

The Bus as a Data Node

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Think Differently

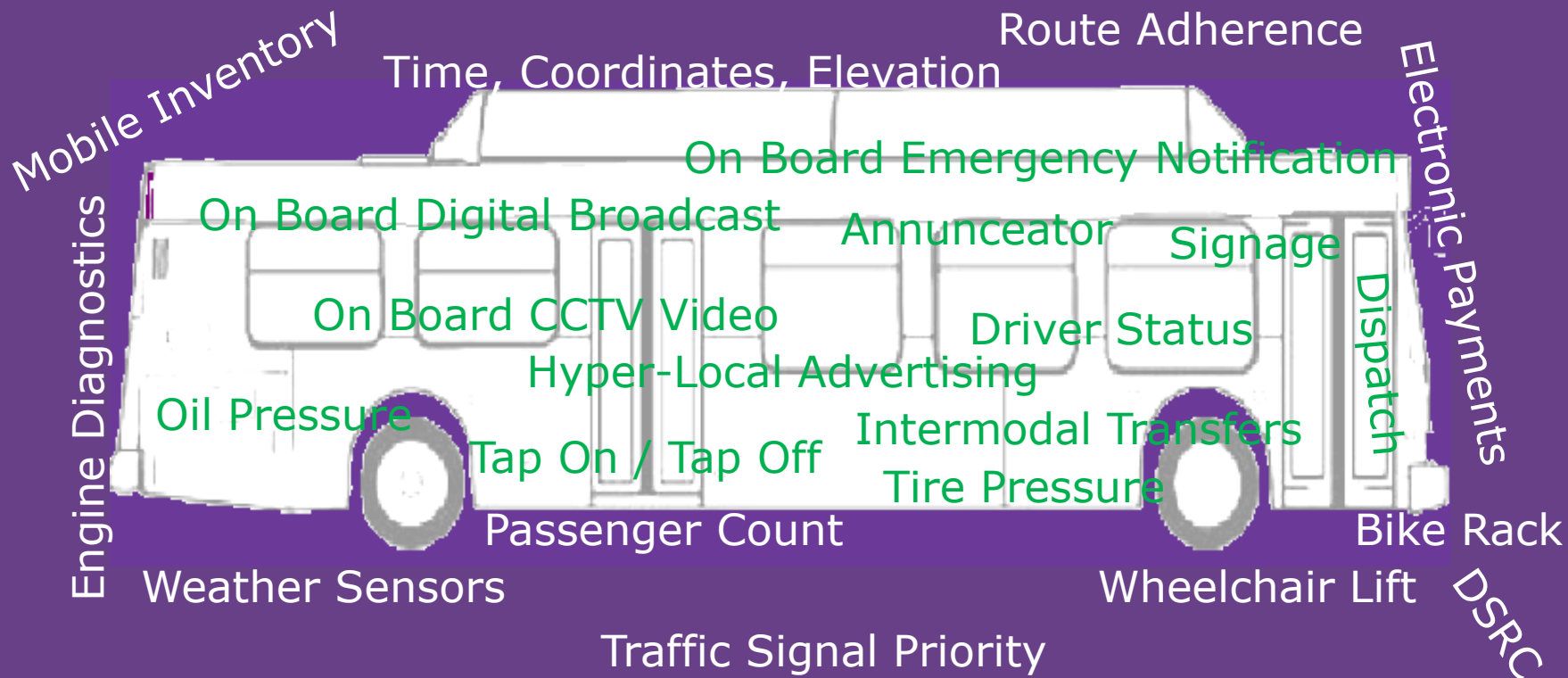
- Transit = Data

The engines and wheels make the bus go around, data makes transit go around

- Think of the bus as a data node on a network.
- How will you use the data to transform the way that you do business?
- How do you ensure reliable, secure infrastructure that will meet future demands?



Bus Data



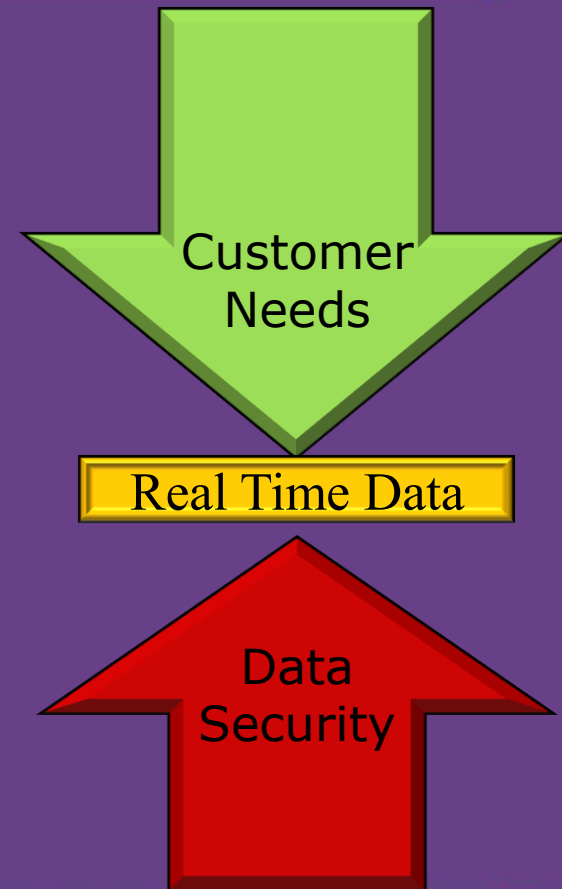
The Changing Nature of Transit Data

- On-vehicle systems continue to grow in number, scope
- Integrated systems provide better situational awareness
 - Incremental moves from isolated systems to some integration toward complete integration
 - *Eliminate IT vs. ITS compartmentalization in the Transit Authority by distilling both short term and long term needs into "business data" needs*



Data Security Juxtaposition

- Transit needs and customer expectations will require greater reliance on real time communications
- Data will need to become more secure, yet made available to the public



Mobile Security Trends Impacting Transit

- Mobile Wallet
 - PCI-DSS & NFC Security
- Secure Video/Data sharing with First Responders
 - Secure video to any wireless device anywhere
- DSRC will need to be secure to prevent from spoofing, hacking and jamming



Social / Technology Trends

- Cloud Computing
 - Sensitive passenger information (ala HIPPA)
- Mobile / Smart Device Management
 - BYOD requires new ways to think of governance, authentication, configuration, protection
 - Public access to information via data “safe zones”
- Mega Cities - Regional Transportation Control Centers
 - Single regional traffic command and control centers for multi-city corridors

Wireless Network Trends

- Video will drive LTE adaption
- LTE will likely be Public/Private
 - Automatic hand-off between networks
 - Public LTE for non-mission critical data
 - Private LTE for secure, mission critical data
 - Private LTE better suited to emergency situations
 - Will include VoIP PTT and video sharing with First Responders
- Foreseeable future – continue hybrid model
 - wired last mile, 4GLTE, wireless 802.11xx

Take Away

- Think of the bus as a data node
 - Integration, integration, integration
 - Break down IT vs. ITS silo's
 - More focus on secure data, cloud and mobile devices (PCI, DSRC, Video)
 - Consider secure private 4G/LTE networks for mission critical data
 - Plan for redundancy for emergencies
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