OCIO Office of the DOT Chief Information Officer

Walking in the CIO's Shoes

Tim Schmidt, Acting CIO

January 11, 2013

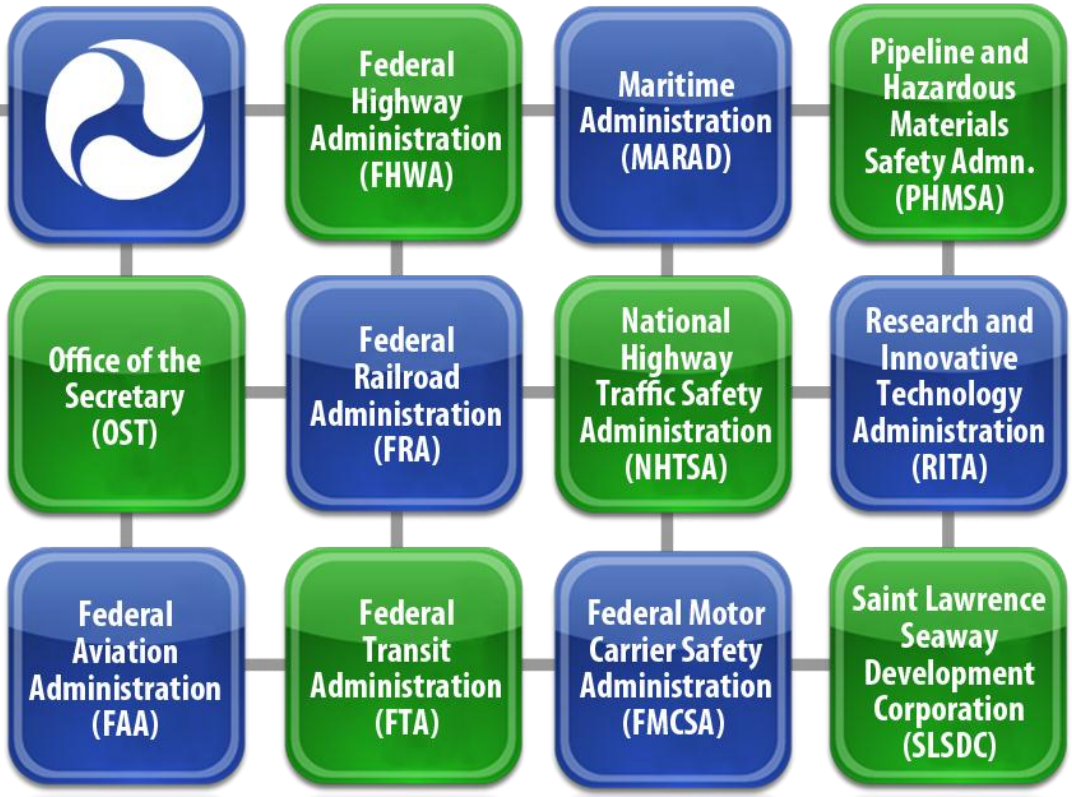
One DOT

$70 billion budget

56,700 employees

Focus

- » Safety
- » Livable Communities
- » State of Good Repair
- » Economic Competitiveness
- » Environmental Sustainability
- » Organizational Excellence



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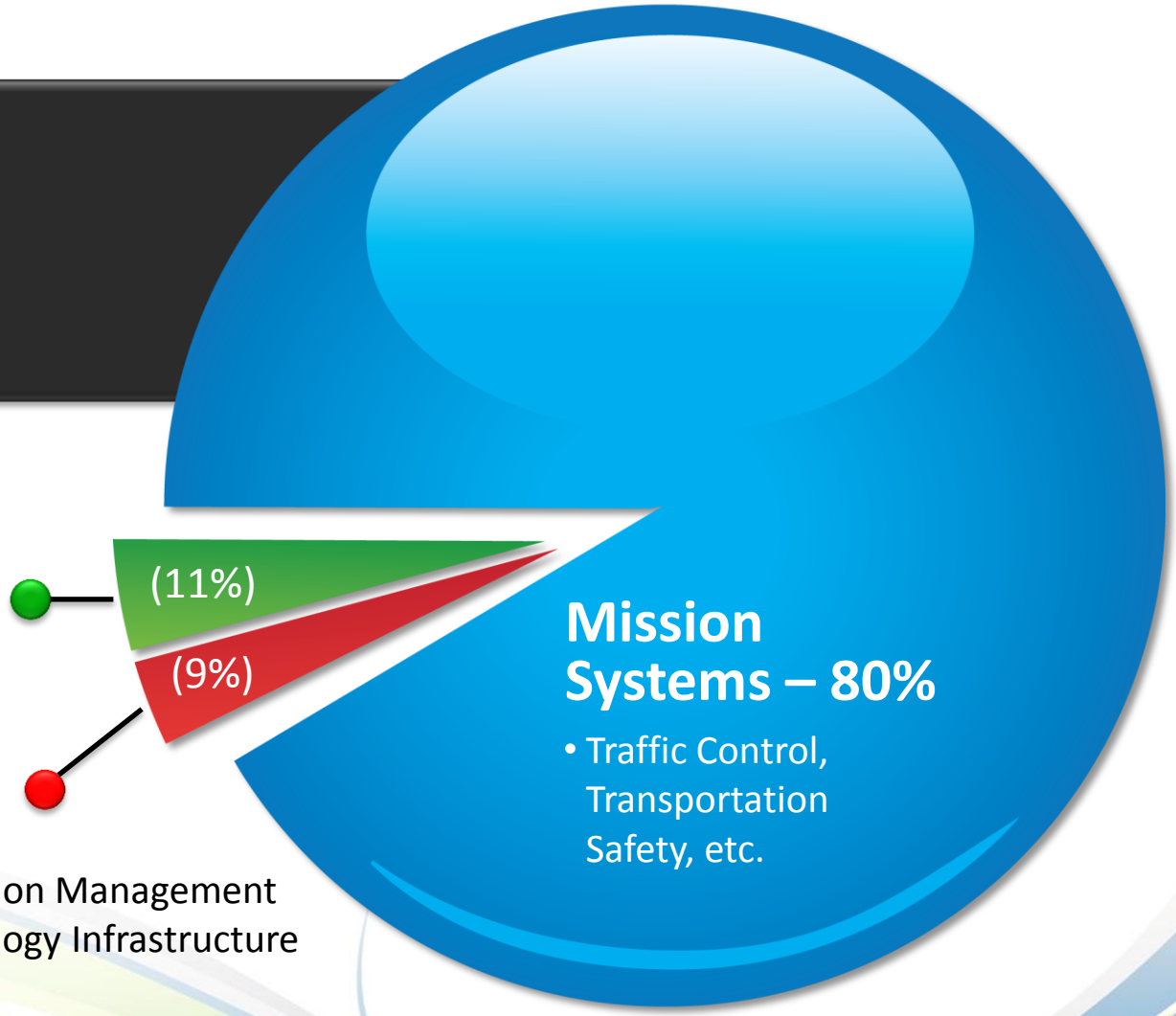
DOT IT Portfolio Mix

