demographics and Existing Infrastructure Facilities in Cooke Park Area



KEY DEMOGRAPHICS
COOKE PARK AREA

Demographic Characteristic	Number By CBG	% of Census	% of Citywide
Persons In Low & Moderate Income Households	331	30.96%	16.39%
Minority Population	87	8.14%	16.35%
Elderly Population living alone	112	10.48%	26.17%
K-8 School Population	145	13.56%	14.71%
Persons for whom English Is 2nd Language	32	2.99%	1.66%
Persons who don't Speak English	0	0.00%	0.62%
Zero Vehicle Households	130	12.16%	6.67%
Commute by Transit	57	5.33%	4.66%
Commute by Walking or Biking	45	4.21%	4.14%
Workers on 2nd or 3rd Shift Jobs	133	12.44%	16.83%
Unemployment	57	5.33%	4.40%
Workers with Disability	57	5.33%	8.31%
Total Population of Census Block Group (CBG)	1069		

Table 3.6: Summary of Improvement Guidelines for Cooke Park Area

Bikeway Improvements

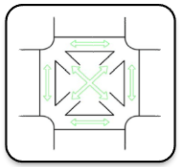
Bicycle Boulevard is recommended along 10th Street NW starting from north side of 7th Street NW and going all the way to West Sliverlake Drive NE to connect with River Trail System. Bike lanes are recommended for 11th Ave NW from the proposed Bicycle Boulevard on 10th Street NW to 14th Street NW and along 14th street starting from intersection of 14th and 11th Ave NW to 4th Ave NW. Alternative route corridor study for on-street bicycle facility is also recommended for a portion of 11th Ave soth of 10th Street NW. Bike route is also recommended north of Civic Center Drive along 2nd Ave NW from 5th Street to connect with the Cascade Ave NW. 7th Street NW is recommeded for development of bike lanes and road diet project west of 11th Ave NW.

Pedestrian Improvements

There are sidewalk gaps on the east side of 5th Ave and a portion of west side for school kids, pedestrian and trail users. Sidewalk facility is also missing on the west side of 8th Ave NW from 7th to 9th Street NW, south side of 9th Street NW between 8th Ave and 9th Ave and east side of 9th Ave between 7th and 9th Street. There are small gaps of sidewalk on north side of 14th Street between 8th and 10th Ave NW.

Transit Improvements

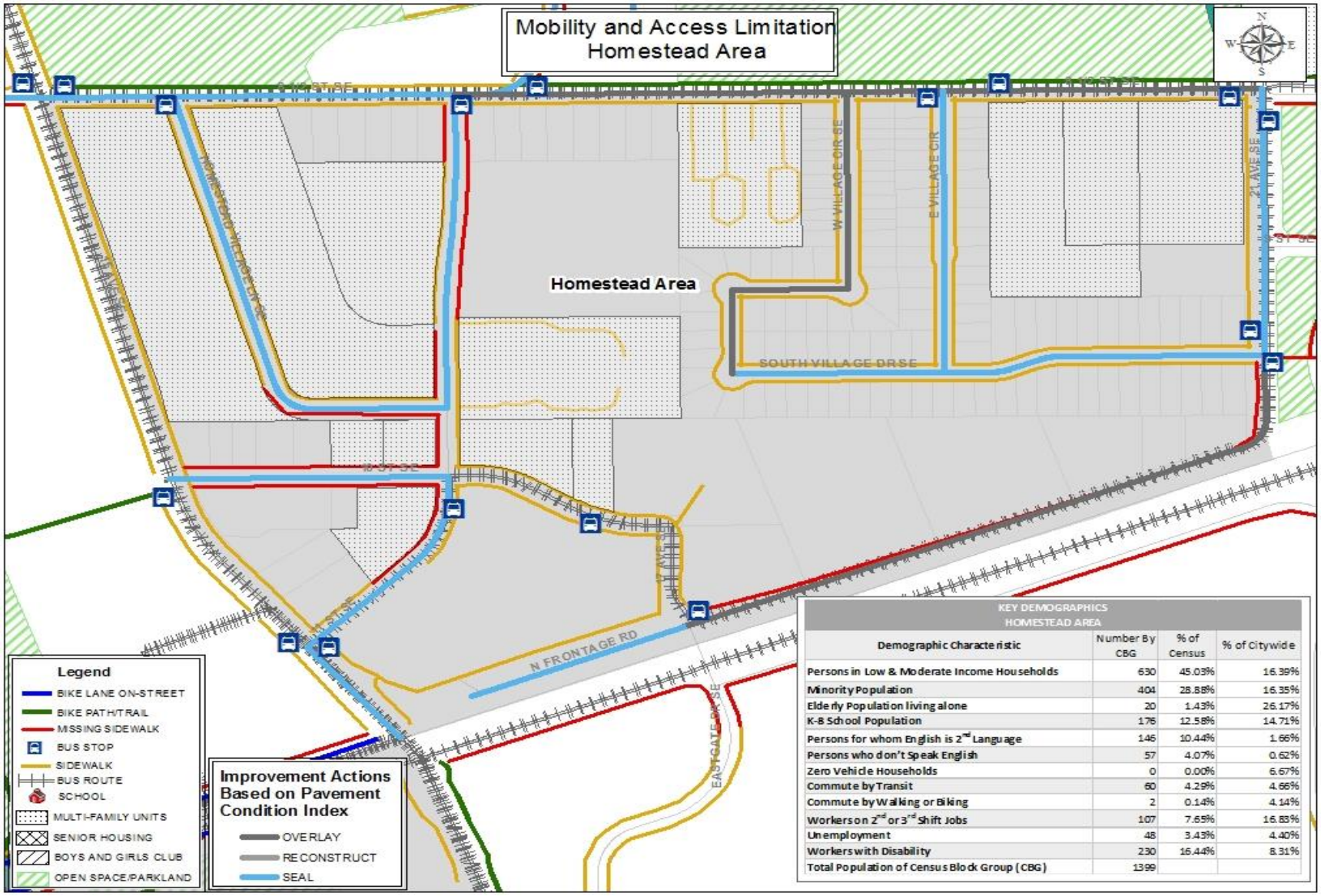
Bus stop shelter is needed along 7th Ave NW for Cooke Park residents. Bus shelter on 14th Street Bus Stop is needed to improve transit use during winter months. Additional bus stop is required along 14th Street NW.



Roadway and Crossing Improvements

Improvements are needed at two major intersections. The intersection of 14th Street and 11th Ave NW and 7th and 11th Ave NW. It may require a median refuge or similar device for pedestrian safety. Marked crossing are needed along 7th Ave NW near by the bus stops.

Figure 3.8: Key Demographics and Existing Infrastructure Facilities in Homestead Area



KEY DEMOGRAPHICS
HOMESTEAD AREA

Demographic Characteristic	Number By CBG	% of Census	% of Citywide
Persons in Low & Moderate Income Households	630	45.03%	16.39%
Minority Population	404	28.88%	16.35%
Elderly Population living alone	20	1.43%	26.17%
K-8 School Population	176	12.58%	14.71%
Persons for whom English is 2nd Language	146	10.44%	1.66%
Persons who don't Speak English	57	4.07%	0.62%
Zero Vehicle Households	0	0.00%	6.67%
Commute by Transit	60	4.29%	4.66%
Commute by Walking or Biking	2	0.14%	4.14%
Workers on 2nd or 3rd Shift Jobs	107	7.65%	16.83%
Unemployment	48	3.43%	4.40%
Workers with Disability	230	16.44%	8.31%
Total Population of Census Block Group (CBG)	1399		

Table 3.7: Summary of Improvement Guidelines for Homestead Area

Bikeway Improvements

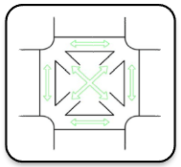
Colored bike lanes are recommended at the intersection of TH14 and 15th Ave SE. A future bike route is recommended on 8 1/2nd Street SE between 11th Ave SE and 21st Ave SE and a bike path on the north side TH14 is under way starting from University Center connecting bike lane facility west side of Marion Road. Shoulder bikeway facility is also available along TH14 University Center and Marion Road.

