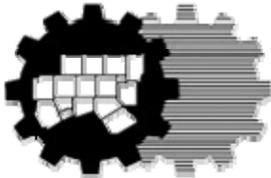


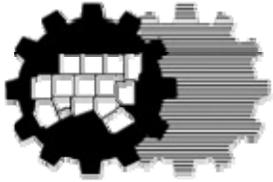
Pay-As-You-Drive Insurance Pilot Program

**2009 Transportation Planning,
Land Use, & Air Quality Conference**

July 28-29, 2009



**Chris Klaus
Senior Program Manager
North Central Texas Council of Governments**



Pay-As-You-Drive Pilot Program

Outline

DFW Air Quality Overview

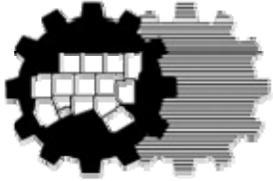
What is Pay-As-You-Drive Insurance

NCTCOG Pilot Program

Detailed Results & Analysis

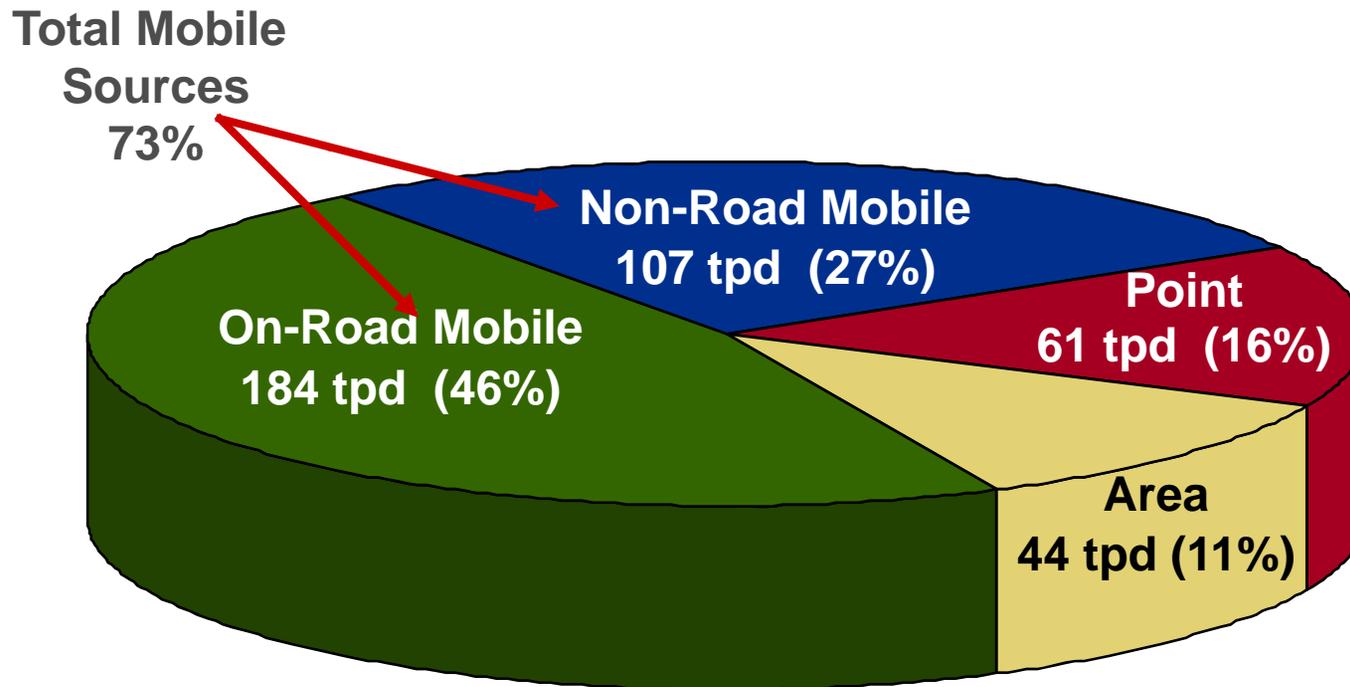
Future of PAYD in DFW

DFW Air Quality Overview



DFW Ozone Nonattainment Area 2009 Total NO_x Emission Inventory

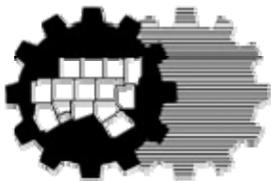
