Bicycling Among
Black and Latino Women
Focus Group Summary Report
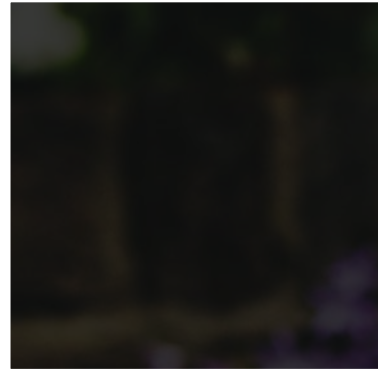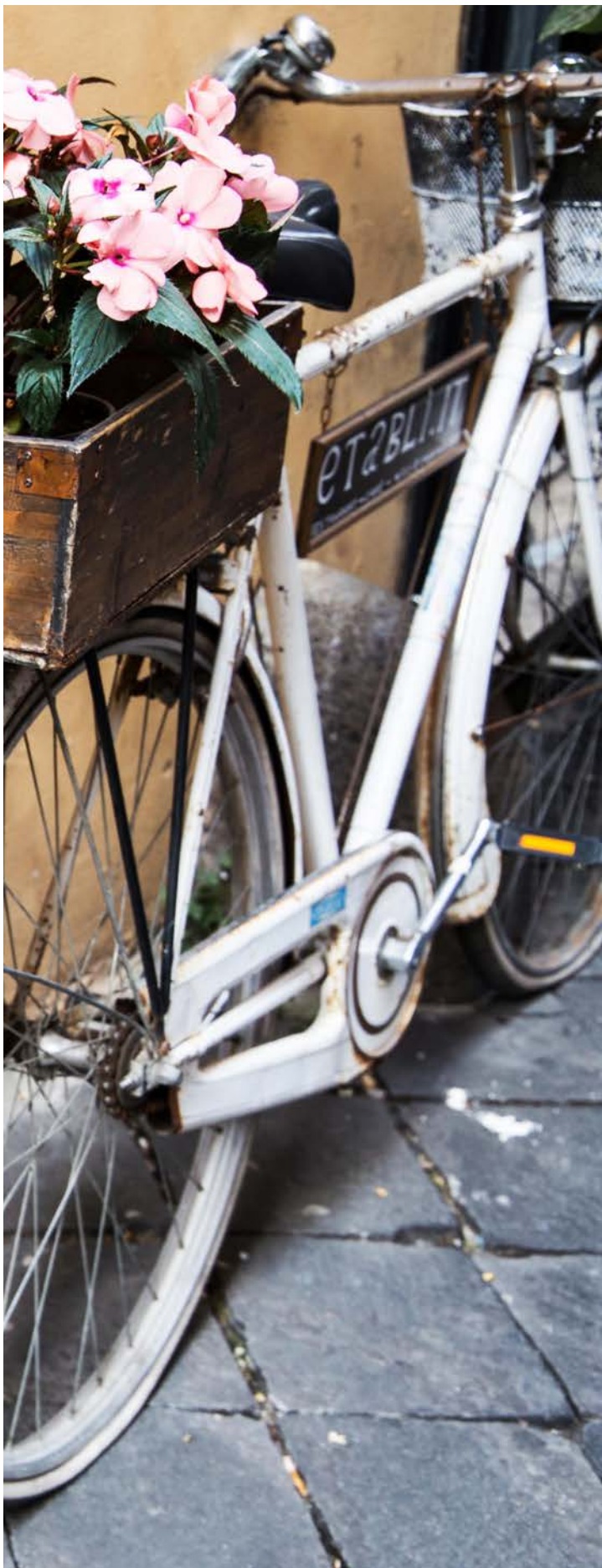
Figure 1. Parked bicycle with flowers.

About

The Alan M. Voorhees Transportation Center (VTC) is a national leader in the research and development of innovative transportation policy. Located within the Edward J. Bloustein School of Planning and Public Policy at Rutgers University, VTC has the full array of resources from a major research university on transportation issues of regional and national significance.

The New Jersey Bicycle and Pedestrian Resource Center (BPRC) assists public officials, transportation and health professionals, and the public in creating a safer and more accessible walking and bicycling environment through primary research, education and dissemination of information about best practices in policy and design. The Center is supported by the New Jersey Department of Transportation through funds provided by the Federal Highway Administration.

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I. Focus Group Approach and Overview

The focus groups probed the factors that influence transportation mode choice on a daily basis for women, as well as perceptions of bicyclists and bicycling, and input on the types of strategies and improvements that might induce women to consider bicycling more for transportation or recreational purposes.

A total of four focus groups were held in the fall of 2016. Three of the four focus groups, held in Camden, New Brunswick and Newark, were comprised of Black and/or Latino women. The final group was comprised of White women and was held in Montclair. Each group contained 10 to 13 participants.

Focus group recruitment was undertaken in coordination with local community partners. Local partners identified women for participation and assisted by providing meeting space and other logistical support. Focus group participants were compensated for their time. Each participant completed a consent form prior to the focus group as well as a brief demographic survey.

While focus groups as a research method are never representative of their populations, they are excellent tools for understanding the nuances of decision-making, including perceptions and experiences that influence transportation mode choice.

Figure 1. Female bicyclists in New Brunswick, New Jersey.

II. Literature Review

The Typical U.S. Cyclist

The typical U.S. bicyclist is often described as white, male, 18-44 years old, with a relatively high income (Krizek et al, 2009). Transportation researchers have studied women's barriers to bicycling because of their lower propensity to bicycle compared to men. Women consistently bicycle less than men in countries like the United States and Canada, with women accounting for only a quarter of bicycling trips in the United States (Census 2010). Despite the modest increase in bicycling in the U.S. over the last few decades, this gender gap in bicycling rates between women and men in the United States grew in the period from 2001 to 2009 (35). Whereas the share of all trips taken by bicycle rose from 1.2 to 1.7% for men during that time, the share of trips taken by bicycle by women stayed at about 0.5% (Pucher et al, 2011). Notably, while national statistics note a growing gap between men and women bicycling, recent statistics from major U.S. cities suggest the opposite. In New York City, women and children bicycle at some of the lowest rates compared to national rates. However, a recent report from the New York City Department of Transportation shows that trips by female bicyclists have increased at a higher rate than those by men. New York City's "gender gap" dropped every year between 2003 and 2008. The report attributes this to increased bicycle infrastructure in New York City (38). This experience suggests that in major cities, women cycle more with improved facilities and these facilities may be key in closing the gender gap.

This "gender gap" does not exist in many countries in Northern Europe. In the Netherlands, for example, women account for 55% of all bicycling trips (34). Similarly, the percent of U.S. female bicyclists is much higher in areas with higher overall bicycling rates, including some college towns and cities such as Boston and Philadelphia, where women account for 39% and 42% of the total number of bicycle commuters respectively (US Census 2010).

