

## Sustainable Cycling For All? Race and Gender-Based Bicycling Inequalities in Portland, Oregon

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Amidst findings of increased bicycling in the United States, research continues to demonstrate that women and racial minorities are underrepresented as cyclists in the United States (Buehler and Pucher 2012). While quantitative data may reveal estimates of these disparities, we know little about the motivations or deterrents related to cycling as they are experienced by individuals. This article draws from 30 in-depth interviews with women and people of color in Portland, Oregon to clarify ongoing barriers to bicycling that prevent those who own a bike (and are thus not limited strictly by economic barriers) from becoming more routine cyclists. Findings suggest that barriers for marginalized cyclists range from concerns about development and gentrification to overt racial and gender discrimination experienced while riding. These findings suggest that cycling mobilities are critically linked to intersecting and overlapping identities and those efforts to increase diversity in bike ridership must acknowledge the unique challenges experienced by marginalized groups. We conclude this article by offering suggestions from research participants regarding interventions that might reduce social barriers to biking.

### INTRODUCTION

The health benefits of bicycling are well researched with numerous studies link increased cycling activity with improved physical and mental health outcomes (Garrard, Chris et al. 2012; Huy et al. 2008; Oja et al. 2011; Pucher et al. 2010; Wen and Rissel 2008). Despite the demonstrated health benefits and ongoing public investment in cycling infrastructure, overall cycling levels in the United States lag behind other industrialized nations (Buehler and Pucher 2012). Amidst promising findings of overall increases in bike trips in the United States, research consistently finds that barriers remain particularly acute for women; who continue to take significantly fewer trips by bike than men, and people of color; who make up a fast-growing segment of US bicyclists but, in urban areas, are increasingly at risk of displacement to suburban areas where mobility and active transportation choices are more limited (Aldred et al. 2015; Bopp et al. 2014; Buehler and Pucher 2012; Emond et al. 2009; Garrard et al. 2008; Garrard, Susan et al. 2012; McKenzie 2013).

Although both scholars and community organizations have begun exploring the specific barriers to bicycling for women and people of color, much of this work utilizes quantitative methodologies to ascertain barriers across multiple groups (Bopp et al. 2014;

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Emond et al. 2009; Garrard, Susan et al., 2012; Pucher et al. 2011). While recent research has been conducted on cycling patterns and behaviors for different demographic groups (Pucher et al. 2011), and there is an increasingly robust dialogue on women and cycling (Emond et al. 2009; Garrard et al. 2008; Garrard, Susan et al. 2012; Steinbach et al. 2011), there remains a dearth of both qualitative work and a more focused emphasis on the cycling behaviors of people of color.

Given the lack of scholarly attention to the complexities of the social barriers to bicycling, this article draws from 30 interviews with women and people of color who bike in Portland, Oregon to explore how urban context influences bicycling behaviors. Portland is often lauded as a “bike-friendly” city, routinely ranking in the top tier of various national bike ranking systems<sup>1</sup> for both its significant commitment to cycling infrastructure and for having some of the highest bike commuting rates in the nation at 6.1 percent (McKenzie 2014). The bicycling ethos of Portland is also manifest in the city’s commitment to bicycling in long-range planning documents and the linking of bicycling and sustainability in a variety of official city channels (BPS 2015; PBOT 2010).

This article extends previous scholarship by feminist geographers and mobilities scholars and demonstrates that, in Portland: (1) larger social inequalities related to racism and sexism are manifest in public bicycling spaces in ways that impact how women and people of color choose to bike and; (2) the disruptive and discriminatory manner in which gentrification and displacement occur in the city impacts how people of color, in particular, view the bicycling culture and their place in it. These findings call into question the presumption on the part of city planning entities that routine bicycling is a sustainable solution that is equally desirable and accessible to everyone. Thus, this article contributes knowledge on the barriers to bicycling that women and people of color report, and explores the broader tension cities face in attempting to balance goals for sustainability and equity as they relate to bicycling.

## URBAN CONTEXT: PORTLAND, OREGON

Portland, like a number of North American cities, has been experiencing a period of rapid growth and related gentrification. From 2000 to 2015, the median home price went from \$148,000 to \$340,000, and rental prices increased citywide by 34 percent from 2010 to 2015 (Portland Housing Board [PHB] 2018). While these values vary greatly from one neighborhood to another, the overwhelming impact of such rapid housing prices has been the displacement of the city’s most vulnerable residents to areas further from the central city and more removed from various amenities (e.g., grocery stores, transit stations, parks, and restaurants). This most recent wave of increased development and subsequent housing price surges is part of a decade-long process of predatory and racist planning practices within Portland. Portland, like many other American cities in the post-WWII era, was the site of both redlining and discriminatory lending practices that targeted minority community members. The outcome of such practices in the 1950s was the *de facto* segregation of Black residents within the North Portland neighborhood of Albina and the devaluation of property to values well below the median for the rest of the city (Gibson 2007). In the 1960s and 1970s, as large scale “urban renewal projects” became popular across the nation, numerous major infrastructure projects decimated Portland’s Black community; the creation of two freeways, the Veteran’s Memorial Coli-

seum, the Lloyd Shopping Center, and Legacy Emanuel Hospital displaced hundreds of Black-owned businesses and homes and appropriated residential areas for city development (Gibson 2007; Goodling et al. 2015).

In the 1980s and early 1990s, the huge infrastructure projects that bisected the North Portland area became further problematic as declining private investments and lending opportunities further depressed property values in the neighborhood and created opportunities for developers to buy up vacant or inexpensive property in the neighborhood. By 1999, the racial composition of the previous stronghold of the Black community saw Black residents owning 53 percent fewer homes in the area than just a decade before (Gibson 2007). As long-term residents of Black neighborhoods were pushed out, more affluent White residents moved in (Bates 2013; London 2017; Shaw and Sullivan 2011). Goodling et al. (2015) have noted that years of such uneven development contributed to today's spatial concentration of Portland's most vulnerable residents to East Portland where access to robust transit choices and other amenities remain limited.

These shifting spatial dynamics are occurring alongside a broader planning discourse that centers on the establishment of Urban Growth Boundaries (UGBs) (Adler 2015). As Goodling et al. (2015) explain, these UGBs were:

“Established in the late 1970s to protect prime agricultural land and curb sprawl, these conservationist growth management policies have, in part, helped to redirect growth inward, prioritizing urban densification over extensive suburbanization.<sup>5</sup> But perhaps most importantly, Portland's UGB has given the city a certain cachet as an environmentally progressive place to live, helping the city to attract investment capital and more affluent residents. In the words of the Bureau of Planning and Sustainability Director Susan Anderson, ‘We’re not doing [sustainability] just to be altruistic . . . there’s money to be made’ (quoted in Darby Minow Smith, 2012)” (515).

