

# Intelligent Traffic Management Systems



Harness Technology to Build a 21st Century Traffic  
Management System

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# Project Goals



- Research ITMS to identify new tools and processes that would create value for the Transportation & Engineering division
- Create proof of concept applications to demonstrate the value that new ITMS tools could deliver
- Develop a Roadmap for future ITMS technologies at T&E

# What is ITMS?



- Information is gathered from data collected in the field
- This info can be motorist/pedestrian/bike counts, vehicle tracking data like speed or license plate, crash detection
- This data is then stored and used for actionable insights or adjustments to road conditions either in real-time or later in the process



# ITMS Applications



- **Traffic Counts**
- **Crash Detection**
- **Congestion/Safety Insights**
- **Automated Road Enforcement**
- **Road Condition Detection**
- **Dynamic/Adaptive Traffic Signal Sequencing**
- **Traveler Information System**
- **Cybersecurity and Database Storage**
- **Automated Traffic Signal Performance Measures (ATSPMs)**

# Success of ITMS



01

## Utah DOT

Implemented a Metric system that they have estimated to save ~\$3.5M in labor and ~\$9M in public benefits

02

## NCDOT

After Introducing several ITMS concepts to reduce congestion at roadways, a study found that they have lowered emissions of drivers

03

## Lake County, WA DOT

Using Traffic Metrics and a data reporting system have saved ~\$400K in estimated maintenance costs and contracted data collection

# ITMS Priorities



## Incorporate Traffic Metrics

- Focus from T&E was to create metrics from existing data to reduce manual field work
- Some preventative metrics:
  - Pedestrian Delay (PedX Button)
  - Split Monitor and Purdue Phase Termination (Detector failure)

## Develop ITMS Recommendations and Roadmap

- Consult with vendors that provide ITMS software to develop knowledge base of available tools
- Specifically looking at vendors that provide congestion insights and signal optimization

# ITMS Priorities cont.



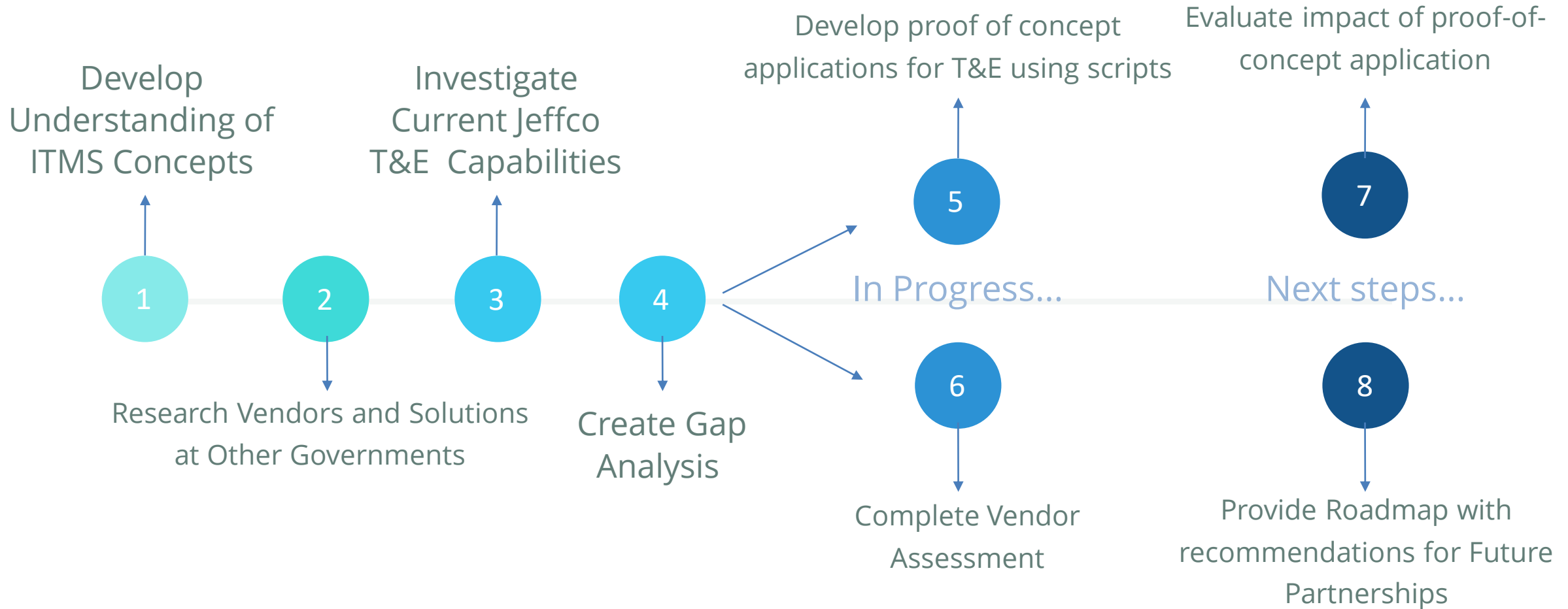
## Develop Proof of Concept to Assist T&E

- Fully develop script to search on-hand signal data for malfunctioning sensors
- Collaborate with T&E to identify other useful programs that use our currently available data to its fullest extent

## Meet with other Municipalities

- Contacting other DOTs that use traffic metrics and see how they are being implemented
- Ask for feedback on vendors or tech, see what has and hasn't been useful

# Project Summary





# Thank You!



Any questions?

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