
Active Transportation in East Portland

Summary of Results

Andrew Parish, 2012 MURP Candidate



Research Objective

This report seeks to address the issue of active transportation in East Portland, an area that differs from the city as a whole in income, racial diversity, age, land uses, and travel behavior. We have attempted to gain insight into attitudes, perceived barriers, and transportation-related priorities of residents and other stakeholders in order to assist the City of Portland in its implementation of active transportation infrastructure. In this report I have identified the actions most likely to encourage walking and bicycling and shown how responses to survey questions varied by race and primary commute mode of the respondent.

Methodology

This research was conducted in two phases. Beginning in October 2010, our research team used a variety of qualitative methods to study attitudes toward active transportation and infrastructure priorities in East Portland. We conducted individual and group interviews of residents, business owners, and officials who live and work in East Portland, and assessed existing infrastructure through site visits. The second phase - and the bulk of this report -

consisted of a survey conducted through a partnership between Portland State University and the City of Portland. The survey instrument was created by students and staff at PSU and mailed to a random sample of Portland addresses east of 82nd Avenue.

Of the 3000 surveys mailed, 314 were returned in time to be included in this report. Of those, 43 were entered online and the remainder arrived via mail in the pre-paid envelopes provided. Additionally, 129 surveys were returned as either vacant addresses or undeliverable, having never reached an East Portland resident. Our response rate was roughly 11%, a fairly common result for surveys of this type. The City may choose to conduct a second round of mailings to improve the response rate and gather more data.

Survey Respondents

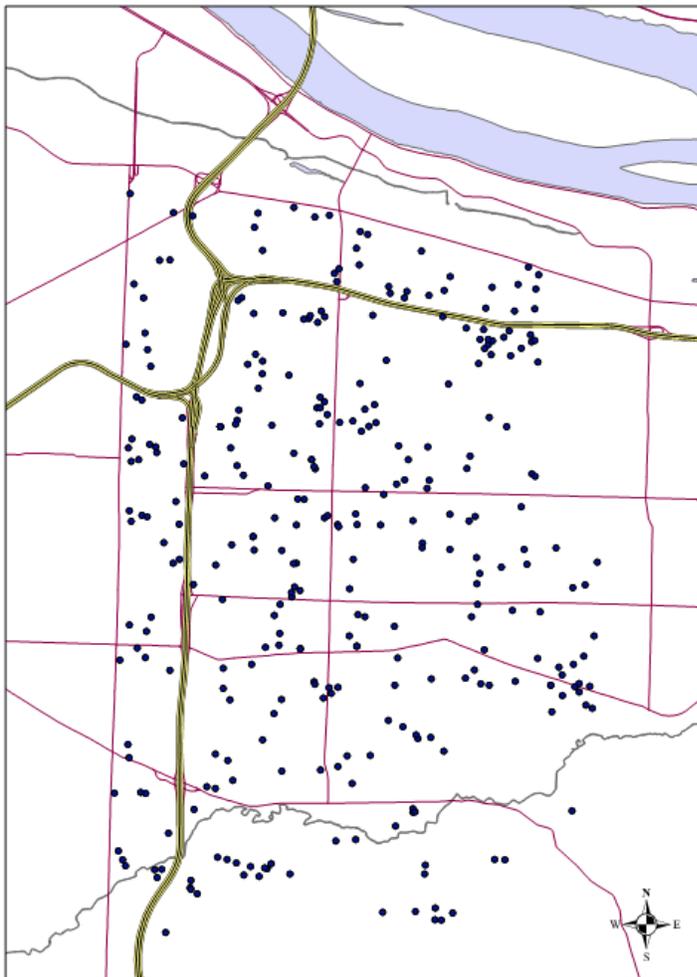


Table 1 – Demographics of Survey Respondents and the City of Portland

	Survey Respondents	City of Portland (2009 ACS 5-year)	ACS Margin of Error
Median Age	54	35.5	+/- 0.2
% Female	63.3%	50.8%	+/- 0.2%
Mean Household Size	* 2.29	2.27	+/- 0.1%
Mean Household Income	** \$48,631	\$65,941	+/- \$801
% African American***	3.5%	6.4%	+/- 0.2%
% Asian	7.7%	6.5%	+/- 0.2%
% White	85.6%	78.8%	+/- 0.4%
% Latino/a	3.1%	8.8 %	+/- 0.3%
% American Indian	3.9%	1.1%	+/- 0.2%
% Pacific Islander	1.8%	0.5%	+/- 0.2%
% Other Race	1.4%	2.7%	+/- 0.3%