Thus, the tendency for Portland city planning processes to incorporate a more environmentally conscious narrative is long-standing and intimately linked to both land-use patterns and economic imperatives. It is, therefore, not surprising that notions of environmental sustainability are infused into Portland's plans for biking and walking. A central component of the city's vision for a sustainable Portland lies in its embrace of bicycling infrastructures as a mechanism to meet environmental goals (via reducing greenhouse gas emissions), and expand economic opportunities (via increased traffic to local businesses) all while enhancing Portland's image as a cool, hip, ecofriendly metropolis.

Portland continues to have one of the highest rates of bike commuting in the nation—around 6 percent of workers commute by bike, though in many of the largest US cities bike commuting rates, however, is around 0.5 to 1 percent (League of American Bicyclists 2016). While the number of bicycling trips taken annually in the United States continues to increase, bicycling still makes up a relatively small share of commuting activity in the United States. However, as many US cities are experiencing rapid population growth and related issues of traffic congestion and pollution, policies and plans to increase the number of cycling trips taken or increase commuter bike rates have become popular. Thus, questions about reducing barriers to bicycling remain relevant to transportation planning, even if the number of overall bike trips continues to make up a smaller portion of travel activity at present.

In endeavoring to make Portland an urban cycling leader, various city agencies work on cycling infrastructure and policies. The Portland Bureau of Transportation and the

Portland Bureau of Planning and Sustainability have significant oversight regarding infrastructure development, maintenance, and planning. However, city-wide planning policies are overseen by the Portland City Council. For example, in 2010, the Portland City Council adopted the Portland Bicycle Plan for 2030 that commits the city to expanding planned bikeways from 630 to 962 miles. Along with this, the City of Portland's Bureau of Planning and Sustainability oversee the Portland Climate Action Plan, which "sets an objective for 2030 calling for vibrant neighborhoods in which 90 percent of Portland residents can easily walk or bicycle to meet all basic daily, nonwork needs" (BPS 2015). To date, progress toward this goal of the "20-minute" mixed-use neighborhood has been spatially unequal; residents in the lower-income areas of East Portland have the most limited accessibility and livability scores.<sup>2</sup> However, limited bike infrastructure investments have been in increasing the number of cyclists on the road, the city of Portland continues to aggressively pursue the implementation of bike infrastructure as a means of meeting environmental goals yet, as we will demonstrate, infrastructure alone is an insufficient catalyst for increasing ridership rates to the degree that might meaningfully reduce carbon emissions.<sup>3</sup>

## LITERATURE REVIEW

### GREEN GENTRIFICATION

Gentrification, displacement, and urban development are historically situated, yet contemporary social dynamics help to reveal how and why persistent inequalities remain in cities across the United States. As many American cities have begun to experience the rapid gentrification and redevelopment of urban spaces, scholars have sought to clarify the relationship between sustainability and gentrification (Gould and Lewis 2012, 2017, 2018). As Gould and Lewis note, "it is often difficult to tease out the causal direction (i.e., whether gentrification leads to greening or greening to gentrification)," yet they provide ample evidence of particular "greening events"—such as the creation of new neighborhood parks or gardens—as contributing to the process of gentrification (2017:23). Anguelovski further clarifies the racialized nature of green gentrification in drawing from the work of scholars critical of the race-based removal processes of the 1950s and 1960s. She writes,

"... displacement is followed by 'green and white arrival.' In others words, the racial aspect of whiteness is in some ways invisibilized by words such as 'green.' As new luxury housing developments accompany greening, developers and real estate agents often point to the diversity and 'authentic' Black experiences of residents for newcomers who might move into places such as Harlem, ultimately reshaping and sacrificing the sites where local identity was best represented. As they benefit from the greening of the neighborhood, they also physically and symbolically whiten it." (Anguelovski 2015:1213).

In the contemporary era, processes of gentrification have often merged with sustainability imperatives to drive development and investment in neighborhoods in racialized and classed ways; those most likely to benefit from the greening of neighborhoods are those who hold the most privilege. Less affluent individuals and communities of color continue to experience displacement, but under the guise of environmental improvement. Swyngedouw has written of the "postpolitical" nature of such greening projects,

noting that dialogue around sustainability projects tends to emphasize the technological or infrastructural aspects of projects while minimizing political discussions related to social inequalities or privilege (2009).

In Portland, the politicized nature of bicycling projects became publicly visible when a large city safety improvement project became a venue for conflicts over bike lane implementation on North Williams Avenue, a 2.5-mile stretch of roadway in an historically Black neighborhood. In 2010, decade-old injustices experienced by Portland's Black community during the urban renewal era were referenced in relation to current city efforts to further develop North Williams Avenue and make concerted safety improvements. For many Black residents, as this particular project became linked to bicycling and sustainability, it became another reminder of the city of Portland's long history of marginalizing residents of color (Hoffman 2016; Lubitow and Miller 2013; Miller and Lubitow 2014). The visibility of this public conflict over bicycling, and the nature of the debate; that economic and environmental imperatives were prioritized over addressing social injustices, helps us to further understand the social context of bicycling in Portland.

## BARRIERS TO BICYCLING

Literature on barriers to bicycling has routinely sought to shed light on what factors are significant in deterring or limiting cycling trips. This field of research has often emphasized how infrastructural barriers, such as buffered bike lanes, topography, or adequate bicycle networks, limit cycling trips; and how social factors, such as one's experience biking, the associated costs, or one's perceptions of risk related to biking, impact cycling behaviors (Broach et al. 2012; Fernández-Heredia et al. 2014; Fishman et al. 2012; Fu and Farber 2017; Sherwin et al. 2014; Steinbach et al. 2011).

Sherwin et al. (2014) suggest that the broader cultural context, or "indirect social influences," may impact cycling choice, but they neglect to make any serious claims about social influence and conclude that studying this in relation to bicycling is difficult to do. Fernandez-Heredia et al. (2014) have provided a useful model of cycling choice that synthesizes both social and infrastructural factors, yet despite this more nuanced model, notions of risk and vulnerability remain undertheorized (e.g., risk relates to fear of accidents, rather than a fear of violence). Narrowly defined notions of risk remain a commonly accepted explanation for ongoing disparities in cycling rates; yet interdisciplinary scholarship on women and people of color suggests that mobility in public spaces is constrained not just by the built environment, but by racial and gender inequalities that structure one's daily transportation decisions (Browne 2015; Cresswell and Uteng 2008; Dunkel Graglia 2016; Valentine 1989).