Emission Source Category Estimates



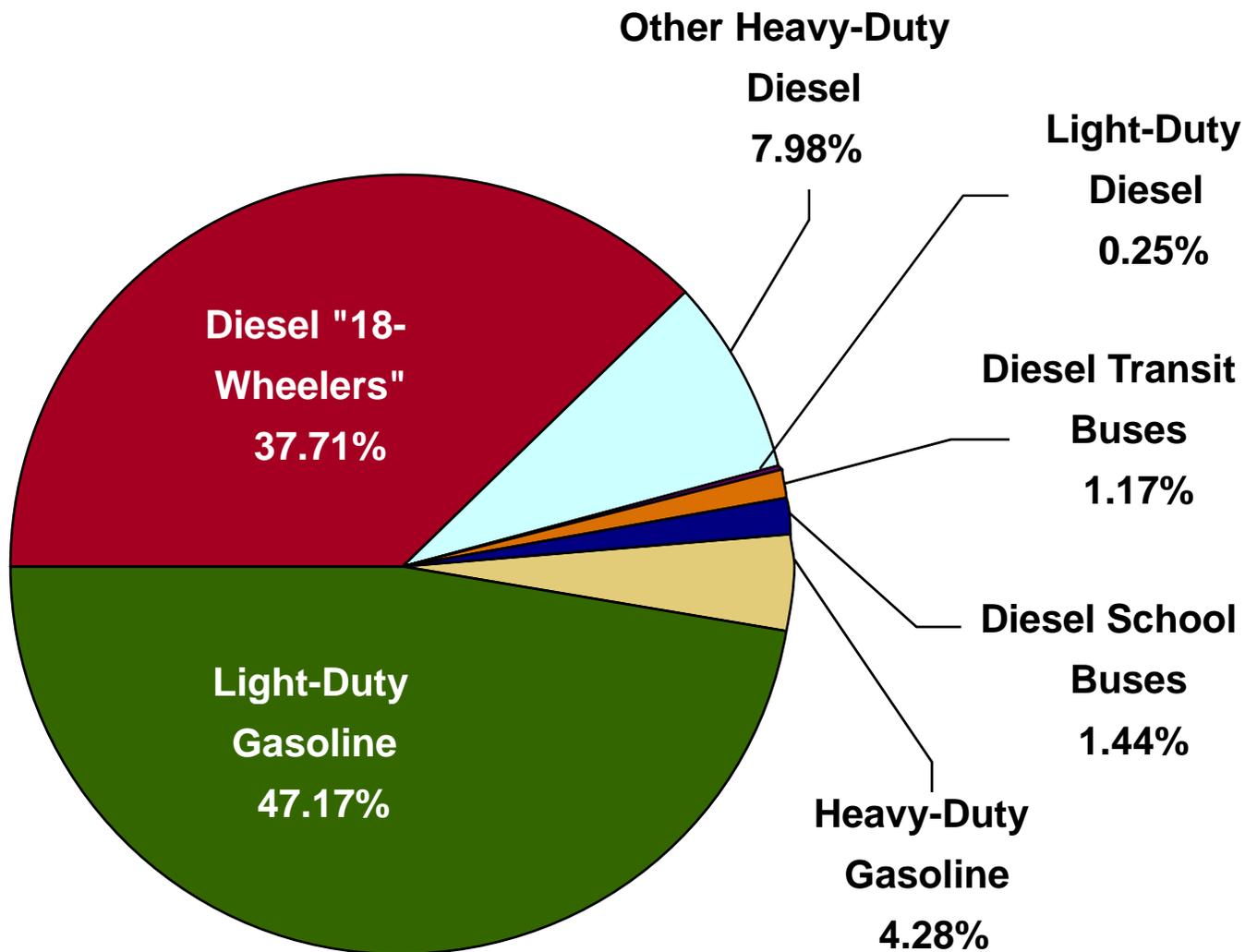
Total NO_x = 396 Tons Per Day (tpd)

NO_x = Nitrogen Oxides

Source: Texas Commission on Environmental Quality

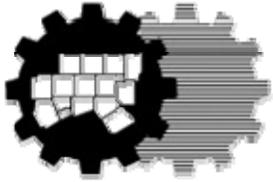


DFW Ozone Nonattainment Area 2009 On-Road NO_x Emissions Inventory



Source: Texas Commission on Environmental Quality

What is Pay-As-You-Drive Insurance?



Pay-As-You-Drive Pilot Program

The Concept

Conventional “Buffet Style” Insurance Pricing

Fixed Premium For Unlimited Mileage Coverage

Lower-Mileage Drivers Subsidize Higher-Mileage Drivers

VS.

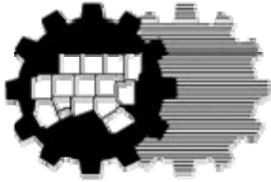
Pay-As-You-Drive (PAYD) Insurance Pricing

