



## University Transportation Centers.....

### WHERE TRANSPORTATION IS MADE SAFER

At University Transportation Center's around the nation, the technology of tomorrow is making transportation safer today. The US Department of Transportation's University Transportation Center program helps fund projects that make transportation safer. In partnership with the private sector, US DOT, and municipal agencies, University Transportation Centers are developing technology, business models, and expertise in making vehicles, roads, and our transit system safer for all users. Here are some examples:

### University Transportation Center Focus Safety

### Improved Pedestrian Safety at Signalized Intersections Operating the Flashing Yellow Arrow

### Portland State University & Oregon State University

**Summary:** Flashing-yellow-arrow traffic signals offer convenience for drivers by permitting them to turn left after yielding to oncoming traffic. This convenience can come at the expense of safety, especially where the traffic mix includes pedestrians. Researchers used a driving simulator to track where study participants looked and steered a simulated vehicle at an intersection with a flashing yellow arrow. In four to seven percent of the cases when pedestrians were present, drivers didn't focus at all on pedestrians in the crosswalk. Those who did glance at

pedestrians spent less time looking as automobile traffic increased, indicating a challenge to balance multiple tasks. Drivers did pay more attention to pedestrians as the number of pedestrians increased. Due to this issue, Washington County changed the logic in its traffic controller software to reduce conflicts. Now, drivers don't get a flashing yellow arrow at the same time that pedestrians have a "walk" signal displayed. When pedestrians are present, drivers get the flashing arrow only after the pedestrians have crossed. The research conclusions confirmed the county's practice, which struck a balance between safety and efficiency. By



carefully controlling when the flashing yellow arrow is displayed, transportation engineers can foster convenient intersections that protect pedestrians.

**UTC:** National Institute for Transportation and Communities (NITC)

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**UTC Partners:** Portland State University, Oregon State University

**Public Partners:** Washington County, Oregon

**Project Purpose:** Reduce pedestrian-vehicle conflicts at signalized intersections where a flashing yellow arrow, or "permissive left turn," is in operation.

**UTC Funding / Budget:** \$125,289.00

**Partner Resources:** \$89,125.00

**About the University Transportation Center (UTC) Program:** University Transportation Centers is where innovation begins, it is where we are training a transportation workforce for the 21<sup>st</sup> century, it is where projects are designed better, constructed faster and where our transportation system is made safer. UTCs have used funding authorized by the FAST act to leverage funds from private, state, and local sources to conduct research, train the workforce of tomorrow and produce studies that make our transportation safer, more efficient, and more secure.

About RETRC -- RETRC is a legislative education corporation identified as a 501(c)(6). The purpose of RETRC is to educate, promote, and advocate for the University Transportation Centers. No Federal Funds have been used to support RETRC or its activities.

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