

A black and white photograph of a vehicle's interior, showing the steering wheel, dashboard, and front seats. The image is used as a background for the title slide.

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# Transportation Systems Management & Operations

- Integrated Corridor Management (ICM)
- Active Traffic Management (ATM) / Managed Motorways
- Managed Lanes (HOV, HOT)
- Regional Coordination
- Multi-Modal Traveler Information
- Coordinated Traffic Signal Timing/ Adaptive Control
- Transit Enhancements (Bus Rapid Transit and signal priority)
- Incident & Emergency Management
- Ramp Management
- Road Weather Management

## Existing & Emerging Strategies Supported by ITS Technologies

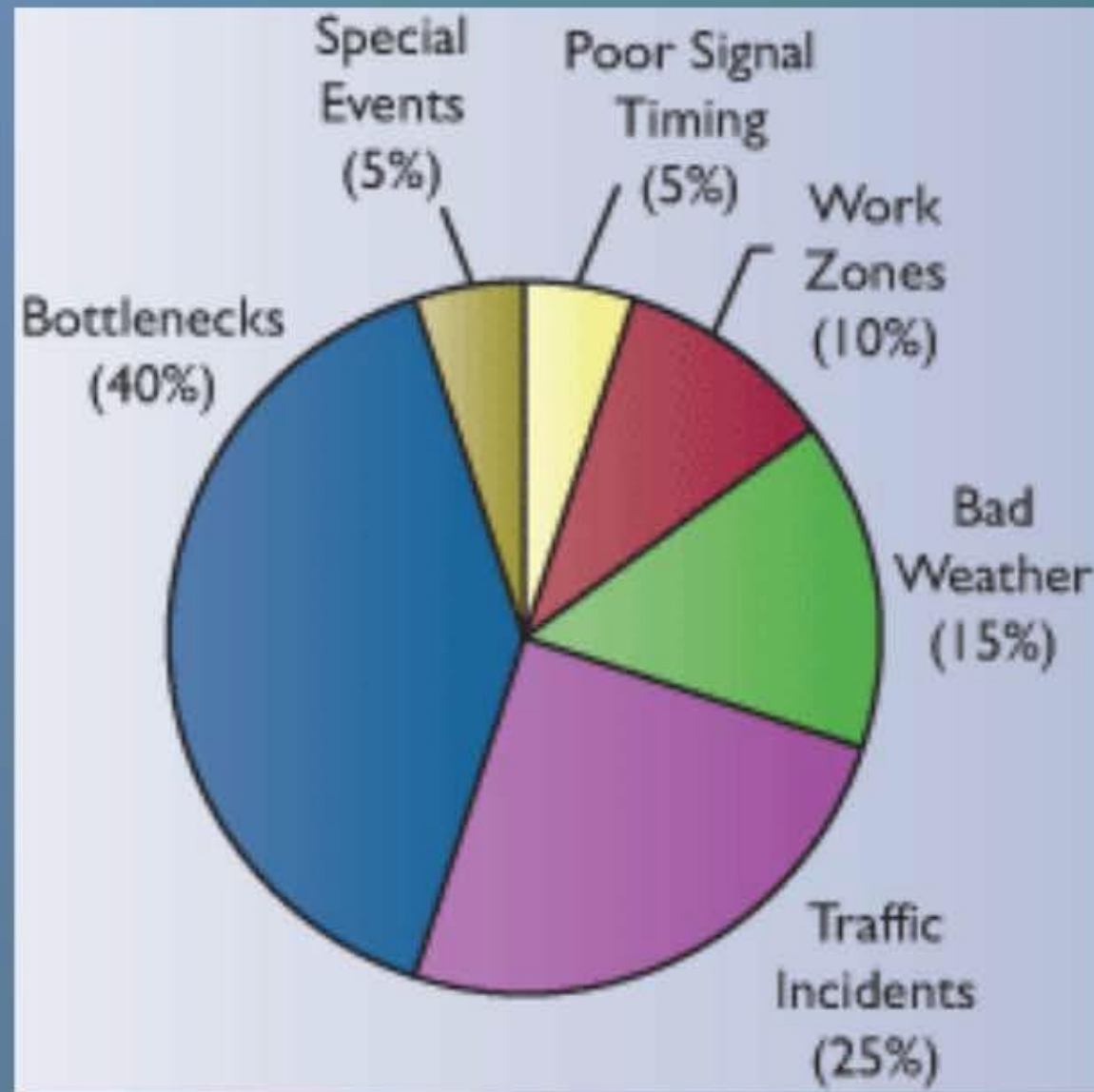
- Manage Congestion / Increase Reliability – Economic Sustainability
- Enhance Safety / Reduce Crashes – Social Sustainability
- Reduce Stops & VHT (Emissions) – Environmental Sustainability