Converts Insurance To A Variable Cost

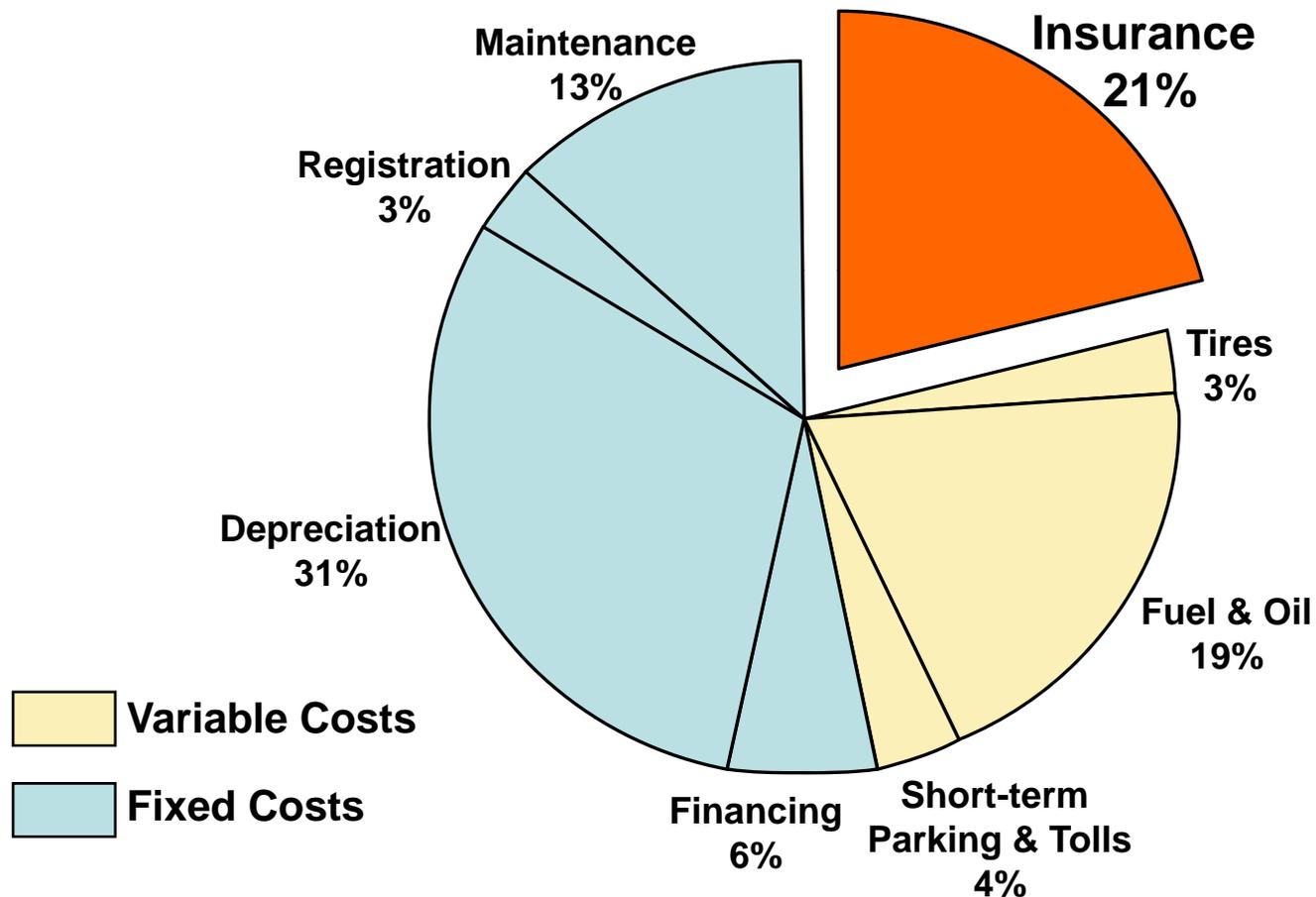
Premiums Are Directly Related To Mileage