Pedestrian Improvements

Sidewalk gaps requires immediate attention at three location along the west side of 11th Street SE and a portion of sidewalk gap from 8 1/2nd Street SE on the east side. Sidewalk facility is missing on both sides of 10th Street SE from 15th Ave and 11th Street SE. There is a sidewalk gap on the north side of north frontage road between 17th Ave SE and 21st Ave SE. Homestead Village Lane has a small sidewalk gap too.

Transit Improvements

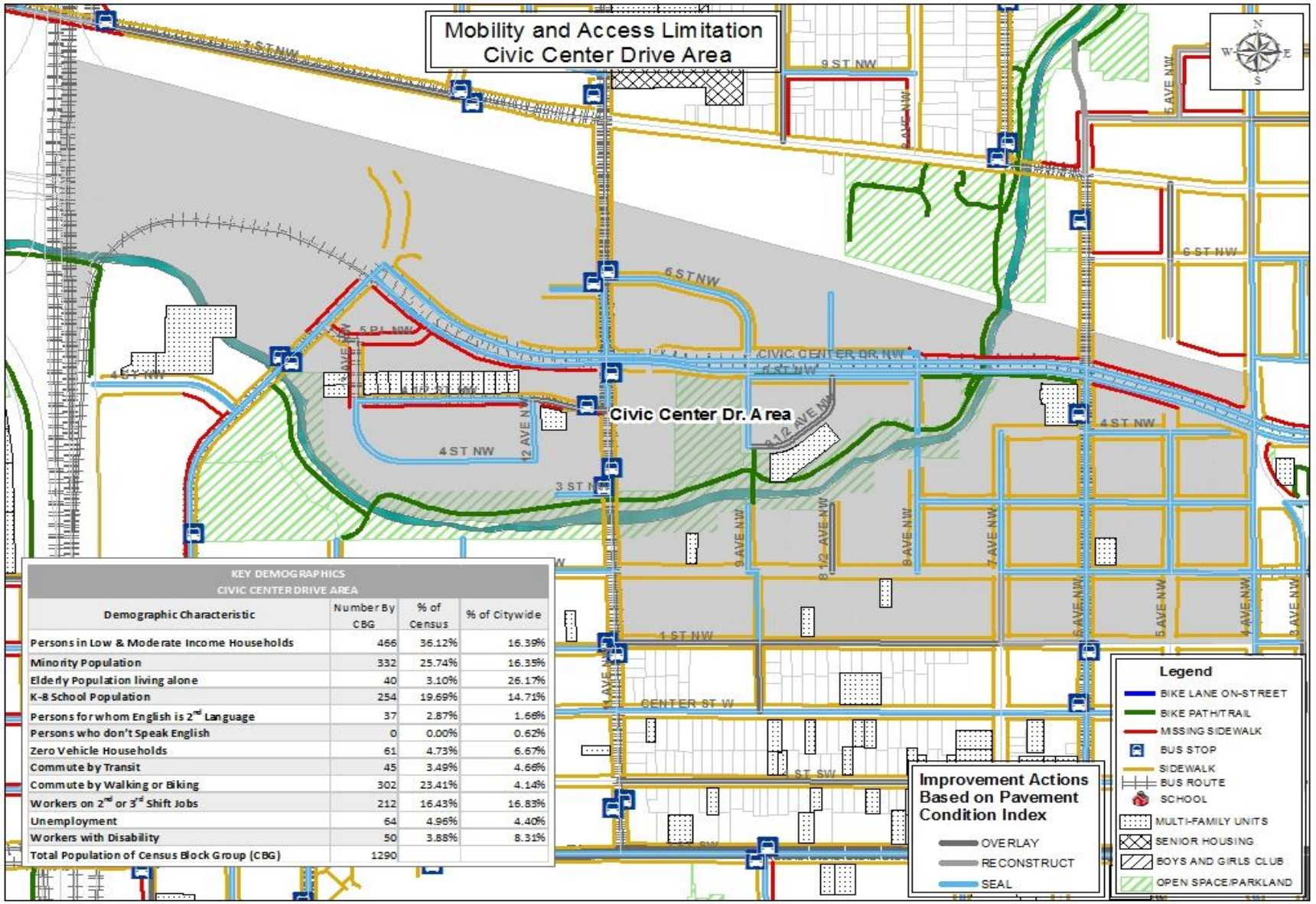
There are three bus stops with shelters in Homestead Area. More bus stops needs shelters or at least concrete pading in this neighborhoods beacuse large number of workers with disabilities and old people live in this neighborhood. No bus shelter is located along 21st Ave SE. There is a need for one bus shelters along 21st Ave SE that will provide added transit facility to low to moderate income people in this neighborhood.



Roadway and Crossing Improvements

Improvements are needed at all major intersections in this neighborhood especially at the intersection of 15th Ave SE and TH 14. Median refuge at the intersection of 15th Ave SE and TH 14 and 15th Ave SE and 8 1/2 Street SE is needed for the safe crossing of young and old users. Marked crossings will be benificial near by the bus stops along 8 1/2 Street SE and at other crossings in this study areay.

Figure 3.9: Key Demographics and Existing Infrastructure Facilities in Civic Center Drive Area



KEY DEMOGRAPHICS
CIVIC CENTER DRIVE AREA

Demographic Characteristic	Number By CBG	% of Census	% of Citywide
Persons in Low & Moderate Income Households	466	36.12%	16.39%
Minority Population	332	25.74%	16.35%
Elderly Population living alone	40	3.10%	26.17%
K-8 School Population	254	19.69%	14.71%
Persons for whom English is 2nd Language	37	2.87%	1.66%
Persons who don't Speak English	0	0.00%	0.62%
Zero Vehicle Households	61	4.73%	6.67%
Commute by Transit	45	3.49%	4.66%
Commute by Walking or Biking	302	23.41%	4.14%
Workers on 2nd or 3rd Shift Jobs	212	16.43%	16.83%
Unemployment	64	4.96%	4.40%
Workers with Disability	50	3.88%	8.31%
Total Population of Census Block Group (CBG)	1290		

Table 3.8: Summary of Improvement Guidelines for Civic Center Drive Area

Bikeway Improvements

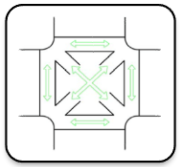
Two major intersection of Cascade Creek Trail at 11th Ave and 16th Ave are recommended for improvements in the Bicycle Master Plan. The crossing at 16th Ave NW requires grade seperated crossing and active warning signs at the intersection of 11th Ave NW. Two study areas are identified in the Bicycle Master Plan, one along 11th Ave and other north of Cascade Creek Trail along 16th Ave for the future connection to 7th Street NW. Couple of neighborhood connections to Cascade Creek trails are recommended. Bike Sharrows are recommended along 2nd St NW between 9th Ave and 4th Ave NW. Bike lanes along 6th Ave are recommended through to the trail north of 7th Street NW.

Pedestrian Improvements

All crossing leading to bus stops, schools and other major destinations along 16th Ave, 11th Ave and 6th Ave should be marked and sign posted for the the benifit of transit users, school kids and elederly population. On the south side of 4 1/2 Street NW all houses are without sidewalk. Multi-family housing unit along west side of 13th Ave NW and both side of 5th Place NW laking sidewalk facility too. Sidewalk facility is missing on the south side of Civic Center Drive NW from 16th Ave NW to 11th Ave NW and both sides of Civic Center Drive east of 8th Ave NW. There are sidewalk gaps on the west side of 16th Ave NW too.

