

MOBILITY 2030: *Bridging innovation and a green future*

JUNE 17-20, 2018 - NIAGARA FALLS, ON

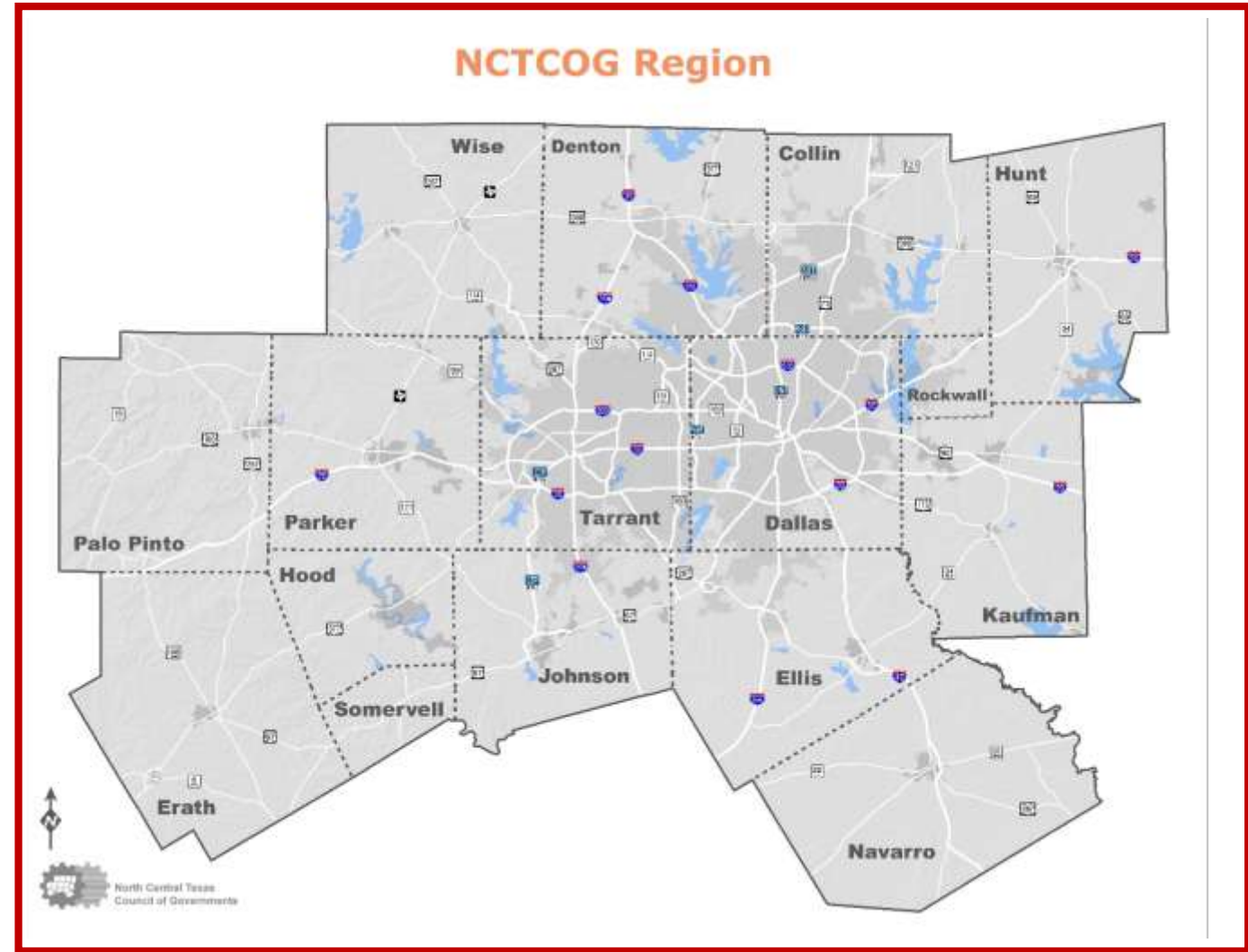


The Role of MPOs in Multimodal Transportation Operations Management





NCTCOG Region



Area - 12,795 sq. miles

Population – 6.7 Million

16 counties

Light rail: 85 miles, 61 stations

Commuter rail: 56 miles, 16 stations

DFW International Airport: 57,806,152 passengers

Roadway Functional Class	Roadway Lane Miles	Center-Line Miles
Freeways/Tollways:	5,162.47	908.05
Principal arterials:	6,798.17	2,017.33





Integrated Corridor Management

- 511 DFW and EcoTrafIX History
 - Developed as part of Integrated Corridor Management (ICM) by Dallas Area Rapid Transit (DART)
 - Multimodal, multiagency involvement
- The integrated management of freeway, arterial, transit, and parking systems within a corridor
- Management of the corridor as a system, rather than the more traditional approach of managing individual assets

