

Community Survey Data Report

Supplemental report for Healthy Waterways: A Health Impact Assessment of the City of Rochester, New York's Local Waterfront Revitalization Program

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Executive Summary

This report summarizes data collected from community surveys conducted in Southwest Rochester during July and August 2012 as part of Healthy Waterways, a Health Impact Assessment (HIA) of the City of Rochester's Local Waterfront Revitalization Program (LWRP). The HIA is being conducted by the University of Rochester's Environmental Health Sciences Center with funding from the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts. The opinions expressed are those of the authors and do not necessarily reflect the views of the Health Impact Project, Robert Wood Johnson Foundation or The Pew Charitable Trusts.

The City of Rochester has many waterfront assets that have the potential to influence health outcomes, including residential, industrial, and public spaces along the Genesee River. Because the LWRP is likely to affect development in these areas, the study team was interested in learning how development patterns currently affect residents' health, and how this might change in the future. We chose to focus on Southwest Rochester, a residential area that could experience significant change as a result of future waterfront redevelopment. There are many ongoing community and government efforts focusing on this area; the community survey provides additional information particularly focused on health impacts.

The 10-minute, voluntary community survey was based on guidance from community members, City of Rochester staff, and community surveys conducted in other areas. The survey was reviewed by the URMC Research Subjects Review Board prior to implementation. Surveys were conducted primarily at public events in the Southwest neighborhoods. A limited number of door-to-door surveys were also conducted. A total of 199 surveys were collected during about 65 person-hours spent surveying.

The majority of respondents were female, 61% (101). About an equal number of respondents were White (46%, 85) and Black (49%, 90). Most respondents were non-Hispanic (91%, 96). The mean and median ages of participants were 50 and 52 years, respectively. Nearly half (47%, 88) of surveys were filled out by residents of the 19th Ward. Residents from the Plymouth-Exchange (PLEX) and Cornhill neighborhoods, which span the length of the Genesee River, were also well represented with 48 (25%) and 37 (20%) responses, respectively. Sixty-three percent (114) reported that they currently meet the CDC's recommendation for physical activity of at least 150 minutes each week.

The survey asked about current built environment conditions that could affect people's health. When asked if they had been affected by crime in the past year, 34% (66) of participants responded 'yes' or 'maybe/a little'; by comparison, 21% (40) had difficulty finding places to exercise, and 20% (38) had difficulty accessing healthy food. Nearly all respondents reported accessing a grocery store by car, although there appears to be a difference between higher income and lower income respondents' ability to get to a grocery store. To explore this further, the survey asked how future changes might affect residents' health. A new grocery store and "less crime" were the highest-rated possible neighborhood changes, closely followed by "more jobs."

This report provides additional background information and summary of data not presented in the full Healthy Waterways report, which is available online at <http://www2.envmed.rochester.edu/envmed/EHSC/outreach/coec/projects/HIA/HealthyWaterways.html>.

I. Background

The Community Outreach and Engagement Core (COEC) of the University of Rochester Environmental Health Sciences Center (EHSC) conducted a Health Impact Assessment (HIA) to assess potential health implications of the City of Rochester's Local Waterfront Revitalization Program (LWRP). HIA is a process that helps identify potential health impacts of non-health policies. This project, titled Healthy Waterways, aimed to maximize potential health benefits and minimize negative health consequences of future changes along Rochester's Local Waterfronts as outlined in the LWRP.

The LWRP is likely to include recommendations about waterfront development, which can have a lasting impact on the health of surrounding communities. Therefore, the study team thought it important to study at least one Rochester community that is likely to be affected by LWRP recommendations. Riverfront neighborhoods in Southwest Rochester (South of Route 490, West of the Genesee River) are some of many that may be significantly influenced by waterfront development activities. There are many active development projects going on in this community, several of which will contribute to or be included as part of the LWRP. The study team was able to add value to existing outreach efforts to collect additional community input.

The study team worked with stakeholders to investigate links between the LWRP, the built environment and community health. Stakeholders suggested that a community survey would provide valuable input about the community members' needs and opinions about future development that might affect their health. We developed a two-page community survey to collect data on the current health and wellbeing of southwest Rochester residents, learn more about how community members access goods and services, and better understand residents' perceptions on how potential future changes resulting from the LWRP might influence their health. This report summarizes these survey results.

