8th Semi-Annual

Early Action Compact Progress Report

Austin-Round Rock MSA

Prepared on behalf of the Austin-Round Rock MSA
Clean Air Coalition by:
The Capital Area Council of Governments in coordination with the
Early Action Compact Task Force and the CLEAN AIR Force

Submitted to:
Texas Commission on Environmental Quality
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1. EXECUTIVE SUMMARY

In December 2002 local elected officials in the Austin/Round Rock 5-county region along with EPA and the Texas Commission on Environmental Quality (TCEQ) signed an agreement known as the Early Action Compact (EAC) designed to implement measures in the region to improve air quality and prevent the area from becoming nonattainment for the 8-hour ozone standard. This report is the 8th Semi-annual progress report required by the EAC and accounts for EAC activities accomplished during the period ending in October 2006.

During this reporting period the Austin/RR region focused on continued implementation of voluntary and regulatory measures committed to in the EAC State Implementation Plan (SIP) while also accomplishing several technical projects aimed at gaining a better understanding of the ambient levels of ozone in the area, the contributors to local ozone and possible directions for improvement. Following is a brief summary of the technical analysis projects that the area initiated or completed during this reporting period and a summary of implementation efforts for the EAC measures.

Summary of Technical Support Activities

Continued monitoring and assessment of ozone levels

- Started up three ozone monitors at Round Rock, San Marcos and McKinney Roughs in Bastrop County and completed 2006 ozone season monitoring
- Airborne sampling evaluated ozone transport from power plants, industrial facilities and urban areas (Baylor University)
- Austin VOC sampling with canisters for comparison to emissions trends data
- Operation of New Braunfels Radar Wind Profiler for improvement of meteorological model inputs (STI)

Analysis of new source permit growth - Emissions were evaluated with the EAC SIP photochemical model for impacts on regional ozone from eight new major point sources to be located northeast of the Austin-RR MSA and are pending approval for construction permits

Community Air Toxic Sampling - Air quality sampling completed at five sites for the period from June 2005 – June 2006 (ARTS project)

Biodiesel Study - School Bus Biodiesel Study evaluated impact of different biodiesel fuel blends on NOx emissions from school bus engines

Continued planning process evaluated on-road mobile emissions for year 2030

- 78% increase in VMT from 2007 to 2030
- 77% and 43% decrease in NOx and VOC emissions respectively from 2007 to 2030

Summary of Outreach Programs and Implementation of the EAC Measures

Clean Air Force Ads - Radio, TV and newspaper messages encouraged public to participate in ozone reduction activities

Clean Air Partners Program - Emission reduction commitments made for more than 100 partners representing over 160,000 regional employees

Enforcement of the Heavy Duty Vehicle Idling Restriction Rule - 6 citations, 3 warnings issued in the City of Round Rock

Inspection and Maintenance Program

- Failure rate of less than 8% during this reporting period
- Remote sensing program identified almost 300 high emitters in the area, more than 100 complied to repair their vehicle

Texas Emission Reduction Measures (TERMS) Program

- Almost 500 TERMS Projects
- Up to 2 tons per day of NOx and VOC reduced in 2007.

Commute Solutions Program - Saved more than a million vehicle miles traveled (VMT) with programs like Teleworking, Carpooling, Vanpooling, Commuter Challenge Month

Local Voluntary Measures - Up to 90% of all local/voluntary measures fully implemented

2. INTRODUCTION

This progress report is intended to fulfill the Austin-Round Rock Metropolitan Statistical Area (A/RR MSA) Early Action Compact (EAC) commitment under Section I. A. 2. Reporting: In order to facilitate self-evaluation and communication with EPA, TCEQ, stakeholders, and the public, the region will assess and report progress towards milestones in a regular, public process, at least every six months, beginning in June 2003. In addition, Section 6.3 of the State Implementation Plan (SIP) Revision adopted by TCEQ in November 2004 requires that: "All signatories and implementing agencies will review EAC activities twice yearly. The semi-annual review will track and document, at a minimum, control strategy implementation and results, monitoring data and future plans. CAPCOG, or its designee, will continue to file reports with the TCEQ and EPA by June 30 and December 31 of each reporting year through the duration of the EAC, or until December 31, 2007. Reporting periods will be May 1 to October 31, and November 1 to April 30, to allow for adequate public notice and comment. CAPCOG has primary responsibility for report generation, and will provide appropriately detailed technical analysis for all semi-annual review reporting." This report is submitted for the May 2006 to October 2006 reporting period.

During this reporting period the Austin/RR region has successfully maintained progress toward the implementation of emission reduction measures and has met all EAC milestones. Two significant measures included in the SIP revision, the Inspection and Maintenance (I&M) Program and the Heavy Duty Vehicle Idling restrictions continued to be at the center of implementation effort over the past six months. This report focuses on control strategy implementation status, ozone monitoring and other technical analysis work, continuing outreach efforts, and future planning goals. EAC continued planning efforts focused on the impacts of emissions from new power plants. Further details on these activities will be provided in subsequent sections of this report.

Background

Local governments, community and business leaders, environmental groups, and interested citizens in Bastrop, Caldwell, Hays, Travis and Williamson Counties (A/RR MSA) have made significant commitments to improve regional air quality. The MSA is acting now to assure attainment and maintenance of the federal 8-hour standard for ground-level ozone. Using the Early Action Compact (EAC) Protocol, the Austin/RR MSA submitted a Clean Air Action Plan (CAAP) to the Texas Commission on Environmental Quality (TCEQ) that provides for clean air sooner, maintains local flexibility and can defer the effective date of a possible non-attainment designation. The majority of the CAAP emission reduction measures were adopted as a SIP Revision by the TCEQ. EPA approved the Texas SIP revisions associated with the Austin Area EAC on August 19, 2005. EPA received three comments on the proposed rule to approve the Austin Area EAC SIP revisions. All were in support.

EPA issued the *Protocol for Early Action Compacts Designed to Achieve and Maintain the 8-Hour Ozone Standard* (the Protocol) on June 1, 2002 and revised it in November 2002. The Protocol provides the framework for a voluntary commitment to develop and implement an emission reduction plan that assures attainment of the 8-hour ozone standard by 2007, and maintenance at least through 2012. On December 18, 2002, the cities of Austin, Bastrop, Elgin, Lockhart, Luling, Round Rock, and San Marcos; the counties of Bastrop, Caldwell, Hays, Travis, and Williamson; TCEQ and EPA, entered into an EAC for the MSA. Based on State Implementation Plan (SIP)-quality science, signatories choose the combination of measures that meet both local needs and emission reduction targets.

The EAC can be accessed at: http://www.capcog.org/CAPCOairquality/eac.htm. This compact committed the region to develop and implement a clean air action plan (a.k.a. EAC) in accordance with the milestones listed in Table 1.1. The milestone due for this reporting period is to provide continued planning for assurance that attainment goal will be met and to provide implementation support for maximum effectiveness of emission reduction measures.

EAC Milestones	
June 16, 2003	Potential local emission reduction strategies identified and described
November 30, 2003	Initial modeling emissions inventory completed
	Conceptual modeling completed
	Base case modeling completed
December 31, 2003	Future year emissions inventory modeling completed
	Emissions inventory comparison and analysis completed
	Future case modeling completed
January 31, 2004	Attainment maintenance analysis completed
	Schedule for development of further episodes completed
	One or more modeled control cases completed
	Local emission reduction strategies selected
	Submission of preliminary CAAP to TCEQ and EPA
March 31, 2004	Final revisions to modeled control cases completed
	Final revisions to local emission reduction strategies completed
	Final revisions to attainment maintenance analysis completed
	Submission of final CAAP to TCEQ and EPA
December 31, 2004	CAAP incorporated into the SIP; SIP adopted by TCEQ
December 31, 2005	EAC emission reduction strategies implemented no later than this date
December 31, 2007	Attainment of the 8-hour standard
June 30th and December 31st 2003 - 2007	Submission of the semi-annual EAC Progress report to US EPA and TCEQ.

Table 1.1: List of the EAC Milestones

All milestone documents may be found at:
http://www.capcog.org/capcoairquality/eac.htm

Should an EAC area miss a milestone at anytime during the agreement, including attaining the 8-hour standard by 2007, they will forfeit their participation and rejoin the 8-hour implementation process in progress, and will be subject to the same requirements and deadlines which would have been effective had they not participated in this program, with no delays or exemptions from EPA rules. During the May 2006 through October 2006 reporting period all of the milestones listed above for the period were met.

3. IMPLEMENTATION STATUS OF EMISSION REDUCTION STRATEGIES

Overview

The A/RR MSA CAAP was submitted to the EPA and TCEQ on March 31, 2004. The CAAP listed 13 "State Assisted Measures" which would apply to all or some jurisdictions in the A/RR MSA and would require action by the TCEQ to enable implementation. In addition, a number of Locally Implemented Measures were self-selected by the EAC signatories, with each encouraged to implement at least three in addition to continuing O_3 Flex commitments. Jurisdictions could choose to enhance an existing O_3 Flex measure. In this report, O_3 Flex achievements are encompassed by the EAC agreements and are not reported separately. Several other voluntary measures are being implemented by other air quality stakeholders in the region.

TCEQ SIP Revisions and the Resulting Austin Area Early Action Compact

On November 17, 2004, the TCEQ adopted revisions to the State Implementation Plan (SIP) for the Austin Area, San Antonio and Northeast Texas Early Action Compact (EAC) areas and Chapters 114 and 115 of Title 30 of the Texas Administrative Code (TAC). This SIP Revision was submitted by TCEQ to EPA in December 2004. EPA formally adopted the Austin Area SIP Revisions on August 19, 2005.

The Austin Area Early Action Compact SIP Revision included eight emission reduction measures that require state assistance to implement. Six of the measures required new state rules. Two of these new rules apply statewide; two apply to the Austin and San Antonio Area EAC counties. Measures 4 – 7 below will rely on existing TCEQ resources for enforcement.

Together these measures are conservatively estimated to reduce 4,178 tons per year of NOx emissions and 6,054 tons per year of VOC emissions in the Austin

EAC area. These totals do not include additional emission reductions from the many local, voluntary measures each Clean Air Coalition jurisdiction committed to implement, nor do they include emission reduction commitments made by other EAC stakeholders.

These measures commit the region to reduce 5.1 % of the *daily* NOx emissions from mobile and area sources and 10.3% of the *daily* VOC emissions. Annual point source emissions should be reduced by an estimated 12.7%. A summary of all state-assisted EAC measures for the A/RR MSA is shown in Table 2.1a. Table 2.1b shows results from the photochemical modeling and an impact from state assisted measures on future ozone design value in the Austin-Round Rock MSA area. A complete list and updates on the status of the state assisted EAC measures are shown in Appendix A.

Emission Reduction Strategy	30 TX Administrative Code	Affected Counties	NOx Reduction (tpd)	VOC Reduction (tpd)	Implementation Date	Enforcement Date	Affected Emission Category	2007 Uncontrolled Emissions (tpd)
Transportation Emission Reduction Measures (TERMS)	N/A	Bastrop Caldwell Hays Travis Williamson	0.72	0.83	See Table 2.4	N/A	On-Road Mobile (NOx)	62.18
							On-Road Mobile (VOC)	33.79
Vehicle Inspection and Maintenance Program (I/M)	114.80-114.87	Travis Williamson	3.22	3.83	1-Sep-05	1-Sep-05	On-Road Mobile (NOx) - HDGV, LDGV, & LDGT	31.12
							On-Road Mobile (VOC) - HDGV, LDGV, & LDGT	30.33
Idling Restrictions on Heavy-Duty Vehicle Engines	114.510-114.512, 114.517	Bastrop Caldwell Hays Travis Williamson	0.67	0	30-Aug-05	1-Apr-06	On-Road Mobile - HDGV & HDDV	31.82
Portable Fuel Containers Rule	115.620-115.622, 115.626, 115.627, 115.629	Bastrop Caldwell Hays Travis Williamson	0	0.89	31-Dec-05	31-Dec-05	Area - Portable Fuel Containers (Commercial & Residential)	13.4
Stage I Vapor Recovery Requirement Change	115.221-115.227, 115.229	Bastrop Caldwell Hays Travis Williamson Total:	0 0	0.16 0.19 0.63 2.83 1.07 4.88	13-Apr-05	31-Dec-05	Area - Gasoline Service Stations (Phase 1)	10.06
Degreasing Controls	115.412, 115.413, 115.415-115.417, 115.419	Bastrop Caldwell Hays Travis Williamson	0	5.5	31-Dec-05	31-Dec-05	Area - Degreasing (Cold Cleaning)	9.38
Cut-Back Asphalt	115.510, 115.512, 115.513, 115.515-115.517, 115.519	Bastrop Caldwell Hays Travis Williamson	0	1.03	31-Dec-05	31-Dec-05	Area - Asphalt Applications	2.68
Texas Emission Reduction Plan (TERP)	N/A	Bastrop Caldwell Hays Travis Williamson	2	0	31-Dec-07	N/A	On-Road Mobile - LDDV, LDDT, & HDDV	28.79
							Off-Road Mobile - LDDV, LDDT, & HDDV	24.47
Power Plant Reductions	N/A	Bastrop (LCRA)	300 tpy	-	31-Dec-05	N/A	Point	1,344 tpy
		Fayette (LCRA & Austin Energy)	972 tpy	-	31-Dec-06		Point	10,494 tpy
		Travis (Austin Energy)	241 tpy	-	30-Jan-04		Point	1,741 tpy
		Travis (UT)	353 tpy	-	31-Dec-06		Point	1,088 tpy
		Total:	1866 tpy	0				

Table 2.1a: List of state-assisted EAC measures for the A/RR MSA

Emission Reduction Measure	Monitor Site	1999 design value [ppb_v]	Relative reduction factor	Estimated design value for 2007 [ppb_v]	Attainment of the 8-hour standard?
I/M only (without Hays County)	*Audubon*	89	0.944	84.02	Yes
	Murchison	87	0.944	83.13	Yes
All State Assisted Measures (with TERMs) but without I&M in Hays County and without low RVP gasoline	*Audubon*	89	0.937	83.39	Yes
	Murchison	87	0.934	81.26	Yes
TERP only (modeled at 2 tpd reduction)	*Audubon*	89	0.946	84.19	Yes
	Murchison	87	0.947	82.39	Yes
All measures with VOC reductions and no NOx reductions	*Audubon*	89	0.946	84.19	Yes
	Murchison	87	0.945	82.22	Yes
Point Sources Only	*Audubon*	89	0.944	84.02	Yes
	Murchison	87	0.943	82.04	Yes

Table 2.1b: [1]Model Results for Emission Reduction Measures Applied to Base 2007 EI with the September 1999 Episode

State-assisted measures requiring new state rules for implementation:

1. **Vehicle Emission Inspection & Maintenance** – TCEQ adopted new rules to implement a State vehicle emissions inspection and maintenance (I/M) program in EAC Counties that request it. Travis and Williamson Counties, along with the Cities of Austin and Round Rock, requested a revised I/M program be implemented in this portion of the MSA. Travis and Williamson Counties also committed to administer associated Low Income Repair and Replacement Assistance Programs (LIRAP), per existing state rules.
   - **Effective Date:** September 1, 2005.
   - **Affected Area / Timeframe:** Travis and Williamson Counties / year round
   - **Estimated Austin Area Reductions:** 3.22 tons per day (tpd) of NOx, 3.88 tpd of VOC
   - **Administrative Code:** Title 30, Subchapter C, Vehicle Inspection and Maintenance and Low Income Vehicle Repair Assistance, Retrofit, and Accelerated Vehicle Retirement Program, Division 1 Vehicle Inspection and Maintenance, Sections §§114.80-114.87
   - **Implementation Status:** From September 1, 2005 to August 31, 2006, 683,010 initial emissions test were performed in the Austin area. The emissions only failure rate is 7.96% for this period. An additional 1.04% failed

only the gas cap portion of the emissions test for an overall failure rate of 9.00%. Table 2.2 provides the failure rate by model year for the Austin area during the FY 2006 and Table 2.3 shows a summary of the test results for FY 2006.

The results of the program since the FY 2007 began have also been compiled. From 09/01/2006 to 11/01/2006, 120,555 initial tests have been performed, with an overall failure rate of 7.56%. Of the 7.56%, 0.9% failed the gas cap portion only and 6.66% failed the emissions only test. Table 2.4 provides the failure rate by model year for the Austin area from 09/01/2006 to 11/01/2006, while Table 2.5 shows a summary of the test results for the same time period.

The program is performing as expected. There are 277 public inspection stations in the two-county area. There have been no unusual reports of long lines, equipment problems, or customer complaints. The top five OBD failures are EGR, Catalyst System, System too Lean (Bank 1 and Bank 2) and O2 Sensor Heater.

Operating in tandem with the vehicle I/M program, the Texas Department of Public Safety (DPS) manages a remote sensing program to help detect high emitters traveling in the EAC area. There are currently 17 sites in Travis and Williamson counties at which remote sensing equipment is operated on a rotating basis to collect the data on high emitters. There are two remote sensing vans available, which move from site to site. The contractor running the program for DPS selected sites provided a broad geographic sampling of the fleet. The sites are generally indiscriminate in that that they are located on major thoroughfares on which vehicles from many different areas of the city can be found at most given periods of the day, irrespective of the geographic origin of the owner.

From September 1, 2005 to August 31, 2006, 351,338 records have been collected in the Austin EAC area. Of those, 197,890 were identified as vehicles registered in EAC counties. About 295 vehicles qualified as high emitters of either CO or HCs or both. There were 200 notices mailed to owners of high emitting vehicles. For a complete summary of the results from the remote sensing program, see Attachment 1.

During this reporting period (May – Oct.), Travis and Williamson County issued 235 Repair Vouchers and 13 Replacement Vouchers under the LIRAP program.

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[1] Data source: *Austin-Round Rock MSA Attainment Maintenance Analysis*, EAC Milestone Technical Report, March 2004.

There were 369 applications for repair/replacement received in this period and 79% of them were approved.

Austin Area Emissions Failure Rate by Model Year						
Report Period - 09/01/2005 - 08/31/2006						
Model	Austin Area		Travis County		Williamson County	
Year	Initial Tests	Failure Rate	Initial Tests	Failure Rate	Initial Tests	Failure Rate
2005	7,836	2.12%	5,618	2.19%	2,218	1.94%
2004	56,426	1.44%	38,922	1.41%	17,504	1.50%
2003	72,213	2.56%	50,757	2.65%	21,456	2.34%
2002	74,225	4.19%	53,213	4.32%	21,012	3.85%
2001	72,834	6.13%	53,392	6.33%	19,442	5.59%
2000	68,592	6.36%	50,829	6.63%	17,763	5.59%
1999	58,761	8.43%	44,214	8.77%	14,547	7.40%
1998	48,263	11.05%	36,533	11.38%	11,730	10.02%
1997	43,948	15.16%	33,549	15.75%	10,399	13.24%
1996	33,715	18.64%	25,976	19.14%	7,739	16.98%
1995	34,496	5.54%	26,838	5.74%	7,658	4.84%
1994	27,274	6.56%	21,385	6.73%	5,889	5.93%
1993	21,350	8.30%	16,775	8.50%	4,575	7.58%
1992	15,976	9.78%	12,524	9.57%	3,452	10.52%
1991	12,950	10.67%	10,308	10.88%	2,642	9.84%
1990	9,935	12.55%	7,811	12.93%	2,124	11.16%
1989	7,640	15.96%	5,996	15.48%	1,644	17.70%
1988	5,414	17.66%	4,207	17.95%	1,207	16.65%
1987	3,907	24.24%	3,032	24.01%	875	25.03%
1986	3,361	28.71%	2,603	28.39%	758	29.82%
1985	2,655	36.84%	2,042	36.29%	613	38.66%
1984	1,937	37.74%	1,450	37.31%	487	39.01%
1983	1,148	43.12%	838	41.53%	310	47.42%
1982	694	49.57%	510	48.63%	184	52.17%
1981	183	24.04%	122	27.05%	61	18.03%

Table 2.2: Vehicle I&M Failure Rates by Model Year in Austin Area, Travis and Williamson Counties-FY 2006

Austin Area AirCheckTexas Test Results for 09/01/2005 through 08/31/2006							
Location	Number of Initial Tests	Emissions Only Failures	Emissions Only Failure Rate	Re-Test Passing Rate	Gas Cap Only Failures	Gas Cap Only Failure Rate	Overall Failure Rate
OBD							
Austin Area	526,505	37,798	7.18%	78.09%	4,621	0.88%	8.06%
Travis County	386,339	29,208	7.56%	77.50%	3,302	0.85%	8.41%
Williamson County	140,166	8,590	6.13%	80.08%	1,319	0.94%	7.07%
TSI							
Austin Area	156,505	16,565	10.58%	64.88%	2,493	1.59%	12.18%
Travis County	121,948	12,967	10.63%	65.64%	2,007	1.65%	12.28%
Williamson County	34,557	3,598	10.41%	62.13%	486	1.41%	11.82%
All Tests Types							
Austin Area	683,010	54,363	7.96%	73.77%	7,114	1.04%	9.00%
Travis County	508,287	42,175	8.30%	73.59%	5,309	1.04%	9.34%
Williamson County	174,723	12,188	6.98%	74.39%	1,805	1.03%	8.01%
	Public Stations Testing		**OBD Not-Ready Rates**				
Austin Area	298		0.0315				
Travis County	223		0.0329				
Williamson County	75		0.0276				
				Austin Area Top 5 OBD Failures			
			P0401	Exhaust Gas Recirculation Flow Insufficient Detected			
			P0420	Catalyst System Efficiency Below Threshold (Bank 1)			
			P0171	System too Lean (Bank 1)			
			P0174	System too Lean (Bank 2)			
			P0135	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1)			

Table 2.3: Austin area summary of the inspection and maintenance program test results-FY 2006

Austin Area Emissions Failure Rate by Model Year						
Report Period - 09/01/2006 - 11/01/2006						
Model	Austin Area		Travis County		Williamson County	
Year	Initial Tests	Failure Rate	Initial Tests	FailureRate	Initial Tests	Failure Rate
2005	3,685	1.06%	2,531	0.95%	1,154	1.30%
2004	11,399	1.78%	7,797	1.83%	3,602	1.67%
2003	11,903	2.55%	8,353	2.65%	3,550	2.31%
2002	12,329	4.10%	8,874	4.37%	3,455	3.39%
2001	12,377	6.04%	9,105	6.14%	3,272	5.75%
2000	11,755	5.53%	8,671	5.85%	3,084	4.64%
1999	10,137	7.54%	7,562	7.71%	2,575	7.03%
1998	8,258	8.85%	6,228	9.17%	2,030	7.88%
1997	7,387	12.31%	5,587	12.74%	1,800	10.94%
1996	5,575	14.53%	4,247	15.07%	1,328	12.80%
1995	5,694	4.16%	4,296	4.26%	1,398	3.86%
1994	4,632	5.09%	3,599	5.33%	1,033	4.26%
1993	3,477	7.19%	2,653	7.50%	824	6.19%
1992	2,732	8.49%	2,076	8.96%	656	7.01%
1991	2,140	9.16%	1,659	8.86%	481	10.19%
1990	1,719	10.76%	1,305	10.80%	414	10.63%
1989	1,388	13.26%	1,039	12.90%	349	14.33%
1988	922	15.08%	705	15.04%	217	15.21%
1987	689	19.59%	545	19.63%	144	19.44%
1986	571	27.85%	442	28.73%	129	24.81%
1985	488	28.48%	382	26.44%	106	35.85%
1984	386	33.94%	268	30.97%	118	40.68%
1983	221	44.80%	149	48.32%	72	37.50%
1982	101	40.59%	77	38.96%	24	45.83%

Table 2.4: Vehicle I&M Failure Rates by Model Year in Austin Area, Travis and Williamson Counties- 9/1/2006-11/1/2006

Austin Area AirCheckTexas Test Results for 09/01/2006 through 11/01/2006							
Location	Number of Initial Tests	Emissions Only Failures	Emissions Only Failure Rate	Re-Test Passing Rate	Gas Cap Only Failures	Gas Cap Only Failure Rate	Overall Failure Rate
OBD							
Austin Area	93,567	5,615	6.00%	80.96%	719	0.77%	6.77%
Travis County	67,985	4,307	6.34%	80.68%	523	0.77%	7.10%
Williamson County	25,582	1,308	5.11%	81.82%	196	0.77%	5.88%
TSI							
Austin Area	26,988	2,419	8.96%	67.06%	360	1.33%	10.30%
Travis County	20,584	1,859	9.03%	68.26%	293	1.42%	10.45%
Williamson County	6,404	560	8.74%	63.13%	67	1.05%	9.79%
All Tests Types							
Austin Area	120,555	8,034	6.66%	76.16%	1,079	0.90%	7.56%
Travis County	88,569	6,166	6.96%	76.35%	816	0.92%	7.88%
Williamson County	31,986	1,868	5.84%	75.56%	263	0.82%	6.66%
	Public Stations Testing		OBD Not-Ready Rates				
Austin Area	307		0.0368				
Travis County	231		0.0384				
Williamson County	76		0.0327				
				Austin Area Top 5 OBD Failures			
			P0401	Exhaust Gas Recirculation Flow Insufficient Detected			
			P0420	Catalyst System Efficiency Below Threshold (Bank 1)			
			P0171	System too Lean (Bank 1)			
			P0174	System too Lean (Bank 2)			
			P0135	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1)			

Table 2.5: Austin area summary of the inspection and maintenance program test results-9/1/2006-11/1/2006

2. **Locally Enforced Idling Restrictions**–TCEQ adopted new rules to implement idling limits for gasoline and diesel-powered engines in heavy-duty motor vehicles within the jurisdiction of any local government in the state that has signed a Memorandum of Agreement with the commission to delegate enforcement to that local government.
   - **Effective Date:** August 30, 2005
   - **Enforcement Date:** By April 1, 2006
   - **Affected Area / Timeframe:** Any jurisdiction in Texas that signs an MOA / during the Ozone Season (April 1st - October 31st) each year
   - **Estimated Austin Area Reductions:** 0.67 tpd of NOx, 0.0 tpd of VOC.
   - **Administrative Code:** Title 30, Subchapter J, *Operational Controls for Motor Vehicles, Division 1 Motor Vehicle Idling Limitations*, new Sections §§114.510-114.512, and 114.517
   - **Implementation Milestones:** Twelve jurisdictions passed resolutions and signed a Memorandum of Agreement (MOA) with TCEQ to locally enforce the state's

heavy-duty vehicle idling limitation rule in early August 2005. The twelve jurisdictions were: Bastrop, Caldwell, Hays, Travis and Williamson counties and the cities of Austin, Bastrop, Elgin, Lockhart, Luling, Round-Rock and San Marcos. The MOA and associated implementation plan were submitted to TCEQ and EPA Region 6. After submittal, the cities of Georgetown and Hutto also adopted ordinances. Because the state rule is only applicable April – October each year, enforcement began April 2006 and ended October 31, 2006. For the entire year as of this report, a total of six citations and three warnings have been issued. All citations and warnings occurred in the City of Round Rock area.

