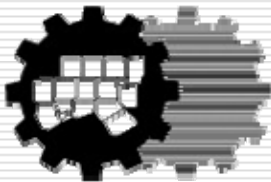


NORTH CENTRAL TEXAS CLEAN VEHICLE PROGRAMS

National Association of Regional Councils Annual Conference

“Regional Excellence: The Future of Regions”

June 23-26, 2007

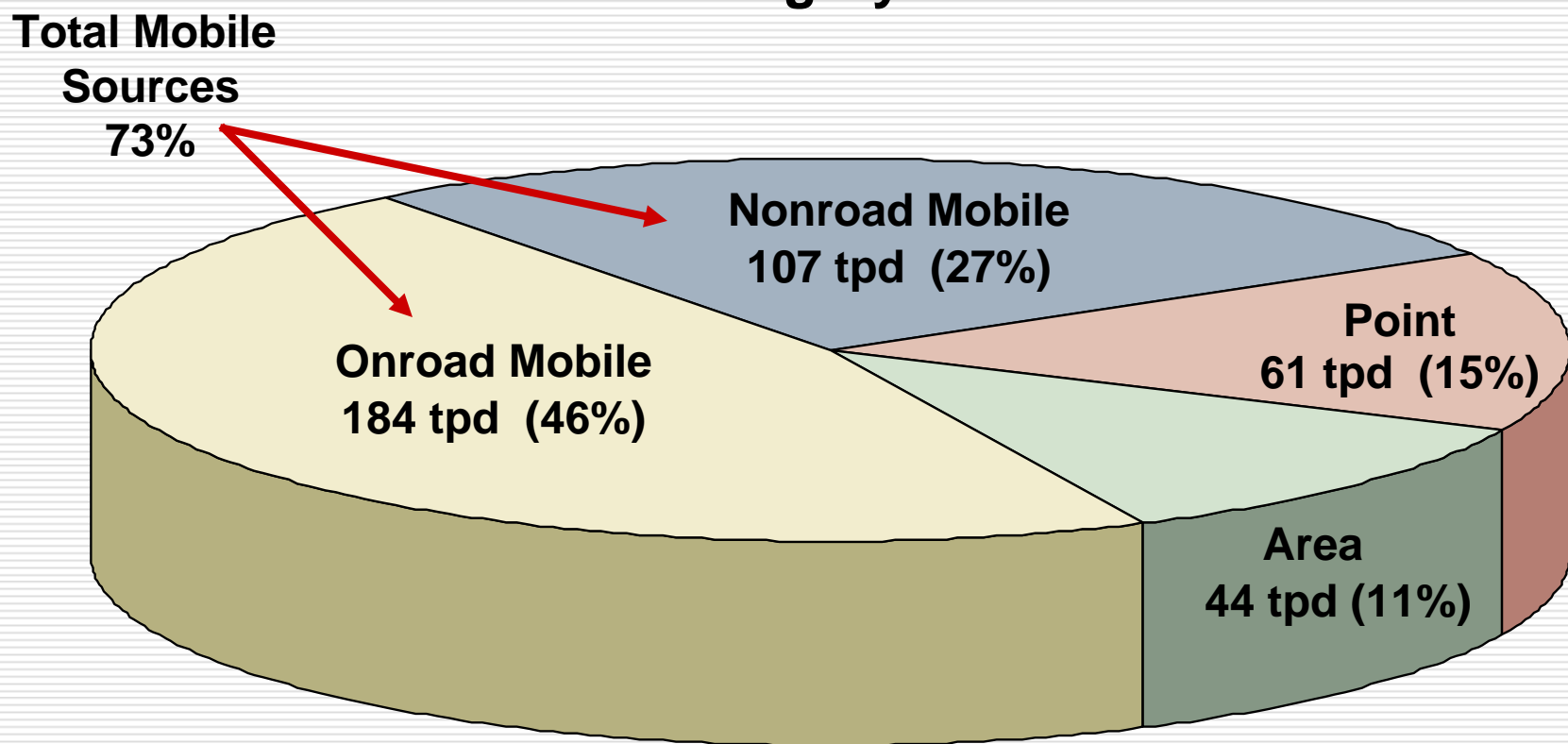


**Chris Klaus
Senior Program Manager
Air Quality Planning & Operations
North Central Texas Council of Governments**

DFW NONATTAINMENT AREA

2009 Nitrogen Oxide (NOx) Emission Inventory

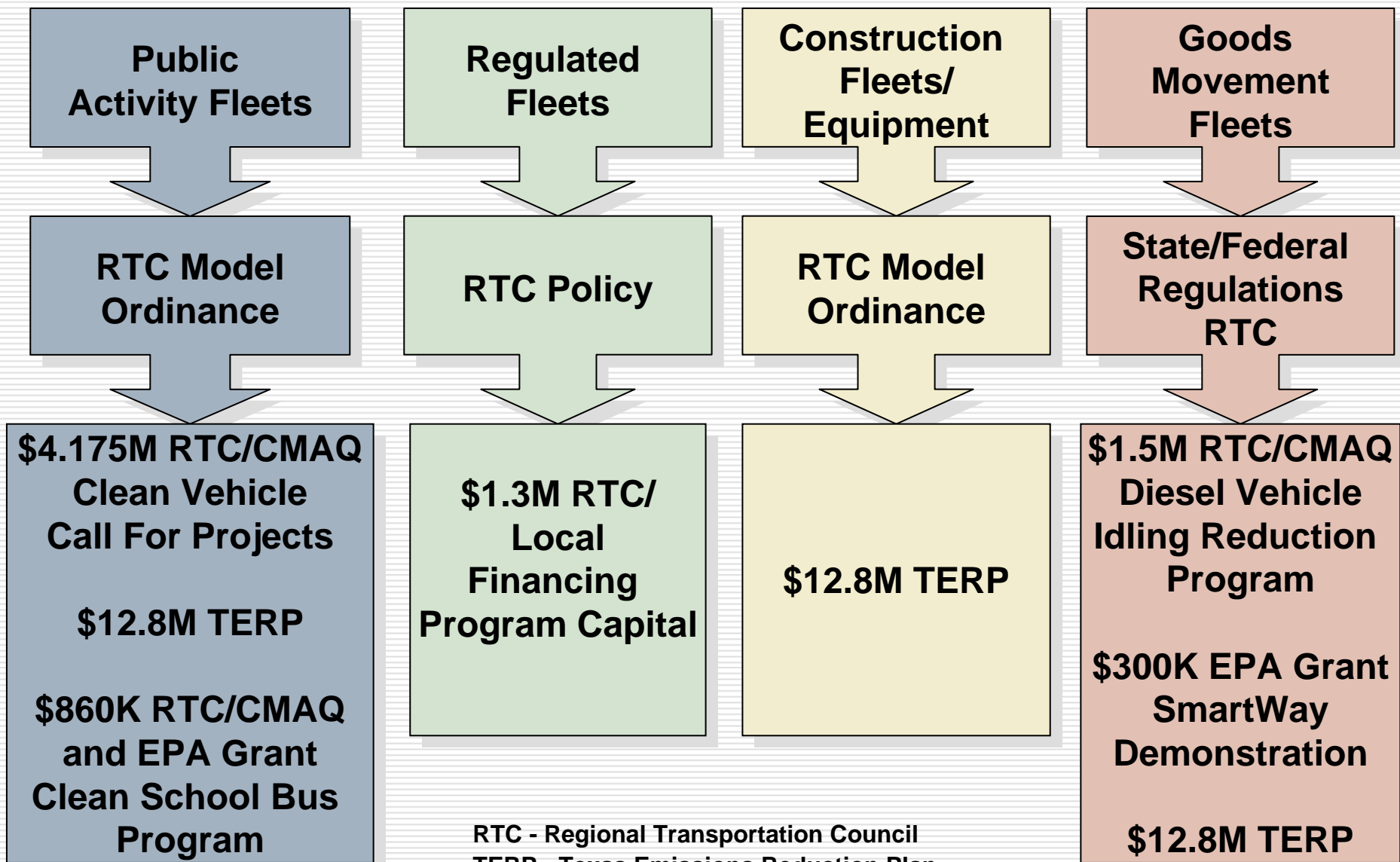
Source Category Estimates



Total NOx = 396 Tons Per Day

AIR QUALITY CLEAN FLEET FOCUS

Identified FY 2006-2009 Funding



RTC - Regional Transportation Council
 TERP - Texas Emissions Reduction Plan

RECENTLY FUNDED PROJECTS

TERP Partnership Programs

Project Eligibility

- On-road/Non-road Heavy-Duty Diesels and Infrastructure
- Public and Private Entities
- Replacement, Repower, Retrofit, Idle-Reduction Projects
- Equal to or Greater Than 25% Reduction in NOx
- Incremental Cost of Project Eligible
- Cost Effectiveness Limit of \$5,500/Ton NOx Reduced

Project Type	Awarded Funds	NOx Reduced (Total Tons)	NOx Reduced (Tons Per Day)
On-Vehicle Infrastructure	\$9,908	1.80	0.00