II. Method

Healthy Waterways staff developed, piloted, and revised the survey protocol with guidance from neighborhood residents and leaders (Appendix 1). The survey was approved by the University of Rochester Research Subjects Review Board prior to implementation (RSRB 42572). Survey questions were developed to capture demographics and health-related information including physical activity and nutrition. The survey also included questions about how potential future changes along the waterfront in the City of Rochester's southwest quadrant may affect community members' health. Questions about how future changes might impact health were derived from conversations with community leaders during interviews and community meetings. To allow for potential future comparison of survey results between neighborhoods, several questions were borrowed from other survey efforts such as Voice of the Neighborhood, JOSANA/HOPE, Bridges to Wellness, and Rochester Walks!. Results from these community surveys are not included in this report. A total of 65 person-hours were spent surveying. Results were double entered and analyzed in Microsoft Excel. Entry and analysis took approximately 28 hours.

Participants were eligible to take the voluntary 5 to 10 minute survey if they were 18 years or older and lived in southwest Rochester. The study team used the City of Rochester's neighborhood map to help participants identify their neighborhood (Appendix 2).

The study team consulted with various community leaders and attended neighborhood meetings for advice on where, when, and how to survey. We aimed to collect responses from a variety of residents living in close

proximity to the river, as well as surveys from various racial, economic and social backgrounds. Because of our limited resources, participants were primarily selected by convenience at public events and community meetings. After initial surveying, the study team targeted certain areas to increase respondent diversity and participation from waterfront neighborhoods. For example, in order to collect more surveys from residents living along the river in the Plymouth-Exchange neighborhood (PLEX), the survey team spent one day conducting door-to-door surveys. Table 1 summarizes the selected locations where surveys were conducted and number of participants from each.

III. Results

Table 1 – Survey locations and number of participants

Event	Total number of participants
West side Farmer’s Market	52
Music Fest 2012 at St. Monica Church	15
PCIC meeting at Staybridge	6
PLEX neighborhood potluck	7
Health Fair at True Light Church	7
Susan B. Anthony Block Club	5
Gandhi Institute	1
Door-to-door in PLEX	11
Surveys distributed by FLHSA staff	9
Corn Hill Neighborhood Association	33
Kennedy Tower Apartments	7
PLEX Block Club	11
Project TIPS Event	14
SPABA Book Bag Giveaway	6
Phyllis Wheatley Community Library	7
PLEX Annual Picnic	8
Total	199

The majority of respondents were female, 61% (101). About an equal number of respondents were White (46%, 85) and Black (49%, 90). Most respondents were non-Hispanic (91%, 96)(Table 2). The mean and median ages of participants were 50 and 52 years, respectively. As Table 2 shows, the racial breakdown of our survey population was similar to that in the City of Rochester. About 58% (112) of respondents were college graduates or higher, more than either the City of Rochester (33%) or the Rochester, NY Metro Area (46%). The proportion of homeowners was slightly lower than the proportion of homeowners in Monroe County (59% and 66%, respectively).

Table 2 – Demographics

	Survey			City of Rochester (N= 211, 457)*	Monroe County (N= 742,783)*
Characteristic	N (Total Answered)	Count	Percent	Percent	Percent
Gender	N=166				
<i>Male</i>		65	39%	48%	48%
<i>Female</i>		101	61%	52%	52%
Race	N=185				
<i>White</i>		85	46%	46%	77%
<i>Black</i>		90	49%	41%	15%
<i>Other</i>		10	5%	13%	9%
Ethnicity	N=105				
<i>Non-Hispanic</i>		96	91%	84%	93%
<i>Hispanic</i>		9	9%	16%	7%
Education	N= 192				
<i>Some or No High School</i>		4	2%	22%	12%
<i>High School Grad or GED</i>		34	18%	27%	25%
<i>Vocational/ Technical</i>		10	5%	-	-
<i>Some College</i>		32	17%	18%	17%
<i>College grad or higher</i>		112	58%	33%	46%
Household Income	N=163			N=86,009	N=293,104
<i>Less than \$10,000</i>		23	14%	18%	8%
<i>\$10,000 - \$14,999</i>		11	7%	8%	5%
<i>\$15,000 - \$24,999</i>		22	13%	16%	11%
<i>\$25,000 - \$34,999</i>		20	12%	14%	11%
<i>\$35,000 - \$74,999</i>		49	30%	29%	32%
<i>\$75,000 or more</i>		38	23%	15%	33%
Rental Status	N=191			N=86,009	N=293,104
<i>Rent</i>		73	38%	51%	34%
<i>Own</i>		113	59%	49%	66%
<i>Other</i>		5	3%	-	-
Age	N=162				
<i>Mean</i>		50	--	--	--
<i>Median</i>		52	--	31	38

