



Sponsored by

Utah Department of Environmental Quality
www.deq.utah.gov/cleanutah
1-800-458-0145

Annual Report

For year ending: December 31, 2010

Utah Transit Authority

3600 South 700 West
Facility Street Address

Salt Lake City, UT
City

84119
Zip

Project Status

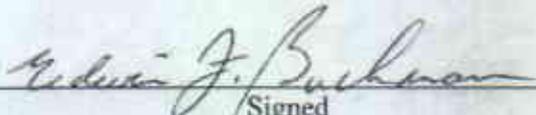
On a separate sheet, summarize:

- your Clean Utah project commitments and accomplishments made to date,
- major indicators of environmental improvements (measurable ways that you are determining the environment is improving as the result of steps you are taking),
- public participation activities you have undertaken, and
- your project plans for next year, as they relate to this program.

Certification Statement

(to be signed by the senior facility manager)

I certify that the information outlined in the attached annual report is correct and that this facility continues to meet all program criteria and has an active EMS, as defined by the Clean Utah! program. I further certify that this facility has conducted periodic assessments of compliance with legal requirements, has corrected all identified instances of noncompliance, and is currently in compliance with all applicable federal, state, and local environmental rules and regulations.


Signed

Feb 3, 2011
Date

Ed Buchanan
Print Name

Safety & Environmental Manager
Title

UTA

Environmental Improvement Project Results

Project #1: UTA Air Emission Reduction Project

Measurements:

- 1) Reduction of UTA's bus fleet NOx and particulate matter (PM) emission rate through the acquisition of 57 new buses in 2010 to replace older existing buses manufactured in 1998 and previous years.

UTA has developed a 6 year plan, beginning in 2009, to acquire new buses as replacements for older buses that will reduce Particulate Matter (PM) and Nitrogen Oxides (NOx) emissions.

Particulate Matter (PM)

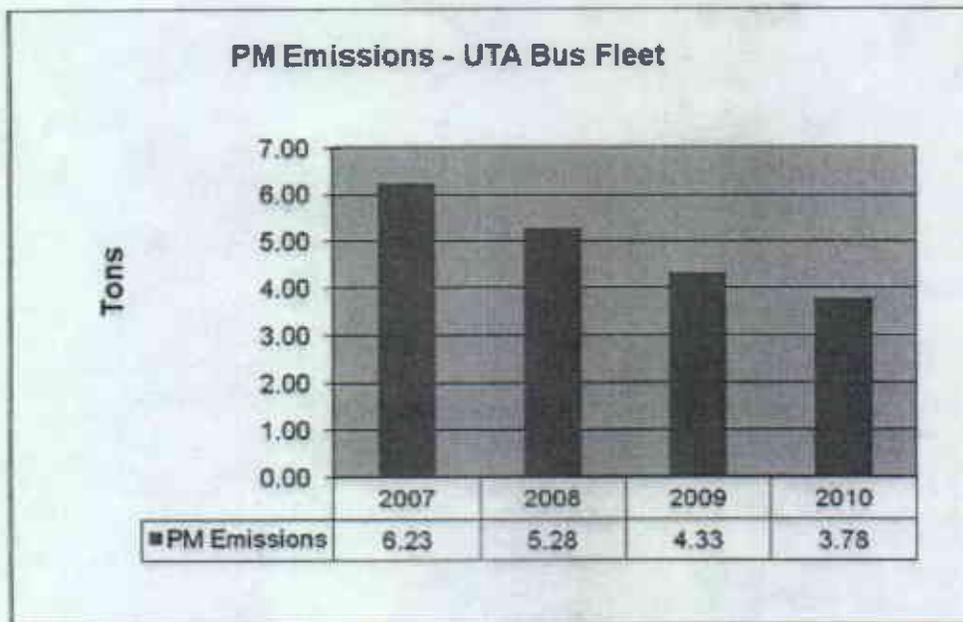
The following table lists the federal emission standards for particulate matter (PM) from heavy-duty diesel engine exhaust in urban buses.

Federal PM Emission Standard			
Model Year	g/bhp-hr	CF bhp-hr/mi	g/mi
1991 – 1992	0.25	4.68	1.17
1993	0.1	4.68	0.468
1994 – 1995	0.07	4.68	0.3276
1996 – 2006	0.05 ⁽¹⁾	4.68	0.234
2007 –	0.01	4.68	0.0468

UTA's fixed route and express route bus fleet travels 19 million miles annually. Scheduling newer more efficient buses to accumulate more miles than older buses reduces the emissions of PM from UTA's bus fleet. UTA has set a goal of a 10% reduction for the total pounds of PM emitted each year.

