

# Abstract Submission Form



## 2010 ITE Western District Annual Meeting

*San Francisco, CA  
June 27-30, 2010*

Paper Title:

A Statistical Analysis of Bicycle Rider Performance: The impact of gender on riders' performance at signalized intersections

Relevant Session/Topic:

Pedestrian/Bicycle Planning and Design

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Abstract: 250 words maximum. Use 12 point Arial font, single space.

Bicycling for transportation purposes has become a popular activity across a wide range of demographic groups, ages, and fitness levels. To design safe roadways and intersections it is necessary to understand and quantify distribution of speeds, accelerations, and reaction times among the population of cyclists. This study was conducted to investigate the effect of gender on commuter cyclists' intersection crossing times. Data collection took place during peak commuting hours in winter and summer months at two intersections in Portland, Oregon, with consistent commuter bicycle traffic. Statistical analyses were performed on both the aggregated and disaggregated data samples to investigate the effects of gender and intersection grade on cyclists' crossing times. Categorical and parametric tests found statistically significant differences for male-female groups. Gender has an impact on the crossing times of cyclists traveling uphill, as indicated by the 15<sup>th</sup> percentile crossing times. In addition, the observed average speeds are significantly slower than the 12 ft/s recommended by AASHTO for basic/beginner cyclists. These findings have important implications for traffic signal design and safety since slower cyclists may require longer clearance times during signal phase changes and longer minimum green and yellow times at demand-actuated signals.

**Abstracts are due by 5:00pm on Monday, January 4, 2010.**

e-mail your abstracts to:

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