*Monroe County and City of Rochester demographic data are from the 2011 American Community Survey 5-year Estimate, U.S. Census Bureau, Table DP05 Demographic and Housing Estimates, S15011 Educational Attainment, and DP03 Selected Economic Characteristics

Nearly half (47%, 88) of surveys were filled out by residents of the 19th Ward, which is the largest geographically defined neighborhood in the Southwest quadrant (Table 3). Residents from the Plymouth-Exchange (PLEX) and Cornhill neighborhoods, which lay along the Genesee River, were also well represented with 37 (20%) and 48 (25%) responses, respectively. The remaining 8% (16) surveys were from other Southwest neighborhoods (Table 3).

Table 3 – Neighborhood Representation

<i>Neighborhood</i>	<i>Count (N=189)</i>	<i>Percent**</i>
19th Ward	88	47%
U.N.I.T	1	1%
P.O.D.	1	1%
J.O.S.A.N.A	3	2%
B.E.S.T	3	2%
Susan B. Anthony	5	3%
Mayors Heights	1	1%
Cornhill	37	20%
Genesee-Jefferson*	2	1%
PLEX	48	25%

*Some survey respondents living in the Genesee-Jefferson neighborhood considered themselves as members of PLEX, Changing of the Scenes, or the 19th ward. No residents of Brown Square or the Central Business District participated in the survey. The study team plans to map addresses provided in the surveys for a more accurate representation of participation.

**Percents do not add up to 100 due to rounding.

Participants were asked “how proud are you to live in your neighborhood?” About 89% (172) of participating Southwest residents indicated that they are ‘very proud’ or ‘proud’ of living in their neighborhood (Table 4). The remaining 11% (22) reported that they are ‘not that proud’ or ‘not proud at all’ of living in their neighborhood. In addition to their own sense of pride, respondents were asked “how much do you feel that residents in your neighborhood care about the community?” Responses to this question were similar, with 11% (22) of participants indicating that other residents in their neighborhood care ‘a little’ or ‘not at all’ about their community, and 49% (97) believing their neighbors care “a great deal.” Some participants commented that it is “difficult to generalize how much other residents care.”

Table 4 – Neighborhood Pride

<i>Rating</i>	<i>Count (N=194)</i>	<i>Percent</i>
Very Proud	109	56%
Proud	63	32%
Not that proud	19	10%
Not proud at all	3	2%

Table 5 – Neighborhood Care

Rating	Count (N=196)	Percent
A great deal	97	49%
Somewhat	77	39%
A little	18	9%
Not at all	4	2%

Table 6 – Community Conditions Personally Affecting Residents

	Crime		Lack of places to exercise		Difficulty getting healthy food	
	# (N=193)	%	# (N=193)	%	# (N=192)	%
Yes	34	18%	13	7%	18	9%
Maybe/A little	32	17%	27	14%	20	10%
No	125	65%	150	78%	153	80%
Don't know/No answer	2	1%	3	2%	1	1%

When asked if they had been affected by crime in the past year, 34% (66) of participants responded ‘yes’ or ‘maybe/a little’. Other issues the survey asked about included a lack of places to exercise and difficulty finding healthy food. Of those who responded, 21% (40) had difficulty finding places to exercise, and 20% (38) had difficulty accessing healthy food (Table 6). Respondents often specified what kind of crime had personally affected them in the neighborhood, and most seemed to include theft or vandalism such as “car was damaged,” “friend’s bike was stolen,” and “gate was vandalized.”

Survey participants were also asked about their own health status, specifically how they rate their own health, how often they experience stress, how much they exercised in the past week, and how many fruits and vegetables they consumed yesterday. For the latter two questions, recent time frames were specified to help reduce recall bias.

Table 7 – Self-Reported Personal Health Status

	Count (N=197)	Percent	Monroe County*
Excellent	47	24%	86%
Very good	79	40%	
Good	59	30%	
Fair	10	5%	14%
Poor	2	1%	

*Monroe County Department of Public Health. 2006. Monroe County Adult Health Survey Report. Accessed 13 September 2012 from <http://www2.monroecounty.gov/files/health/health-action/2006%20ADULT%20HEALTH%20SURVEY.pdf>

According to self-reports, most survey respondents are relatively healthy. About 94% (185) described their health as being ‘good,’ ‘very good,’ or excellent, while only 6% (12) of survey participants described their health as being ‘fair’ or ‘poor.’ Survey respondents appear to be healthier when compared to the 2006 the Monroe County Adult Health Survey. This survey was conducted by the Monroe County Department of Public Health

with a random sample of 2,545 Monroe County adults. The Monroe County Adult Health Survey found that 14% of Monroe County adults reported their health as fair or poor (Table 7).