Though scholars have sought to clarify the relationship between bicycling infrastructure and neighborhood gentrification, and numerous studies have considered the infrastructural deterrents to cycling, few studies have considered how broader urban dynamics related to displacement and development may impact cycling choices on an individual level. This article intends to address this issue by exploring the motivations and deterrents experienced by women bicyclists and bicyclists of color, or those who do not fit the mold of the "typical" White male bicyclist.<sup>4</sup>

## METHODS AND DATA

Qualitative interviews were conducted with 30 adult women and racial/ethnic minorities who lived and biked in Portland, Oregon. Given the lack of qualitative research focusing on this group, and the relatively small population of people of color in the city of Portland, 30 is a sufficient sample size; saturation of common themes and ideas was reached across groups in the racially stratified sample.

To participate, participants had to: (1) be 18 years or older; (2) live in the Portland metro area; (3) self-identify as a woman or as a person of color (or both); (4) self-report that they ride a bike at least once a month, but are not a frequent (more than once per week) bike commuter. All participants identified as “infrequently” riding a bike—meaning they reported riding more than once a month, but fewer than ten times a month. In the current study, we used this as a baseline to recruit “potential cyclists” who had access to a bicycle, felt comfortable riding it, but did not do so on a routine basis. This research is thus focused on the specific riders who see their bike as a viable form of transit, but do not currently commute via bike.<sup>5</sup>

Purposive sampling was used to recruit participants who met the above sample criteria. Recruitment was done via online announcement in relevant public Facebook pages, through snowball sampling, and paper fliers were also distributed across the city at various cycling shops and at relevant events. Facebook pages included several neighborhood groups, bike-oriented Facebook groups specific to women riders or bicyclists of color. To ensure a diverse sample, all potential interviewees completed a brief online screening questionnaire before an interview was scheduled.

Interviews lasted 45 minutes to two hours and were audio recorded and professionally transcribed. Interviews were conducted in English (though language accommodations were offered during the recruitment process). Interview questions asked participants to discuss challenges they faced while cycling (and how such challenges related to their identity), asked them to describe positive and negative biking experiences, and solicited suggestions to reduce barriers. While participants received no direct benefits from participation, many appeared to enjoy discussing their experiences and the challenges they faced while biking. A number of individuals were motivated by a desire to give voice to the types of changes they would like to see made in Portland.

### SAMPLE

In brief, this sample included 20 people of color, 22 women, 5 men, and 3 people who were identified as queer/genderqueer or transgender/gender nonconforming. Most participants were between the ages of 25 and 44, and nine participants were parents. Participants were given a \$25 gift card to a local grocery store in exchange for their time; given that the majority of the sample had a college degree, and were employed, we do not believe that the incentive amount significantly impacted a participant’s choice to participate. Future research should aim to clarify barriers to bicycling among a range of participants with different educational backgrounds. The sample was racially diverse with 20 people of color (six of whom identify as men). Given the range of identities represented in the sample, we were able to collect various experiences from many standpoints of Portland residents. Table 1 provides full demographic data for all participants, using

TABLE 1. Sample Characteristics

Pseudonym	Employment	Age	Gender	Race	Education
Janet	Part-time	43	Female	White	Some college
Margaret	Part-time (two jobs)	27	Female	White	Graduate degree
Jade	Full-time	38	Female	White	Bachelor's degree
Elizabeth	Part-time	60	Female	White	Graduate degree
Mary	Unemployed	57	Female	White	Graduate degree
Julia	Full-time	39	Femme	White	Graduate degree
Robin	Full-time	55	Female	Multiple: Black/African American, Hispanic/Latino	Graduate degree
Rosa	Part-time	22	Female	Multiple: Hispanic/Latino, White	Some college
Katie	Full-time	28	Female	White	High school graduate/GED
Velia	Full-time	36	Female	Hispanic/Latina	Bachelor's degree
Evelyn	Full-time	42	Female	White	Bachelor's degree
Peter	Full-time	45	Male	Black/African American	Some college
Manuela	Full-time	31	Female	Hispanic/Latina	Bachelor's degree
Jordan	Part-time	29	Female	Multiple: Hispanic/Latino, Black/African American, Alaskan Native or American Indian	Some college
Miguel	Full-time	29	Male	Hispanic/Latino	Some college
Ana	Full-time	30	Female	Hispanic/Latina	Graduate degree
Nicole	Full-time	26	Female	White	Bachelor's degree
Carol	Part-time	42	Female	Multiple: Hispanic/Latina, White	Bachelor's degree
Angela	Full-time	36	Female	White	Trade/vocational/technical training
Carla	Yes	28	Female	Multiple: Black/African American, Hispanic/Latino	Some college
Simone	Full-time	45	Female	Multiple: Black/African American, Alaskan Native or American Indian	Trade/vocational/technical training
Janae	Full-time	46	Female	Black/African American	Associate Degree
Tara	Part-time (unpaid)	32	Female	American Indian	Associate Degree
Helen	Part-time	31	Female	Black/African American	Bachelor's degree
Aneisha	Full-time	47	Female	Black/African American	Graduate degree
Marcus	Full-time	40	Male	Black/African American	Associate Degree
Demetrius	Part-time	19	Trans Male	Black/African American	Some college
Samuel	Full-time	27	Male	Hispanic/Latino	Bachelor's degree
Andres	Part-time	28	Male	Multiple: Black/African American, Hispanic/Latino	Bachelor's degree
June	Part-time	21	Female	Multiple: Black/African American, White	Some college



pseudonyms.

## DATA ANALYSIS

Interviews were analyzed using a multistep process of constant comparison (Glaser and Strauss 1967; Strauss and Corbin 1990). As part of the data analysis process, conceptual categories were developed regarding reported obstacles to cycling (Bogdan and Biklen 2007). This process was conducted as follows: (1) the authors reviewed and assessed the interview transcripts for common themes independently of one another; (2) they then compared the thematic elements developed and searched for overlap and commonality; (3) they used the Dedoose qualitative data analysis program to code data into thematic categories; and (4) the authors reread transcripts, comparing observations to confirm or disconfirm trends that emerged in the data. The data collected during this study revealed important findings related to ongoing barriers to bicycling that women and people of color experience. While a range of challenges emerged during this study, we focus on the specific trends that consistently emerged across multiple interviews: racism and gendered harassment in a rapidly gentrifying city. Notably, participants did routinely discuss cycling infrastructure (or a lack thereof) as a common deterrent to routine cycling; however, as infrastructural barriers to bicycling have been discussed at length by other scholars, we present findings related to the social and noninfrastructural barriers to bicycling reported by interview participants.

