

# **CONFORMITY CASE STUDY: PROBLEM DEFINITION**

For

## **North Central Texas**

**NARC Conformity Case Study Workshop #3**

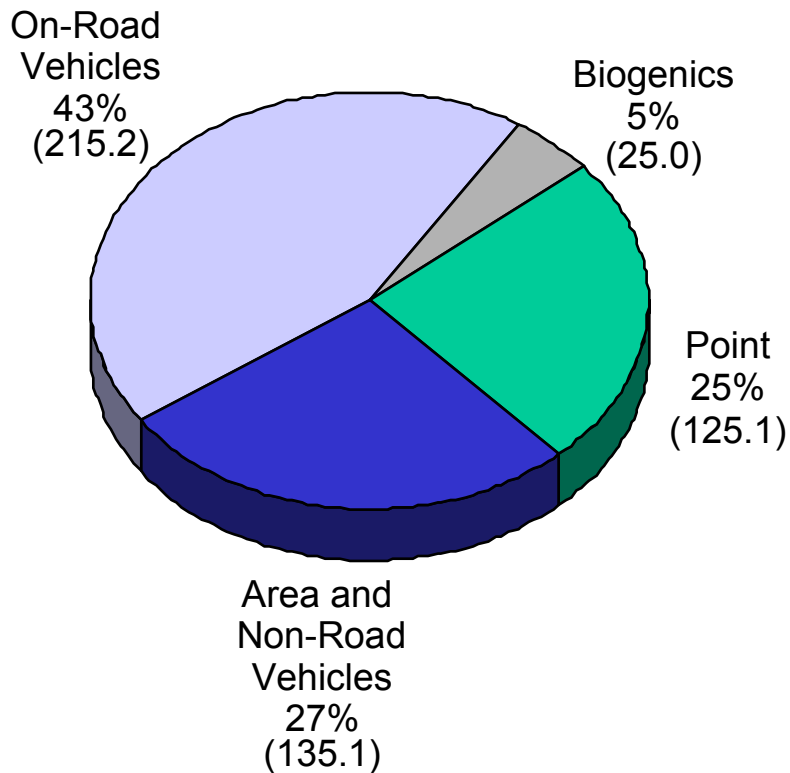
**March 23 and 24, 2002**

**Christopher W. Klaus, EIT  