> " **Countries with a higher percent of female cyclists have lower bicycle fatality and non-fatality injury rates.** "

Overall, the gender gap is smallest where the bicycling mode share is highest. (Pucher and Buehler, 2011; Transportation Research Board 2005; Pucher and Buehler, 2008). Experts posit that this may at least in part result from safer bicycling environments. Studies in many disciplines - including psychology, economics, and sociology - have shown that women are more risk averse than men and have greater concerns about safety in public spaces. (Baker, 2009; Loukaitou-Sideris and Eck, 2007). It would follow, therefore, that one significant way to attract more female bicyclists is to make public spaces and bicycling infrastructure safer.

Safety and the Built Environment

Many surveys in the U.S., Canada, and Australia show that women view motorized traffic as a strong deterrent to bicycling (Broache, 2012). Women were more influenced than men by the perception of how safely drivers behaved around bicyclists (Emond et al, 2009). And in fact, the countries with a higher percent of female cyclists have lower bicycle fatality and non-fatal injury rates than countries with a lower percent of female riders. From 2002 to 2005, the average rates of fatalities per 100 million kilometers cycled were close to five times greater in the U.S. than in the Netherlands (Pucher and Buehler, 2008). Non-fatal injuries for U.S. bicyclists were about 30 times higher than in the Netherlands and Denmark (Broache, 2012).

A study done on women bicyclists in Seattle, WA found that, consistent with existing literature, bicycling safely with motorized traffic was the largest concern for female

Figure 2. Bicyclists in New Jersey.

bicyclists, including those who bicycled daily and those who were less consistent riders (Broache, 2012). For the non-daily female riders, 70% said that completely separated off-road cycling paths would motivate them to start or increase bicycling, 60% indicated that more bike lanes would motivate them to start or increase bicycling, and 57% said that better connectivity/more direct routes would motivate them to start or increase bicycling (Broache, 2012). In this same study, the daily female riders also chose bike lanes and better connectivity as the top motivators to bicycle more. The top safety barriers that female cyclists cited in this Seattle study all had to do with motorized traffic: distracted driving, vehicles turning in front of them, parked cars opening doors, speed of cars, and trucks and buses. Comparable results were found in the national analysis of the Women Cycling Survey, which found that safety and infrastructure that enhanced safety were major concerns for all women in the U.S. sample (Sibley, 2010).

A 2009 survey found that women were most concerned about disconnected bicycle routes and the lack of bicycle lanes (Cascade Bicycle Club, 2009). A study in six small U.S. cities, all with high bicycling rates, found that feeling comfortable using bicycle facilities was the strongest influence on women's decisions to bicycle (Emond et al, 2009). Another study found that women were more likely to use "bike boulevards," i.e. quiet residential streets with traffic-calming structures, and less likely than men to use bike lanes on the streets with motorized traffic (Baker, 2009). In Denmark, women were more likely to choose routes with cycle paths and safer intersections compared to men who more often chose the fastest route (Bernhoft and Carstensen, 2008). Observations of bicyclists in Melbourne, Australia found that female bicyclists used routes providing separation from motor traffic at higher rates than men did. These researchers concluded that improved bicycling infrastructure would lead to more bicycle trips by women (36).

In study after study, researchers have found that women show stronger preferences for designated and physically separated bicycle facilities than men do. Researchers from UC Davis conducted online surveys of bicyclists in six small cities (37). They found that even women

> **In New Jersey from 2005-2012, 44% of the bicycle fatalities were people of color or Hispanic/Latino.**

classified as "experienced bicyclists" prefer to utilize facilities designed for "inexperienced" bicyclists. This may require the reappraisal of such classification systems, as they appear to reflect bicycling patterns and preferences of men rather than women. Additionally, the survey found that men were more likely than women to self-select into a community that was "bike-friendly." The authors of the study argue that this suggests a favorable environment for bicycling will increase the rates of women bicycling more sharply than for men. In Philadelphia, 20% more women bicycled on buffered bike lanes than on streets with standard bike lanes (Bicycle Coalition of Greater Philadelphia, 2014). Other studies found that women are willing to take a longer route, in terms of time or distance, if that route allows them to bicycle on quieter streets (Pucher et al., 2010; Emond et al., 2009; Transportation Research Board, 2005). Additionally, women care more about lighted paths and paved shoulders than men do (Transportation Research Board, 2005). Surveys have found that women (as well as seniors and inexperienced riders) prefer bicycle paths over bicycling on streets without bicycling facilities (Pucher et al., 2011a).

Other groups such as people of color and Hispanics/Latinos also share a concern in safety around bicycling. A disproportionate number of the 743 bicyclists killed in 2013 came from communities of color, low-income populations, rural communities, or were seniors or children (Alliance for Biking & Walking, 2016). In New Jersey from 2005-2012, 44% of the bicycle fatalities were people of color or Hispanic/Latino (Alliance for Biking and Walking, 2016). Bicycling advocates note that while many people of color cycle, fewer commute to work on a bicycle and are therefore undercounted by the Census, which exclusively tracks commuting trips. This undercounting likely contributes to fewer bicycle facilities being built in these communities. "The part of town where everyone is pedaling around the corner all the day? There are no bike lanes. Everybody's on the sidewalk," notes Marven Norman of Inland Empire Biking Alliance in California. "Black/Brown communities lack bike accommodations," Norman adds (PeopleforBikes et al, 2015, p 9). Hernandez Gil, of the San Francisco Bicycle Coalition, agrees: "The

neighborhoods that are most burdened by collisions, fatalities, and serious injuries are the communities that are the most diverse, usually exclusively communities of color" (PeopleforBikes et al, 2015, p 26).

In a NHTSA survey, 27% of the respondents were somewhat or very dissatisfied with how their community was designed for bicycling. However, some notable groups had higher rates of dissatisfaction: 30% of females; 30% of those with incomes between $15,000 – 29,999; 29% of those identifying as black; and 35% of those identifying as Native American/Alaska Natives (Alliance for Biking & Walking, 2016). Another survey showed that 60% of people of color and 59% of those earning less than $30,000 per year stated that more bike trails and lanes would encourage them to bicycle more (Princeton Survey Research Associates, 2012; The League of American Bicyclists et al., 2013). Furthermore, 56% of people of color supported more federal funding for walking and bicycling infrastructure compared to 44% of white respondents who supported such funding (Princeton Survey Research Associates, 2012a; The League of American Bicyclists et al., 2013).

There is evidence that investing in bicycle infrastructure in low-income and/or minority neighborhoods can increase bicycling rates. For example, the installation of a bike lane in one New Orleans neighborhood increased the number of female bicyclists and African American bicyclists by 115% and 51% respectively. In a 2014 national survey commissioned by PeopleForBikes, 54% of Black respondents and 57% of Hispanic respondents expressed a wish to ride a bicycle more often, compared with 52% of white respondents. In the same survey, 48% of black respondents, 53% of Hispanic respondents, and 44% of white respondents stated that they would be more likely to ride a bicycle if bicycles were physically separated by a barrier from motorized vehicles (PeopleforBikes et al, 2015). The need for secure bicycle parking was also a barrier to increasing rates of bicycling, with 47% of people of color agreeing compared to 32% of white respondents (The League of American Bicyclists et al., 2013). In another survey, 57% of Hispanic respondents identified the lack of secure bicycle parking as a barrier to bicycling (Community Cycling Center 2012; The League of American Bicyclists et al., 2013).