The jurisdictions will enforce the idling limitations civilly and/or criminally, consistent with the enforcement provisions of the Texas Water Code. Consistent with their resolutions, Hays and Williamson counties only will enforce the limitations using the civil enforcement process, while Bastrop, Caldwell and Travis counties preserved the option for using either civil or criminal enforcement procedures. A number of cities adopted ordinances specifying penalties or will enforce the limitations using Texas Water Code provisions. At this time, nine cities have adopted ordinances which prohibit heavy duty diesel vehicles (HDDV) from excessive idling (more than 5 minutes). The nine cities that have adopted idling restriction ordinances are the cities of Austin, Round Rock, Bastrop, Lockhart, Elgin, San Marcos, Luling, Georgetown, and Hutto. Samples of these city ordinances can be found at www.engineoff.org,

Public outreach: CAPCOG is continuing to host the website, www.engineoff.org, which includes information on the regulation and a downloadable brochure. The online request forms for the idling limit signs and/or sign artwork and other outreach promoting material such as flyers, visors and sunglass clips are also available on the site. The City of Austin designed two versions of idling restriction signs that comply with the Manual of Uniform Traffic Control Devices (MUTCD). One version is for cities with ordinances and cites the ordinance number. The other version is for counties and cities without ordinances and cites the state rule number. The Capital Area MPO is funding the sign and incentive program.

Efforts are also underway to encourage voluntary idling reductions. The City of Austin has been and will continue to promote the anti-idling message near elementary schools and along blocks where buses are suspected to idle. Also, the CLEAN AIR Force sponsored three radio spots this ozone season that addressed idling.

3. **Stage 1 Vapor Recovery - Revision of Stage I & II Vapor Recovery Rules, Chapter 115** (Rule Project Number: 2005-001-115-AI). Amendments to existing TCEQ rules lowered the exemption level for facilities subject to Stage I vapor recovery controls from 125,000 gallons in a calendar month to 25,000 gallons of gasoline throughput in a calendar month.

   - **Approval Date:** March 23, 2005
   - **Effective Date:** April 13, 2005
   - **Affected Area / Timeframe:** Bastrop, Caldwell, Hays, Travis, and Williamson Counties
   - **Estimated Austin Area Reductions:** 0.0 tpd of NOx, 4.88 tpd of VOC
   - **Administrative Code:** Title 30, Chapter 115, Subchapter C, *Volatile Organic Compound Transfer Operations, Division 2, Filling of Gasoline Storage Vessels (Stage I) for Motor Vehicle Fuel Dispensing Facilities*, Sections §§115.227 and 115.229

   Implementation Status: TCEQ regional enforcement staff have been advised of the regulation and its implications to the Austin area's EAC commitments. The TCEQ has 3.5 FTEs and 2 Petroleum Storage Tank (PST) Investigators assigned to perform air quality investigations in Region 11. The Austin Region has issued one Stage 1 violation to Fatmid Enterprises LLC DBA Carter's Grocery. (Investigation #461829, NOV dated 5/8/06).

4. **Degreasing Requirements** - Amendments to existing TCEQ rules extended emission control requirements on certain solvent emitting processes to counties in the Austin Area EAC.

- **Effective Date:** December 31, 2005
- **Affected Area / Timeframe:** Bastrop, Caldwell, Hays, Travis, and Williamson Counties, plus all San Antonio Area EAC counties (Bexar, Comal, Guadalupe, and Wilson) / year round
- **Estimated Austin Area Reductions:** 0.0 tpd of NOx, 5.55 tpd of VOC
- **Administrative Code:** Title 30, Chapter 115, Subchapter E, *Solvent-Using Processes, Division 1, Degreasing Processes*, §§115.412, 115.413, 115.415-115.457, and 115.419
- **Implementation Status:** TCEQ regional enforcement staff have been informed of the regulation and its implications to the Austin area's EAC commitments. The TCEQ has 3.5 FTEs assigned to perform air quality investigations in Region 11. During the period of this report no violations on degreasing activities have been issued.

5. **Cut-back Asphalt Restrictions** - Amendments to existing rules extended restrictions on the use of certain paving substances to the Austin Area EAC counties.
   - **Effective Date:** December 31, 2005
   - **Affected Area / Timeframe:** Bastrop, Caldwell, Hays, Travis, and Williamson Counties / April 16th - September 15th each year
   - **Estimated Austin Area Reductions:** 0.0 tpd of NOx, 1.03 tpd of VOC
   - **Administrative Code:** Title 30, Chapter 115, Subchapter F, *Miscellaneous Industrial Sources, Division 1, Cutback Asphalt*, Sections §§115.512, 115.516, 115.517, and 115.519
   - **Implementation Status:** TCEQ regional enforcement staff have been informed of the regulation and its implications to the Austin area's EAC commitments. The TCEQ has 3.5 FTEs assigned to perform air quality investigations in Region 11. During the period of this report no violations on cut-back asphalt have been issued.
6. **Low Emission Gas Cans** – New rules established requirements relating to the design criteria for portable fuel containers and portable fuel container spouts and the sale or distribution of the portable fuel containers.
   - **Effective Date:** December 31, 2005
   - **Affected Area / Timeframe:** Statewide / year round

- **Estimated Austin Area Reductions:** 0.0 tpd of NOx, 0.89 tpd of VOC
- **Administrative Code:** Title 30, Subchapter G, *Consumer-Related Sources, Division 2, Portable Fuel Containers*, Sections §§115.620-115.622, 115.626, 115.627, and 115.629
- **Implementation Status:** TCEQ regional enforcement staff have been informed of the regulation and its implications to the Austin area's EAC commitments. The TCEQ has 3.5 FTEs assigned to perform air quality investigations in Region 11. During the period of this report no violations have been issued.

State-assisted measures not requiring new state rules for implementation:

1. **Texas Emission Reduction Program (TERP) Grants** – This existing TCEQ program, created by the State Legislature, provides funds administered by TCEQ for competitive grant awards to public and private diesel equipment fleets in 41 Texas counties. It covers the *incremental* costs associated with cleaner diesel equipment.

   Estimated Austin Area Reductions: The region committed to achieve a 2-tpd NOx decrease from TERP grants by the end of 2007. With the grants awarded to the Austin area in FY 2006, the TCEQ projects NOx reductions of **2.02** tons per day in 2007 from TERP projects, which does satisfy the regional NOx emission reduction goals. No additional grants have been awarded in the Austin area since the last EAC report. Figure 2.1 shows current allocation of NOx emission reductions by the source category. Figure 2.2 summarizes the allocation of grant funds across the state of Texas.

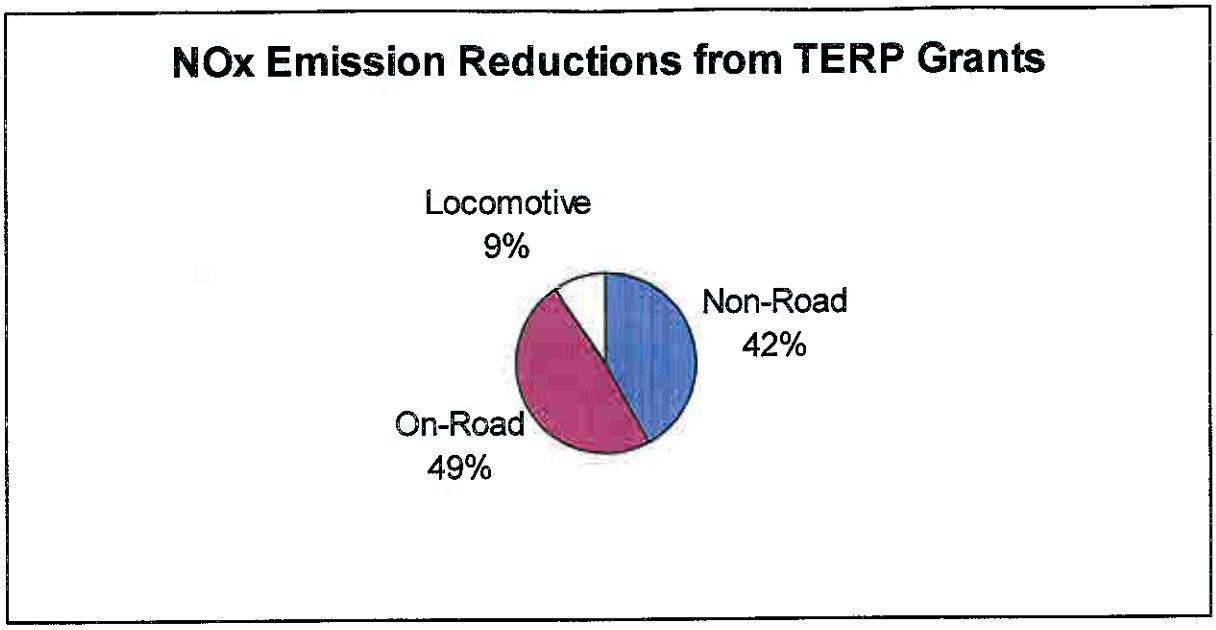

Figure 2.1: Actual NOx reduction and source allocation of TERP grants in the A/RR MSA

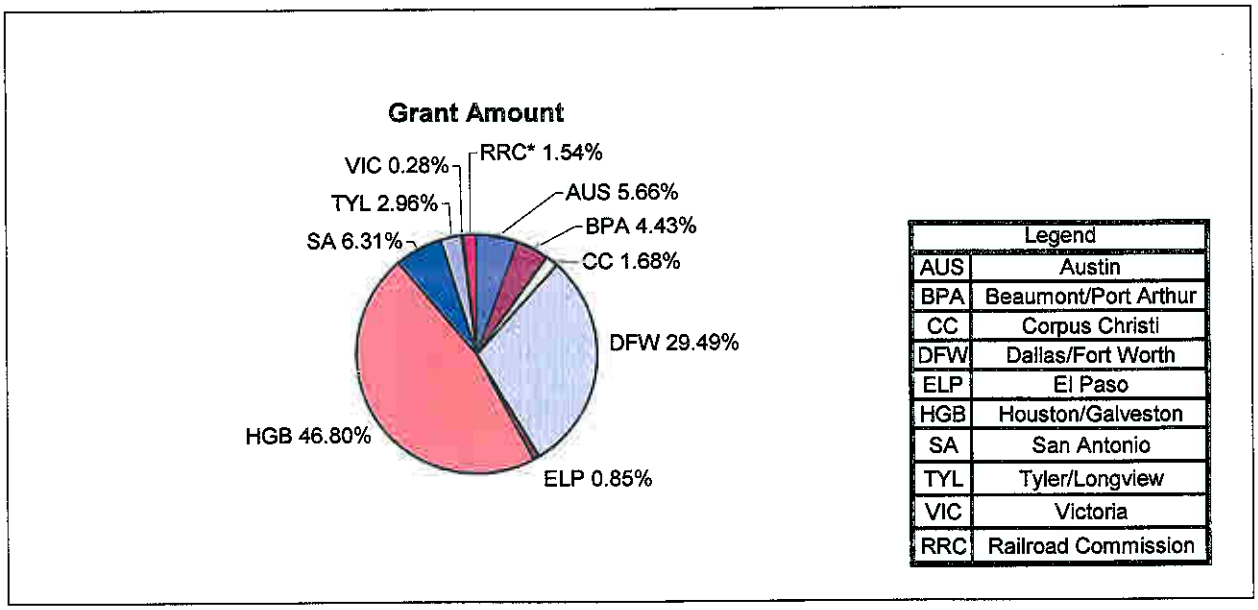

Figure 2.2: Allocation of TERP funds by location.

2. **Local Power Plant Reductions** – Austin Energy, LCRA and UT agreed to specific reductions during the EAC Stakeholder process.

- **Estimated Austin Area Reductions:** Four Austin-area power plants anticipate NOx reductions of 1,866 tons per *year* (12.7%) by 2007. Reductions have been noted in TCEQ permits and incorporated into the State Implementation Plan (SIP).

***Austin Energy*:** Austin Energy implemented its environmental dispatch program for gas-fired facilities on ozone action days. The measure was in effect before 1/1/2005. The commitment to a voluntary NOx cap of 1,500 tons/year encompassing the Holly, Decker and Sand Hills facilities was included as a special condition of the Holly Power Plant SB-7 permit as of 1/30/2004. The reported total NOx emissions from these three facilities in 2005 were 982 tons, which was lower than the voluntary NOx cap commitment. In addition to the cap commitment, 241 NOx allowances are being retired each year. Austin Energy has also accelerated their commitment to shut down Holly Units 3 and 4 by 9/30/2007.

***Sim Gideon Power Plant*:** LCRA has agreed to limit total NOx emissions from its Sim Gideon Units 1, 2, and 3 to less than 1,044 tons for each 12-month control period. As provided for in Senate Bill 7 (76th Texas Legislature, 1999), Sim Gideon was allocated 1,344 tons of NOx. By reducing the allowable Sim Gideon NOx emissions from 1,344 tons to 1,044 tons for each control period, LCRA will offset the maximum expected NOx emissions from the Lost Pines 1 Power Plant, as previously committed to, plus an additional 100 tons. In addition, LCRA will not execute any allowance trades during any control period from Sim Gideon such that the combination of NOx emissions and allowance transactions exceed 1,044 tons.

In November 2005, LCRA requested in a letter to the Texas Commission on Environmental Quality (TCEQ), that the Sim Gideon Power Plant permit be altered to reflect maximum NOx emissions of 1,044 tons for each control period as identified in SB7. The Sim Gideon permit alteration was received from TCEQ on December 21, 2005.

***Fayette Power Project*:** LCRA and Austin Energy, as partners in the Fayette Power Project (FPP), have agreed to accelerate the FPP Flexible Air Permit final NOx plant-wide emission cap from an effective date of October 2012 to December 31, 2006.

The early replacement of the interim cap of 10,494 tons with the final cap of 9,522 tons will reduce the allowable plant-wide NOx emissions limit by 972 tons.

In October 2005, LCRA requested in a letter to TCEQ, that the FPP plant-wide flexible permit be altered to reflect the accelerated date of the final allowable NOx cap from October 2012, to December 31, 2006. The FPP permit alteration was received from TCEQ on February 24, 2006.

LCRA is utilizing boiler combustion system modifications to achieve the Flexible Air Permit final NOx plant-wide emission cap. System modifications were installed on FPP Unit 1 in 2002, on FPP Unit 2 in 2004, and on FPP Unit 3 in 2005. The modifications to each of the boilers involved installation of new coal burner tips and separated over-fire air.

Online References:

TCEQ Austin Area SIP - http://www.tceq.state.tx.us/implementation/air/sip/nov2004eac.html
Adopted State Rules - http://www.tceq.state.tx.us/nav/rules/propose_adopt.html
TERP grants - http://www.tceq.state.tx.us/implementation/air/terp/erig.html#projects_selected
List of Austin TERP Applications Received in December 2005 for Funding Consideration - http://www.tceq.state.tx.us/assets/public/implementation/air/terp/erig/AUS_FY06R1_Applicant_Summary.pdf

Locally Implemented EAC Measure Status

Locally Implemented EAC measures build on those in the O_3 Flex Agreement. More detailed descriptions, and commitments from participating agencies, appear in Appendix 5-2 of the CAAP. To provide an update for this reporting period, survey forms were sent to all participating agencies to collect information about the status of all locally implemented measures. The survey forms and answers and a summary table can be found in Appendix B of this document.

Signatories interpret and implement these measures according to their needs and abilities. With the exception of the Transportation Emission Reduction Measures (TERMs), neither the SIP nor the Austin Area EAC quantifies these reductions nor do they include them in the attainment modeling. This chapter summarizes the implementation status of the local measures. The progress of the Transportation Emission Reduction Measures (TERMs) for this reporting period is illustrated in Figure 2.3 and Table 2.6.

Signatories and Participating Agencies

Locally implemented emission reduction measures were committed to by the signatories to the EAC Agreement:

Cities:

City of Austin, City of Round Rock, City of San Marcos, City of Bastrop, City of Lockhart, City of Luling, City of Elgin

Counties:

Bastrop County, Caldwell County, Hays County, Travis County, Williamson County

Agencies:

Capital Metropolitan Transportation Authority, Capital Area Council of Governments (CAPCOG), Capital Metropolitan Planning Organization (CAMPO), Lower Colorado River Authority (LCRA), Texas Commission on Environmental Quality (TCEQ), Texas Department of Transportation (TxDOT)

Transportation Emission Reduction Measures (TERMs)
EAC Clean Air Action Plan for the Austin-Round Rock MSA
Project Status and Emissions Report - December 2006

PROJECT TYPE	TERMs PROJECT STATUS*				TERMs TOTALS		Continued Attainment TERMs*		TOTAL EMISSION REDUCTIONS			
	Complete	On Time	Delayed	*Beyond 07 or Deleted*	Total Eligible TERMs	Total Commitments	Total Projects	Total Commitments	Current Reductions		2007 Reductions	
									VOC	NOx	VOC	NOx
Intersection Improvements	127	10	21	*0*	158	316 Intersections	7	8 Intersections	643.740	565.090	591.969	547.534
Signal Improvements	38	4	6	*0*	48	~ 1959 Signalized Intersections	2	6 Signalized Intersections	974.324	978.931	794.726	767.483
Bicycle/Pedestrian Facilities	144	23	22	*0*	189	~ 209.03 Miles (+Bike Hub/Racks)	6	13.95 Miles of linear facilities	78.289	78.249	64.102	62.698
Grade Separations	1	1	0	*0*	2	2 Grade Separations	2	2 Separations	6.764	5.774	0.000	0.000
Transit Projects/Programs	17	0	4	*4*	21	3447 Lot Spaces (+ 2 Buses)	0	0 Spaces/Programs	88.997	90.695	131.082	114.687
Traffic Flow Improvements	7	0	0	*0*	7	30.26 Miles of Roadway	0	0 Miles of Roadway	397.612	251.629	384.166	265.074
Intelligent Transportation Systems*	18	4	0	*1*	22	> 42.51 Miles of Roadway	4	16.958 Miles of Roadway	*specific reductions not quantified to date*			
									TOTAL LBS PER DAY REDUCED			
PROJECT STATUS TOTALS	352	42	53	*5*	447	Total Projects	21	Total Projects	2189.725	1970.369	1966.045	1757.477

TOTAL TONS PER DAY REDUCED			
VOC	NOx	VOC	NOx
Current		2007	
1.095	0.985	0.983	0.879

IMPORTATNT NOTES:

* This TERMs Report shows the current status of projects as of **December 5, 2006.**
* The "Complete" projects are complete and implemented within the region.
* The "On Time" projects are those that will still be complete by/sooner than the implementation date provided in the previous reporting period.
* The "Delayed" projects are those that have been pushed back a year or more from the implementation date provided in the previous reporting
* TERMs deleted or due beyond 2007 are excluded from the emission reduction totals for the 2007 Clean Air Action Plan (CAAP) attainment goal required by the State Imple
* Deleted projects are required to be substituted with projects of similar emission reductions by the next reporting period.
* Each improvement has a different type of commitment. These commitments are units used to quantify emission reductions.
* Shaded rows indicate TERMs that provide continued attainment to the CAAP (due between 2008 and 2012), and are not included in the 2007 emission reduction totals.
* ITS projects are not quantified, due to lack of specific quantification data for the project type/function. These projects are included in project status totals, but not in reduction totals.
* Footnotes in each table provide essential information on specific improvements.
* Bike/Ped totals changed significantly in 2005 due to spreadsheet errors in the 12/2004 report that caused duplication of certain projects.
* Jonestown Park & Ride, Wells Branch HEB Park & Ride, Northwest (Interim) Park & Ride, and Kreig Softball Complex Park & Ride have all been closed. The additional spaces provided by the Leander Park & Ride (increase to 500 from 200) and Leander Church of Christ (increase to 100 from 30) replace the spaces that have been closed.

Table 2.6: Summary of TERM Individual Project statuses

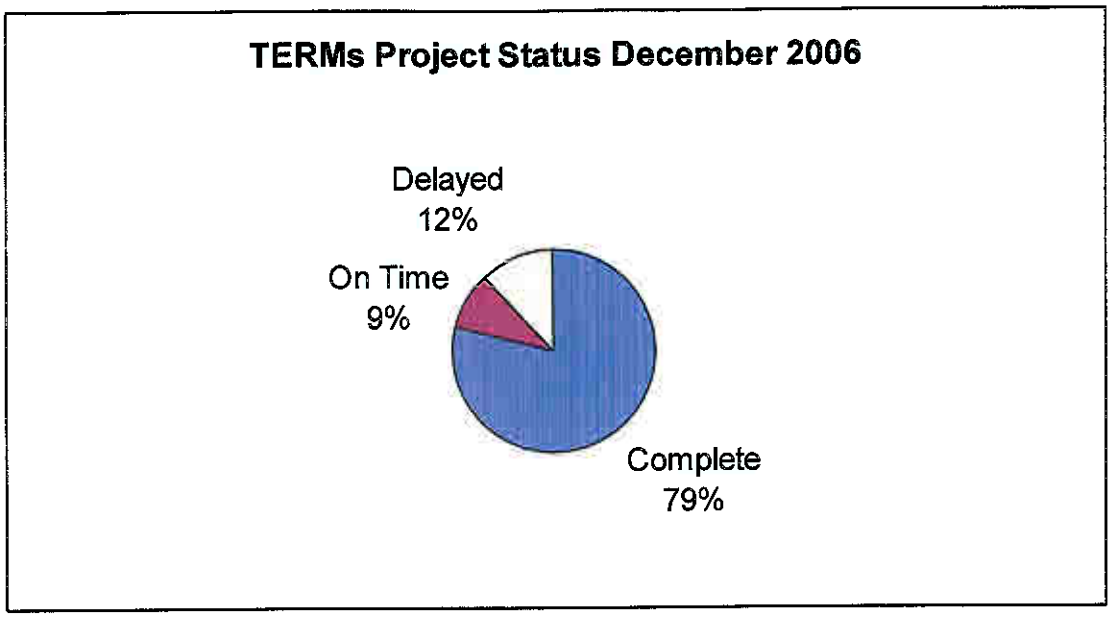

Figure 2.3: TERMs Project Status as of December 2006

Other Emission Reduction Activities

Clean Air Partners Program (cleanairpartnerstx.org)

Clean Air Partners (CAP) is a program which enlists businesses, organizations, and government entities that pledge to reduce their air emissions by 10% over a three-year period. The CAP Program currently consists of over 105 Central Texas businesses, organizations and government entities in the 5-county Central Texas region, representing over 160,000 regional employees. Since the last EAC reporting period, three new companies joined the CAP Program: Balcones Resources, BookPeople, and The Driskill Hotel. The program goal is to reduce the equivalent of 16,000 commuters from our Central Texas roads. Partners are able to utilize many different strategies to achieve these reductions, such as carpooling/vanpooling; remote work (teleworking/telecommuting); flex-time schedules; energy conservation; on-site emission reductions from the use of Green Choice energy; low-emission construction activities; cleaner, water-conserving landscaping practices; and a host of other proactive activities that lead to cleaner air. Recruiting Partners for the program is ongoing. Contact has recently been made with staff

members of the EPA's Best Workplaces for Commuters nationwide program and plans are now in place to leverage EPA's help to recruit Central Texas offices of its national members. The Clean Air Partners website is regularly updated to include feature stories from Partners about their commute reduction activities and ideas. In this reporting period five commute solutions/air quality informational events occurred on-site at CAP locations: three at Seton Hospital locations, one at Solectron, and one at State Farm Insurance. Also, a new, simpler web-based system to measure emissions reductions is in the process of development.

Analysis: Following is a breakdown of the emission reduction strategies used by CAPs: 92% educate their employees on commute reduction ideas and ozone education; 41% practice energy conservation including the use of cleaner energy (GreenChoice); 23% practice water conservation; 26% reduce site deliveries; 33% use ebusiness, video/teleconferencing, etc. to reduce commutes for visitors and customers; and 28% reduce emissions by using cleaner/alternative fuels, taking fewer vehicles/trips, etc. in company vehicles.

The ABJ annual ad to recognize Partners' achievements and encourage new Partners to join reaches 63,600 readers. The ad also keeps CAF visible in the community.

Electric Lawnmower Discount Program

The Electric Lawnmower Discount Program began in April and continued to run through the end of May. Advertising for the program was sent out through Austin Energy's Energy Plus newsletter. An article was also featured in the *Austin-American Statesman* detailing the program and its benefit to Central Texans. This year's program partnered for the second year with on-line retailer Neuton Mowers to provide a $70 discount, free rear bagger, free shipping and handling, and extended warranty. For the fifth year CAF has partnered with Home Depot and Black & Decker to provide a 20% discount on the corded MM575 or $39.80 off of any Black & Decker electric mower. Two Electric Lawnmower Discount events were held this reporting period. One was May 6th at the Sunset Valley Home Depot and the other was held May 13th at the Arboretum Home Depot. At the Arboretum event, a total of 500 electric lawnmowers were sold and 85 were recycled.

Adopt-a-School Bus Program (adoptaschoolbus.net)

The Adopt-A-School Bus Program continued to operate as such from May 1 until July 31, 2006, then was dormant for August and half of September due to lack of funds to meet the administrative costs. With funding through the TCEQ/CAPCOG near non-attainment area grant, the Program was reconstituted in the latter half of September as the Central Texas Clean School Bus Program, a CLEAN AIR Force/CAPCOG partnership.