Transit Improvements

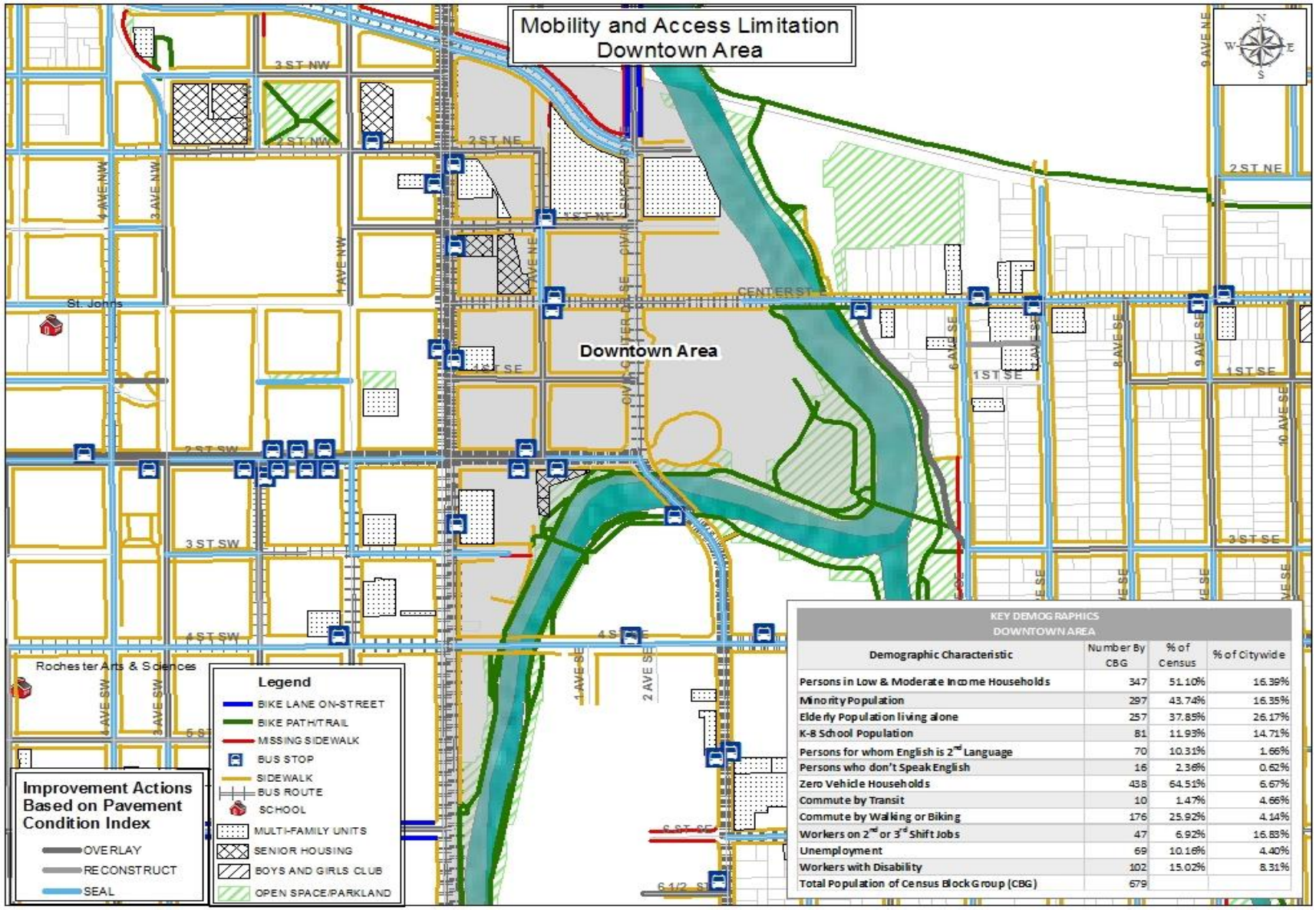
Bus stops with shelter or at least concrete slab is needed at the bus stops along 11th Ave NW and one at the 4 1/2 Street NW near multi-family residentail area. There is a long walking distance to the nearest bust stop for residents who live between 6th and 11th Ave NW. New bus stop is needed by the multi-family building at the intersection of 6th Ave and 2nd Street NW.



Roadway and Crossing Improvements

Improvement is needed at all major intersections along 16th, 11th and 6th Ave NW. Some major improvements in light of previous traffic studies are needed on 11th Ave NW between 4 1/2 Street and Civic Center Drive to ease turning traffic and median refuge for high pedestrian movements . Active warning signs at the Cascade Creek intersection at 11th Ave and northbound colored bike lane through to Civic Center Drive may be considered.

Figure 3.10: Key Demographics and Existing Infrastructure Facilities in Downtown Area



KEY DEMOGRAPHICS DOWNTOWN AREA

Demographic Characteristic	Number By CBG	% of Census	% of Citywide
Persons in Low & Moderate Income Households	347	51.10%	16.39%
Minority Population	297	43.74%	16.35%
Elderly Population living alone	257	37.85%	26.17%
K-8 School Population	81	11.93%	14.71%
Persons for whom English is 2nd Language	70	10.31%	1.66%
Persons who don't Speak English	16	2.36%	0.62%
Zero Vehicle Households	438	64.51%	6.67%
Commute by Transit	10	1.47%	4.66%
Commute by Walking or Biking	176	25.92%	4.14%
Workers on 2nd or 3rd Shift Jobs	47	6.92%	16.83%
Unemployment	69	10.16%	4.40%
Workers with Disability	102	15.02%	8.31%
Total Population of Census Block Group (CBG)	679		

Table 3.9: Summary of Improvement Guidelines for Downtown Area

Bikeway Improvements

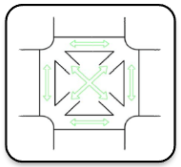
Bicycle transition boxe is recommended in the Bicycle Master Plan at the intersections of Civic Center Drive and West Silverlake Drive. Implement all other improvements recommended in the adopted plans for downton area. Bicycle Boulevard is recommended from the River Trail to 11th Ave SE and bicycle advisory lanes are recommended along Center Street East from 1st Ave to College View Road SE. Bike facility design study is recommended for 4th Street SE and a bike lanes are suggested on future 6th St. SE. Bike Sharrows are recommended north of 2nd St SE and Bike Lanes on 2nd Street between 4th Ave and 1st Ave NE

Pedestrian Improvements

The north side of Civic Center Drive has a missing sidewalk from 8th Ave to W Silver Lake Drive NE. 6th Ave SE has a missing sidewalk facility from north of 4th Street on the west side through to the river trail connection and beyond.