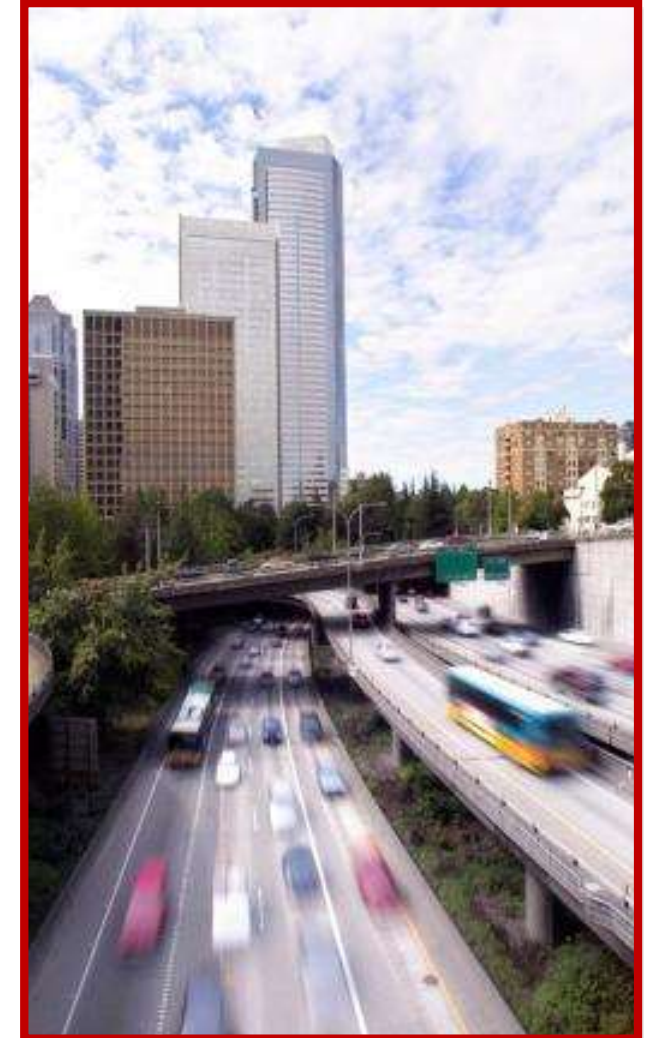
ICM VISION

Operate the US 75 Corridor in a true multimodal, integrated, efficient, and safe fashion where the focus is on the transportation customer



ICM Needed for Dallas US 75

- Fifth most congested region in US
- Population over six million, with growing travel demand and congestion
- Critical regional corridor with significant employers
- No ability to expand freeway, arterials, or alternate routes
- Scheduled construction on other freeways
- Numerous special events throughout year
- Showcase for ITS integration in the region





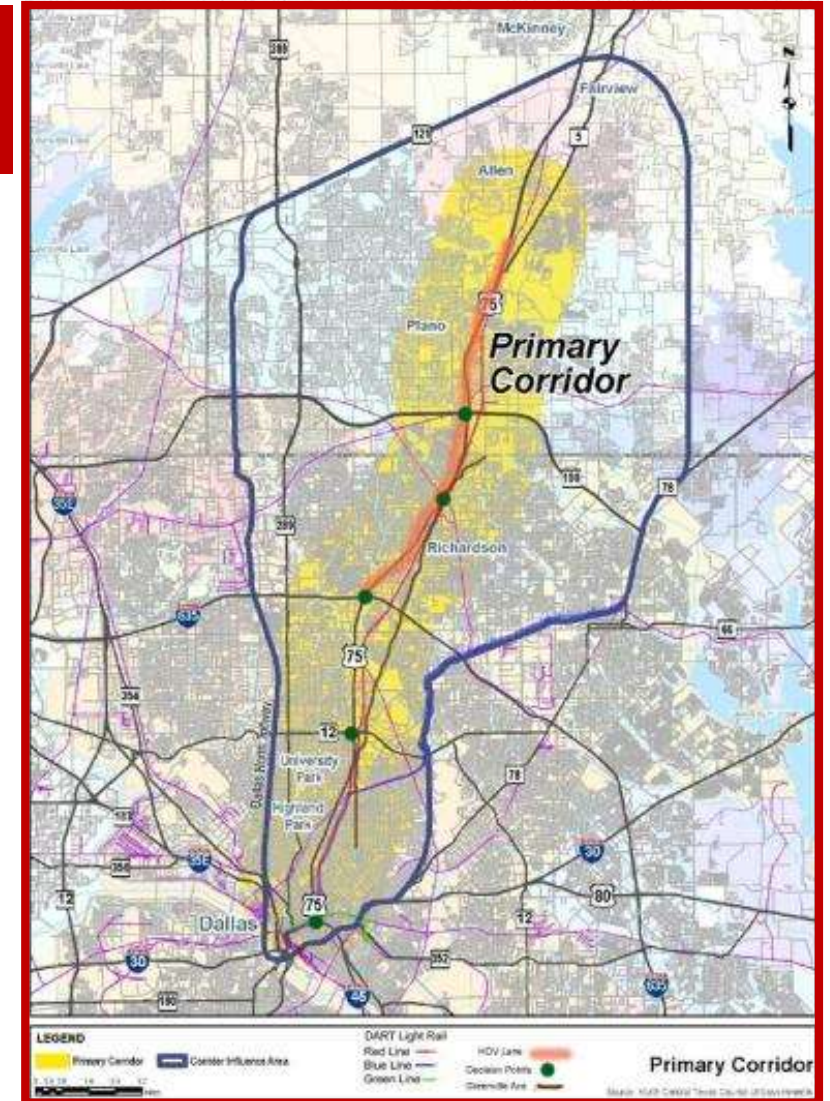
ICM Opportunities

- Individual agencies operating their systems well
- Opportunities for advancement in coordinated management
- Needed
 - Alternatives for travelers, especially transit
 - Common, reliable data platforms for decision making
 - Build trust with the public on accuracy and reliability of information
- Building on existing institutional arrangements, a key to building consensus
- Subsequent evaluation of potential corridor improvements: TSMO



US 75 Corridor Networks

- Freeway with continuous Frontage Roads
- Managed HOV lanes
- Dallas North Tollway
- 167 Miles of Arterials
- DART Bus Network
- DART Light Rail
- Over 900 Signals
- Multiple TMCs
- Regional ATIS