The goals of the Clean School Bus Program remain the same as those of the previous program: helping school districts in Bastrop, Caldwell, Hays, Travis and Williamson Counties reduce pollution from school buses through raising awareness of the health impacts of diesel exhaust; providing information on strategies to reduce diesel exhaust emissions; and accessing funds to help school districts meet the costs of retrofitting older buses with new emission control systems.

In partnership with Central Texas Clean Cities, the program hosted a workshop for school districts dealing with the introduction of ultra-low sulfur diesel and the range of issues surrounding the use of biodiesel. The program also worked closely with CAPCOG on the Texas Transportation Institute study on the impact of biodiesel on school bus emissions of nitrogen oxides (NOx). The study concluded there is no significant impact on NOx emissions (See Biodiesel Study in the Technical Section). The program manager presented information on the TTI study and the advantages of biodiesel use in school buses to the Texas Biodiesel Conference and the Senate Natural Resources Committee interim hearing on biofuels.

Assistance was provided to staff from the University of Texas Center for Energy and Environmental Research in setting up the study of concentrations of diesel exhaust pollutants within the passenger compartments of Round Rock ISD school buses before and after retrofits have been installed. The program worked closely with the retrofit manufacturer and the school district to ensure the retrofit equipment was correctly supplied. The results of this study will be available mid-November, 2006.

As fundraising activities with private corporations and foundations have continued to be unproductive, the program has focused on access to government funds. In partnership with the three other Texas Adopt-A-School Bus Programs, an application for funding for a school bus idling reduction awareness program was submitted in response to

a US DOE request for proposals (RFP). While the application was unsuccessful, the Clean School Bus Program hopes to be able to undertake some of the activities outlined in the proposal within the near future.

In response to the EPA Region 6 and 7 Blue Skyways Collaborative Clean School Bus RFP, $198,000 has been requested to retrofit 54 buses in Manor and San Marcos ISDs; to meet the incremental costs of purchasing 300,000 gallons of B20 biodiesel with an additive to reduce emissions of oxides of nitrogen (NOx); and to help meet the costs of purchasing one plug-in diesel electric hybrid bus by Austin ISD (Austin Energy and Austin ISD will contribute a considerable portion of the total cost). Awards have not yet been decided under this RFP.

To date, 66 highly polluting school buses have been replaced with 66 cleaner buses and 46 diesel retrofits have been installed among 7 local school districts. The Program continues to work on the Alcoa Supplemental Environmental Project (SEP), with the focus now being on the most effective allocation of the remaining SEP funds to 6 school districts.

Commute Solutions Program

Commute Solutions is a voluntary trip reduction program created in response to increasing traffic congestion and worsening of air quality. It is administered by CAMPO and funded by the MPO and partner organizations.

Commute Solutions educates area residents on the benefits of trip reduction through Transportation Demand Management (TDM). TDM reduces traffic congestion and air pollution by influencing changes in travel behavior. This is accomplished through a variety of strategies aimed at influencing mode choice, frequency of trips, trip length, travel time, convenience and cost.

During this reporting period more than 1,300,000.00 vehicle miles traveled were saved due to the commute solution voluntary programs.

Another important factor creating a need for Commute Solutions is the Austin Area Early Action Compact (EAC). The local jurisdictions within Bastrop, Caldwell, Hays, Travis and Williamson Counties, participating agencies, the Texas Commission on Environmental Quality (TCEQ), and the Environmental Protection Agency (EPA) have

made this regional commitment to reduce ozone-forming emissions so that Central Texas meets national air quality standards by 2007 with continued reductions through 2012. Within the EAC, there are commitments to implement commute solutions programs for employees of local jurisdictions, agencies and businesses (including the Clean Air Partners Program). Commute Solutions provides resources, guidance and training needed to implement these commute reduction programs across Central Texas. As a result, the programs will reduce congestion, reduce vehicle emissions, and improve our region's air quality.

Commute Solutions educates and informs the public about TDM. The program promotes commute options—*transportation alternatives* (carpools, vanpools, transit, bicycling, walking) and *work schedule alternatives* (flextime, compressed work weeks, teleworking) - to improve mobility. Commute Solutions works with major employers and area organizations to raise awareness about TDM and trip reduction. The Commute Solutions Coalition makes presentations to employers, groups and area organizations, educating them on the benefits of TDM and generating participation in the Commute Solutions program. The Coalition also organizes transportation events and fairs to increase awareness of commute options and promote alternatives to driving alone, especially during commute peak hours.

Commute Solutions helps businesses initiate trip reduction programs by offering employers in Central Texas the *Let's Ride* program: free training and access to a full range of commuter program information and services. Depending on the individual company and its specific needs, Commute Solutions can provide services such as orientation to commute options, computerized ride matching, worksite assessments, technical support and marketing assistance. CAMPO serves as the point of contact for employers and coordinates Commute Solutions activities.

Program-funded Activities:

- Marketing, informational and promotional materials (signs, brochures, giveaways, etc.)
- Commute Solutions fair/event needs (venues, promotional items, prizes, equipment, informational materials, etc)*
- Advertising through radio and print publications
- Commute Solutions Month events, advertising, promotional items, prizes, etc.*
- *Let's Ride* training needs (venues, equipment, materials, prizes, etc.)*

- *Commute Solutions 4Kids* (Schoolpool) program needs (safety patrol uniforms, giveaways, informational materials, etc.)*
- Commute Solutions Grant Program funding
- Website hosting, maintenance, and upgrades (includes CS Month Challenge web needs)
- Research and purchase reports
- Hiring of consultants or transferring of funds to other organizations for services provided within the scope of work
- Professional development (software, research material, technical reports, conferences/workshops, meetings, training, etc.)

* *CAPCOG funds not used for purchasing promotional items or prizes.*

Let's Ride Program

Commute Solutions (CS) sponsors the Let's Ride (LR) Program, a program to educate employers and employees on how to implement and benefit from successful employee Commute Solutions programs. CS hosts Let's Ride Training for requesting employers in the Central Texas region. For more program information, visit www.commutesolutions.com/letsride.

3. TECHNICAL ANALYSIS FOR CONTINUED ATTAINMENT PLANNING

EAC Clean Air Action Plan (CAAP)

The Austin-Round Rock MSA CAAP which was completed and sent to EPA and TCEQ on March 31, 2004 is based on a modeled attainment demonstration for 2007. The analysis for growth indicated that the attainment status will be maintained through 2012. The EAC milestone reports documenting each of the technical analysis activities performed to support the attainment demonstration are included as appendices to the CAAP and can be accessed on the CAPCOG web site.

A brief discussion follows on continuing technical support activities completed during the reporting period. A discussion of ozone monitoring efforts to provide more complete measurements of ozone levels in the area is provided. Also discussed are studies that examine toxic pollutant levels in the area and the use of biodiesel in local school buses.

VOC Canister Sampling

Emissions of VOCs are one of the inputs needed for photochemical modeling, which is used to predict ozone concentrations over the Austin area. During 2004 and 2005 one-hour VOC concentrations were collected in the Austin area and analyzed for a standard set of 54 compounds. The project in 2006 was a continuation of the 2004 and 2005 projects.

The first project to collect VOC canister samples was completed in 2004 and included 29 samples collected in September and October 2004. In 2005, an additional 22 samples were collected in August and September and analyzed. The study in 2006 occurred between June and August 2006 and a total of 28 samples were collected and analyzed.

The results from this project may be useful for a number of air quality planning activities. Some of the control measures adopted in the Austin area EAC will reduce VOC emissions. It may be possible to use the results from this VOC sampling program to

evaluate the impact of the control measures that were designed to reduce VOC emissions. If VOC concentrations were measured over a period of years in the Austin area it may be possible to track the changes in VOC levels to indicate the effectiveness of the control measures for reducing VOC concentrations in the ambient air. It may be possible to compare the results from this sampling program with emissions and modeling data to evaluate the VOC emissions inventory.

In 2004, three sample sites were selected based on results from the photochemical modeling for the September 13-10, 1999 episode. For the 2005 program three sites were selected for the sampling, but the locations of two of these were changed. Three new samples sites were selected for the 2006 sampling. The results from the photochemical modeling indicated that the highest VOC concentrations would be expected for the time period from 7:00 am to 8:00 am. One-hour VOC samples were collected from approximately 7:00 to 8:30 am on each sampling day. For this project 28 samples were collected at up to three sampling sites each sampling day. Sampling days were from June 3 to August 31, 2006.

VOC canister samples were taken at the following sites in the Austin area:

- *Walnut Creek*: 12138 North Lamar Blvd
- *Murchison*: 3724 North Hills Drive
- *Travis High School*: 1211 East Oltorf Drive
- *Old Airport*: 4700 Mueller Blvd.
- *Barton Creek Mall:* 2901 S. Capital of Texas Hwy.
- *McKinney Falls State Park:* 5808 McKinney Falls Pkwy.
- *Harrell Park*

The samples were analyzed for 54 target compounds with a gas chromatograph equipped with a flame ionization detector by the University of Texas Center for Energy and Environmental Resources. The procedure sample analyses were modified to provide a lower detection limit than used for the samples collected in 2004.

New source permit growth: Power Plants

Fifteen new major point sources, located near the Austin-RR MSA, are pending approval for construction. Although the sources are not contained in this region, emissions from the sources will be transported into the area and could have an effect on attainment status. There are 18 new units/boilers proposed from these 15 facilities. TXU Oak Grove, TXU Tradinghouse, and Formosa Plastics facilities have proposed two units each, which brings the total number of units from 15 facilities to 18. The proposed plants, their point source emissions, county locations, start dates, and ratings are listed in Table 3.2. The approximate location of the new plants is shown in Figure 3.1.

Plant Name	Emissions (tpd)				County	Start Date	Rating (MW)
	CO	NOx	SO2	VOC			
E S Joslin 2	4.78	2.23	5.66	0.16	Calhoun	Nov-09	271
Formosa Plastics Corp.,TX	3.96	2.52	8.64	0.19	Calhoun	May-10	2 x 150
J K Spruce 2 (CPS)	53.76	6.62	9.60	0.35	Bexar	Dec-09	750
NRG Limestone	53.76	6.73	9.60	0.43	Limestone	unknown	unknown
Oak Grove Mgmt. Co. LP (TXU)	73.20	17.22	41.33	1.13	Robertson	Jul-09	2 x 800
Sandow 5 (replaces ALCOA units)	7.10	7.10	14.21	0.36	Milam	Jul-09	450
Sandy Creek En. Assocs., LP	29.47	6.88	11.78	0.35	McLennan	May-10	800
Twin Oaks Power III, LP (Sempra)	11.95	5.58	15.94	0.36	Robertson	Jan-11	630
TXU Big Brown	29.47	7.26	12.46	0.35	Freestone	Jul-09	800
TXU Lake Creek	29.47	7.26	12.46	0.35	McLennan	Jul-09	800
TXU Martin Lake	29.47	7.26	12.46	0.35	Rusk	Jul-09	800
TXU Monticello	29.47	7.26	12.46	0.35	Titus	Jul-09	800
TXU Morgan Creek	29.47	7.26	12.46	0.35	Mitchell	Jul-09	800
TXU Tradinghouse	58.94	14.53	24.91	0.70	McLennan	Jul-09	2 x 800
TXU Valley SES	29.47	7.26	12.46	0.35	Fannin	Jul-09	800
Grand Total	**473.76**	**112.9931**	**216.408**	**6.108**			

Table 3.2: Point Source Emissions for the Fifteen Proposed Coal-Fired Power Plants

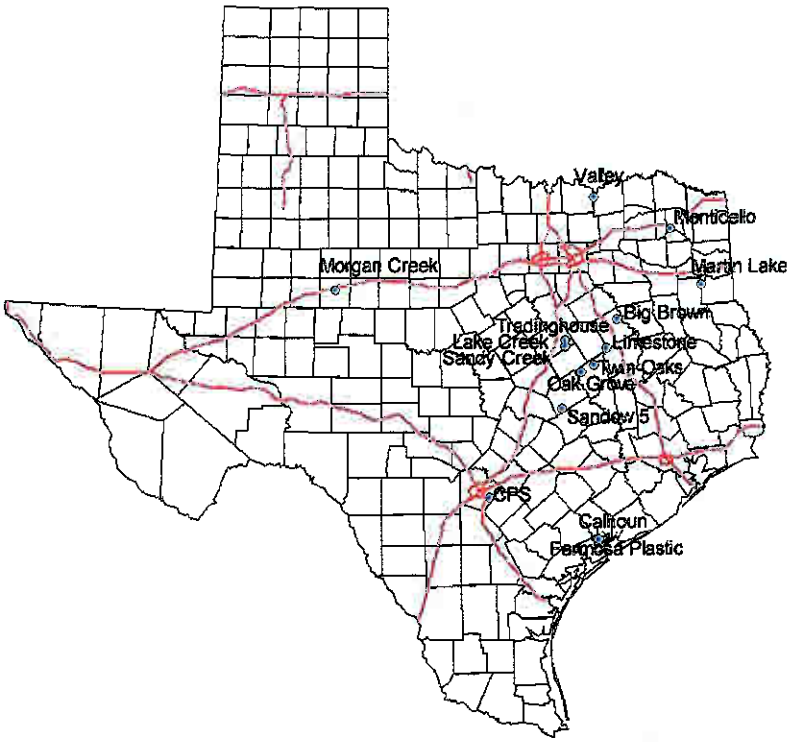

Figure 3.1: Map showing the locations of fourteen of the fifteen proposed coal-fired power plants in Central Texas (Morgan Creek not shown).

Modeling the impact these proposed facilities would have on the Austin area has not been completed. The last EAC report included a modeling summary of 7 proposed units, but more units have been proposed since then so the impact will be much different than previously reported. Results of the analysis of 7 of the proposed units can be found in the report "Assessing the Air Quality Impacts in the Austin Area Associated with Seven Proposed Central Texas Coal-Fired Power Plants," prepared by The University of Texas. The report concludes that the increased ozone impacts associated with the new power plants were greater than the ozone reductions obtained by the EAC controls on all days modeled except one. The results of the modeling of all 18 units will be presented in the next report.

Central Texas Sustainability Indicators Project (CTSIP)

During this reporting period the CTSIP published its annual report titled "*2006 Biennial Data Report*". The report provides the region with the biennial holistic picture of what Central Texas is, has been, and is becoming. It contains data and analysis of regional well-being from a social and economic perspective (such as education, health, incomes and public safety) as well as an environmental and resource perspective (land use, water availability and air and water quality).

According to the CTSIP report, the air quality status in Central Texas is marked as encouraging; however, new emissions sources (such as construction of new coal-fired electric generating units (EGUs) in Texas) could negate local efforts implemented by the EAC.

This is the sixth report of this kind so far and it is available by request. The contact information is: Central Texas Sustainability Indicators Project, 5930 Middle Fiskville Road, Ste. 603.5, Austin, Texas 78752. Phone: 512.223.774 ~ fax: 512.223.7029

Air Quality Monitoring Network for the 2006 Ozone Season

In addition to the two regulatory and three scientific ozone monitors operated in the Austin area by TCEQ and CAPCOG respectively, CAPCOG has installed three ozone monitors since the last reporting period. The City of San Marcos and the City of Round Rock monitors came on-line in June 2006. The McKinney Roughs monitor came on-line in August 2006. Data from the five sites, as well as from the three new monitors is accessible on-line from TCEQ's Monitoring Operations Web Site. The location of the Austin area ozone monitors are shown in Figure 3.2.

Ozone season for the Austin-Round Rock MSA began on April 1st and ended on October 31st. There were six exceedances of the 8-hour 85ppb standard during the 2006 ozone season. Table 3.3 displays the information related to these high ozone days. Five of these exceedances were during June on three different days, while the last exceedance was in August. The highest value reported during the season was 91 ppb, which occurred at the Audubon site on June 29, 2006. There were 17 ozone action days in the Austin area this ozone season. June 2006 through October 2006 ozone concentration graphs are shown in Figures 3.3 through 3.7, respectively.

Date	Site	ppb
8-Jun	Austin NW (C3)	88
29-Jun	Audubon (C38)	91
29-Jun	Austin NW (C3)	86
30-Jun	Audubon (C38)	89
30-Jun	Round Rock (C674)	86
31-Aug	Audubon (C38)	86

Table 3.3: High Ozone Days

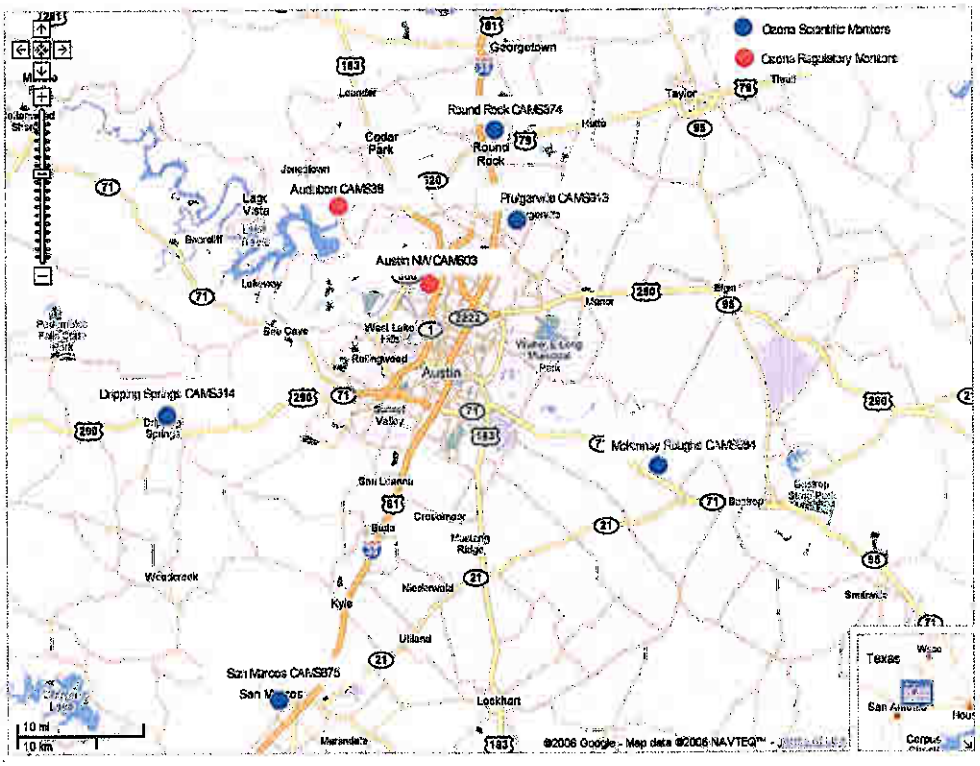

Figure 3.2: Austin region ozone monitoring network.

