NCTCOG Update: IH-30 Technology Corridor and More

Thomas J. Bamonte
Clint Hail
North Central Texas Council of Governments
May 9, 2019

Automated Vehicle Program 2.0

**Project 1: AV Planning**
- NCTCOG procures planner(s) to assist public entities attracting or facing AV deployments.
- $1.5M
- RFP and kick-off by end of year

**Project 2: Cost Coverage**
- Cover costs associated with public entity hosting an AV deployment
- $10M
- Resources available by end of year

**Project 3: Regional Priority AV Planning and Deployments**
- Fund AV deployments for use cases not served by AV developers
- $20M
- Call(s) for projects TBD
Automated Long-Distance Trucking

FedEx Same Day Delivery Bot
**Data Sharing/Data Mining**

*511DFW*

*CONNECTED CITIZENS*

*Frisco 911*

*Traffic Signal Data Sharing/Connected Vehicles*

**Alert Filter**

*Top Alerts*

**Accident Count**

**Jam Miles**

**Traffic Signal Data Sharing/Connected Vehicles**

*ai applied INFORMATION*

*CONNECTED SIGNALS*

*Allen*

*Arlington*

*Frisco*

*Grapevine*

*Mckinney*

*Plano*
Hyperloop

Streets as New Technology Frontier
AV Road Rules Volunteer?

How the INRIX AV Road Rules™ Platform Works

- Rules of road owned by Road Authority
- Road Authority assigns attributes to road segments
- INRIX AV Road Rules provides data to vehicle based on position and possible routes
- Vehicle gets road info ahead of sensor horizon allowing pre-maneuver planning or validation of sensor detected road info

The INRIX AV Road Rules™ Platform enables cities to easily digitize local rules such as speed limits, school zones, stop signs, and more, and by doing so influence the areas where HAVs are deployed and ensure operation in accordance with local rules of the road. Once these rules and restrictions are digitized, vehicle operators can leverage this data to ensure safety and compliance. The system also allows vehicles in operation to report infrastructure needs (potholes, inadequate lane striping or signage) for attention and review by the road authority.

Unmanned Aerial Vehicles

BELL APT
AUTONOMOUS POD TRANSPORT
Interstate 30

Managed Lanes

Current technology

Insights from data collaboration

Texas Connected Freight Corridor

Regional Technology Corridor

Current Technology
Arity Phone Unlock Events per Trip

Jan-Aug 2018

Absolute number of phone unlock events normalized by absolute number of unique trips in each geohash
Texas Triangle Challenges

- Texas Triangle contains ¾ of Texas’ 27 million population – growing to 39 million people in 2040
- Seven of top 25 national freight bottlenecks
- Eleven of top 20 most congested roadway sections in Texas
- Doubling of freight tonnage from 2010 to 2040 (2/3rd by truck)
- More cross border trade value than CA, MI, ND, and AZ combined
# Proposed CV Deployment Locations

<table>
<thead>
<tr>
<th>USDOT Focus Areas</th>
<th>Proposed Applications</th>
<th>Proposed Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multimodal ICM</td>
<td>Advanced Traveler Information System</td>
<td>Mature IH35/SL340, Waco IH35/SL363, Temple IH35/SH130, Austin</td>
</tr>
<tr>
<td></td>
<td>Eco-Dynamic Routing</td>
<td>New IH35/SL363, Temple IH35/SH130, Austin</td>
</tr>
<tr>
<td></td>
<td>Work Zone Warnings</td>
<td>Mature IH30</td>
</tr>
<tr>
<td>CV at Pedestrian Crossings</td>
<td>Pedestrian/Animal Warning</td>
<td>New IH35 in Austin</td>
</tr>
<tr>
<td></td>
<td>SPaT Corridor for Improved Ped/Bicycle Safety</td>
<td>New Riverside Dr., Austin</td>
</tr>
<tr>
<td>Unified Fare Collection/Payment System</td>
<td>Truck Parking Availability/Reservation</td>
<td>New Rest Areas, IH35</td>
</tr>
<tr>
<td>Freight Community System</td>
<td>Border Wait Times</td>
<td>Mature IH35, Laredo</td>
</tr>
<tr>
<td>Connected Communities</td>
<td>Truck Signal Priority</td>
<td>Mature IH35, San Antonio</td>
</tr>
<tr>
<td>Infrastructure Condition Assessment</td>
<td>Low Bridge Height Warnings</td>
<td>New IH35, IH45</td>
</tr>
<tr>
<td>Rural Technologies</td>
<td>Traffic &amp; Road Info for Truck Platooning</td>
<td>New IH35, IH45</td>
</tr>
<tr>
<td></td>
<td>EEBL Alerts from Trucks Ahead</td>
<td>Mature Austin/ San Antonio</td>
</tr>
<tr>
<td></td>
<td>Traffic Queue Warnings</td>
<td>Mature IH35, IH45, IH10, IH30</td>
</tr>
<tr>
<td></td>
<td>Road Weather Warnings</td>
<td>New IH35</td>
</tr>
<tr>
<td></td>
<td>Wrong Way Driving (WWD) Alerts</td>
<td>Mature San Antonio</td>
</tr>
</tbody>
</table>

## IH 30 Regional Technology Corridor

**Structured vs Unstructured Testing**

- **Testbed site**
- **Reservation System**
- **Data Sharing**
Contact Info

Tom Bamonte, Senior Program Manager
Automated Vehicles
tbamonte@nctcog.org

Clint Hail, Transportation Planner
Automated Vehicles
chail@nctcog.org

For AV news:
@TomBamonte