North Central Texas Council of Governments  
Transportation Department**

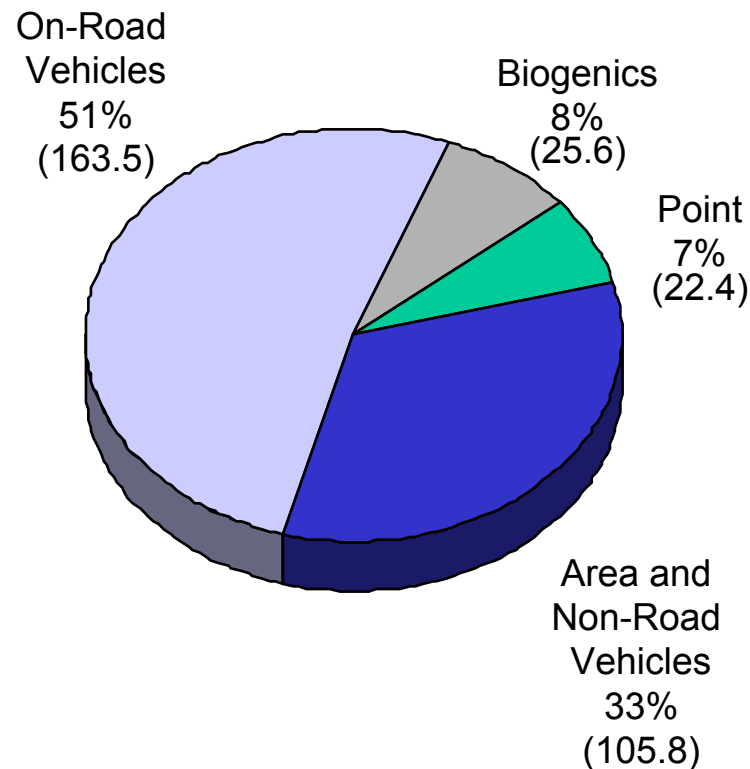
# DALLAS-FORT WORTH NONATTAINMENT AREA

## 2007 EMISSION SOURCES

### Current Control Emissions (500.5 tpd)