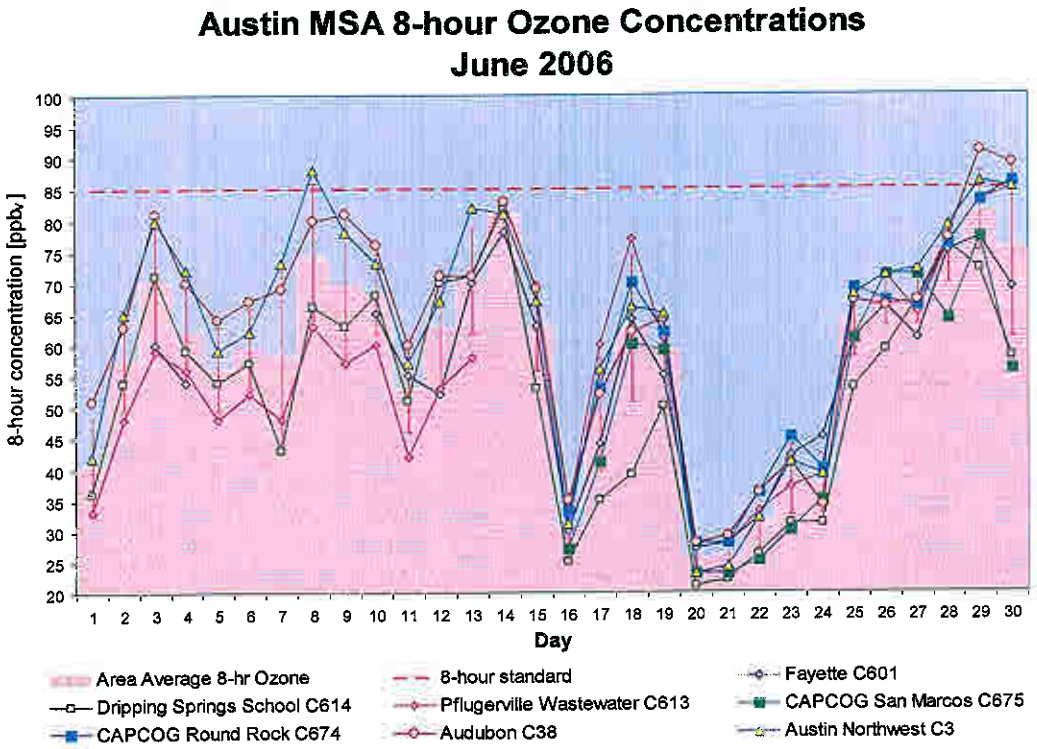

Figure 3.3: Austin-Round Rock MSA June 2006 Ozone Concentrations

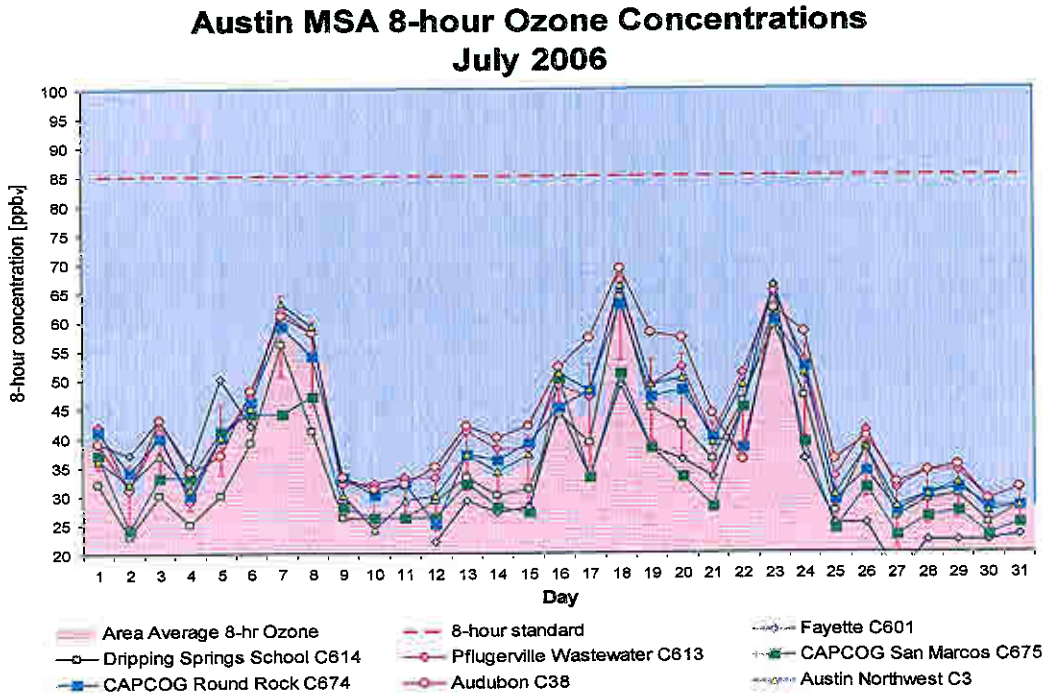

Figure 3.4: Austin-Round Rock MSA July 2006 Ozone Concentrations

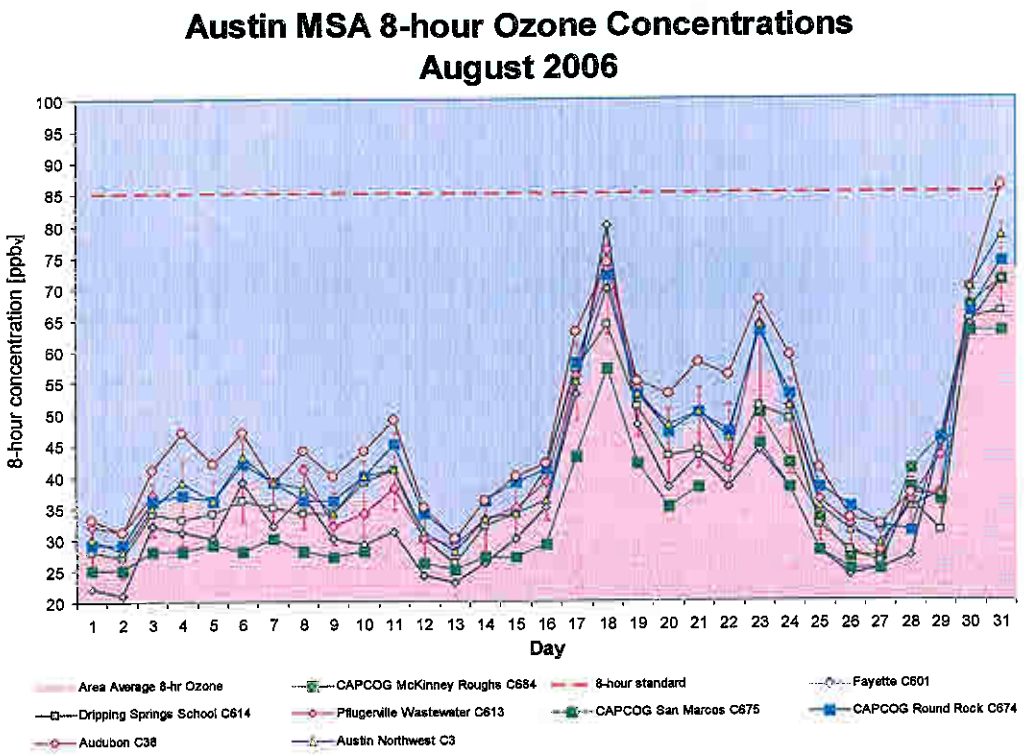

Figure 3.5: Austin-Round Rock MSA August 2006 Ozone Concentrations

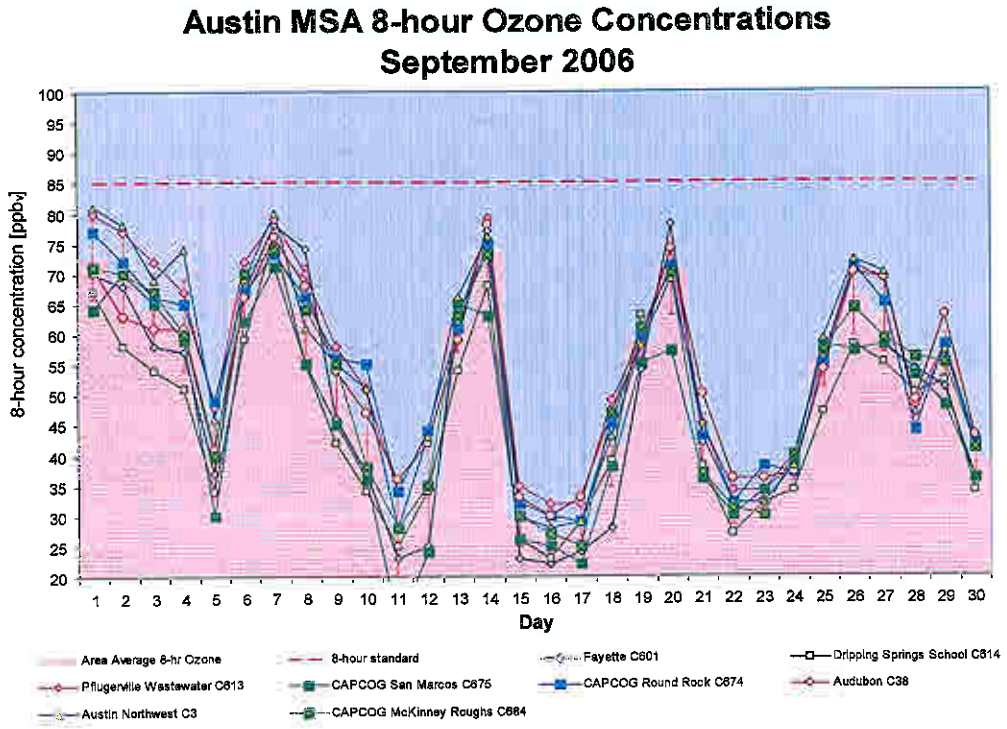

Figure 3.6: Austin-Round Rock MSA September 2006 Ozone Concentrations

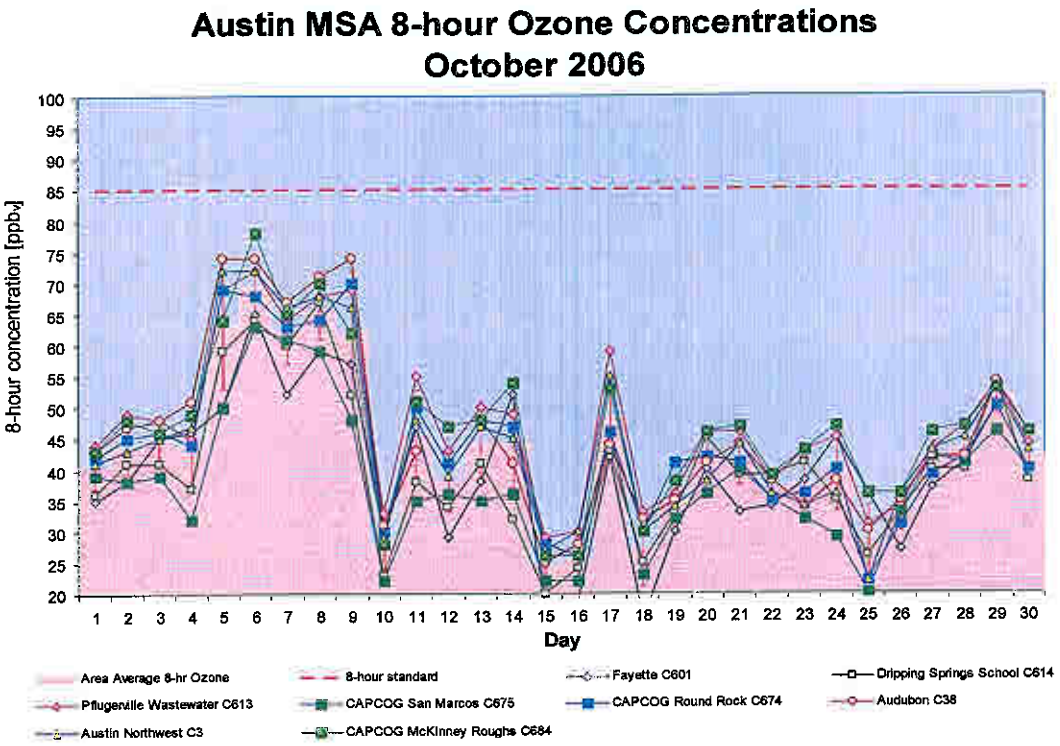

Figure 3.7: Austin-Round Rock MSA October 2006 Ozone Concentrations

The design[2] value in 2006 was 82 ppb for Austin Northwest (NW) CAM03 and 81 ppb for Audubon CAM38. The 2006 ozone season summary is shown in Figure 3.8. Figure 3.9 shows the 4th highest values for 2004 to 2006 for the Murchison and Audubon sites and the design value for the two regulatory monitors. Figure 3.10 shows the highest to fourth highest values for the sites.

[2] The design value is a three year average of the fourth highest values from 2004, 2005 and 2006.

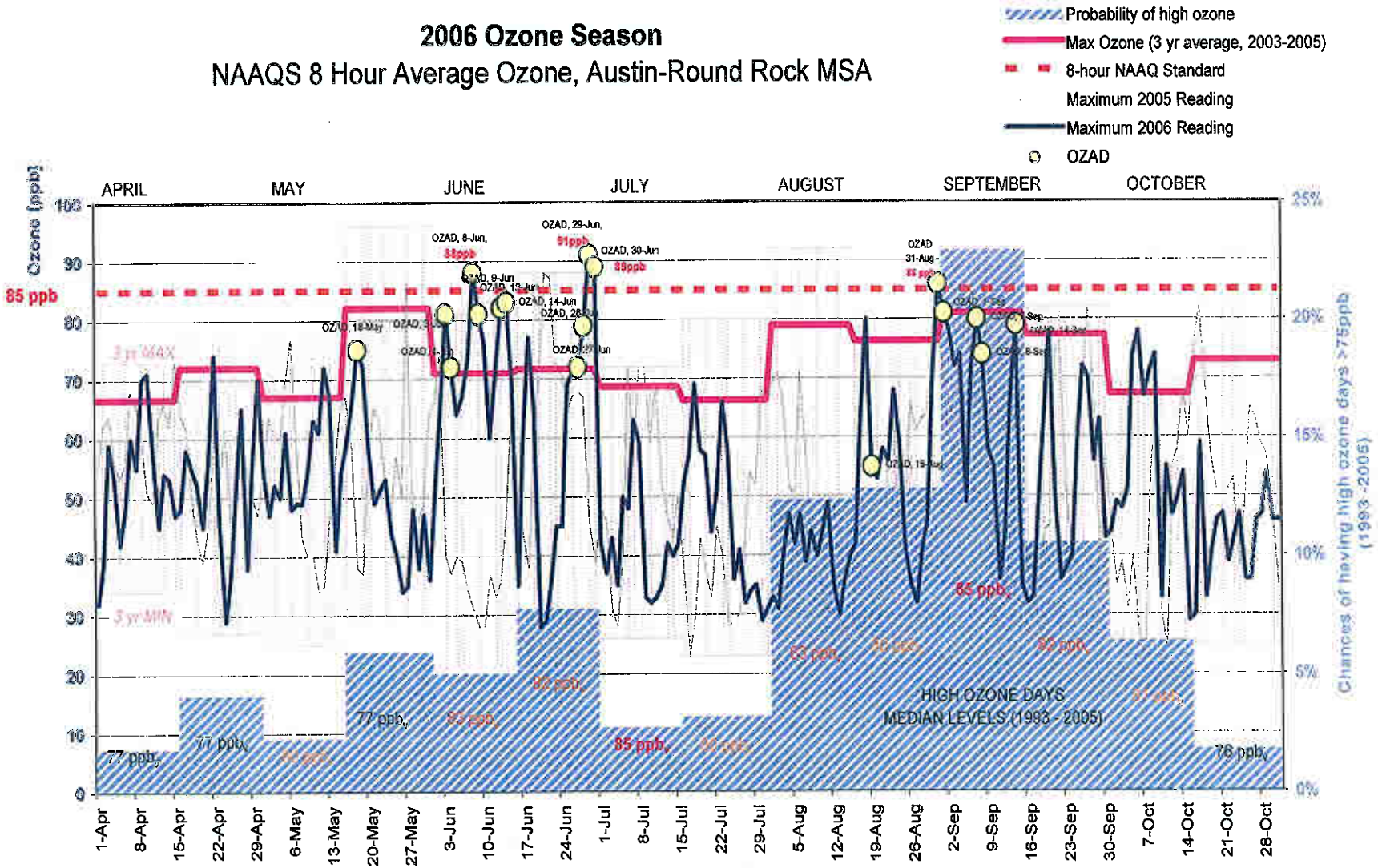

Figure 3.8: Austin-Round Rock MSA 2006 Ozone Season

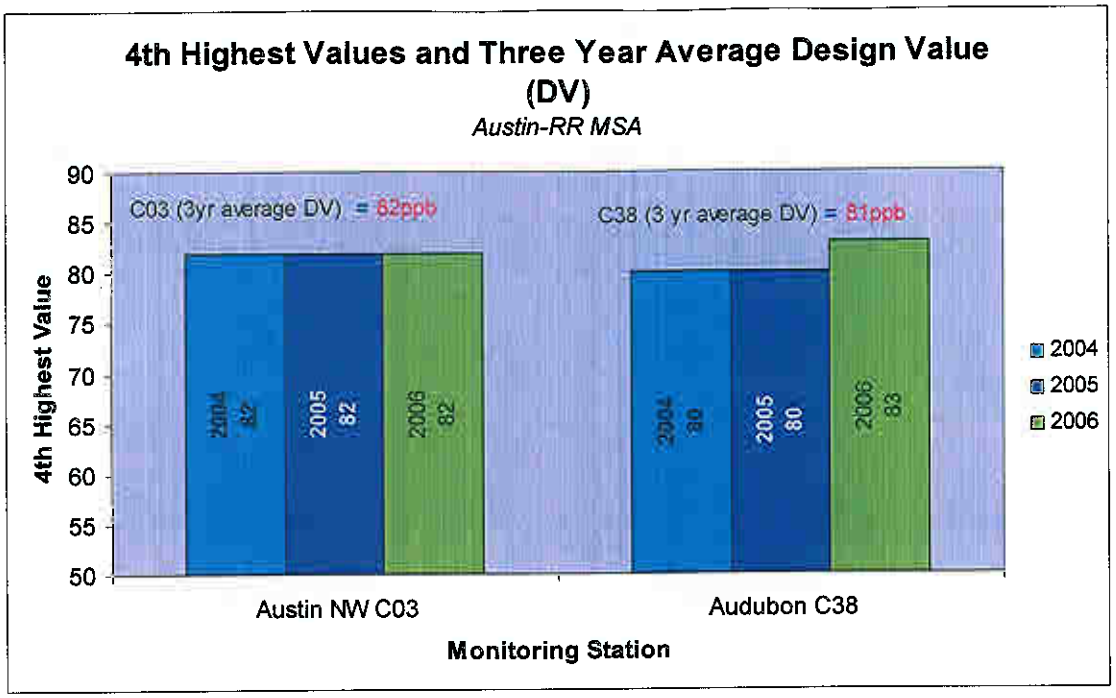

Figure 3.9: 4th Highest Ozone Values and Three Year Averages for Austin MSA

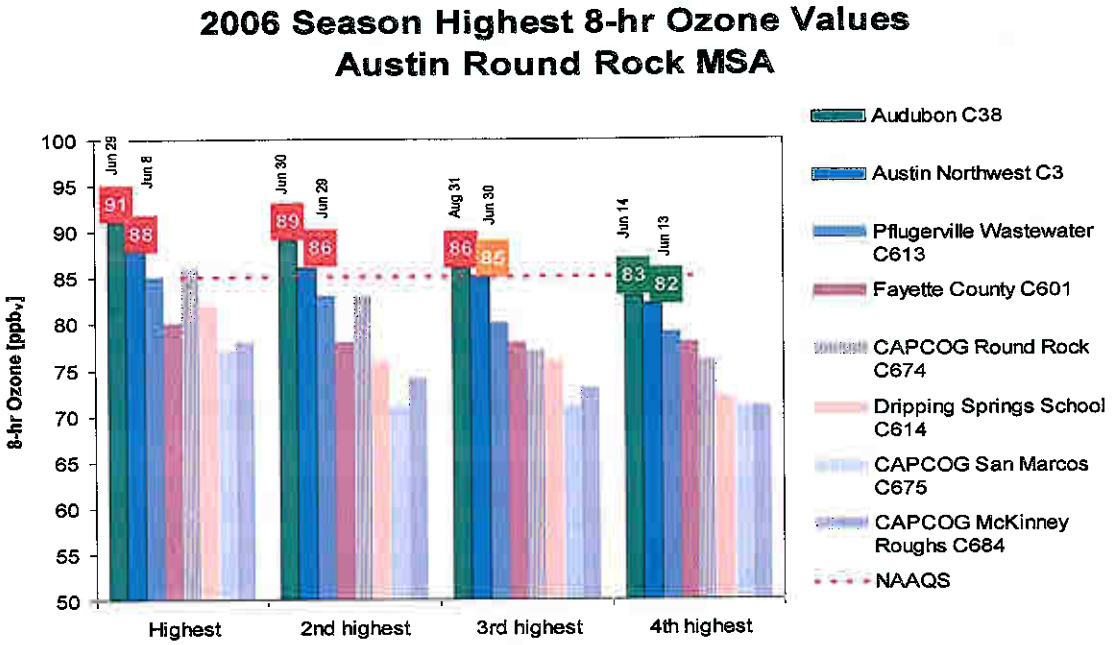

Figure 3.10: 8-Hour Highest to 4th Highest Ozone Values for Austin MSA

The next two figures (Figures 3.11 and 3.12) were compiled to demonstrate how the resultant wind direction for a particular day affected the ozone concentration. The figures show the resultant wind direction and its corresponding ozone concentration for the two regulatory ozone monitors, Austin Northwest and Audubon, throughout the 2006 ozone season.

Exceedance days (>85 ppb) usually occurred when easterly winds to southerly winds were prevalent. Three out of the five exceedance days from these two monitors occurred when the resultant wind direction was southeast. Other high ozone days (75-85 ppb) also favored these directions with the exception of a few outliers in the north to northeast wind direction.

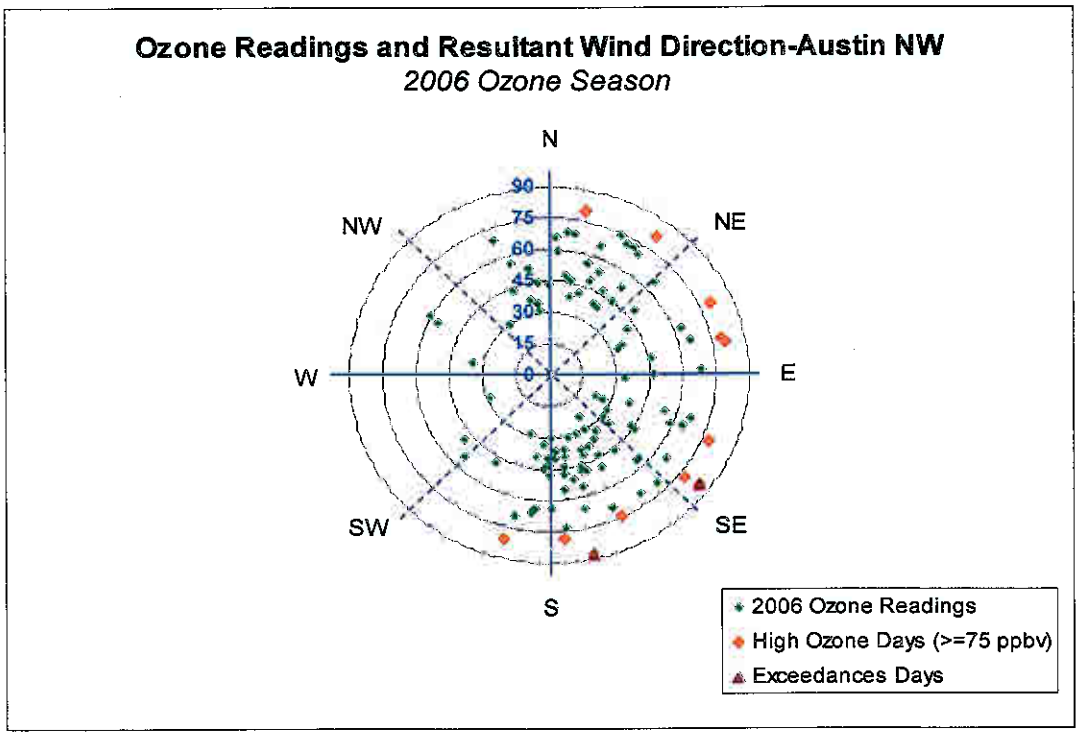

Figure 3.11: Austin Northwest Ozone Concentration and Wind Direction Radar Plot

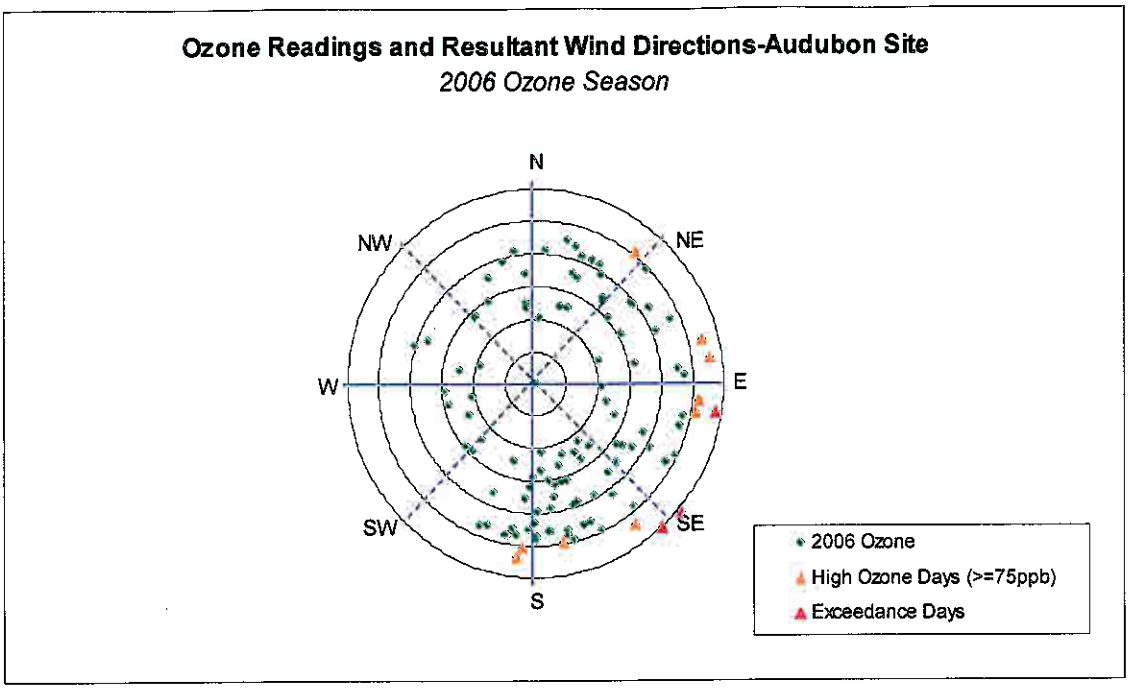

Figure 3.12: Audubon Ozone Concentration and Wind Direction Radar Plot

Back-trajectories Ozone Analysis

A back-trajectory analysis (using data for the years 2001 through 2005) was performed for each Texas Near-Nonattainment Area (NNA) using the National Oceanic and Atmospheric Administration's HYbrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) application. The primary goal of this project was to generate residence time contour maps that visually summarize the most frequent geographic areas upwind of the Texas NNAs prior to days when high ozone concentrations were measured (high ozone days) and prior to days when low ozone concentrations were measured (low ozone days) grouped by month. The results of this analysis conducted by the University of Texas at Austin Center for Energy and Environmental Resources (CEER) were provided to The City of Victoria and TCEQ in a report titled "Monthly Back-Trajectory Analyses on High and Low Ozone Days for the Texas Near-Nonattainment Areas for the Years 2001 through 2005" on October 30, 2006.

The results of the residence time analyses suggest substantially different upwind geographic source regions for high ozone days compared to low ozone days for all Texas NNAs. The residence time maps for low ozone days by month are consistent with the long-range transport of relatively clean maritime air westward over the Gulf of Mexico,

followed by southerly to southeasterly transport into the Texas NNAs. In contrast, the residence time maps for high ozone days by month suggest long-range transport into the NNAs from continental areas located to the east and northeast of Texas. This latter transport pattern is consistent with the clockwise air flow around a surface ridge of high pressure that typically extends southward into Texas during high ozone events. The continental air transported into Texas likely contained elevated concentrations of ozone and its precursor compounds associated with both biogenic and anthropogenic emissions from upwind sources.

Based on historical ozone measurement data, the frequency of occurrence of high ozone days is characterized by a bimodal distribution for all Texas NNAs. The number of high ozone days peaks preferentially during the August and September period, with a secondary peak in May and June. A comparison of the residence time maps between June and September suggests that June is characterized by a relatively higher frequency of back-trajectories from the east and southeast, while September is characterized by a more northeasterly flow pattern. These two residence time maps are shown in Figures 3.13 and 3.14. This comparison suggests that there is a seasonal variation in the potential geographic source regions of background ozone prior to high ozone days in the late spring and early summer compared to the upwind source regions prior to high ozone days in late summer.

The residence time maps for all days characterized by maximum ozone concentrations averaged over 8 hours of 75 ppb or greater indicate a remarkably similar spatial pattern of upwind geographic areas for the inland NNAs of Austin, San Antonio, and Tyler/Longview/Marshall. The patterns suggest potential transport of background ozone from geographic areas located to the east and northeast of eastern Texas, followed by transport from the east-northeast and east within Texas.

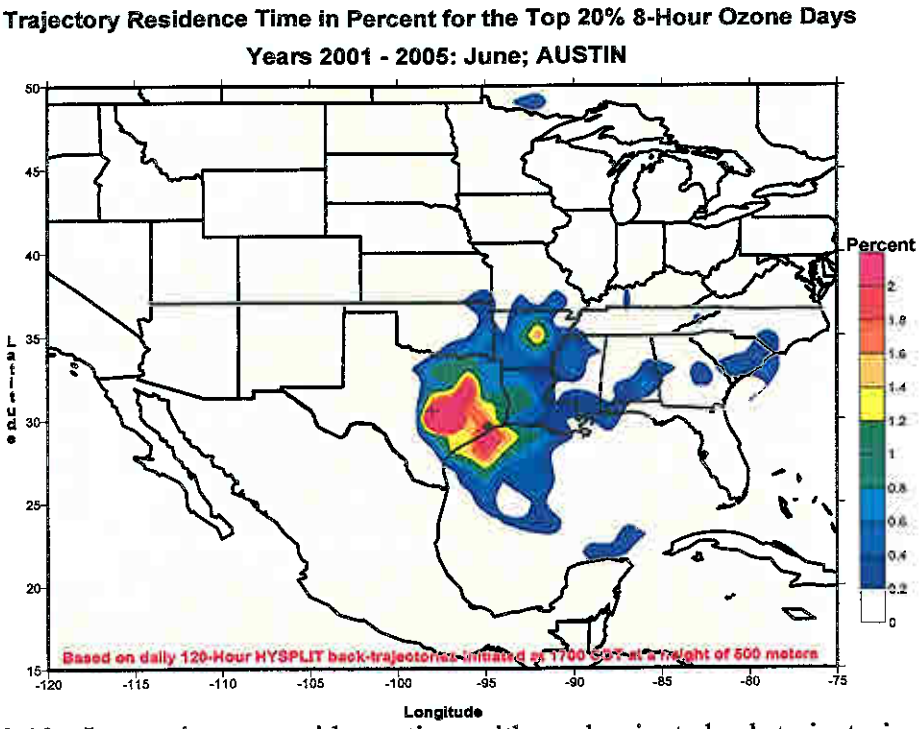

Figure 3.13: June trajectory residence time with predominate back-trajectories from east/southeast.

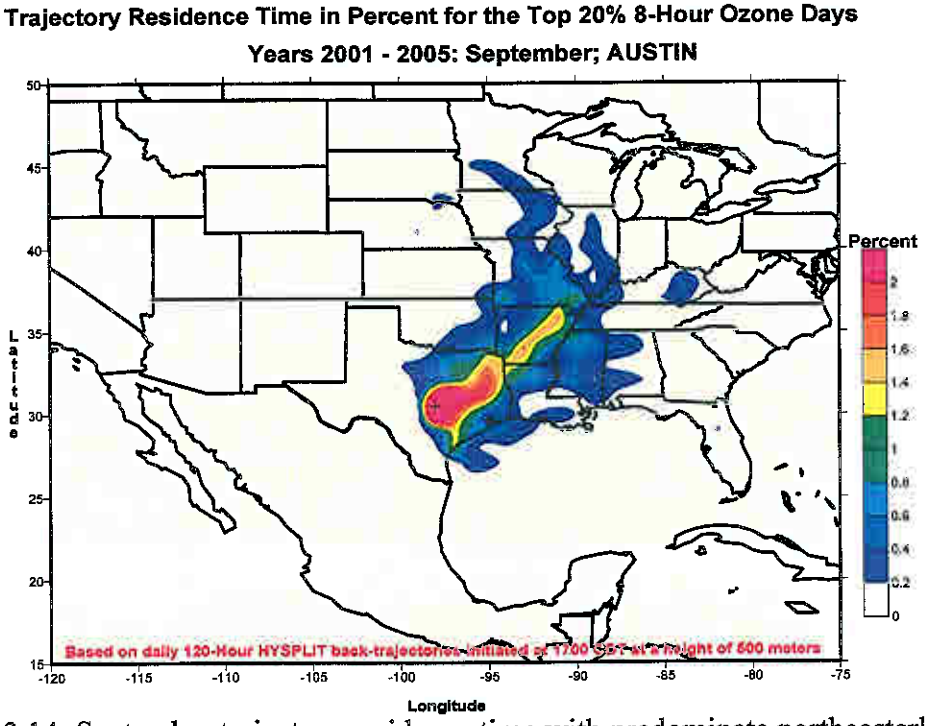

Figure 3.14: September trajectory residence time with predominate northeasterly back-trajectories.

