

Cycling in the City: An In-Depth Examination of Bicycle Lane Use in a Low-Income Urban Neighborhood

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Background: Regular physical activity such as biking can help prevent obesity and chronic disease. Improvements in cycling infrastructure are associated with higher overall cycling rates, but less is known about bike lane utilization in low-income urban neighborhoods. **Methods:** During the summer of 2009, 4 Central Brooklyn streets with bicycle lanes were studied using camcorders to record for a total of 40 hours. Video recordings were coded for behaviors and characteristics of cyclists and motorists. An intercept survey ($N = 324$, 42% participation rate) captured information on cyclist demographics, behaviors, and attitudes. **Results:** 1282 cyclists were observed on study streets. Cyclists were primarily male (80.0%) and non-White (54.5%). 9.9% of motorists drove in the bike lane and parked vehicles blocked the bike lane for 9.6% of the observational period. Of cyclists surveyed, 69.4% lived locally, 61.3% were normal weight or underweight, and 64.8% met recommended levels of physical activity by cycling 30+ minutes/day on 5+ days of the past week. **Conclusions:** Bicycle lanes were used by local residents of a low-income urban neighborhood. Compared with neighborhood residents overall, cyclists reported better health and health behaviors. Enhancing infrastructure that supports active transportation may be effective in reducing health inequities in low-income urban communities.

Keywords: physical activity, health, transportation, disparity

Physical inactivity is a leading cause of premature death in the United States, associated with an estimated 200,000–300,000 premature deaths each year.^{1–3} Physical activity is recommended to help prevent weight gain, prevent and control diabetes, prevent heart disease, control cholesterol, slow bone loss associated with advancing age, lower the risk of some of the most common and deadly cancers, help reduce anxiety and depression, and help to protect against cognitive decline.^{4–6}

Although there are clear health benefits to physical activity, less than half of Americans reach recommended levels.⁷ In New York City (NYC) only 41.8% of residents report meeting recommendations despite estimates that higher levels of physical activity would prevent 6300 deaths a year.^{8,9}

Increasing participation in active transportation, defined as physical activity such as walking and biking

to routine destinations, has significant individual and population health benefits.^{10–15} Longitudinal studies have reported 20%–40% mortality risk reduction for people that cycle regularly, even after adjusting for other leisure time physical activity.^{16–19} Cross-sectional data at the city, state, and national levels show an inverse relationship between levels of active transportation and obesity rates.^{20,21} In the urban environment, the physical health benefits of cycling have been shown to outweigh the risks of injury and exposure to air pollution by a ratio of 77:1.²²

The U.S. Task Force on Community Preventive Services concludes there is sufficient evidence to support community and street design policies to increase physical activity.²³ To help prevent obesity, the Centers for Disease Control and Prevention (CDC) recommends enhancing infrastructure that supports safe bicycling and walking in areas where persons are or could be physically active.²⁴

In recent years, the infrastructure to encourage active transportation, with cycling as a prominent mode, has expanded significantly in NYC.²⁵ In 2009, the city had over 600 miles of bicycle lanes, paths, and park areas, with more than 200 of those miles built since 2006. To reach a goal of 1800 miles of cycling lanes by 2030, the NYC Department of Transportation (DOT) aims to install 50 more miles of bicycle lanes each year.^{26,27}

Rates of commuter cycling have increased in New York City. Since 1986, NYC DOT has counted the number of commuters cycling into lower Manhattan.

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From 2000–2009 the number of cyclists entering this part of the city has more than tripled from 4829 to 15,495.²⁸

Existing health inequities should be considered in the development of programs and policies that impact health, including those that change the built environment. A recent CDC report asserts “ongoing racial/ethnic, economic, and other social disparities in health are both unacceptable and correctable.”²⁹ In New York City, the neighborhood inequities are clear: Death rates in the lowest-income neighborhoods are almost 30% higher and residents live 4 fewer years compared with those living in highest-income neighborhoods.³⁰ Additionally, a NYC DOT study found that areas with higher proportions of Hispanic or Black residents experienced higher rates of motor vehicle-pedestrian crashes. The report found that these elevated rates of fatalities and serious injuries in these neighborhoods are most likely the result of dangerous environmental conditions and driver behavior.⁵¹