Studies have also indicated that for women, safety concerns include not only the issues around bicycling with traffic but a woman's personal safety in what she may perceive as an unsafe neighborhood or public space. The fear of violence has been demonstrated to greatly influence the travel patterns and mobility of women (Wekerle, 2005; Hanson, 2010). Studies have indicated that women are more likely than men to avoid public spaces due to safety issues (Loukaitou-Sideris and Eck, 2007). This is even more of a concern for minority women who are more likely than white women to report that they do not exercise in public spaces due to safety concerns (Broache, 2012). According to a 2014 survey, 65% of all women have experienced street harassment (Alliance for Biking & Walking, 2016). In a U.K. survey, women reported personal safety concerns as the reason for choosing to drive to work rather than bicycle (Dickinson et al, 2003).

Roger Geller, the bicycle coordinator for the Portland Office of Transportation in Oregon, claims that cities that have increased the number of bicyclists have done so because they "substantially removed the element of fear associated with bicycling in an urban environment" (Broache, 2012, p28). As the literature suggests, for

Figure 3. A woman rides down a protected bicycle lane in Cambridge, Massachusetts. Photo Credit: Adam Coppola Photography.

women and particularly for women of color, in order to address this "element of fear," steps must be taken to address both built environment issues around bicycling as well as personal safety issues that women experience in public spaces.

When looking into the barriers that women experience vis a vis bicycling, one must also explore the general trends that have been discovered in how women travel. Overall, the range of women's daily travel is smaller than men's and the total miles traveled are less than those traveled by men (Hanson, 2010; Transportation Research Board, 2005; Broache, 2012). Research suggests that women tend to live closer to work and spend less time overall in both commuting and non-commuting travel. But women tend to make more trips in a day, often engaging in "trip-chaining," a term used to describe a sequence of connected trips often between the "anchors" of work and home (Transportation Research Board, 2005; Levy, 2013). Women are more likely to be transporting children or goods, which may make bicycling seem less feasible for women (Emond et al, 2009; Steinbach et al, 2011). From 1995-2001, women in double income households were twice as likely as men to transport children to and from school on the way to work (Transportation Research Board, 2005). A 2014 study found that women made 1.5 times as many child-centered trips and 1.4 times as many grocery trips as their male partners, even in situations where the women worked more hours, received more pay and were better educated than their male partners (Alliance for Biking & Walking, 2016). In fact, studies suggest that these gender differences in travel patterns remain when variables such as education, household income, and marital status are held constant (Hanson, 2010).

> **Cities that have increased the number of bicyclists have done so because they 'substantially removed the element of fear.'**

The Role of Social Structures and Attitudes in Changing Travel Behavior

It is interesting to note that most research does not find a gender gap in the number of walking trips taken by women. Fifty-one percent of walking trips were done by women, according to data from 2009 NHTS (Alliance for Biking and Walking, 2016). Some research suggests that while improvements to the built environment such as sidewalks and pedestrian facilities are often enough to encourage more walking, the same is not always true for encouraging more bicycling (Dill et al., 2014). This research suggests that "soft" policies, such as outreach and educational programs, may also be needed in order to counteract negative attitudes or cultural experiences that are barriers to increasing rates of bicycling.

Such programs, including individualized marketing and public events that get people bicycling in fun and comfortable environments, may be particularly important for women and older adults (Dill et al., 2014). A significant body of research also suggests that an individual's choice to bicycle is affected by the perception of what a bicyclist "looks like" in their community (Gordon and Handy, 2012; Sherwin et al., 2014). Surveys suggest that women are more likely to see bicycling as something that fit young men do rather than something they could do themselves (Gatersleben and Appleton, 2007). Another study found that 38% of African Americans agreed that their perception of bicyclists would improve with a broader representation of bicyclists that included women and people of color (Princeton Survey Research Associates, 2012; The League of American Bicyclists et al., 2013). A U.K. study asserted that social structures have a large effect on bicycling choice and that changes must be made to encourage "anyone" to bicycle rather than just those who identify as bicyclists (Steinbach et al, 2011). Non-white respondents in a national survey conducted by Princeton Survey Research Associates International were significantly more likely than white respondents to cite social factors - having people to bike with, learning about bicycling safely, or being part of an organization – as increasing their bicycling (Princeton Survey Research Associates, 2012; The League of American Bicyclists et al., 2013). Studies have also suggested that people with high levels of social support and those who learn about bicycling from others around them are more likely to bicycle combined with other factors such as bicycle-friendly infrastructure (Sherwin et al., 2014).

Many communities have begun programs to promote and nurture this type of social support. City officials

in Portland, OR operate a "Women on Bikes" program that is credited with encouraging more women to bicycle (Haughney, 2011; Portland Bureau of Transportation, 2012; Broache, 2012). The New Jersey chapter of the Major Taylor Bicycling Club seeks to nurture a diverse community of bicyclists. This club, organized in 2009, springs from the L&M Tourers, a cycling group founded by three sisters in Brooklyn in the early 1970s, which created a safe haven for African American bicyclists. The National Women's Bicycling Forum and National Brotherhood of Cyclists, which connects African-American bicyclists, are two organizations that have significantly grown in recent years (Alliance for Biking & Walking, 2016). Black Girls Do Bike is a group for African-American bicyclists that has grown to more than 8600 members (Alliance for Biking & Walking, 2016). Open street events such as CicLAvia in Los Angeles and Ciclovia in New Brunswick, NJ offer car-free streets for walking and bicycling and attract participants that closely reflect the diverse demographics of the surrounding community. Nearly 92% of the participants in New Jersey said that Ciclovia inspired them to "consider walking or bicycling more" (Alliance for Biking & Walking, 2016). The New Majority: Pedaling Towards Equity, a report presented by the League of American Bicyclists and the Sierra Club, lists a host of other organizations such as: Red, Bike and Green chapters in Atlanta that use bicycling as a way to address disparities that affect the black community; Multicultural Communities for Mobility, which work with the immigrant population in Los Angeles; and the Girls Bike Club that encourages young women of color in Chicago to see bicycling as part of their personal and social lives (The League of American Bicyclists et al., 2013).

Even cities that offer bicycle training and programs, however, cannot match the level of bicycle training and education programs in most German, Dutch, and Danish schools (Pucher and Buehler, 2008). Bicycling programs are only offered in a small number of schools in the U.S. but in those cities that have offered such programs, such as in Portland, OR, the results have been encouraging. Portland offered a Safe Routes to School (SRTS) program in 25 schools in 2006 and increased that to 81 schools by 2010. During that time period, the percent of trips to and from schools that involved bicycling and walking increased from 31% to 39%, while the car-based school trips decreased from 42% to 36% (Pucher et al., 2011a). Studies have shown that SRTS programs in other cities, such as San Francisco, also have the potential to increase bicycling in communities (Orenstein et al., 2007; Pucher et al., 2011a).

Figure 4. NJ Ambassadors in Motion conducting a bicycle training at an elementary school in Long Branch, New Jersey.