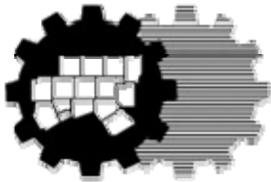
Opportunity To Reduce Mileage

Opportunity To Save Money



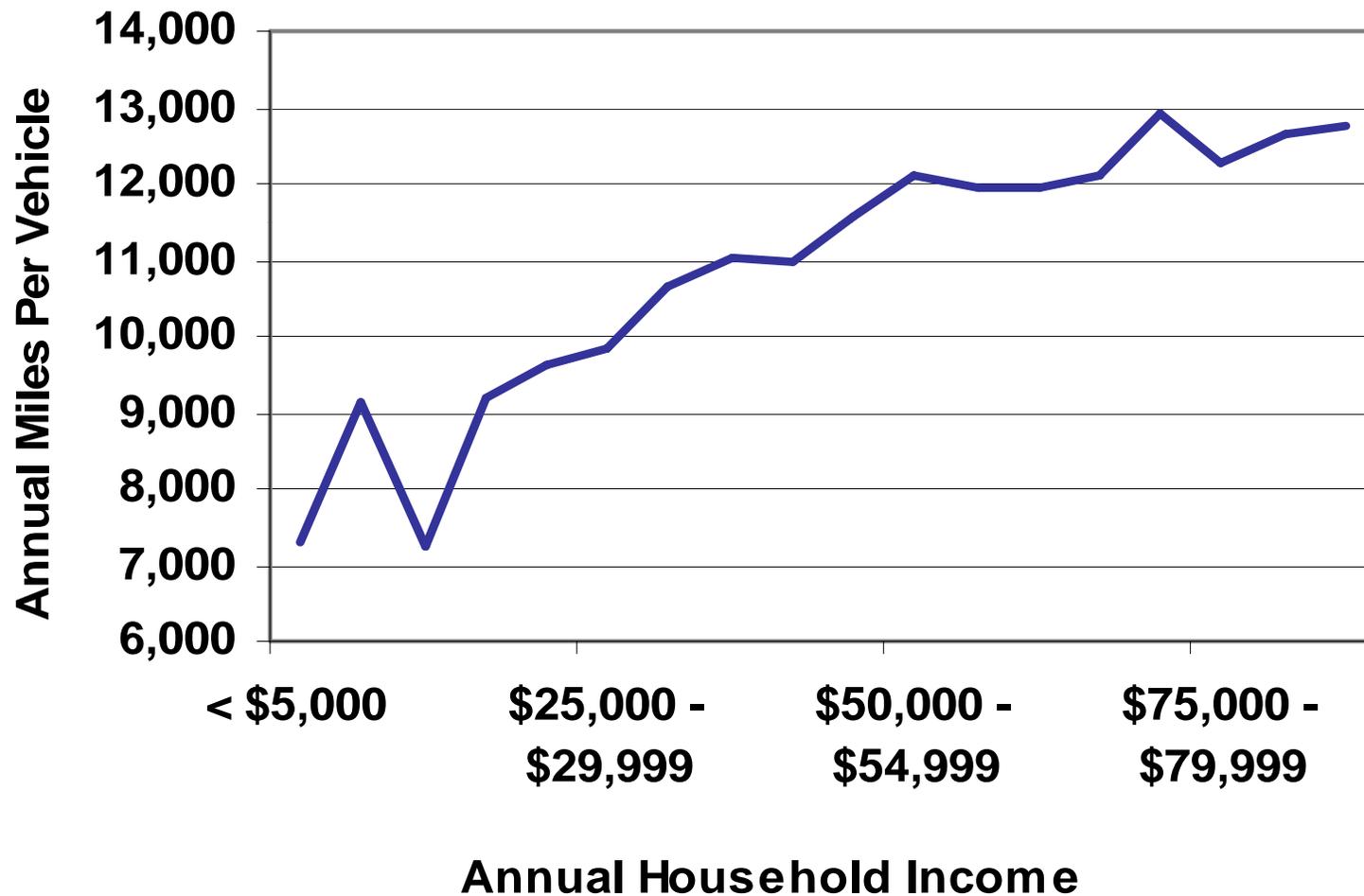
Distribution of Auto Expenses American Automotive Association



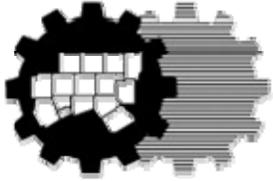


Impacts on Lower Income Motorists

Average Annual Vehicle Mileage By Income



Source: National Household Travel Survey, US Department of Transportation, <http://nhts.ornl.gov/2001/index.shtml>, 2001.



Pay-As-You-Drive Pilot Program

General Benefits

Increase Insurance Affordability

Increase Insurance Cost Equitability

Reduce Uninsured Driving

Reduce Vehicle Miles Traveled

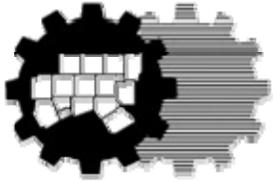
Decrease Road and Parking Facility Costs

Reduce Risk, Increase Safety

Reduce Congestion

Reduce Harmful Vehicle Emissions

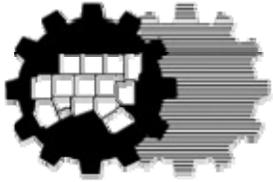
**NCTCOG
Pilot
Program**



Pay-As-You-Drive Pilot Program

\$1,500,000 Authorized

Fall 2004	Research On PAYD Programs Begins
January 2005	Phase 1 Commences
December 2005	Phase 1 Concludes; Analysis Published
January 2006	Phase 2 Commences
March 2006	Participant Section
April 2006	Pre-Pilot Survey Conducted
May 2006	Data Collection Begins
April 2007	Mid-Course Report Published
June 2007	Data Collection Ends
July 2007	Post-Pilot Survey Conducted
August 2008	Phase 2 Concludes
November 2008	Final Report Published



Pay-As-You-Drive Pilot Program

Phase 1 Overview

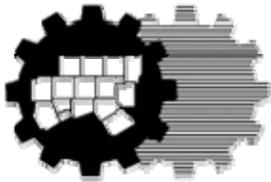
Through a competitive call, NCTCOG selected Progressive County Mutual Insurance Company

Goals:

- 1) Evaluate existing data sources to determine relationship between mileage driven and risk incurred.
- 2) Test insurance industry theory that lower mileage translates into lower risk and, therefore, reduced claim costs.

Progressive provided NCTCOG over 700,000 vehicle identification numbers (VIN) from 2002 – 2005 for clientele in the North Central Texas 9-county ozone nonattainment area.

