Improve Intersection Safety
Enhanced Red Light Violation Enforcement

2013 National Rural ITS Conference

St. Cloud, Minnesota
August 26, 2013

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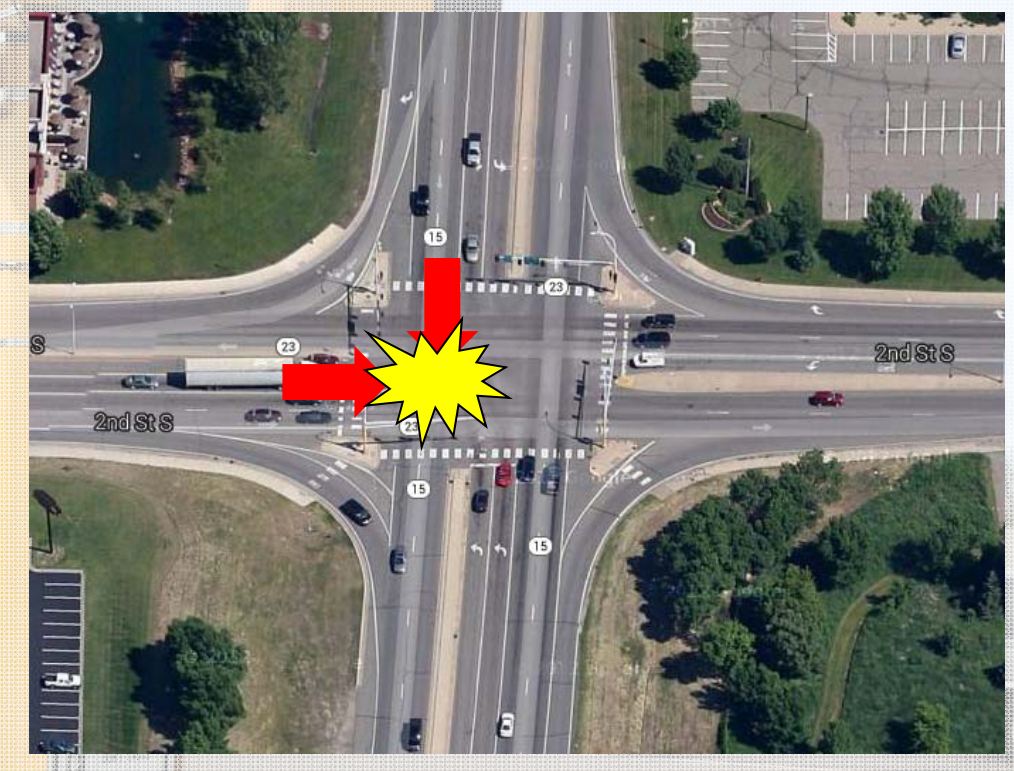
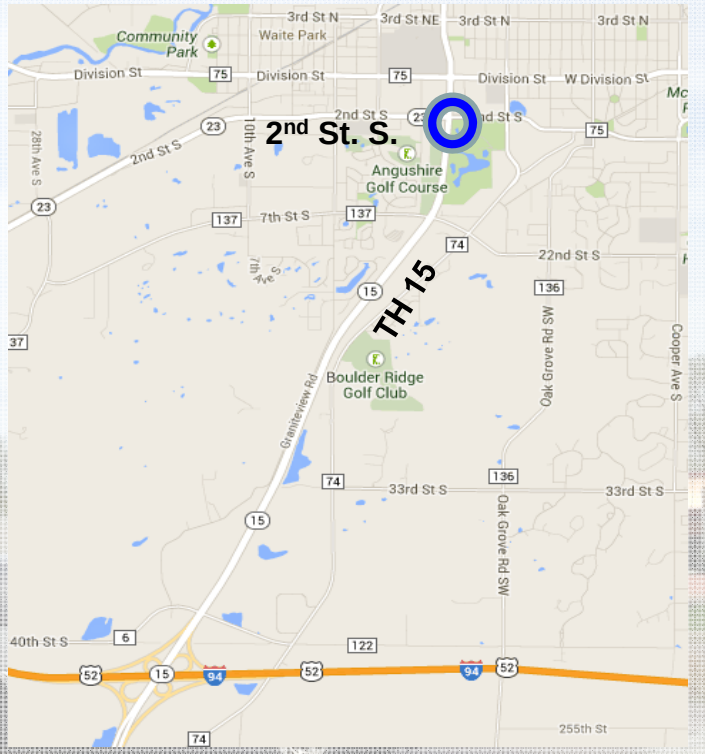
Outline