Year	2009		2010	
	Miles	PM (lbs)	Miles	PM (lbs)
1991 – 1992	33,240	86	0	0
1993	123,310	127	0	0
1994 – 1995	2,265,748	1,635	1,219,176	880
1996 – 2006	12,275,829	6,327	11,754,649	6,059
2007 –	4,762,580	491	6,015,484	620
Total	19,460,707	8,666	18,989,309	7,558

Based on the annual miles and the age of UTA's fleet in 2007, the estimated PM emissions were 6.23 tons. By acquiring new buses that meet the 2007 Federal PM standards to replace older buses, PM emissions were reduced to 4.33 tons in 2009 and 3.78 tons in 2010. UTA reduced its PM emissions from 2009 to 2010 by 12.7%, exceeding the goal of 10% reduction for PM emissions per year.



Nitrogen Oxides (NO_x)

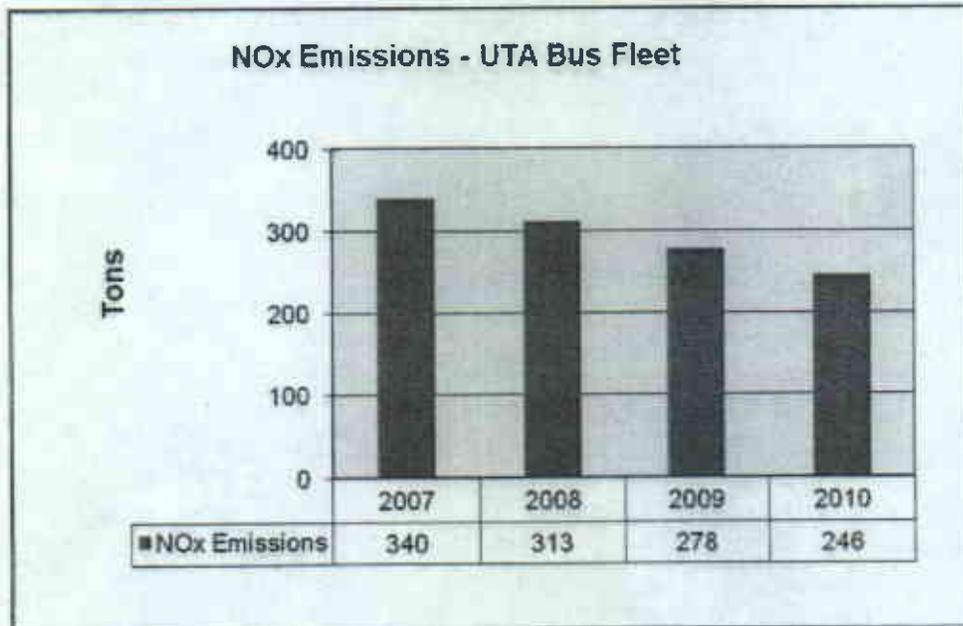
For NO_x emission calculations EPA sites an 8% compliance margin from manufacturers based on historical certification data. Therefore, for a NO_x standard of 5.0 g/bhp-hr, a level of 4.6 g/bhp-hr is used as the emission level. The following table illustrates the differing emission standards of NO_x for diesel engine exhaust from urban buses.

Federal NO _x Emission Standard			
Model Year	g/bhp-hr	CF bhp-hr/mi	g/mi (8% margin)
1991 - 1997	5.0	4.68	21.53
1998 - 2001	4.0	4.68	17.22
2002 - 2006	2.2	4.68	9.47
2007 - 2009	1.2	4.68	5.17
2010 -	0.2	4.68	0.86

Based on the annual miles and the age of UTA's fleet in 2007, the estimated NO_x emissions were 340 tons. By acquiring new buses that meet the 2010 Federal NO_x standards to replace older buses, UTA estimates that NO_x emissions by 2015 will be 69 tons. This will reduce NO_x emissions from UTA's bus fleet by over 79%.

Year	2009		2010	
	Miles	NO _x tons	Miles	NO _x tons
1992 - 1997	3,342,027	79	2,075,587	49
1998 - 2001	6,276,872	119	6,095,390	116
2002 - 2006	5,079,228	53	4,802,848	50
2007 - 2009	4,762,580	27	5,583,565	32
2010 -	0	0	431,919	<1
Total	19,460,707	278	18,989,309	246

By scheduling the more efficient buses on the longer routes, UTA has set a goal of a 10% reduction for the total tons of NOx emitted each year. UTA reduced its NOx emissions from 2009 to 2010 by 11.5%, exceeding the goal of 10% reduction for NOx emissions per year.



