

# VII Open Platform Framework



- ▶ **Mike Schagrin**  
VII Program Manager

ITS World Congress

Session AM46

November 20, 2008



# Discussion Topics

- Influencing Factors
- Open Platform Concept
- Benefits of Moving in this Direction
- Role of DSRC
- Moving forward

# Influencing Factors

- Technology Trends

- Proliferation of consumer electronic devices
- Ubiquity of commercially-available, nationwide wireless coverage
- Emergence of new communications & sensing technologies
- Vehicle connectivity going mainstream

- Goal Oriented Focus

- Safety focus provides strong business case for government investment

- Re-examination of Deployment Assumptions

- Need and value of new dedicated, nationwide, networked infrastructure?
- Simultaneous installations of vehicle & infrastructure products?
- A single communications technology for all applications?

Graphics box:

Technology trend timeline

Something safety oriented

Big question mark /magnifying glass (or something similar) for 3<sup>rd</sup> item

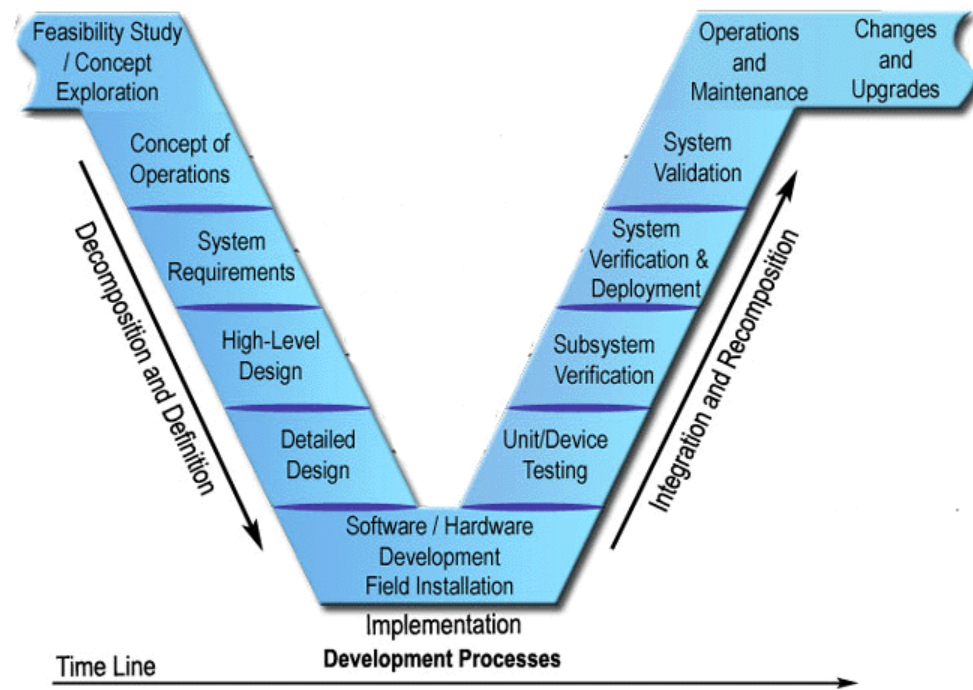
# Open Platform Concept

- Stable platform of open standards that support interoperability and private sector innovation
  - Technology evolution/flexibility
  - Industry engagement and investment is key
- Allows for a wider array of technologies for providing VII services
  - Faster implementation of new capabilities
  - Improvements/customizing initial capabilities
  - Developers can offer niche applications that the original supplier does not
- Notable examples are the Internet, PC/Linux, and Microsoft Windows

Graphics box  
for DSRC,  
Wifi/WiMax,  
3g cellular,  
IPv6, Mobile  
ad hoc and  
peer to peer  
networking

# Systems Engineering Process is Critical

- Still a notional concept
- Socializing with stakeholders on what it means
- Plans to develop a Concept of Operations and use the Systems Engineering process to fully and rigorously develop the concept