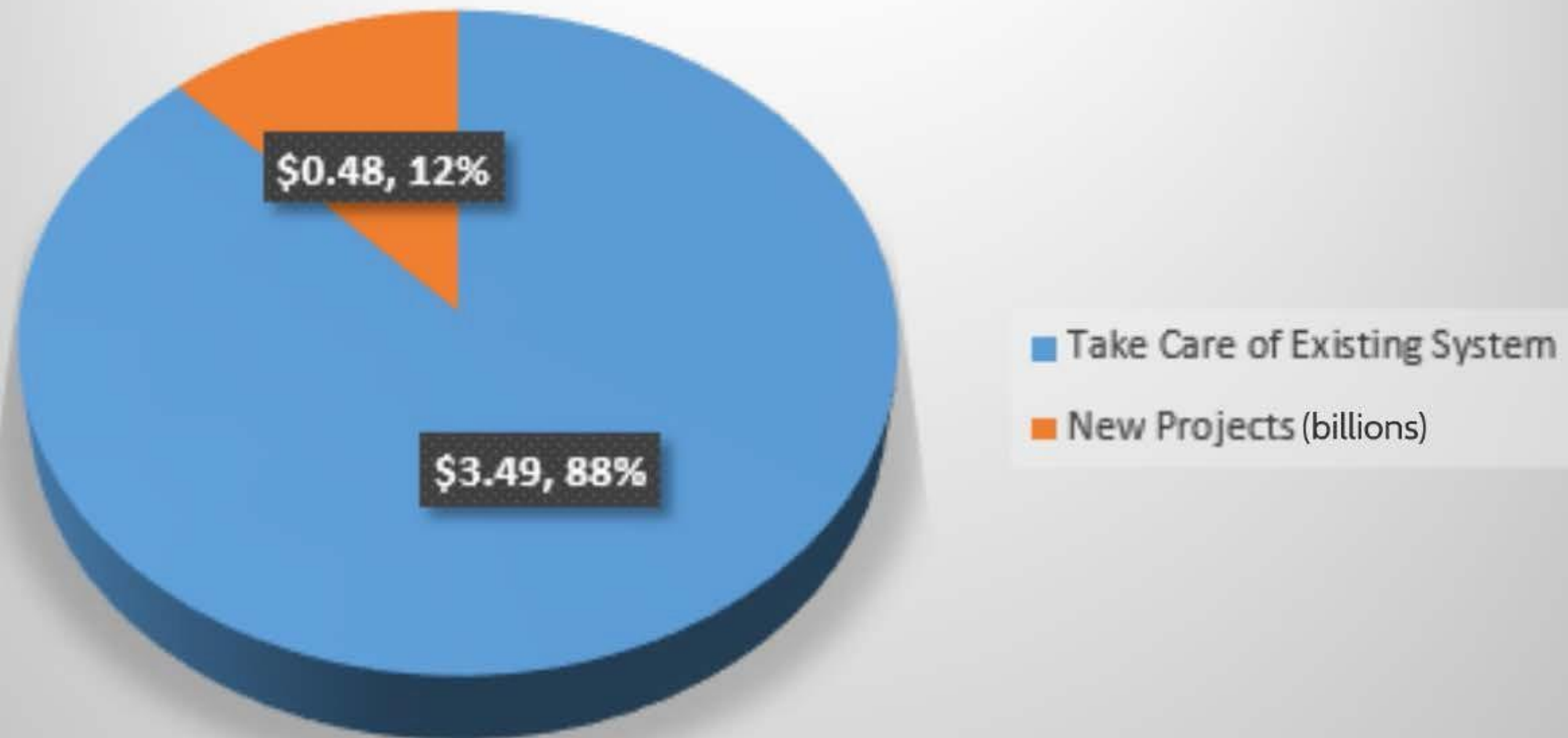


# *Reliability of the Transportation System*





## 5 Year Construction Program





- Prepare MoDOT to integrate 21st century technologies into our transportation system and services
- Enhance MoDOT's funding stream



# Solar Roadways



- Produce clean renewable energy for homes, businesses and electric cars on the roadway
- Heating elements to prevent snow and ice accumulation
- Panels have microprocessors that allows the panels to communicate with each other, a central control station, and vehicles
- LED lights to create lines and signage without paint
- Test Site - Historic Route 66 Welcome Center at Conway, MO



# Truck Platooning



- Safety - braking is automatic with virtually zero reaction time compared to human breaking
- Efficiency - reduces congestion by improving traffic flows
- Cleaner - Reduce CO2 emissions
- Economical - lower fuel consumption means lower fuel costs (approx. 30% of total operating costs of a truck)