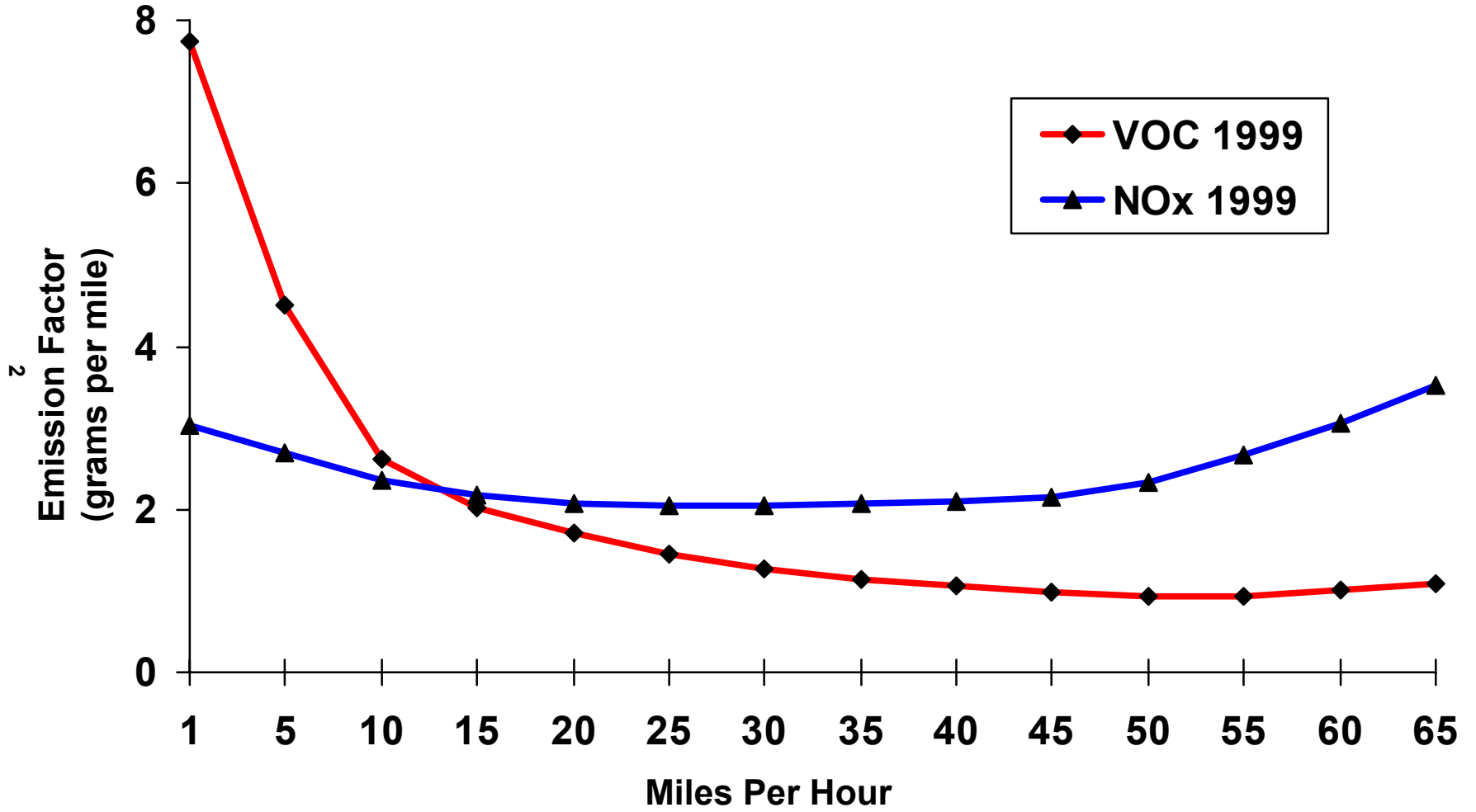


### Control Strategy Emissions (320.6 tpd)



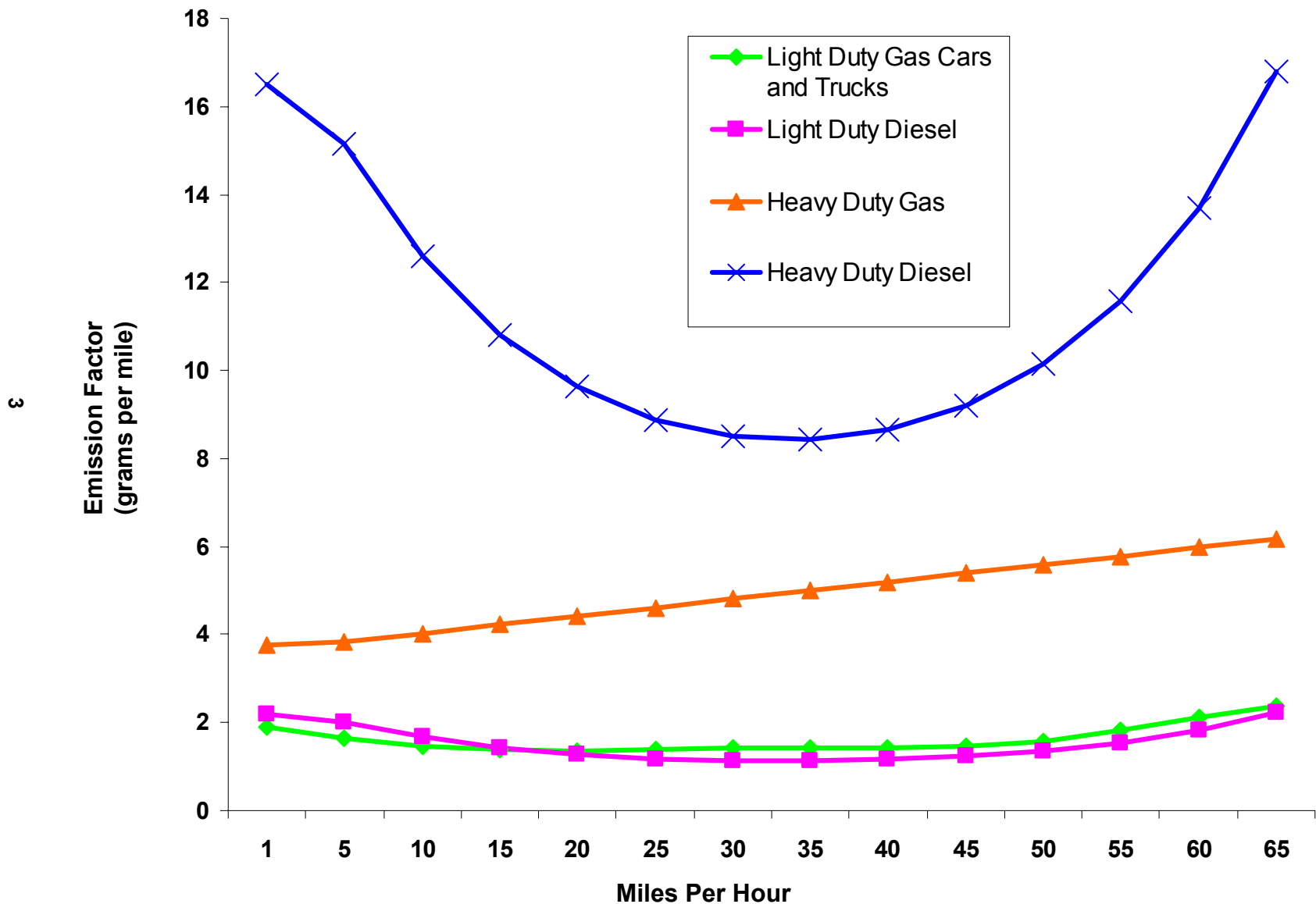
Source: DFW Attainment Demonstration, TNRCC, April 2000, Table 6-1 DFW NOx Reduction Estimates