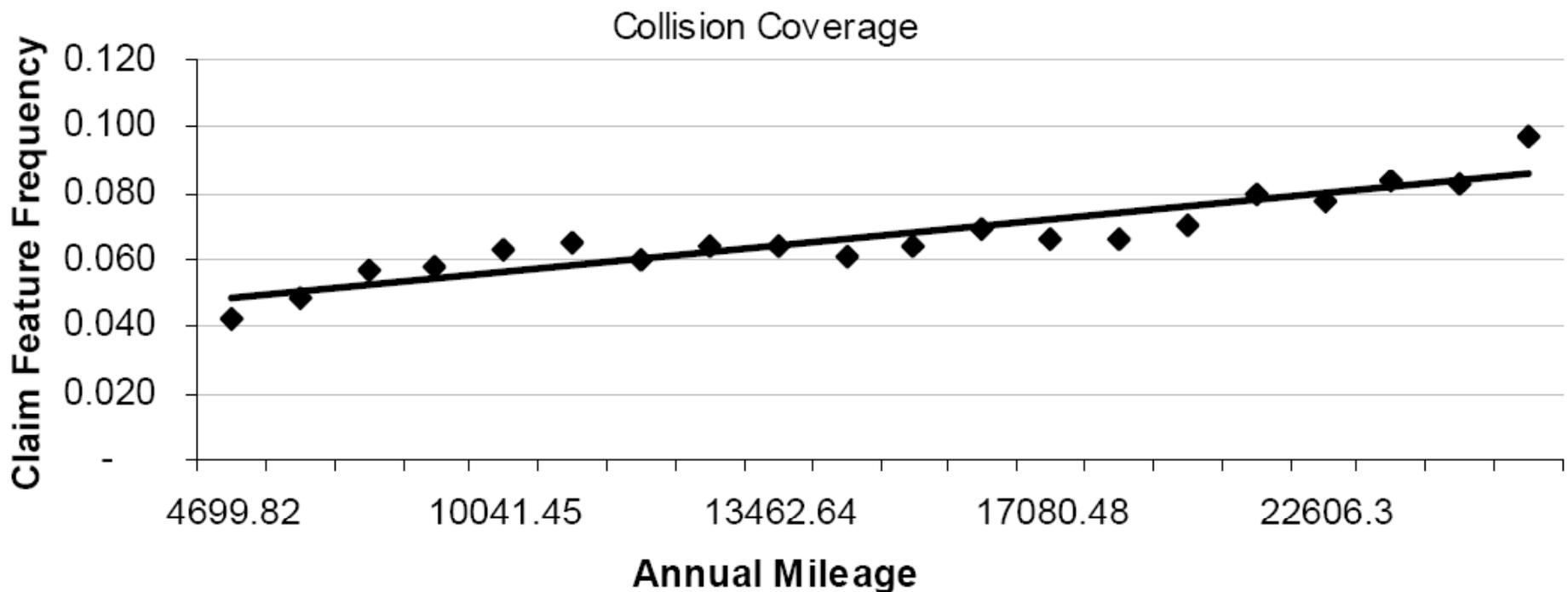
VINs were cross-referenced with NCTCOG's emissions database (NED) to determine annual mileage using odometer readings obtained during annual vehicle inspections.

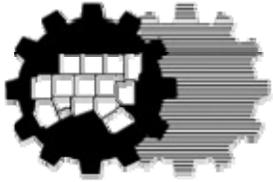


Pay-As-You-Drive Pilot Program

Phase 1 Results - Progressive's Analysis

Risk	Fewer Miles Driven Equates To Fewer Insurance Claims
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Pay-As-You-Drive Pilot Program

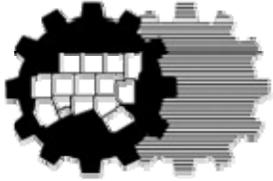
Phase 2 Overview

Goals:

Expand upon and validate results from Phase 1.

Measure consumer response to a reduced premium incentive based on reduced mileage.

Determine if PAYD will induce regional drivers to reduce annual mileage and what air quality benefits may it have.



Pay-As-You-Drive Pilot Program

Phase 2 Overview

In a continued partnership with Progressive, both entities performed complementary data analysis on driver behavior related to PAYD.

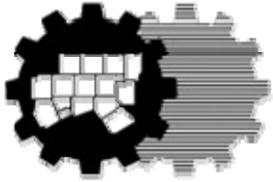
Progressive Analyzed:

Regional Interest in PAYD
Miles Reduced
Customer Perception

Incentive Amount
Time of Day

NCTCOG Analyzed:

Regional Participation
Emission Reductions
Spatial Analysis



Pay-As-You-Drive Pilot Program

Types

Three main types of technology to collect mileage data:

Manual:

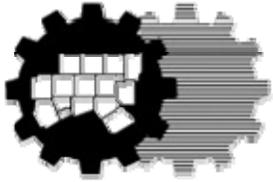
- Performed using little to no technology
- Includes monitoring by state inspectors or a paper exercise showing expected outcomes.