Participants were also asked about their perceived levels of stress. Twenty-two percent (44) of respondents reported that they had been stressed often in the past 30 days, and 45% (90) indicated ‘sometimes.’ A quarter (50) of respondents rarely felt stressed, and 8% (15) said they were not stressed at all in the past month (Table 8).

Table 8 – Self-Reported Stress History

Number of times in the past month participant felt stressed	Count (N=199)	Percent
<i>Often</i>	44	22%
<i>Sometimes</i>	90	45%
<i>Rarely</i>	50	25%
<i>Never</i>	15	8%

It is well documented that a lack of physical activity significantly contributes to a suite of diseases and poor health outcomes related to obesity, including heart disease and diabetes. Given that these conditions are health concerns in the City of Rochester, the study team was interested in estimating how much aerobic exercise residents are getting each week to identify potential opportunities for improvement. In addition to strength training, the CDC recommends that adults engage in moderate-intensity aerobic activity for 30 minutes or more on 5 or more days of the week (or 150 minutes per week). Moderate intensity aerobic activity is defined by the CDC as exercise that increases a person’s heart rate and causes them to break a sweat (this includes brisk walking). Due to time and space constraint of the survey, we did not ask participants to specify what kind of physical activity they participated in, but instead offered examples such as walking, running, swimming and biking. Participants were asked how many times in the past week they were physically active, how many of these times were outside in their neighborhood, and for how long they usually exercised. The study team multiplied the number of times each person was physically active by the average reported time to calculate an estimate of how much physical activity they got in the previous week. The resulting physical activity measures may be overestimations of moderate-intensity activities, however they do provide a sense of how well residents are doing overall.

The mean and median minutes of physical activity per week of survey respondents are 314 minutes and 210 minutes, respectively (Table 9). Two outliers who stated that they “did construction work all day,” and “[were] out and about running errands all day” were excluded from the mean calculation. Based on self-reports, 63% (114) of participants reported that they engage in the recommended amount of physical activity of 150 minutes per week (Table 9). The 2006 Monroe County Adult Health Survey was more detailed in asking participants to estimate their weekly moderate intensity exercise so a direct comparison cannot be made. However, the results are similar – 53% of Monroe County residents surveyed reported that they usually meet the recommended amount of weekly exercise.

There appears to be a difference among survey respondents in physical activity levels by race (Table 10). About 60% (48) of Blacks surveyed meet the recommended weekly physical activity, compared to 72% (56) of White respondents. Similarly, it appears as though females are less likely to meet the recommended amount than males (58%, 56 and 79%, 44, respectively). The study team calculated the average proportion of outdoor

physical activity for both genders. There appears to be no difference in the average amount of outdoor physical activity time for males and females (82% and 83%, respectively).

Table 9 – Self-Reported Physical Activity

Mean minutes of physical activity per week	314*
Median minutes of physical activity per week	210
Number who meet CDC recommendation (150 minutes/week) (N=180)	114
Percentage who meet CDC recommendation	63%

*Excluded 2 outliers: construction work, and “out and about all day”

Table 10 – Physical Activity by Race

	Meet recommended	% Meet recommended
Race (N=166)		
White (n=78)	56	72%
Black (n=80)	48	60%
Other (n=8)	5	63%
Gender (N=152)		
Female (n=96)	56	58%
Male (n=56)	44	79%

The survey included a list of possible future changes to Southwest Rochester. The study team compiled this list based on desired changes discussed in community meetings. Participants were asked to rate what effects these possible future changes would have on their health. Ratings were based on a Likert scale from 1 (strongly positive) to 5 (strongly negative). “Don’t know” responses were excluded. Ratings were averaged to generate a community priority list (Table 11).

Table 11 – Average Health Impact Ratings

Possible change	Average Rating*
Full service grocery	1.60
Less crime	1.60
More jobs	1.66
More trails	1.81
More housing/shops near Genesee	1.84
Recreation on Genesee	1.93
More playground/park for children	1.94
More recreational facilities for youth	1.97
More doctors, health clinics	2.10

*Ratings closer to 1 represent more strongly positive effects.

