Project: IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs)

Submission Title: Road Signage Display for Driving Assistive CamCom System

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Re:

Abstract: This documents introduce the Vehicle to Infrastructure Signage-CamCom Concept models for Vehicular Assistant Technology (VAT). This proposed VAT using Image Sensor Communication to operate on the application services like ITS, ADAS, IoT/IoL, LED IT, Digital Signage with Advertisement Information etc.

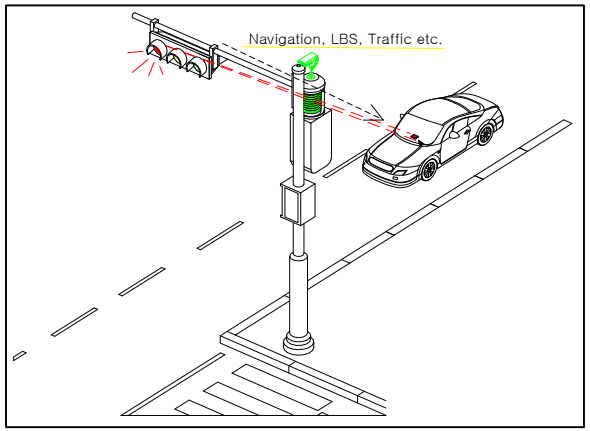
Purpose: To Provided Concept models of Vehicle CamCom for Vehicular Assistant Technology (VAT) Interest Group

Contents

- Introduction of Vehicle to Infrastructure(V2I) CamCom Technology
- Roadway Signage-CamCom Link Concept Model
- Conclusion

Introduction of V2I CamCom Technology

- V2I CamCom Technology Intelligent Roadway Environment
- Integrated With
  - LED Light Communication Technology
  - Connectivity to Network Infrastructure
  - Connectivity to ITS
- Infrastructure Components Includes
  - Traffic Light, Sign Boards, Digital Signage, etc.
- Advantages
  - Improve safety
  - Reduce vehicle wear,
  - Reduce transportation times, and
  - Reduce fuel consumption.




Information Management


Traveler Information

Crash Prevention and Safety

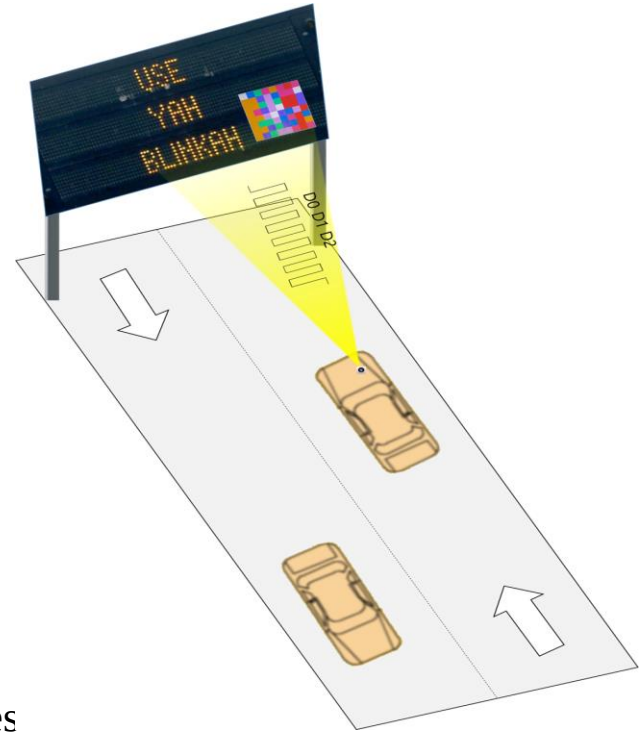
Emergency management


Road Weather Management

Road Weather Management

Roadway Signage-CamCom Link Concept Model

V2I Signage Display – CamCom Link



- Advantages
  - Provides required driving informations like traffic condition, time to travel, etc.
  - Real-time Information Sharing
  - Guides to easy ITS Integration and Connectivity

- V2I Signage-CamCom Link between Roadway Signage Display and Vehicle Front View Camera
  - Rear signage display used for Advertisement, Information about following area, Environmental Condition and etc. display as well as display based CamCom Tx
  - Signage uses Visible or Invisible mode of data transmission
  - Following Vehicle Front view camera work as Rx
  - Signage Tx Transmits
    - Speed Limit, Location to Travel, and Environmental Condition Informations
    - Location Informations
    - Real-Time Traffic Informations
    - Digital Advertisement
  - Provide driving assistance information to the ensure roadway safety and time to travel based on Traffic
  - Provides Static Network Connectivity Infrastructure

Conclusion

- Proposed the V2I Signage-CamCom Link Technology Use Case Model
- Provides Driver Assistive Driving Information use of display to CamCom Technology for travelling assistance
- Easy Integration support with ITS using Static Infrastructure Technology