Airborne Sampling of Power Plant Plumes and Metropolitan Impact

CAPCOG contracted Baylor University to conduct a series of upper level air sampling. Four flights were conducted in September using a Cessna Skyhawk C-172 N7562F. The four days of operation in September measured three different plumes and four different pollutants. The pollutants measured were ozone, SO2, NOx, and CO. Two days, September 8 and 14, were devoted to measuring the concentration of pollutants in the plume from the Fayette Power Plant. September 19 was devoted to monitoring the Alcoa/Rockdale Power Plant plume and September 27 measured pollutant concentrations from the San Antonio area. Figure 3.15 below shows the ozone measurements from the Alcoa plume, while Figure 3.16 shows the SO_2 measurements from the same plume. These are preliminary results and a full report will be generated in the near future.

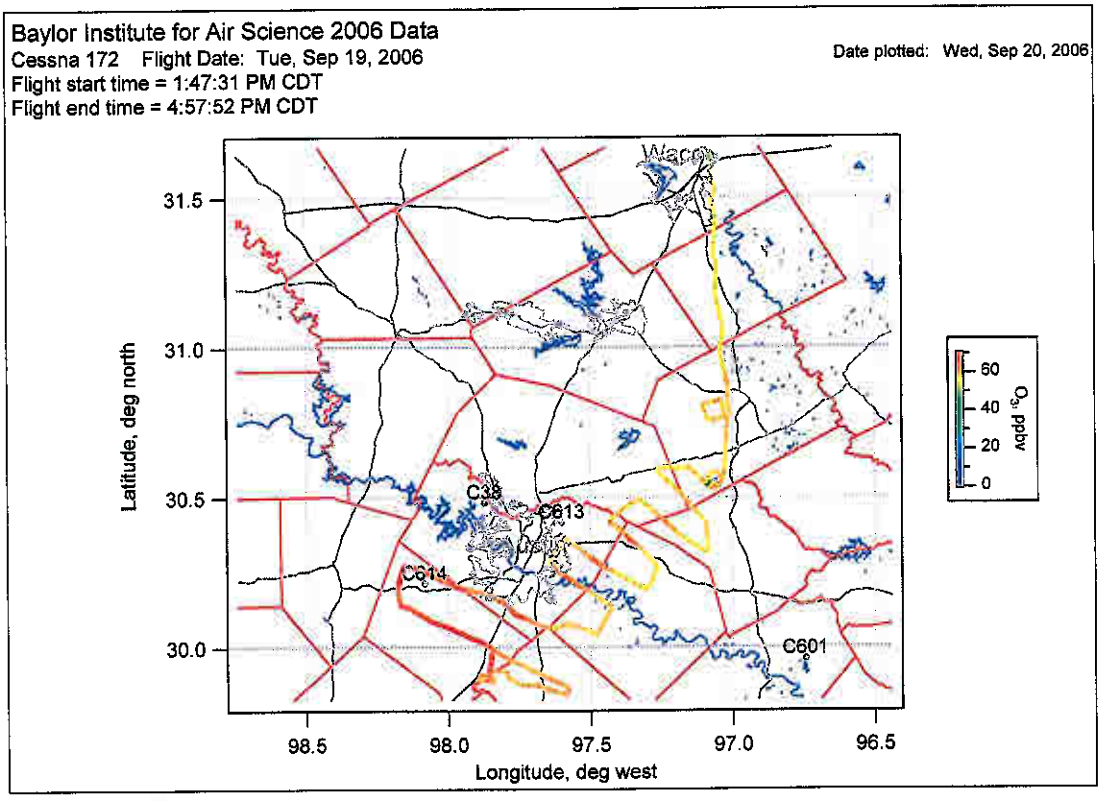

Figure 3.15: Ozone concentration along Alcoa plume on September 19, 2006

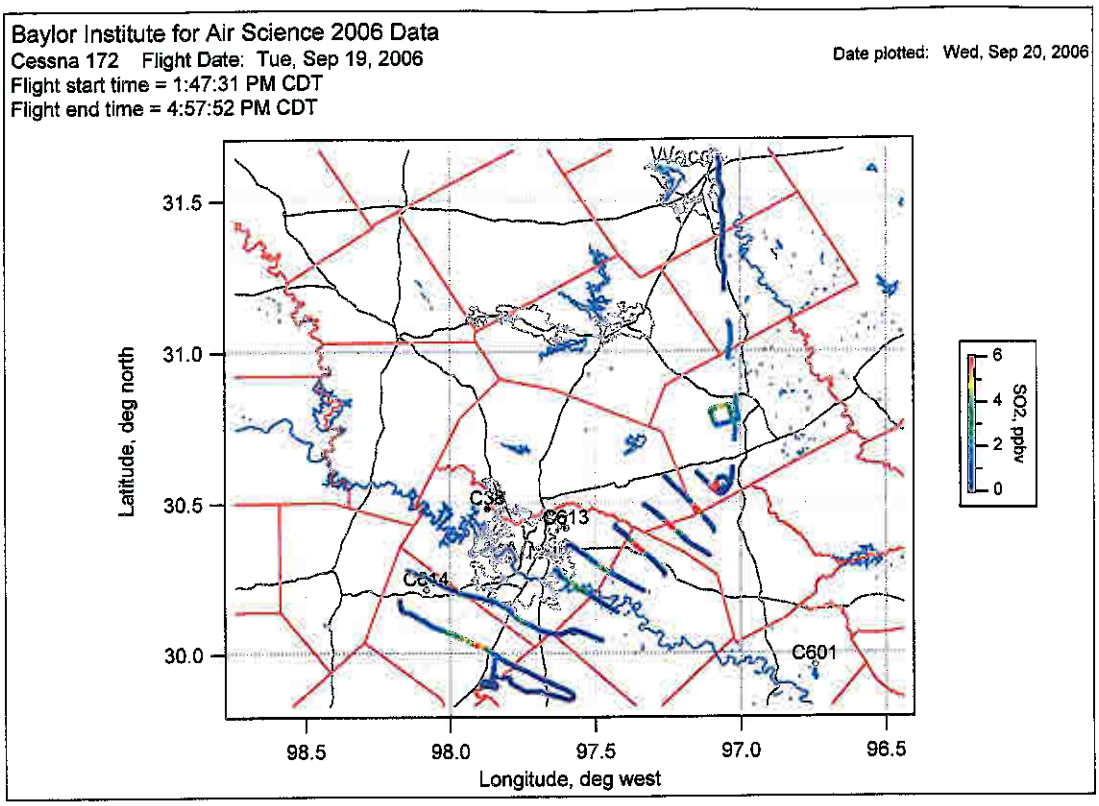

Figure 3.16: SO2 concentration along Alcoa Plume on September 19, 2006

Continuing Planning Process

Future transportation patterns must be evaluated as part of the continuing planning process. The EAC protocol specifically requires that "Modeling updates and planning processes must consider and evaluate future transportation patterns and their impact on air quality in a manner that is consistent with the most current adopted Long Term Transportation Plan and most current trend and projections of local motor vehicle emissions."

The Capital Area Metropolitan Planning Organization (CAMPO) adopted a new 2030 long-range transportation plan for Travis, Williamson and Hays Counties in June 2005. The Texas Transportation Institute (TTI) prepared 2007 and 2030 emission inventories for the 5 MSA counties based on the CAMPO 2030 plan. The results are summarized in Table 3.4 and Figures 3.17 a, b and c.

Table 3.4.Austin EAC Region September Weekday[3] On-Road Mobile Source VMT, Average Speed, and Emissions of VOC, CO, and NOx (Tons)

Year	County	VMT	Speed	VOC	CO	NOx
2007	Bastrop	2,321,195	42.0	2.17	23.87	3.51
	Caldwell	1,162,296	42.2	1.14	12.66	1.95
	Hays	3,900,794	47.9	3.03	39.36	6.70
	Travis	29,778,244	34.7	21.43	226.07	42.57
	Williamson	8,366,841	43.4	5.01	62.18	12.02
	Total	45,529,369	37.4	32.78	364.13	66.75
2030	Bastrop	4,173,076	39.5	1.36	21.88	1.25
	Caldwell	1,857,949	41.6	0.62	10.38	0.59
	Hays	8,098,366	41.8	2.36	41.70	2.31
	Travis	49,354,003	32.1	10.80	174.51	8.21
	Williamson	17,777,374	37.9	3.42	60.66	2.79
	Total	81,260,768	34.6	18.56	309.13	15.14

[3] Average Monday through Thursday activity, September 20, 1999 meteorology

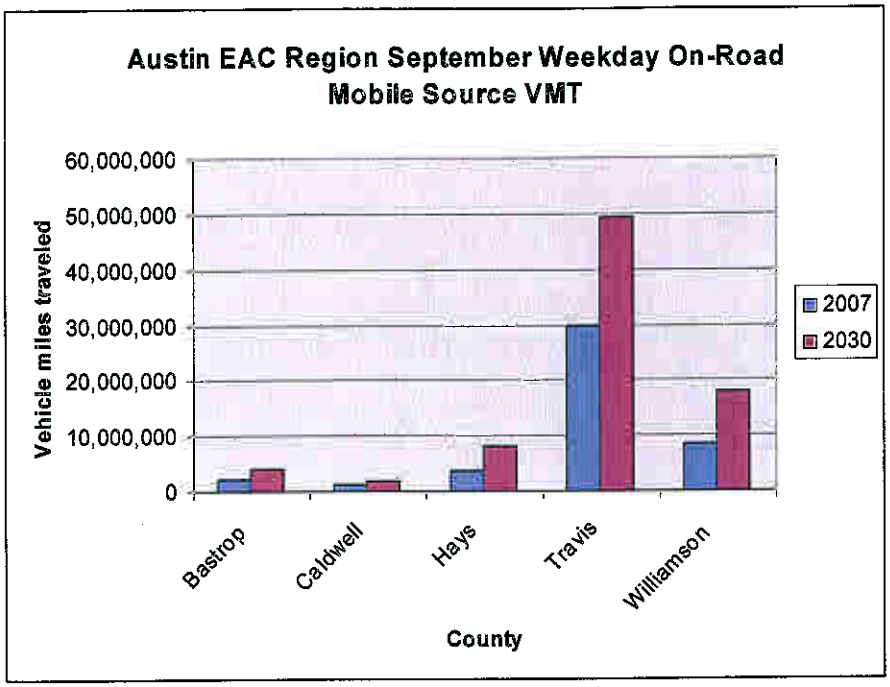

Figure 3.17.a Austin EAC Region On-Road Mobile Source VMT in the year 2007 and 2030.

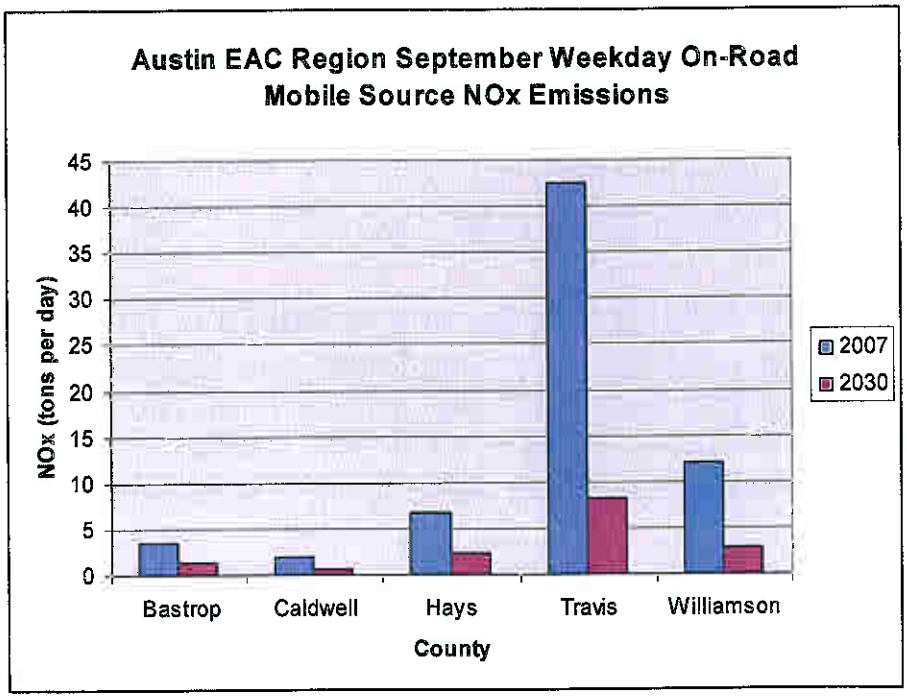

Figure 3.17.b Austin EAC Region On-Road Mobile Source NOx emissions in the year 2007 and 2030.

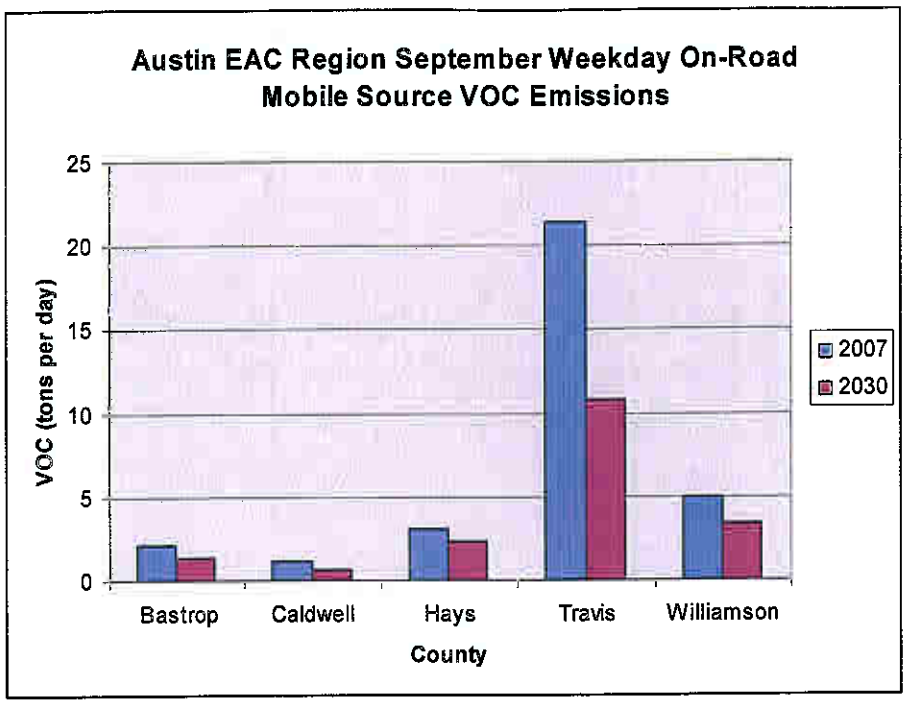

Figure 3.17.c Austin EAC Region On-Road Mobile Source VOC emissions in the year 2007 and 2030.

The full results of the emissions analyses include county EI data files with hourly and 24-hour summaries, vehicle type, and road type summaries of VMT, VHT, average speeds, and emissions estimates.

The total on-road mobile emissions in 2030 are less than the 1999 and 2007 on-road emissions, indicating a continued downward trend due to vehicle technology and fleet turnover. The modeling done in support of the EAC SIP used a 2007 emissions inventory based in part on the previous CAMPO 2025 long-range transportation plan. Comparing the two 2007 inventories yields the following results.

2007 On-road Emission Inventories								
	EAC SIP EI		New 01/06 EI		Change		% Change	
	NOx tpd	VOC tpd	NOx tpd	VOC tpd	NOx tpd	VOC tpd	NOx	VOC
Bastrop	2.45	1.5	3.51	2.17	1.06	0.67	43.27%	44.67%
Caldwell	1.31	0.73	1.95	1.14	0.64	0.41	48.85%	56.16%
Hays	5.86	2.78	6.7	3.03	0.84	0.25	14.33%	8.99%
Travis	38.23	21.75	42.57	21.43	4.34	-0.32	11.35%	-1.47%
Williamson	12.68	6.83	12.02	5.01	-0.66	-1.82	-5.21%	-26.65%
Total	**60.53**	**33.59**	**66.75**	**32.78**	**6.22**	**-0.81**	**10.28%**	**-2.41%**

The new 2007 emissions inventory shows a 10% increase (6.2 tpd) in NOx compared to the EAC SIP inventory. This increase is cause for concern, but does not immediately trigger the need for additional emissions reduction measures for a few reasons:

- The EAC SIP contains an adequate safety margin and the increased NOx will likely be accommodated by that safety margin, and
- The EAC has measures in place that address on-road mobile NOx, including the inspection and maintenance program and the heavy duty idling limits.

The region will emphasize the importance of full compliance with these measures through additional public and stakeholder outreach and education. The region will also encourage diesel fleets to use clean diesel (diesel additives or other fuel improvements) to ensure NOx emissions are minimized, since diesels are typically high NOx producers.

Community Air Toxics Sampling (ARTS)

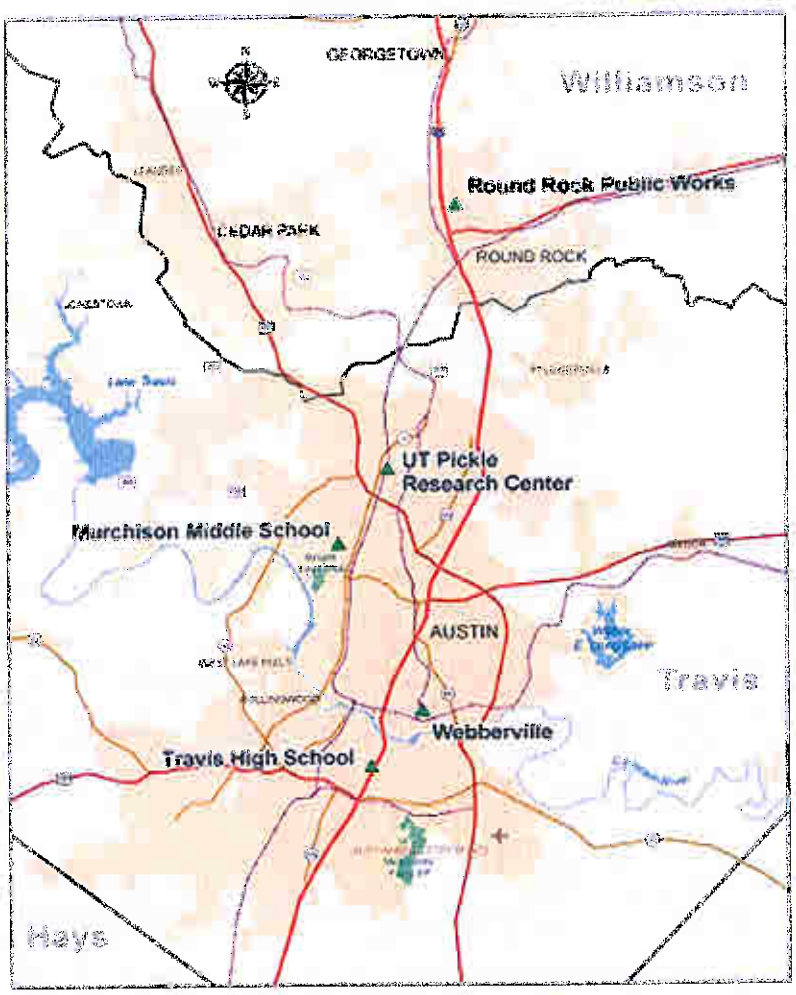

Figure 3.18: ARTS sampling sites

Air samples were collected from five sites from June 2005 to June 2006 and analyzed for toxic species. Figure 3.18 shows a map with air toxics sampling sites. Eighty-three air toxic chemicals were measured over the year every 12th day for a 24-hour sampling period. Of the 83 toxics, 59 were VOCs, 12 were carbonyls, and 12 were metals. This project was sponsored by the U.S. EPA and managed by CAPCOG, while field sampling was performed by URS Corporation and the laboratory analysis was done by ERG.

The results of the study found that acrolein levels in the Austin-Round Rock area were among the highest average levels reported in the U.S. These levels are affected by seasons; therefore, the summer-fall months had the highest concentrations of acrolein. The study also found that benzene levels exceeded the 10^{-5} cancer risk level at the Webberville road monitoring site. Figure 3.19 shows the Austin-Round Rock site averages compared to national averages. The Webberville site benzene average was greater than 80% of national annual averages. Evidence from the study suggests that mobile sources are influencing benzene levels at the Webberville site.

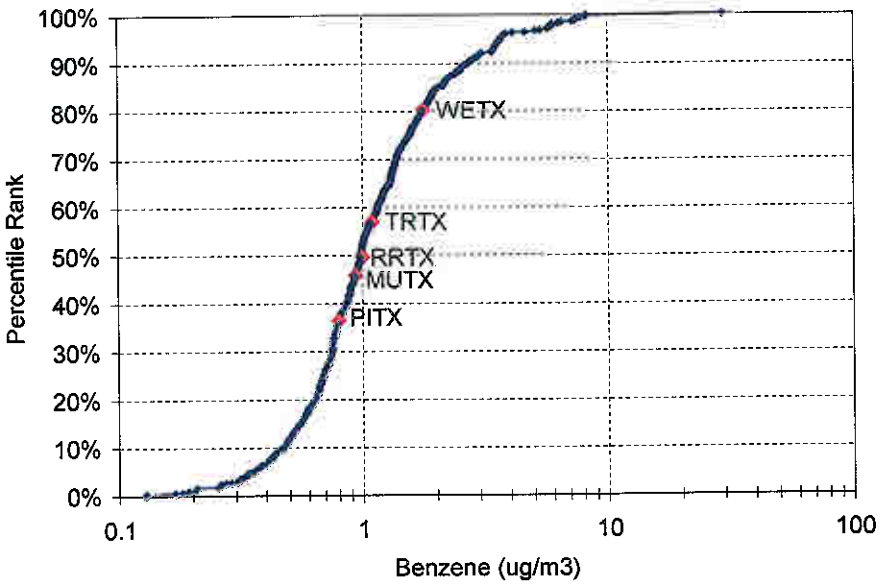

Figure 3.19: U.S. 2005 Annual Average Benzene Levels and Austin MSA Site Averages

One portion of the ARTS compared the Austin area results with data from other cities across the county. Ten cities across the U.S. conducted air toxic pilot studies. Seattle, Tampa Bay, and Detroit were three of the cities that were included in the pilot studies, just to give an example of the size and types of cities involved. Table 3.5 lists the pollutant name and concentration values of the ARTS study and pilot cities. Figure 3.20 is a plot of these values and it easily shows that the average level of core pollutants

measured in Austin-Round Rock were generally lower than the average levels measured in the pilot cities.

Table 3.5: A comparison of pollutant concentration in the ARTS and pilot cities.

ANALYTE	Average (µg/m^3)	
	ARTS	Pilot Cities
1,2-Dichloropropane	0.085	0.120
1,3-Butadiene	0.118	0.130
Acetaldehyde	1.411	1.910
Acrolein	3.474	
Arsenic	6.99E-04	1.15E-03
Benzene	1.079	1.700
Beryllium	1.37E-05	1.00E-05
Cadmium	1.58E-04	3.70E-04
Carbon Tetrachloride	0.666	0.610
Chloroform	0.110	0.180
Formaldehyde	2.924	3.290
Hexavalent Chromium	2.56E-05	6.00E-05
Lead	2.33E-03	9.68E-03
Manganese	5.82E-03	4.59E-03
Dichloromethane	0.643	13.100
Nickel	7.20E-04	4.85E-03
Tetrachloroethylene	0.202	0.350
Trichloroethylene	0.079	0.260
Vinyl chloride	0.034	0.070

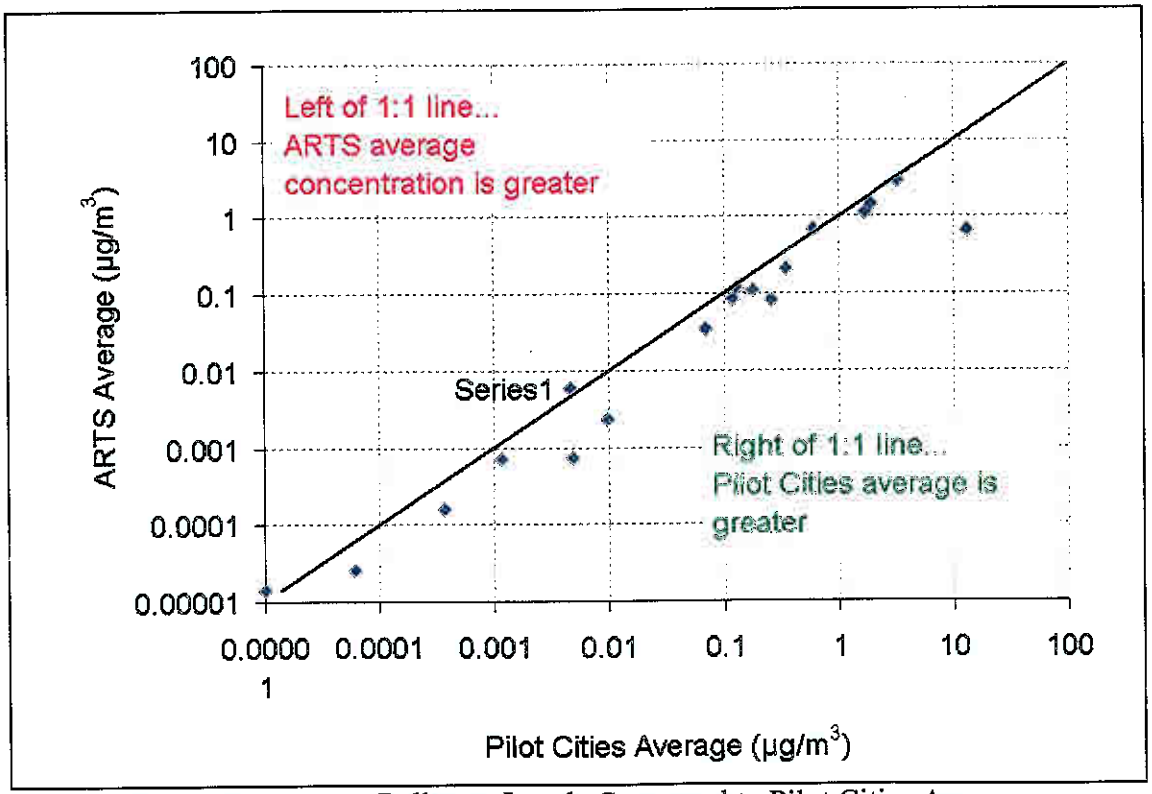

Figure 3.20: ARTS Average Pollutant Levels Compared to Pilot Cities Average

New Braunfels Wind Profiler

Under a contract between CAPCOG and Texas A&M (TAMU), TAMU's subcontractor, Sonoma Technology Inc. (STI), continued to operate one 915-MHz radar wind profiler (RWP) with a Radio Acoustic Sounding System (RASS) and one surface meteorological station at a land-based site near the New Braunfels Airport in central Texas. This is a continuation of a project initiated during the 2005 ozone season that was to have been part of the TCEQ's TexAQSII study. CAPCOG and the Alamo Area Council of Governments (AACOG) sponsored the operation from June 29, 2005 to August 31, 2005, while TCEQ funded the operation from September 1, 2005 through October 31, 2006. These instruments provide information about vertically, horizontally, and temporally resolved boundary layer winds, virtual temperature (Tv), and mixing height information that are key to understanding the physical processes influencing air quality. It's hoped the data collected by the RWP will lead to improved air quality modeling results and provide support for new State Implementation Plan revisions.