- $3B+ IT Portfolio
- 6th largest in the Federal Government



Business Support Systems

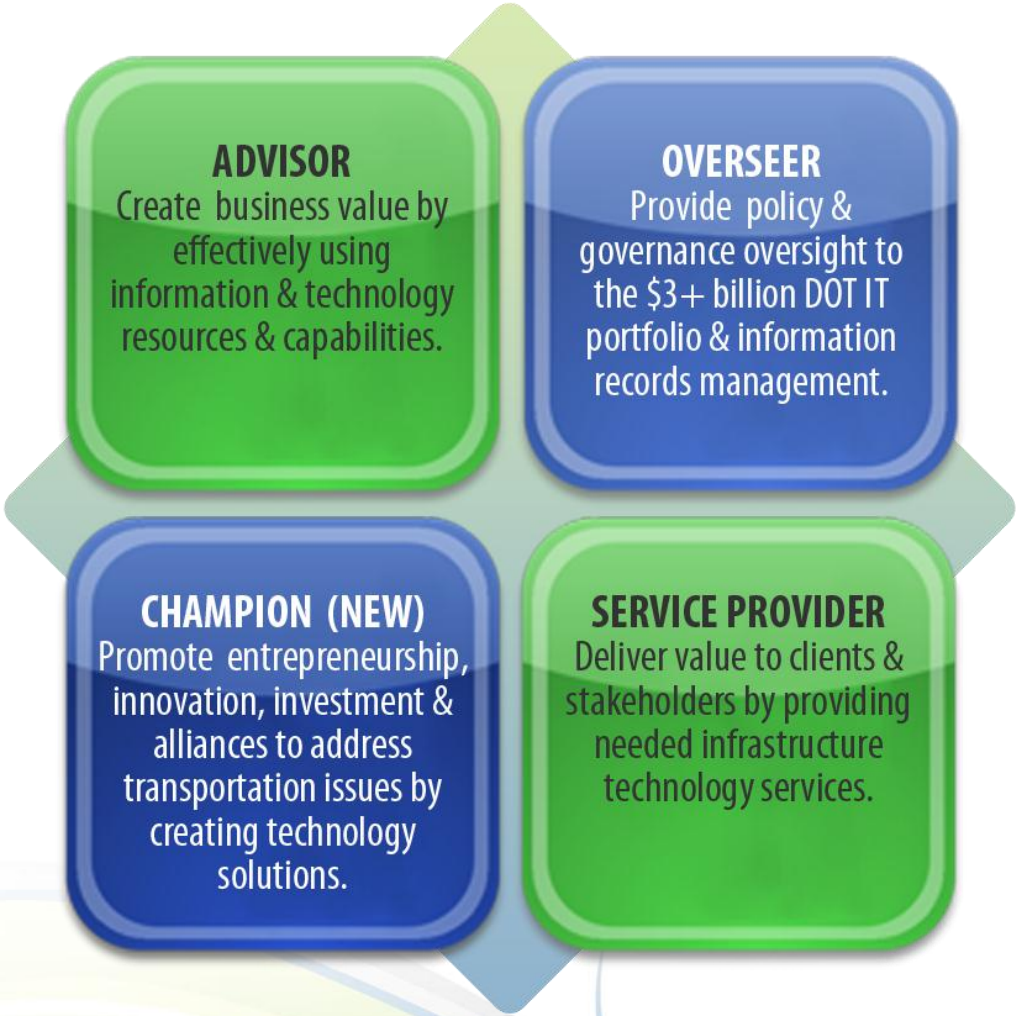
• Financial Management, Grants, Procurement, etc.

Infrastructure

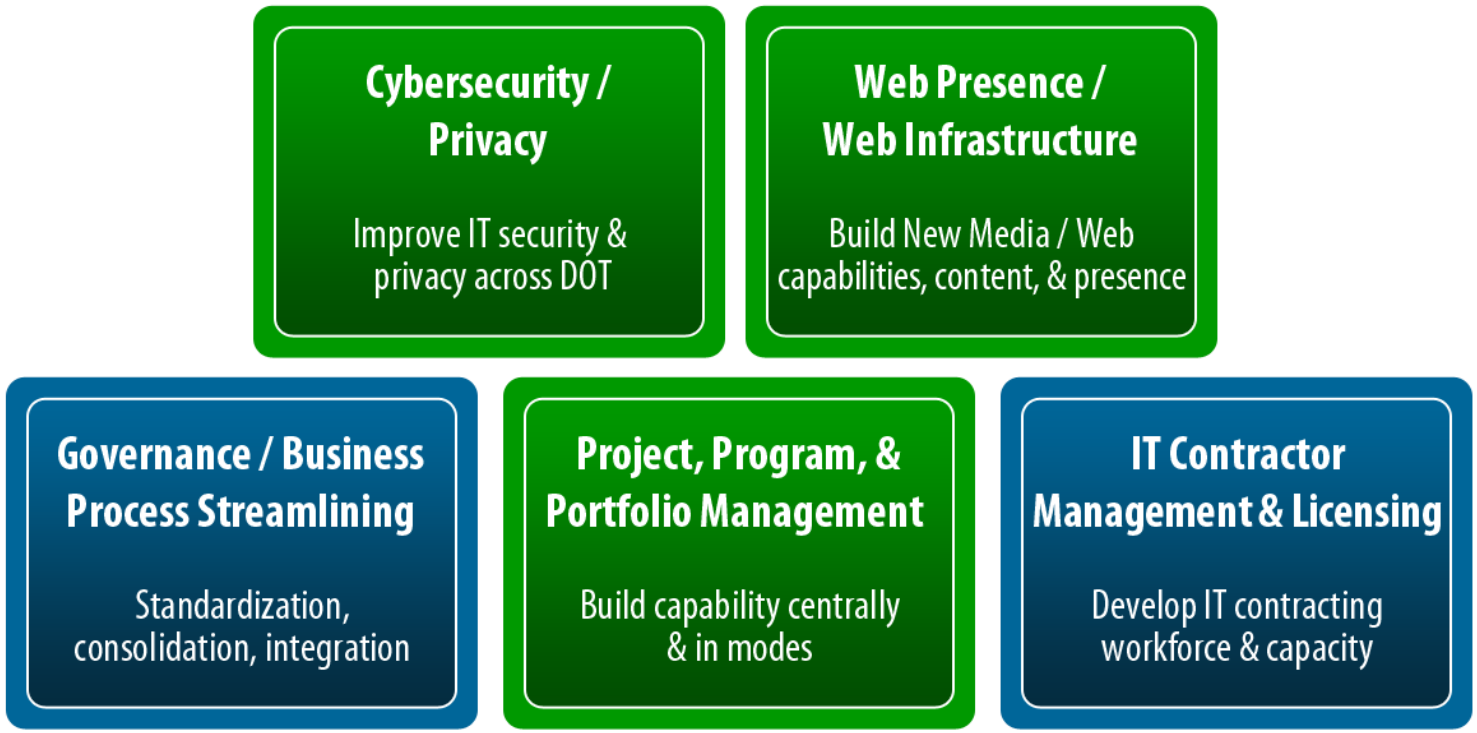
• Enterprise Information Management
• Information Technology Infrastructure

