

FUTURE OF VEHICLE EMISSIONS PROGRAMS IN TEXAS

Texas State Inspection Association Annual Conference

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**North Central Texas
Council of Governments**

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CURRENT PROGRAM CHALLENGES

Texas Legislator Opposition

Limited Enforcement Resources

Inconvenience

Fraud

Ghost Vehicles

Lack of Tailpipe Data

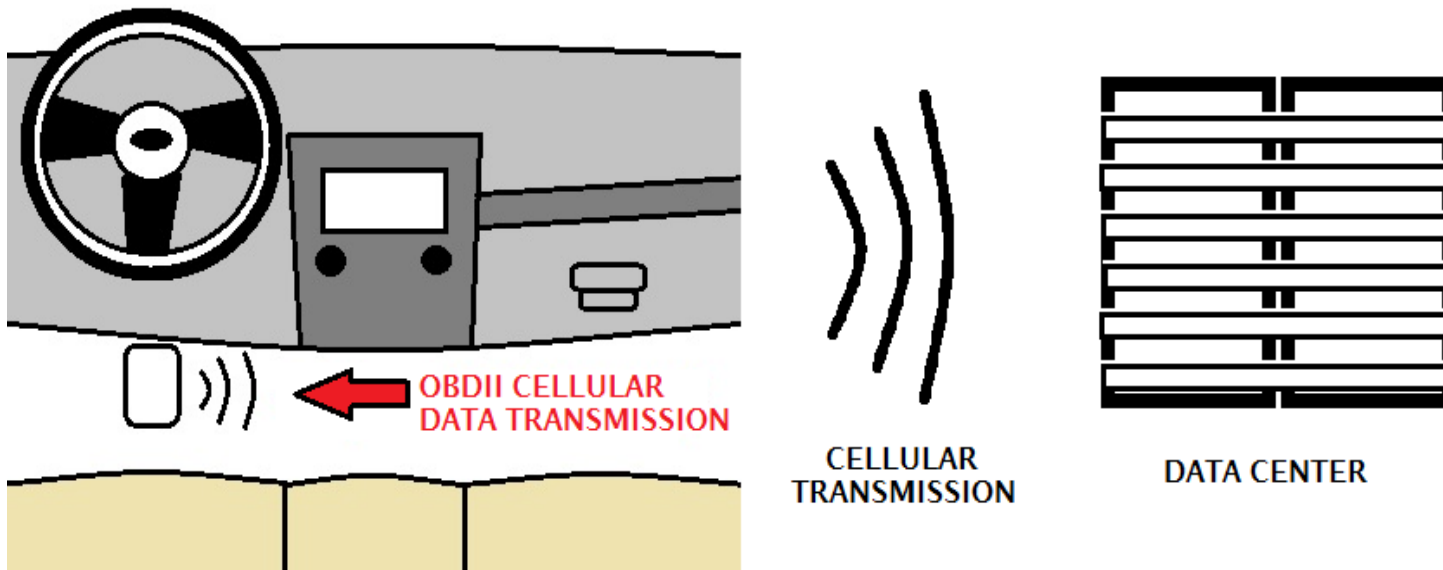
We Can Do Better!

FUTURE OF VEHICLE EMISSIONS PROGRAMS IN TEXAS

Short Term—OBDII Data Transmission Via Dongle

Remote transfer of current OBDII data to centralized information hub via commercially available telematics device attached to OBDII port

PHASE 1 - OBDII DATA COLLECTION/TRANSMISSION VIA "DONGLE"



OREGON DEQ TOO REMOTE OBDII INSPECTIONS

Department of Environmental Quality Program to Allow Remote OBDII Inspections

OBDII Telematics Device

Businesses lend or rent OBDII wireless dongles; once plugged in the emissions test completes in minutes after wirelessly transmitting results to state