Replacement	\$11,999,008	2,384.34	1.06
Repower	\$0	0.00	0.00
Retrofit	\$0	0.00	0.00
Total	\$12,008,916	2,386.14	1.06

RECENTLY FUNDED PROJECTS

Clean Fleet Vehicle Policy

Applies to Public Activity Fleets

Required for NCTCOG Clean Vehicle Funding

Addresses Acquisition, Operations, Maintenance and Compliance Verification

Currently Adopted by 63 Local Governments, Transit Agencies, Independent School Districts and Other Transportation Service Providers

May Be Considered in Other RTC Funding Decisions

RECENTLY FUNDED PROJECTS

Clean Vehicle Technology Project

Project Eligibility

- RTC Clean Fleet Vehicle Policy Adoption by Public Entities
- On-road Light-Duty (35% \$) and Heavy-Duty (65% \$)
- New Purchase, Replacement, Repower, Retrofit Projects
- Equal to or Greater Than 25% Reduction in NOx
- Incremental Cost of Project Eligible
- Cost-Effectiveness of \$30,000 (HDV) and \$500,000 (LDV)

<u>HDV</u> Project Type	Awarded Funds	NOx Reduced (Total Tons)	NOx Reduced (Tons Per Day)
New Purchase	\$571,377	65.23	0.03
Replacement	\$1,977,775	202.03	0.10
Repower	\$0	0.00	0.00
Retrofit	\$0	0.00	0.00
Total	\$ 2,549,152	267.26	0.13