Such educational and outreach programs can help address other "attitudinal variables" that may discourage women from bicycling. Susan Handy posits that variables such as "comfort" and "needing a car" were factors that were more important to women's transportation choices than to men's. She recommended that outreach programs could focus on demonstrating that women can "jump on a bike the way they jump in a car" (Baker, 2009, p29). Another study identified factors such as lack of physical fitness and/or the lack in confidence in bicycling or bicycle repair as explaining the differences in bicycling rates between women and men (Dill et al., 2014). Although lack of physical activity is not unique to women, Broache (2012) draws on the work of public health researchers to point out that women are less likely than men to exercise.

Finally, another significant obstacle women and minorities face may be quite simply that they do not have access to a functional bicycle. The US Bicycling Participation Benchmarking Study Report found that almost half of adults lack access to a bicycle. The study further suggests that bicycle share programs will have the biggest impact on women, adults with low incomes, and people of color (Khan et al., 2014). Furthermore,

many women and minorities may have never learned how to bicycle.

The literature clearly establishes that both the built environment and social-cultural structures contribute to the lower rates of bicycling among women, with particular implications for overcoming the barriers to cycling for minority communities, especially minority women.

III. Focus Group Demographics

Table 1 shows the demographical makeup of the participants in the four focus groups. The Montclair focus group was composed entirely of White, non-Hispanic women, to contrast with the three other focus groups that were primarily composed of non-White participants. Only Black women attended the Newark

Table 1. Demographics of all survey respondents (Source: Census, 2014).

Variables	Camden		Montclair		Newark		New Brunswick		All Participants
	Total	% of Total	Total	% of Total	Total	% of Total	Total	% of Total	Total
ALL	12	26%	10	21%	13	28%	12	26%	47
RACE & ETHNICITY									
White Hispanic	-	0%	10	100%	0	0%	5	42%	5
Black Hispanic	4	33%	0	0%	0	0%	3	25%	3
White, not Hispanic	3	25%	0	0%	0	0%	0	0%	0
Black, not Hispanic	5	42%	0	0%	13	100%	2	17%	2
Other	-	0%	0	0%	0	0%	2	17%	2
AGE									
Under 18	0	0%	1	10%	0	0%	0	0%	1
18 to 24	3	25%	1	10%	2	15%	6	50%	12
25 to 34	3	25%	0	0%	4	31%	4	33%	11
35 to 44	3	25%	0	0%	4	31%	1	20%	8
45 to 54	1	8%	5	50%	2	15%	1	33%	9
55 to 64	0	0%	3	30%	0	0%	0	0%	3
65 or older	0	0%	0	0%	1	8%	0	0%	1
TOTAL ANNUAL HOUSEHOLD INCOME									
Less than $25,000	6	50%	0	0%	1	8%	1	8%	8
$25,000 to $49,999	4	33%	1	10%	7	54%	2	17%	14
$50,000 to $74,999	2	17%	1	10%	1	8%	3	25%	7
$75,000 to $99,999	0	0%	3	30%	3	23%	4	33%	10
$100,000 to $149,999	0	0%	0	0%	1	8%	0	0%	1
$150,000 to $249,999	0	0%	0	0%	0	0%	2	17%	2
$250,000 or more	0	0%	2	20%	0	0%	0	0%	2
EDUCATION									
Less than high school graduate	2	17%	2	20%	0	0%	0	0%	4
High school graduate or equivalent (GED)	2	17%	0	0%	2	15%	1	8%	5
Some college or vocational school	7	58%	0	0%	4	31%	4	33%	15
Two-year college degree (AA, AS)	1	8%	0	0%	0	0%	1	8%	2
Four-year college degree (BS, BA)	0	0%	6	60%	3	23%	3	25%	12
Graduate degree (Masters, PhD, Lawyer)	0	0%	2	20%	4	31%	3	25%	9
MARITAL STATUS									
Single (never married, divorced, widowed)	9	75%	2	20%	11	85%	10	83%	32
Married or civil union	3	25%	8	80%	1	8%	2	17%	14
Living with a partner	0	0%	0	0%	1	8%	0	0%	1
NUMBER OF SCHOOL AGE CHILDREN									
None	2	17%	4	40%	6	46%	10	83%	22
One	6	50%	2	20%	4	31%	1	8%	13
Two	0	0%	3	30%	3	23%	1	8%	7
Three or More	4	33%	1	10%	0	0%	0	0%	5

Figure 5. Bicyclists ride away from a water play area at the New Brunswick Ciclovía where streets are closed to motor vehicle traffic and opened to bicycles, pedestrians and recreational activities.

focus group, while the New Brunswick and Camden groups were more diverse. The New Brunswick focus group had the largest quantity of Hispanic participants, with nine of twelve identifying as such. Overall, 45% of participants were Black, not Hispanic, 28% were White, not Hispanic, 17% were Black Hispanic, and 11% were White Hispanic.

The New Brunswick focus group had the youngest panel of participants, with 50% being under the age of 24. Conversely, Montclair had the oldest panel, as 80% were above the age of 45. The age of the participants in Camden in Newark were well dispersed, and the only participant over the age of 65 was part of the Newark discussion. Overall, the 18-24 age group had the largest representation, with 26%, followed by 25-34 with 23%.

In regards to income, 30% of all participants stated that their household made between $25,000 and $49,000. This was followed by 21% affirming an income of between $75,000 and $99,000. The Montclair focus group featured the wealthiest participants, including the only two panelists living in a household that made

$250,000 or more. Camden had the lowest earning participants, as half were in households making under $25,000, and no participant earning over $75,000. Fifty-four percent of the Newark participants made between $25,000 and $49,000.

For education, 80% of the Montclair focus group participants had achieved a four-year degree or higher. In that same panel, two participants had attained less than a high school degree, although one of them was under 18. The Camden focus group had no participant with a four-year degree or higher, with the majority (58%) having some college or vocational school. In the Newark focus group, 31% of respondents had a graduate degree, while another 31% had some college or vocational school. In New Brunswick, some college or vocational school was also the most common response (33%), followed by 25% affirming they had a four-year degree and 25% with a graduate degree.

The majority of participants, 68%, indicated their marital status as single. Most of the participants who stated that they were married or in a civil union were

in the Montclair focus group, where 80% of those attendees stated as such. Only one participant, in Newark, selected that they were living with a partner.

When asked how many school age children were living in their household, 33% of Camden participants selected three or more. This contrasts with Newark and New Brunswick, where none of the women lived in such a household. Eighty-three percent of New Brunswick participants selected that they lived with no children, and 54% of Newark respondents noted the same. There was a wider range of household types in Montclair, where 60% responded that they lived with at least one child.