Biodiesel Study

CAPCOG entered into an Interlocal Agreement with Texas Transportation Institute (TTI), a division of Texas A&M, to conduct a study on school buses being operated with a number of different types of fuel feedstocks to determine whether the use of biodiesel B20 decreases, increases, or is neutral in regard to NOx emissions. Both the U.S.E.P.A. and the Texas Commission on Environmental Quality (TCEQ) have taken the position that B20 increases NOx emissions, but most of the studies that have been done so far are lab-based. However, there are at least a couple of recent studies by the National Renewable Energy Laboratory (NREL) and the North Carolina Department of Transportation that show that soy-based B20 may decrease NOx emissions in buses and trucks, respectively, being run on actual routes.

CAPCOG and the CLEAN AIR Force of Central Texas have been approached by a number of local school districts that want to operate their buses using B20. Given its potential effect on attainment/nonattainment status for the central Texas area, CAPCOG has reservations about recommending a fuel, or fuels that may increase NOx emissions. This study, which ran

from mid-May 2006 through August 31, 2006, provided some directional guidance as to what recommendation, if any, should be made to districts that want to use B20.

The results of the study were received in August 2006 and the overall findings were that on average, market and soy B20 had no significant effect on the level of NOx emissions emitted by the school buses. Figure 3.21 shows the NOx emissions from TxLED (Texas Low-Emissions Diesel), market B20, soy B20 in different driving environments and speeds. These figures show that the NOx emissions of B20 are comparable to the NOx emissions of TxLED.

There were other conclusions drawn from this study. One was that the use of biodiesel in older buses (<1994) significantly reduced hydrocarbon emissions. For buses newer than model year 2000, the change in hydrocarbon emissions was insignificant using B20. Also, for all buses, the urban driving cycle resulted in higher NOx emission rates than for the rural cycle, despite the higher average driving speed of the rural cycle. Figures 3.22 and 3.23 display the rural and urban driving conditions.

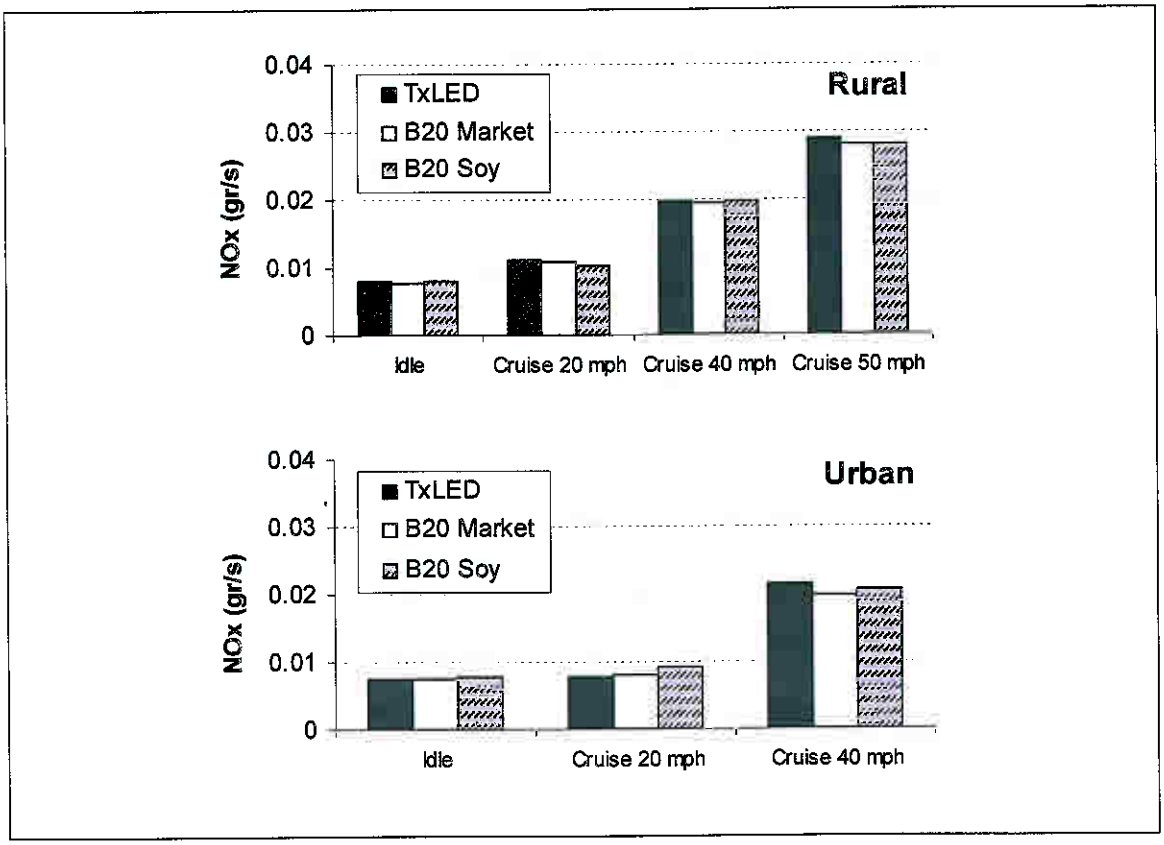

Figure 3.21: NOx Emissions at Various Speeds and Using Three Different Biodiesel Types

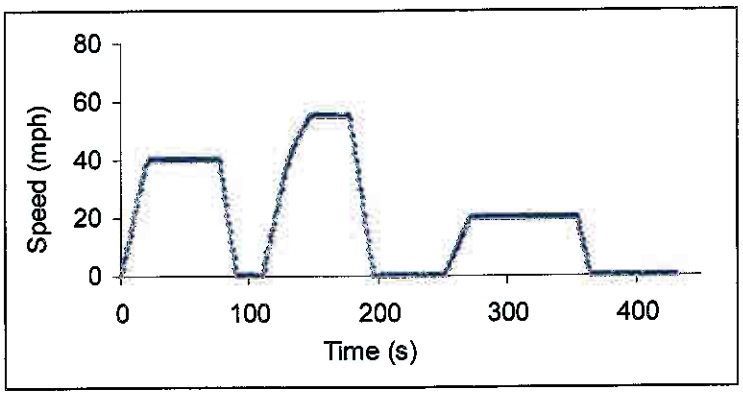

Figure 3.22: Synthetic Driving Cycle Representing Rural Driving Conditions

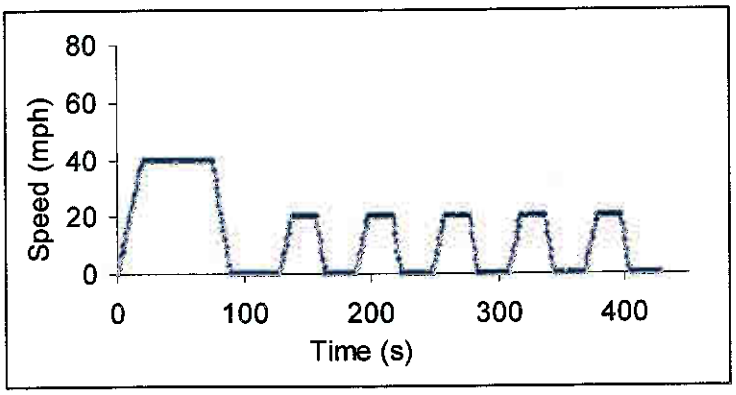

Figure 3.23: Synthetic Driving Cycle Representing Urban Driving Conditions.

5. PUBLIC INVOLVEMENT AND OUTREACH ACTIVITIES

The following groups and venues that have come together for work on the Austin-Round Rock MSA Early Action Compact (EAC):

The Clean Air Coalition (CAC) is composed of elected officials representing the 12 signatory jurisdictions in the MSA. They guide policy, coordinate with TCEQ and EPA, and advice their respective elected bodies regarding the EAC. The CAC meets semi-annually and is chaired by Mayor Will Wynn of the City of Austin.

The Early Action Compact Task Force (EACTF) is composed of key staff from governmental and quasi-governmental agencies, such as the Lower Colorado River Authority, throughout the MSA. The EAC Task Force coordinates stakeholder input from the stakeholder committees, reviews emission reduction measures and reports on CAAP issues to the CAC. The Co-Chairs of this task force are Bill Gill of Capital Area Council of Governments (CAPCOG) and Cathy Stephens of Capital Metropolitan Planning Organization (CAMPO). The EACTF consists of approximately 30 members and meets monthly.

The CLEAN AIR Force (CAF) Board is made up of businesses, local governments, environmental groups, neighborhood associations, and public interest groups. They meet quarterly to discuss clean air issues, including the EAC, and the Chair during this reporting period was Mike Heiligenstein, Executive Director of the Central Texas Regional Mobility Authority.

The CLEAN AIR Force Technical Advisory Committee (CAF TAC) is a sub-group of the CAF, which comes together to discuss technical issues regarding air quality. The CAF TAC is chaired by Art Bedrosian, and has approximately 35 members. Meetings for all of these air quality discussion and advisory groups are open to the public with meeting notices and agendas e-mailed to interested parties and posted on the respective web sites. Our region's EAC is also reviewed along with other EAC's during Near Non-Attainment meetings. These

meetings are held quarterly to bring together regions that are facing non-attainment such as the Austin/RR MSA and the San Antonio MSA.

The Public Involvement Committee, in conjunction with the EAC Task Force, conducted a workshop in February 2005 to begin the implementation phase of the EAC by providing presentations and materials, including a workbook, for public officials and staff of signatory jurisdictions on the SIP Revision and implementation issues.

Programs and public outreach activities that occurred during May and December 2006 are listed in Table 4.1

Air Quality Public Education and Outreach TV Ads

The CLEAN AIR Force of Central Texas (CAF) "Do Your Part" TV commercial aired from May 1, 2006 to October 30, 2006 on KXAN and gave citizens suggestions on simple things they can do to improve air quality in Central Texas. CAF is currently working to expand this program in Central Austin by displaying cross-road banners that encourage commuters to "Do Your Part" by utilizing alternative commute options

Analysis: KXAN-TV ads reached 34% of the population ages 18-54 an average of 53 times each through 110 commercials/20 PSAs. While expensive, TV commercials on the top rated TV station in Central Texas reaches a significantly large percentage of the population during Ozone Season when getting the word out about what to do on OZADs is critical. It also keeps CAF visible in the community.

Ozone Action Day Alert Program

The CLEAN AIR Force continues to encourage sign-ups for the Ozone Action Day Alert Program at numerous outreach events. A free notification service is provided to participants by email when an Ozone Action Day is forecast for the following day. This gives Central Texans time to plan ahead for alternate travel arrangements for the next day and to make informed decisions about air pollution and its potential health effects. The email alerts also encourage Central Texans to reduce their driving and postpone other polluting activities until late in the day when ozone is less likely to form. To register for these alerts, participants visit www.cleanairforce.org or call 1-866-916-4AIR. Ozone action day notifications are also

available on the CLEAN AIR Force's air quality information line at (512) 343-SMOG. Ozone Action Day updates are given at all TAC and CAF Board and Executive Committee meetings during Ozone Season.

Analysis: Delivers a personalized email message to more than 700 Central Texans (and many of those are contact points for other distribution lists) asking commuters to alter their commute for the next day and keeps the CLEAN AIR Force visible in the community. Executive Director responds personally to each phone or email inquiry by citizens regarding Ozone Action Day information and air quality data.

High School Student PSA Contest

As a new addition to the CLEAN AIR Force Programs, this contest aims to reach Central Texas public high schools in order to educate high school students on the many simple things they can do to mitigate ground-level ozone. The PSA Contest will encourage high-school participants to produce and develop a 30-second PSA that will air during the 2007 Ozone Season. It will encourage students to learn about ozone, who it affects, what causes it, and actions all Central Texans can do to help prevent it.

Analysis: As this program is currently in the development stage, no analysis has been undertaken yet.

Early Action Compact Meetings/Public Outreach since May 1, 2006

Table 4.1 lists all Early Action Compact (EAC) meetings and public outreach programs that occurred between May 1, 2006 and October 31, 2006.

CAF Community Outreach Activities from May 1, 2006 to October 31, 2006:

- New Clean Air Partner: Balcones Resources joined in May
- Executive Committee Conference Call – May 3
- Electric Lawnmower Discount Event at Sunset Valley Home Depot – May 6
- Public Involvement Meeting – May 11
- CAF booth at City of Austin Fresh Air Friday – May 12
- Electric Lawnmower Discount Event at Arboretum Home Depot – May 13
  - A total of 500 electric lawnmowers were sold, 85 recycled
- Commute Solutions Meeting – May 16
- Notified the Public of the first Ozone Action Day of the Season - May 18
- Technical Advisory Committee Meeting – May 25
- Adopt-A-School Bus Meeting – May 30
- New Clean Air Partner: BookPeople joined in May
- New Clean Air Partner: The Driskill Hotel joined in June
- Public Involvement Meeting – June 1
- Notified the Public of 2nd Ozone Action Day - June 3
- Notified the Public of 3rd Ozone Action Day - June 4
- City of Austin/Austin Energy Meeting – June 6
- Executive Committee/Board Meetings at GACC – June 7
- Notified the Public of 4th Ozone Action Day - June 8
- CAF booth at City of Austin Fresh Air Friday – June 9
- Notified the Public of 5th Ozone Action Day - June 9
- Notified the Public of 6th Ozone Action Day - June 13
- CAF booth at C.S. event at Seton Hospital – June 14
- Notified the Public of 7th Ozone Action Day - June 14
- CAF booth at C.S. event at Seton Hospital-Brackenridge– June 15
- Clean Air Partners Meeting – June 15
- Early Action Compact Task Force Meeting – June 15
- Clean Air Partners Meeting – June 15
- Commute Solutions Meeting – June 18
- CAF E.D. KTBC Radio Interview – June 19
- CAF E.D. KXAN TV Interview – June 19
- CAF E.D. KUT Radio Interview – June 19
- Commute Solutions Meeting – June 20
- Caldwell County Meeting – June 21
- Clean Air Coalition Meeting – June 21
- CAF booth at C.S. event at Seton Hospital-Northwest – June 22
- CAF E.D. Drive Clean Across Texas Interview – June 22
- CAF booth at City of Austin Fresh Air Friday – July 7
- Notified the Public of 8th Ozone Action Day - June 27
- CAF E.D. KLBJ-AM Radio Interview – June 27
- Notified the Public of 9th Ozone Action Day - June 28
- Notified the Public of 10th Ozone Action Day - June 29

- Public Involvement Meeting – June 29
- Notified the Public of 11th Ozone Action Day - June 30
- Hewlett-Packard Meeting – July 3
- Public Involvement Meeting – July 6
- Adopt-A-School Bus Meeting – July 11
- CAF E.D. KVUE TV Interview – July 17
- Commute Solutions Meeting – July 18
- Early Action Compact Task Force Meeting – July 20
- CAF E.D. KXAN TV Interview – July 25
- Public Involvement Meeting – July 26
- Clean Air Partners Meeting – July 26
- Technical Advisory Committee Meeting – July 27
- Air Quality Matrix Conference Call – July 28
- Executive Committee Conference Call – August 2
- Clean Air Partners Meeting – August 3
- CAF booth at City of Austin Fresh Air Friday – August 4
- CapMetro Meeting – August 10
- Commute Solutions Meeting – August 15
- Early Action Compact Task Force Meeting – August 17
- Technical Advisory Committee Meeting – August 24
- Clean Air Partners Recognition full-page ad runs in ABJ – August 25
- Adopt-A-School Bus Meeting – August 28
- CapMetro Meeting – August 30
- New Clean Air Partner: Oracle joined in August
    - Clean Air Partners now total 106 employers representing over 170,000 employees
- Notified the Public of 13th Ozone Action Day - August 31
- Notified the Public of 14th Ozone Action Day - September 1
- AAA Meeting re: Car Care event – September 5
- Executive Committee/Board Meetings at GACC – September 6
- Early Action Compact Task Force Meeting – September 6
- Public Involvement Meeting – September 7
- Notified the Public of 15th Ozone Action Day - September 7
- Notified the Public of 16th Ozone Action Day - September 8
- Air Quality Matrix Conference Call – September 12
- Clean Air Coalition Meeting – September 13
- Notified the Public of 17th Ozone Action Day -- September 14
- CAF booth at City of Austin Fresh Air Friday – September 15
- Air Quality Matrix Conference Call – September 20
- Early Action Compact Task Force Meeting – September 21
- Technical Advisory Committee Meeting – September 28
- Commute Solutions Challenge and Awards Ceremony– September 29
- Travis County Meeting – October 2
- Executive Committee Conference Call – October 4
- CAF booth at C.S. event – October 5
- Travis County Meeting – October 9

- Public Involvement Meeting – October 10
- CAF booth at C.S. event at State Farm Insurance – October 11
- Nominations Committee Conference Call – October 12
- Adopt-A-School Bus Meeting – October 16
  - 66 highly polluting school buses have been replaced with 66 cleaner buses and 46 diesel retrofits have been installed among 7 local school districts
- CAF booth at UT Wellfest – October 18
- Oryxe City of Austin/Austin Energy Press Event – October 19
- CAF E.D. News 8 Interview – October 19
- Early Action Compact Task Force Meeting – October 19
- TCEQ Clean Air Partners in Education Roundtable Meeting -- October 25
- Technical Advisory Committee Meeting – October 26
- CAF booth at City of Austin end-of-Ozone-Season Fresh Air Friday – October 27

Table 4.1: Early Action Compact Meetings/Public Outreach (May 1, 2006 and October 31, 2006)

6. CHALLENGE S AHEAD/ NEXT STEPS

NEXT STEPS

During this reporting period CAPCOG made great strides in increasing the ozone monitoring coverage within the five EAC Counties. With three new ozone monitoring sites placed into operation during the 2006 ozone season, the ozone air quality is now being sampled in Bastrop, Hays, Travis and Williamson Counties. Through a contract with Baylor University CAPCOG has been able to evaluate the impact on regional ozone of distant point sources, upwind urban areas and contributions from the Austin metropolitan area. Plans for the 2007 ozone season are to continue with these increased monitoring efforts coupled with more data analysis to gain a better understanding of the influences on ozone generation and transport in the Austin EAC region.

Also, the upcoming reporting period will see an increased emphasis on achieving maximum effectiveness of the emissions reduction measures committed to in the EAC. This will be the third and final year of the three-year monitoring cycle used to determine whether the area is in attainment of the 8-hour ozone standard. While the past two ozone seasons have had a measured fourth high value of 82 parts per billion (ppb) of ozone, continued diligence on maintaining the effectiveness of both voluntary and mandatory measures will be important to assist in keeping the three-year average below the standard of 85 ppb.

A partnership effort has been initiated with TCEQ's small business outreach staff to inform gasoline station owners and transport truck operators in the Austin EAC region of the regulatory requirements for stage I controls on storage tank filling operations. Informational mailouts, a workshop and site visits by local air quality staff are intended to insure that maximum compliance with the applicable state rule is achieved by the upcoming ozone season. While the locally enforced heavy duty vehicle idling restriction rule resulted in just a handful of violation notices this past ozone season, several enforcement personnel reported that they observed a significant amount of voluntary compliance, due to outreach efforts as well as high fuel process. Efforts will continue to

inform the regulated community and local enforcement staff as to the elements of the rule germane to a violation event.

Several of the voluntary measures which are resulting in significant emissions reductions will continue to be emphasized. Although the pipeline providing fuel to the Austin area is not currently transporting a Texas Low Emission Diesel (TxLED), both the City of Austin and Travis County made arrangements to have their fuel distributor mix an additive into their diesel fuel to give it NOx emissions reduction equivalent to TxLED. These efforts will continue this upcoming ozone season along with outreach to other local entities to use TxLED equivalent additives, if possible. Although the Clean Air Partners program has been successful in bringing local business and government agencies into the program with commitments to reduce emissions by 10% of equivalent commutes, the reporting software component has suffered from the large increase in membership. During this next reporting period a project will be completed to develop improved software and reporting mechanisms so that emission reductions made by the CAP members can be accounted for. This will help in recognizing those partners who make significant efforts to reduce ozone precursor emissions. Another voluntary program which hopes to initiate significant emission reductions during the next reporting period is the Central Texas Clean School Bus Program. Using EPA grant assistance this program expects to facilitate emission improvements to a number of school buses in the region.

CHALLENGES AHEAD

Through the performance of the continued planning process required by the EAC to evaluate the potential impacts on attainment status by new source growth, it has become apparent that perhaps the greatest challenge ahead will be in maintenance of healthy local air quality while under the influence of significant emissions transported into the region from newly constructed industrial and utility plants. Technical work done to support continued planning using trajectory analysis and photochemical modeling, discussed herein and in previous progress reports, indicates a high likelihood that newly constructed coal-fired power plants outside the EAC counties could contribute enough NOx emissions to seriously jeopardize the area's attainment status. Letters of comment have previously been sent to TCEQ by local elected officials and staff asking for a more thorough evaluation of the impacts and mitigation measures possible to reduce the threat

of increased ozone contributed by new point sources upwind of the area. In addition, actions initiated during the period to modify the Alcoa Rockdale consent decree requiring certain emission reductions and specifying conditions for construction of replacement boilers demonstrate the need for continued attention to maintenance of the necessary emission reductions by large point sources having a significant impact on ozone in the Austin EAC region. These activities show the importance of both TCEQ and EPA recognizing the impact their actions can have on air quality in the Austin EAC region and the need for them to act in consideration of their commitment to the EAC in protecting local air quality from influences outside of local control.

During the early part of 2006 a number of Texas Emission reduction Plan (TERP) applications were approved for the Austin EAC region and the emission reductions expected should greatly benefit the area. Since that time no applications have been allowed to be submitted to the TCEQ nor has there been any indication of when the application period will be again opened to the Austin region, even though fees continue to be collected from the area. The on-road and non-road equipment category is still one of the most promising to achieve additional NOx emissions reductions using TERP approved strategies. Given the large amount of construction activity occurring in the region officials will continue to urge TCEQ to consider making TERP funds available to equipment operators in the Austin EAC region.

An exciting challenge for the upcoming period will be to begin work on the development of an 8-hour ozone flex plan for the region as a follow-on to the EAC, which terminates the end of 2007. Starting with the 1-hour ozone flex plan through the current EAC the Austin region has been an enthusiastic participant in air quality management plans designed to proactively address attainment of the ozone standards. A letter of intent should be forthcoming shortly and staff will begin working with EPA and TCEQ to develop the various elements of a draft plan. Just as with previous air quality plans community input will be sought at various stages of the process to insure that the plan represents an approach the public and elected officials can support.

APPENDIX A STATE-ASSISTED EAC MEASURES

Control Measure	Summary description of control measure	Program/Measure Status	Implementation Date	VOC Reduction	NOx Reduction	Resources
Stage I Vapor Recovery	No person shall transfer, or allow the transfer of, gasoline from any tank-truck into a stationary storage container which is located at a motor vehicle fuel dispensing facility, unless the displaced vapors from the gasoline storage container are controlled by one of the following: (1) a vapor control system which reduces the emissions of VOC to the atmosphere to not more than 0.8 pound per 1,000 gallons of gasoline transferred; or (2) a vapor balance system which is operated and maintained in accordance with the provisions of section 115.222 of the full title. For more details, see TCEQ administrative code Title 30, Chapter 115, Subchapter C, *Volatile Organic Compounds Transfer Operations, Division 2, Filling of Gasoline Storage Vessels (Stage I) for Motor Vehicle Fuel Dispensing Facilities.*	Amendments to existing rules lower the exemption level for facilities subject to Stage I vapor recovery controls from 125,000 gallons in a calendar month to 25,000 gallons of gasoline in a calendar month. Since the last reporting period, one facility was issued a Stage 1 violation. The facility was Fatmid Enterprises LLC DBA Carter's Grocery and the citation was issued on 5/8/06 (Investigation #461829).	April 13, 2005	4.88 tpd VOC	0.0 tpd NOx	TCEQ has 3.5 FTEs and 2 Petroleum Storage Tank (PST) investigators devoted to air quality investigations in Region 11.

