Signalized intersections are locations where various users meet within time and space and are required to share this space to effect efficient and safe movement of goods and vehicles. The operational objectives held by the managing agency of any individual intersection guide the principles of operations for that intersection: Which users are most important and hence deserve priority? Which users can wait a little bit longer than the others? In transportation engineering, there is a well-known tradeoff between Safety and Efficiency, in that the two concepts are effectively at odds with each other.

Typical user groups of signalized intersections include private autos, bicycles, pedestrians, transit, and freight. Each of these groups requires various amounts of time and space to safely pass through the intersection. Historically, service for private automobiles has been heavily favored by providing long green durations for vehicles on the main street. This is done at the expense of other users, such as those on the side streets as well as pedestrians and bicyclists. Recently, there has been a movement towards increased use of active modes of transportation, sparking interest in strategies that may not favor private automobiles as much as in days past. This presentation will discuss several strategies that focus on improving pedestrian operations at signalized intersections, including the results of a recent research project that developed and implemented a pedestrian priority algorithm in a traffic signal controller.

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