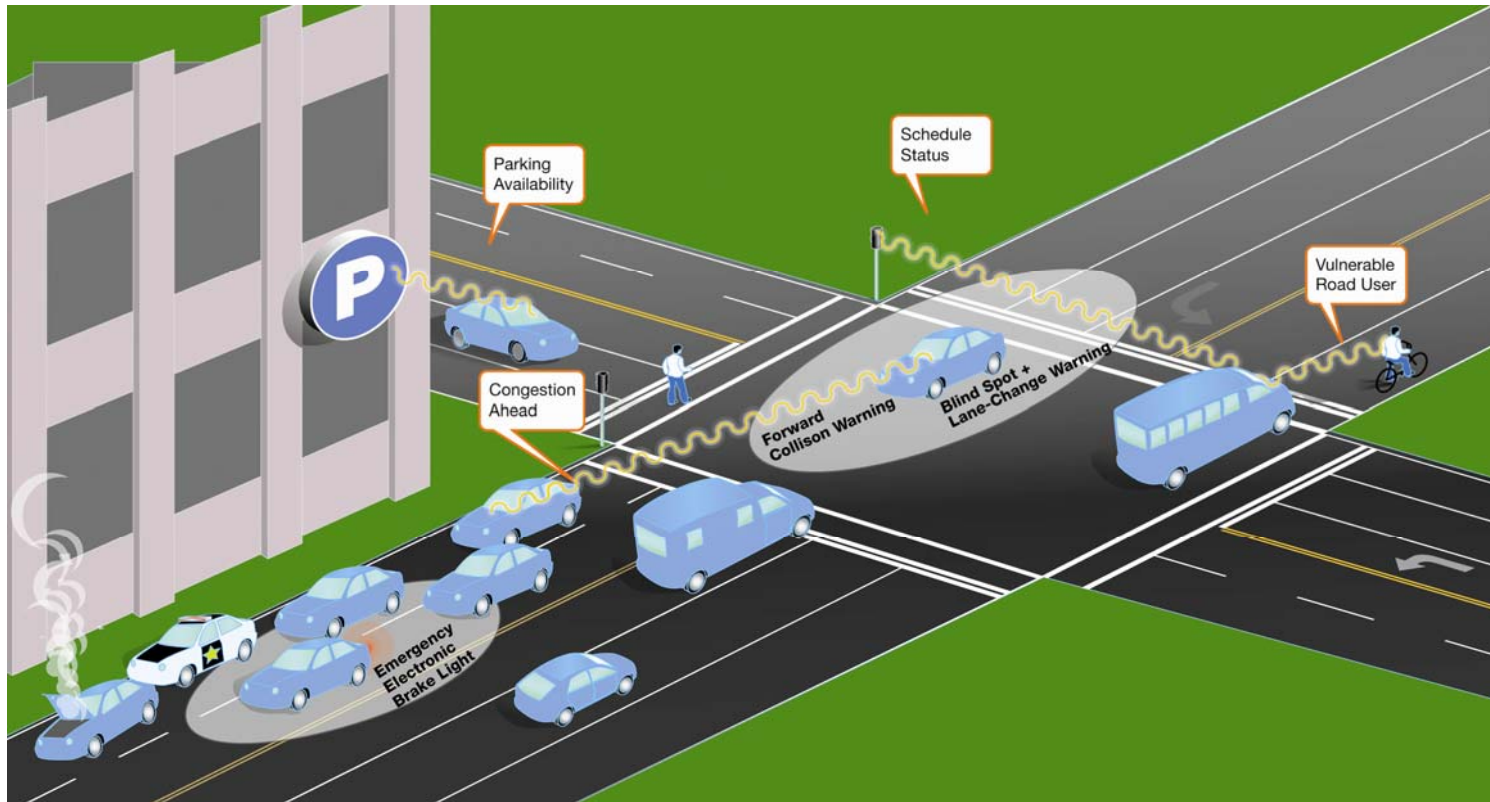


# Open Platform Framework for VII Provides an Enabling Environment

- Supporting environment for:
  - vehicle to vehicle
  - vehicles and infrastructure (publicly or commercially deployed)
  - vehicles and consumer electronic devices
- ...to enable numerous safety, mobility, and commercial applications.