* Response "6+" coded as 6 individuals

** Response "\$150,000 and over" coded as \$200,000

*** Responses for race are not mutually exclusive, while ACS figures are.

Members of our research team cleaned the data to a large extent, but there were issues I addressed personally. Responses for questions that were out of the acceptable range were coded as missing. Some respondents did not check any boxes indicating their race, and this was occasionally coded as a "0" for each race category, rather than "missing" for all categories. When no race responses were given, I coded the responses as missing.

Descriptive Statistics and Demographics

Table 1 lists survey results and census data for the City of Portland for general comparison. The median age of respondents is much higher than the Portland average, though this could be due in part to the fact that the survey does not ascertain the age of all household members. The mean household income was lower than that of the city, as was the mean household size. Those who answered the survey online were both significantly younger (p<.001) and wealthier (p<.05), with a median age of 49 and mean income of \$62,062.

Table 2 breaks down demographic information by race. Due to the sample size, I felt it was only appropriate to separate respondents into categories of "white" and "nonwhite." An independent-sample t-test indicates that nonwhite respondents were significantly more likely to

Table 2 – Racial Differences

	White	Nonwhite
<i>Demographics</i>		
Number of Respondents	250	46
Mean Income	**\$50,412	**\$38,333
Mean Age	*55.3	*48.5
Vehicles in Household	1.8	1.8
Household Size	2.3	2.7
Children in Household	*0.6	*1.4
<i>Mean Response to Q1 (1 = "Strongly Disagree", 4 = "Strongly Agree")</i>		
"Many places within walking distance"	*2.3	*2.7
"The crime rate in my neighborhood makes it dangerous to walk after dark"	*2.6	*2.1
"I feel safe biking on busy streets in my neighborhood"	*2.0	*2.4
"My neighborhood is a good place for walking"	3.1	3.0
"It is easy to walk to a transit stop from my home"	3.4	3.4

* Differences significant at the 95% confidence level

** Differences significant at the 90% confidence level

be younger, have a lower household income, and have a greater number of children in their household.

Question one used a Likert scale to gauge the extent to which respondents agreed with statements about their neighborhood, with “Strongly Disagree” coded as 1 and “Strongly Agree” coded as 4. Responses varied by race in some significant ways. Nonwhites were significantly more likely to agree with the statements, “There are many places to go within walking distance of my home,” and “I feel safe biking on busy streets in my neighborhood.” Whites were more likely to feel that, “The crime rate in the neighborhood makes it dangerous to walk after dark.” Both whites and nonwhites were very likely to agree that their neighborhood “is a good place for walking” and that “it is easy to walk to a transit stop (bus or MAX)” from their home.

Active Transportation Attitudes

Figures 1 and 2 show responses to questions six and nine, which ask whether particular improvements or programs would make respondents more likely to walk or bike. Increase in the number of destinations within walking distance was the change that would be most likely to encourage respondents to more, followed by more sidewalks on neighborhood streets and improved lighting. Organized walking groups and pedestrian maps were rated by over 50% of respondents as “not at all likely” to affect their walking behavior. Of the listed strategies to encourage bicycling, off-street bicycle paths, increased local destinations, and grade-separated bike routes such as cycle tracks emerged as the most likely to affect behavior, while safety and maintenance classes was the item least likely to encourage cycling.

Interestingly, the mean values of all responses shown were significantly higher ($p < .05$) for nonwhites than for whites, with the exception of those rated highly by both groups: increased destinations in walking distance, increased destinations in biking distance, and more off-street bike paths.