IV. Summary of Focus Group Findings

Household Composition, Responsibilities & Travel Mode

The vast majority of focus group participants live in households with cars. Most of the women across all focus groups have access to a car and drive as their primary means of transportation, including eight women in the Camden focus group, all women of driving age in the Montclair focus group, ten women in the Newark focus group, and eleven women in the New Brunswick focus group. Only a few women in the Camden, New Brunswick and Newark focus groups rely exclusively on public transportation for routine daily trips, though a few more noted that when their cars are not running, they do take public transportation. Interestingly, nearly all of the women in the Newark group had extensive knowledge of the bus lines that are proximate to where they live, referring to them by number. By contrast, none of the women in the Montclair focus group rely exclusively on public transportation, though some do take the train or bus for leisure trips into Manhattan. Only a handful of women across all four of the focus groups walk at least half the time or walk once they are at work or school (several women in the New Brunswick focus group are Rutgers' students). Three women across the focus groups indicated that they bicycle for transportation purposes,

> **"I'm the taxi driver in the house."**
>
> **"I'm the only person that drives, so I drive [everyone]."**

one in Montclair who occasionally rides to work, one who conducts local errands via bicycle in Montclair, and a third who bicycles for local trips in and around New Brunswick, sometimes towing three children on her utility bicycle. Only one of the women who bicycles for transportation purposes identifies as Black and/or Latino.

Consistent with research on transportation choices and constraints that affect women's travel options, women in the focus groups were often responsible for the daily transportation of others (primarily children and grandchildren) in their households, as well as for transporting extended family members and friends. As one woman in Camden noted: "I'm the taxi at the house." Another woman in the Newark group remarked: "I'm the only person that drives, so I drive [everyone]." A second woman in the Newark focus group similarly noted: "I drive everyone else in my family, even those who don't live with me. I have to go pick them up." A third woman in the Newark group echoed this role as the primary driver, noting that she drives her mother, sister and her children. Several focus group participants, all who identify as Black and/or Latino, also noted that they rely on other women in their families or on friends for car transport. By comparison, women in the Montclair focus group tend to drive their children, but did not indicate a broader range of driving responsibilities beyond their children.

Though this question did not probe issues related to safety and security, one single mother in Camden responded that: "...it's me and my son... our means of transportation is car. I very rarely let him go anywhere by himself without me either dropping him off or picking him up." By comparison, several of the Montclair women mentioned that their children routinely walk or ride their bicycles around the community.

Perceptions of the 'Typical' Cyclist/ Bicyclist

When asked to picture the typical cyclist and to share that image, there were clear distinctions made between serious, hard-core, professional-type cyclists in gear

and spandex and everyday bicyclists. There were also differences between the perceptions of the individual focus groups. In general, however, Black and Latino participants were far less likely to visualize women than men or children. The women in the Newark group described racers, serious riders in spandex, some people riding recreationally (particularly as a hobby for boys under 13), and the occasional parent riding with their children. Almost all of their images were of men. The Camden groups' images were of people "just trying to get to where they are going...people trying to get to work." One Camden woman expressed concern and worry about bicyclists, recounting how when she was younger, "a girl was grabbed off of her bicycle and [they] snatched her up from riding a bike and it was crazy and all the parents did not let their kids go outside after that". The Camden women noted that they rarely see a woman bicycling in their neighborhoods.

The participants in both of the New Brunswick and Montclair focus groups held a variety of perceptions about the typical cyclist, ranging from someone riding a bike in New York City to get to work, to people participating in group rides and children who ride to school. With the exception of two participants in the New Brunswick group, none of the women pictured a woman as the typical bicyclist. The Montclair focus group felt there were two types of people who ride bicycles -- "a guy in spandex...athletic, slim...on a racing bike. That's a cyclist but a bicyclist is more like any person. I have a Dutch bike which is upright, so I'm the other kind of bicyclist and I do my errands on that bike." Unlike the Black/Latino focus group participants, the Montclair women's images of cyclists were more likely to include women.

When further asked how often they see women bicycling, as previously noted, the Camden women rarely recall seeing a woman bicyclist, though they occasionally see younger children or teenagers. Women in the Newark group indicated that when they do see women on bicycles, they are with their children in parks during summer months. The one avid bicyclist in the Newark focus group, who rides daily for exercise before work, remarked: "there's only ever men with me in the morning." With the exception of a few women in the New Brunswick group who noted they occasionally see

> **Participants in New Brunswick noted that most women they see in the park near their neighborhood are pushing strollers, not riding bicycles.**

women bicycling on campus and one woman who has a neighbor who is an avid female bicyclist, the participants in the New Brunswick focus group rarely saw women on bicycles within their broader communities. As one New Brunswick resident noted: "Here in New Brunswick you don't see too many. Most of the women are pushing strollers full of laundry and children. And the bicycle, so it's kind of a guy thing you know." Three of the women in the New Brunswick focus group who live in Newark noted that they rarely see bicyclists in their neighborhood (the Ironbound) and echoed that most women they see in the park near their neighborhood are pushing strollers, not riding bicycles. The women in the Newark focus group observed that they are more likely to see White women bicycling and that when they do see Black bicyclists, they tend to forgo helmets due to concerns about sweating and impact on appearance. In contrast to the Camden, New Brunswick and Newark focus groups, the Montclair participants indicated that they see women bicycling everyday or nearly everyday within the community. Interestingly, one Montclair woman observed: "I don't see as many men as women just riding around to do errands or to commute."

Figure 6. Women walking through the streets of New Brunswick's Ciclovía with a stroller.

Bicycling Experience

With the exception of three women, all of the women who participated in the focus groups know how to ride a bicycle. While the majority of the women who participated in the focus groups have access to a bicycle in their household, only a third of women in the Newark focus group indicated that they have access to a bicycle compared to all but one woman in the Montclair group.

In terms of recent bicycling experience, five of the women in the New Brunswick focus group rode a bicycle in the past six months, four for recreational purposes and one to take her children to church. Around one-third of the women in the Newark focus group indicated that they had ridden a bicycle in the past six months, all for recreational or exercise purposes. Several of the Newark participants indicated that the recent riding they have done is when they are on vacation out of state or when they bring their bicycles to a different area to ride. One Newark woman noted that she used to ride when she was younger but that "in the area we live in, they do steal bikes." The Camden focus group had the fewest women, a total of three, who rode a bicycle in the past six months, all for exercise/recreational purposes. In total, only one woman in the Black/Latino focus groups reported riding for utilitarian

purposes in the recent past. By comparison, six women in the Montclair focus group reported riding a bike in the past six months, with half of those trips for recreational purposes and the other half for utilitarian reasons (to do errands or to visit a friend).

Factors Affecting Travel Mode Choice and the Appeal of Bicycling

The major factors identified by women across all focus groups that influence mode choice include: time and time of day, weather, comfort, distance, trip purpose, road safety, the transport needs of others, fear of bicycle theft and cost. Personal safety and security are also major factors that influence transportation habits and decision-making for Black/Latino women. Personal safety and security was much less of a concern for the Montclair focus group participants who more frequently spoke of time, convenience and road safety as major factors.

Time, convenience and comfort were most frequently invoked as the primary rationales for driving. As noted by one woman in the New Brunswick group, "...driving is the most comfortable." This was echoed by women in the other groups, including Camden women who noted that "It's faster to use my car" and "I just drive because

Figure 7. Woman bicycles down the boardwalk in Asbury Park, New Jersey.

it's easier...I'm lazy...it's more comfortable to drive."
Time also came up in the Camden focus group in terms
of the need to get from one job to another in a timely
fashion. Time was also a major factor for women who
don't drive since walking takes longer than taking transit.
For women who commute relatively long distances,
such as one of the women in the Montclair group,
commuting via bicycle was not viewed as an option due
to time and distance constraints.