On-Board Diagnostic (OBD) / Plug-ins:

- Tracks data by plugging into vehicle (1996 and newer models)
- Monitors speed, distance, time of day, driving habits including heavy breaking and acceleration

Global Positioning System (GPS):

- Including On-Star™
- Collects data from via satellite
- Monitors speed, distance, time of day, and location



Pay-As-You-Drive Pilot Program

Phase 2 Requirements

Participants were Progressive customers at start of program

Participants resided within 9-county 8-Hour Ozone Nonattainment Area

Vehicle model year was 1996 or newer

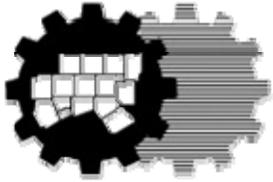
TripSense® was plugged in to the OBD port 95% of the time

Participants had internet access to upload data from TripSense® device



Photo source: www.atomerochbitar.se

Detailed Results and Analysis

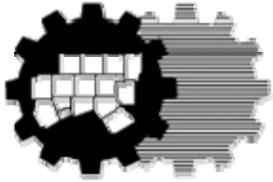


Pay-As-You-Drive Pilot Program

Phase 2 Methodology

Participants were separated into two groups:

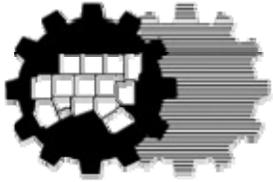
Group 1: (With Odometer Data)	Group 2: (Without Odometer Data)
<p>Baseline annual mileage determined using odometer readings from NED.</p> <p>Each vehicle was eligible for a mileage-based incentive in each of the two 6-month data collection periods.</p>	<p>Baseline annual mileage determined using data collected in first 6-month period.</p> <p>Each vehicle was eligible for a mileage-based incentive in the second 6-month data collection period only.</p>
93 Participants	2921 Participants



Pay-As-You-Drive Pilot Program

Phase 2 Results - Progressive's Analysis

Level of Interest	High - 3,014 Texas Drivers Enrolled in the Program in 10 Days
Miles Reduced	PAYD Program Decreased Participant Miles Driven by An Average of 5%, or 560 Miles Per Year
Incentive	Average Financial Incentive for Reducing Mileage Was \$88 Per Period <ul style="list-style-type: none">• \$50 for Participation• + \$25 Per 5% Reduction in Miles
Time of Day	Positive Effect on Reducing Mileage During Commute and Mid-Day Hours No Effect on Late Night Miles Driven

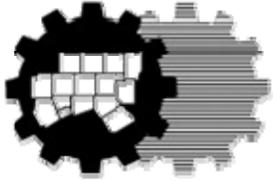


Pay-As-You-Drive Pilot Program

Phase 2 Results – NCTCOG's Analysis

Participation:

County	Participating Households (HH)	Total HH in County (2005)	% of Total HH
Dallas	821	813,635	0.10%
Tarrant	472	579,127	0.08%
Collin	300	234,109	0.13%
Denton	300	190,618	0.16%
Johnson	47	46,204	0.10%
Ellis	35	43,605	0.08%
Rockwall	24	14,530	0.17%
Parker	22	34,565	0.06%
Kaufman	19	27,756	0.07%
TOTAL	2040	1,984,149	0.10%



Pay-As-You-Drive Pilot Program

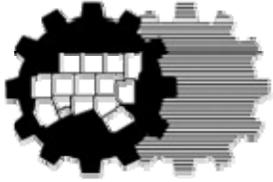
Phase 2 Results – NCTCOG’s Analysis

Emissions:

Emissions Reductions (tpd)

	Pilot Program	With a <u>10%</u> Penetration Rate in North Texas
# of Vehicles	1,173	400,332
NO_x	0.0013	0.43
VOC	0.0015	0.50
CO	0.0160	5.40
CO₂	1.1900	399
CH₄	0.0001	0.04
PM_{2.5}	0.0001	0.02

NO_x = Nitrogen Oxides; VOC = Volatile Organic Compounds; CH₄ = Methane
 CO = Carbon Monoxide; CO₂ = Carbon Dioxide; PM_{2.5} = Fine Particulate Matter
 tpd = tons per day; # of Vehicles = number of vehicles which sufficient data at the end of the program.

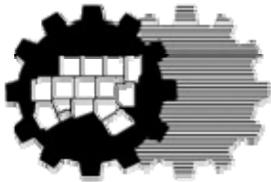


Pay-As-You-Drive Pilot Program

Phase 2 Results – NCTCOG's Analysis

Spatial Analysis

- A) Land Use Zoning
- B) Population Density
- C) Transit Services
- D) Sustainable Development Communities