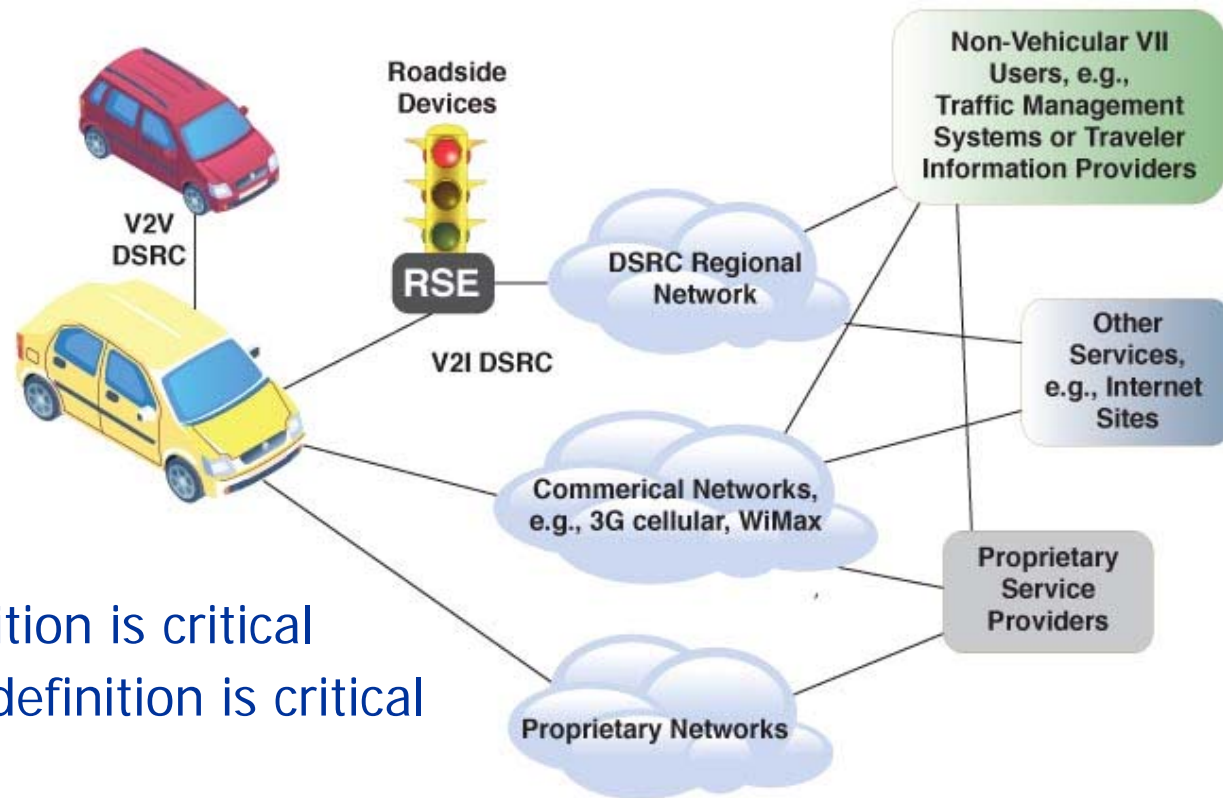


# 360 Degree Situational Awareness



“The primary aim...will be to enable drivers and vehicles to have 360 degree situational awareness of the roadway and safety hazards around them – giving drivers more reaction time and vehicles the ability to lessen the impact in eminent crash situations.” – ITS JPO