Women in the Camden focus group explicitly raised cost
concerns as part of the transportation decision-making
process. Such concerns range from the price of gas/
having enough gas money, to the ability to pay for car
repairs or, in one case, repairs to a bicycle. Some of
the women in the Newark group indicated that cost is
a factor that merges with convenience
for certain types of leisure trips, such
as trips to New York City via public
transit.

Several women identified
responsibilities for transporting
family members as a major factor that
influences mode choice. A woman
in the New Brunswick group noted
her trip chaining responsibilities of
shuttling children and meeting other
household responsibilities as impeding
her ability to ride more frequently. A
second woman in the same focus group similarly noted
that she drops off her child at daycare on the way to and
from work. Both of these women are avid bicyclists.

Time of day concerns typically took the form of
concerns about darkness and personal safety for those
that leave early in the morning or return late at night
from work or school. For instance, as one of the
women in the Camden focus group remarked: "I worry
about safety because I get up at 4:45am...it's dark...so
I'm looking, worrying about if I got my cell phone, my
purse...making sure my door is locked and my nephew is
ok."

Trip purpose factors in as well. When work or class is
the end point of a trip, women were reluctant to arrive
sweaty and/or looking inappropriate. As one woman in
the Newark focus group noted: "If I rode a bike my hair
would get all frizzy and I would smell." Another factor
that comes in to play for work trips is the perceived

hassle and inconvenience of transporting work clothes,
finding a place to shower, and carrying laptops and
other work materials on a bicycle. The need to transport
goods and people was also a major consideration in
travel mode choice for the Montclair participants.
Finally, a few participants noted that helmets are a
barrier to bicycling for work and school trips for some
girls and women: "I think a lot of it has to do with
the helmet. It's not cool to wear a helmet, it messes up
hair." Or, as stated by a younger participant: "I have
a friend, she rides her bike to school every day and
she'll stop and take off the helmet and finish her trip to
school without the helmet."
Fear of bicycle theft also factors into transportation
decision making for the women who participated in the
focus groups, particularly those that live in urban areas.

> **"I would love to
> be able to [bicycle
> in Newark], but
> the streets are not
> tailored to bicycling."**

As summed up by women in the New
Brunswick focus group: "I'm locally
afraid to have my bike here because
during [Rutgers] orientation they said
the top two things stolen on campus
are bicycles and laptops" and "I'd love
to ride my bike to the gym but I've
never done it because the bike rack is
where? It's outside under the train line
and my bike is not going to be there...
the trailer on it is going to be gone."

Road Safety was a concern for over
half of focus group participants. As
noted by one Newark participant, "Here I would have
to use the sidewalk and streets. When you get into
more urban areas with cars, it's hard to be on the street
because drivers beep at you. I would love to be able
to do it, but it's just hard because the streets are not
tailored to bicycling." Even for avid cyclists, like the
following New Brunswick mother of three, it is often
challenging to ride on streets due to safety concerns:
"Boyd Park is gorgeous. I would love to cycle there, but
to try and safely get there on a bike over that bridge?
You have to be willing to put up with heavy car traffic
and noise. I've got kids. Could you not run over my
children?" Montclair women feel similarly constrained
by traffic and the lack of safe routes for bicycling,
as well as by distracted drivers. As one Montclair
participant remarked: "I would love to ride my bike,
but it's not safe...there's no safe route to get there."
Another Montclair focus group participant noted that
she lives on a very busy street and that's what keeps
her from riding a bike locally. A third participant was

concerned not only about road safety but about driver inattentiveness and alters her routes and extent of bicycling locally as a result: "I think there are tons of distracted drivers around here. I don't feel like it's safe at all...you're just so much more vulnerable on a bike. Cars beep at me, even when there is a bike lane...cars park in the bike lane and that is dangerous because you have to go in and out of the lane...that restricts me from wanting to bike for exercise...for my biking for errands I have very specific routes that I am comfortable taking so it limits where I can go via bike."

With the exception of the women who participated in the Montclair focus group, participants voiced concerns about their personal safety and security within their communities, with the most significant concerns voiced by Camden women. The following sample quotes from the Camden focus group highlight the degree of the concern about personal security and safety:

"People are not afraid to just stab someone and take their money. It's all about safety."

"Depending on what happened the night before or earlier that evening, who's outside, and whether my son can go where safely. He doesn't even go outside to play unless I'm there, so riding a bike is not an option."

"A lot of people are scared. And some people would just rather stay in the house and mind their business and if they come out they go to school, go to work, they mind their business and do their thing."

"When you get out of the door you have to look both ways. You put your keys like this in your fingers as soon as you get out of the car. This technique was also mentioned by one of the women in the New Brunswick focus group who further explained that ever since she was mugged, she locks her car and runs full steam to her house."

"And they want whatever you have. Even if you don't have anything, they assume that you do."

"I can't even walk to my corner store, which is right around the corner, literally maybe fifty steps. I will get in the car and drive there. And even then, you got them selling drugs back and forth."

"You can't keep living like this. Like she said, you're living like a prisoner in your own house. When I come in, my lights are off and my doors are locked. I got a security door. There's tint on it. You can't see if I'm in the house or out of the house. You can't see what's going on. And I'm not coming out till the next day. Period. I'm not answering my door unless you call me to say, I'm outside, open the door, and you have to be standing on my step for me to open the door at night."

"My house has bars and cameras. To me that's safe."

"I live in a jail. My house has bars. Why? Because I feel safer that way."

As a result of these concerns, one Camden woman drives with her son and their bicycles to Cooper River Park rather than risk riding around their neighborhood. Another Camden participant noted: "We go on the actual track. We're not where traffic can come because some people prey on people who are riding bikes." Another strategy used in Camden in response to personal safety concerns is bicycling in front of schools: "Ride around a school and the school has cameras."

Exercise Habits & Bicycling as Exercise

When asked about exercise habits, several women in the Camden and Newark focus groups noted that their work is physically demanding and, in the case of the Camden group, that working more than one job limits time for working out in a more concerted fashion. Work that requires lifting and pushing people (in wheelchairs) or products points to the effects of socio-economic variables that influence the availability of leisure time and disposable income to support regular exercise.

Around one-third of the participants in each of the focus groups regularly work out at a gym or fitness center of some type. Interestingly, the most common gym activity noted was spinning. One or more women in each focus group also noted that they walk for exercise, including two women in the Camden group, three in the New Brunswick group, one in the Newark group and four in the Montclair group. Focus group participants generally agreed that cycling is good exercise.