Transit Improvements

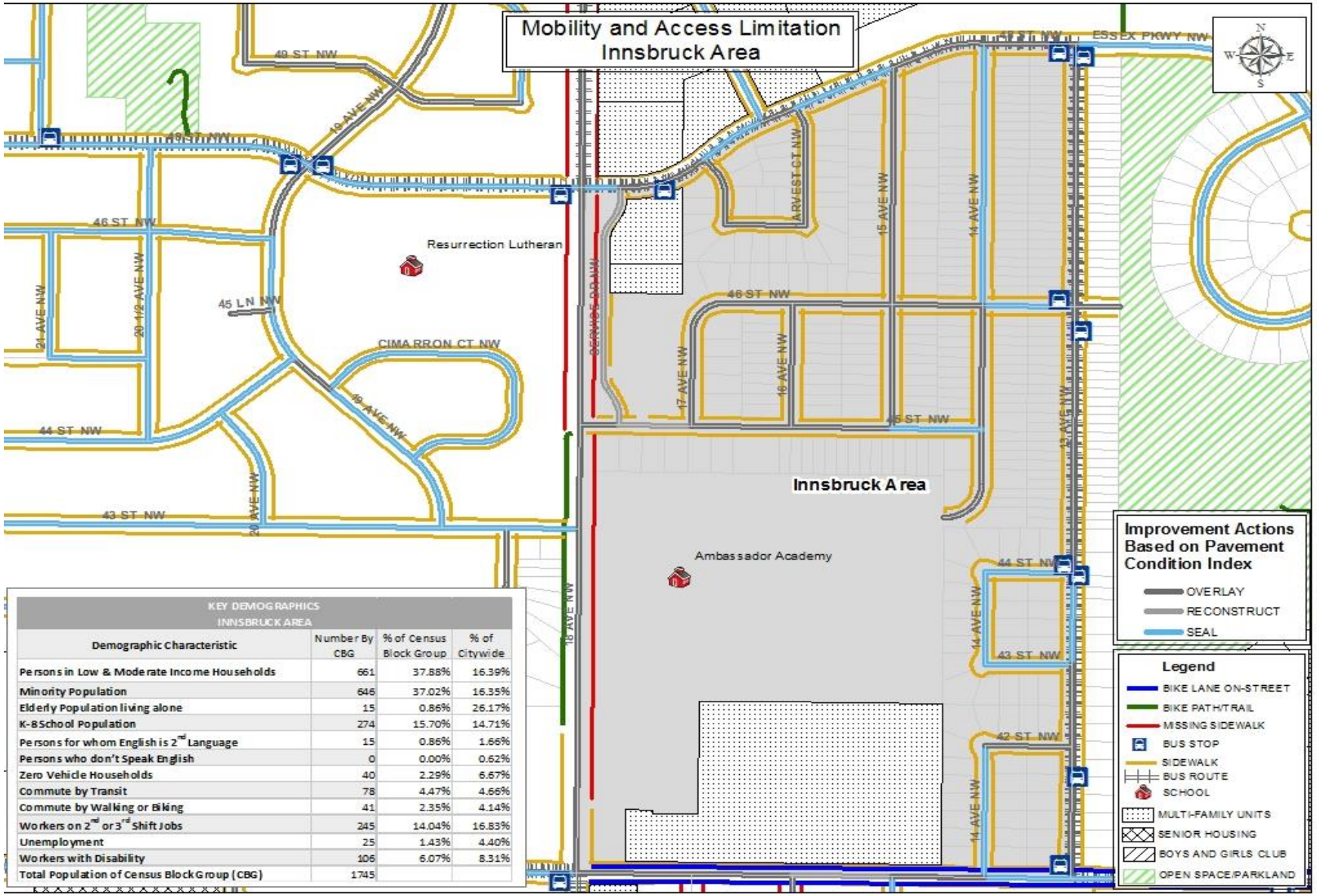
Bus stops infront of multi family residential areas should be provided in Downtown area as high percetage of elederly and people with disabilities resides in those buildings. Future Transit Station/hub is recommended on the east side of 1st Ave and south of Civic Center Drive in the DMC plan. It would connect the high rise building where high percentage of old population live via. Intergrated transit studies for downtown is recommending hanicap equiped transit circulators and subway or skyway to connect the rider pickup points.



Roadway and Crossing Improvements

Improvements are needed at all major intersections along Broadway, Civic Center Drive and 1st Ave NW. All intersections needs marked crossing in downtown area due to their high use, and high pedestain traffic. All crossing should be improved as per the recommendation of the Downtown Master Plan and all other plans adopted or in preparation phase by the City of Rochester.

Figure 3.11: Key Demographics and Existing Infrastructure Facilities in Innsbruck Area



KEY DEMOGRAPHICS
INNSBRUCK AREA

Demographic Characteristic	Number By CBG	% of Census Block Group	% of Citywide
Persons in Low & Moderate Income Households	661	37.88%	16.39%
Minority Population	646	37.02%	16.35%
Elderly Population living alone	15	0.86%	26.17%
K-8 School Population	274	15.70%	14.71%
Persons for whom English is 2nd Language	15	0.86%	1.66%
Persons who don't Speak English	0	0.00%	0.62%
Zero Vehicle Households	40	2.29%	6.67%
Commute by Transit	78	4.47%	4.66%
Commute by Walking or Biking	41	2.35%	4.14%
Workers on 2nd or 3rd Shift Jobs	245	14.04%	16.83%
Unemployment	25	1.43%	4.40%
Workers with Disability	106	6.07%	8.31%
Total Population of Census Block Group (CBG)	1745		

Table 3.10: Summary of Improvement Guidelines for Innsbruck Area

Bikeway Improvements

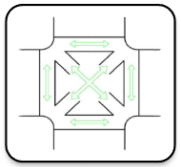
Future Sharrow bicycle facility is recommended in Bicycle Master Plan (BMP) along 48th Street NW from 18th Ave to the point where Essex Parkway starts. 18th Ave reconstruction project included number of bicycle and pedestrian improvements that will address bicycle and pedestrian issues along 18th Ave NW. It will connect bike facility along 41st Street and 55th Street and beyond.

Pedestrian Improvements

1. Pedestrian facility is missing along both sides of 18th Ave NW. It is anticipated that pedestrian facility gaps will be addressed in 18th Ave NW reconstruction project.

Transit Improvements

No bus stop in Innsbruck area has a shelter. It is suggested to provide bus shelter at a high use bus stop to attract more people to use transit system. There are residences two or more blocks away from bus stops along 13th Ave or 48th Street NW. May need some new route along 18th Ave NW and bus stops at 45th or 43rd Street NW to provide added service to residents of Innsbruck area.



Roadway and Crossing Improvements

Improvements are needed at all major intersections along 41st Street NW especially at 41st Street and 18th Ave NW and 41st and 13th Ave NW. 8th Ave and 48th Street intersection needs a median refuge for the safety of pedestrian, bicyclists and school children safety. Marked crossing at 18th Ave and 45th Street NW will improve safety for high number of people who cross 18th Ave at that location to go to Casey's and people going church from the residentail area on the east of 18th Ave NW.

Figure 3.12: Key Demographics and Existing Infrastructure Facilities in Valleyhigh Drive Area