Survey responses indicate that residents believe a full service grocery store, less crime, and more jobs would have a strongly positive influence on their health (rated at 1.60, 1.60 and 1.66, respectively). Regarding a new

full service grocery store in the neighborhood, many participants commented that though they already have a full service grocery store that they can access, “having one in the neighborhood would make life more convenient.” More trails and more housing/shops near the Genesee River were also highly rated as positive influences on health (Table 11). One resident responded that there are already enough trails, but losing any trail space would have a negative impact on health. When asked whether housing or shops near the Genesee would affect their health either positively or negatively, several people responded with comments such as “it depends on what kind.” One resident specified that “more convenience stores” would have a negative impact on his or her own health.

The other possible changes listed were overall viewed as having a positive impact on health. However, most were less relevant for participants. For example, several respondents indicated that they did not think more playground/parks for children would affect their health because they did not have children, but noted that they thought this change would be important for the community. Likewise, a number of participants commented that having more recreation facilities for teens/youth “would give them [youth/teens] something to do” and “keep them busy.” Some participants listed additional changes that could influence health. These include:

Positive effect on health (number of respondents who listed these “other” possible changes):

- More shops and amenities, particularly within walking distance (11)
- More police, better police response, more bike patrols (8)
- Community Social Changes (parent involvement in kids’ activities, community involvement in general) (8)
- More community amenities such as meeting spaces, homework spaces, and swimming pools (5)
- Improvements in education/schools (5)
- Better maintenance of existing facilities (3)

Negative effect on health (number of respondents who listed):

- More convenience stores (1)
- Fewer trails (1)

The study team was interested in learning about how Southwest area residents access common destinations, with particular interest in how participants access food. Anecdotal reports from key informants and overheard during community meetings suggested that some residents have difficulty accessing food. To better understand transportation and how it relates to food access, the survey asked participants how they most often get to certain places, where they purchase food and how often, and how many fruits and vegetables they ate the previous day. These two questions were adopted from community surveys previously conducted in other Rochester neighborhoods.

Table 12 – Transportation to Common Destinations

	Destination									
	Grocery store		Other shopping		Doctor		Church		Work	
	# (N=191)	%*	# (N=187)	%	# (N=190)	%	# (N=187)	%	# (N=175)	%
Walk	5	3%	11	6%	6	3%	17	9%	12	7%
Bike	4	2%	4	2%	4	2%	2	1%	6	3%
Bus	6	3%	11	6%	7	4%	4	2%	4	2%
Transit Service	3	2%	1	1%	3	2%	1	1%	1	1%
Taxi	1	1%	0	0%	1	1%	1	1%	0	0%
Pay Someone	0	0%	0	0%	1	1%	0	0%	0	0%
Friends or Family	17	9%	11	6%	11	6%	11	6%	5	3%
Drive Own Car	154	81%	148	79%	149	78%	109	58%	96	55%
Other	1	1%	0	0%	0	0%	1	1%	3	2%
I don't go there	0	0%	1	1%	8	4%	41	22%	48	27%

*Percents do not add up to 100 due to rounding.

The majority of respondents drive their own cars to each of the listed destinations (Table 12). The most “walkable” and “bikeable” destinations appear to be work and church, with 10% (18) and 10% (19) of respondents most often walking or biking to those destinations, respectively. About 90% (171) of survey respondents most often get to the grocery store by driving their own car or riding with friends or family.

With respect to nutrition, participants were asked “how many servings of fruits and vegetables did you eat yesterday?” On average, respondents consumed 3.11 servings of fruits and vegetables (with a median of 3.00 servings), which is less than the recommended daily intake of five servings.

The study team was also interested in where and how often participants purchase their food. Participants were asked how often they purchase food at convenience stores, fast food restaurants, sit-down restaurants, farmer’s markets or the public market, and full service grocery stores. Responses provided were on a scale of 1 to 5, where:

- 1 = Daily
- 2 = Often
- 3 = Once/week
- 4 = Sometimes
- 5 = Never

Participant responses were grouped into three categories (Table 13).