Source: BY14 Exhibit 53

DOT CIO's Role



DOT Leadership / OMB Priorities



Drivers for the Future

OMB Goals

- **Cybersecurity**
  - Continuous Monitoring
  - PIV
  - Strong Authentication
  - TIC
- **Efficient Spending**
- **Enterprise Architecture**
- **Reducing Duplication**
- **IPv6**
- **IT Reform**
  - Cloud First
  - Digital Government Strategy
  - IT Work Force
  - Mobility
- **Open Government**
- **Shared Services**
- **Web**
  - .GOV Reform
- **"X" Stat**

DOT IT Strategic Objectives

Business Enablers

- **Business Intelligence**
- **Data Fusion**
- **Enterprise Governance**
- **IT Resiliency**
- **System Optimization**
- **Transparency**
- **Ubiquity**
- **Workforce Rationalization**

Support Services

- **Collaboration**
- **Communications**
- **Customer Service**
- **Cyber Security**
- **Extreme Development**
- **Performance Enhancements**
- **Program Analysis**

DOT IT Focus Areas

- Agile & Modular Development
- Business Persona-Based Device Support
- Data-Driven Mission Assurance
- Data Management
- Enterprising Messaging
- Enterprise Collaboration and Web Platforms (internal and external)
- Telephony/Data Communications
- Mobility
- Portfolio Optimization
- Risk Management
- Virtualization

OMB Strategic Goals

Cybersecurity

- Risk management is the new norm
- Focus on data authentication & identity protection

Efficient Spending

- Prepare for budget cuts of approximately 10% per year
- Portfolio Optimization

Enterprise Architecture

- Introduce more scope and content to accommodate evolving EA
- Leverage roadmaps
- Shift to OMB EA Assessment Framework 3.1

Reducing Duplication

- Consolidate data centers
- Resilient, secure data accessible from anywhere at any time

IPv6

- Transition from IPv4 to IPv6

OMB Strategic Goals (continued)

IT Reform

- Effective reforms based on *25-Point Plan to Reform Federal IT*
- Examples: Transition to the Cloud, sponsor and embrace the next generation IT Workforce

Open Government

- Develop an Open Government plan & update it every two years

Shared Services

- Institute a "shared first" culture initially focusing on commodity IT
- Complete migration of two shared services by Dec. 2012

Customer Service & Web Reform

- Reform DOT ".gov" websites to provide a better customer experience
- Improve services to all stakeholders

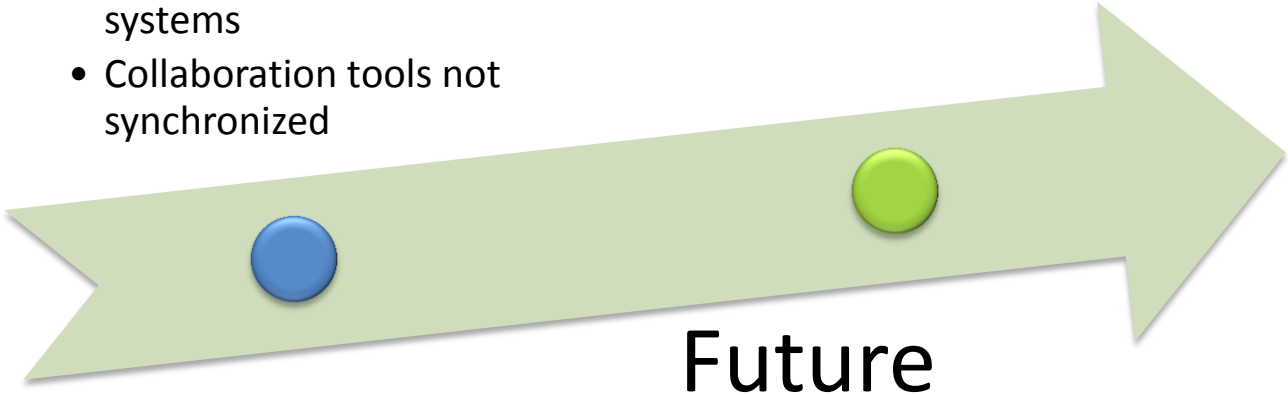
"X" Stats

- Create a culture of accountability and efficiency via frequent TechStat, PortfolioStat, and CyberStat assessments

EMS (Enterprise Messaging System)

Current

- Multiple non-integrated email systems
- Disparate directory systems
- Collaboration tools not synchronized



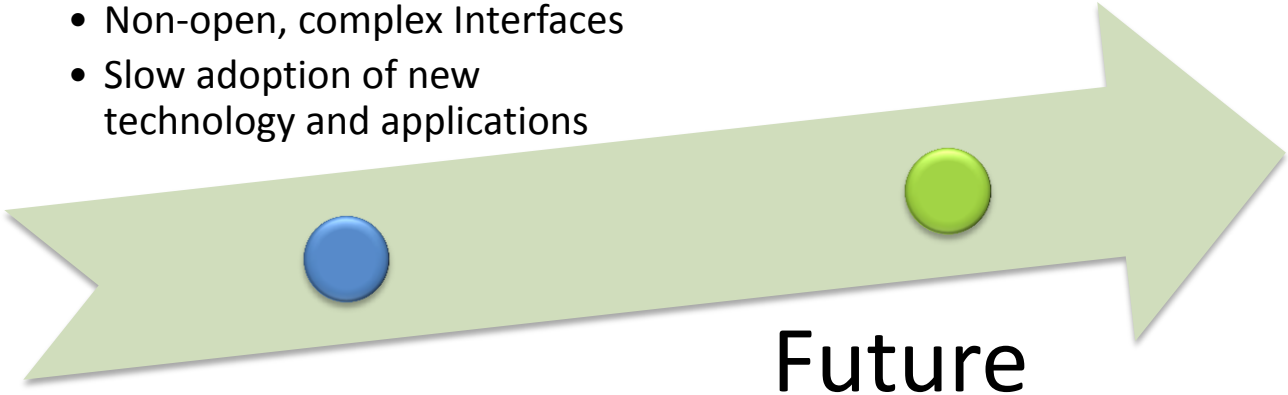
Future

- Single integrated enterprise-wide messaging system
- Leverage commercial Cloud
- Adaptable to technology innovation and growth

Supporting the Mobile Workforce

Current

- Non mobile & static deskbound devices
- One size fits all
- Non-open, complex Interfaces
- Slow adoption of new technology and applications