Transportation Priorities

Table 3 shows overall responses to question ten,

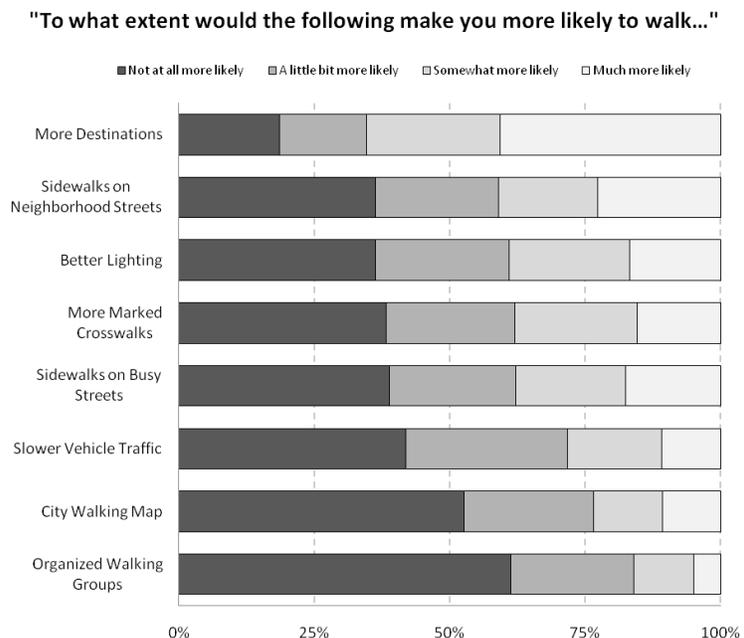


Figure 1 – Effects of Pedestrian Improvements

which asks about the importance of different transportation priorities for PBOT. The means given in Table 3 can be used as a general indicator of respondent's attitudes, with values above three indicating high priority and values below three indicating low priority. Widening bike lanes on arterial streets, putting new bike lanes on arterials, and retrofitting neighborhood streets emerged as the lowest priorities overall. Increasing the number of sidewalks to busy streets and sidewalks accessing transit, improving the number and quality of street crossings, and improving signal timing were rated more highly. The overwhelming majority of respondents (69%) said that improving roads and fixing potholes was a "very important" priority.

"To what extent would the following make you more likely to bike..."