## GREEN GENTRIFICATION AND SOCIAL EXCLUSION VIA SUSTAINABLE CYCLING PRACTICES

In interviewing women and people of color who bike in Portland, interviews asked people about their motivations to ride, deterrents to their routine use of a bicycle, and also asked about their perceptions of the urban context in which they rode their bikes. Numerous individuals discussed interpersonal interactions, such as race and gender-based harassment and profiling (which we will discuss in the following sections of this paper), while place-based concerns related to unequal city investments and ongoing gentrification revealed a shared concern regarding the sociopolitical environment in which their bicycling practices are embedded.

Seven participants in this study were African American/Black individuals who lived in North Portland,<sup>6</sup> namely, the Albina district that has been historically occupied by African Americans since the Vanport flood and redlining of the 20th century (Gibson 2007). The history of Portland's racist city planning has not been forgotten by its residents today, especially those African Americans who live, or had lived, in this historically Black neighborhood. Findings presented below demonstrate a somewhat cohesive communal narrative regarding the tensions between gentrification and infrastructural improvements; this may be a result of larger community level discussions about race and gentrification in the Portland area, as well as the emergence of previous public conflict in relation to bike lane improvements on North Williams Avenue (Herrington and Dunn 2016; Lubitow and Miller 2013). Demetrius, the youngest participant in this study at age 19 and an African American trans man, grew up in historically Black North Portland and has seen the many changes that gentrification has made to his neighborhood. Like other residents of color,



he is critical of how Portland chooses to prioritize its infrastructure spending, and notes that gentrification has displaced people of color to East Portland, where bike infrastructure remains lacking.

“I don’t feel like the city cares about people of color biking at all. I mean, they barely care about people of color living in Portland . . . once you think about the historical things that Portland has done to gentrify the area, it’s like all the things they’re adding on feels like it’s just part of the agenda . . . Even if they want to say, “Oh, it’s not to displace people, it’s just to help pedestrians and bikes.” It’s like, I don’t even believe you anymore because, remember, you put in all this other infrastructure, like the MAX [train] and such, which helped displacement . . . if you put bike lanes out in East Portland, then more people would bike.”

Robin, an African American woman and also a long-time resident of the Albina area, noted:

“Well, there’s that whole conversation about where the bike lanes are going and in what neighborhoods and what was there before? And who was using the street before? And what was wrong with that use? And who decides what goes where? And, you know, some of those other like bigger questions . . . race and transportation have always been very much intertwined. I mean, the highway doesn’t go through an upper middle class neighborhood that’s white. You don’t put a highway through neighborhoods like that. You put neighborhoods through low lying people of color, no political power neighborhoods. That was the model when the highways were going in in the 50’s. And so transportation and race are very intertwined.”

Marcus, also a resident of North Portland and an African American man, echoed Robin and Demetrius in his thoughts about the linkages between city planning, gentrification, and bicycling. Like Demetrius he shares a concern that more gentrified neighborhoods are the recipients of infrastructure upgrades and amenities while still-affordable parts of the city, which have become home to those displaced by development and gentrification, lack basic safety and roadway improvements:

“I don’t think the city takes into consideration people of color. And the reason I say that is because our neighborhood, North Williams, was a historically Black neighborhood, for a very, very long time. And there was no bike-only lane, until gentrification kicked in. And then you saw all these changes happening. And you see this perpetuate throughout the city, you know. As gentrification happens, then you see road changes and bike routes and all these other conveniences happening. Where now, the Black community is being forced out to places like Gresham in numbers and even Vancouver, Washington . . . You don’t see bike routes being carved into Gresham. You don’t see that, you know. And you probably won’t see it until there’s an influx of young White millennials that are buying property.

Rosa (a Latina/mixed race woman), though not a resident of North Portland, similarly reflected upon the inequitable distribution of bike lanes and other transportation resources, and also tied these disparities to larger racialized planning structures:

“ . . . [with] the relationship between bike lanes and gentrification . . . bike lanes don’t go necessarily into East Portland . . . And the buses usually don’t go out this far at a regular interval. It’s dumb . . . I have definitely heard someone say, ‘Oh, they should put bike lanes [out here]’. And there’s so many reasons that wouldn’t be my first response. Biking is very cool, but I think when people start acting like, ‘If everyone biked . . . We need a more egalitarian society.’ It’s like, no. Bike lanes get put in for White people. Let’s be real.”

“There’s a reason . . . I think I was just reading about areas in North Portland that are getting bike lanes. And you really think that’s for the people of color who’ve have been there forever and now are getting pushed out? Probably not. So I think this is about White cyclists . . . and White people and their perception of biking in general, where people, I think, will consider it politically neutral. Or any type of infrastructure related to biking is supposed to be positive”

Margaret, one of the few White women to reflect upon these themes articulated how White privilege contributes to these inequities, noted the problematic nature of White communities to set the narrative for neighborhood changes:

“When I first moved to Portland . . . there was a lot of discussion over what was happening to the Williams/Vancouver corridor with biking improvements being tied to gentrification . . . that was the first time that I had thought about biking and race being linked in a way . . . And so I’m still very much an outsider in all of these discussions but basically I’m a member of the privileged class who assumes that I can just bike wherever I want because I can, [*speaking in a joking tone*] and bike lanes should be everywhere, and access to biking should happen because it makes for healthier neighborhoods, and I, as a White person, get to define what a healthy neighborhood looks like.”

Helen, a long-time resident of North Portland and African American woman, offered an observation about how the tensions over cycling spaces and neighborhood changes play out on the ground:

“ . . . I felt this huge moment of . . . I don’t know if the word is helplessness or anger, but definitely difference. Because coming down the sidewalk was an older gentleman on a bike . . . he came up behind us as we were going into the community room on the sidewalk and he didn’t ring his little bell. He didn’t, ‘on your left.’ He didn’t do any of that stuff. He just zipped around us and kept moving. ”

“And one of the people that was coming to study, she just stopped in her tracks. And she was so offended. And she said, ‘He could say excuse me.’ And I thought, you’re in his neighborhood. Why should he be apologizing for doing the thing that he’s always done? There’s not a rule for people that have lived here forever that they have to ride in the bike lane and holler out, ‘on your left’, and ring the damn bell because that’s what your accustomed biking culture is . . . he’s lived here. He’s biked here. He’s just getting around in his neighborhood. Who says that he has to change what has been normal for him and plenty of people around here . . . just because you’re here now and you’re used to something else?”