# DALLAS-FORT WORTH NONATTAINMENT AREA ATTAINMENT DEMONSTRATION SIP VOC and NOx Emission Curves



# DALLAS-FORT WORTH NONATTAINMENT AREA

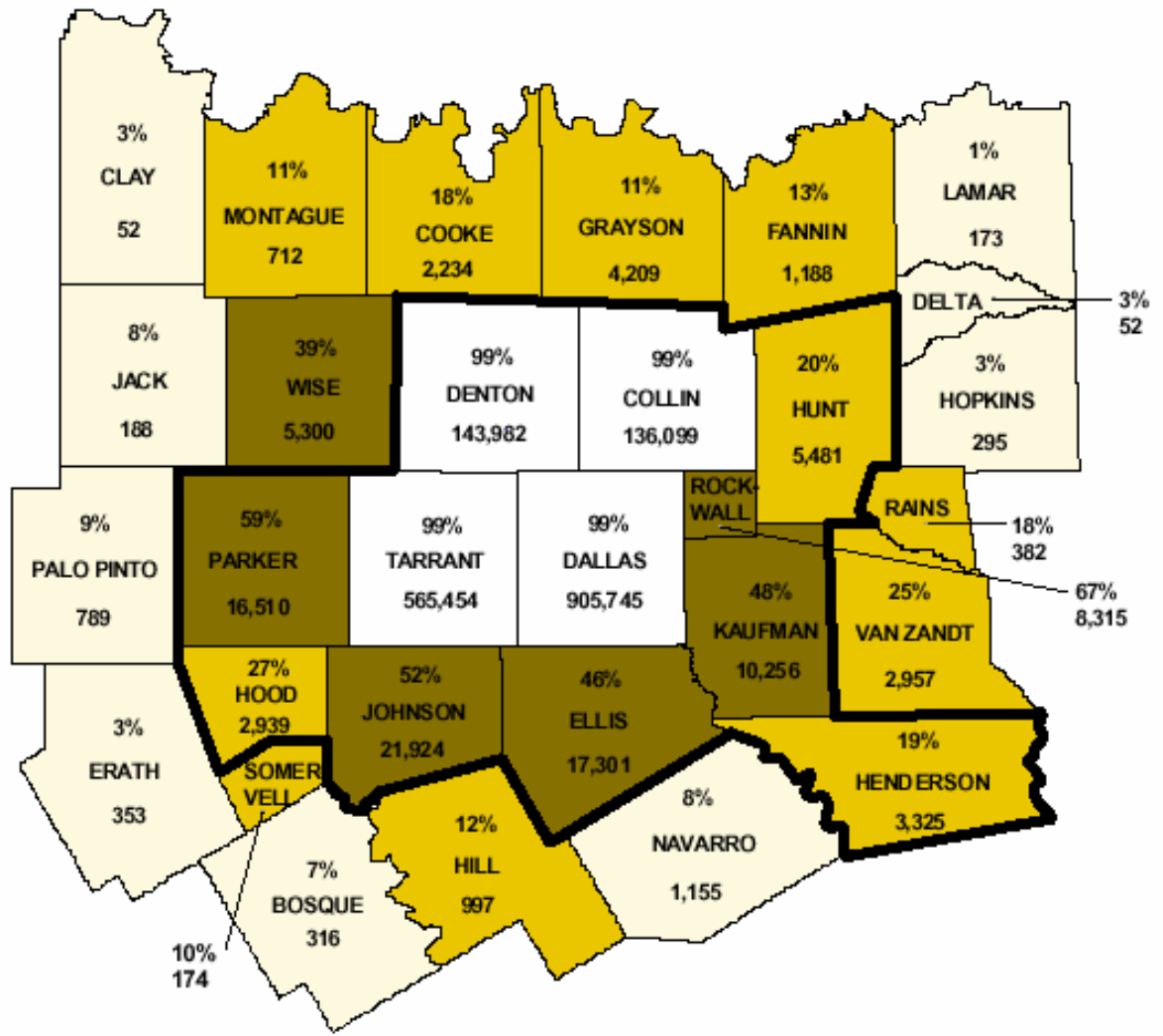
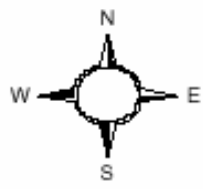
## 2000 NOx Emission Curves by Vehicle Type