# VII as a federated “system of systems”

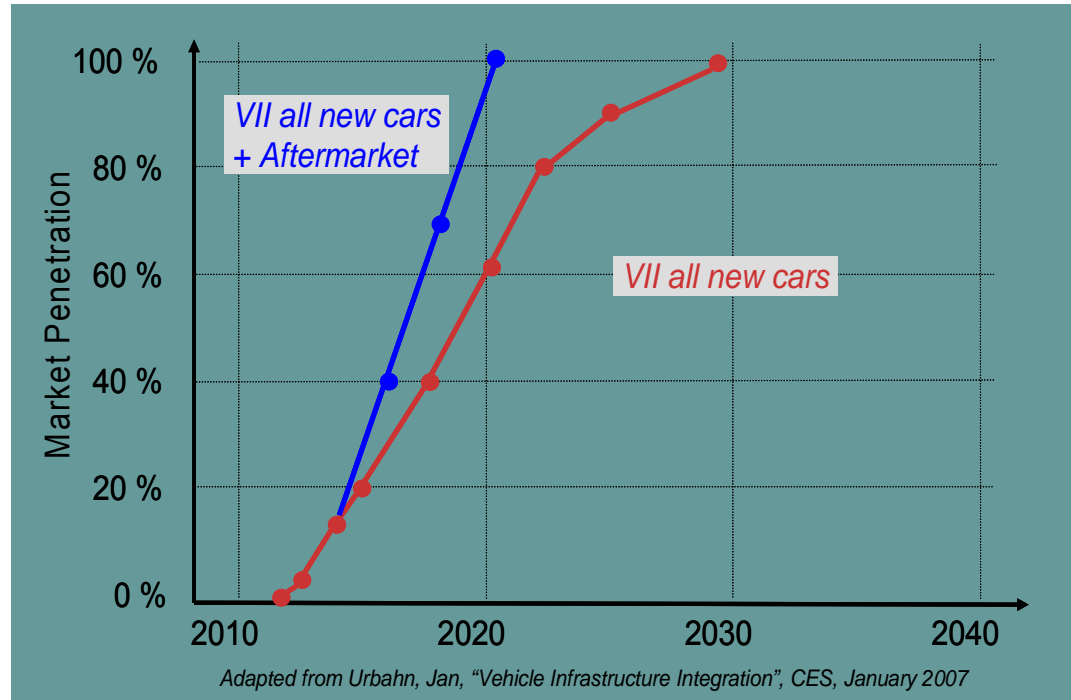


- Interface definition is critical
- Requirements definition is critical

➤ Safety is our ultimate concern

# Provides for Very Significant Benefits

- Accelerated deployment:
  - Deliver VII benefits faster, less expensively
- More rapid innovation:
  - “Open architectures drive integration; integration drives innovation and growth”
    - SEMA-CEA Automotive Electronics Connectivity Committee
- Reduced barriers to entry:
  - Accommodates other industries, technologies, and investment support



**An Open Platform for VII Stimulates Growth and Opportunities**

# DSRC is a critical element of the overall technology mix and is strongly supported by USDOT

- A key technology for supporting safety of life applications
  - Proven by the recent real world testing
- USDOT continues to invest in standards development
- Meets/exceeds current safety performance requirements
- The 5.9 Gigahertz (GHz) band will be allocated in early 2009 by national authorities across Europe



# What's Changed

- Perceived need for a new dedicated, nationwide, networked infrastructure and a centralized operations function
- Locking into a single technology for all applications
- Reducing barriers to entry for innovative ideas
- Lacking an agreed to industry vision and deployment strategy
- Sense of stability

# Moving Forward

- Mature Open Platform Concept
  - Develop Concept of Operations
  - Revisit the VII Architecture & Requirements
  - SafeTrip-21 results will provide better understanding of the opportunities and limitations surrounding an open platform concept
- Conduct technology scan and assessment
- Establish real world, open platform test beds
  - Evaluate and demonstrate applications
  - Validate/refine requirements and interfaces
- Finalize research and standards needed to enable DSRC production in vehicle fleets and aftermarket devices