- Project Background
- System Components
- System Operations
- System Installation
- Violation Video Clip
- Applications
- Lessons Learned
- What's Next

Project Background



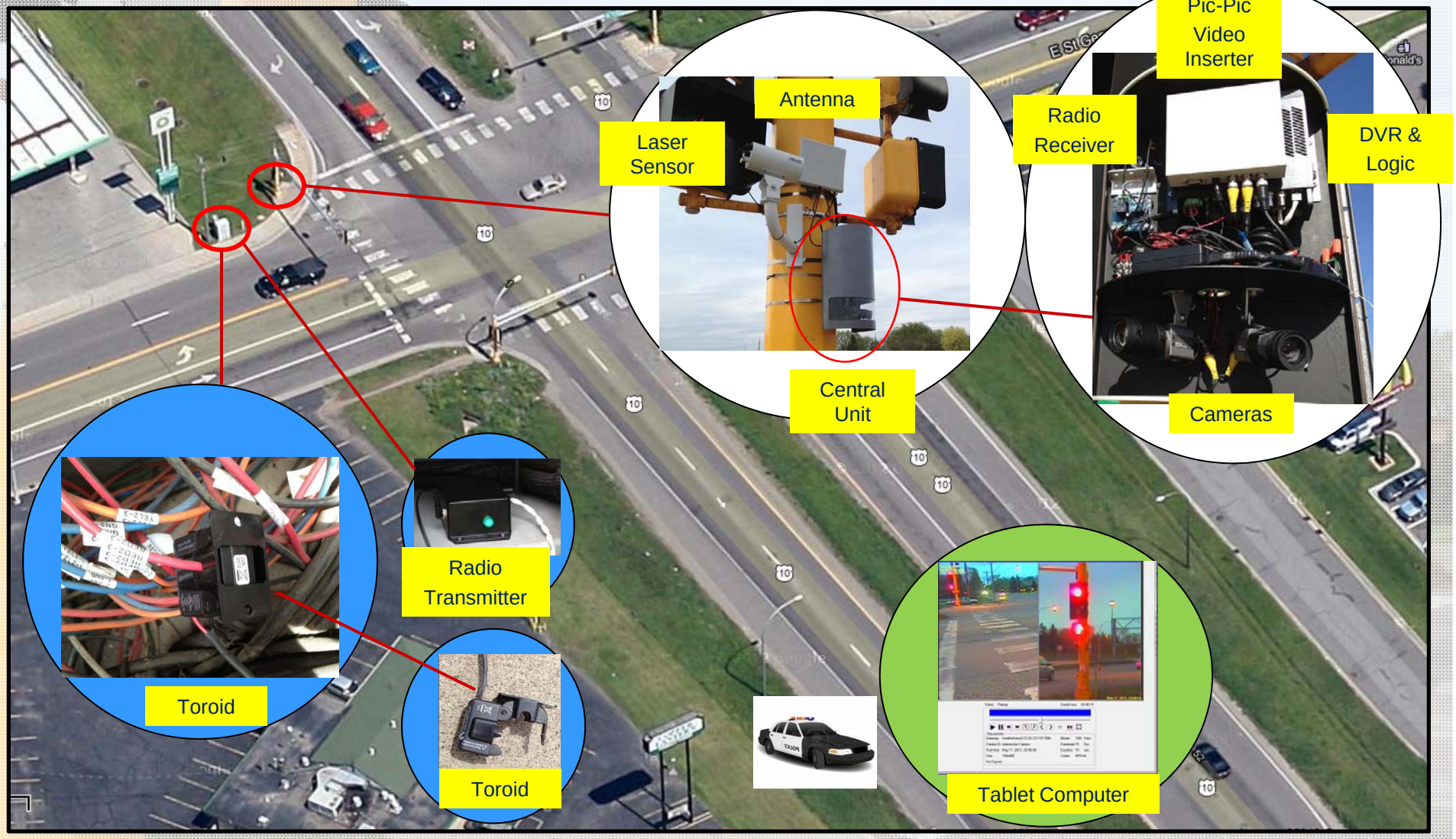


- Red Light Violations
- Court Contest
- Visual Evidence
- Right angle Collisions
- Safety Concern
- Historical Crash Data