# COMMUTERS TO FOUR URBAN COUNTIES FOR WORK PURPOSES

**LEGEND**

- Urban Counties
- < 10%
- 10% - 35%
- > 35%
- Candidate 8 - Hour Boundary
- XX% Share of County Work Trips
- X,XXX Workers Per Day



Source: 1990 U.S. Census Data

# **DALLAS-FORT WORTH NONATTAINMENT AREA**

## **Major On-Road Emission Sources And Solutions**

**Cold Starts - Vehicle Trip Reduction Program**

**Pre 10:00 a.m. Emissions - Travel Demand Management**

**Diesel Engines - Clean Vehicle Program**

**Speeds > 50 MPH - Environmental Speed Limits**

**Freeway Speeds < 20 MPH - Freeway Management Program**

**Arterial Speeds < 20 MPH - Intersection/Signal Program**

**Hard Accelerations – Intersection/Signal Program/Enforcement**

**Excessive Idling – Bottleneck Removal/Education**

**Gross Polluting Vehicles - High Emitting Vehicle Program**

# DALLAS-FORT WORTH NONATTAINMENT AREA MANAGEMENT AND OPERATION PROGRAM

## Policies, Programs, and Projects

Program Name	Cost (millions)	Funding Source
Traffic Signal Integration/Monitoring	6.0	CMAQ
Bicycle/Ped Public Education/Information	0.4	STP-MM
Ozone Season Transit Incentives	2.5	CMAQ
Employee Trip Reduction	0.5	STP-MM
• Vanpools	2.5	STP-MM
Central Dallas Guaranteed Ride Home	0.3	STP-MM
DFW Airport Transportation Mgt. Assoc.	0.25	STP-MM
Clean Vehicle Loaner-Alternative Fuels	0.8	CMAQ
Regional ITS Communication System	1.48	CMAQ
AQ Public Education/Information	0.9	STP-MM
Digital Aerial Photography	2.9	STP-MM
DFW Airport Rail Access	0.75	CMAQ
High Emitting Vehicle Program	3.7	CMAQ
Heavy-Duty Delivery Truck LNG Project	4.4	CMAQ
Transportation/Land Use Outreach	0.5	STP-MM