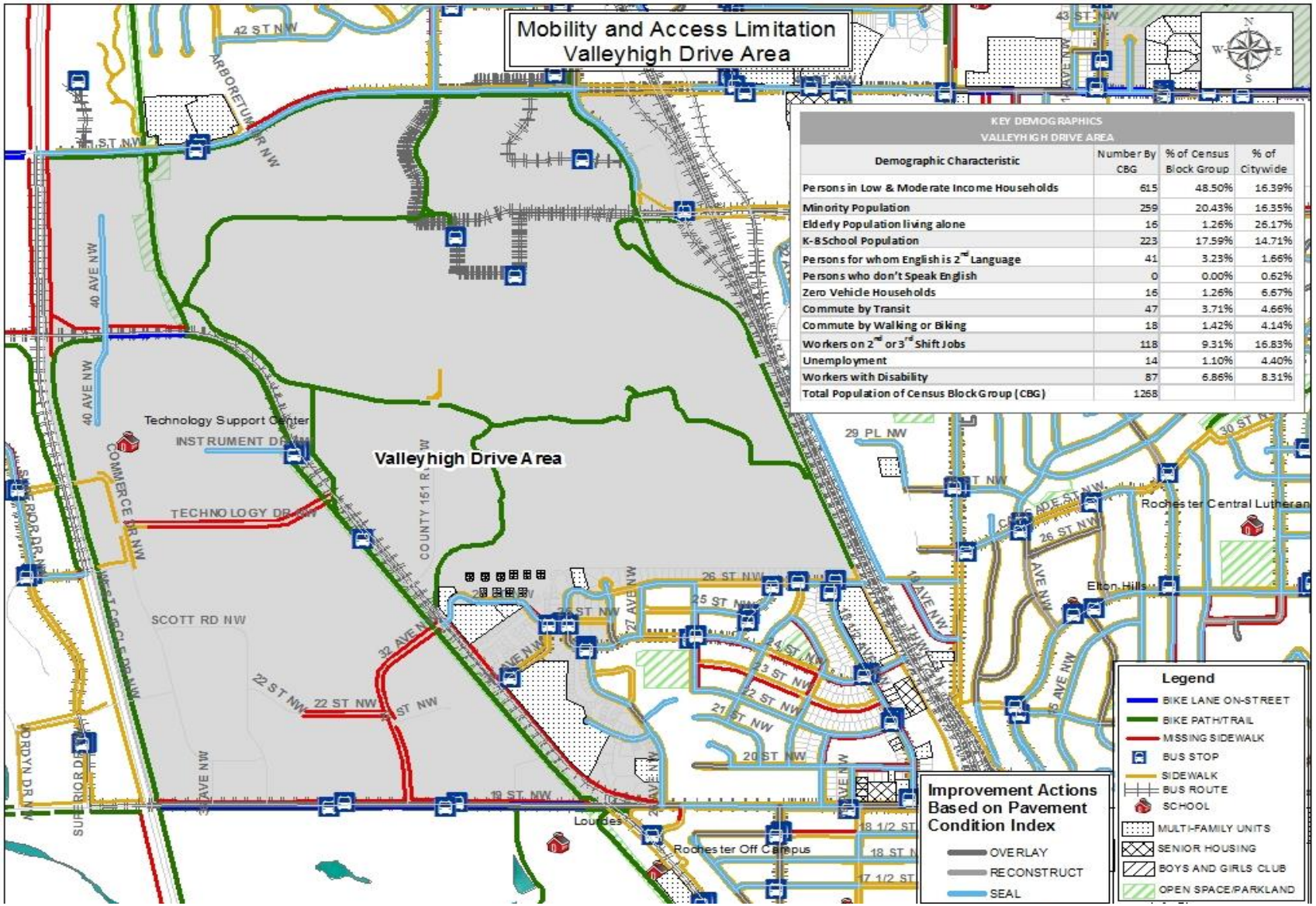


Table 3.11: Summary of Improvement Guidelines for Valleyhigh Drive Area

Bikeway Improvements

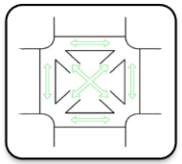
Three crossing studies over TH 52 are recommended for this area in the Bicycle Master Plan at 37th Street, 41st Street and north of 26th Street NW. West frontage road from 19th Street to 41st Street NW provides shoulder bikeway facility to connect to IBM bikeway trail system. Bike lanes were installed as part of 19th Street reconstruction project between Vallyhigh and West Circle Drive NW. Bicycle Transition box is recommended for the intersection of Vallethigh and 19th street and West Circle Drive NW. Road Diet is recommended for 41 st Street between West Circle Dr and TH 52. Bike Lanes are recommended for 19th Street NW between Valleyhigh and TH 52 NW.

Pedestrian Improvements

On both sides of 32nd Ave and 22nd Street NW has no sidewalk facility. Similaraly, Technology Drive has no sidewalks one both side from Vallyhigh Dr. to Commerce Dr. NW. North side of 19th Street NW also missing sidewalk facility from Vallyhigh Dr. to West Circle Dr. Sidewalk facility is missing on the east side of Vally high Dr. from 19th Street to 25th Street NW. A small gap in sidewalk facility exists on 25th Steet NW.

Transit Improvements

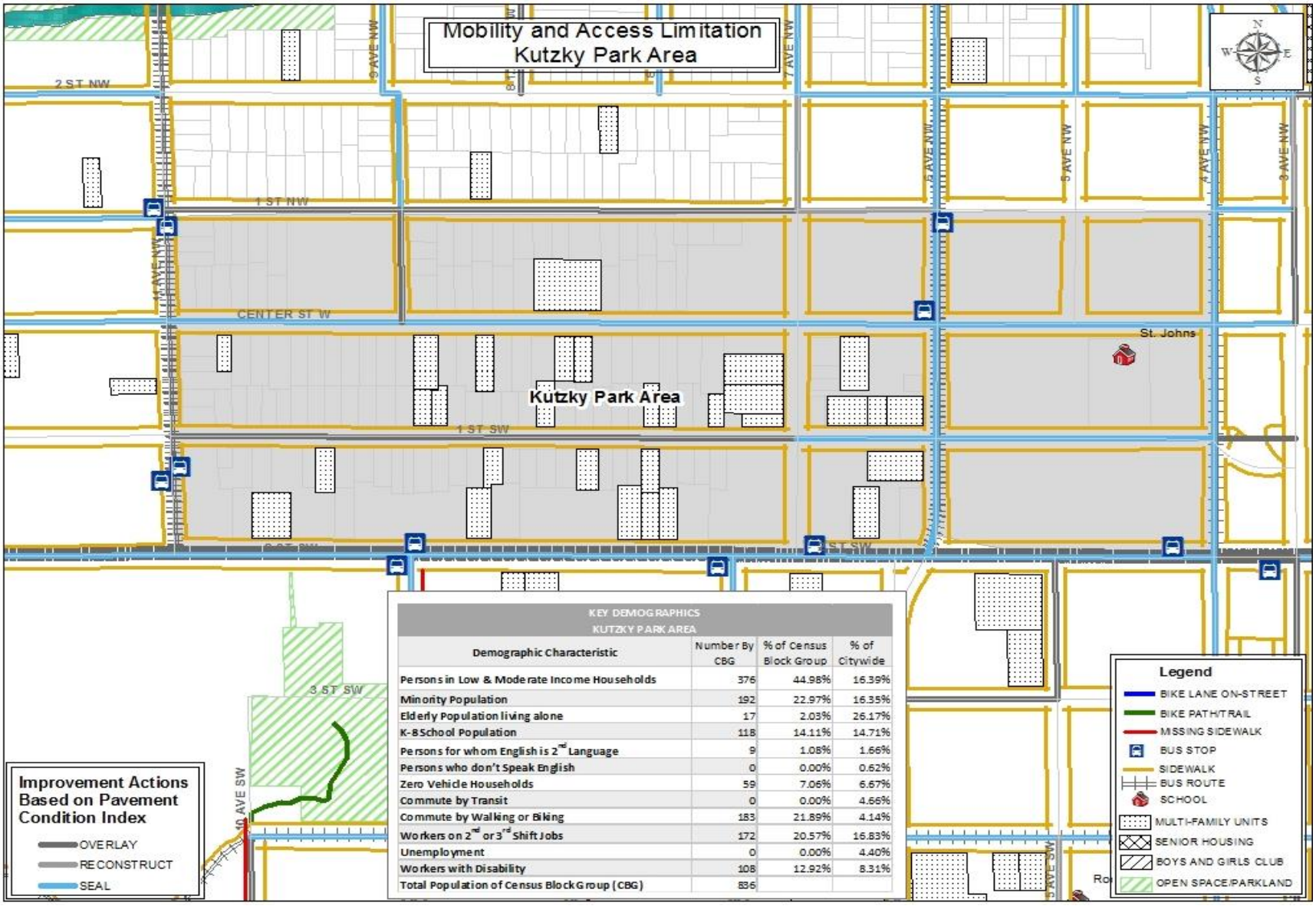
Bus stops with shelter is needed along Vallethigh Drive NW nearby the multi-family residential area at 32nd Ave NW and bus stops near indudstrial buildings along Valleyhigh Drive, NW needs shelter too. Bus stops along 41st especially by the multifamily residentail buildings require shelter.



Roadway and Crossing Improvements

Improvements are needed at all major intersections along 41st Street NW and Valleyhigh Drive NW. Some of the obvious improvements include marked crossings and median refuge for the benifit of people with disabilities and school children crossing the wide road. Marked crossings are needed at other street intersections in Valleyhigh Area especially near the new Kwik Trip intersection at 19th Street.