As Helen’s narrative reveals, interactions between older residents of color (the sidewalk cyclist was a person of color; she referred back to him again later in her interview and identified him as a person of color) and newer White residents can generate tension over cycling spaces and practices. Helen’s story helps to demonstrate that fact that people of color have a long history of biking in Portland—with or without bike lanes. A final quote from Samuel, a Latino man, can help to further illuminate the linkages between bicycling, gentrification, and sustainability. This excerpt comes from a larger point Samuel was making about the lack of representation of people of color in city advertising and messaging about bicycling:

“You’ll see these ads: ‘Go Green. Bike to work.’ White person on the ad. Alright. Again, erasing all those people— who have been biking— of color. All of a sudden it’s this new thing? No. Bikes have been [used] for centuries, so to make it a new thing by being green then . . . has that Black person on a bike, have they not been green then? I don’t know.”

For many participants in this study, particularly people of color, the larger backdrop of historically problematic urban planning practices, inequitable cycling infrastructure investments, and the privileging of White cycling priorities over those of people of color, contributed to a collective narrative that the city of Portland has failed to take seriously the interests of bicyclists of color. As we turn in the following sections to consider the interpersonal nature of barriers to biking, we summarize this section by characterizing these larger social, economic, and historical concerns as institutional barriers to bicycling for people of color. While all participants in this study are people who bike occasionally and are, therefore, not entirely deterred by the constraints they described above, the exclusionary nature of broader bicycling practices in Portland may serve as a largely invisible, yet significant, barrier to bicycling for people of color.

### BIKING WHILE BLACK: RACIAL PROFILING AND POLICE SURVEILLANCE

In seeking to better understand social barriers to bicycling, interview participants were asked to reflect upon their thoughts about how their identities shaped or impacts their cycling experiences. A total of 20 of the 30 participants included in this study identified as people of color. These 20 individuals consistently voiced concerns regarding systemic forms of racism. These issues ranged from concerns about police violence to challenges in maneuvering through public spaces that were not welcoming to people of color.

Marcus, an African American man, reported that the public visibility of police violence against African Americans in recent years had impacted his desire to bike:

Interviewer: When do you not feel safe?

Marcus: I think I don't feel safe if it were something crazy happens in the news that like, elevates, racial tension. That's when I feel like the least safe, you know?

Interviewer: Does it stop you from biking?

Marcus: It did, yeah. The recent shootings, like I stopped for awhile.

Miguel, a Latino man, reflected on how moving through space as a visible minority requires additional thought and restraint over one's movement. Though his comments are not expressly about fear of police violence, the concern over physical safety reflects dynamics of racialized violence targeting communities of color in the United States.

"... People who [are] not White experience so much *in* their bodies, in their physical safety, and we [people of color] learn at a really young age to not make our lives more in danger than they already are. I think that's something that we learn really, really early... [and] there's not enough folks of color biking. And I think there's many reasons. Economically might be one, right? But also like vulnerability, right? This vulnerability that we have of our own physical safety."

Janae, an African American woman, discussed her concerns at great length. An abridged version of her comments demonstrates the significance of police violence in restricting the movement and mobility of people of color:

Janae: I don't ride at night because of police officers, and possibly getting stopped, and possibly getting shot, so, that's really the bottom line to be honest. Not just the rush hour traffic, but the racial profiling.

Interviewer: Do you feel safe while cycling?

Janae: No.

I: No, ever?

Janae: I do sometimes, but I know when police pass me . . . I just see myself doing inventory: I've got my lights, got my helmet, everything's to where they can't find a reason to pull me over. And I've even been stopped and asked if my bike was stolen because it's a high-end bike . . .

Janae went on to speak about how she felt both unsafe when biking, and more aware and alert regarding the people around her:

"I feel that being African American, I am more hyper vigilant. I am more fearful than a typical Caucasian person could be on the same bike, in the same neighborhood, at the same time. I have these layers of oppression, if you will, to have to worry about that never crosses a Caucasian person's mind . . . I am aware of my color, and of my culture, and my being an African American woman at all times. I have to be aware of my surroundings . . . and it does interrupt my experience. I can't really enjoy my experience as much as a typical [white] person would because of all of the oppression that comes with riding a bike as an African American in our community."

Indeed, when asked about how their race or ethnicity informed their cycling habits, White women consistently responded that they rarely, if ever, thought about their own racial identity in relation to their cycling behaviors. This is illustrative of how White privilege can function on the individual level. Those women who identified as White did not think about how they might be treated unfairly by law enforcement, nor did they worry about following all of the rules of the road as they biked. This relative freedom of movement (despite the ways that gender may constrain their biking habits as will be detailed in the next section) demonstrates how racial privilege can appear normal, natural, and invisible. This contrasts starkly with the experiences of minorities described above. Julia, a White woman, reflected on White privilege as well when asked about how her racial identity might shape her experience:

"I imagine that my white skin privilege brings more care and regard from others around me . . . [things like] access, ability to take up space, the benefit of any doubt, all of those kinds of things, at least in a racist society."

These reflections from White women demonstrate the problematic ways that racial inequities can come to seem natural or normal. For women who do not directly experience race-based harassment or discrimination, their mobility may be less restricted in ways they cannot fully realize.

In sum, people of color in this study consistently discussed their feelings of anxiety in relation to biking in public spaces due, largely, to perceptions that their visibility on the street made them targets for violence or police surveillance. As a result, some individuals reported cycling less than they would like to and, even when cycling, they experienced a sense of heightened awareness about their movements in public. Notably, in early 2017, a 21-year-old Black man was arrested and physically harmed by Portland Police while he was biking home from work—the notion of racial profiling in relation to traffic stops, "driving while Black" can be applied to "biking while Black" in Portland (Green 2017). The impact of police repression and violence toward people of color must be understood as a significant barrier to bicycling.

## RACIAL MICROAGGRESSIONS IN PUBLIC SPACE

For many people of color who participated in this research, subtle forms of racism (or microaggressions) had an impact on their cycling habits. Many respondents experienced aggressive behaviors from motorists or other cyclists that they felt were racially motivated.

Jordan, who identified as mixed race, discussed experiencing microaggressions while cycling, or when trying to purchase a bike in a bike shop, in a way that she connected to broader legacies of racism:

“It’s one thing to be a woman. It’s another thing to be a woman of color in this town. Because this city . . . the KKK definitely ran supreme in Portland for a fucking long time. And it’s what we have to organize against today . . . [and] the city is like low-key undertone with it. Since I’ve been in Portland, I’ve experienced a ton of microaggressions and especially with cycling. Like I said, you have bike snobs that only want to talk down or try to explain or upsale [a bike to you in a shop] or just make me feel as if . . . I’m not on their level.”

