WALKING WHILE BLACK:
RACIAL BIAS AT THE CROSSWALK

A NITC research project explores social identity-related factors that influence drivers' behaviors in interactions with pedestrians at crosswalks.

The Issue

This project, led by Kimberly Kahn of Portland State University, explores social identity factors (race and gender) that influence drivers' behavior in interactions with pedestrians at crosswalks. One dangerous potential point of conflict for pedestrians within the transportation system is interactions with drivers at crosswalks. In 2010, there was one crash-related pedestrian death every two hours and an injury every eight minutes, and racial minorities are disproportionately represented in these pedestrian fatalities. In light of this disparity, this project examines whether racial discrimination occurs at crosswalks, which may lead to disparate crossing experiences and disproportionate safety outcomes.

In an earlier NITC study, Kahn looked at the crossing experiences of black men and white men, recording whether or not the first car to see them stopped for them, and how long it took before a car did stop. In addition to replicating that study, this time the research team—which included Jean McMahon and Tara Goddard of Portland State University, and Arlie Adkins of the University of Arizona—looked at both pedestrian race and gender. They also examined different types of crosswalks. To better understand the perspective of racial minority pedestrians, the team also conducted three focus groups to learn about African Americans' experiences as pedestrians at crosswalks in Portland, Oregon.

The Research

At the intersection of Southeast 14th and Belmont streets in Portland, the city installed signage and crosswalk markings during the course of the study.

NATIONAL INSTITUTE for TRANSPORTATION and COMMUNITIES

Web: http://nitc.trec.pdx.edu

THE ISSUE

People of color are disproportionately represented in traffic fatalities. One dangerous point is interactions with drivers at crosswalks

THE RESEARCH

Researchers conducted:

- Three focus groups to better understand black people's experiences as pedestrians;
- A controlled field study recording how drivers interacted with pedestrians.

IMPLICATIONS

Based on these results, researchers came up with a set of recommendations for crosswalk design and enforcement to increase drivers' compliance with crosswalk laws.

Photo: Pedestrians in a crosswalk

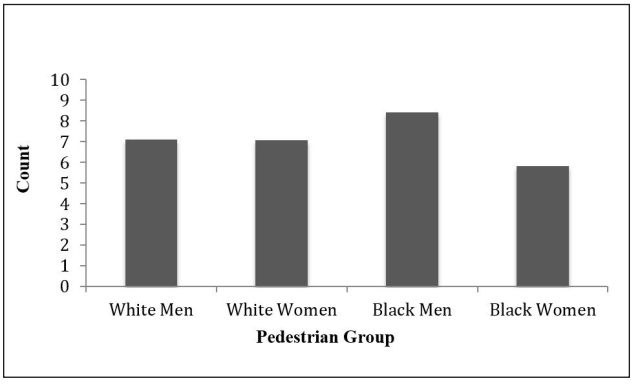
The research team took advantage of that fact to look at the before-and-after effects of having an unmarked versus a marked crosswalk. When the crosswalk was unmarked, even though Oregon law says that every intersection is a crosswalk, the team found that drivers rarely stopped for any of the pedestrians—only in about 18 percent of the trials did a car stop at all, and the first car stopped less than 3 percent of the time.

It was in the newly marked crosswalk that things changed. The additional markings brought more compliance. Now the cars were stopping more often for pedestrians, but they were stopping differentially based on the pedestrian's race and gender. There were also disparities in the number of cars that passed before one stopped. More cars passed by black men in particular.

In addition to counting how many cars passed before a stop, the researchers also recorded exactly where the cars stopped. They used the stop bar, about ten feet in front of the intersection, as a reference point. Cars are supposed to stop before they reach the stop bar so they give the pedestrian plenty of space to cross. In particular for black men and black women, the cars, on average, stopped much closer to them than to white pedestrians. With a black pedestrian, cars were more likely to stop after the stop bar, infringing on the pedestrian's crossing space. With white pedestrians, the cars were leaving more of a buffer for the pedestrian to safely cross.

Implications

The findings contain potential implications for safety design. Reducing the amount of perceived discretion in stopping behavior can help to reduce this potential bias. Installing signals like rectangular rapid flash beacons could aid by making drivers feel more compelled to stop for everyone, thereby reducing the effects of racial and gender biases on decisions to yield. The differences in stopping behavior may reflect implicit biases that are impacting drivers' decision making. The African American participants of the focus groups provided rich information about their experiences walking around Portland, and specifically interacting with drivers when trying to cross the street. The results were consistent with the field experiment, with themes of stress caused by perceived racially biased interactions with drivers as pedestrians. A positive takeaway from the focus groups was that, despite the many negative interactions that they had experienced, participants still rated Portland as generally a good place to walk compared with other cities. Portland's overall investment in pedestrian infrastructure and cultivating a pedestrian-friendly environment is noticed and appreciated by the focus group participants. The challenge is to make pedestrian experiences equally accessible and safe to all.



Cars passing without yielding

This graphs shows the average number of cars that passed without yielding to the pedestrian during Phase 1 (unmarked crosswalk) out of 60 total trials in which a car did stop for the pedestrian.

PROJECT INFORMATION

TITLE: Racial Bias in Drivers' Yielding Behavior at Crosswalks: Understanding the Effect

LEAD INVESTIGATOR:
Kimberly Kahn, Ph.D.,
Portland State University

PROJECT NUMBER:
2017-869

CONTACT:
TREC, 503-725-8545
asktrec@pdx.edu

MORE INFORMATION
http://nitc.trec.pdx.edu/research/project/869