Telematics Providers

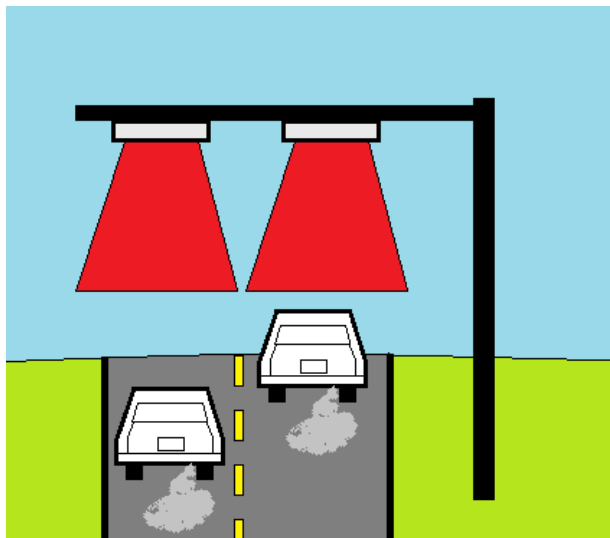
Plans to partner with always-on in-vehicle telematics providers



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Medium Term—Automatic Collection of Vehicle Tailpipe Data

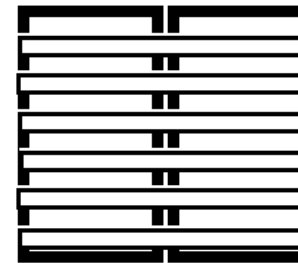
Remotely collect and transmit real-time emission data from vehicle exhaust to a centralized information hub via on-road differential optical absorption spectroscopy equipment to determine vehicle compliance



PHASE 2 - COLLECTION OF RAW EMISSIONS DATA



CELLULAR TRANSMISSION



DATA CENTER

AUTOMATIC COLLECTION OF VEHICLE TAILPIPE EMISSIONS DATA

Colorado's RapidScreen

Remote Sensing with Testing Instrumentation

Similar to Texas program

Predetermined highway on-ramp locations

Measure tailpipe emissions using light detection
and ranging (LIDAR)

Inspection process conducted by mail



<http://aircarecolorado.com/index.php/rapidscreen/>

AUTOMATIC COLLECTION OF VEHICLE TAILPIPE EMISSIONS DATA

East Central Scotland Vehicle Emissions Partnership

Overhead Technology Reading Vehicle Tailpipe Data

Pilot project using emission detection and reporting (EDAR) to measure the pollutants generated by vehicles driving in real world conditions

Considerable differences were found between the real world and specified emissions for vehicles

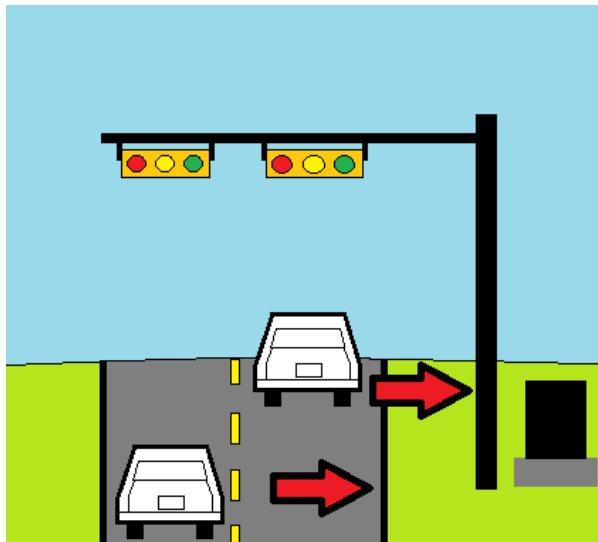


<https://www.westlothian.gov.uk/article/23026/Real-Time-Vehicle-Emissions-pilot-project-March-2017>

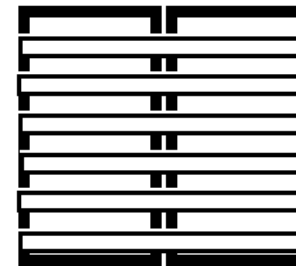
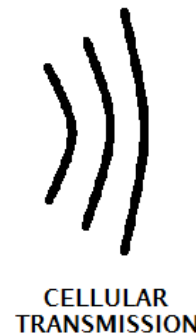
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Long Term—Next Generation OBD Development and Implementation