Robin, an African American woman, reflected on her experience of microaggressions in which motorists did not allow enough stopping distance for people of color when on foot or on bike:

“What I know about who stops for whom, in crosswalks, is that people that are African American don’t get stopped for. It scares me to be in the bike lanes here in Portland . . . I don’t go in the bike lanes in my own neighborhood that I was born into, that I live in now, that I’m raising kids in. I don’t go. And that’s sad.”<sup>7</sup>

Marcus, an African American man, discussed what he called “road rage” in relation to his experiences biking near car traffic. Like Robin, he noted that he had observed disparities in motorists’ treatment of him as a person of color:

“I do feel like being a minority in Portland, like I’ve noticed that motorists are less likely to stop for you . . . if you’re at like a crosswalk, even if you have the right away . . . I always have the right away if you’re a cyclist or you’re a pedestrian. . . . And the reason I say that is because I’ve been at a stop before [on my bike] and just waiting for people to stop. And then . . . [chuckles] you know, a White person will pull up next to me [on a bike]. And then all of a sudden, you know, traffic stops.”

Janae, an African American woman, characterized microaggressions on the bike as intentional aggression from other bicyclists who did not want to share the road. She clarifies that the intersections of race and class may be at play:

“I’ve had people ride so close to me, and then zip around me really quick, as if to intentionally and deliberately cause me discomfort or to scare me . . . I’ve had riders just so close to me, you know, just not being mindful of the rules of the road and giving me proper space, you know, pacing themselves behind me . . . aggressive riding . . . just too close to me, to make me feel uncomfortable and I thought that was intentional.”

Respondents in this study consistently reported aggressive driving on the part of motorists and cyclists as a barrier to regular cycling. People of color felt that White drivers and bikers treated them differently than they might treat White cyclists, and often felt that the lack of attention to people of color in crosswalks or at stop signs was racially motivated. Regardless of whether the intentions of White drivers or bikers in these examples were racially motivated, people of color experience these actions as racially motivated

and therefore suffer psychological and social harm. Racism and racial inequality are embedded into the social fabric of the United States and, as such, routine interactions in public spaces can be fraught with tension.

In sum, although people of color in this study reported that they enjoy riding bikes and see it as a key part of how they get around Portland, the very real challenges of both overt and subtle forms of racism impact cycling mobility; with many riders noting that there are certain times when they may choose not to ride their bikes or that, even when they do ride, they remain hyperaware of their surroundings and how others are responding to them.

## GENDER, HARASSMENT, AND WOMEN'S RESTRICTED MOBILITY

For the 23 women (both White women and women of color) in this study, riding a bike could oscillate between being empowering in one moment and stressful or frightening in the next. Women reported feeling simultaneously visible and invisible on their bikes—on the one hand they might experience a sense of agency with the speed that a bike provides for escaping perceived or blatant threats, while on the other hand they often expressed feelings of anxiety and fear due to the fact that, as a woman on a bike, they were noticeable in public spaces.<sup>8</sup> Specific barriers expressed consistently in women's interviews were concerns about safety and harassment as well as challenges facing mothers.

## SAFETY AND MOBILITY

Respondents routinely discussed the risks associated with being a woman in a public space and how such risks shaped their cycling behaviors. Carol, a Latina woman, used the metaphor of a woman's mental "map" to highlight her restricted movement. Though this term is uniquely Carol's, women interviewees often expressed a very similar sentiment:

"On a bicycle, I would be a little bit more cautious. I would go to bar [on] the central Eastside, but I wouldn't want to come downtown because stuff can get kind of sketchy... I think bicycling at night I'd have to turn on that female sense of like, there's a map of the city and then there's a *lady's map of the city*, which is like: you shouldn't go... there at night. And maybe why I choose to drive is because it's being able to say, "I don't have to pay attention to that. I can go where I want."

Other women noted how broader fears of violence against women will impact when and where they travel. Women respondents often discussed additional precautions they might take after dark (such as riding with friends, taking well-lit or more populated routes, or avoiding travel altogether in certain areas).

Evelyn reflected on how her friend's experience of violence while biking had informed her own biking habits:

"I had a friend, a couple years ago...she was riding her bike home from work one night and some dude just like knocked her off her bike and beat her up... That could happen anywhere... Her experience kind of stuck with me... I know when I have been alone and riding my bike, I do definitely keep my eye out... like, "Oh, there's a guy four blocks ahead at the bus stop. And he's kind of edging towards the street as I get closer." Like I watch that, for sure. Because... I don't know what might happen... even in the daytime and even on

busier streets... So I think it's definitely something that is always in the back of my mind. But I think that's probably true of being a woman anywhere, doing anything."

Helen sums up the feelings of a number of women in the study who felt that, as women riding bicycles, there was an additional burden of being aware of both your physical surroundings, but also the social environment in saying:

"In the times when I have biked with my spouse, [he's] always like, "Can we chill?" ... and I'm like, "No, this is the way that people bike. They like, *go...* you have to bring it." As a female, I would say that... I feel more defensive and a little bit more vulnerable... you want to have your like "I'm-unfuckable-with" vibe going on... And that would be the same if I was walking. That's just females being out. It's in your interest to... not to let anybody think that you're not ready for them."

Overall, women in this study voiced their reluctance to bike due to larger social and cultural dynamics that make bicycling an experience that could be fraught with anxiety or stress, and an increased awareness of their surroundings when biking.

## INCREASED VISIBILITY AND HARASSMENT

In addition to women worrying about where they ride their bikes, women spoke repeatedly about their increased visibility while biking. For many women, because fewer women tend to ride bikes as compared to men, being a woman on a bike might draw additional attention from men in cars or on sidewalks. Women noted that biking routinely elicited catcalls and other forms of harassment from men.

Margaret, a White woman, recounted one of the more vivid scenarios of harassment from this study, which could have resulted in an injury or accident:

"One particular time, and this has happened many times, but this was one where I actually felt a little bit scared, like I might get run off of the road... a friend and I were riding up North Denver Avenue and these guys passed us once, I think, and then we came up to a stoplight, and then they started revving up and they passed us again. And as they passed, they were like, "I wanna grab your ass! I wanna grab your ass!" and they were leaning out of the window as we were biking up Denver right as [the road] starts getting really narrow there... And I was like, "Oh my god, I'm going to get smashed into the parked cars over here."

Less extreme were the sort of "everyday" interactions that women experienced while bicycling. Tara, for example, noted that she experienced street harassment or catcalling:

"At least once every two times I ride my bike [I am harassed]. Even people in cars are like, "Hey, hey there girl!" or I'll ride through a crowd of guys, and they're like "Hey!" it's just like... ugh. Just once I want to ride through a crowd of people and be ignored. Or be invisible."