This study focused on North and Central Brooklyn, an area that includes the neighborhoods of Bedford-Stuyvesant, Bushwick, Brownsville, and East New York, with a population of 695,736.³¹ Over one-third of residents live below the federal poverty level, over one-half are Black, non-Hispanic (59.6%), and almost one-third are Hispanic (31.0%). Compared with NYC overall, North and Central Brooklyn residents have a higher prevalence of diabetes, obesity, and premature death.^{32,33,9} These residents are more likely to report no recent leisure-time physical activity (33.5% vs. 27.3%).⁹

Taking into consideration the interconnection between neighborhood built environment, disparities, and health, the goal of this study was to examine cycling in a low-income urban neighborhood with historically poor health outcomes. Specifically, we examined the use of bicycle lanes in North and Central Brooklyn, described characteristics and behaviors of cyclists, and assessed bike lane violations by motorists, which may decrease safety and discourage residents from cycling.

Methods

Setting

Four separate city blocks in Bedford-Stuyvesant were included in the study. All street sites had a history of motor vehicle and bicycle crashes that resulted in injuries to the cyclist (range: 4–9 total for 1996–2005).³⁴ All 4 street segments included a Class 2 bike lane (5-foot wide lane on side of roadway); 2 with a 3-foot painted buffer lane and 2 without. All sites were 1-way streets with a city bus route and a 30 MPH speed limit. Three of the sites were residential 1-lane streets and 1 site was a 2-lane truck route.

Study Design

This study included 2 main components: 1) an observational study of lane use and 2) a cyclist intercept survey. The study received approval from the New York City

Department of Health and Mental Hygiene’s Institutional Review Board.

Observational Study of Bike Lane Use. At the 4 unique study sites, camcorders were used to record traffic flow on digital video cassettes. Since previous research indicated that most NYC bicycling crashes that result in serious injuries or fatalities occur within 25 feet of the intersection, 1 camcorder was located approximately 30 feet ahead of the intersection and directed with the flow of traffic.³⁵ This camera at the intersection was able to record the behavior and characteristics of motorists and cyclists traveling on the study streets as well as the route of cyclists simply crossing the study street. Another camcorder was placed at the end of the block, directed against the flow of traffic, to record the behavior and characteristics of motor vehicles and cyclists along the study streets.

Each site was recorded independently on 2 weekday mornings (7:30 AM–9:30 AM), 2 afternoons (4:00 PM–6:00 PM), and 1 Saturday (10:30 AM–12:30 PM) for a total of 10 hours per site and 40 hours overall. Observations were conducted between June and August 2009 under fair weather conditions (no rain and temperatures between 50–90 degrees Fahrenheit). During the 40 hours of video recording, 18,954 motor vehicles and 2461 cyclists were observed. At the 1 site (site 4) with 2 traffic lanes, only the vehicles that were traveling in the lane adjacent to the bicycle lane were included in this analysis.

Cyclist Intercept Survey. A convenience sample of cyclists was surveyed at each of the 4 study sites either before or after a video recording session or on adjacent blocks while video recording was conducted. Survey areas were marked by signs and traffic cones. Adult cyclists passing through the area were asked to stop and participate in the survey. Water bottles, reflective bands, and bicycle maps were offered as incentives for survey participation. Of the 777 cyclists approached, 324 (42%) participated.

Measures

Observational Study of Bike Lane Use. During video recording at the study sites, research assistants stationed at each camera recorded observations in their area using field tracking sheets. Research assistants collected data on all people engaged in physical activity, excluding those who were walking on the sidewalk. The activity type, location, direction, and characteristics of the person being physically active were captured in the field tracking sheets.

Video recordings were reviewed using Magix Movie Edit Pro 15, Version 8 software. Tracking sheets were developed for reviewing the videotapes. Specific tracking sheets were developed for each camera, motorist/non-motorist and for vehicles parked or idling in the bicycle lane. Characteristics of motorist/nonmotorist, behaviors, and time/duration were recorded. Motorists were coded

as driving in the bicycle lane if the motor vehicle's tire(s) crossed over the outermost bicycle lane line. For the bicycle lane obstruction analysis, only vehicles stationary in the bicycle lane (excluding the buffer) for more than 30 seconds were included, the analysis was based on the street segment of a city block (the area between 2 intersections). To avoid a double count, multiple vehicles obstructing the bicycle lane concurrently were excluded.