Figure 3.13: Key Demographics and Existing Infrastructure Facilities in Kutzky Park Area



KEY DEMOGRAPHICS
KUTZKY PARK AREA

Demographic Characteristic	Number By CBG	% of Census Block Group	% of Citywide
Persons in Low & Moderate Income Households	376	44.98%	16.39%
Minority Population	192	22.97%	16.35%
Elderly Population living alone	17	2.03%	26.17%
K-8 School Population	118	14.11%	14.71%
Persons for whom English is 2nd Language	9	1.08%	1.66%
Persons who don't Speak English	0	0.00%	0.62%
Zero Vehicle Households	59	7.06%	6.67%
Commute by Transit	0	0.00%	4.66%
Commute by Walking or Biking	183	21.89%	4.14%
Workers on 2nd or 3rd Shift Jobs	172	20.57%	16.83%
Unemployment	0	0.00%	4.40%
Workers with Disability	108	12.92%	8.31%
Total Population of Census Block Group (CBG)	836		

Table 3.12: Summary of Improvement Guidelines for Kutzky Park Area

Bikeway Improvements

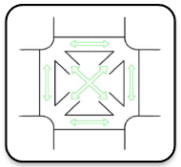
On road shared bikeway facility is implementd on 1st Street SW from 16th Ave to 3rd Ave SW. More signed and marking is needed. Also on-street bicycle facility is recommended for W est Center Street from 11th Ave to 3rd Ave . Est-West bike lanes are recommended along 3rd and 4th Ave from 6th Street SW to Civic Center Drive NW. Bike lanes are also suggested for 6th Ave all the way to Cascade Creek Trail north of 7th Street NW.

Pedestrian Improvements

No major deficiency exists in this area other than some missing marking and added sigage. Sidewalk facility is avaialable on both sides of all streets included in Kutzky Park neighborhood.

Transit Improvements

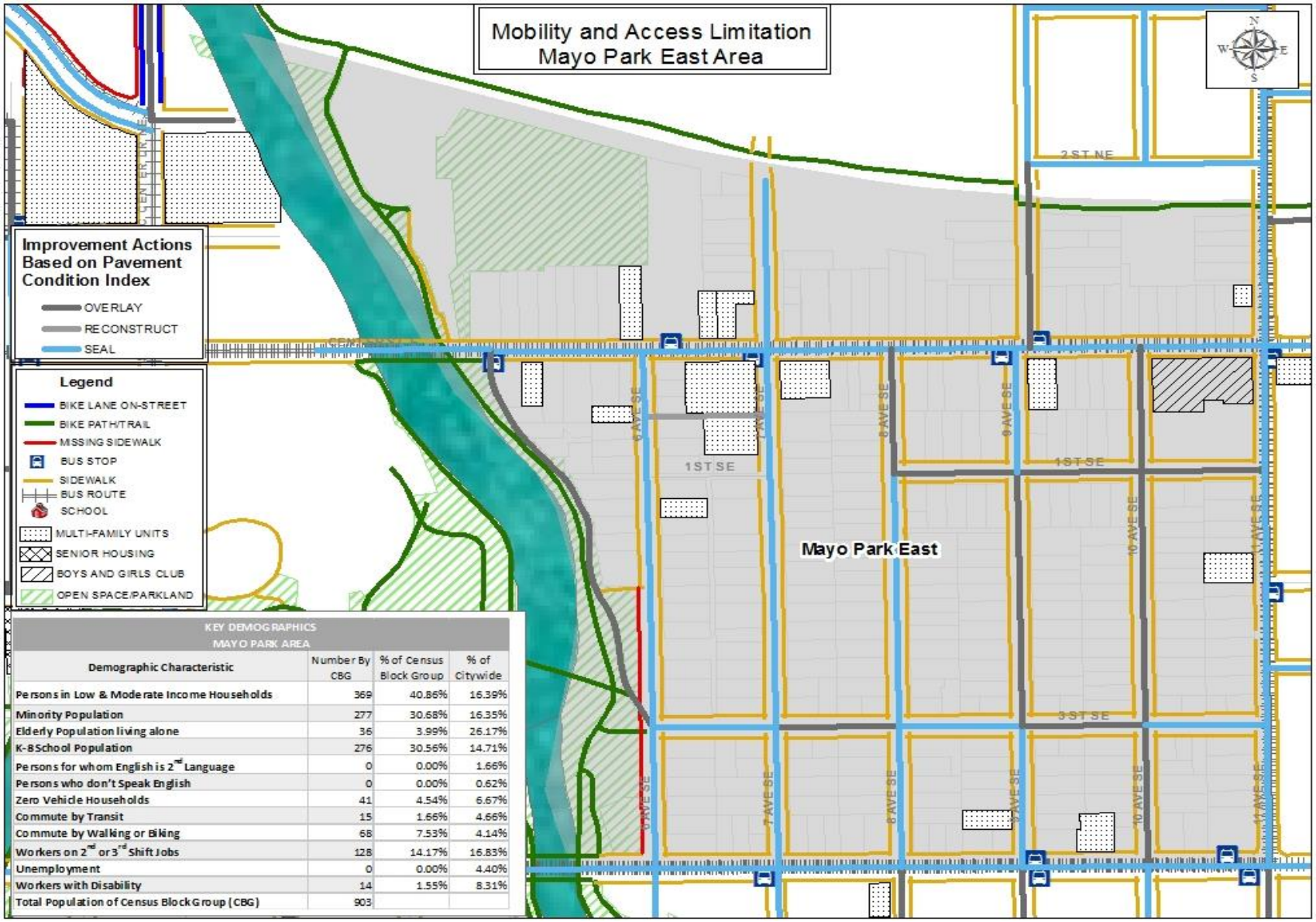
Bus stops are more than two blocks away from the multi-family residentail units on 1st Street SW and W Center Street. More bus shleters are needed on 2nd Street SW. Pedestrian crossing at the intersection of 2nd and 6th Ave SW needs improvements.



Roadway and Crossing Improvements

Improvement is needed at all major intersections along 11th Ave especially at the intersection 11th and 1st Street NW. Median refuge along major intersections of neighborhood streets with 11th Ave needs to be investigated. Marked crossing is needed at the intersection of 1st Street NW and 6th Ave. Appropriate marking and realignment of the intersection at 6th Ave and 2nd Street SW is needed.

Figure 3.14: Key Demographics and Existing Infrastructure Facilities in Mayo Park East Area



KEY DEMOGRAPHICS
MAYO PARK AREA

Demographic Characteristic	Number By CBG	% of Census Block Group	% of Citywide
Persons in Low & Moderate Income Households	369	40.86%	16.39%
Minority Population	277	30.68%	16.35%
Elderly Population living alone	36	3.99%	26.17%
K-8School Population	276	30.56%	14.71%
Persons for whom English is 2nd Language	0	0.00%	1.66%
Persons who don't Speak English	0	0.00%	0.62%
Zero Vehicle Households	41	4.54%	6.67%
Commute by Transit	15	1.66%	4.66%
Commute by Walking or Biking	68	7.53%	4.14%
Workers on 2nd or 3rd Shift Jobs	128	14.17%	16.83%
Unemployment	0	0.00%	4.40%
Workers with Disability	14	1.55%	8.31%
Total Population of Census Block Group (CBG)	903		

Table 3.13: Summary of Improvement Guidelines for Mayo Park Area

Bikeway Improvements

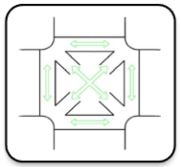
Bicycle Advisory Lanes are recommended for Center Street through the entire study area. Active warning sign is recommended at the intersection of 11th Ave NE and trail coming from Quarry Hill area. Bike Boulevard is recommended for 3rd Street SE and and 2nd Street SE to connect River Trail System and major destinations in Downtown Area. 4th Street SE recommended to be studied for on-road study.

Pedestrian Improvements

On the west side of 6th Ave SE, there is a sidewalk gap that needs attention.