Perceptions of Friends/Family if You Started Bicycling

There was a wide range of perspectives voiced by Black/Latino participants in response to asking how their families and close friends would react if they started bicycling. These reactions ranged from, "Is she crazy?" (Camden women), to concerns about safety and getting hurt or injured (women in both the Camden and New Brunswick groups expressed this), to parental support for exercising in a manner that might lead to weight loss (New Brunswick women) to reactions about not fitting in (Newark women). In the Camden group in particular, there was a strong prevailing sense that the reaction would be one of cognitive dissonance -- as if family members would not conceive of bicycling as a possibility. The parental pressure to lose weight was well illustrated by a New Brunswick woman who remarked: "My father would be really happy because he's always excited for me to exercise and lose weight, but I think my mother would be the one who's concerned [about safety]." Perceived reactions from siblings ranged from supportive to mocking. As one New Brunswick woman noted: "Are you sure you want to do that because you're gonna sweat, your hair is going to get messed up, you might break a nail." Concerns about not fitting in culturally, economically, and/or as a woman were expressed by the Newark participants via perceived reactions such as:

> "*Why is that girl on a bike?*"

> "*If you're poor, you can't afford a bike.*"

> "*No offense, this is a White person's sport. They would call me the White girl because I was riding my bike.*"

> "*You stand out in a way.*"

The Newark focus group was composed entirely of Black women, which may point to a cultural variable that needs to be considered in the design and implementation of educational and outreach programs to encourage bicycling in minority communities.

Compared to the Camden, Newark and New Brunswick focus groups, there were no concerns about familial reactions for the Montclair women, most likely due to how commonly women are seen on bicycles within the

Figure 8. Bike share in Jersey City, New Jersey next to a protected bicycle lane. Photo Credit: Flickr/CCHO 2013.

community and the fact that bicycling continues to be viewed by many as a "White person's sport."

Bicycle Infrastructure & Perceived Comfort and Safety

The vast majority of women across all of the focus groups are generally not comfortable riding on roads with traffic, particularly streets with high volume and/or high-speed traffic. There was strong consensus across all of the focus groups that comfort and safety would be greatly enhanced on paths, trails and other facilities separated from motorized traffic. There was equally strong consensus across the focus groups that conventional bike lanes offer minimal comfort advantages, particularly compared to physically separated or protected bicycle lanes. Support was nearly unanimous for protected bicycle lanes, which were viewed as "a really big change," not only for the women themselves, but potentially for their children: "I might actually let my daughter ride her bike." For the women who don't know how to ride, protected bicycle lanes appeared to offer an inducement that could encourage them to learn to ride a bicycle. Similarly, for those who don't currently ride their bicycles, there was a sense that protected bike lanes, particularly if well-connected in a network, would encourage them to bicycle on a more regular basis. However, as noted in response to other questions, Camden participants continued to be strongly concerned with personal safety and security. As a result, there was consensus among the Camden women that while they would be more tempted to try bicycling, the protected lanes would have to be well lit and have security cameras.

Potential of Bike Share to Encourage Bicycling

There were a variety of perspectives about the potential value and benefits of bike share systems. The New Brunswick group agreed that bike share would work well on Rutgers' campuses, but had concerns about vandalism in the broader community. At the same time, there was some recognition of the value of bike share as a low-cost, low-commitment way to try out bicycling. The Camden participants felt that while bike share would likely attract people to bicycling, there were concerns about being responsible for the bicycles in terms of liability in cases of theft. The Newark participants were perhaps more unified in their consensus that they would use bike share and identified additional potential benefits of such systems, as illustrated by these comments:

> *Me and my girlfriend were thinking about just going into the city and riding around. Yeah, I think that's a great idea. Instead of walking, you get to ride but you're still with your friends and having a good time, so I think it would be a great experience.*

> *It would be nice because you can park it at a different station too. There's a convenience about it and you get to where you need to go and you don't have to worry.*

> *And you don't have to worry about it in your residence. And lift it up the stairs.*

In contrast, Montclair participants, some having spent time living and/or traveling abroad, pointed out the need for an established bicycle infrastructure system for bike share to work well and did not think that Montclair "is there yet." Several women in the Montclair group also indicated that due to economic advantage, "people in Montclair might be more inclined to buy their own bike and maybe not use bike share."

Bicycle Education Strategies, Specific Partners, and Types of Programs

Skills Training/On-the-Road Programs:

With the exception of one or two women in the New Brunswick, Newark and Montclair focus groups, participants had not taken any bicycle safety or bicycle skills classes. Even fewer women overall indicated that they know how to maintain a bicycle or fix a flat tire. During a general discussion about bicycle education experience, several women in the New Brunswick focus group observed that education for motorists is needed as well. Concerns about motorist behavior was echoed by women in all of the other focus groups with one Montclair driver acknowledging that she "wants to know as a motorist what I should be doing with cyclists."

Those participants who had previously taken a bicycle skills training session found it to be valuable in teaching them proper hand signaling and improving their comfort level while cycling with traffic. Several women in the New Brunswick and Newark focus groups indicated that a class led by women in a fun, informative and interactive manner (i.e. including on-the-road riding and working progressively to increase comfort while riding with traffic) manner would be very appealing. Overall, the focus group participants felt that riding with other people or a buddy would demystify bicycling and enhance their skill level and comfort on bikes.

Law Enforcement as Potential Partners:

Perspectives on the potential of local law enforcement as bicycle education partners were mixed. In general there was greater support for local police working with children at the elementary and middle school levels compared to working with adults. Participants in the New Brunswick, Newark and Camden focus groups shared their doubts about whether police have the appropriate attitude and relationships to work positively with adults in their communities. One New Brunswick woman noted that police do not enforce or respect the bike lane and ignore those who park in bicycle lanes. A Camden participant summed up this view by simply stating, "The mindset of the officers is that they don't care." While these women voiced concerns about the ability of police to work well with adults in their communities, one Newark participant saw bicycle safety education as an opportunity to improve relations between police and the community, noting: "I do think that if they started a pilot program for adults it may change the dialogue between adults [and police]. Because we're talking about something [bicycling] that is not as high stress, it's something about your own safety. To see [police] in a different aspect, for them to say we care about your safety." In contrast, the Montclair participants thought that local police would

Figure 9. The New Brunswick Ciclovía open street event.

be good partners, in part because the town has a bike patrol unit and therefore some officers are already on bikes. Montclair women also noted that if police were responsible for bicycle safety education, they could review the responsibilities of motorists vis a vis cyclists.

During this discussion, two particular programs were highlighted for their success working within communities and promoting bicycling, as follows:

1. The Boys and Girls Club in Newark has a bike program where they give out bikes and have safety training. Police officers provide the training and then participating kids get bikes for Christmas.

2. A local annual Fourth of July celebration has several police cars and around sixteen police on bicycles. As part of the event, they encourage folks to walk or ride their bikes there and if you do ride your bike home, they will provide an escort of sorts with several officers on bikes in front of you leading the way.

Open Streets/Ciclovia-type Events:

There was strong agreement within all of the groups that Open Streets events are positive for communities and for bicycling. Open Streets events occur annually in New Brunswick and Montclair, so women in those groups have participated in events where streets are closed off to motorists and local police facilitate safe movement of those on foot and bicycle. The women in the New Brunswick focus group viewed Open Streets as raising awareness of bicycling as both

a form of recreation and transportation. Camden focus group participants felt that Open Streets events would have strong appeal and noted that they would feel comfortable with their children and grandkids participating on bikes. The women in the Montclair group also valued the event and felt that it would be more beneficial if it were held more frequently so that bicycling could become habitual within the community.