Cyclist Intercept Survey. The cyclist intercept survey assessed the following: cyclist demographics and characteristics, purpose of current trip, NYC cycling experience, length of time spent cycling, crash history, cycling preferences, and helmet use. Data from the cyclist intercept survey were compared with the 2009 NYC Department of Health's Community Health Survey. The Community Health Survey is an annual random-digit-dial survey of approximately 10,000 noninstitutionalized NYC adults aged 18 years or older. A stratified random sample is used to produce neighborhood and citywide estimates.³⁶

Analysis

Data were analyzed using SAS 9.1 and chi-square analyses were conducted. Comparisons between cyclists observed or surveyed and Community Health Survey neighborhood prevalence rates were tested for significance using a z-test for 2 independent proportions.

Data Entry and Intercoder Checks. Checks for data entry accuracy were performed on video observation and intercept survey data by comparing data collection sheets with database queries. Few discrepancies were found (< 2%). Approximately 10% of the digital video tapes were reviewed and coded twice for checks of intercoder reliability. For most indicators, differences of less than 5% were found. Most differences resulted from the use of "Don't know" rather than different classification categories.

Results

During the 40 hours of field observations, excluding walkers, there were 2627 people engaged in physical activity, on the streets and sidewalks. Of these, 2553 (97%) were cycling, 27 (1%) were running, 21 (1%) were riding scooters, and 20 (1%) were skateboarding.

Table 1 Cyclist Counts and Observed Rates per Hour, Proportion of all Traffic by Study Site

		Site 1	Site 2	Site 3	Site 4*	Total
Crossing intersection	Number of cyclists	427	560	675	799	2461
	Cyclists observed per hour	43	56	68	80	62
On study streets	Number of cyclists	310	304	196	472	1282
	Cyclists observed per hour	31	30	20	47	32
	Number of motor vehicles	4617	4757	3112	6468	18,954
	Cyclist % of all traffic	6.3%	6.0%	5.9%	6.8%	6.3%

* Site 4 is a truck route and is the only site with 2 traffic lanes. Motor vehicles traveling in the lane not adjacent to the bike lane were excluded.

In the filmed observation of the streets, 2461 cyclists were observed crossing the study intersections and 1282 were observed cycling on the study streets. On average, 62 cyclists per hour were observed crossing study intersections and 32 cyclists per hour were observed riding on the study streets. The rate of cyclists observed varied by site as well as by observation period (see Table 1). Across sites, along the study streets, afternoon commuting hours were busiest (39 cyclists per hour), followed by weekend (31 cyclists per hour), and morning (26 cyclists per hour). Motor vehicle volume and cyclist volume were also compared along the study streets. Cyclist volume accounted for 6.3% of the total traffic volume.

To examine if the surveyed cyclists (N = 324) were representative of the cyclists observed on the study streets (N = 1282) we compared their characteristics. The race/ethnicity, helmet use, and direction of travel of those observed and surveyed were similar; however, a higher proportion of female cyclists and those cycling in the bicycle lane were surveyed ($P < .05$).

A comparison of NYC and North and Central Brooklyn residents to cyclists observed and surveyed is provided in Table 2. Of cyclists surveyed, 69% live in North and Central Brooklyn. Cyclists were more likely to be male and White than North and Central Brooklyn residents. In addition, significant differences were found in comparing calculated Body Mass Index (BMI) categories and self-reported health status. Compared with North and Central Brooklyn residents, more cyclists have a BMI score of under or normal weight (61.3% vs. 37.0%, $P < .05$) and health status of very good or excellent (71.3% vs. 45.0%, $P < .05$). When stratified by race/ethnicity (Black, White, Hispanic), significant differences remain for all relationships except the BMI of Hispanic cyclists compared with neighborhood residents.

Cyclists were surveyed about their cycling experience and route preferences. Over half of cyclists (51.4%) report cycling in NYC for less than 5 years. Almost all cyclists surveyed (95.1%) report preferring to ride on streets with a bicycle lane. When asked what change would encourage them to cycle more, "fewer vehicles driving or stopping in bicycle lane" (37.0%) and "more bicycle lanes on streets" (34.0%) were the most frequent responses.

