AVI (AUTOMATIC VEHICLE DETECTION) FROM THE GROUND UP
AVI: (AUTOMATIC VEHICLE IDENTIFICATION)

- History of AVI
- 911 uses
- How TSP / LRT works
- AVI Solutions / Advantages
- AVI Users
- AVI Conclusion

HISTORY OF AVI

- Detector Systems
  - IDC → Quixote → PEEK
- Developed for Priority service
- Initial users
  - Clark County & City of LA Rapid Bus Transit
- Reno A&E AVI Solution
  - AVI-A was first released product to work with existing Detector Systems equipment
  - AVI-B was released to fix noise issues that were found in Detector Systems equipment
AVI

911 POST 9/11

- Security – How to keep the bad guys out and let the good guys in?
- Tracking – Who is using the system?
- Hacking – Can your system be hacked?
AVI

GATE ACCESS FOR 911

- Simple – Automatic and reliable
- Installation at Gates – Uses the existing inductive loop infrastructure for gates
- Installation on vehicles – Installation is simple and hidden

AVI

COMPONENTS

- Detector – Rack mount or shelf mount
  - Traffic Signals or Gate operators
- Transponder – Under vehicle, two sizes
AVI

HOW IT WORKS

• Transponder (Emitter) – transmits a low frequency digitally encoded signal – over 19,600 codes available
  • Powered by vehicle’s electrical system – switched or non-switched
  • Couples to the loop when over the loop
• Detector – Loop detector
  • Decodes signal once coupled
  • Verifies unit is valid
  • Sends signal to Operator or Traffic Signal

DIFFERENT APPLICATIONS
AVI APPLICATIONS

HANDS FREE ACCESS TO GATES, DOORS & BARRIERS

- Shuttle Buses
- Campus Security
- Emergency Vehicles
- Airport Security
- School Bus Loading zones
- Forklift Only Doors
- Fleet Vehicles
- Private Vehicle Entry
- Transit Bus Preemption

AVI - TSP

- How TSP / LRT works
- Advantages for Transit
- Advantages over other Technologies
  - Optical – Security / Cost
  - GPS based – Cost / Ease of installation and maintenance
AVI – TSP BASIC OPERATION

- Equipment on vehicle
- Equipment in Cabinet
- Controller Software w/ LRT/TSP programming

AVI – QUEUE JUMPING

QUEUE JUMPING
AVI - ADVANTAGES

- General Advantages to LRT / TSP
  - Easy to install
  - Uses existing infrastructure
- Optical
  - Costly
  - Easy to Hack
- GPS
  - Very Costly
  - Additional Equipment needed
  - High maintenance and complicated

AVI - CURRENT USER BASE

- City of Los Angeles (1000+)
- City of Salt Lake (LRT)
- Avis, National, Budget Rental Car Agencies
- The Parking Spot
- Clark County, NV – Emergency Services
- University of Maryland Virginia
- Others
  - Orange Co. Airport
  - Private
  - NY Port Authority
AVI - CONCLUSION

- Long Proven History
- Simple Technology
- Cost Effective
- Ease of use and installation