Intelligent Traffic Signal Control: Adding Pedestrians to the System

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Introduction
- Traffic controllers contain untapped resources and capabilities
- Traffic signal systems are constrained by I/O methodology
- Limited information can be communicated to the traffic controller
- Discrimination between users is limited—“one size fits all”
- Traffic signals are difficult to "tune" resulting in confusion or incorrect information

Objective
- Make it easier for new sensor and signal devices to be integrated into the traffic controller
- Breakdown the communications barrier
- Reduce cost of installation
- Make it possible to “tune” traffic controller operations
- Operate system based upon current user needs
- Provide access to intersection for broader group of users
- Reduce confusion or misinformation

Results
- LAN based on Ethernet over power line communications – 13Mbps
- Smart Signal system works with conventional TS2 controller
- Smart countdown pedestrian signal operates correctly
- Remotely operated pedestrian signal aids accessibility for blind and mobility impair users

Conclusions
- Smart signal technology can improve information integrity
- New technology can be phased in over time
- High potential for accessibility
- Results can be extrapolated to other traffic signal applications

Future work
- Testing of full scale implementation on an isolated fully actuated signalized intersection

6th and Deacon Streets