Velia indicated that she had been harassed while riding her bike, often based on her clothing choices:

"I wear whatever I want when I'm riding a bike. But that also comes with people looking at you or making comments because it's hot [warm outside] and I'm wearing short shorts and I'm riding a bike. Or I'm wearing a tank top and I'm on a bike. I'm more visible because I am a woman on a bike."



Finally, as Robin notes in the quote below, one's status as a parent of young children may significantly impact one's riding choices. For the nine parents in this study, nearly all reported that having (or having had) young children significantly impacted their biking behaviors; many also expressed that being a parent represented a range of barriers to biking (including concerns about the safety of biking with kids; a lack of an affordable way to adapt a bike to carry children or additional cargo; and a lack of time or energy).

"For a long time, I was a stay at home mom. And I'm going to bike differently when I have kids and I need to go to the store and the library and the museum. You're biking differently at different stages of your life as a woman . . . You know, like I'm middle aged . . . I don't have to drive my kids around everywhere. [We need] that recognition that our lives change and the demands on our time change . . . there's pre-kid days, totally different story than during-kid days, during your menopause days, or during your time when your teenagers are growing up and you're like, I don't have to rush home. I can take the long route home."

As the above responses indicate, women who bike often engage in additional foresight or planning in terms of route choice and timing or clothing selection. The normalization of gendered inequality and harassment meant that nearly every woman in this study reported concerns about men's interactions with them while biking and that such fears often resulted in women altering their biking behaviors.

## INTERSECTING IDENTITIES: MULTIPLE BARRIERS TO BICYCLING

Throughout this study, participants—both men and women—reflected upon the intersections of multiple identities. Though interview questions focused on primary identity markers like race or gender, respondents consistently highlighted the ways that multiple marginalized identities might intersect to impact one's experience on a bike. Scholarly work on intersectionality serves to conceptualize how multiple marginalized identities can transform a person's experiences in new ways, and how these identities cannot be separated to understand their unique layers of oppression (Collins 2000; Crenshaw 1991). In relation to bicycling, participants revealed a range of ways in which their identities overlapped in ways that impacted their cycling experiences. Below, we offer select interview excerpts from both men and women to highlight the complexity of the relationship between identity and cycling—particularly as it relates to race and to class identities.

Several women of color from this sample cited race as an overarching oppressive identity with gender as a second contributor, and would often suggest that their experiences on a bike mirrored larger systemic inequalities that racial minorities face every day. Ana, for example, noted how race and gender are linked identities for her:

"Talking about intersectionality, we're all these identities. But I definitely feel like my racial identity way more impacts my biking than like my gender identity, even those two are, you know, so interconnected and linked. I feel more empowered, I think, to bike as a woman than I do as a person of color."

Peter discussed how, because he understood that his status as a Black man may already be diminished due to existing racial inequality, riding a bike might not be seen as positive identity marker for other African American men, potentially explaining a lack of racial diversity among bike riders:

“For black folks . . . I mean, it’s a very deep issue . . . I think for the social status, it looks better if you were to have a car rather than a bike . . . for a Black man who is an adult, riding a bicycle . . . it may give the appearance of childishness. And, you know, Black men are very sensitive about their image because of historical content. So having a bicycle for a Black American . . . I mean, I think we have to be very clear that we have to say Black Americans (because other groups may have different take on that), but I think, because of the history in this country, I think for a Black man to ride a bicycle, it may not elevate your social status.”

In relation to class identities, a number of participants described the economic issues related to cycling that may be a deterrent to regular cycling. For many, the challenge of buying, maintaining, and storing a bike was a significant expense. That, coupled with a lack of welcoming bike shops that served women and men of color in a respectful manner, may make it difficult for many individuals to decide to buy or maintain their own bike.

Demetrius, an African American man, the one participant in this study who did not own a bike and exclusively used the Biketown bike share program, talked about how much more he might ride if he owned a bike:

“If I had my own bike . . . but like I said, bikes start at like three hundred, six hundred dollars. But it’s still not something that’s accessible when I need to get groceries and I can barely pay rent because I live in this area . . . with the rent prices rising and me not making that much money . . . I mean, I make \$14.50 an hour . . . It’s a good amount for how much bills I have to pay. But it’s like not enough to have super a lot of expendable money to just be like, “Oh, I’m going to buy a bike.” That’s a commitment for me that I need to make.”

Rosa, a Latina woman, discussed the challenge of prioritizing bike repair and maintenance over other expenses:

“When I’m not looped into [the college bike shop] network, I’m sort of like . . . It’s happened to me. Oh, my bike isn’t working so I’m just going to not do it for a month, because I just don’t know what to do. So I think that’s been a limitation. So I guess that’s kind of my own incompetence, but also kind of about class.”

Miguel, a Latino man, talked about issues of affordability and cycling gear:

“It’s more complicated than just race. But it also has to do with class, right? . . . I’m thinking about my pants, right? Like I don’t use rain gear not because I don’t think I shouldn’t. I can’t afford it . . . Same with the helmet . . .”

Ana, a Latina woman, summed up the intersection of multiple identities in saying:

“ . . . Yes, having a bike does end up saving you a lot of money. But it’s also still hella expensive: getting your bike, taking care of your bike, knowing how to take care of your bike. I wouldn’t know shit about taking care of my bike had [my husband] not taught me. You know what I mean? Like to actually learn how to care for it and clean it and replace parts and know when it’s not working. I mean all of those things, I think, require quite a bit of privilege and accessibility to learn how to do all those things.”

This section is not meant to be an exhaustive account of all the ways that one’s identity may shape or limit cycling behaviors, but it is intended to be a jumping off point for better understanding how a range of social vulnerabilities across multiple different dimensions of identity may act to discourage routine cycling. Additional research should investigate how identities related to disabilities, body type or physicality, and age impact one’s cycling decisions.