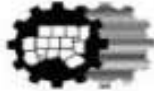
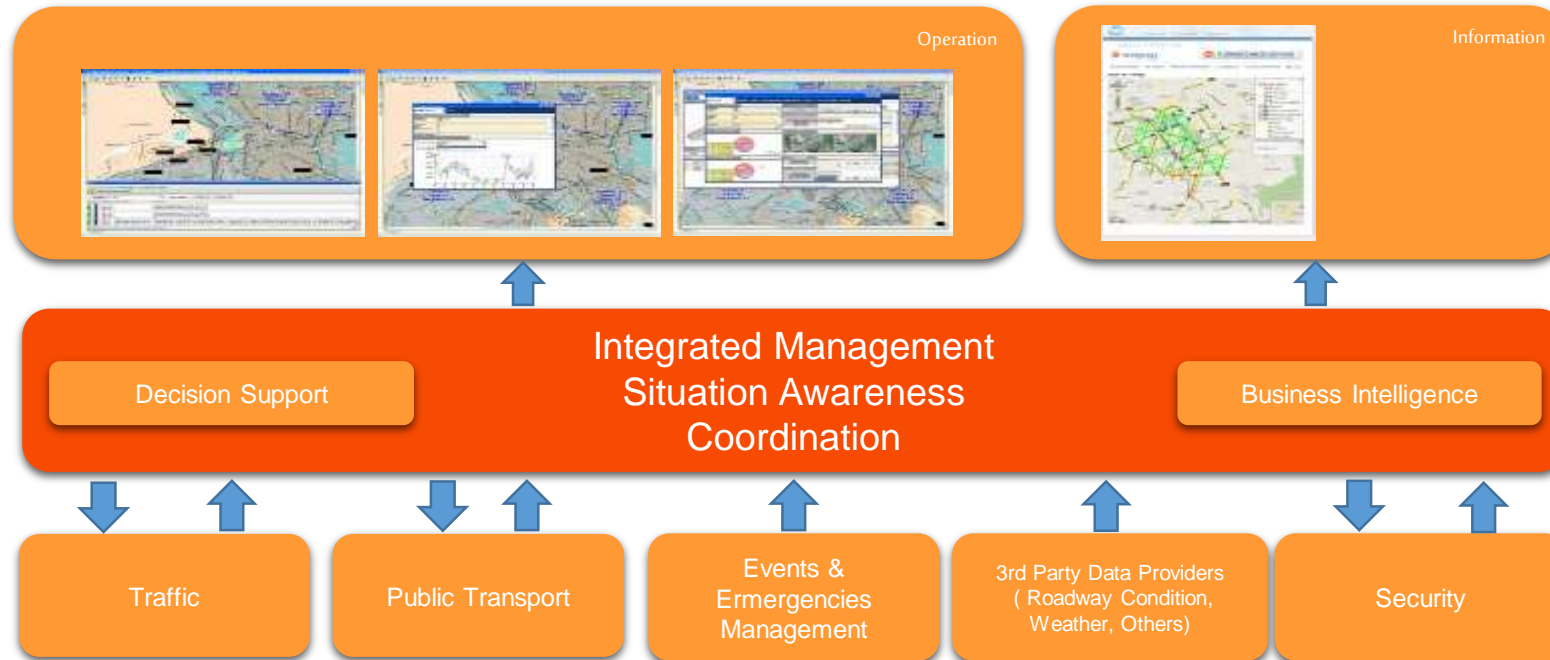




ICM Strategies

- Advanced Traveler Information System (all scenarios)
 - Better pre-trip, en-route, and multimodal information
- Route Diversion Strategy (minor incident)
 - Diverts traffic to parallel frontage roads
- Route Diversion Strategy (major incident)
 - Diverts traffic to frontage road and strategic arterials
- Mode Diversion Strategy (major incident)
 - Diverts travelers to DART Red Line
- Combined Route and Mode Diversion Strategy
 - Diverts travelers to frontage roads, strategic arterials, and DART Red Line

■ Multimodal Traffic for Freeways, Arterials and Transit Information





511DFW and EcoTrafIX

- No immediate funding to update or maintain network and database needed for incident response plans
- Established and confirmed benefits among traffic management centers and relationships between agency staff
- 511DFW to continue and be enhanced
- Independent evaluation of 511DFW and agency and public input
 - Comparison to other 511 systems
 - Recommendation of various enhancements
 - Recommendation for NCTCOG to manage 511DFW