Support for Government Investment in Bicycle Infrastructure

In general, focus group participants support government investment in bicycle infrastructure. However, the rationale for such support varied and concerns about the potential impact of such investment also illustrated differences among the participants' perspectives. Women participating in the Newark group noted that bicycling is a form of transportation and thus worthy of government funding. Newark participants also pointed to the environmental and health benefits of increasing bicycling through investment, noting potential reductions in greenhouse gas emissions and energy use, as well as potential improvement in health due to increase physical activity. Camden participants viewed government investment as, "good for our kids...we don't want our kids to be scared to go outside. We want something better for them." This view was balanced against the recognition that personal security and safety needs to be addressed as the primary threshold issue in Camden so that any investment can achieve positive results.

Focus group participants in Montclair were also supportive of government investment in bicycle infrastructure, though some viewed this investment with concern about the impact on their taxes and favored grants as the preferred funding source. However, at least one Montclair woman saw such investment in broader public safety terms, asserting that: "I also think it's part of what the government does, like protect the people that live here. That's public safety. I feel like bike lanes, especially for certain towns, that would be a good way to protect individuals." Some of the Montclair women also thought about the broader role of government and bicycling in long-term, strategic planning and favored a more integrated approach in lieu of a separate budget for bicycling improvements.

Desirability of a Bicycle Lane on Your Street

While there was general agreement that bicycle lanes, particularly protected lanes, would be desirable on their streets and in their communities, there were some notable distinctions among the focus groups. Exceptions included concerns about impacts on parking and snow removal (two Newark women), and recognition that low-volume, low-speed streets would not need such facilities to be safe for bicyclists (Montclair). Participants that lived on busy streets in Montclair were especially vocal about their support for designated bicycle facilities. While viewing bicycle infrastructure investments as generally positive, the Camden participants continued to emphasize that personal safety and fear of crime and violence are the greatest barriers to bicycling within their community.

Figure 10. A separated bicycle trail follows along a residential street in Cherry Hill Township, New Jersey, connecting neighborhoods and parks throughout the township.

V. Recommended Plan, Policy, and Program Strategies and Additional Research Opportunities

Planning & Policy Recommendations

1. Explore avenues to recognize and monetize women's key roles as transportation providers/informal taxis for family and extended friendship networks in EJ/disadvantaged communities, including neighbor-to-neighbor voucher programs that can be included in Human Services Coordinated Transportation Plans. Such neighbor-to-neighbor programs could be administered by community partners with drivers eligible to receive vouchers for transportation services that they provide to underserved populations.

2. Encourage the installation of well-lit protected bicycle lanes as the preferred facility type in high traffic urban areas to appeal to women and other cyclists who tend to be less experienced and most concerned with safety.

3. Expand the notion of Safe Routes to include Safe Routes to Parks and promote the importance and funding of well-designed bicycle facilities on feeder routes to major parks and within larger parks in urban areas.

4. Through education and outreach to planners, design professionals, developers, local planning board members and local officials, work to integrate transportation equity into comprehensive planning, complete streets planning, and redevelopment planning initiatives so that non-motorized transportation investments are integrated and viewed as essential parts of the transportation system rather than simply add-on amenities.

Figure 11. Women bicycle with children in New Brunswick, New Jersey.

5. Develop model local bicycle accommodation ordinance that addresses parking requirements for adoption by local communities to expand the availability of bicycle parking as new development and redevelopment occurs.

6. Work with local officials, design professionals, developers and commercial property owners to encourage provisions for secure indoor bicycle storage, changing areas and showers in new commercial office development and retrofit projects.

7. Expand the Executive Council of NJ's Bicycle and Pedestrian Advisory Council to include a dedicated equity seat.

8. Create an Ad Hoc Equity Committee within BPAC in 2017 to review these recommendations and to report on best practices nationwide.

Figure 12. A reflective bicyclist sign brightly reminds motorists of the presence of bicyclists in Paterson, New Jersey.

Program Strategies & Opportunities for Additional Research

1. Integrate minority women's voices and images into a social media campaign to encourage minority women and girls throughout New Jersey to ride a bike for recreation or transportation.

2. Build leadership capacity among minority women in EJ/disadvantaged communities to serve as transportation equity ambassadors within their communities.

3. Conduct best practices research on local programs within NJ and throughout the country that are expanding and encouraging women in EJ communities to bicycle for transportation and/or recreational purposes. Identify threshold issues critical to program success and determine which programs have the greatest potential to be expanded and/or launched in NJ.

4. Expand the visibility of minority women bicyclists and create opportunities for minority women as community bicycle educators. Given the expressed interest in bicycle educational programs and group rides for women, expansion of LCI instructors or creation of a new certification program should be explored with the goal of training more women in environmental justice/disadvantages communities, throughout of New Jersey. The goal of such a program is to empower minority women to teach other women basic bicycle riding/traffic and bicycle maintenance skills.

5. Expand the availability of bicycles in EJ/disadvantaged communities by identifying existing recycle-a-bicycle programs administered by Boys & Girls Clubs, YMCAs, local law enforcement and other groups and identifying what makes a program successful and how to expand and/or scale up such programs to make bicycles available for women and teenage girls in interested in riding but without the resources to purchase a bicycle, light, helmet, and lock.

6. Identify women who participate in group rides with New Jersey bicycle clubs (especially blackgirlsdobike.com) and test feasibility of a buddy program and/or opportunities for small group skills training sessions and on-the-road, social rides in urban areas organized through community partners (active living programs, social service travel training programs, TMA-led SRTS efforts, local bicycle shops and other community anchors).

Figure 13. A group ride coordinated by the national non-profit, Black Girls Do Bike, in Pittsburgh, Pennsylvania. Photo Credit: Monica Garrison.

7. Evaluate/survey (via literature review and case study research) the use of protected bike lanes to substantiate their importance in enhancing women's perceived safety. Since women are typically considered 'indicator species' for bicycling (and minority women are an 'uber indicator species'), additional research on this topic is warranted.

8. While some of the distinctions identified via the focus groups are likely the direct or indirect result of socio-economic differences and of variations in crime rates that tend to correlate with income and race in NJ communities, the importance of improving relationships and partnerships between communities and local law enforcement is critical to the overall health of urban communities within the State. In recognition of this, in addition to the desire expressed by minority women for safe opportunities to bicycle and experience streets and the public realm, we recommend developing a program with NJDHTS funding support, local law enforcement, bicycle/pedestrian advocates and community health organizations partnering to fund and organize Open Street type events in EJ communities with limited resources to hold such events on their own.

9. Work with NJDOT and other transportation infrastructure funding agencies (MPOs) to make funding for bicycle infrastructure improvements more readily available to EJ/disadvantaged communities by creating and testing a program that provides funding and/or technical assistance to prepare grant applications, administer grants, and contribute toward required local matches.

10. Conduct survey of bike-share systems in Jersey City and Hoboken to see who uses bike share (sex, age, household composition, income, etc.), the most common trip types, and time of day usage patterns. As part of this effort, research how bike share systems nationally have modified their payment plans to better serve low income populations and to address concerns about liability in case of theft.

Figure 14. The Hudson Bike Share program began in 2015 in Hoboken, New Jersey. Photo Credit: Hudson Bike Share.

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