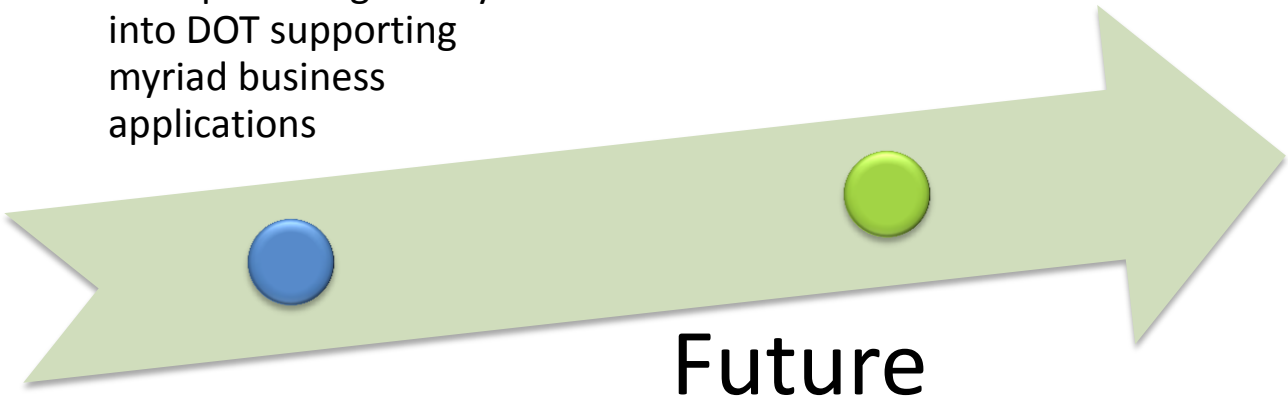
Future

- Reduced Lifecycle
- 1-2 Persona-Based Devices
- Access Anywhere
- Simple Interfaces
- BYOD Option

Business Intelligence

Current

- Multiple data gateways into DOT supporting myriad business applications



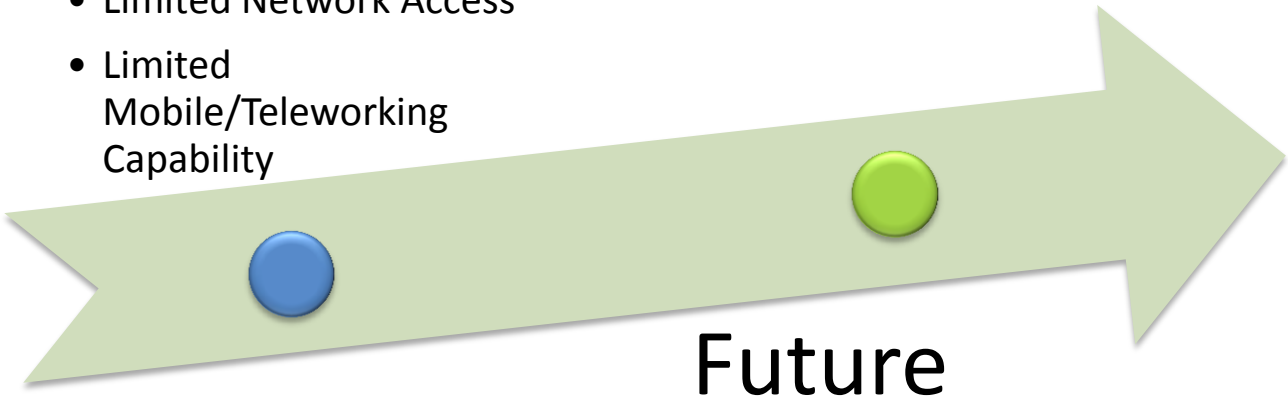
Future

- Efficient enterprise-wide licensing
- Consolidated business system entry points enabling structured planning, architectures, governance, and collaboration

Ubiquitous Systems Access

Current

- Location-Bound Systems
- Limited Network Access
- Limited Mobile/Teleworking Capability



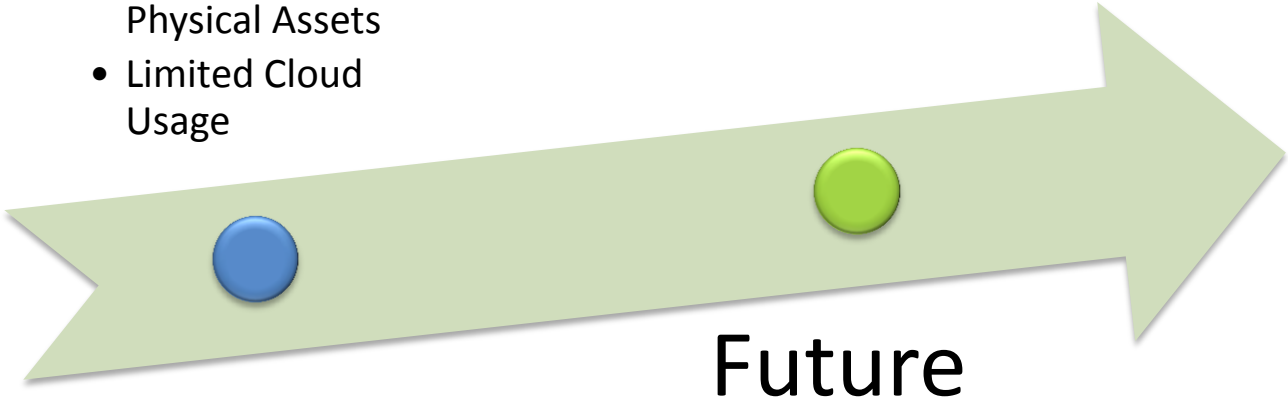
Future

- Secure Access from Anywhere
- Device-Agnostic
- Full Remote Usability

Conditioning our IT Environment for Change

Current

- Local Hardware
- Upgrade Costs of Physical Assets
- Limited Cloud Usage



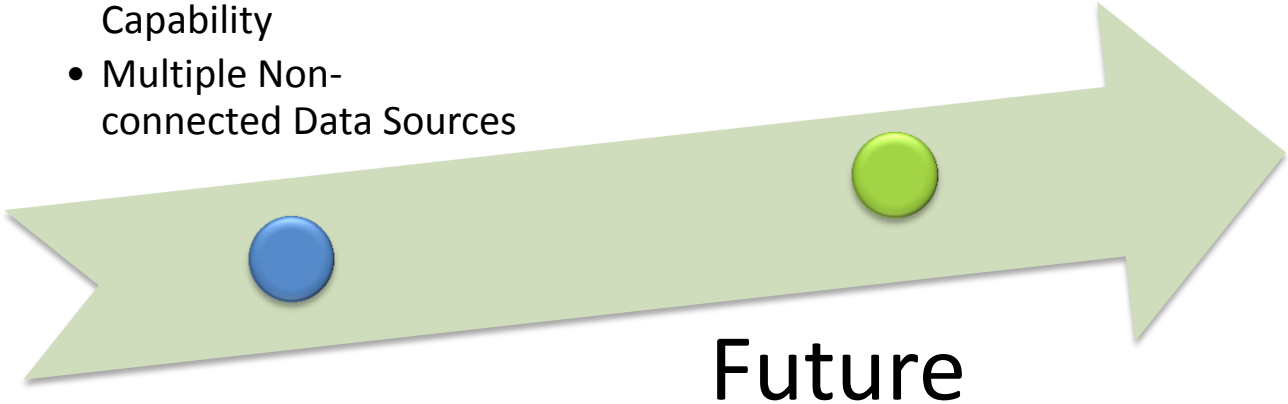
Future

- Department-wide shared use of modular components
- Ubiquitous Access
- Reduced hardware and software burden
- Everything as a service
- Large scale enterprise data center cloud designs