Pay-As-You-Drive Pilot Program

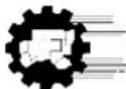
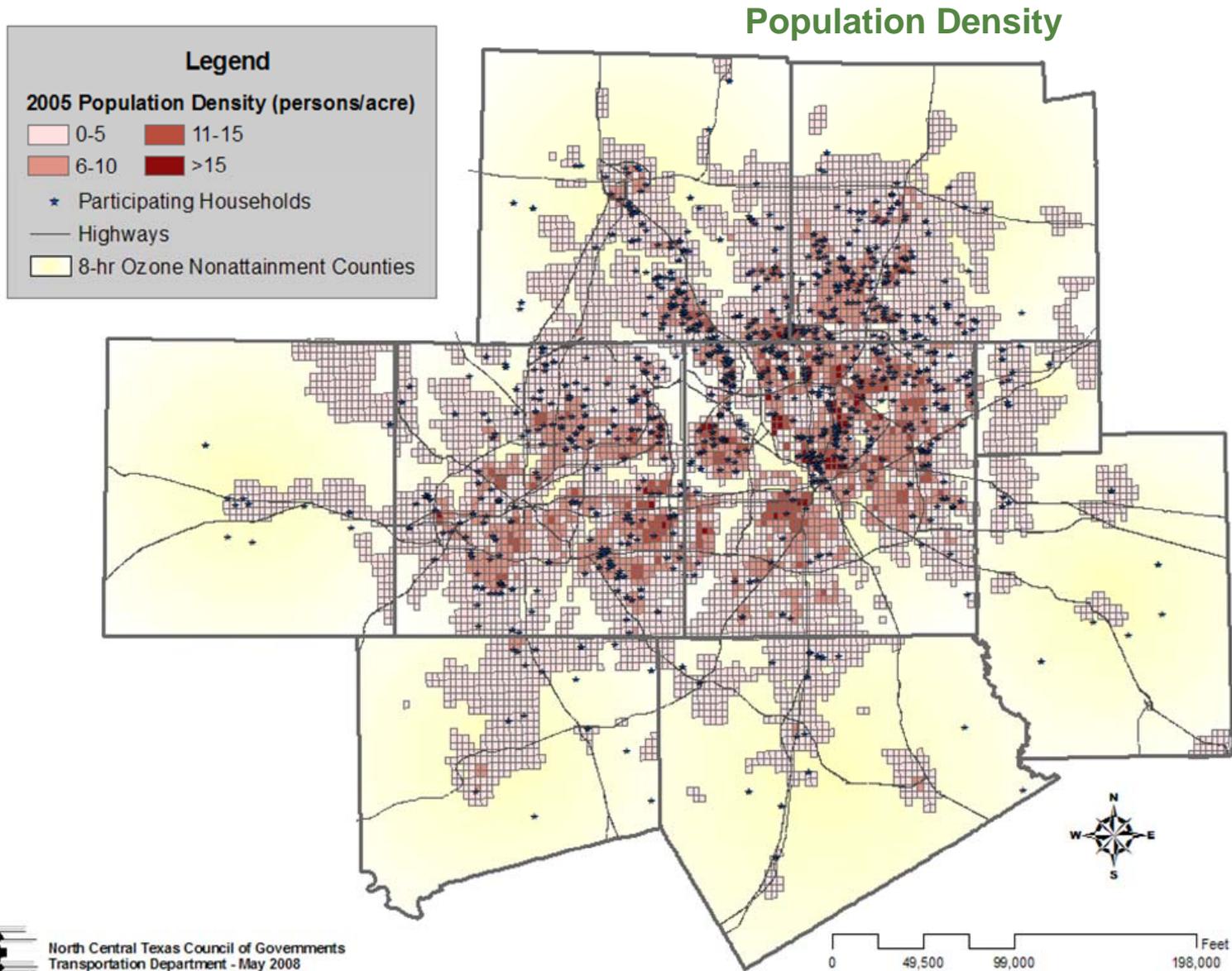
Phase 2 Results – NCTCOG’s Analysis

Spatial Analysis

<u>Category</u>	<u>Total Miles Traveled</u>		
Land Use Zoning	Residential Zones	< (slight)	Non-Residential Zones
<u>Category</u>	<u>Total Miles Traveled</u>		
Population Density	Dense Areas	< (strong)	Sparse Areas
<u>Category</u>	<u>Total Miles Traveled</u>		
Proximity to Sustainable Development Communities	Near SDCs	< (strong)	Not Near SDCs
<u>Category</u>	<u>Total Miles Traveled</u>		
Proximity to Transit Service	Near Transit	< (strong)	Not Near Transit

Analysis did not show any correlation related to:
Total Miles Reduced or **Percent Miles Reduced**

