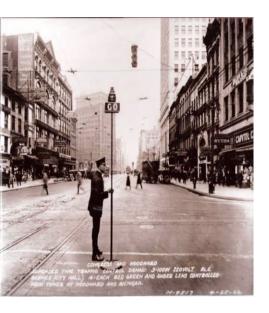






Connected Vehicles: Virtual Traffic Lights
Neha Sharma
23rd March 2018



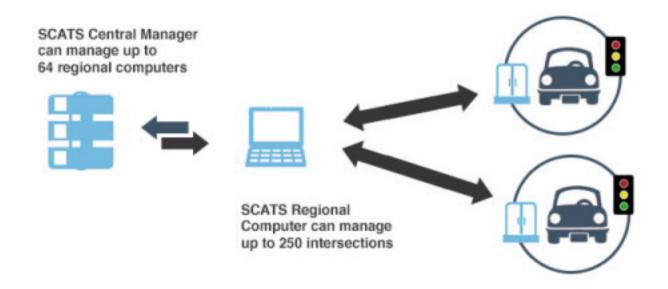


London, 1869 Cleveland, 1914 New York, 1918 Auckland, 1947





SCATS





SCOOTS

UTOPIA

MOTION

OPAC

RHODES



VIRTUAL TRAFFIC LIGHTS



Giving additional life to people!

Dr. Ozan Tonguz of Carnegie Mellon University









Connected Vehicles- V2I





Connected Vehicles – V2I

- Speed Warnings
- Incidents / Road Works Warnings
- Audi Traffic Light Assist

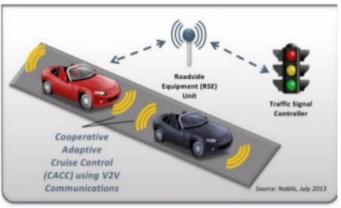






Connected Vehicles- V2I

"Killer App": Green-light optimal speed advisory



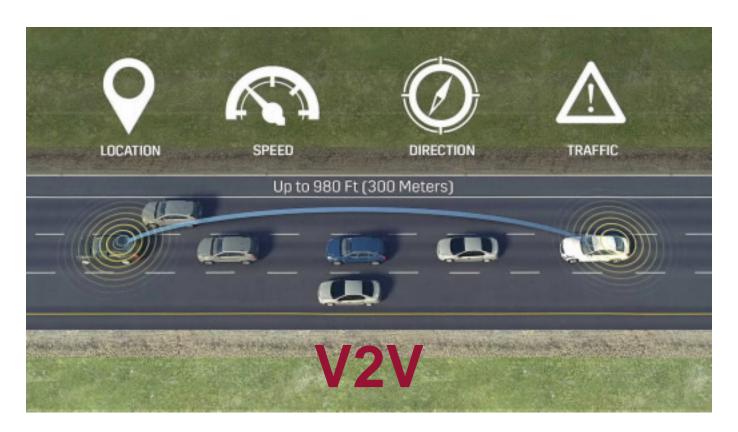
U.S. Department of Transportation

GLOSA will allow drivers to set optimal green-signal speed.

E-2011 Menter Cophics Corp. Company Confidential mention complemental and





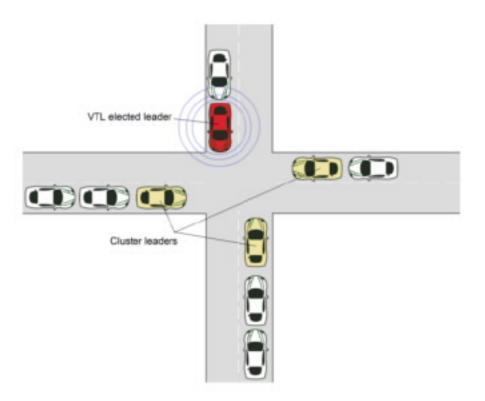






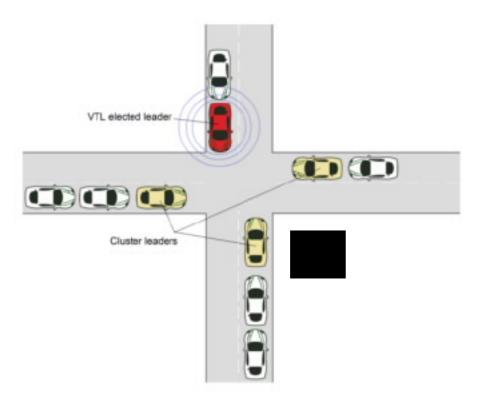


Virtual Traffic Light





Virtual Traffic Light





Virtual Traffic Lights

All vehicles must be connected with a secure, reliable wireless communication device

Same Digital Road Map

GPS device for position information (lane level accuracy)



Benefits

- Efficient use of green time
- Every conflicting node becomes signalised in presence of a connected vehicle
- Red light violation warning
- Energy efficient intersection

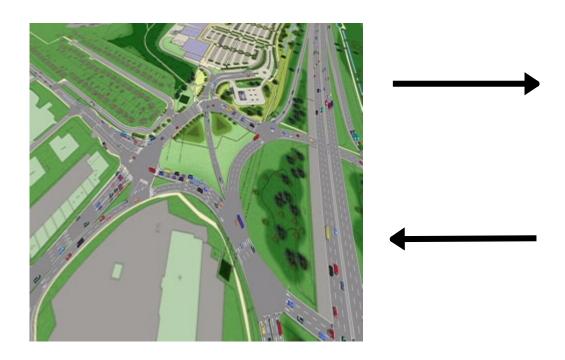


Hindrance to driving?

devices by Virtual Traffic Lights. We virtually prompt the driver with information related to traffic control and evaluate the user interface system with respect to safety and user acceptance to identify possible negative effects on the primary driving task. Results are promising since the driving performance using Virtual Traffic Lights did not significantly differ from the performance using conventional devices.



We can model them!



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And we are modelling them!





Local Published Literature

- Virtual Traffic Lights + : A Robust, Practical and Functionally Safe Intelligent Transportation System
 - Transport Research Board
 - Functional Safety of VTL algorithms



VTL

 The proprietary technology (U.S. Patent pending) developed by VTL is proven to increase the traffic flows in urban areas by 60% during rush hours which seems pretty significant and revolutionary.



Pedestrians and Cyclists





Thank you!