# DFW EMISSION REDUCTION PROGRAMS

## Mobile Source Emission Reduction Control Strategies

<b>Transportation Control Measures (TCM)</b>	<b>Intersection Improvements</b> <b>Bicycle/Pedestrian Facilities</b> <b>HOV Lanes</b> <b>Rail</b> <b>Grade Separations</b> <b>Park-n-Ride</b> <b>Vanpools</b>	<b>775 Locations</b> <b>710 Miles</b> <b>76 Miles</b> <b>97 Miles</b> <b>15 Locations</b> <b>8,236 Spaces</b> <b>547 Vehicles</b>
<b>Voluntary Mobile Emission Reduction Measures (VMEP)</b>	<b>Clean Vehicles</b> <b>Sustainable Development</b> <b>Employer Trip Reduction Measures</b> <b>Vehicle Retirement/Maintenance</b> <b>Public Education/Ozone Season</b> <b>Fare Reduction</b>	<b>3,700 Vehicles</b> <b>Regional</b> <b>Regional</b> <b>2,500 Vehicles/Year</b> <b>Regional</b>
<b>Transportation Emission Reduction Measures (TERM)</b>	<b>Traffic Signal Improvements</b> <b>Intelligent Transportation Systems</b>	<b>3,565 Locations</b> <b>350 Miles Covered</b>
<b>Alternate Measures</b>	<b>Bottleneck Removal</b> <b>CMAQ Projects</b> <b>Other</b>	

# DALLAS-FORT WORTH ATTAINMENT DEMONSTRATION SIP

## Speed Limit Reduction Evaluation

### 2007 Analysis Year

PERFORMANCE MEASURE	Speeds (mph)				
	Base	55	60	65	70 TO 65 65 TO 60
<b>NONATTAINMENT AREA TOTALS</b>					
Uncongested Speeds	68	60	65	67	<b>66</b>
Average Speeds (loaded)	56	51	54	56	<b>55</b>
VOC Reduction (tons/day)	-	1.52	0.67	0.07	<b>0.42</b>
NOx Reduction (tons/day)	-	19.91	7.42	0.83	<b>5.04</b>
<b>MPA TOTALS</b>					
Uncongested Speeds	74	61	66	71	<b>70</b>
Average Speeds (loaded)	69	58	62	67	<b>66</b>
VOC Reduction (tons/day)	-	4.02	1.71	0.23	<b>1.10</b>
NOx Reduction (tons/day)	-	22.66	8.37	0.90	<b>5.42</b>

Source: NCTCOG - Transportation Department  
 Nonattainment Area: Dallas, Tarrant, Denton, Collin Counties

# **HIGH EMITTING VEHICLE PROGRAM**

## **Components**

### **Education**

- Public Inspectors**
- Peace Officers**
- Fleet Managers**

### **Vehicle Detection**

- Enhanced Inspection Maintenance Program**
- Remote Sensing**
- Smoking Vehicle Program (TNRCC, Visual Statute)**

### **Enforcement**

- Inspection/Maintenance Testing**
- Remote Sensing**
- Smoking Vehicle Statute**
- Inspection Sticker**