Control Measure	Summary description of control measure	Program/Measure Status	Implementation Date	VOC Reduction	NOx Reduction	Resources
Idling Restrictions on Heavy-Duty Diesel Vehicles	This rule, which was first established in December 2004, places idling limits on gasoline and diesel-powered engines in motor vehicles in any locality that signs a Memorandum of Agreement with the TCEQ. This rule prohibits any person in the affected locality from permitting the primary propulsion engine of a heavy-duty motor vehicle to idle for more than five consecutive minutes when the vehicle is not in motion unless the driver is using the engine to heat or cool his sleeper berth while taking a federally mandated rest break. This rule is effective from April 1 through October 31. The aim of this program is to lower nitrogen oxides (NOx) and other emissions from fuel combustion. More details of the rule can be found in Title 30, Subchapter J, *Operational Controls for Motor Vehicles, Division I, Motor Vehicle Idling Limitations*, new sections 114.510 - 114.512, and 114.517.	A committee formed by the EAC Task Force and Capital Area Metropolitan Planning Organization (CAMPO) began work on April 1, 2005 on the Idling Restrictions MOA and Implementation Plan. A draft MOA was presented to the full EAC Task Force on May 19, 2005. The MOA was endorsed by the Task Force and presented to the Clean Air Coalition officials. Enforcement began on April 1, 2006. During the 2006 enforcement season, Round Rock issued 6 citations and 3 warnings to idling vehicles.	Effective August 30, 2005 Enforcement started April 1, 2006	0.0 tpd VOC	0.67 tpd NOx	
Cutback Asphalt Restrictions	This measure restricts the use of cut-back asphalt in the region through a TCEQ rule revision (Chapter 115, Subchapter F, *Division 1, Sections 115.512, 115.516, 115.517, and 115.519*). The use of conventional cutback asphalt containing VOC solvents for the paving of roadways, driveways, or parking lots is restricted to no more than 7.0% of the total annual volume averaged over a two-year period of asphalt used by or specified by any state, municipal, or county agency who uses or specifies the type of asphalt application. The amount of VOC in asphalt emulsion is also limited by this rule. For a complete description of control measures for asphalt paving, see the TCEQ Rule referenced above.	TCEQ regional enforcement staff are aware of the regulation and its implications to the Austin area's EAC commitments. No violations were issued during this reporting period.	December 31, 2005	1.03 tpd VOC	0.0 tpd NOx	TCEQ has 3.5 FTEs devoted to air quality investigators in Region 11.

Control Measure	Summary description of control measure	Program/Measure Status	Implementation Date	VOC Reduction	NOx Reduction	Resources
Local Power Plant Reductions	Austin Energy has committed to lower the cap on NOx emissions from 1750 tons to 1500 tons per year. The reduction will be accomplished by retiring 241 SB-7 allowances per year. Emissions are reduced voluntarily from the Holly and Decker Creek units. The cap will be achieved by installing NOx reduction technologies at the Holly and Decker facilities and by the increased utilization of renewable energy resources as well as increased use of energy efficiency measures. Lower Colorado River Authority has committed to the following voluntary actions: Reduction of NOx allowance allocation at Sim Gideon Power Plant in Bastrop County by 300 tons per year. The Lost Pines Power Plant will reduce NOx emissions by an additional 100 tons per year. The University of Texas at Austin has committed to reduce allowable annual NOx emissions from its grandfathered units by 75%. Reductions from power plants are reported on an annual basis because daily reductions could not be achieved.	Four Austin-area power plants anticipate NOx reductions of 1,866 tons per year (12.7%) by 2007. Reductions will be noted in TCEQ permits and incorporated into the State Implementation Plan (SIP). **LCRA** requested in a letter to TCEQ, that both Sim Gideon and the FPP plant-wide flexible permit be altered to reflect the accelerated date of the final allowable NOx cap. TCEQ permit alterations were received in December 2005 and February 2006, respectively. **Austin Energy** committed to a voluntary NOx cap was included as a special condition of AE's Holly Power Plant SB-7 permit. AE also accelerated their commitment to shut down Holly Units 3 and 4 by September 30, 2007.	**LCRA:** Sim Gideon, December 31, 2005. FPP, December 31, 2006. **AE:** Holly Plant, January 30, 2004 **UT:** December 31, 2006	0.0 tpy VOC	1866 tons per year of NOx	
Texas Emission Reduction Program (TERP) grants	This existing TCEQ program, created by the State Legislature, provides grants to public and private fleets in 41 Texas counties. The grants offset the incremental costs associated with reducing emissions of oxides of nitrogen (NOx) from high-emitting internal combustion engines.	The region is committed to achieving a 2-tpd NOx decrease from TERP grants by the end of 2007. To date, the region has received grants anticipated to decrease NOx by 2.02 tpd.	Grant selection: July 2005-1st round, August 2005-2nd round, November 2005- 3rd round	0.0 tpd VOC	2.0 tpd NOx	

Control Measure	Summary description of control measure	Program/Measure Status	Implementation Date	VOC Reduction	NOx Reduction	Resources
Vehicle Emission Inspection & Maintenance	The I/M program requires the regular inspection of vehicles 2–24 years old in Travis and Williamson counties. Vehicles must be inspected through Department of Public Safety–certified inspection stations for emissions of nitrogen oxide (NOx), volatile organic compounds (VOCs) and carbon monoxide (CO). Travis County committed to administer an associated Low Income Repair Replacement Assistant Program (LIRAP) program, as well, per existing state rules.	**I/M:** During FY 2006, 683,010 emissions tests were performed. The emissions failure rate was 7.96%. An additional 1.04% failed the gas cap portion, which results in a 9% overall failure rate. **REMOTE SENSING:** There are currently 17 sites in the Austin EAC. Approximately 351,338 records were collected during FY 2006 and 295 qualified as high pollutant emitters. About 200 notices were mailed to owners of high-emitter vehicles.	September 1, 2005	3.83 tpd VOC	3.22 tpd NOx	
Degreasing Requirements	Cold solvent cleaning operations which utilize a volatile organic compound (VOC) for the cold solvent cleaning of objects are subject to the control requirements in Section 115.412 of the TCEQ administrative code for Solvent Using Processes. Controls are in place for cold cleaning, open-top vapor, and conveyorized degreasing operations. They aim to reduce VOC emissions by containing the solvent within the system or by capturing fugitive vapors. For a full description of the control requirements, see Title 30, Chapter 115, Subchapter E, *Solvent Using Processes, Division I, Degreasing Processes, Sections 115.412, 115.413, 115.415-115.417, and 115.419.*	TCEQ regional enforcement staff are aware of the regulation and its implications to the Austin area's EAC commitments. No violations were issued during this reporting period.	December 31, 2005	5.55 tpd VOC	0.0 tpd NOx	TCEQ has 3.5 FTEs devoted to air quality investigators in Region 11.

Control Measure	Summary description of control measure	Program/Measure Status	Implementation Date	VOC Reduction	NOx Reduction	Resources
Portable Fuel Containers	The control measure specifies performance standards and testing requirements that must be met by portable fuel containers to reduce VOC emissions. The controls apply to containers with a nominal capacity between one quart and ten gallons. The containers must be equipped with the appropriate dispensing spout and must be labeled to indicate compliance with the rule. The measure applies to all portable fuel containers or portable fuel container spouts manufactured on or after December 31, 2005. The complete description of this measure is in Title 30, Subchapter G, *Consumer-Related Sources, Division 2, Portable Fuel Containers, Sections 115.620-115.622, 115.626, 115.627, and 115.629* of TCEQ Air Quality Rules.	TCEQ regional enforcement staff are aware of the regulation and its implications to the Austin area's EAC commitments. No violations were issued during this reporting period.	December 31, 2005	0.89 tpd VOC	0.0 tpd NOx	TCEQ has 3.5 FTEs devoted to air quality investigators in Region 11.

Table A.1: State-assisted EAC Measures

APPENDIX B EAC LOCAL MEASURE STATUS SUMMARY AND REPORTING FORMS

Reports Enclosed:

Cities:

City of Austin

City of Bastrop

City of Elgin

City of Luling

City of Lockhart

City of Round Rock

City of San Marcos

Counties:

Bastrop County

Caldwell County

Hays County

Travis County

Williamson County

Agencies:

Capital Area Council of Governments

Capital Metropolitan Planning Organization

Capital Metropolitan Transportation Authority

Lower Colorado River Authority

Texas Commission on Environmental Quality

Texas Department of Transportation

The summary of the status of locally implemented EAC measures in Austin Round Rock MSA is shown in Table B.1 followed by individual EAC reporting forms

Emission Reduction Measure	Summary Description of Measure	Program/Measure Implementation Status
A/C Electric Load Shift	Requires commercial facilities to develop overnight the reservoir of cold water needed to meet air conditioning needs the following day. Total energy consumption and emissions are not reduced, but the emissions are not generated during the day, reducing the potential for ozone formation.	implemented
Access Management	Access management includes managing roadway access by limiting the number and location of allowable curb cuts and driveways, consolidating access to multiple business through one main driveway, side road etc. Access management reduces congestion, vehicle delay and associated emissions.	Not implemented
Adopt-a-School Bus Program	Local school districts participate in this CLEAN AIR Force sponsored program to replace or retrofit old diesel school buses with new, cleaner buses. Replacements and retrofits are implemented using 50% corporate sponsorship funds and 50% school district funds. EPA provides seed money to the CLEAN AIR Force for a fundraiser and program administration.	Not implemented
Airport Airside Incentives for Reduction of GSE Need	ABIA has begun and will complete the addition of building supplied power and preconditioned air for all aircraft parked at the gate. This will eliminate the need to run on-board auxiliary power units (APUs), and air-conditioning (ACUs) and ground power units (GPUs) by the air carriers if they will participate. It is not clear if we can mandate their use, or if it will need to be on a voluntary basis. Implementation might require creating incentives or use restrictions. Estimated 0.16 tpd NOx reduction.	implemented
Alternative Commute Infrastructure	Require all new non-residential developments of 25,000 sq. ft or more and developments that increase their square footage 25% or more and have/expect 100+ employees on the site to include bicycle commuting facilities (parking/racks and showers) and preferential carpool/vanpool parking spaces.	implemented
Alternative Fuel Infrastructure for Shuttle Buses	Propane fueling infrastructure is available at ABIA that could be used to refuel off-site parking shuttle buses. Encourage or mandate these services to shift to propane by 2005. Estimated 60% NOx reduction.	implemented
Alternative Fuels for Aviation Fleet	Replacement of Aviation Fleet equipment with propane fuel starting FY2003. Purchase of 10 propane pro-turf mowers, and 4 propane non-road truck-alls. Planned purchases at this time. Future replacement is subject to budget provisions.	implemented
Alternative Fuels for Shuttle Buses		implemented

Emission Reduction Measure	Summary Description of Measure	Program/Measure Implementation Status
Alternative Fuel Vehicles	A/SM MSA participants to the O3 Flex Agreement are committed to encouraging the expanded use of alternative fuels and alternative fuel vehicles among the owners and/or operators of fleets of 15 vehicles or more. To qualify as an alternative fuel vehicle, the vehicle must operate 75% of the time on one of the federal Energy Policy Act fuels. Approved alternative fuels are compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), electricity, methanol, ethanol, and biodiesel (at a minimum 20% mix). Alternative fuels reduce NOx and VOCs at varying levels and are an appropriate strategy for reducing or even eliminating emissions. Credits are available under the federal Energy Policy Act (EPAct) for use of alternative fuels.	implemented
Cleaner Diesel for Fleets	Capital Metro, the cities of Austin, Bastrop and Elgin, Travis County and the Austin Independent School District have agreed to purchase a diesel product that is believed to reduce particulate matter and increase overall efficiency. Use of this fuel increases engine performance, with corresponding air quality benefits through fuel efficiency. While reductions of NOx emissions from this product are not quantifiable at this time, the commitment to this fuel represents a good-faith effort on the part of these entities to purchase the best currently available diesel fuels.	implemented
Commute Solutions Programs	Encourage and provide tools to implement Commute VMT reduction programs (e.g. Teleworking, compressed work week, carpooling/vanpooling, bus fares, subsidized transit pass, flextime, carpool or alternative transportation incentives etc.). The Commute Solutions program provides information and tools to implement these programs. It could be used to support a commute emission reduction regulation.	implemented
Construction Contract Provisions for High Ozone Days	Public contracts may include provisions to limit construction activities and equipment operation on high ozone days. A specified number of these high ozone days would be built into the contract. While controversial, it is one of the only ways to target non-road construction emissions.	implemented
Direct Deposit	Offer employees direct deposit potentially saving at least one vehicle errand per pay period.	implemented
Drive-Thru Facilities on Ozone Action Days	Requires or encourages businesses with drive-through facilities to post signs on Ozone Action Days asking customers to park and come inside instead of using the drive-through facilities. Encourage the public to comply.	implemented

Emission Reduction Measure	Summary Description of Measure	Program/Measure Implementation Status
e-Government and Multiple Locations	Provides web-based services, both for information and transactions, and/or multiple locations for payments, etc., Reduces VMT and associated emissions.	implemented
Electric Lawnmower Discount Program	Clean Air Force (CAF) and participating Home Depots offered Central Texans a 20% discount on the purchase of a corded Black & Decker MM575 18" Mulching Lawn Hog Electric Lawnmower the first two Saturdays in April of 2005.In addition CAF partnered with an online electric lawnmower company, Neuton, to provide $40 discounts on the Neuton cordless electric lawnmower, plus a free rear-bagger, 3-year extended warranty and free shipping for the period of April 1 - May 12, 2005.	implemented
Electric or Alternative Fuel for Airport GSE	This category includes new and in-use ground support equipment (GSE) used in airport operations. GSE perform a variety of functions, including: starting aircraft, aircraft maintenance, aircraft fueling, transporting cargo to and from aircraft, loading cargo, transporting passengers to and from aircraft, baggage handling, lavatory service, and food service. The Air Transportation industry has informed Central Texas that they will oppose any requirements on their industry.	implemented
Electric Utility Investments in Energy Demand Management	This measure involves the development of energy demand management programs in areas outside the Austin Energy service area. Austin Energy offers financial incentives to commercial and residential customers for installation of energy efficient appliances and technologies and they report a good correlation between their demand programs and reduced emissions at their power plants. This measure would encourage other utility providers in the region to develop similar programs.	implemented
Emission Reductions in SEPs, BEPS and Similar Agreements	Ensures that the primary impact of all air quality related SEPs, BEPs or similar agreements applicable to the EAC area, is to reduce emissions and improve air quality. EPA and/or TCEQ would consult, to the extent possible, with the local EAC signatories when developing any air quality related environmental mitigation agreement, such as a SEP, BEP or other similar agreement.	Not implemented
Energy Efficiency Beyond Senate Bills 5 & 7	Require additional energy efficiency measures beyond SB5 and SB7, such as building design, revisions to codes and standards, and energy management programs for large commercial facilities. Additional energy efficiency measures could provide significant reductions in energy demand and demand-related emissions.	implemented
Environmental Dispatch of Power Plants	Austin Energy is conducting environmental dispatch on their gas-fired facilities during the ozone action days.	implemented

Emission Reduction Measure	Summary Description of Measure	Program/Measure Implementation Status
Expedited Permitting for VMT-Reducing Development	Provide an expedited permitting process and/or other incentives for mixed use, transit oriented or in-fill development. Developments would have to meet certain performance criteria in order to qualify for expedited permitting.	Not implemented
Fleet Usage Efficiency Evaluation	Evaluate and improve the efficiency of fleet usage, including using alternative or clean fueled vehicles, using the cleanest vehicle appropriate for the job, consolidating and coordinating trips, etc.	implemented
Fleet Vehicle Maintenance	In addition to alternative fuels and alternative fuel vehicles, signatories and participants have incorporated regular maintenance in a manner that will minimize emissions, into their fleet operation policies.	implemented
Fueling Vehicles in the Evening	Promote fueling vehicles after peak hot periods of the day have passed during ozone season. This does not reduce NOx emissions but moves the high emissions time frame to later hours.	implemented
Landscaping Delay on High Ozone Days (Education Program)	Outreach to local stakeholders will include education and encourage voluntary implementation of delaying landscape work until noon on high ozone days.	Not implemented
Low Emission Vehicles	Encourage and/or provide incentives for the purchase and use of Tier 2 Bin 3 or cleaner vehicles for fleets and private use.	implemented
Low VOC Roadway Striping	Require use of reformulated striping material products (i.e., water-based paints or thermoplastic) to achieve VOC reductions. Traffic marking activities refer to the striping of center lines, edges, and directional markings on roads and parking lots. VOC emissions from traffic marking vary depending on the marking material used, and the frequency of application. Generally, there are six different types of traffic marking materials (EIIP, 1997a): 1) solvent-based paint; 2) water-based paint; 3) thermoplastics; 4) field-reacted systems; 5) preformed tapes; and 6) permanent markers. Solvent-based paints typically are the least expensive among the material types, but produce the highest VOC emissions.	implemented
Open Burning Restrictions	Amend and/or adopt regulations to ban the open burning of such items as trees, shrubs, and brush from land clearing, trimmings from landscaping, and household or business trash, during the peak ozone season. It reduces VOCs and NOx.	implemented
Ozone Action Day Education Program	Implement a public ozone education program, including ozone action days and recommended actions. Entities will notify employees of ozone action days the day before and encourage employees to reduce emissions.	implemented

Emission Reduction Measure	Summary Description of Measure	Program/Measure Implementation Status
Ozone Action Day Response Program	Implement a program of specific emission reduction measures taken on ozone action days.	implemented
Police Department Ticketing of Smoking Vehicles	Implement aggressive police enforcement by local agencies of speed limits 55 mph or more and smoking vehicle restrictions. If the smoking vehicle is fixed within 60 days, the ticket could be waived.	Not implemented
Resource Conservation	Expand and quantify ongoing resource conservation programs (materials recycling, water and energy conservation, etc.).	implemented
Shaded Parking	In addition to alternative fuels and alternative fuel vehicles, signatories and participants have incorporated shaded parking for fleet vehicles, to the extent possible, into their fleet operation policies.	implemented
Texas Low Emission Diesel (TxLED) for Fleets	Purchase and use Texas Low Emission Diesel in on-road and non-road vehicles and equipment.	implemented
Transit-Oriented Development (TOD)	Local governments implement development criteria either requiring or providing incentives for sprawl reduction such as vertical zoning, mixed use zoning, enhanced mobility choices, reducing distances between home sites, work sites, and service sites. These types of development criteria will reduce the impacts of new development on air quality.	implemented
Transportation Emission Reduction Measures (TERMs)	Implement transportation projects and programs that reduce emissions. Projects and programs include improved transit options and level of service, intersection improvements, grade separations, signal synchronizations and/or improvements, peak and/or off-peak traffic flow improvements, park and ride facilities, bike/ped facilities, high occupancy vehicle lanes, rail, demand management, intelligent transportation systems etc. Many TERMs are already planned and funded. CAMPO has issued a call for projects that may provide funding for additional TERMs.	implemented
Tree Planting	Implement landscaping ordinances to require additional urban tree planting. Reforestation improves air quality and energy efficiency.	implemented
Urban Heat Island/Cool Cities Program	Develop and implement Urban Heat Island (UHI) mitigation strategies. Since ozone forms at higher temperatures, the purpose of this strategy is to keep the city as cool as possible, through vegetation, cool roofing and light colored pavement.	implemented

Table B.1: Local EAC Voluntary Measures Implementation Status

City of Austin

Reported by: Fred Blood	482-5340	Fred.blood@austinenergy.com
Emission Reduction Measure		
For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column.	Has the program been implemented?	Reporting Information
1. **A/C Electric Load Shift** Describe the shift schedule and include the number of kWh shifted.	Yes	Shift of 2.2 million kWh. Schedule of 4-6 pm, 40 hrs for power partner and load coop. 4-8pm, 480 hrs for thermal storage and cycle saver.
2. **Airport Airside Incentives** for Reduction of GSE Need Describe the status of the program.	Yes	The actions on the airside of the terminal are primarily controlled by the airlines. Dropping profit margins have made those airports in nonattainment their only priority. However, the incentives are in place
3. **Alternative Commute Infrastructure** Describe the status of the program.	Yes	The City of Austin has constructed a bicycle/pedestrian bridge across Town Lake. There is an active bicycle coordinator continually working on bike lanes.
4. **Alternative Fuel Infrastructure for Shuttle Buses** How many alternative fuel facilities have been installed?	Yes	We have one propane storage facility that is capable of dispensing fuel to landside airport users, airside airport users and the public.
5. **Alternative Fuels for Aviation Fleet** Give the number (or percentage) of equipment converted to alternative fuel.	Yes	This is an on on going Department of Aviation measure. Currently the Department of Aviation has 16 pieces of equipment that operate on propane.
6. **Alternative Fuels for Shuttle Buses** Give the number (or percentage) of buses using alternative fuel.	Yes	propane. In 2006 contracts will require off-site shuttle buses to use propane in newly purchased vehicles.
7. **Alternative Fuel Vehicles** Give the number (or percentage) of vehicles using alternative fuel.	Yes	393 or 8.7%
8. **Cleaner Diesel for Fleets** How many gallons of clean diesel have been purchased?	Yes	City of Austin fleet department is currently purchasing Orix fuel additive.

9. **Commute Solutions Programs**		Carpooling	vanpooling	teleworking	public transportation	flexible or compressed work week
9 a. Give the number of employees participating in each of the programs.		19	18	unknown	230	unknown
9 b. Give the average number of miles traveled while commuting.		23	23	23	23	23
9 c. Give the number of days per week that the program is used.		1	1	1	1	1

10. **Construction Contract Provisions** for High Ozone Days Describe the status of the program.	Yes*	PARD had altered working procedures on OZADS, our landscaping contracts also hae OZAD provisions.
11. **Direct Deposit** How many employees receive direct deposit?	Yes	10697
11 a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	Yes	278122
12. **Drive-Thru Facilities on Ozone Action Days** Describe the status of the program.	Yes	Program in development stage. Scheduled to kickoff ozone season 2007.
13. **e-Government** and Multiple Locations Describe the status of the program.	Yes	Multiple location and online services available.
14. **Electric or Alternative Fuel for Airport GSE** Are you using alternative fuel* or electric power? *If alternative fuel is being used, report the number of gallons purchased.	Yes	The actions on the airside of the terminal are primarily controlled by the airlines. However, the availability of both electricity and propane are in place.
15. **Electric Utility Investments** in Energy Demand Management Describe the status of the program.	Yes	Reduction in peak kW demand savings for FY06 for Residential and Commercial DSM was 44,800. Demand Response was 38% (17 MW).
16. **Energy Efficiency Beyond Senate Bills 5 & 7** Describe the status of the program and the % energy reduction beyond the SB5 requirement.	Yes	Same as Above.
17. **Environmental Dispatch of Power Plants** Describe the status of the program.	Yes	Capped total emissions, considered a superior action.
18. **Fleet Usage Efficiency Evaluation** Describe the status of the program.	Yes	Development stage.
19. **Fleet Vehicle Maintenance** Report the average time between two scheduled maintenance services.	Yes	180 DAYS.
20. **Fueling Vehicles in the Evening** Describe the status of the program.	Yes	All customers encouraged to fuel in evening.
21. **Low Emission Vehicles** Report the number of LEVs purchased or the % of fleet vehicles that are categorized as LEVs.	Yes	10% purchased.
22. **Low VOC Roadway Striping** Report the type of low VOC material and the average amount used. Be sure to include units.	Yes	In practice since 1997

23. Ozone Action Day Education Program Describe the status of the program.	Yes	This program works to incorporate an air quality curriculum in AISD middle school science work plan. We are also working with elementary school to promote the anti idling message near schools.
24. Ozone Action Day Response Program Describe the public response program.	Yes	This program is designed to inform employees of an upcoming ozone action day and preventative actions to take on those days.
25. Resource Conservation Describe the status of the program.	Yes	Waste Conservation: 27,208 tons of waste diverted for the past 6 months. Energy Conservation: 14,071 KW in peak demand savings for 1st 6 months
26. Shaded Parking Describe the status of the program.	Yes	January 2003: The Landscape code was altered to require that a minimum of 80% of the trees required for parking lots be large shade producing trees from a newly created list of Native and Adapted Shade Trees. Additionally a minimum of 50% of the trees in non-parking lot areas are to be shade-providing trees from the same list. (Environmental Criteria Manual Section 2.4.2(C) Trees in Parking Lots, 2.4.1D)
27. Texas Low Emission Diesel (TxLED) for Fleets Report the number of vehicles using low emission diesel (TxLED) or the fleet % using TxLED or an equivalent.	Yes	Oryxw additive in all (100%) diesel fuel, all year
28. Transit-Oriented Development (TOD) Describe the program status.	Yes	City Council has approved the TOD Ordinance on second reading and will consider final approval on May 12, 2005. After approval an RFQ will be issued for Consultants to develop Station Area Plans for the six stations within the City of Austin's jurisdiction. Station Area Plans are anticipated to be complete by the first quarter of 2007.
29. Transportation Emission Reduction Measures (TERMs)	Yes	Reporting information will be submitted by CAMPO.
30. Tree Planting	Yes	NeighborWoods 4000 trees/year, Large tree contract for public works projects – i.e. Texas School for the Deaf – 37 white oaks; City Hall – 42 trees. In 2006 Austin Community Trees planted 207 large and small shade trees in low canopy cover Central East Austin. As of April 2006 there has been 4351 trees planted this fiscal year
31. Urban Heat Island/Cool Cities Program Describe the status of the program.	Yes	The following programs are in progress: Light-Colored Roof Strategies, Incentive/Enforcement of Tree-Saving Ordinance, Ordinance mandating 50% Canopy Coverage with in 15 years for all new parking lots, Tree Mapping, and Expand City Tree Planting Program. Increased canopy cover through Neighborwoods and Austin Community Trees programs by planting 4,207 shade trees in Austin

CITY OF Bastrop - STATUS UNCHANGED

CITY OF ELGIN - STATUS UNCHANGED

CITY OF LULING - STATUS UNCHANGED

CITY OF LOCKHART - STATUS UNCHANGED

City of Round Rock

Reported by: Michael D. Thane 512-218-3236 mthane@round-rock.tx.us

Emission Reduction Measure (May 1, 2006 - October 31, 2006)

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column.	Has the program been implemented?	Reporting Information				
1. **Alternative Fuel Vehicles** Give the number (or percentage) of vehicles using alternative fuel.	Yes	One vehicle in the City.				
2. **Cleaner Diesel for Fleets** How many gallons of clean diesel have been purchased?	Yes	~55,000 gallons (May 1, 2006 - October 31, 2006)				
3. **Commute Solutions Programs**	Yes	carpooling	vanpooling	teleworking	public transportation	flexible or compressed work week
3 a. Give the number of employees participating in each of the programs.						
3 b. Give the average number of miles traveled while commuting.						
3 c. Give the number of days per week that the program is used.						
4. **Direct Deposit** How many employees receive direct deposit?	Yes	~650 employees participate in Direct Deposit				
4 a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)		26 payments per year per employee.				
5. **e-Government** and Multiple Locations Describe the status of the program.	Yes	City currently provides web-based information services regarding City Departments. The City currently provides for payment of City utility bills via direct debit. The City's Parks Department currently accest payment by phone for recreation and class fees.				
6. **Fleet Usage Efficiency Evaluation** Describe the status of the program.	Yes	City has a right-sizing program to make sure City vehicles are being used in the most efficient way possible.				
7. **Fleet Vehicle Maintenance** Report the average time between two scheduled maintenance services.	Yes	We have regular maintenance scheduled for all fleet vehicles.				
8. **Fueling Vehicles in the Evening** Describe the status of the program.	Yes	Employees have been encouraged to re-fuel their vehicles at the end of the day on Ozone Action Days.				
9. **Low VOC Roadway Striping** Report the type of low VOC material and the average amount used. Be sure to include units.	Yes	The City is using thermoplastic for striping.				
10. **Ozone Action Day Education Program** Describe the status of the program.	Yes	The City notifies all City employees the day before an Ozone Action Day.				
11. **Ozone Action Day Response Program** Describe the public response program.	Yes	Presentations have been made to the City staff regarding recommendations for work actions on Ozone Action Days.				
12. **Police Department Ticketing** of Smoking Vehicles Describe the status of the program.	No	No current program is in place at this time.				
13. **Resource Conservation** Describe the status of the program.	Yes	The City has recycling bens at all buildings as well as operates a recycle center for residents of the City. During summer season, the City issues water conservation PSAs.				
14. **Transportation Emission Reduction Measures (TERMs)**	Yes	See letter dated May 16, 2006 to CAMPO.				
15. **Tree Planting**	Yes	637 trees have been planted by the City, not counting the trees planted by developers.				