Comparisons of cyclist characteristics and behaviors by race/ethnicity are provided in Table 3. Overall, only

Table 2 Characteristics of New York City, North and Central Brooklyn Residents, and Cyclists in Study

	New York City residents (8,363,710) [†]	North and Central Brooklyn residents (695,736) [†]	Cyclists observed on study streets or surveyed	
	%	%	%	n
Gender				1253
Male	47.8	45.7	80.0*	1002
Female	52.2	54.3	20.0*	251
Race/ethnicity				1133
Asian	11.9	3.0	1.9*	21
Black Non-Hispanic	23.5	59.6	38.8*	440
White Non-Hispanic	35.4	4.8	45.5*	516
Hispanic	27.7	31.0	13.8*	156
Other ^a	1.6	1.6	na	na
BMI weight categories [‡]				320
Under/normal weight	43.3	37.0	61.3*	196
Overweight	33.5	34.0	27.2*	87
Obese	23.3	29.1	11.6*	37
Self-reported health status [‡]				324
Excellent/very good	48.2	45.0	71.3*	231
Good	32.4	34.4	21.6*	70
Fair/poor	19.5	20.6	7.1*	23

* ($P < .05$) z-test for 2 independent proportions (http://www.surveystar.com/our_services/ztest.htm).

[†] 2008 population estimates, U.S. Census Bureau (nyc.gov/health/epiquery).

[‡] City and neighborhood proportions based on NYC Community Health Survey, 2009.

^a Includes American Indian, Native Hawaiian/Pacific Islander or 2 or more races, non-Hispanic. Missing excluded.

20.0% of cyclists were female: 35.5% of White cyclists were female, while only 5.8% of Black and 3.9% of Hispanic cyclists were female. Fewer cyclists who are White (56.8%) live in North and Central Brooklyn than Black (79.8%) or Hispanic (75.5%) cyclists ($P = .0002$).

Most cyclists surveyed reported cycling for 30 minutes or more for 5 or more days in the previous 7 days (64.8%) and 65.1% reported cycling as a means of transportation. Blacks were more likely to report cycling for exercise (35.7%) or leisure (17.1%) compared with Whites and Hispanics ($P < .0001$). Differences were also found by perceived race/ethnicity for observed cycling safety related behaviors. Overall, 29.2% of observed cyclists were wearing a helmet, 11.0% were riding in the traffic lane, and 17.9% were riding against the flow of traffic. We observed 8.5% of Blacks and 2.6% of Hispanics wearing helmets ($P < .0001$), and 12.5% of Blacks were biking in the traffic lane ($P = .001$) and 28.7% riding against traffic ($P < .0001$). The helmet usage of survey respondents was also assessed and differences by self-identified race/ethnicity were found; 14.2% of Black, 29.8% of Hispanic and 55.6% of White respondents were wearing a helmet ($P < .0001$).

The volume of motor vehicle traffic was also calculated across the 4 sites. On average, 474 vehicles per hour were observed (Table 4). Along the study block, 9.9% of the motorists were observed driving in the bicycle lane, a rate of 46.9 per hour. When excluding driving in the bicycle lane to park or avoid an obstruction, behavior permitted under NYC or State law, 7.6% of motorists were observed driving in the bicycle lane or 34.9 per hour. At the study intersections, a similar rate of motorists traveling in the bicycle lane was observed (10.0% and 42.4 per hour). Across the 4 study sites, the bicycle lane was obstructed by a parked or idling motor vehicle for on average 9.6% of the observation period (range 4.1%–15.2% per site) or approximately 6 minutes per hour. Along the study streets an obstruction in the bike lane, such as a motor vehicle, pedestrian, or an object, was observed for 17.8% of cyclists.

Discussion

North and Central Brooklyn residents have high rates of premature death, obesity, and diabetes and low rates of physical activity. Active transportation increases routine

Table 3 Cyclist Characteristics and Behavior by Race/Ethnicity

Cyclist characteristics	Total	Race/ethnicity			ChiSq	P-value
		Black	White	Hispanic		
	N (%)	N (%)	N (%)	N (%)		
Gender (N = 1253)						
Male	1002 (80.0)	408 (94.2)	331 (64.5)	150 (96.2)	160.8	< .0001
Female	251 (20.0)	25 (5.8)	182 (35.5)	6 (3.9)		
Live within North and Central Brooklyn (N = 324)*						
Yes	225 (69.4)	103 (79.8)	71 (56.8)	37 (75.5)	16.9	0.0002
No	99 (30.6)	26 (20.2)	54 (43.2)	12 (24.5)		
Cyclist behavior						
Cycling frequency (30+ minutes last 7 days; N = 324)*						
2 days or less	51 (15.7)	15 (11.6)	23 (18.4)	8 (16.3)	4.6	0.33
3–4 days	63 (19.4)	27 (20.9)	27 (21.6)	6 (12.2)		
5+ days	210 (64.8)	87 (67.4)	75 (60.0)	35 (71.4)		
Ride purpose (N = 324)*						
Transportation to work, school, or elsewhere	211 (65.1)	61 (47.3)	101 (80.8)	35 (71.4)	36.5	< .0001
Exercise	69 (21.3)	46 (35.7)	10 (8.0)	10 (20.4)		
Leisure	44 (13.6)	22 (17.1)	14 (11.2)	4 (8.2)		
Helmet use (N = 1269)						
Yes	371 (29.2)	37 (8.5)	285 (55.3)	4 (2.6)	313.7	<.0001
No	898 (70.8)	401 (91.6)	230 (44.7)	152 (97.4)		
Primary riding location (N = 1216)						
In bike lanes	1082 (89.0)	365 (87.5)	466 (94.1)	135 (93.8)	13.8	0.001
In traffic lane	134 (11.0)	52 (12.5)	29 (5.9)	9 (6.3)		
Riding with or against traffic (N = 1279)						
Riding with traffic	1050 (82.1)	313 (71.3)	498 (96.5)	130 (83.9)	116.9	<.0001
Riding against traffic	229 (17.9)	126 (28.7)	18 (3.5)	25 (16.1)		