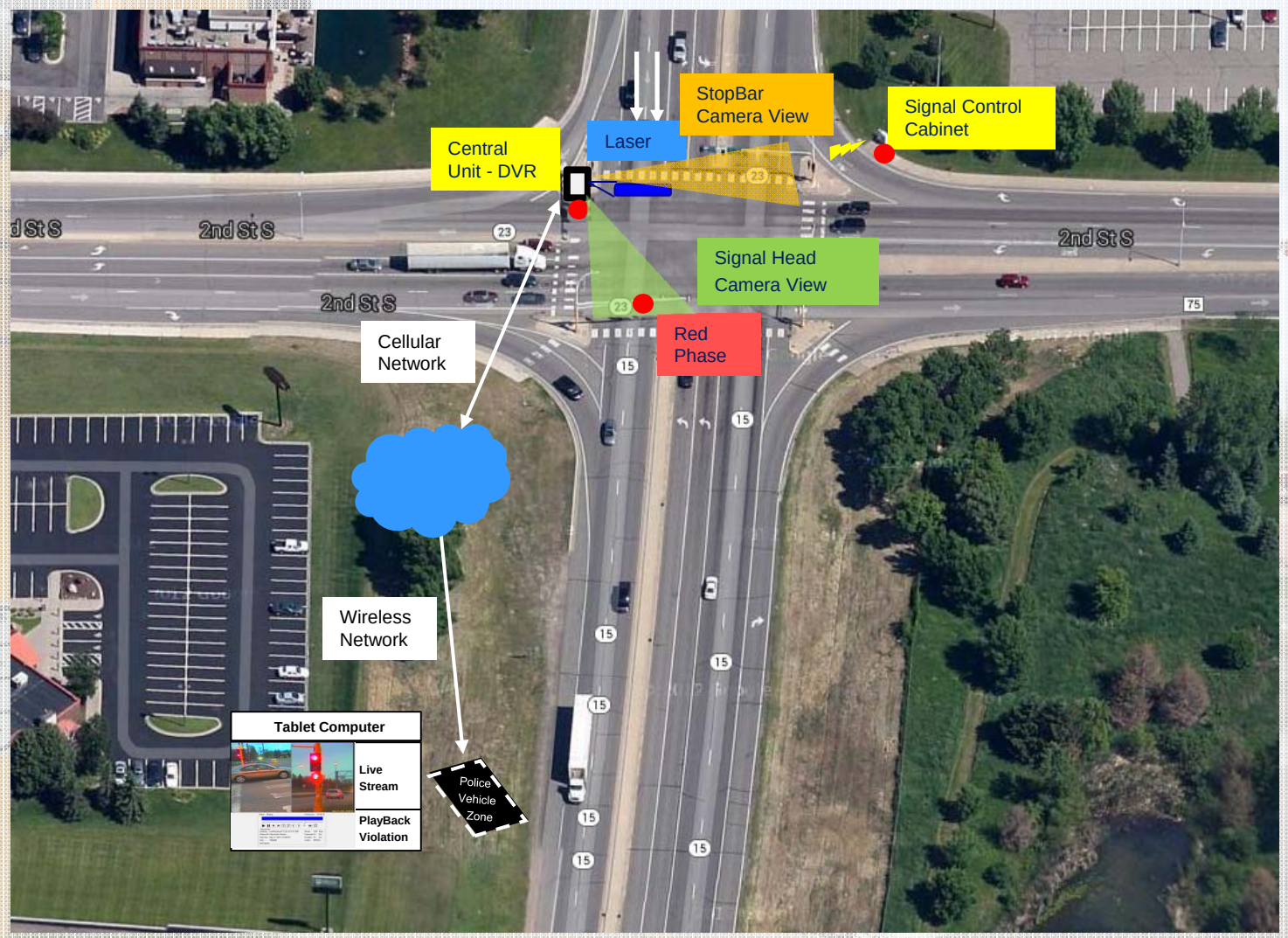
Goals

- Monitor and report real-time violations in the field
- Provide real-time visual evidence for law enforcement
- Enhance safety of law enforcement officers
- Provide surrogate crash data
- Provide flexible system installation and deployment.
- Enhance intersection safety