Integrate sensors into vehicle to continuously monitor real-time emission levels and transmit data to central hub for compliance use; notify the driver when emission levels exceed standard



PHASE 3 - OBDIII TRAFFIC COMMUNICATION/AUTONOMY



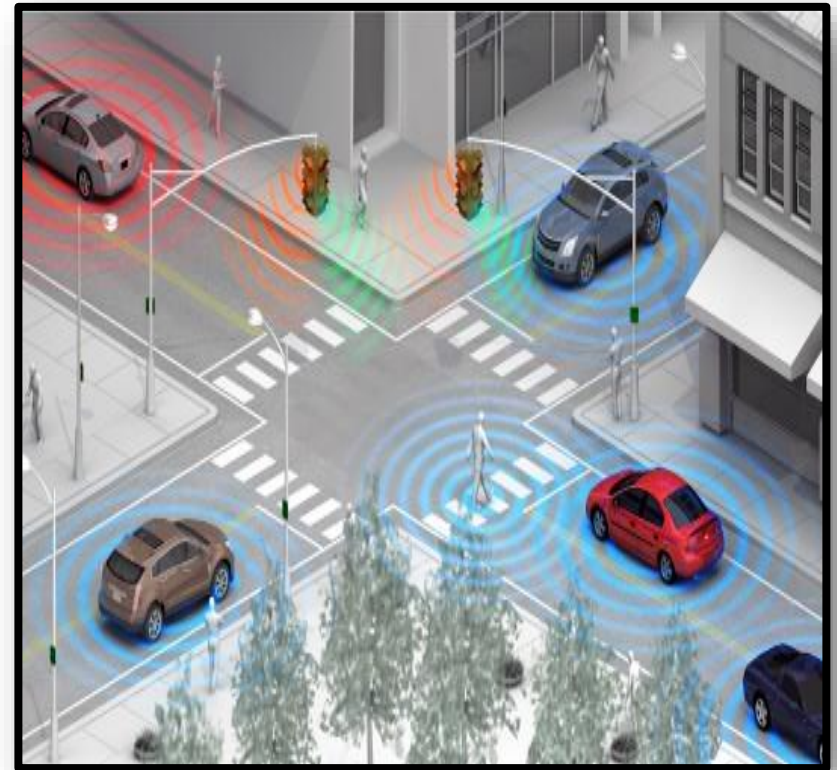
VEHICLE TO INFRASTRUCTURE (V2I)

Real Time Information to Drivers

Integrating vehicle speed and destination for transportation system enhancement allowing reduced congestion and delay

Next Gen OBD Vehicle Inspections

Utilize V2I for vehicle emissions inspections, including transmission of actual emissions readings



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Comparison of Three Phases

Benefit	Current System	Short Term	Medium Term	Long Term
		OBDII	OBDII	OBDIII
Integrate with Vehicle	X	✓	✓	✓
Convenience	X	✓	✓	✓
Minimize Fraud	X	X	✓	✓
Actual Emissions Data	X	X	✓	✓
Heavy-Duty Diesel Data	X	X	✓	✓
Automated Process	X	X	X	✓

HEAVY DUTY DIESEL VEHICLE INSPECTION AND MAINTENANCE WORKING GROUP

International Group of Jurisdictions and Practitioners

Share information about HDDV I/M programs and coordinate research and planning efforts

Need Regulatory Programs to Monitor HDDV Emissions

Group focused on identifying remote sensing device/service specifications to attract commercial interest

Next Generation OBD System

Sensors in a vehicle's emissions control system to continuously monitor real-time emissions levels and send to central information hub, to verify compliance and air quality modeling data

LOOKING FORWARD

AirCheckTexas Drive a Clean Machine Program

State Vehicle Repair and Replacement Assistance Program

Seeking TSIA Support

\$140 Million in Clean Air Account

Appropriations in 86th Texas Legislative Session

www.airchecktexas.org



FOR MORE INFORMATION

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