Fusion Data (Big Data) Supporting Business Applications

Current

- Large Volume of Existing Data
- Limited Data Analysis Capability
- Multiple Non-connected Data Sources



Future

- Easily Shared Standardized Analytics
- Search Functionality
- Crowdsourcing Search Terminology
- User-Defined Cross-Referencing Data Sets

Portfolio Optimization

Current

- Multiple Systems Serve Similar Functions
- Duplicative Costs
- Outdated Systems

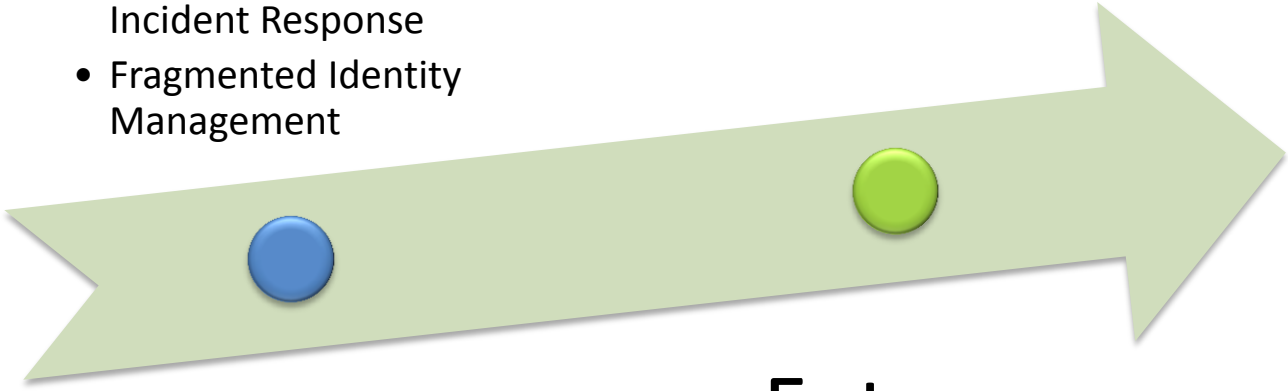
Future

- Retire Outdated Systems
- Re-Engineer Systems that Need Improvement
- Grow Successful Systems
- Consolidate platforms

Risk Management

Current

- "Compliance-Driven"
- Siloed Decision Making
- Inflexible & Reactive Incident Response
- Fragmented Identity Management



Future

- "Manage Risk"
- Agile Threat Response
- Pro-active, Adaptive Focused, Threat-Driven Response
- Role-Based Access Control

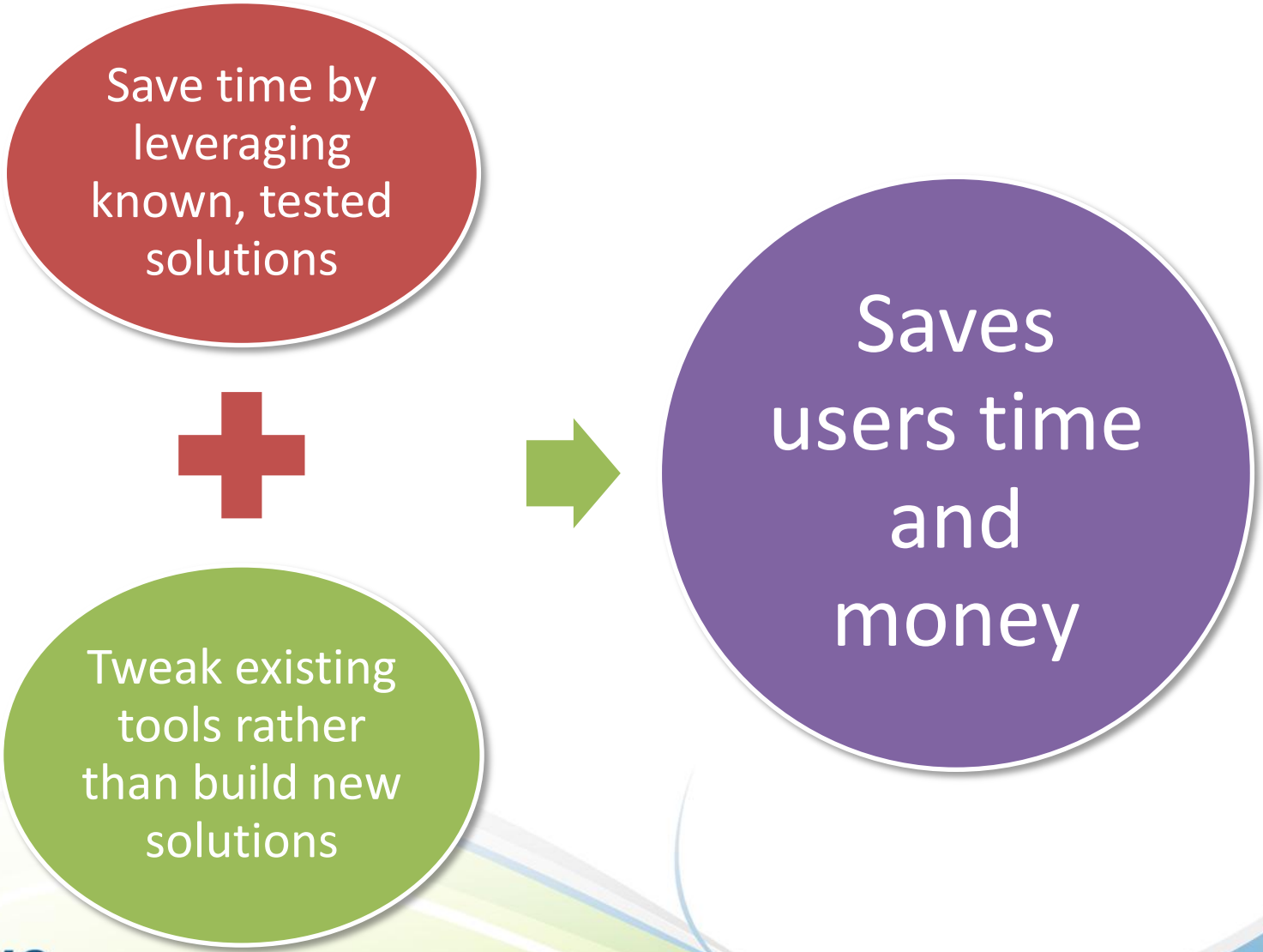
Traditional CIOs

- Business and IT plans are poorly correlated.
- IT culture is introverted and reactive.
- IT focused on supplying technical support.
- Captive to the design-build-operate model.
- Legacy structure with siloed processes.
- Budgets are built from ongoing costs plus ad hoc requests.