Table 13 – Shopping Frequency at Various Food Outlets

Frequency	Convenience store		Fast food restaurant		Sit down restaurant		Public/ Farmer's Market		Grocery store	
	# (N=183)	%	# (N=179)	%	# (N=183)	%	# (N=187)	%	# (N=189)	%
<i>Daily or often:</i>	30	16%	21	12%	33	18%	54	29%	108	57%
<i>1/ week:</i>	16	9%	22	12%	42	23%	50	27%	50	26%
<i>Sometimes or Never:</i>	137	75%	136	76%	108	59%	83	44%	31	16%

A majority of respondents sometimes or never purchase food in convenience stores or fast food restaurants (75%, 137 and 76%, 136, respectively). Similarly, most shop at a grocery store at least once per week (84%, 158). Similarly, more than half of respondents shop at a farmer's market at least once per week (56%, 104) (Table 13). This result may overestimate the community's food purchases from farmer's markets since about a quarter of the surveys were collected at a farmer's market. On average, participants spend less than \$50 per week per person on food (Table 14).

Table 14 – Weekly amount spent on food per person (all forms of payment including cash, checks, credit and food stamps)

<i>N=162</i>	Cost Per Person Per Week
Mean	\$48.52
Median	\$40.00
Min	\$8.33
Max	\$175.00

Because of anecdotal reports regarding grocery store access and limited access to healthy foods, the study team wanted to delve into the responses further. We divided respondents into under/near and above poverty level groups. Table 15 summarizes responses to how often people shop at food outlets by income. Table 16 summarizes fruit and vegetable consumption, vehicle access to a grocery store, and frequency shopped at a grocery store by income. Poverty level calculations are based on reported household income and size using the 2012 Health and Human Services Poverty guidelines (<http://aspe.hhs.gov/poverty/12poverty.shtml/12computations.shtml#thresholds>).

Table 15 – Shopping Frequency at Various Food Outlets (by Income)

	Frequency of where shopped*				
	Convenience Store	Fast Food Restaurant	Sit Down Restaurant	Farmer's or Public Market	Grocery Store
Under/Near Poverty Level	3.00 (N=27)	3.37 (N=27)	3.50 (N=27)	3.30 (N=27)	2.90 (N=28)
Above Poverty Level	4.32 (N=110)	3.91 (N=109)	3.40 (N=110)	3.20 (N=112)	2.50 (N=112)

* Frequency of where shopped' was calculated by averaging Likert scale responses. Averages closer to 1 indicate the location is more frequently visited.

On average, participants living below or near the poverty level reported buying food in convenience stores about once per week, while those living with higher incomes buy food in convenience stores rarely or never (Table 15). However, there does not appear to be much of a difference in the average frequency either group buys food from other outlets, including the grocery store.

Individual responses to how frequently participants shop at a grocery store demonstrate that about a third of participants living near or below poverty shop at grocery stores only sometimes or never (32%, 9), while only 14% (9) higher income participants do not shop at the grocery store (Table 16). This trend for lower income respondents may be supported by the finding that fewer low-income respondents access the grocery store by car (73%, 19) than respondents with higher incomes do (92%, 107). Results based on income also reveal apparent differences in the number of fruits and vegetables consumed, with respondents living above poverty consuming 3.3 servings of fruits and vegetables on average, compared to 2.2 servings consumed by respondents living near or below the federal poverty level.

Table 16 – Nutrition and Food Access (by Income)

	Servings of fruits and vegetables eaten yesterday		Get to grocery store by car (own car or go with friends/family)		Frequency shopped at grocery store			
	Total* (N=137)	Mean Servings	Total* (N=142)	Count	Total (N=93)	Daily/Often	Once a week	Sometimes/ Never
Under/Near Poverty Level	20	2.2	26	19 (73%)	28	10 (36%)	9 (32%)	9 (32%)
Above Poverty Level	117	3.3	116	107 (92%)	65	32 (49%)	24 (37%)	9 (14%)

*Total number of people who responded to income, household size, and column heading question

IV. Discussion

Survey Population

Because of our small sample and convenience sampling method, survey respondents are not necessarily representative of southwest Rochester residents. However, our sample included enough diversity by income to compare responses by income.

Opportunities for Improving Health Through Personal Behaviors

Although most respondents rated their health as being good, very good or excellent, the study team found that 63% were meeting the weekly recommended amount of exercise. This proportion was much lower both for women and Black participants. Similarly, participants do not appear to be consuming enough fruits and vegetables on a daily basis, particularly those who were low income. These indicators of overall health illuminate potential areas of improvement, where certain vulnerable populations appear to be disproportionately

influenced. Although further research should be done in this area, responses related to food access and crime highlight possible avenues where improvements can be made.

Similarly, the discrepancy between recommended and actual levels of physical activity may indicate a need to disseminate more information on the importance of adequate physical activity for a healthy lifestyle. The ratings of 'more trails', and 'recreation on Genesee River' (1.81 and 1.93, respectively) highlight possible future changes for the LWRP that can increase opportunities for physical activity.

