



# Optimizing Safety and Mobility


Achieving Zero Red-Light Violations



November 20, 2024

## Facts

The number of Texas **MOTOR VEHICLE CRASHES** is expected to **INCREASE 27% & 63%** by 2035 & 2050



### TEXAS CRASHES FROM 2015 TO 2020



**38%**  
Roadway or lane departure



**27%**  
Intersection



**19%**  
Distracted Driving



**6%**  
Speeding



**5%**  
Impaired



TOTAL CRASHES BY YEAR

Houston Center Blvd  
12100



LEFT TURN SIGNAL



BEST  
LUNA  
SMOKE  
Gam  
ORA





## Red-Light Violations

Speed?

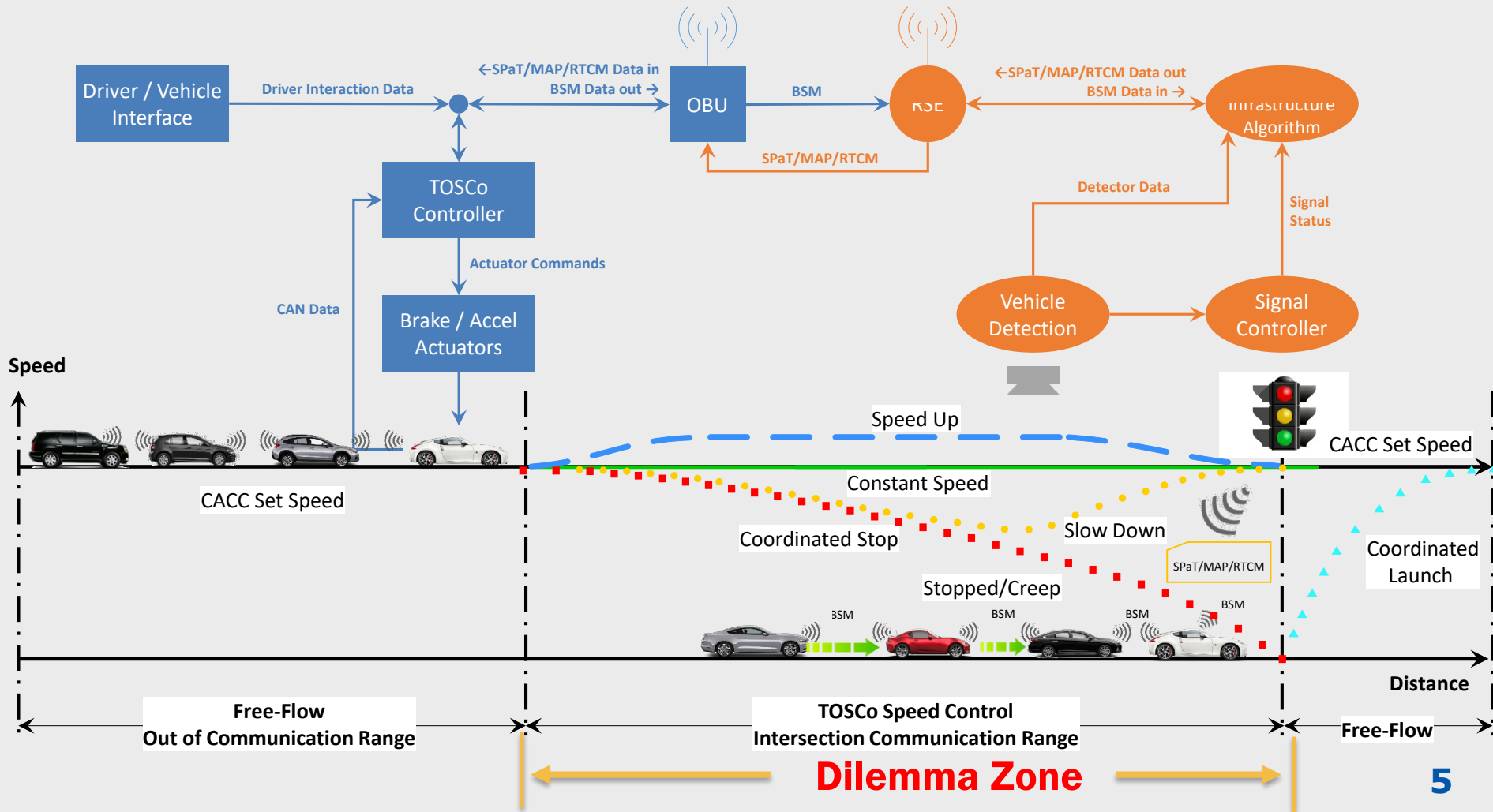
Distractions?

Following too close?

Dilemma Zone?

# TOSCo SAE LV. 1 Vehicles W/ SPaT Data (No Red-Light Running)

## Vehicle Making Decision in Green



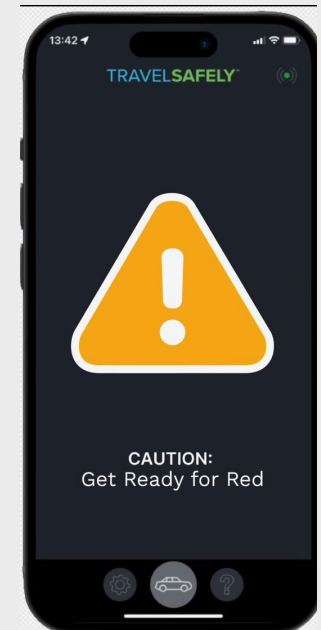
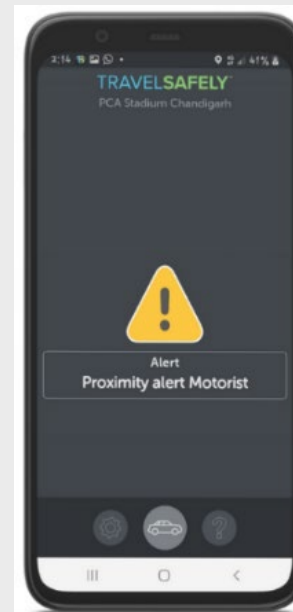
## TOSCo Vehicle on Red-Light Violations

- **Speed – Drive at Posted speed limit**
- **Distractions - 100% Focus on signal info (SPaT data)**
- **Unsafe Following distance - V2V Communications**
- **Dilemma zone - It makes decision in green**



## Non-TOSCo Vehicle Solutions

- Speed- Audiable alert when over speed.
- Distractions – Alert drivers when the signal is “red”
- Unsafe Following distance - App to App Proximity Alert
- Dilemma Zone - Alert drivers when the signal is about to change.



## **Can we achieve Zero Red-Light violations W/ C-V2X?**

- **Continue advancement in vehicle ADAS system.**
- **Providing advance alerts to vehicles and drivers for heads-up awareness.**
- **Assisting drivers to maintain focus on driving.**
- **Providing more information and time to drivers to help make better decision.**
- **Automated vehicle solutions.**



# Questions?