Wisconsin TOPS Lab
ITS and Operations Program Overview

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March 2015
TOPS Lab Transportation
Operations and ITS Services

- System Development
  - E.g., 511 Traveler Information
- Planning for Operations
  - E.g., TOIP, Probe Data
- Systems Engineering
  - E.g., ITS Architecture
- ITS & ITS Net Inventory
  - E.g., SpatialInfo
- GIS
  - E.g., Mapping Applications and Products
- ITS Evaluations
  - E.g., Ramp Metering, Bluetooth
- Multistate Operations
  - E.g., GLRTOC, LMIGA, NWP
- Performance Management
  - Mobility Performance Measures
- Emerging R&D Initiatives
The ITS Process Cycle

Construction, Deployment

Systems Engineering, Design

Configuration Management

Spatial Inventory, Asset Management

Planning, Investment

GIS, Analysis

ITS Architecture

Systems Integration, Documentation
The ITS Process Cycle - Planning

Recommendations, Requests, Investments

Planning, Investment

Spatial Information
Wisconsin Traffic Operations Infrastructure Plan
The ITS Process Cycle - ITS Architecture

- Recommendations, Requests, Investments

- ITS Architecture

- Systems Engineering, Design
The ITS Process Cycle - Implementation

Configuration Management Loop

- Systems Engineering, Design
- Construction, Implementation
- Systems Integration, Documentation
511 Traveler Information

Zoo Interchange Project

Utility coordination

In addition to the improvements to local roads and the freeway system, the Zoo Interchange project involves the relocation of many area utilities. The power corridor that shared geography with the Zoo freeway provides reliable power to the most impinging areas of the state. With this project, the local and regional governmental utility infrastructure, the American Transmission Company (ATC) is replacing the transmission lines, and We Energies replacing their infrastructure.

The replacement of utility infrastructure will result in more modern, reliable equipment in the Zoo Interchange, saving the cost of the region. ATC is replacing the lattice towers with poles, resulting in a smaller footprint and cleaner look along the freeway.

Starting in 2012, the Zoo interchange will see construction and relocation activities at the area substations and along the power corridors.

Utilities at a glance:
- Transmission Lines & Substations
- We Energies – Tunnels, Electric, Gas, Stays, Power Plant
- Local governments
- MMSD
- Communications – 13 Companies
- Railroad, Petroleum Pipelines

Railroad coordination

With this project, the Zoo will reconstruct railroad bridges and a railroad tunnel underneath the intersection of Highway 100 and Bluemound Road. To close a railroad for a full weekend would add about $2 million to the project cost. Instead, we are building the new segment parallel to the existing railroad so we can minimize impacts to the rail service to build the connections.

Locations:
- Railroad bridge over I-94, built on offset alignment
- Tunnel beneath US 100 and Bluemound Road intersection
- US 45 railroad bridge near North Avenue

Search Zoo IC Project

Map Out For Earths

511W1 Southeast

511W1 Southeast Brown Co. Avoid 1-15 near the Lao Fogo Bridge over the Labor Day holiday, especially during peak travel times: noon - 10 PM Tomorrow & Monday Hours ago - much remains favorable

511W1 Southeast Closed | MILWAUKEE Co.
The ITS Process Cycle - Spatial Assets

- Systems Integration, Documentation
- Spatial Inventory, Asset Management
- Spatial Data
The ITS Process Cycle - GIS

Spatial Data

GIS, Analysis

Spatial Information

Visualizations, Mapping Products
The ITS Process Cycle - Planning Loop

Strategic Planning Loop

Planning, Investment

GIS, Analysis

TOIP

ArcGIS
Multistate Coalition Support

- Great Lakes Regional Transportation Operations Coalition (GLRTOC)
- Lake Michigan Interstate Gateway Alliance (LMIGA)
- North/West Passage (NWP)
Performance Management

Mid-America Transportation Operations

Cumulative Probability
Segment Travel Time (minutes)

Urban Reliability
Segment 10 - I-94 WB From Marquette Interchange To Zoo Interchange

Planning Time Index
2013 Results for Freight and Passenger Traffic

Legend
Freight PTI
- No Data
- >1.43
- 1.26 - 1.43
- 1.21 - 1.26
- 1.15 - 1.21
- 1.1 - 1.15
- 0.97 - 1.1
- 0.9 - 0.97
- <0.9

Passenger PTI
- No Data
- >1.43
- 1.12 - 1.43
- 1.08 - 1.12
- 1.04 - 1.08
- 1.00 - 1.04
- 0.96 - 1.00
- 0.92 - 0.96
- <0.92
Growing Operations Support

- Third Party and Private Partnerships
- Active Transportation and Demand Management
- Performance Monitoring and Management
- Connected Vehicle Initiative