* Non-Hispanic Black, Non-Hispanic White for those surveyed.

Table 4 Counts and Rates of Observed Motorists Driving In and Blocking the Bike Lane

Observed on study streets	
Motorists	
Motor vehicle count*	18,954
Rate per hour	473.9
Motorists driving in bike lane	
Percentage driving in bike lane (including buffer)	9.9
Rate of motorists driving in bike lane per hour	46.9
Percentage unlawfully driving in bike lane†	7.6
Rate of motorists unlawfully driving in bike lane per hour	34.9
Bike lane blocked by parked or idling vehicles‡	
Percentage of time bike lane blocked	9.6%
Minutes per filmed hour§	6 minutes

* Excludes nonadjacent lane motor vehicles on study street with 2 traffic lanes.

† Vehicles driving in the bike lane to park or avoid an obstacle are excluded.

‡ Not including buffer on roads with buffer.

§ Rounded to nearest 30 seconds.

physical activity and may be an effective tool in reducing chronic diseases and health disparities. Utilizing video cameras and an intercept survey, our study documents the use of bike lanes by cyclists and motorists and provides descriptive characteristics of cyclists in a low-income urban community. Over 2400 cyclists were observed crossing the 4 study intersections and 324 cyclists were surveyed. Compared with community residents, surveyed cyclists were less likely to be overweight or obese and reported better overall health. Most cyclists reported cycling frequently and cycling as a means of transportation. Future interventions tailored to cyclists and to motorists may further improve street safety and increase the number of residents bicycling.

We observed approximately 1 cyclist every 1 minute at study intersections and every 2 minutes on study streets. The highest volumes of cyclists were observed in the late afternoon followed by weekend and morning periods. Along the study streets, cyclists accounted for more than 6% of the overall traffic on the roadway. This proportion of cyclists to motorists seems sizable, but we have been unable to find other studies of urban streets for comparison.

Most cyclists surveyed live locally in North and Central Brooklyn neighborhoods. Research done by Lusk¹² found that bicycling is an activity that overweight and obese people will do, and it is an effective means of weight management. Although our data are cross-sectional, our findings appear to be consistent with Lusk. Many of the cyclists surveyed were overweight. Rates of overweight and obesity, however, are significantly lower among cyclists compared with neighborhood residents overall. Consistent with Dill's research,³⁷ we found that cycling was reported as a regular form of physical activity, with 65% of surveyed cyclists meeting the recommended levels of physical activity through cycling alone (cycling for 30 minutes or more on 5 or more days in the previous week). This compares favorably to the 44% of the North and Central Brooklyn residents who report meeting physical activity recommendations. No significant differences were found in cycling frequency across race/ethnic groups and BMI weight categories. Like other studies in the United States, more male than female cyclists were observed, which may be an indication of the perceived safety of the bike lanes.^{38,39} Pucher notes that female cycling rates in New York City appear to be associated with the growth of the cycling infrastructure, especially bike paths, physically separated from motor vehicle traffic.²⁵

This study provided the opportunity to observe safety related cycling behavior in a low-income urban environment. Helmet use has been shown to reduce risk of head injury and is associated with a lower risk of serious traumatic event.^{40,41} Overall, 29% of cyclists were observed wearing helmets, falling within the wide range of helmet use rates documented in some other North American locations.^{39,42-46} We observed differences in helmet use by race/ethnicity for all cyclists riding in the study sites, as well as those surveyed. The low rates of

helmet usage, especially among non-White cyclists warrants further research into barriers, as well as targeted interventions to increase helmet use. Overall, 89% of cyclists were observed riding in the bicycle lane. Differences in riding in the bicycle lane were observed by race/ethnicity. Finally, although all street segments and bicycle lanes included in the study were limited to 1-way travel, 18% of cyclists were observed traveling against the direction of traffic (rates ranged from 8–25% by site) and differences were observed by race ethnicity.