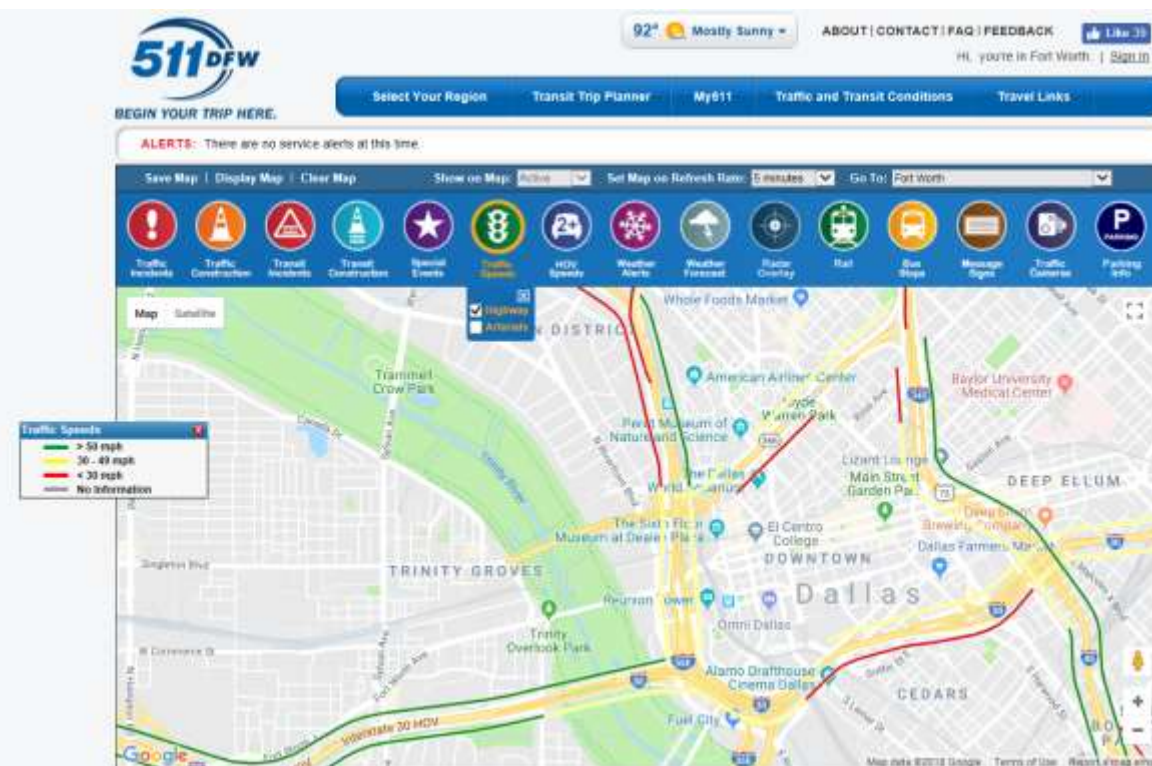
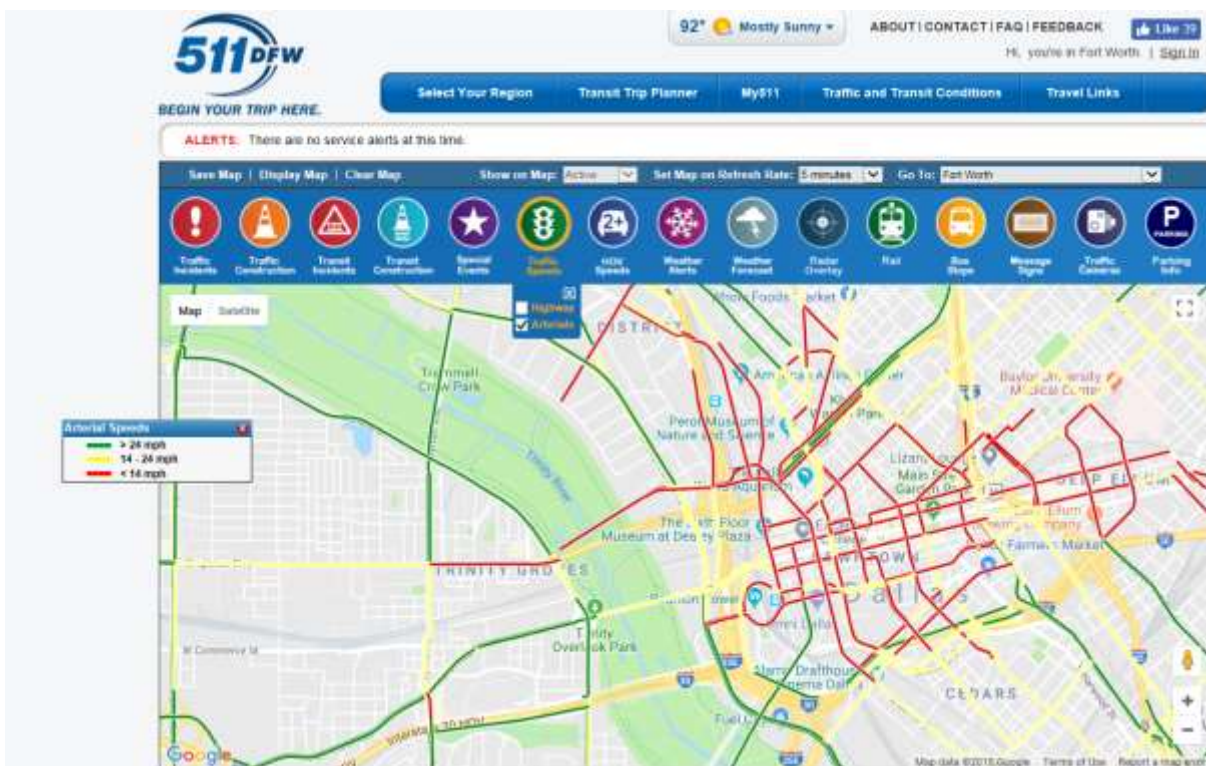


511DFW Public Facing Enhancements

- Expanded Participation
- Additional Data Sources
- Additional Transit Information
- Enhancements:
 - Website Redesign
 - My511 - Personalized Website
 - App for Cell Phones and Tablets
 - Interactive Voice Response (IVR)
 - Bilingual English and Spanish (All Components including Website, IVR, My511 and App)
 - Simplified Information Exchange Network (IEN)
 - Performance Measures and Interactive Dashboards
 - Data Archiving



Arterial and Freeway Display






EcoTrafIX

- **Bidirectional Sharing of Waze Data**
 - 511DFW currently provides regional data to Waze
 - Enhancement will integrate filtered data from Waze
 - Archiving unfiltered Waze data to allow agencies to access infrastructure status (for example, pavement conditions and debris)
- **Data Archiving and Performance Measures**
- **Integration of Additional Data and Systems**
 - Weather, EV Charging Locations, Bike/Ped Routes, Freeway Motorist Assistance
 - Future: Parking, Wrong Way Driving, Traffic Signal Control Module

- Simplified Information Exchange Network
 - Allows agencies to share information to optimize management of transportation assets
 - Improves regional coordination and implementation of operational strategies
- Information Exchange Network
 - Simplified, flexible data entry
 - More detail when appropriate

Traffic Incident

20170619083005

Traffic Incident at MOCKINGBIRD LN Eastbound (Dallas). From 4/17/2017 04:31 PM with minor impact. Estimated duration until 04:36 PM. 