Emerging CIOs

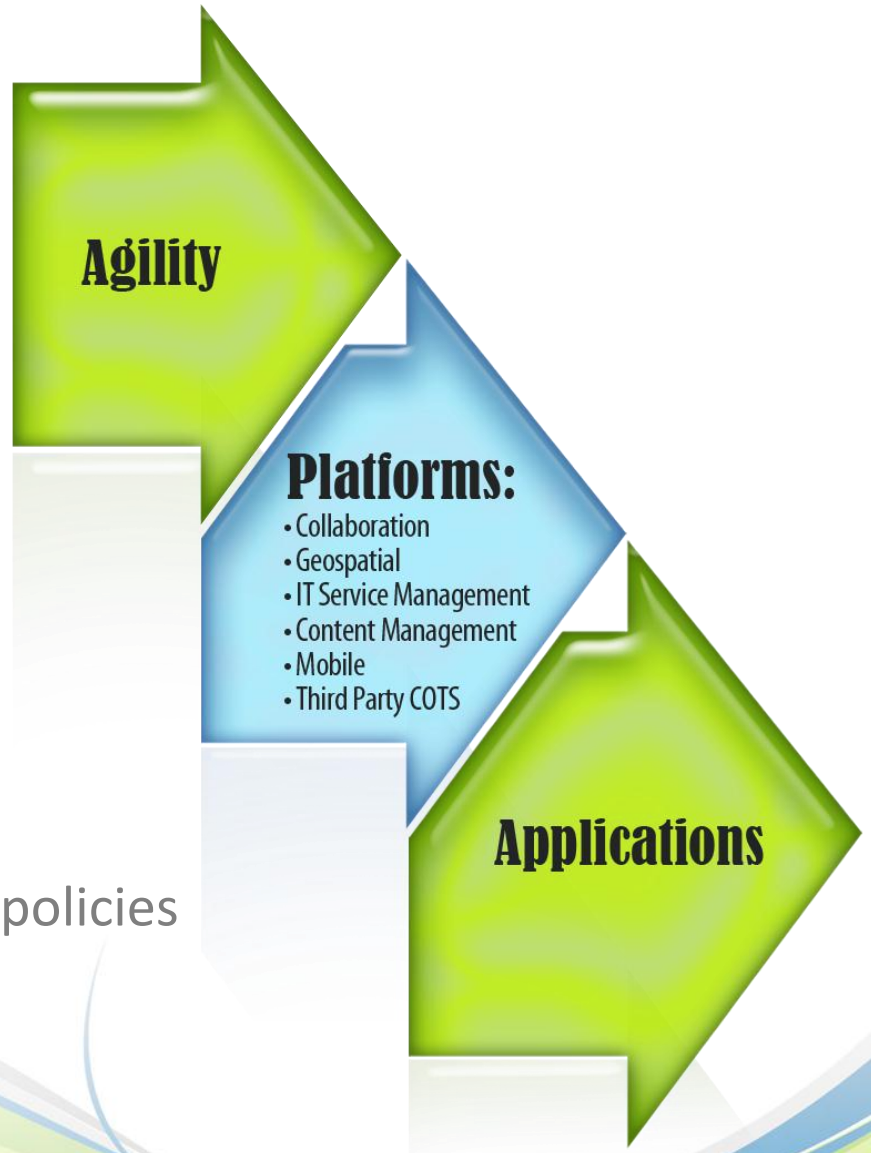
DOT Intranet Before/After

Agility: Efficient and Effective



Agility Platform

Standardized Agility Platforms will streamline the process to take advantage of enterprise efficiencies to obtain funding for rapid application development and deployment.



Platform Strategy:

- Govern the platforms
- Direct connection to IT Security policies
- Department-wide use
- Establish Standards