Personal safety is frequently cited as a barrier to cycling and other forms of active transportation.⁴⁷ Reynolds' review⁴⁸ suggests that evidence is accumulating that purpose-built bicycle-specific infrastructure reduce crashes and injuries among cyclists. Jacobsen⁴⁹ has shown a "safety in numbers" effect for cyclists and pedestrians, which results from changes in motor vehicle driver behavior. Bike lanes have been found to have a traffic calming effect, lowering motor vehicle speeds and increasing driver attention. NYC DOT calculates crashes on streets with bicycle lanes as being approximately 40% less deadly as crashes on other streets and from 2000–2009, while the miles of bike lanes and the number of commuter cyclists have increased, the risk of a serious injury has declined by 75%.^{50,51} However, as Pucher's recent Large North American Cities review shows, although there have been improvements in infrastructure, cyclist safety in NYC still lags behind other large cities.⁵² In particular, other reports have discussed that NYC bike lanes are often blocked by motor vehicles.^{25,53} In our study, the bike lane was blocked by at least 1 parked or idling motor vehicle for approximately 6 minutes per hour. Almost 1 in 5 cyclists encountered an obstruction in the bike lane (motor vehicle, object, pedestrian, etc.). This presents a safety hazard since blocking the bicycle lane leads to less predictable cycling behavior, with cyclists swerving toward the center of the roadway to pass. In addition, our study found 10% of motor vehicles driving in the bicycle lane both at intersections and along the study streets. These rates show that motor vehicles blocking and driving in the bike lanes are common in Central Brooklyn and may both decrease safety and discourage residents from cycling on the streets.

Limitations and Strengths

The study methods have several limitations. Since drivers and cyclists were only observed at certain times of day during the summer and at 4 sites in Central Brooklyn selected because of a history of crashes, their behaviors may not apply to other time periods or sites. In addition, since cyclists were surveyed only on streets with bicycle lanes and the participation rate was 42%, responses may not be representative of all people who bicycle in North and Central Brooklyn. Analysis of motorist and cyclist behaviors was limited to specific, easily coded behaviors. We did not analyze motorist speed or motorist and cyclist inattention or traffic light behavior. The

observational analysis was limited since it was based on the perceived race/ethnicity of the cyclists; however, this limitation does not apply to the intercept survey results since self-report race/ethnicity was used. And finally, due to limited resources, our field observations were not able to include walkers.

This study has many strengths due to the methodologies used. Expanding on methodology used elsewhere,^{54,55} our study used multiple video cameras to capture transportation behavior along a city block. Having multiple cameras provided the opportunity to examine the characteristics and behaviors at the intersection and along the study street of both the cyclist and the motorist. Reviewing the digital recording on computer monitors, research assistants were able to pause and slow down the images during coding, which may lead to more accurate classification. Reviewing both cyclist and motorist behavior provided a more complete understanding of how the street and bicycle lane are used. Finally, another unique strength of this study was that both observational and self-report data were used. Using these methods together, we were able to examine the representativeness of the self-report data as well as better characterize the cyclists observed.

Summary

Neighborhood health disparities are well-documented; low-income communities face poor health outcomes. These communities often face isolation resulting from “transportation deserts” contributing to further health and economic disparities. Increasing active transportation can provide benefits on both individual and population levels, and these benefits may be even greater in low-income communities.^{56,57} More than in the past, the public health community is recognizing the importance of transportation planning and policy that promote modes of active transportation.^{21,58–62} This study demonstrated that in a low-income, urban community of color, cycling is common and bicycle lanes are used and valued by residents who are cyclists. Most cyclists reported meeting physical activity recommendations through cycling alone, and although many cyclists were overweight, the prevalence of overweight in cyclists was lower and they also reported better overall health than the neighborhood population. This study also documents cyclist and motorist behavior, which could be targeted to further improve street safety. Government interagency collaboration can enhance efforts to increase active and safe transportation. More emphasis should be placed on including and engaging low-income communities in transportation planning and active transportation promotion.^{63,64}

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