City of San Marcos

Reported by: (Name)	(Phone)	(Email)

Emission Reduction Measure

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column.	Has the program been implemented?	Reporting Information
1. **Direct Deposit** How many employees receive direct deposit?	Yes	399
1 a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)		10,374
2. **e-Government** and Multiple Locations Describe the status of the program.	Y	Increased availability of mapping and meeting materials; in the process of providing opportunities for people to pay utility bills online; also have software to
3. **Fleet Usage Efficiency Evaluation** Describe the status of the program.	N	
4. **Fleet Vehicle Maintenance** Report the average time between two scheduled maintenance services.	Y	Six Months
5. **Fueling Vehicles in the Evening** Describe the status of the program.	N	
6. **Low VOC Roadway Striping** Report the type of low VOC material and the average amount used. Be sure to include units.	Y	Zero VOC
7. **Open Burning Restrictions**	Y	
8. **Ozone Action Day Education Program** Describe the status of the program.	N	
9. **Ozone Action Day Response Program** Describe the public response program.	N	
10. **Resource Conservation** Describe the status of the program.	Y	Energy and Water Conservation
11. **Transportation Emission Reduction Measures (TERMs)**	N	* Submit implementation status of each TERM to CAMPO
12. **Tree Planting**	10 trees	

Bastrop County

Gayle Wilhelm	512 332-7201	gayle.wilhelm@co.bastrop.tx.us

Emission Reduction Measure

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	Has the program been implemented? (Y/N)	Reporting Information				
1. Cleaner Diesel for Fleets How many gallons of clean diesel have been purchased?	N					
2. Commute Solutions Programs	Y	carpooling	vanpooling	teleworking	public transportation	flexible or compressed work week
a. Give the number of employees participating in each of the programs.	→	3				60
b. Give the average number of miles traveled while commuting.	→	40				20
c. Give the number of days per week that the program is used.	→	5				
3. Direct Deposit How many employees receive direct deposit?	Y	307				
a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→	7368				
4. Fleet Vehicle Maintenance Report the average time between two scheduled maintenance services.	Y	as recommended by manufacturer				
5. Fueling Vehicles in the Evening Describe the status of the program.	Y					
6. Ozone Action Day Education Program Describe the status of the program.	Y					
7. Ozone Action Day Response Program Describe the public response program.	Y					

Caldwell County – STATUS UNCHANGED

Hays County

Reported by: Jerry Borcherding	512-393-7385	jerry@co.hays.tx.us

Emission Reduction Measure

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	**Has the program been implemented? (Y/N)**	Reporting Information
1. Cleaner Diesel for Fleets How many gallons of clean diesel have been purchased?	Y	75,989
2. Direct Deposit How many employees receive direct deposit?	Y	682
a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→	16,368
3. e-Government and Multiple Locations Describe the status of the program.		
4. Fleet Vehicle Maintenance Report the average time between two scheduled maintenance services.	Y	heavy equipment - every 250 hours; heavy trucks - every 6000 miles; small trucks - every 3000 miles
5. Fueling Vehicles in the Evening Describe the status of the program.	Y	Vehicles are fueled at the end of the day.
6. Low VOC Roadway Striping Report the type of low VOC material and the average amount used. Be sure to include units.	Y	unavailable
7. Ozone Action Day Education Program Describe the status of the program.		
8. Ozone Action Day Response Program Describe the public response program.		
9. Resource Conservation Describe the status of the program.		
10. Tree Planting		

Travis County

Reported by: Adele Noel 854-7211 adele.noel@co.travis.tx.us

Emission Reduction Measure

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	Has the program been implemented? (Y/N)	Reporting Information				
1. Alternative Fuel Vehicles Give the number (or percentage) of vehicles using alternative fuel.	YES	62 vehicles total				
2. Cleaner Diesel for Fleets How many gallons of clean diesel have been purchased?	YES	Travis County will use Oryx additive during the 2007 ozone season.				
3. Commute Solutions Programs	YES	carpooling	vanpooling	teleworking	public transportation	flexible or compressed work week
a. Give the number of employees participating in each of the programs.	→	114	not known	not known	58	75
b. Give the average number of miles traveled while commuting.	→	46.7			24.5	
c. Give the number of days per week that the program is used.	→	5			5	4 on 1 off
4. Direct Deposit How many employees receive direct deposit?	YES	About 3655 employees have Direct Deposit.				
a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→	40,347 direct deposits were completed between May 1 and October 31, 2006.				
5. e-Government and Multiple Locations Describe the status of the program.	YES	Approximately 12,000 Travis County jury assignments are made via Internet every 6 months, saving as many roundtrips to the county's downtown complex. The Travis County Tax Office had 241,339 first time visitors and 73,683 returning visitors to its website, for a total of 271,132 visits. There were 29,793 motor vehicle renewals over the internet; 1,368 property tax payments over the internet; and 1,905 voter registration updates over the internet. These actions can also be performed by mail instead of in person. Travis County offers many client services through seven different intake offices located throughout the county, and operates a one-stop shop Subdivision Review office with the City of Austin so citizens needing review by both entities don't have to drive to different locations.				

6. Fleet Usage Efficiency Evaluation Describe the status of the program.	YES	Travis County Fleet Services performs Fleet Usage and Efficiency Evaluations throughout the year and makes recommendations for improvements to the fleet users. Recommendations such as trip reductions, consolidations and the type of vehicles. The use of propane fuel in the bi-fueled vehicles at least 75% of the time is encouraged.
7. Fleet Vehicle Maintenance Report the average time between two scheduled maintenance services.	YES	Regular Service Average: 120 days between two scheduled maintenance services. Severe Service Average: 35 days between two scheduled maintenance services.
8. Fueling Vehicles in the Evening Describe the status of the program.	YES	Travis County Fleet users are encouraged to fuel vehicles at the end of their work day, rather than at the beginning.
9. Low Emission Vehicles Report the number of LEVs purchased or the % of fleet vehicles that are categorized as LEVs.	YES	80 vehicles were purchased which brings the percentage of LEV vehicles to 53%.
10. Low VOC Roadway Striping Report the type of low VOC material and the average amount used. Be sure to include units.	YES	Low VOC (Latex) Yellow Paint = 150 - 55 gal drums (8,250gal total). Low VOC (Latex) White Paint = 100- 55 gal drums (5,500 gal total).
11. Ozone Action Day Education Program Describe the status of the program.	YES	On-going, Clean Air Advocate's continue to assist with expanding the program during the 2006 Ozone Season.
12. Ozone Action Day Response Program Describe the public response program.	YES	on-going
13. Resource Conservation Describe the status of the program.	YES	Travis County Recycled the following: Paper: 157.8 Tons or 315660 lbs Aluminum: 974 lbs Oil: 4017 gallons Tires: 710 Antifreeze: 155 gallons Batteries: 212 Iron/Tin: 0 Purchased 1703 re-manufactured toner cartridges Car Parts: 0 Scrap Metal: 111,480 lbs
14. Shaded Parking Describe the status of the program.	YES	963 covered or shaded spaces
15. Texas Low Emission Diesel (TxLED) for Fleets Report the number of vehicles using low emission diesel (TxLED) or the fleet % using TxLED or an equivalent.	Yes	Travis County used Ultra Low Sulfur Diesel in all of its diesel vehicles
16. Transportation Emission Reduction Measures (TERMs)	YES	* Submit implementation status of each TERM to CAMPO. Report implementation status (Y/N) in middle blue column.
17. Tree Planting	YES	No trees were added this reporting period. However, tree planting events are scheduled for the next reporting period. Last reporting period 500 trees were planted.

Williamson County

Reported by: (Name)	(Phone)	(Email)

Emission Reduction Measure

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	Has the program been implemented? (Y/N)	Reporting Information
1. Cleaner Diesel for Fleets How many gallons of clean diesel have been purchased?	n	
2. Direct Deposit How many employees receive direct deposit?	y	1251
a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→	26
3. e-Government and Multiple Locations Describe the status of the program.	y	The County Clerks office has all records on line. Citizens may research birth and death certificates, deeds and all Commissioners Court documents.
4. Fleet Usage Efficiency Evaluation Describe the status of the program.	y	The Williamson County fleet committee meets every other month to evaluate fleet efficiency.
5. Fleet Vehicle Maintenance Report the average time between two scheduled maintenance services.	y	3000 miles on severe duty cars, 4000 miles on non-severe duty cars, 5000-8000 on heavy trucks
6. Fueling Vehicles in the Evening Describe the status of the program.	y	Vehicles are fueled at the end of the workday, after 3 pm
7. Low Emission Vehicles Report the number of LEVs purchased or the % of fleet vehicles that are categorized as LEVs.	y	52%
8. Low VOC Roadway Striping Report the type of low VOC material and the average amount used. Be sure to include units.	y	5000 sq. ft of water based paint, 15,000 sq ft of thermoplastic
9. Ozone Action Day Education Program Describe the status of the program.	y	articles in county-wide newsletter and employee education seminars
10. Ozone Action Day Response Program Describe the public response program.	y	Ozone action days are posted on the website
11. Resource Conservation Describe the status of the program.	y	Paper recycling and energy conservation in all count buildings
12. Texas Low Emission Diesel (TxLED) for Fleets Report the number of vehicles using low emission diesel (TxLED) or the fleet % using TxLED or an equivalent.		
13. Transportation Emission Reduction Measures (TERMs)	y	* Submit implementation status of each TERM to CAMPO. Report implementation status (Y/N) in middle blue column.
14. Tree Planting	y	

CAPCOG						
Reported by: (Name)	(Phone)	(Email)				
Emission Reduction Measure						
For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	**Has the program been implemented? (Y/N)**	Reporting Information				
1. **Commute Solutions Programs**	Y	**carpooling**	**vanpooling**	**teleworking**	**public transportation**	**flexible or compressed work week**
1 a. Give the number of employees participating in each of the programs.	→					
1 b. Give the average number of miles traveled while commuting.	→					
1 c. Give the number of days per week that the program is used.	→					
2. **Direct Deposit** How many employees receive direct deposit?	Y					
2 a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→					
3. **e-Government** and Multiple Locations Describe the status of the program.	Y					
4. **Ozone Action Day Education Program** Describe the status of the program.	Y					
5. **Ozone Action Day Response Program** Describe the public response program.	Y					
6. **Resource Conservation** Describe the status of the program.	Y					

CAMPO

Reported by: Cathy Stephens 974-1861 cathy.stephens@campotexas.org

Emission Reduction Measure

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	Has the program been implemented? (Y/N)	Reporting Information				
1. Commute Solutions Programs	Y	carpooling	vanpooling	teleworking	public transportation	flexible or compressed work week
a. Give the number of employees participating in each of the programs.	→	3		6	1	
b. Give the average number of miles traveled while commuting.	→	44		52	4	
c. Give the number of days per week that the program is used.	→	4		1	4	
2. Ozone Action Day Education Program Describe the status of the program.	Y	ongoing				
3. Ozone Action Day Response Program Describe the public response program.	Y	Post educational alerts/notices to staff and building employees; no CAMPO meetings and staff teleworks before 10:00 am				
4. Transportation Emission Reduction Measures (TERMs) Approval	Y	CAMPO compiles TERMs implementation status and include status in semi-annual report				
NOTE: CAMPO has two employees who bike to work, no place for this information on the report						

Capital Metro

Reported by: Roberto Gonzalez **512-369-6035** roberto.gonzalez@capmetro.org

Emission Reduction Measure

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	**Has the program been implemented? (Y/N)**	Reporting Information				
1. Alternative Fuel Vehicles Give the number (or percentage) of vehicles using alternative fuel.	Yes	14 Hybrid Toyota Prius Sedans ; 2 40-foot Hybrid Buses; **Note: 1 additional 40-foot Hybrid bus was approved in September for purchase and is proposed to enter service in Spring 2007.**				
2. Cleaner Diesel for Fleets How many gallons of clean diesel have been purchased?	Yes	1,855,551 gallons. Only Ultra Low Sulfer Diesel (ULSD) is purchased at this time.				
3. Commute Solutions Programs	Yes	**carpooling**	**vanpooling**	**teleworking**	**public transportation**	**flexible or compressed work week**
a. Give the number of employees participating in each of the programs.	→	Not Tracked	39	Not Tracked	Not Tracked	Not Tracked
b. Give the average number of miles traveled while commuting.	→	Not Tracked	43 Round Trip Miles	Not Tracked	Not Tracked	Not Tracked
c. Give the average number of days per week that the program is used.	→	Not Tracked	3	Not Tracked	Not Tracked	Not Tracked
4. Direct Deposit How many employees receive direct deposit?	Yes	Capital Metro (Admin) - 200 Startran (Operators/Mechanics) - 700 Approximately 72% of our workforce utilizes direct deposit.				
a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→	Bimonthly - 26 payments				
5. e-Government and Multiple Locations Describe the status of the program.	Yes	Multiple Farecard Sale Outlets, Direct Sale of Farecard via Internet Available, On-Line Trip Planner				
6. Fleet Usage Efficiency Evaluation Describe the status of the program.	Yes	Automatic Passenger Counters (APC) are used to continually evaluate ridership. Vehicle types are assigned to route services based on passenger loading factors.				
7. Fleet Vehicle Maintenance Report the average time between two scheduled maintenance services.	Yes	Bus PMIs are typically scheduled at 6,000 mile intervals, plus or minus 10% or 600 miles for all buses. Exceptions for more frequent intervals on particular units are sometimes made to comply with warranty purposes.				

8. Fueling Vehicles in the Evening Describe the status of the program.	Yes	With the exception to vehicles "in the shop" during the day, all Vehicles are Fueled in the Evening
9. Low Emission Vehicles Report the number of LEVs purchased or the % of fleet vehicles that are categorized as LEVs.	Yes	57% of vehicls are LEV or better.
10. Low VOC Roadway Striping Report the type of low VOC material and the average amount used. Be sure to include units.	N/A	
11. Ozone Action Day Education Program Describe the status of the program.	No	Until October 2006, Capital Metro had been providing free rides to customers on Ozone Action Days for the last 13 years. Regular education to the public was in the form of public information announcements (media and email). On the day prior to an Ozone Day, an email alert was sent to passengers registered with Capital Metro's RiderInfo alert system. Information was broadcast on all vehicles (intercom) to all passengers the day prior to alert of next day's free operation. Information was displayed on large scale message boards currently in place along major travel corridors (e.g. IH-35 coordinaated by TxDOT). **Unfortunately, in October, the Board of Directors took action that removed the "free fare" aspect of this program. Thus, all information relating to this program is no longer practiced.**
12. Ozone Action Day Response Program Describe the public response program.	N/A	During the program, Capital Metro provided free rides to customers on Ozone Action Days, and saw an average increase in ridership by up to eight percent.
13. Resource Conservation Describe the status of the program.	Yes	On site recycling of Paper products, Metals, Oil, and Grey water
14. Transit-Oriented Development (TOD) Describe the program status.	Yes	Capital Metro Board of Directors approved in Fall 2005 hiring a contractor to conduct six market studies on Transit Oriented Development (TOD), with an option for ten additional studies. The studies will provide market analyses of the potential for development in areas around six Rapid bus and urban commuter rail stations inside the Austin city limits. The six study areas were identified by a collaboration of the City of Austin and Capital Metro. The City of Austin will take the lead in developing Station Area Plans through its Neighborhood Planning and Zoning Department.
15. Transportation Emission Reduction Measures (TERMs)	Yes	Sumitted update to CAMPO in May 2006; **Next Update due in December 2006**

LCRA		
Reported by: Maia Corbitt	(512) 473-3200	maia.corbitt@lcra.org
Emission Reduction Measure		
For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	**Has the program been implemented? (Y/N)**	Reporting Information
1. Alternative Commute Infrastructure Describe the status of the program.	Y	Unchanged in reporting period.
2. Cleaner Diesel for Fleets How many gallons of clean diesel have been purchased?	Y	134,000 gallons
3. Direct Deposit How many employees receive direct deposit?	Y	1,700 within the 5 county EAC region.
a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→	Bimonthly payroll (26 payments) along with employee reimbursements as submitted
4. Fleet Vehicle Maintenance Report the average time between two scheduled maintenance services.	Y	Small fleet (cars, pickups,etc...) every 5,000 miles Large fleet (bucket trucks, etc...) every 10,000 miles
5. Low Emission Vehicles Report the number of LEVs purchased or the % of fleet vehicles that are categorized as LEVs.	Y	23 LEVs purchased
6. Ozone Action Day Education Program Describe the status of the program.	Y	Unchanged in reporting period.
7. Ozone Action Day Response Program Describe the public response program.	N	We have received no public response to program.
8. Resource Conservation Describe the status of the program.	N	Not in EAC capacity. FYI - LCRA does have water, energy and land conservation programs which educate and advocate for their respective media.
9. Transportation Emission Reduction Measures (TERMs)	N	* Submit implementation status of each TERM to CAMPO. Report implementation status (Y/N) in middle blue column.
10. Tree Planting	N	Not in EAC capacity. FYI - LCRA distributes trees (1,400 from May - Oct) to communities through our Clean N' Green program. LCRA does not plant the trees.

TCEQ							
Reported by: James Voelker	239-3182	jvoelker@tceq.state.tx.us					
Emission Reduction Measure							
For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	**Has the program been implemented? (Y/N)**	Reporting Information					
1. Alternative Commute Infrastructure Describe the status of the program.	Y	The TCEQ has an existing Commute Solutions program that promotes alternatives to the single-passenger commute. This program provides information to employees regarding teleworking, and ridesharing opportunities through carpools and vanpools.					
2. Alternative Fuel Vehicles Give the number (or percentage) of vehicles using alternative fuel.	Y	17 vehicles are hybrid or propane					
3. Commute Solutions Programs	Y	**carpooling**	**vanpooling**	**teleworking**	**public transportation**	**flexible or compressed work week**	
a. Give the number of employees participating in each of the programs.	→	**90**	**102**	**78**		**300**	
b. Give the average number of miles traveled while commuting.	→	**22**	**22**	**50**		**22**	
c. Give the number of days per week that the program is used.	→	**5**	**5**	**1**		**1**	
4. Direct Deposit How many employees receive direct deposit?	Y	1800					
a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→	12					
5. e-Government and Multiple Locations Describe the status of the program.	Y	The TCEQ has 16 regional offices located throughout the state, while also providing important services and resources available to external customers online.					
6. Fleet Vehicle Maintenance Report the average time between two scheduled maintenance services.	Y	3,000 miles					
7. Ozone Action Day Education Program Describe the status of the program.	Y	The TCEQ coordinates the forecasting and reporting of Ozone Action Days for the State of Texas.					
8. Ozone Action Day Response Program Describe the public response program.	Y						
9. Resource Conservation Describe the status of the program.	Y	The agency as implemented several plans aimed at promoting energy and water conservation, as well as resource recycling. Most recently, the TCEQ submitted its Energy Savings Plan in conjunction with the Governor's Executive Order RP 49.					
10. Shaded Parking Describe the status of the program.	Y	One parking garage provides shaded spaces for three stories of parking. One lot has a significant number of spaces shaded by trees.					
11. Transportation Emission Reduction Measures (TERMs)		* Submit implementation status of each TERM to CAMPO. Report implementation status (Y/N) in middle blue column.					

TxDOT-Austin

Reported by: Darcie Schipull | 512/832-7039 | dschipu@dot.state.tx.us

Emission Reduction Measure

For all CAAP emission reduction measures that have been implemented, please enter a Y (yes) in the column to the right. Enter additional information in the Reporting Information column. **REPORTING PERIOD: MAY 2006 to OCTOBER 2006**	**Has the program been implemented? (Y/N)**	Reporting Information				
1. Alternative Fuel Vehicles Give the number (or percentage) of vehicles using alternative fuel.	Yes	126				
2. Commute Solutions Programs		**carpooling**	**vanpooling**	**teleworking**	**public transportation**	**flexible or compressed work week**
a. Give the number of employees participating in each of the programs.	→	**61**	**13**		**6**	**447**
b. Give the average number of miles traveled while commuting.	→					
c. Give the number of days per week that the program is used.	→	**5**	**5**			**5**
3. Direct Deposit How many employees receive direct deposit?	Yes	621				
a. Estimate the number of payments direct deposited per year per employee. (e.g. Bimonthly-26 payments)	→	12.2				
4. Fleet Vehicle Maintenance Report the average time between two scheduled maintenance services.	Yes	varies but generally 3,000 miles or every 90 days				
5. Low VOC Roadway Striping Report the type of low VOC material and the average amount used. Be sure to include units.	Yes	1,063,840 Linear Feet of Thermoplastic				
6. Ozone Action Day Education Program Describe the status of the program.	yes	Active				
7. Ozone Action Day Response Program Describe the public response program.	Yes	Active				
8. Resource Conservation Describe the status of the program.	Yes	TxDOT Recycles Program				
9. Transportation Emission Reduction Measures (TERMs)	Yes	* Submit implementation status of each TERM to CAMPO. Report implementation status (Y/N) in middle blue column.				
10. Tree Planting	yes	Active				

ATTACHMENT 1 DPS REMOTE SENSING PROGRAM DETAILS

TEXAS ON-ROAD VEHICLE EMISSIONS TESTING PROGRAM
STATISTICAL INFORMATION FOR FISCAL YEAR 2006
SEPTEMBER 01, 2005 - AUGUST 31, 2006

SUMMARY FOR AUSTIN EARLY ACTION COMPACT AREA

RECORD COLLECTION

	TOTAL	UNIQ VEHS	SESSIONS	DAYS	SITES	VANS
RECORDS COLLECTED	5,917,944		1,337	251	143	7
CALIBRATION RECORDS	4,011					
INVALID RECORDS	59,240					
VALID RECORDS	5,854,693		1,330	250	143	7
NO LICENSE PLATE INFORMATION	841,953					
TEMPORARY LICENSE PLATE	56,840					
NON-PROGRAM VEHICLES	1,270,402					
PROGRAM VEHICLES	3,685,498	1,982,598				
NON-PROGRAM AREA VEHICLES	200,991	116,361				
PROGRAM AREA VEHICLES	3,484,507	1,866,237	1,330	250	143	7
DALLAS-FORT WORTH I/M AREA	1,531,834	832,352	583	227	67	4
HOUSTON-GALVESTON I/M AREA	1,457,277	744,329	517	228	47	4
EL PASO I/M AREA	144,058	83,813	42	31	6	3
AUSTIN EAC	**351,338**	**197,890**	**154**	**145**	**17**	**2**
TRAVIS COUNTY	**320,908**	**173,699**	**133**	**126**	**12**	**2**
WILLIAMSON COUNTY	**30,430**	**24,191**	**21**	**20**	**5**	**2**

HIGH EMITTER IDENTIFICATION

	IDENTIFIED	MAILED	NOTIFIED	PENDING	COMPLIED	VIOLATORS
STATEWIDE	2,606	2,339	1,679	61	1,312	306
DALLAS-FORT WORTH I/M AREA	1,158	1,055	656	26	502	128
HOUSTON-GALVESTON I/M AREA	1,011	950	763	26	612	125
EL PASO I/M AREA	142	134	116	3	86	27
AUSTIN EAC	**295**	**200**	**144**	**6**	**112**	**26**
AFFECTED COUNTY VEHICLES	**295**	**200**	**144**	**6**	**112**	**26**
TRAVIS COUNTY	**257**	**183**	**129**	**6**	**98**	**25**
WILLIAMSON COUNTY	**38**	**17**	**15**	**0**	**14**	**1**
ADJACENT COUNTY VEHICLES	**0**	**0**	**0**	**0**	**0**	**0**
BASTROP COUNTY	**0**	**0**	**0**	**0**	**0**	**0**
BELL COUNTY	**0**	**0**	**0**	**0**	**0**	**0**
BLANCO COUNTY	**0**	**0**	**0**	**0**	**0**	**0**
BURNET COUNTY	**0**	**0**	**0**	**0**	**0**	**0**
CALDWELL COUNTY	**0**	**0**	**0**	**0**	**0**	**0**
HAYS COUNTY	**0**	**0**	**0**	**0**	**0**	**0**
LEE COUNTY	**0**	**0**	**0**	**0**	**0**	**0**
MILAM COUNTY	**0**	**0**	**0**	**0**	**0**	**0**