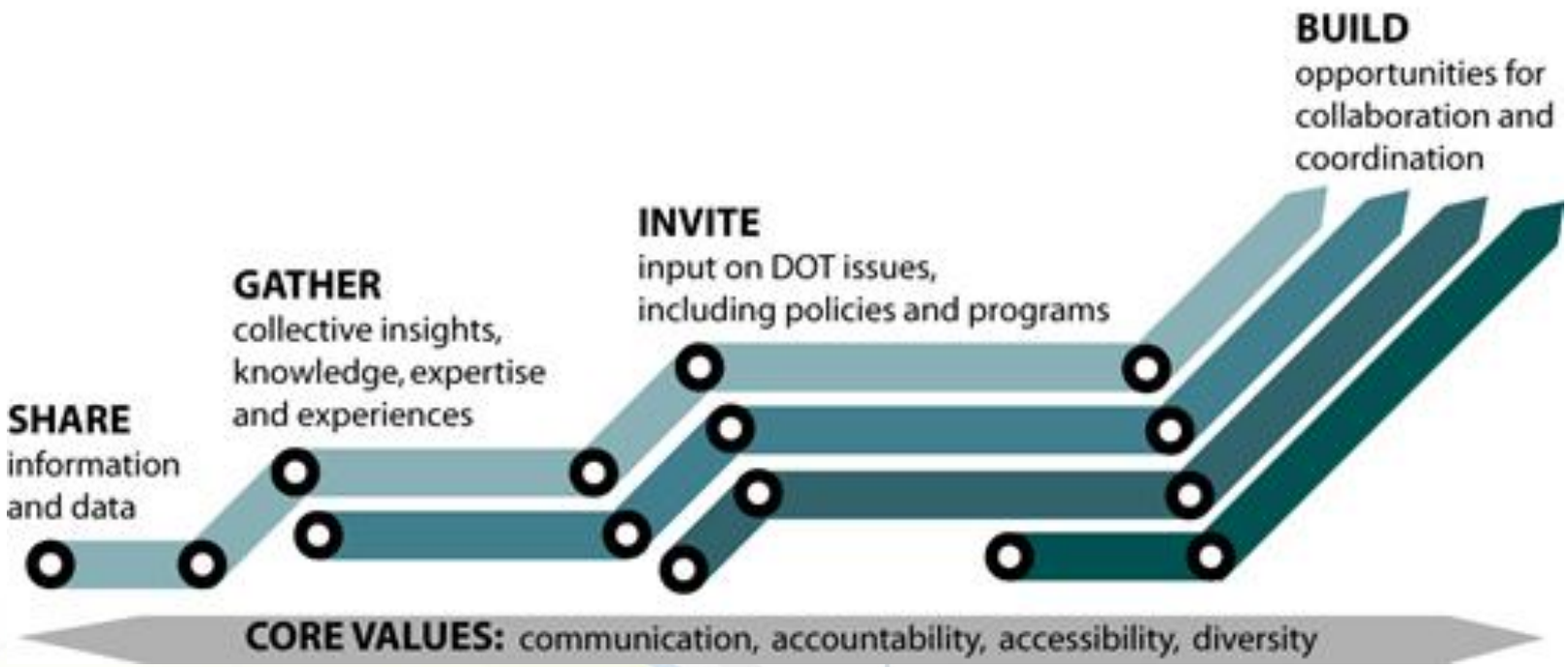
Public Engagement

Working with Stakeholders to Identify and Solve Problems

Key Stakeholders

- **Citizens**
  - Want an easily searchable, engaging portal
  - Want trustworthy, vetted products
- **Experts/Developers**
  - Want work to be seen, used, shared
  - Want trustworthy data as a resource
- **Entrepreneurs**
  - Want to build new companies and products
  - Want access to talented developers, investors
- **Investors**
  - Want to fund solvable transportation problems
  - Leverage, nurture potentially lucrative solutions

DOT'S PUBLIC ENGAGMENT MODEL



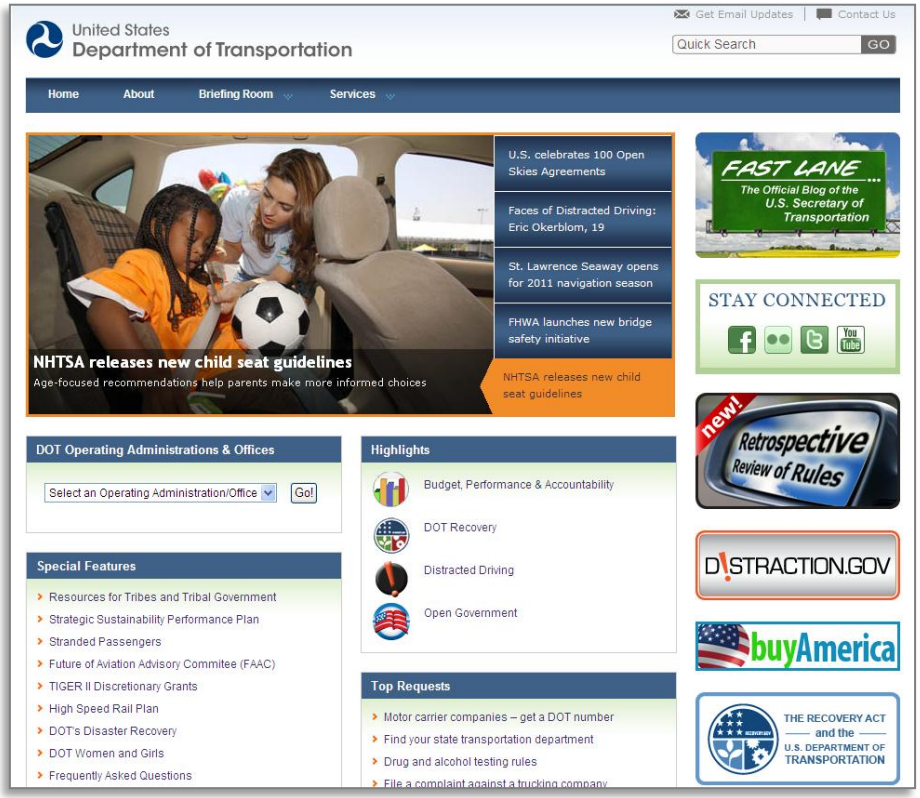
Public Engagement

- Conducted over 170 roundtables around the country with stakeholders representing industry, business and advocacy communities interested in transportation initiatives.
- Led Safety.Data.gov Initiative by hosting in-person and online conversations with external stakeholders relating to how expanded digital options can benefit our users.
- Hosted webinars and conversations related to new authorities and opportunities under MAP-21.
- Continued outreach with online dialogues, webinars, and town hall meetings.