Transit Improvements

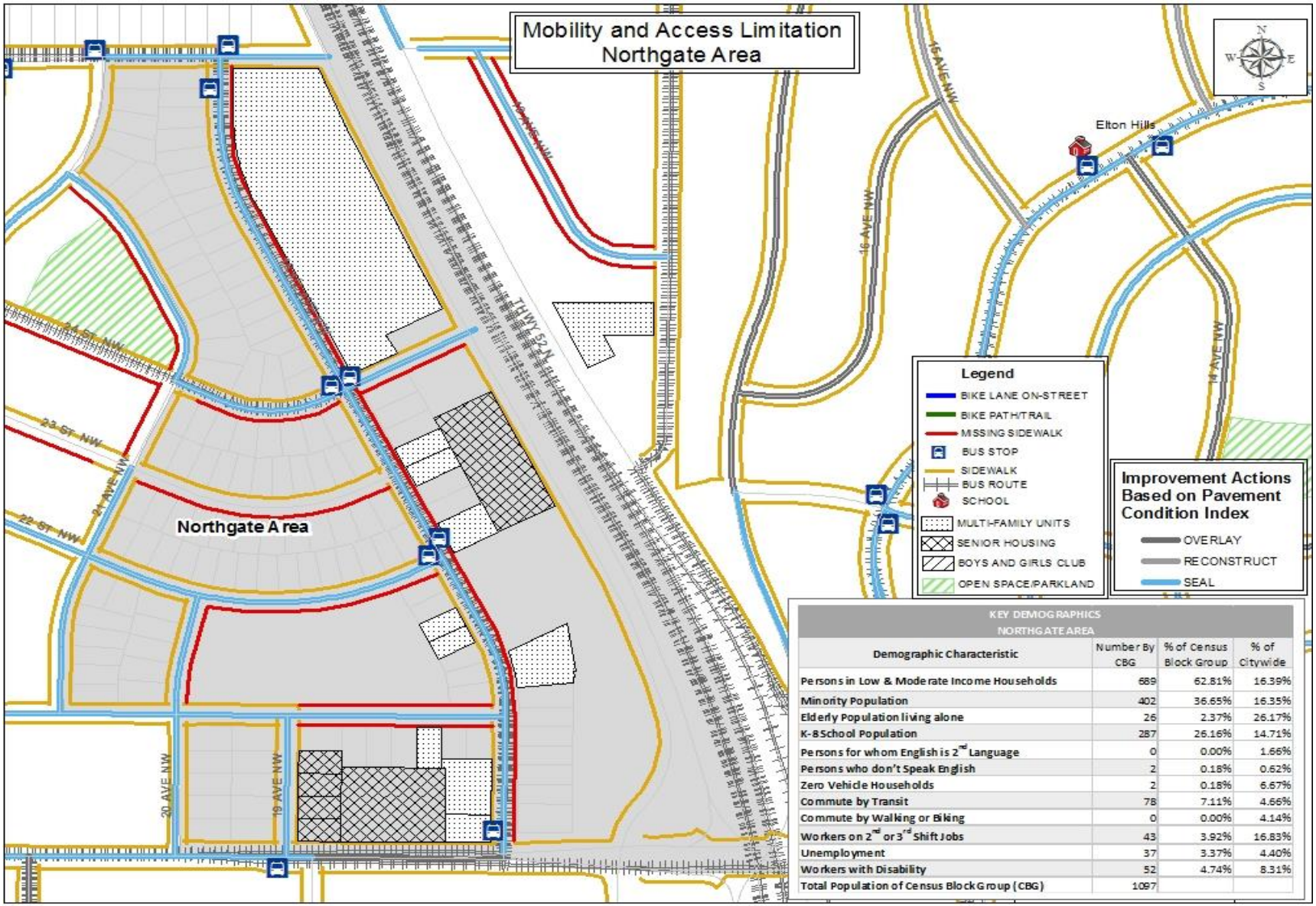
Bus stops with shelters is needed along north-south and east-west transit corridors in the study area.



Roadway and Crossing Improvements

Improvements are needed at all major intersections along 4th Street SE and Center Street. Median refuge or some appropriate intersection improvements at the intersection of 4th Street SE and 11th Ave SE is needed.

Figure 3.15: Key Demographics and Existing Infrastructure Facilities in Northgate Area



KEY DEMOGRAPHICS
NORTHGATE AREA

Demographic Characteristic	Number By CBG	% of Census Block Group	% of Citywide
Persons in Low & Moderate Income Households	689	62.81%	16.39%
Minority Population	402	36.65%	16.35%
Elderly Population living alone	26	2.37%	26.17%
K-8 School Population	287	26.16%	14.71%
Persons for whom English is 2nd Language	0	0.00%	1.66%
Persons who don't Speak English	2	0.18%	0.62%
Zero Vehicle Households	2	0.18%	6.67%
Commute by Transit	78	7.11%	4.66%
Commute by Walking or Biking	0	0.00%	4.14%
Workers on 2nd or 3rd Shift Jobs	43	3.92%	16.83%
Unemployment	37	3.37%	4.40%
Workers with Disability	52	4.74%	8.31%
Total Population of Census Block Group (CBG)	1097		

Table 3.14: Summary of Improvement Guidelines for Northgate Area

Bikeway Improvements

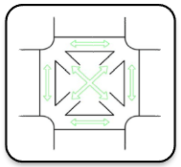
Bicycle and pedestrian Crossing Study accross TH 52 is recommended to connect residentail area on the east and west side of TH 52. This connection will also connect Cascade Creek trail though on-street bicyle facility on the east side of TH52 and ultimately a crossing over TH52 and connect to IBM trail. The future bike lanes on 19th Street and existing wide shoulder bikeway facilty on the west frontage road of TH 52 will connect area south of 19th Street in Northgate area with IBM.

Pedestrian Improvements

On the east side of 18 1/2Ave NW from 19th to 26th Street needs sidewalk. Sidewalk facility is missing on both sides of 20th Street between 18 1/2 Ave and 19th Ave NW. Nortgate area also lack sidewalk on south side of 22nd Street, 23rd and 24th Street NW. There is also a small sidewalk gaps on the east side of 20th Ave NW between 20th and 22nd Ave NW.