### **Research**

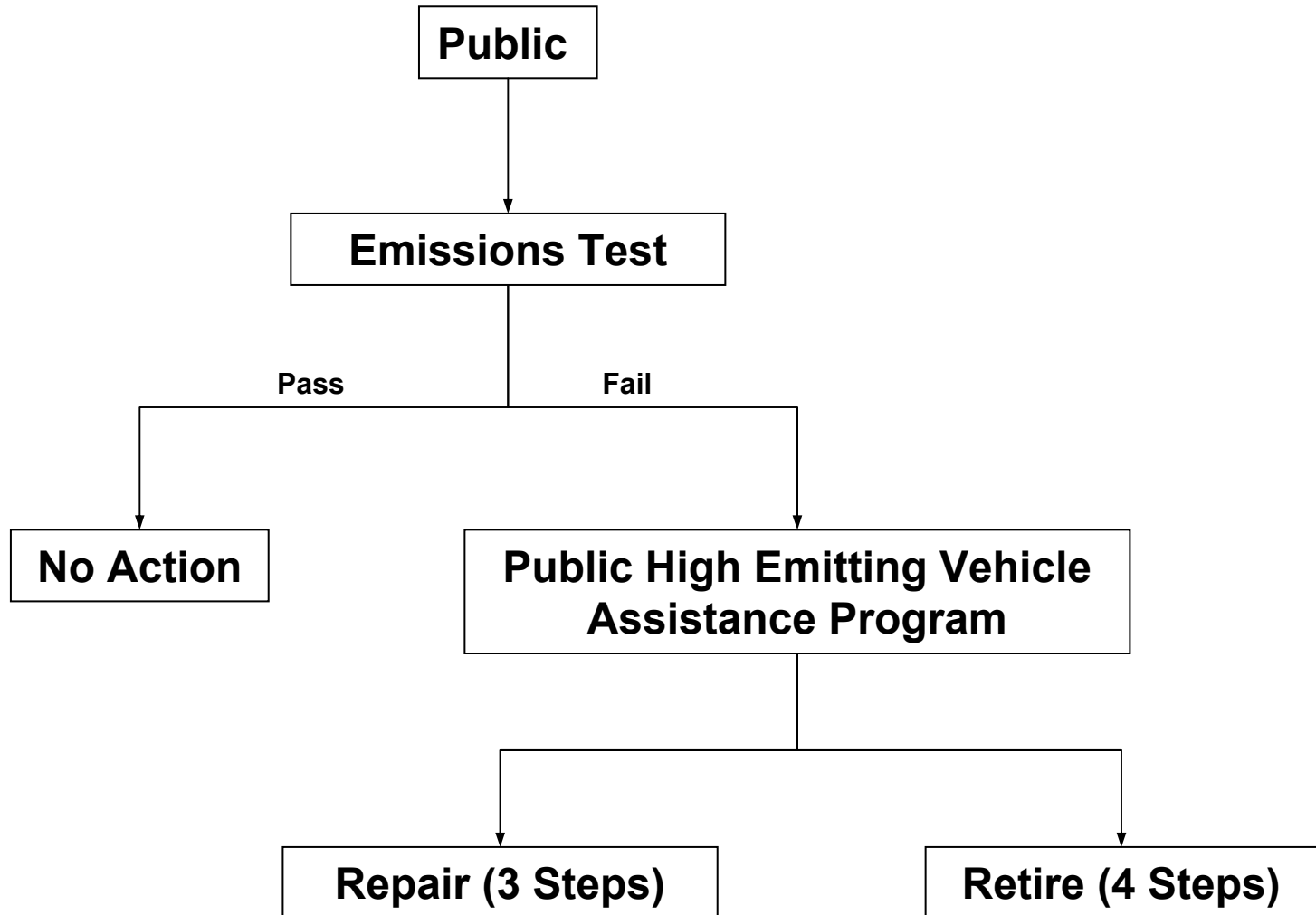
- Fuels and Advanced Technologies**
- Review I/M Failure Data**
- Field Data Collection**

### **Incentives**

- Vehicle Repair and Retrofit (Including LIRAP)**
- Accelerated Retirement (Including LIRAP)**
- Police Enforcement Award**
- Private Sector Coupons and Rebates**
- Transit Pass**

# HIGH EMITTING VEHICLE PROGRAM

## Public Component



# **PUBLIC HIGH EMITTING VEHICLE ASSISTANCE PROGRAM**

## **Participant Process**

### **TRIP 1: Texas Inspection Station**

- Informational Pamphlet**
- Program Contacts**
- Vehicle Inspection Report (VIR)**

### **Repair Assistance**

### **TRIP 2: Program Administrator/One-Stop Verification**

- Program Options**
- Owner and Vehicle Eligibility Check**
- Application/Voucher**

