Enhanced Mobility through V2I Communication

- Smart Signal Priority
- Vehicle Route Sharing

Real-Time Incident Detection

Smart Infrastructure for Urban Mobility

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Intelligent Traffic Signals

Five surprising ways AI could be a part of our lives by 2030

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DSRC Test Bed

Safe Intersection Crossing for Pedestrians with Disabilities
Smart Intersection Crossing

Objective: A mobile app that allows pedestrians to

— interact directly with the intersection and

— actively influence traffic signals for safe and efficient crossing
The *PedPal* Mobile App

**Basic Capabilities:**

– Uses personalized crossing constraints to set crossing duration

– Monitors progress and extends green as needed

– Uses route information to anticipate arrival and streamline crossing

– Adjusts green to help make bus connections
Technical Approach

• Use DSRC technology to integrate pedestrian with a smart traffic signal system (surtrac)
  – Initial prototype couples a DSRC “sleeve” w/ iPhone

• Current prototype also provides a cellular option
Bigger Picture

• Real-time connectivity between vehicles, pedestrians, and infrastructure offers unprecedented opportunities for safer and more efficient travel

• Guaranteed latency is fundamental to safety applications, and this guarantee requires preservation of the 5.9GHz band for this purpose
  – Regardless of which “connected vehicle” technology wins out

• Uncertainty on this point is only serving to stifle innovation.