Organization

TxDOT Dallas

*

Access Level

Public

*

Type

*

Roadway

MOCKINGBIRD LN Eastbound (Dallas)

*

at

*

Exit 14

*

From

4/17/2017 04:31 PM

*

Estimated Duration



 days hours mins

Impact

Minor

*

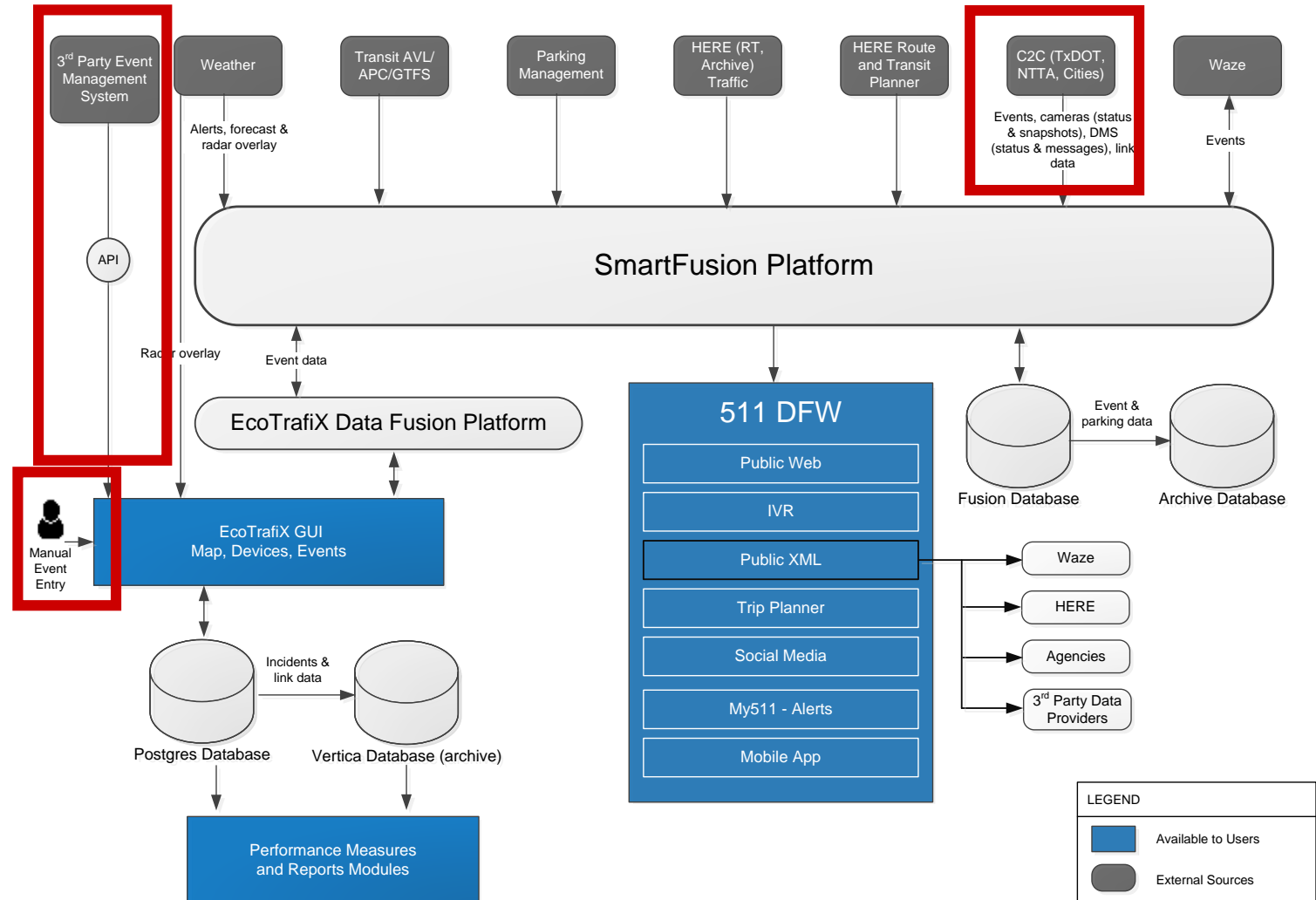
Use right click to set affection on lanes or shoulders