**TABLE 2.** Interventions to Increase Diverse Ridership

Barriers	Participant-Suggested Interventions
General safety concerns	Increased lighting and signage, inclusion of more protected lanes for less confident riders
Gendered harassment	Women's group rides; bike buddy programs to support riders or additional women's biking groups; bystander intervention training programs for public employees
Parenting	Events to support families; trainings or classes about utility bikes and adapting bikes for carrying heavier loads; infrastructure adaptations that meet the needs of utility bikes or trailers
Racial profiling	Reform of police practices and policies as they relate to cyclists; efforts to reduce institutional racism among officers
Invisibility of women and minorities in cycling culture	Increase ridership among diverse groups to reduce heightened visibility of minorities and women; Increased lighting, signage or protected bike lanes to increase feelings of safety; more cycling events and organizations run by, and for, people of color and women; increase the diversity of representation on signage and advertisements for bike events and bike organizations; diverse and inclusive trainings and classes to support interested cyclists
Intersecting identities	Additional programming to support the needs of low-income individuals; additional training or information on repairing and maintaining a bicycle; increased access to low-cost bike share memberships, additional consideration about infrastructure needs of persons with disabilities who may ride alternative types of cycles
Institutional barriers	Robust representation of women and people of color in city planning discussions; additional outreach and engagement to solicit feedback from people of color when planning in communities of color

## INTERVENTIONS TO INCREASE ROUTINE CYCLING AMONG WOMEN AND PEOPLE OF COLOR

During interviews, participants were asked to make suggestions about how they might improve cycling accessibility in Portland. Suggested interventions featured infrastructural changes such as improved lighting or bike lanes, as well as programmatic solutions like events for people or color, women, and families and public relations materials that featured different kinds of riders. More complex and nonstructural solutions included anti-bias and anti-street harassment trainings, as well as more systemic reforms of a policing system that allows the ongoing profiling of people of color in the United States. In terms of institutional or structural level solutions, participants frequently reported wanting more of a voice in larger planning discussions related to bike lanes and other transportation decisions. Table 2 summarizes the range of suggested interventions offered by participants as a full discussion of the range of suggested interventions is outside the scope of this article.

## LIMITATIONS

This article has highlighted the mechanisms that can deter women and people of color from engaging in more routine cycling. As this study is qualitative, it is not

generalizable—we recognize that Portland’s unique bicycling environment, with both expansive cycling infrastructure and high rates of bicycling trips taken, offers a somewhat unique urban context in which to study cycling. However, this study can help us to better understand how gender and racial oppression, along with larger urban development dynamics, may contribute to lower rates of cycling among women and people of color in cities across the United States. Though the specific physical context and usage patterns may differ from place to place, it is highly likely that issues of racism, racial profiling, and sexual harassment may be deterrents for women and cyclists of color across the United States.

Furthermore, our sample remains limited in both gender and economic diversity. A large portion of our sample is made up of cisgender women—additional research must consider the experiences of trans and gender nonconforming riders, while our small number of men of color participants must be expanded upon in future research. Our somewhat privileged sample (having a high representation of people with college degrees and steady employment) also limits the extent to which we can reliably speak to economic barriers to bicycling. Notably, as cycling remains a relatively (as compared to car ownership or public transit use) affordable mode of transportation, cities may seek to embrace additional cycling investments as a means of serving low-income populations; yet our present findings suggest that cycling investments may be fraught with political challenges as bicycles may symbolically represent the unfolding processes of gentrification. Thus, while this article has sought to express how larger social and historical trajectories of gentrification may impact individual level cycling experiences, we cannot currently speak to the complex manner in which cities may seek to expand cycling infrastructures in contradictory ways that seek to meet equity demands, yet may also inadvertently contribute to real or perceived development practices.

## CONCLUSIONS

This article has sought to extend the scholarly understanding of the social barriers to bicycling by clarifying how racial and gendered oppression may impact individual cycling choices within a rapidly gentrifying city. Our findings—that ongoing fears of racial profiling and gender-based violence may discourage more routine bicycling among women and people of color—suggests that current models assessing individual bicycling motivations may be incomplete; more complex social factors must be incorporated in order to have a more complete understanding of how cycling choices are mediated by society-level factors.

Given the consistent patterns of fear, anxiety, and stress that our participants reported when navigating public spaces, interventions that create opportunities for women and people of color to be integrated into local cycling organizations and which allow for representation in all of the various spaces in which biking occurs (bike shops, volunteer organizations, events, advertisements) is critical to increasing cycling rates among these groups. Solutions to build a diverse cycling community in Portland will require both large and small-scale interventions; to do one without the other misses the mark. Building an inclusive cycling culture requires strategic movement to support new and diverse ridership, but also requires naming, addressing, and working to reduce racism and sexism in all its forms.

Despite the city of Portland's ongoing efforts to link sustainability outcomes with cycling investments and the related presumption that cycling choices and cycling infrastructure are equally accessible and desirable to all, we find that historical legacies of racist planning and socially unjust investment and development continue to impact how experience mobility in the city. Though interviewees do report seeing the linkage between cycling and improved environmental outcomes, and many people report a desire to increase their biking habits, as biking is not always equally accessible to all individuals, the sustainability impacts of cycling are likely to be unequally distributed across race, class and/or gender. A diverse and sustainable bike culture must work to address social barriers, as well as larger economic and structural barriers related to urban change.

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### Notes

<sup>1</sup>Portland was given a "Platinum" ranking in Fall 2017 by the League of American Bicyclists and was 2016's Third Best Bicycling City according to Bicycling.com

<sup>2</sup>A "hot spot" map shows progress toward this 20-min neighborhood ideal. <http://www.portlandonline.com/portlandplan/index.cfm?c=52256&a=288547>

<sup>3</sup>According to Gotschi (2010): "In 2008, the city of Portland estimated the cost of its 300-mile bikeway network at \$57 million. In 2003, the city also initiated a promotional program that encouraged bicycling, walking, and use of public transportation, at an estimated cumulative cost through 2012 of \$7.2 million. Future plans for Portland's bicycle master plan foresee an investment of additional \$100 million through 2030."

<sup>4</sup>Though participants did consistently discuss infrastructure as part of the barriers they experienced, we do not present extended findings on infrastructural barriers as a range of studies have done so already (see Pucher, Dill and Handy, 2010, for an excellent review); instead we emphasize the social barriers to bicycling (e.g., racial profiling; the broader urban context; and sexual harassment).

<sup>5</sup>Portland's Community Cycling Center completed a 2011 report, "Understanding the Barriers to Bicycling Project" that laid out the economic challenges that many low-income Portlanders face in terms of bike access, maintenance, and storage. This study aims to uncover additional barriers that are not necessarily related to finances.

<sup>6</sup>The seven participants who reside in North Portland (Albina district) are Robin, Jordan, Simone, Janae, Helen, Marcus, and Demetrius. The remaining African American participants resided in other areas of Portland.

<sup>7</sup>A 2014 report by Goddard, Kahn, and Adkins (2015) confirmed that, in Portland, "minority pedestrians experience discriminatory treatment by drivers" (2).

<sup>8</sup>See Steinbach et al. 2011 for a fuller discussion of this notion.

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