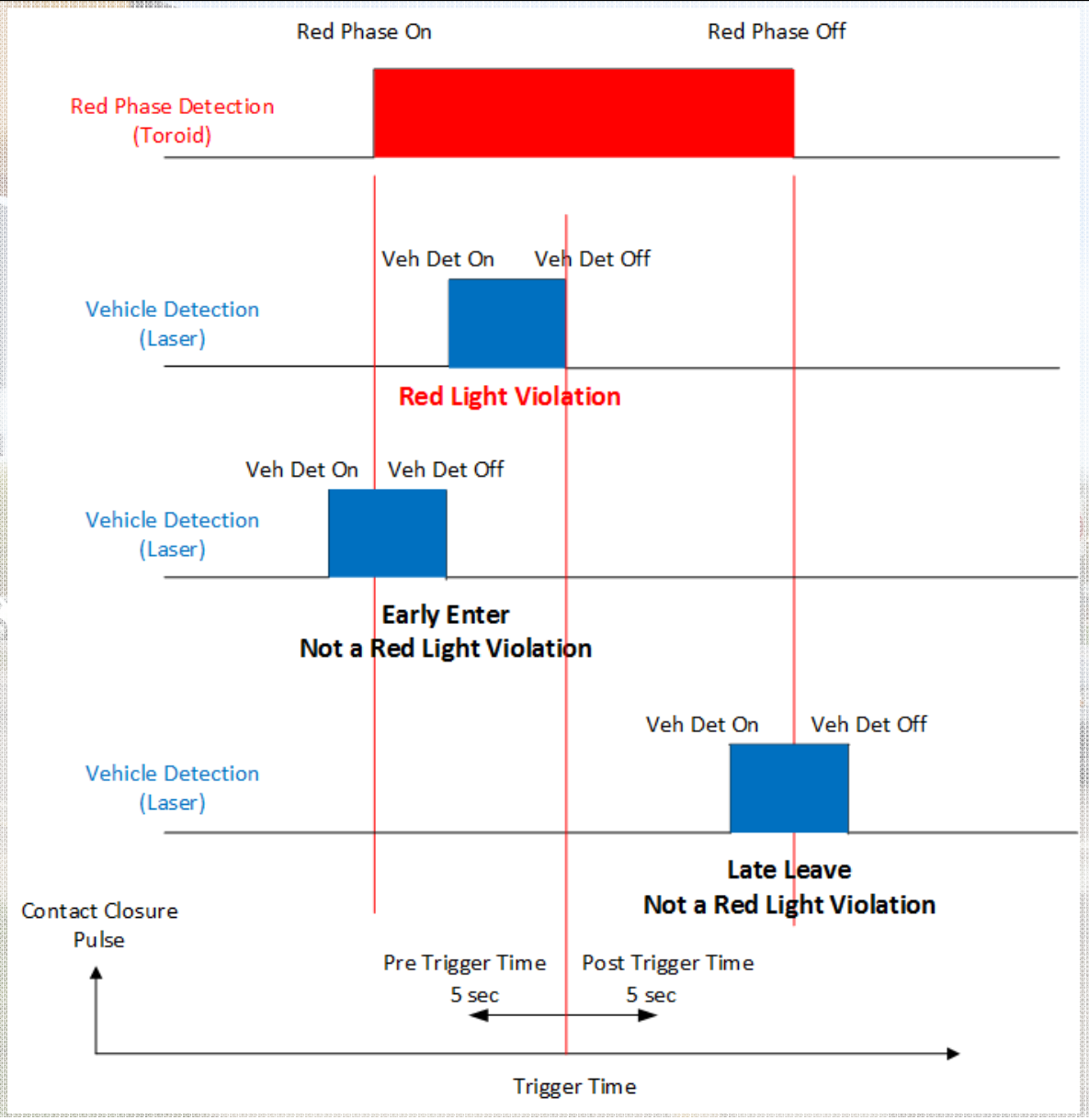
System Components



System Operations



Violation Detection and Recording Logic



System Installation

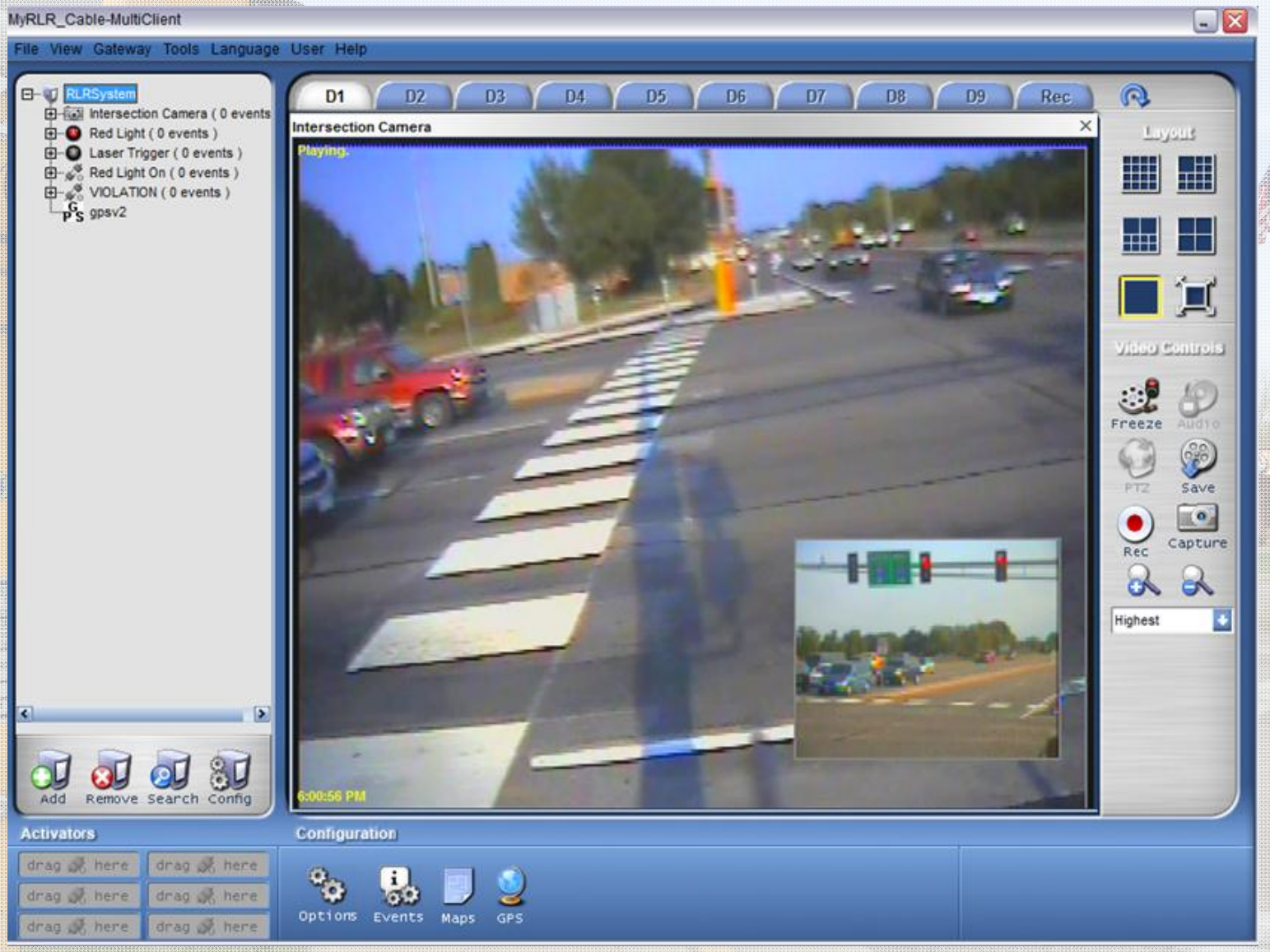
- Recommend two people for installation (2- 4 hours)
- Requires DOT staff to assist installation
  - Electrician for power connection
  - Traffic engineer to identify red phase cable
  - Bucket truck may be needed
- Simple Hand Tools Needed

System Installation

Violation Sample Video

Violation Sample Video 2

Remote Access



Applications

- Onsite Violation Monitoring at High Crash Rate Sites
- Routine Violation Performance Metrics
- Diagnosis of Problematic Locations

Week 2

Time of Day	Sun	Mon	Tue	Wed	Thur	Fri	Sat

Week 1

Time of Day	Sun	Mon	Tue	Wed	Thur	Fri	Sat
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Lessons Learned

- Protocol works effectively
- Accurate vehicle detection
- Cost-effective red phase detection
- Effective violation reporting
- Effective visual evidence and playback

Lessons Learned

- Sensor calibration procedure
- Pedestrians can cause false calls
- Some occlusions occurred

What's Next

- Minor changes to the unit closure
- Simplify the interface software
- Use Sensys Wireless Sensors to eliminate occlusions at permanent sites

- Produce a complementary red/yellow phase handheld device

- Test at Other Locations
- Potential Operational Issues
  - Institutional Agreements
  - Data ownership and usage

Contact

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Thank You!