Identifying Links Among Health Supportive Resources: Food Access and Income

Having a local grocery store in southwest Rochester received one of the top three ratings as having a positive personal health impact on participants. Similarly, survey results identified income-based disparity between access to a grocery store, as well as the number of servings of fruits and vegetables consumed. This possible trend merits further investigation. The study team identified possible reasons for this observation, including that respondents from lower income groups may not have the financial means to purchase fruits and vegetables given the other groceries they have to buy. Another possibility is that this group may not be adequately informed about the importance of incorporating fruits and vegetables into their diet or do not choose to follow these recommendations.

Given that most respondents reported that a full service grocery store in southwest Rochester would have a strongly positive impact on their health, this also raises the question as to what the effect of having a local grocery store may be. There is much debate around whether improved access to healthier foods, particularly fresh produce, actually increases consumption. There are numerous possible reasons for low consumption of fresh produce. These include but are not limited to a lack of cooking skills, the cost of fresh produce relative to income, cultural preferences, access, and social experience or exposure to modeling behaviors. Another possibility tied to income is that if respondents are able to spend less money traveling to a grocery store, they may divert the amount saved toward the purchase of fruits and vegetables.

Access to healthy food is an important determinant of health. The apparent relationship between household income and fruit and vegetable consumption, as well as frequency of buying food at fast food restaurants and convenience stores, not only identifies a vulnerable population but also demonstrates the importance of addressing the link between economy and food access via the LWRP. For example, 'More jobs' was one of the most highly rated potential changes for a positive impact on health. In turn, more jobs can also lead to other multiple beneficial social, physical and mental health outcomes.

Consumption of fresh fruits and vegetables may also not be the only health effect of a local grocery store. Because the majority of participants drive to the grocery store in their own cars, and visit the grocery store at least once a week, having a local grocery store in the neighborhood could make this common destination more walkable and bikeable. If residents chose to walk or bike to the grocery store in lieu of driving, this would raise physical activity levels as well as reduce traffic and air pollution. Because a majority of respondents drive their cars to the grocery store, it is unclear whether residents would opt to walk or bike to the store if it were closer. However as one respondent put it, they currently "have no other choice."

Physical Safety: Crime

'Less crime' was highly rated as a change that would strongly benefit health. Many respondents had also been affected at least a little by crime in the past year. These survey results emphasize the need to lower crime rates, a potential opportunity for the LWRP. For example, some respondents suggested "more police patrols." Another possibility for the LWRP could be to incorporate Crime Prevention Through Environmental Design (CPTED) principles into new development plans. As crime has been shown as a potential barrier to physical activity (Humpel et al., 2002), lowering crime rates may in turn increase physical activity levels, particularly for women.

V. Conclusions

The community survey relies on self-reported data. Therefore, respondents may under- or over-report certain health attributes. Respondents' ability to recall behaviors, such as physical activity levels in the past week and servings of fruit and vegetables eaten yesterday may also affect the accuracy of responses.

As previously discussed, certain populations and neighborhoods have been underrepresented, and demographics of the Southwest area may be underrepresented. Similarly, some groups such as farmers' market patrons may be overrepresented. The small sample size also limits the likelihood that results comprehensively reflect the entire Southwest area. It is also important to note that surveys were conducted during the summer: certain statistics may change during different seasons e.g. frequency shopped at public/farmer's market, physical activity level, and servings of fruits and vegetables consumed. For example, when answering that they had difficulty accessing health food in the past year, one participant noted that "it's pretty easy during the summer because we have the market, but in the winter it's hard." As previously described, our estimate of physical activity did not ask respondents to specify the type of exercise they did.

Future efforts to replicate this survey in this or other neighborhoods can build on our experiences. In particular, paying attention to the income distribution during initial surveying helped us adjust our sampling strategy to reach underrepresented groups. Most of the questions worked well. However, we would recommend changing the question to impacts on 'your health' to 'the community's' to try to get a better sense of the public good. This question is difficult to interpret because of its focus on individual health (i.e. some may have rated playgrounds as a low priority because they do not have children; however, these same people might have rated playgrounds as a very high priority for the community's health). Overall, it took approximately 65 person-hours to complete 199 surveys.