RECENTLY FUNDED PROJECTS

SmartWay Upgrade Kit Demonstration

Project Eligibility

- Long Haul Heavy-Duty Diesel Trucks
- Minimum of One Technology from Each Category
- Cost-Share 50% to 100% Dependent Upon Category
- Collect Fuel Economy Data From Engine Control Module

Technology Category	Awarded Funds	Estimated NOx Reduction
Fuel Savings Single-Wide Tires (16) Automatic Tire Inflation (41) Advanced Trailer Aerodynamics (6)	\$73,590	Unknown
Idle Reduction Auxiliary Power Unit (41)	\$154,934	Unknown
Emission Control Diesel Oxidation Catalyst (35) Crankcase Filter (26)	\$71,476	NOx = N/A HC = 40% PM = 20% CO = 10%
Total	\$300,000	To Be Determined

PROGRAMS IN DEVELOPMENT

Implementation Through Fiscal Year 2009

North Central Texas Clean School Bus Program

- \$680,000 - \$880,000 Currently Identified
- Replacement, Retrofit, Repower Projects
- 45% to 80% Cost-Share Dependent Upon Project Type

Diesel Vehicle Idling Reduction Program

- \$1.5M Available For On-Site and On-Board Projects

Regulated Fleet Program

- \$1.3M Identified for Revolving Loan Program
- Initial Incentives for Taxi Cabs With Expansion to Limousines, Courtesy Vans, and Shuttles