# Smart Highways

## (MoDOT's Request for Proposal)

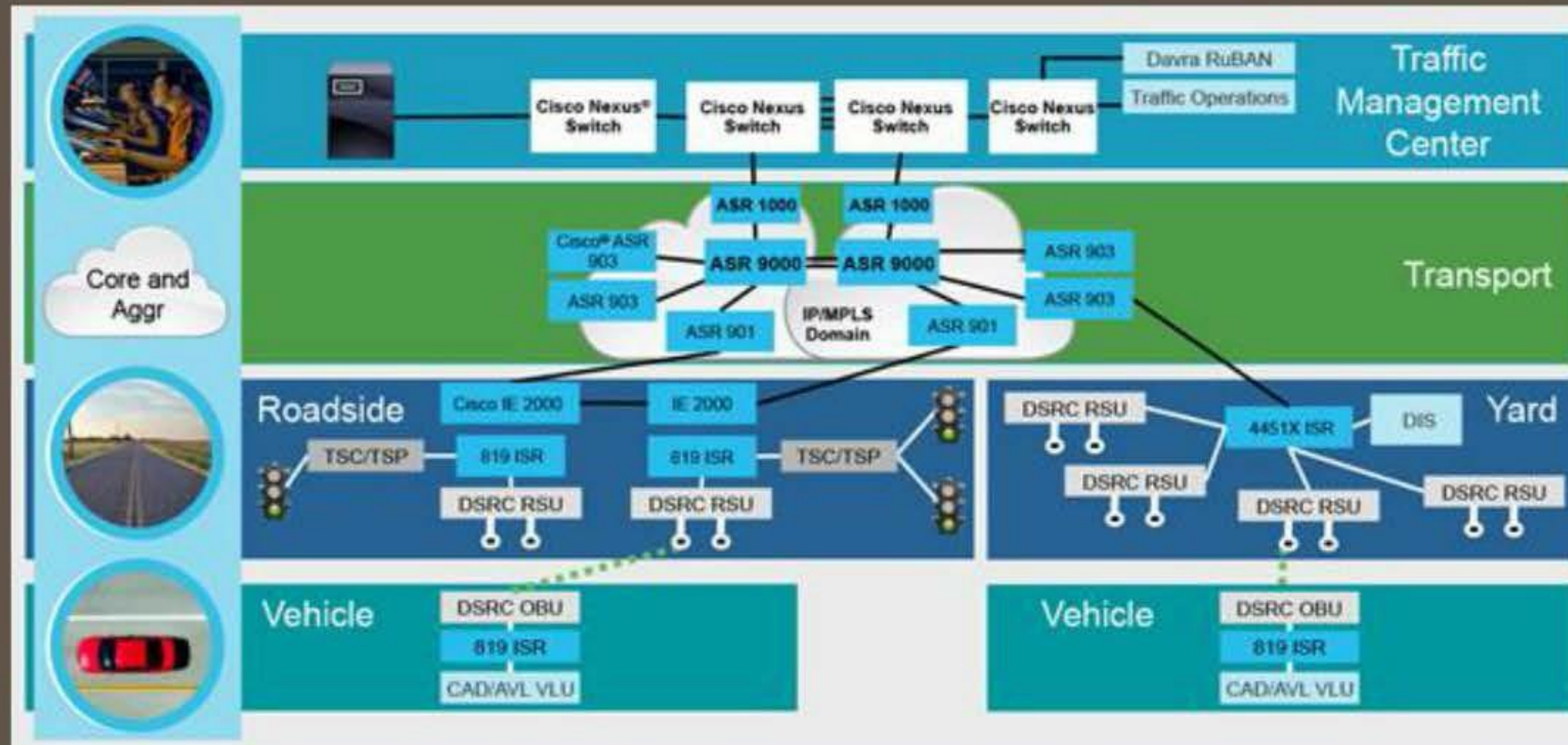


Purpose - Increase road safety, efficiency, and reduce environmental impacts which generating revenue

### Examples

- Tiny windmills to capture wind from trucks driving by and storing energy for lighting roadway
- “Self-healing” concrete designed to produce bacteria to fill cracks
- Suite of digital, communication and information services to MoDOT, motor carriers and other commercial fleet operators and private drivers on a subscription basis





## Network/Communications

- Basic understanding of terminology (switches, routers, IP addresses, fiber optics, wireless communication (bluetooth, cellular) etc...