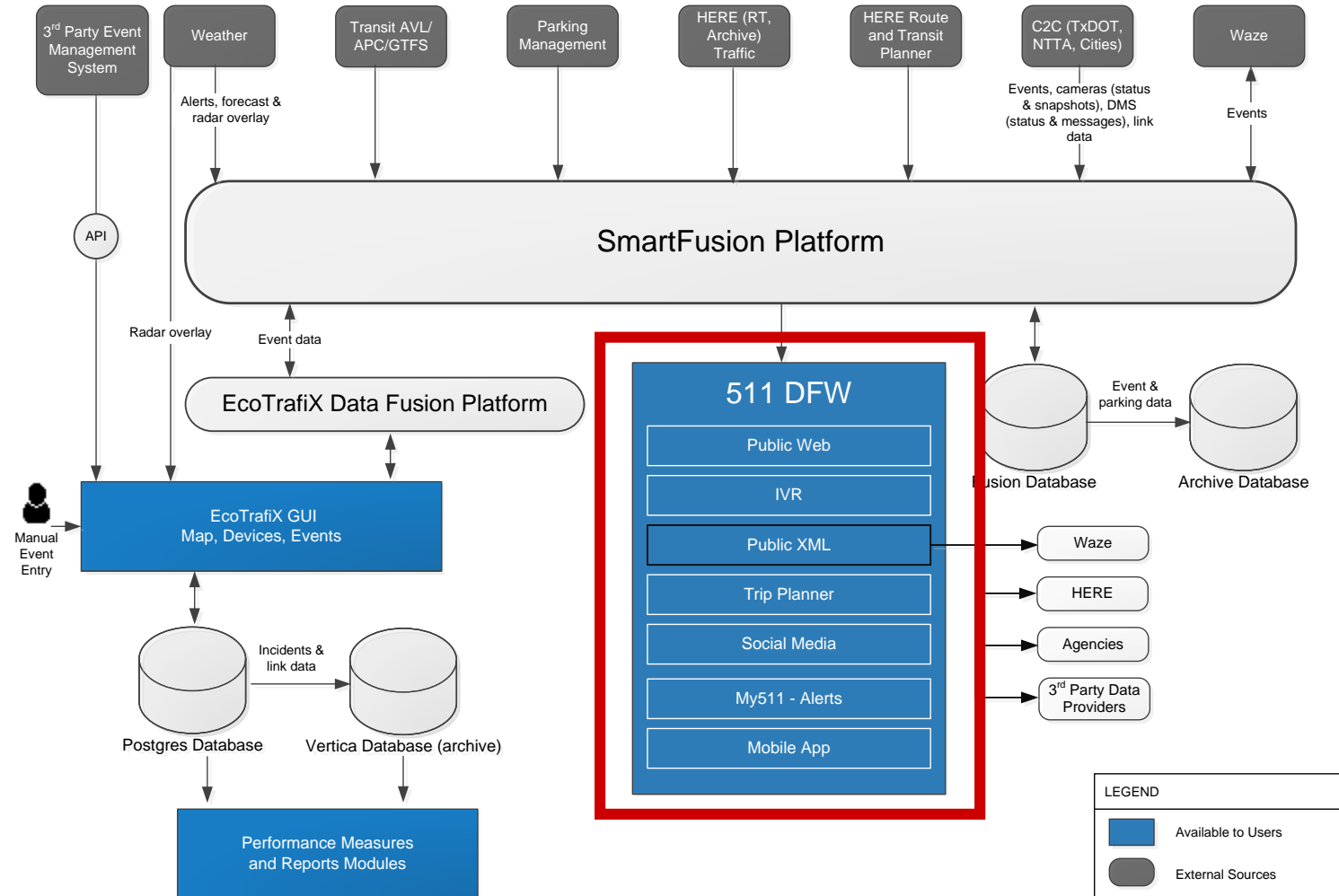
Add more details

Create

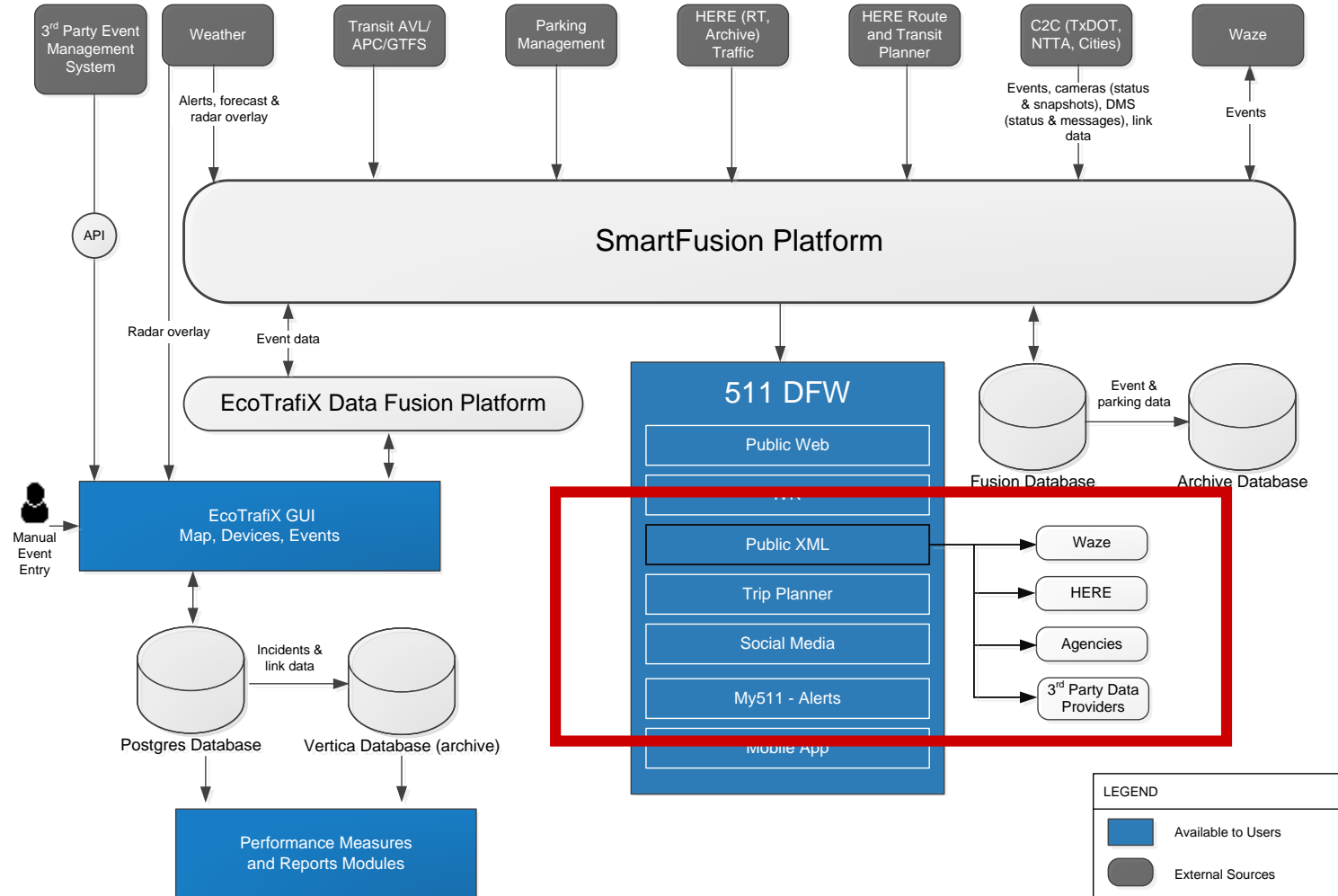
Architecture Diagram – Data Entry



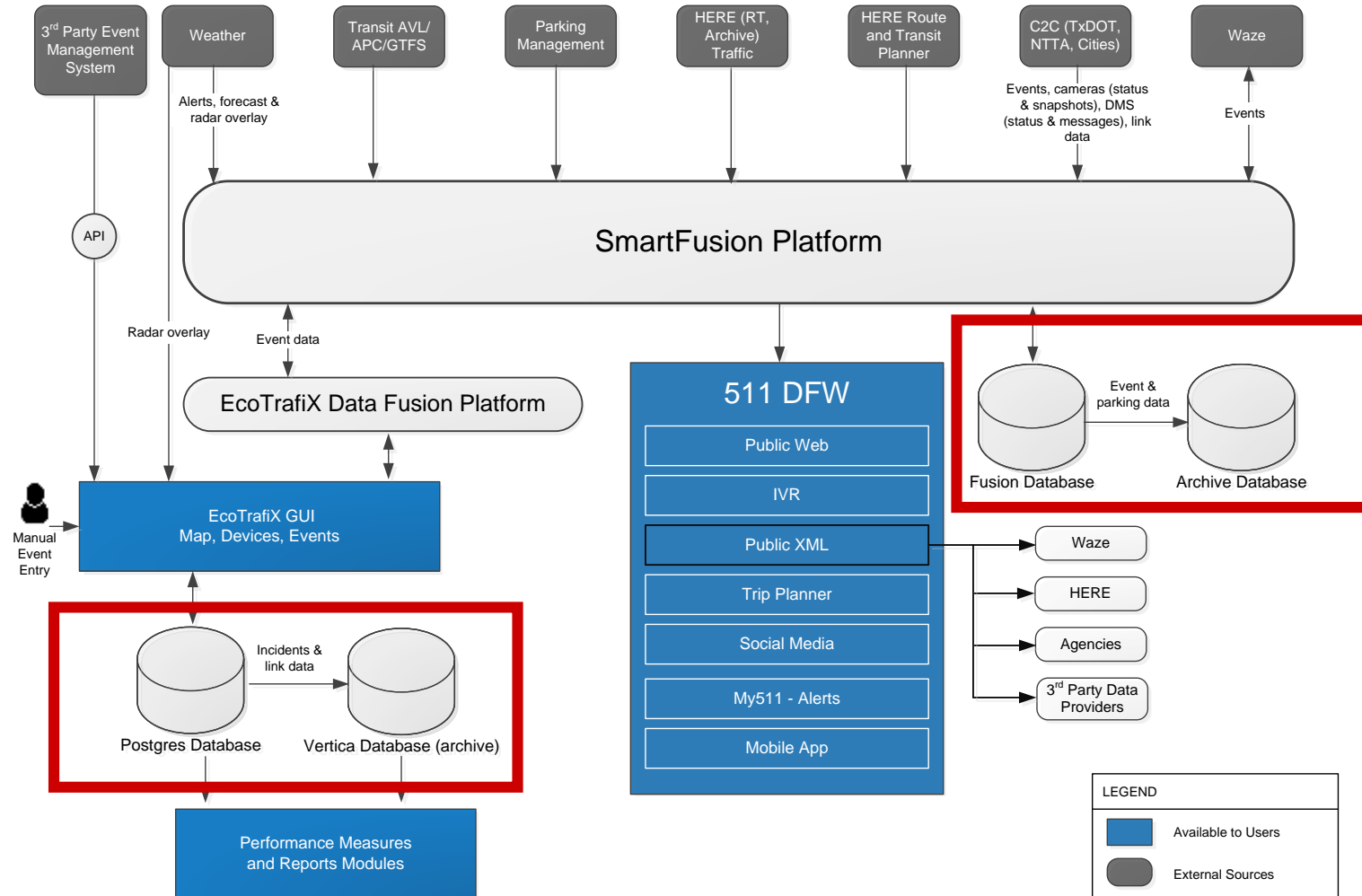
Architecture Diagram – Data Push



Architecture Diagram



Architecture Diagram – Data Fusion





511DFW and EcoTrafIX

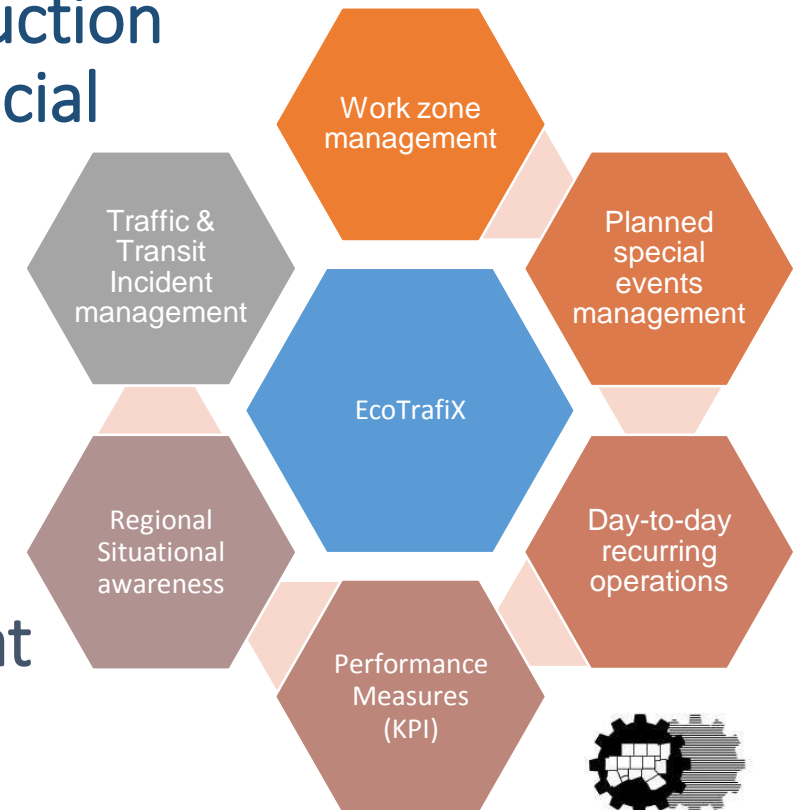
■ Data Needs

➤ Incidents and Events

- ✓ Incidents, i.e. accidents, flooding, construction
- ✓ Planned events, i.e. construction and special events
- ✓ Floodgates for major events

■ Data Use

- Speed data from HERE
- System accepts feeds from TxDOT and other agencies in C2C format
- Transit agencies provide feeds in DTFS format
- Waze data will be filtered prior to input





511DFW and EcoTrafIX

- Potential Future Enhancements
 - Expanded Agency Participation
 - Traffic Signal Control Module
 - Additional Parking Data Integration
 - Veloweb (Bike/Ped Trails)
 - EV Charging Stations
 - Wrong Way Driving
 - Computer Aided Dispatch (CAD) Data
 - Others to be Identified