Public Agency Policy For Construction Equipment

- Addresses Acquisition, Engine Standards and Operations

TEXAS EMISSIONS REDUCTION PLAN

DFW Metro Area Projects

Projects Funded 2002 Through January 2007

Project Type	Awarded Funds	%	NOx Reduction (Total Tons)	%
On-Site Infrastructure	\$8,950,221	7.0%	2.22	0.0%
On-Vehicle Infrastructure	\$113,420	0.1%	23.91	0.1%
New Purchase	\$5,571,352	4.3%	2,433.82	8.5%
Refueling Infrastructure	\$118,490	0.1%	32.24	0.1%
Replacement	\$94,883,300	79.3%	21,830.01	76.1%
Repower	\$10,182,830	7.9%	2,673.46	9.3%
Retrofit	\$8,221,834	6.4%	1,658.53	5.8%
Qualifying Fuel	\$392,870	0.3%	40.15	0.1%
Total	\$128,434,317		34,069.60	

RETROFIT TECHNOLOGIES

EPA Or CARB Verified

Technologies Verified As of June 12, 2007

Pollutant	Number of Verified Technologies
Particulate Matter	54
Hydrocarbons	54
Carbon Monoxide	54
Nitrogen Oxides	10

NOx RETROFIT TECHNOLOGIES

EPA Or CARB Verified As Of June 12, 2007

Manufacturer	Technology	Verified NOx Reduction
Caterpillar Inc.	Emissions Upgrade Group	Conditional 27%
Cleaire Longview	Lean NOx Catalyst/ DPF	25%
Clean Diesel Technologies Inc.	Platinum Plus Purifier System	0 - 5%
Clean Diesel Technologies Inc.	Fuel Borne Catalyst/Catalyzed Wire Mesh Filter	0 - 9%
EGR Technologies/CleanAIR Systems	EGR/ DPF	50%
Engine Control System AZ Purimuffer/Purifier	DOC/ Alt Fuel	20%
Extengine	DOC/ SCR	80%
International Truck and Engine Corp	Low NOx Calibration/DOC with ULSD	25%
Johnson Matthey EGRT	EGR/ DPF	40%
Lubrizol PuriNOx	Emulsified Fuel	0 - 15%

RETROFIT VERIFICATION PROCESS

Issues Of Concern

Primary Focus on PM Rather Than NO_x Reductions

Length of Time to Verify a Technology

Cost to Verify a Technology

Limits of Verified Applicability

Testing Requirements and Facilities

RETROFIT VERIFICATION PROCESS

Texas Initiatives

New Technology Research & Development Program

- **Funded by Texas Emissions Reduction Plan (9.5%)**
- **Provides Financial Incentives to Manufacturers**
- **Promotes Research, Development and Commercialization**
- **Facilitates Certification and Verification of Technologies**
- **Focuses on Technologies Funded Under TERP**
- **Works to Streamline Certification/Verification Processes**

Texas Senate Bill 12

- **Provides for Texas-Based Testing Facility**
- **Evaluates Retrofits, Advanced Technologies, Fuels**
- **Places Focus on NOx Reductions**

NCT CLEAN VEHICLE PROGRAMS

Conclusion / Observations

Commitment To Lead Region to Reach Attainment

Support For Voluntary Participation

Support For Development of Partnerships

Need For Verified NO_x Reduction Retrofits

**Quicker Implementation of EPA Engine Standards
(Especially in Light of Reduced O₃ NAAQS)**

Fair Share Reduction of Emissions From Other Sources

FOR ADDITIONAL INFORMATION

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Diesel Vehicle Idling Reduction Program

Regulated Fleet Program

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TERP Partnership Programs

North Central Texas Clean School Bus Program

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Clean Fleet Vehicle Policy

Clean Vehicle Technology Project

SmartWay Upgrade Kit Demonstration

Public Agency Policy for Construction Equipment