Pay-As-You-Drive Pilot Program Phase 2 Results – NCTCOG's Analysis



North Central Texas Council of Governments
Transportation Department - May 2008

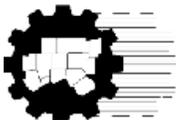
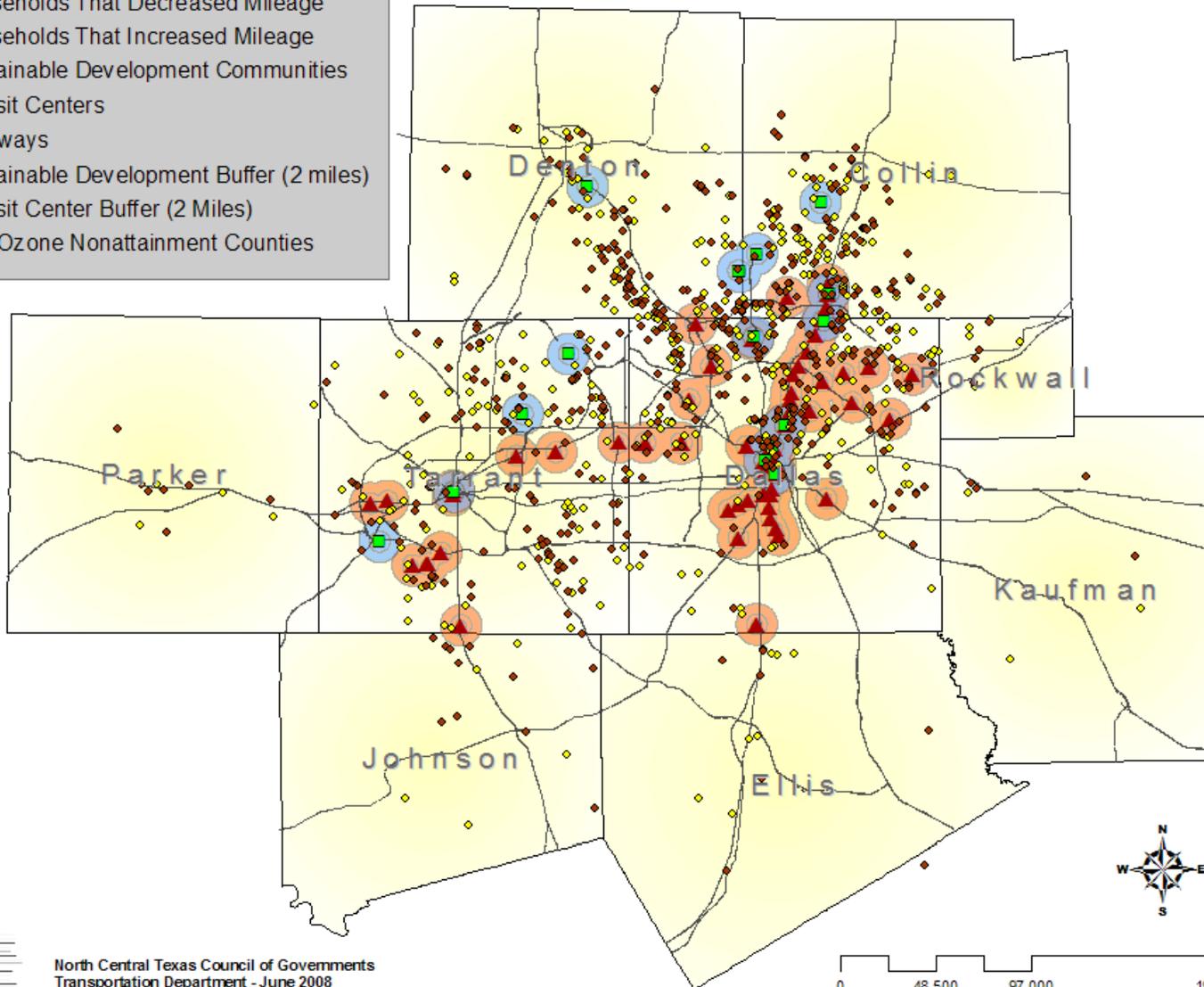
Pay-As-You-Drive Pilot Program

Phase 2 Results – NCTCOG’s Analysis

Transit Services and Sustainable Development

Legend

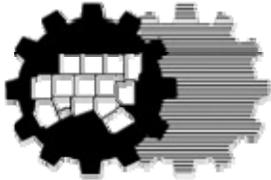
- ◆ Households That Decreased Mileage
- ◇ Households That Increased Mileage
- Sustainable Development Communities
- ▲ Transit Centers
- Highways
- Sustainable Development Buffer (2 miles)
- Transit Center Buffer (2 Miles)
- 8-hr Ozone Nonattainment Counties



North Central Texas Council of Governments
Transportation Department - June 2008

0 48,500 97,000 194,000 Feet

**Future of
PAYD
in DFW**



Pay-As-You-Drive Pilot Program

Current Availability in Texas

MileMeter

Availability: Only in Texas

Technology: None – Self reporting with periodic auditing

More info: www.milemeter.com



GM On-Star™

Availability: Nationwide

Technology: GPS

More info: www.OnStar.com



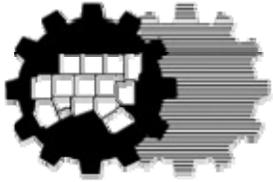
Progressive

Available: July 2009

Technology: On-Board Diagnostic (OBD) / Plug-ins

More info: www.progressive.com





Pay-As-You-Drive Pilot Program

NCTCOG Future Initiatives

Meet With:

Texas Department of Insurance
Major Insurance Carriers
Federal Highway Administration
Environmental Interest Groups
Leading Researchers
Other Interested Parties

Discuss:

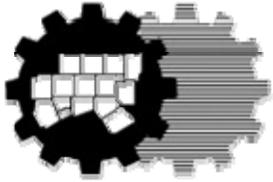
Results of NCTCOG's Report

Obstacles Insurance Companies Face in Offering Mileage-Based Insurance in North Texas

Possible Solutions to Expedite PAYD Insurance Availability

Legislative Needs to Promote PAYD

Marketing Campaign to Inform Consumers of Mileage-based Insurance Options in Texas



Pay-As-You-Drive Pilot Program

Contact Information

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Air Quality Planning
(817) 608-2354
abrimmer@nctcog.org

North Central Texas Council of Governments, Pay As You Drive (PAYD)
Insurance Pilot Program – Phase 2 Final Project Report, November 2008.
www.nctcog.org/trans/air/programs/payd/FinalPAYDReport_11-05-2008.pdf

Progressive, Texas Mileage Study,
www.nctcog.org/trans/air/programs/payd/Phase1.pdf.