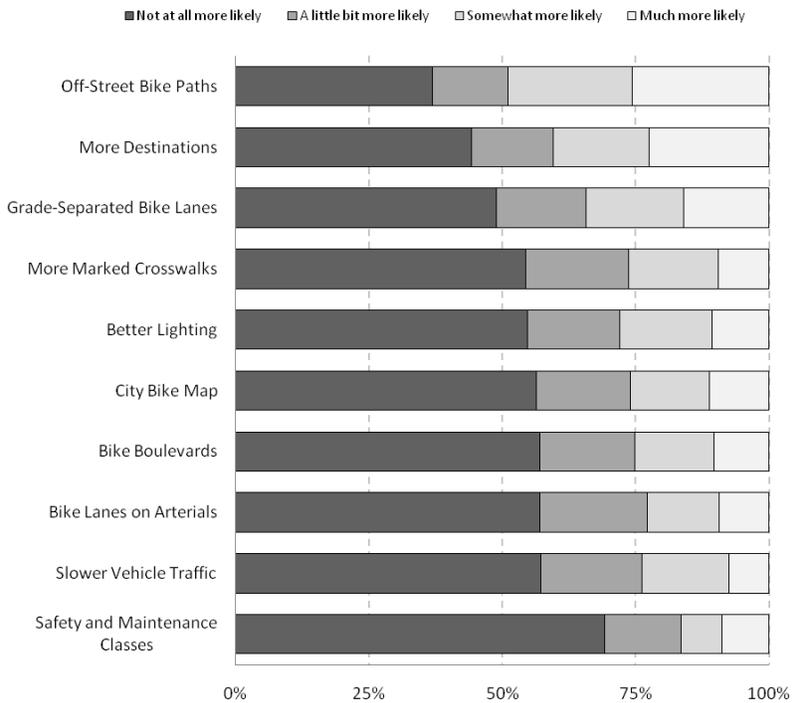


Figure 2 – Effects of Bicycling Improvements

Of respondents who answered survey question four, 66% said they typically commute to work or school by automobile (car, truck, or motorcycle), 13% use public transportation (bus or MAX), 1% walk or bike, and 20% do not commute. It seems that nonwhites in the sample were more likely than whites to commute by non-automotive means, but the sample size limits the statistical significance of this finding (24% to 11%; $p < .1$). Figure 3 shows differences that emerge when responses to this question are broken down by those who typically commute to work or school by automobile, those who commute by non-automotive means, and those who do not commute. Using a Pearson's chi-square test, I found significant differences in the perceived importance of retrofitting neighborhood streets to prioritize pedestrians and cyclists ($p < .01$), improving sidewalks with transit connectivity ($p < .01$), and adding bike lanes on arterial streets ($p < .05$). Unsurprisingly, those who regularly commute by non-automotive means were more likely to think these improvements should take a higher priority than those who commute via automobile. Also shown for comparison is the importance of maintaining roads and fixing potholes, which was rated as a high priority by all groups.

Table 3 – Transportation Priorities

	Not At All Important		Very Important			Total	Mean
	1	2	3	4	5		
Sidewalks on busy streets	33 11%	38 13%	60 20%	55 18%	115 38%	301 100%	3.6
Sidewalks to improve transit access	36 12%	41 14%	75 25%	54 18%	93 31%	299 100%	3.4
Street crossing improvements	22 7%	30 10%	64 21%	71 24%	115 38%	302 100%	3.7
Giving bikes and pedestrians priority on neighborhood streets	80 27%	54 18%	76 25%	44 15%	45 15%	299 100%	2.7
Wider bike lanes on arterials	105 35%	51 17%	56 19%	44 15%	42 14%	298 100%	2.5
Maintaining Streets and fixing potholes	11 4%	6 2%	25 8%	53 17%	212 69%	307 100%	4.5
Putting new bike lanes on busy streets	95 32%	43 15%	66 22%	42 14%	48 16%	294 100%	2.7
Improving signal timing to prevent delay	25 8%	32 11%	55 18%	73 24%	116 39%	301 100%	3.7
Building new trails/multi use paths separated from traffic	43 15%	38 13%	63 21%	62 21%	90 30%	296 100%	3.4