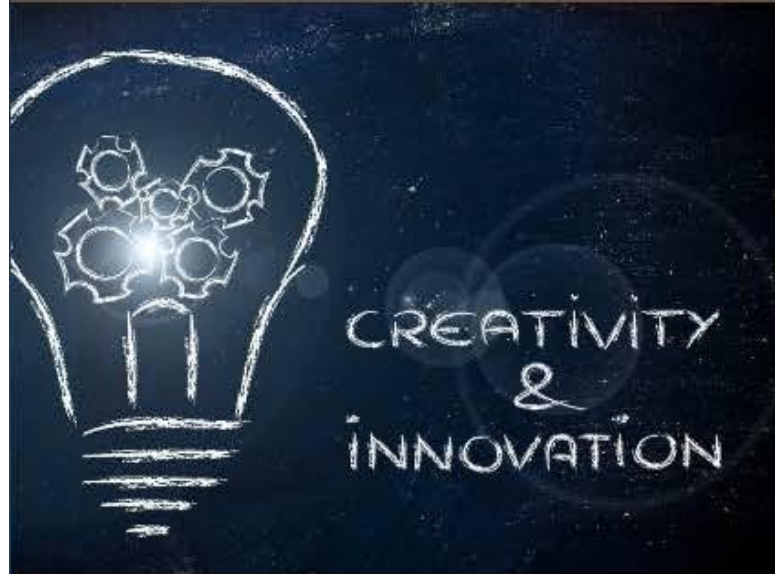


## Transportation Planning - Leading the effort Examples

- Needs Assessment
- Planning for short and long term goals
- System Evaluation
- Public Policy
- Plan Implementation

"How does vehicle to vehicle or infrastructure and autonomous vehicles affect our 25 year plan?"

## To sum it all up...



**“WE CANNOT SOLVE A PROBLEM BY USING THE SAME KIND OF THINKING WE USED WHEN WE CREATED THEM.**

**- ALBERT EINSTEIN**



**MJV**

**“NEVER BEFORE IN HISTORY HAS INNOVATION OFFERED PROMISE OF SO MUCH TO SO MANY IN SO SHORT A TIME.”**

**-Bill Gates**

**CSC**

**“The best way to predict the future is to create it.”**





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Prezi