### **TRIP 3: Recognized Repair Facility**

- Diagnostics/Repair Estimate**
- Repair and Retest or Retirement**

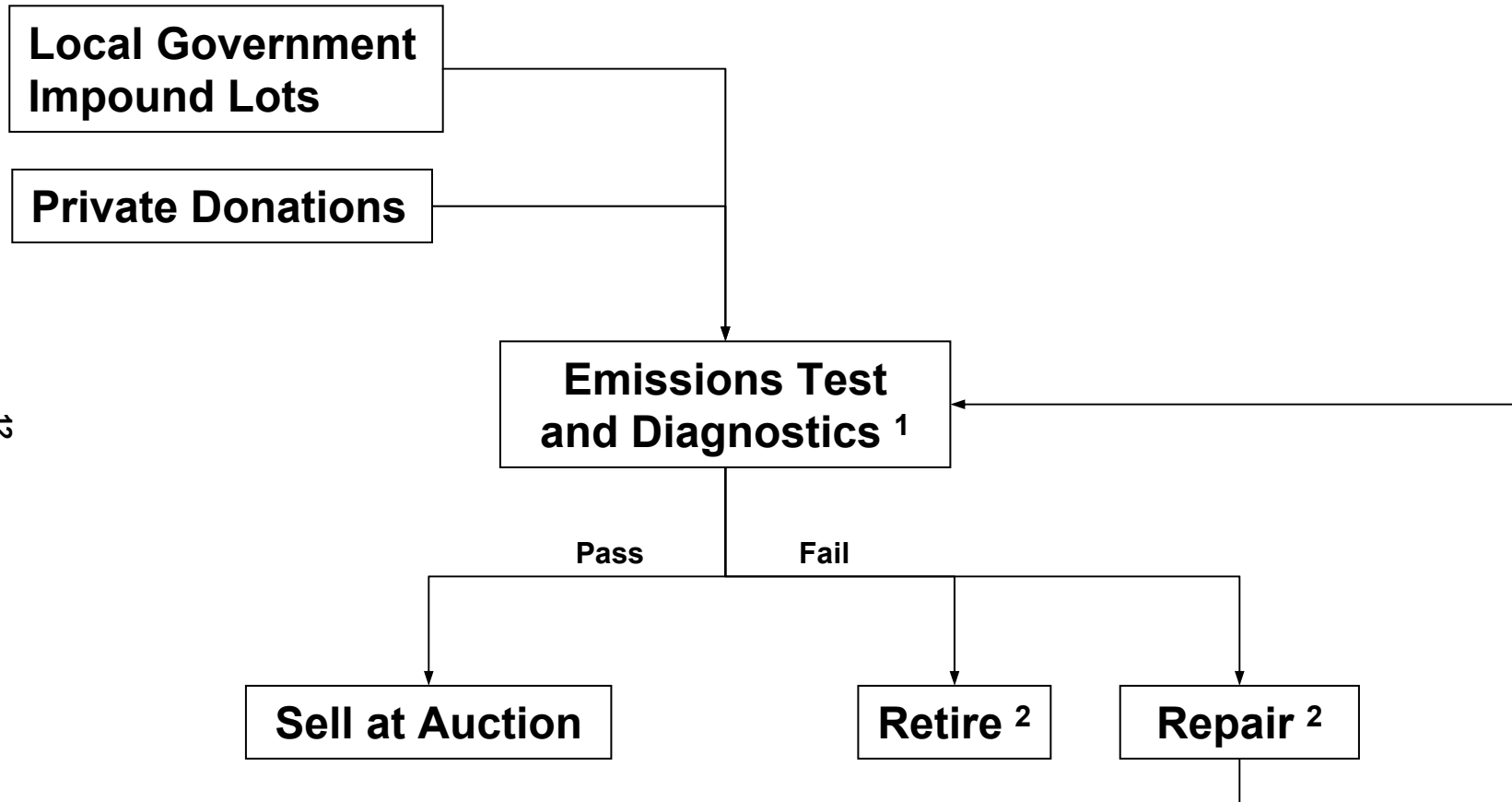
### **TRIP 4: Program Administrator**

- Incentive Payments**
- Reporting**
- Alternate Transportation Assistance**

### **Retirement**

# HIGH EMITTING VEHICLE PROGRAM

## Auction Component



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Program partners may include local governments, inspection stations, after market parts suppliers, private organizations, antique car clubs, recognized repair facilities, and salvage yards.

<sup>1</sup> Regional Transportation Council Funded

<sup>2</sup> Private Sector Funded