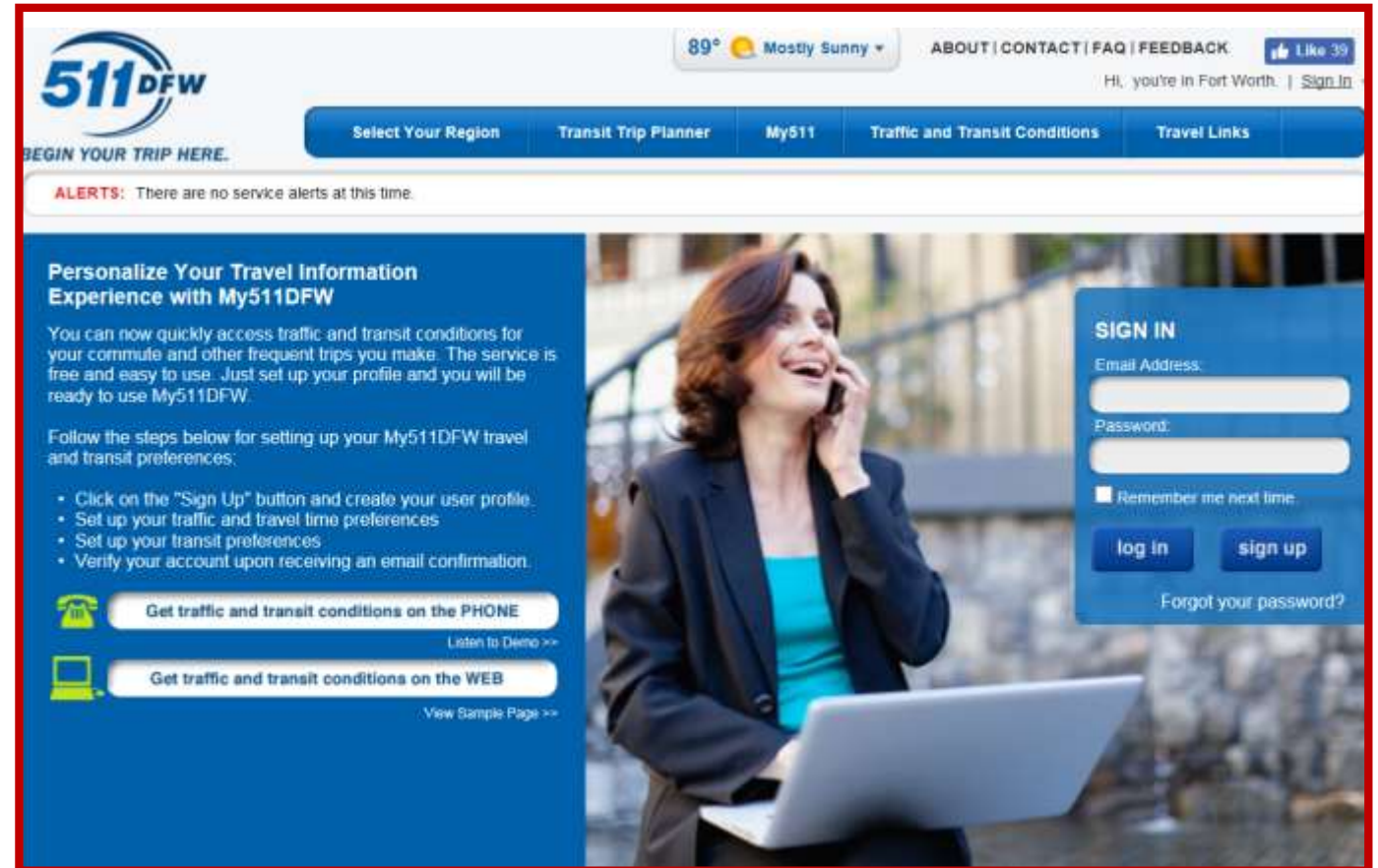
BEGIN YOUR TRIP HERE.





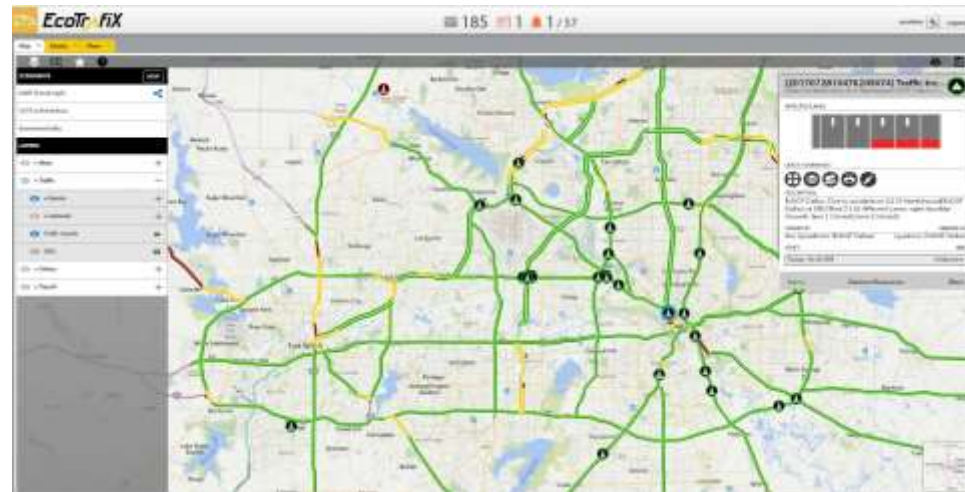
Approximate Cost

- 511DFW
 - Enhancements \$1M
 - M&O over \$2.5M for three years
 - Marketing and promotion over \$350,000



Schedule

- Enhancement Deployment - July 2018
- Marketing – Summer and Fall 2018, continuing through 2019
- Request for Partners for Additional Data Input – Summer 2018
- Request for Public/Private Partners for Cost Reduction 2019-2020
- Continued O&M and identification of additional improvements – Ongoing through 2020





For More Information

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