Transit Improvements

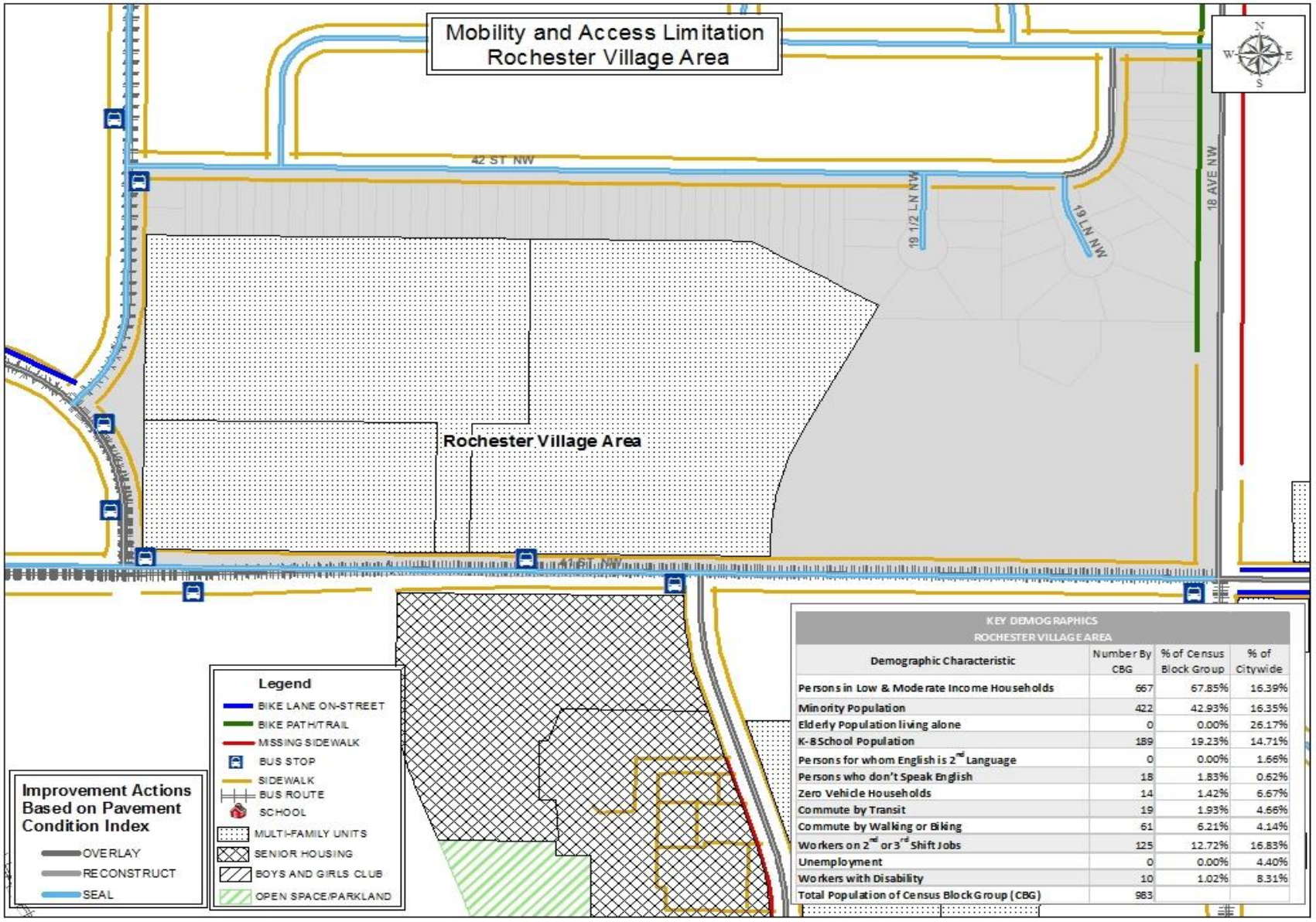
Additional bus stop shelter is needed on 18 1/2 Ave NW.



Roadway and Crossing Improvements

Improvements are needed at all major intersections along 18 1/2 Ave NW

Figure 3.16: Key Demographics and Existing Infrastructure Facilities in Rochester Village Area



KEY DEMOGRAPHICS
ROCHESTER VILLAGE AREA

Demographic Characteristic	Number By CBG	% of Census Block Group	% of Citywide
Persons in Low & Moderate Income Households	667	67.85%	16.39%
Minority Population	422	42.93%	16.35%
Elderly Population living alone	0	0.00%	26.17%
K-8 School Population	189	19.23%	14.71%
Persons for whom English is 2nd Language	0	0.00%	1.66%
Persons who don't Speak English	18	1.83%	0.62%
Zero Vehicle Households	14	1.42%	6.67%
Commute by Transit	19	1.93%	4.66%
Commute by Walking or Biking	61	6.21%	4.14%
Workers on 2nd or 3rd Shift Jobs	125	12.72%	16.83%
Unemployment	0	0.00%	4.40%
Workers with Disability	10	1.02%	8.31%
Total Population of Census Block Group (CBG)	983		

Table 3.15: Summary of Improvement Guidelines for Rochester Village Area

Bikeway Improvements

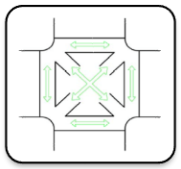
Road Diet on 41st Street NW is recommended from 18th Ave to East Frontage Road of TH52. Bike Lanes are marked on the East Frontage Road from 22nd Ave NW to 55th Street NW. 18th Ave NW reconstruction project has included building of bike and pedestrian facility along 18th Ave NW from 41st Street NW to 55th Street NW.

Pedestrian Improvements

Safe crossings on 41st Street is needed for school children who cross the road at 19th Ave to go the John Adams and Gagage Elementary.

Transit Improvements

Mostly bus stops are equiped with shelters in Rochester Village Area.



Roadway and Crossing Improvements

Improvement is needed at middleblock crossing on 41st Street at 19th Ave NW. Consider developing median refuge at the intersection of 19th Ave and 41st Street or other safety improvements for the safe crossing of Maddona Tower residentas and school kids going to John Adams and Gage elementary school.

Table 3.16: Priority Matrix for Study Area

Neighborhoods included in the Study Area	Bikeway Improvements		Pedestrian Improvements		Transit Improvements		Roadway & Crossing Improvements		Improvements Neighborhood by Categories	
	Major Work	Minor Work	Major Work	Minor Work	Major Work	Minor Work	Major Work	Minor Work	Major Work Category	Minor Work Category
Longfellow Area	X	X	X	X	X		X	X	All four categories	Three categories
Slatterly Park Area	X	X		X		X	X	X	Two categories	All four categories
Park Lane Area		X		X	X	X	X	X	Two categories	All four categories
Watson Park Area		X		X	X	X	X	X	Two categories	All four categories
Meadow Park North	X	X		X		X	X	X	Two categories	Three categories
Cooke Park Area	X	X		X	X	X	X	X	Three categories	All four categories
Homestead Area	X	X	X	X	X	X	X	X	All four categories	All four categories
Civic Center Dr. Area	X	X	X	X	X	X	X	X	All four categories	All four categories
Downtown East	X	X		X	X	X	X	X	Three categories	All four categories
Innsbruck Area	X	X		X	X	X	X	X	Three categories	All four categories
Valleyhigh Drive Area	X	X		X	X	X	X	X	Three categories	All four categories
Kutzky Park East	X	X		X		X	X	X	Two categories	All four categories
Mayo Park East	X	X		X		X	X	X	Two categories	All four categories
Northgate Area	X	X		X	X			X	Two categories	Three categories
Rochester Village		X		X				X	Zero category	Three categories

Study Conclusions

A summary of improvements under major and minor categories related to bikeway, pedestrian, transit, roadway and intersection improvements is shown in Table 3.16 for fifteen neighborhood included in the focus area. The table also provides a matrix of major and minor improvement guide in each neighborhood under four categories. The implementation of actions requires maintaining a support from many partners and entities, advocacy and public consultation, in addition to traditional areas of project development and construction. Securing funding and resources, and monitoring implementation is another area that have to be taken into account in order to successfully implement the suggested actions in the study area. In conclusion the most important actions will be to:

- Identify a leadership framework to ensure that ongoing efforts are being made to implement and develop support for the action guidelines recommended in the study;
- Secure commitments from key departments in the local agencies to advance recommended improvement actions;
- Sustain efforts needed at securing funding, particularly through various grant programs;
- Develop a strong partnership with the neighborhoods and nurturing of ongoing community involvement at neighborhood level;
- Consider forming a working group representing each neighborhood to meet once or twice a year to provide input and update on access and mobility issues and provide a feedback to the local agencies;
- The group should identify priorities based on the major and minor improvement needs. The local authorities should consider that list of projects for inclusion in their Capital Improvement Program (CIP).

The City of Rochester has a Capital Improvement Program (CIP) to manage capital spending. The CIP is a multiyear plan that forecasts spending for all anticipated capital projects. The CIP typically includes, but is not limited to the following capital projects:

- Repair and replacement of existing infrastructure (streets, bridges, utilities, etc.)
- Construction of new infrastructure.
- Renovation existing public buildings/facilities.
- Development of new public buildings/facilities.
- Acquisition of property for public use.
- Purchase of major equipment
- Other major public improvements.

The recommended/suggested improvement guidelines in the study may be funded through the budgeting process and by including those projects in Capital Improvements Program (CIP) or by securing Federal grants such as Community Development Block Grant (CDBG) or other available federal funding under Moving Ahead for Progress in 21st Century (MAP 21) or newly adopted Federal Transportation Act “Fixing American Surface Transportation” (FAST).