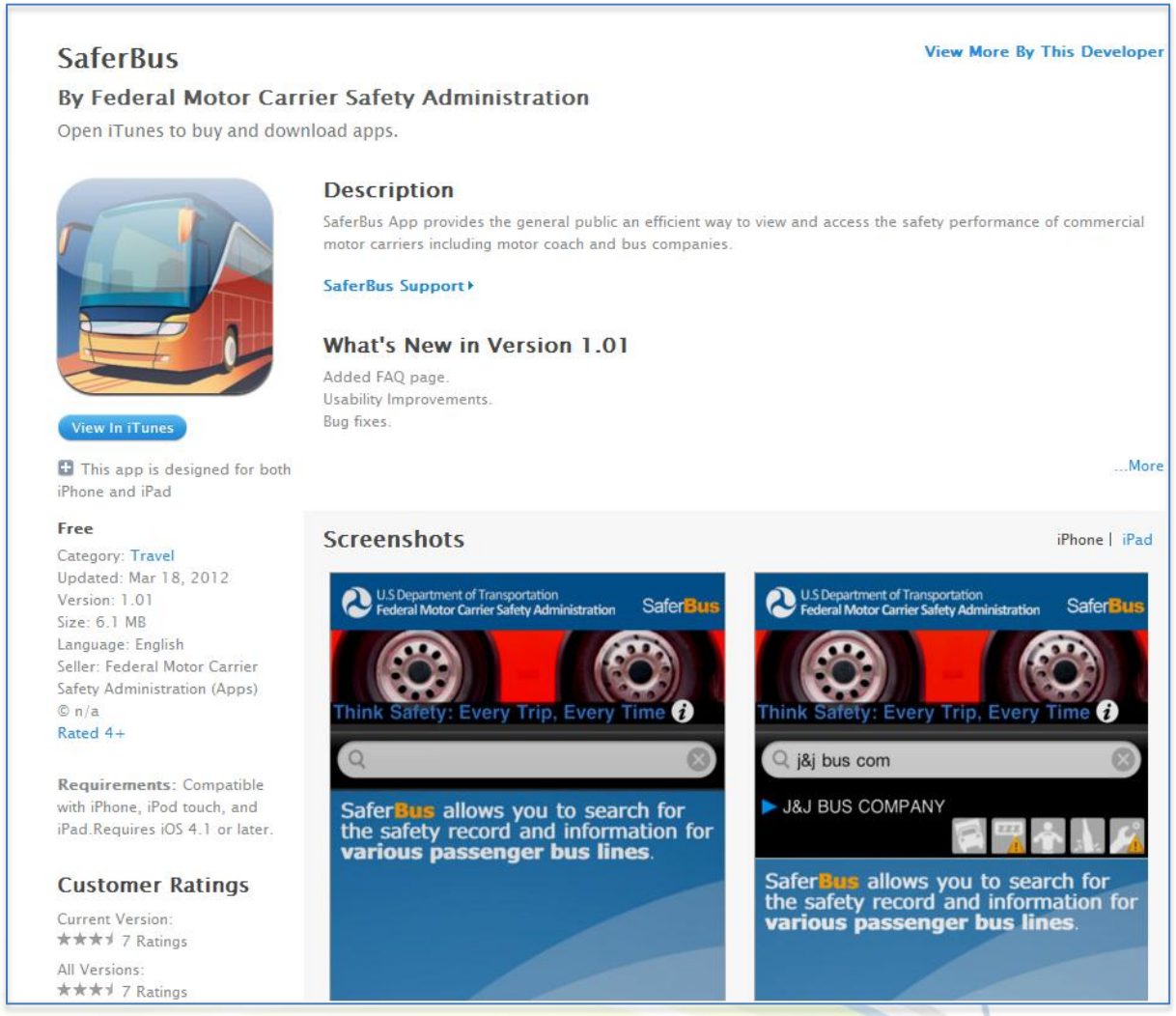
What We Heard

- Bring services and information to people anytime and anywhere
- Empower users with data to make better decisions and create innovative tools
- Enable people to directly connect using web-based and mobile applications

DOT Internet Before/After



SaferBus (FMCSA)



First DOT Mobile App, designed for Apple operating systems

Open-source architecture reduces licensing costs

Streamlined public access to FMCSA safety performance data

SaferBus Student Safety Data Challenge

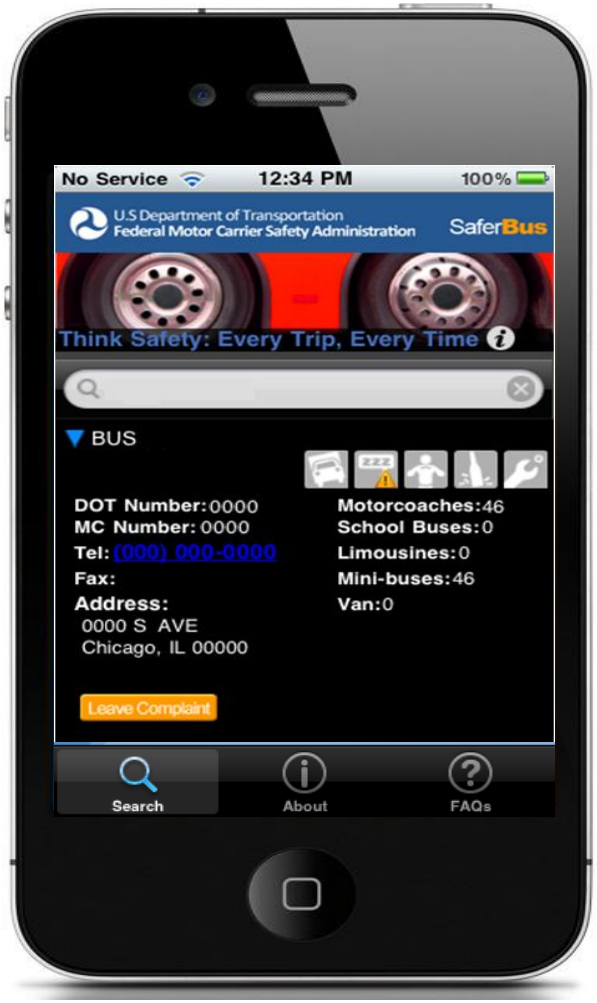
Build on SaferBus mobile application

Access the same data we used, add some of your own

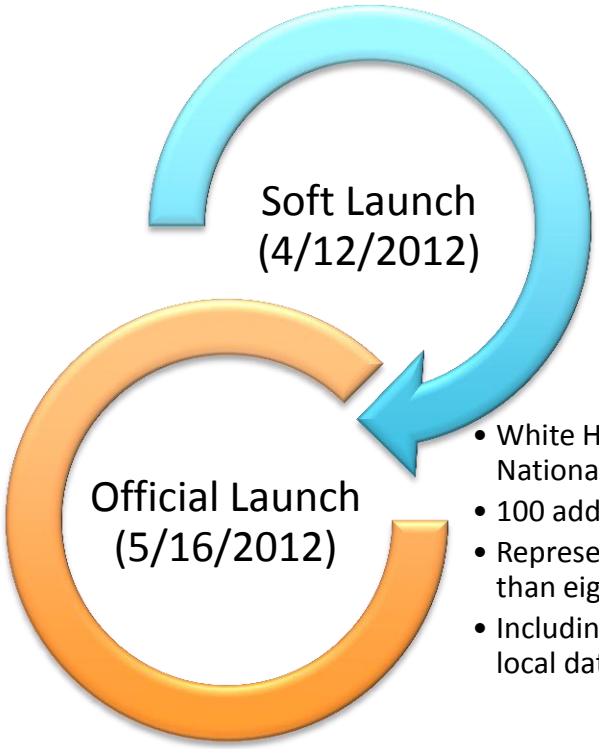
Uncover actionable information to better inform decisions

Innovate and dramatically improve safety

http://studentsafetydata.challenge.gov/



Safety.Data.Gov (DOT Safety Council)



- 596 datasets, 4 apps, 18 resources live
- DOT and HHS data
- Non-federal data from NC

- White House Event for National Transportation Week.
- 100 additional datasets live
- Representing data from more than eight federal agencies
- Including non-federal state and local data

Upcoming Safety Datapalooza

Examples of Commercial Mobile Transportation Applications*

Title 46 Code of Federal Regulations

- The complete text of Title 46 CFR, Shipping, on your iPhone. Leave the heavy books at home!

FlightLog Pilot's Logbook

- FlightLog makes it easy to log and analyze flight hours on iPhone and iPod Touch. Flight time is organized by aircraft and hour category tallies are visible at a glance.

Citi-Go-Round Transit App Store

- 25 applications for train schedules, bus routes, flight delays and more in the DC area alone.

ForeFlight

- Pilot Checklists, airport directories, weather reports and filing flight plans. Elegant aviation tools: Pixel perfect, exceptionally intuitive and precisely built.

*** Illustrative only. Applications not officially endorsed by the U.S. Dept. of Transportation.**

Examples of Web 2.0 Impacts on Transportation Networks

ITS data and systems architecture will become standardized and integrated

Environmental Impact	• Gas consumption will decrease due to intelligent traffic routing
NextGen Air Travel	• Intelligent flight paths • More planes in the sky • Safer flights
Positive Train Control	• Trains interface with ground activity to prevent unforeseen problems

Future Direction for Mobile Data

National Level

Federal-level data will emphasize transportation planning and development

Example: Bridge maintenance data collected at the federal level

Local Level

DOT is getting out of the business of reporting and aggregating data

States and local agencies will use mobile devices to collect and feed data to central databases

DOT is moving toward self-updating and "mashable" publicly available datasets

DOT will manage and publish datasets to easily accessible apps

Questions ?

Open Discussion