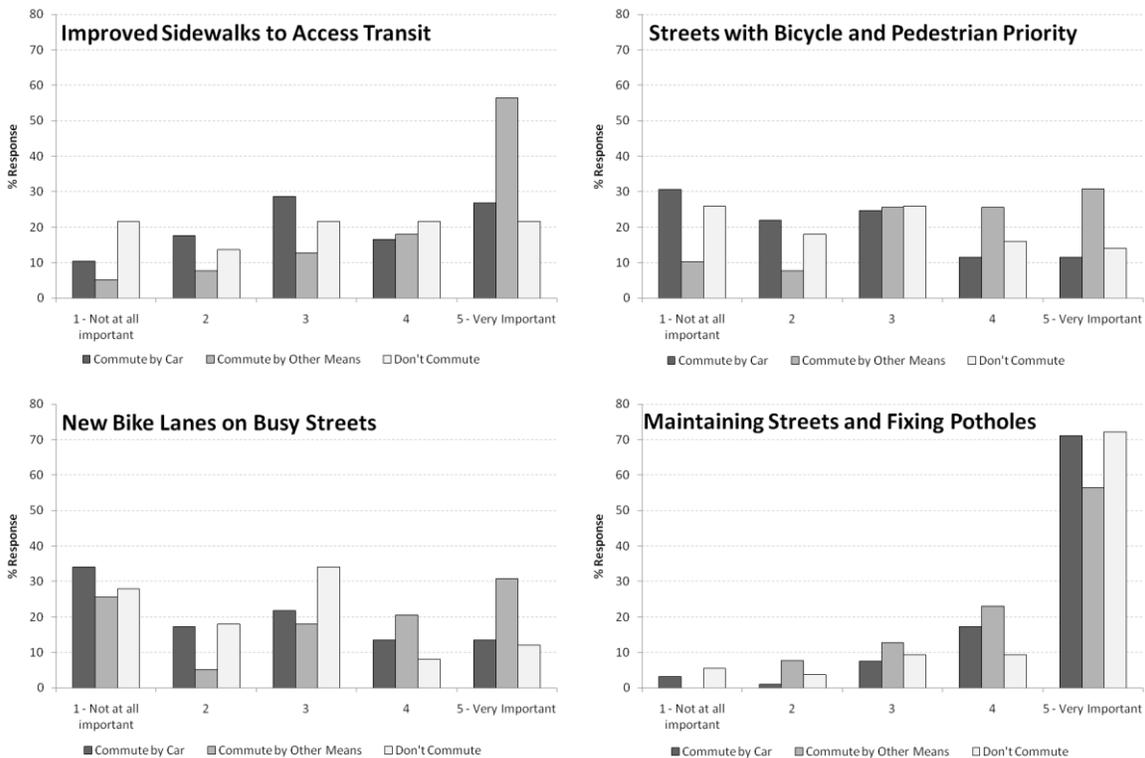


Figure 3 – Transportation Priorities by Commute Mode

Other Findings

- Only 35% of respondents said they were employed full-time.
- Roughly 19% respondents said they are “not interested in any way and do not ride a bicycle on the streets,” and 38% said they never ride a bicycle whatsoever. 30% said they were “interested, but have concerns” so they rarely or never ride a bicycle on city streets. 8% described themselves as “enthusiastic and confident” cyclists, and 1% (three individuals) said they are “strong and fearless” as they ride a bicycle on city streets.
- Only 44% of respondents had heard of Sunday Parkways, and only 5% had participated.
- Roughly 64% of respondents “strongly agree” that it is easy to walk (10-15 minutes) to a transit stop from their home, though only 16% of commuters use the bus or MAX as their typical commute mode.
- Over 75% of respondents either “somewhat agree” or “strongly agree” that their neighborhood is a good place for walking, though “car” was the likely mode for all non-work trips mentioned in this survey between 80-90% of the time.

Conclusions

Limitations of the Research

There is clearly a response bias in this survey toward women and older individuals. This is due in part to the way in which this survey was administered. First of all, only the age and gender of the respondent was ascertained, rather than those of all household members. Secondly, and anecdotally, many of my peers would be unlikely to open an envelope addressed to “Current Resident,” and even less likely to fill out and return a survey. Providing an option to enter the survey online is a step in the right direction toward including those who are used to conducting much of their business on the web, but gathering data about today’s increasingly mobile and busy young-adult population remains a problem.

The sample size of this survey limited the analysis in several ways. There were not enough respondents to make significant statements about differences between racial groups, though my analyses of “whites” and “nonwhites” were statistically significant. Limiting this report to these categories obviously does not reflect the diversity and divergent needs of the many groups living in East Portland. Similarly, this analysis was restricted to comparing those who commute by private automobile and those who do not, rather than breaking those categories down further.

Synthesis and Recommendations

The open-ended responses to this survey reflect what we learned during the first phase of our research: Compared to other parts of the city, East Portland residents are often indifferent or hostile toward bicycling. Several respondents felt that the attention bicycling receives from the City of Portland, and the fact that they utilize space on public streets,

necessitates licensing, permitting, insurance, and regulation on par with that of private automobiles. Rather than desiring more or better bicycle infrastructure, interviewees from our earlier research and survey respondents were more concerned about the lack of sidewalks and difficulty in accessing transit stops by foot. In our roadway inventories we identified the lack of pedestrian crossings on arterial streets as a major safety concern, and this priority was reflected in survey responses as well.

A lack of local destinations arose in our interviews as a primary barrier to pedestrian activity, and the results of this survey confirm that finding. Of course, altering the basic urban form of the area, to the extent that it is possible at all, will take quite some time. The Portland Plan, with its emphasis on “20-Minute Neighborhoods,” aims to improve the diversity of services in neighborhoods and allocate new growth to areas that are supportive of active transportation. The plan has, rightly, identified East Portland as an important focus area. The success of its implementation will, I believe, depend on the strength of its public involvement component and community visioning process.

In the meantime, based on our research findings I would recommend improving the bicycle network in East Portland for the benefit of overall network connectivity, emphasizing “bike boulevards” on neighborhood streets. But, these improvements should be coupled with pedestrian infrastructure as well, adding sidewalks, pedestrian-scale lighting, and crosswalks, particularly near bus and MAX stops.

Lastly, I would recommend a second round of mailing in order to increase the response rate of this survey and improve the accuracy and applicability of its findings. With more data, particularly about specific intersections and roadways residents identify as unsafe, we may be able to increase the specificity of our recommendations to particular neighborhoods and projects.