Appendix 1 – Community Health and Wellbeing Survey

Location: _____ Date: _____ Time: _____ SURVEY ID # _____

We are interested in the health and wellbeing of people living in southwest Rochester, and how potential future uses of the Genesee River waterfront may affect residents’ health. You must be over 18 and have not taken this survey before to participate. Your answers are confidential; you may skip any questions you wish.

1. What southwest neighborhood do you live in? _____
2. How long have you lived in your neighborhood?
₁ Less than 6 months ₂ 6 months to a year ₃ 1 to 3 years ₄ 3 to 10 years ₅ more than 10 years
3. Some people take pride in living in a certain place, while others do not. How proud are you to live in your neighborhood?
₁ Very proud ₂ Proud ₃ Not that proud ₄ Not proud at all
4. How much do you feel that residents in your neighborhood care about the community?
₁ A great deal ₂ Somewhat ₃ A little ₄ Not at all
5. In general, how would you rate your health?
₁ Excellent ₂ Very good ₃ Good ₄ Fair ₅ Poor
6. How often during the past 30 days did you feel stressed? Would you say...?
₁ Often ₂ Sometimes ₃ Rarely ₄ Never
7. How many times in the past week were you physically active (walking, biking, swimming, etc.)? _____ times
8. How many of these times were outdoors in your neighborhood? _____ times
9. When you were physically active, for how many minutes or hours did you usually keep at it? _____ minutes
10. How often does your household buy food in the following places?

	Daily	Often	1/week	Sometimes	Never
Convenience store	1	2	3	4	5
Fast food restaurant	1	2	3	4	5
Sit down restaurant	1	2	3	4	5
Public market/farmer’s market	1	2	3	4	5
Full service grocery (food store)	1	2	3	4	5

Which one(s)/where: _____
11. On average, how much does your household spend on food per week (total amount, including food stamps, cash, credit, etc.)? \$_____/week
12. How many servings of fruits and vegetables did you eat yesterday (if none, write “0”)? _____ servings

13. Please check which method of transportation you most often use when you go to the following places:

	Walk	Bike	Bus	Transit Service	Taxi	Pay Someone	Friends or Family	Own car	Other	I don't go there
Grocery store										
Other shopping										
Doctor										
Church										
Work										

14. A person's health can be affected by their neighborhood situations. In the past year, have you been personally affected by...?

	Yes	Maybe/A little	No	Don't know/ No answer
Crime				
Lack of places to exercise				
Difficulty getting healthy food				

15. Please rate the following possible future changes in southwest Rochester based on what you think their effect on your health would be:

1= Strongly Positive (SP); 2 = Positive (P); 3= No effect (NE); 4 = Negative (N); 5 = Strongly Negative (SN)

	SP	P	NE	N	SN	Don't Know
Full service grocery store	1	2	3	4	5	<input type="checkbox"/>
Less crime	1	2	3	4	5	<input type="checkbox"/>
More playgrounds/parks for children	1	2	3	4	5	<input type="checkbox"/>
More recreation facilities for teens/youth	1	2	3	4	5	<input type="checkbox"/>
More trails for biking/walking	1	2	3	4	5	<input type="checkbox"/>
Recreation on Genesee River (kayaking, fishing, etc)	1	2	3	4	5	<input type="checkbox"/>
More doctors, health clinics, etc	1	2	3	4	5	<input type="checkbox"/>
More housing/shops near Genesee River	1	2	3	4	5	<input type="checkbox"/>
More jobs	1	2	3	4	5	<input type="checkbox"/>
Anything else? _____	1	2	3	4	5	<input type="checkbox"/>

16. ABOUT YOU:

Local address or intersection near your house (If you prefer, give your own address)

Street: _____ Number or cross street: _____ Zip: _____

Which of the following is your highest level of education (completed)?

- Some or no high school
 High school graduate or GED
 Vocational/technical school
 Some college
 College graduate or higher

Do you currently rent or own your home? Rent Own Other: _____

Race: White Black Asian Other: _____

Ethnicity: Non-Hispanic Hispanic or Latino

Age: _____ Gender: _____

How many people currently live in your household? _____ adults _____ children (under 18)

What is your approximate household income?

₁ Less than \$10,000

₂ \$20,000 - \$24,999

₃ \$35,000 - \$39,999

₄ \$10,000 - \$14,999

₅ \$25,000 - \$29,999

₆ \$40,000 - \$74,999

₇ \$15,000 - \$19,999

₈ \$30,000 - \$34,999

₉ \$75,000 or more

Do you have any additional comments? _____

THANK YOU FOR YOUR TIME!

Appendix 2 – Southwest Neighborhoods Map

