

UTC Project Information	
Project Title	An Examination of the Impact of Increasing Commercial Parking Utilization on Cyclist Safety in Urban Environments
University	Oregon State University
Principal Investigator	David Hurwitz
PI Contact Information	david.hurwitz@oregonstate.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	University of Washington PacTrans \$180,000 Oregon State University \$30,000 Washington State Department of Transportation \$150,000
Total Project Cost	\$360,000
Agency ID or Contract Number	DTRT13-G-UTC40
Start and End Dates	September 16, 2015– September 15, 2016
Brief Description of Research Project	There is little research on the behavioral interaction between bicycle lanes and commercial vehicle loading zones (CVLZ) in the United States. These interactions are important to understand, to preempt increasing conflicts between truckers and bicyclists. In this study, a bicycling simulator experiment examined bicycle and truck interactions. The experiment was successfully completed by 48 participants. The bicycling simulator collected data regarding a participant's velocity and lateral position. Three independent variables reflecting common engineering approaches were included in this experiment: pavement marking (L1: white lane markings with no supplemental pavement color, termed white lane markings, L2: white lane markings with solid green pavement applied on the conflict area, termed solid green, and L3: white lane markings with dashed green pavement applied on the conflict area, termed dashed green), signage (L1: No sign and L2: a truck warning sign), and truck maneuver (L1: no truck in CVLZ, L2: truck parked in CVLZ, and L3: truck pulling out of CVLZ).

Describe Implementation of Research Outcomes (or why not implemented)

Place Any Photos Here

The results showed that truck presence does have an effect on bicyclist's performance, and this effect varies based on the engineering and design treatments employed. Of the three independent variables, truck maneuvering had the greatest impact by decreasing mean bicyclist velocity and increasing mean lateral position. It was also observed that when a truck was present in a CVLZ, bicyclists had a lower velocity and lower divergence from right-edge of bike lane on solid green pavement, and a higher divergence from the right-edge of bike lane was observed when a warning sign was present.



<p>Impacts/Benefits of Implementation (actual, or anticipated)</p>	<p>Anticipated Benefits:</p> <ul style="list-style-type: none">• Methods and justification for using bicycling simulation to evaluate alternative traffic control device configurations and bicyclist behavior.• Recommendations for the improved safety of commercial loading zones in urban environments.
<p>Web Links</p> <ul style="list-style-type: none">• Reports• Project Website	<p>Peer Reviewed Journal Article:</p> <p>https://www.sciencedirect.com/science/article/pii/S0001457519301083</p>