Benefit to the environment for year:

Air Pollutant	Particulate Matter	% Reduction	Nitrogen Oxides	% Reduction
2007	6.23 tons	—	340 tons	—
2008	5.28 tons	15.2 %	313 tons	7.9 %
2009	4.33 tons	17.4 %	278 tons	11.2 %
2010	3.78 tons	12.7 %	246 tons	11.5 %

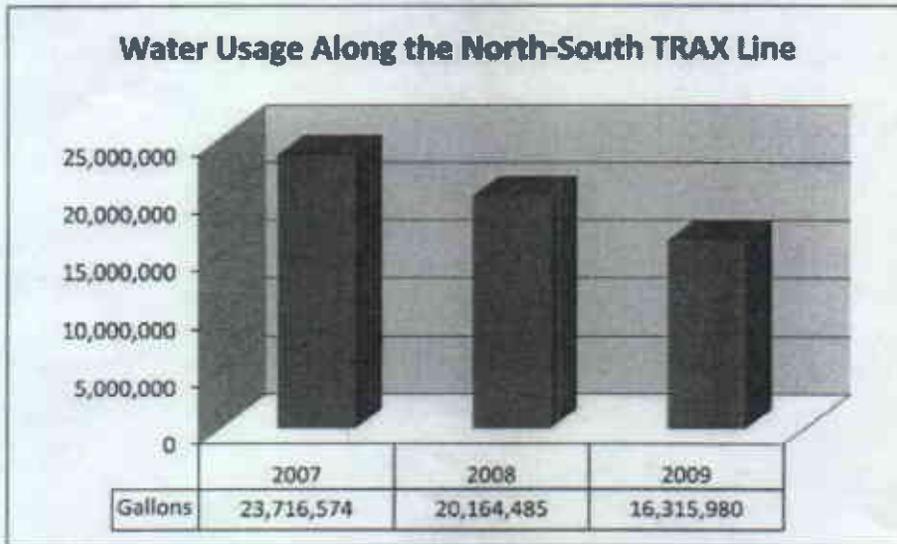
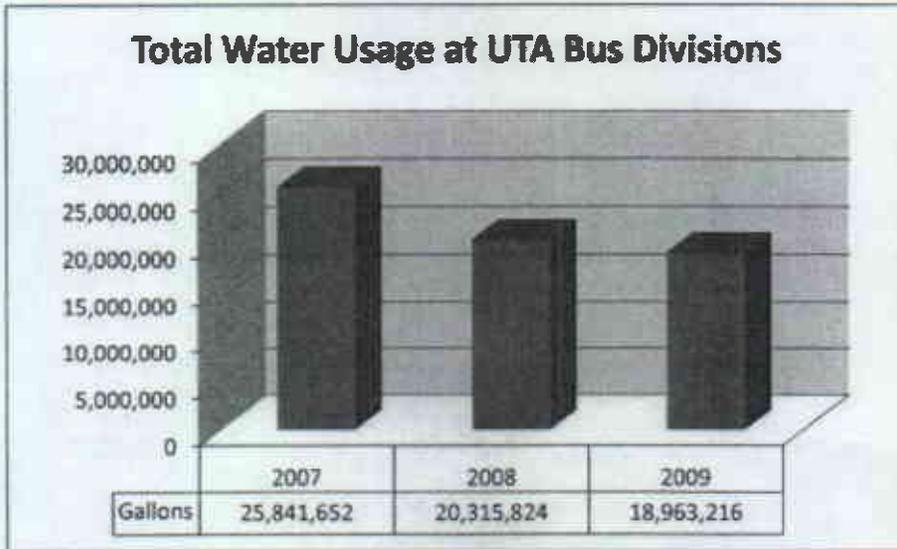
Benefit or savings for company:

The acquisition of new buses as replacements for older models reduces UTA's investment per rider because of the improved fuel efficiency of the newer buses. In 2010 UTA added 20 hybrid-electric diesel buses, as a part of our bus replacement 6 year plan. Today's technology of hybrid-electric buses is 20% more fuel efficient than their diesel bus counterparts.

Project #2: Water Conservation Project

Measurements:

- 1) Baseline measurement of water use by volume at UTA Bus Divisions and Park-N-Rides.



2) UTA Sustainable Design Guidelines

Sustainable business practices require the reconciliation of environmental, social and economic demands – the “three-pillars” of sustainability. UTA is committed to achieving goals for economic growth, environmental protection, and social progress at the same time.

UTA’s commitment to sustainability includes:

- Full Signatory Member of the UITP Charter on Sustainable Development
- Founding Signatory of APTA’s Sustainability Commitment

UTA’s Sustainable Design Guidelines addresses developing and adopting best practices for sustainable design, construction, operation and maintenance of our transit services. Contained within the guidelines are fundamental questions that address water usage and conservation. Evaluation criteria for these fundamental questions are given a rating of importance.

Facility Design

Do evaluation criteria include an alternatives impact on water consumption and conservation?	Essential
Do evaluation criteria include limiting disruptions to the natural flow of water?	Should Do

Stations, Stops, Terminals, Intermodal Facilities

Does the design maximize water efficiency to reduce the burden on municipal water supply and wastewater systems? For example, wastewater can be reduced by specifying high-efficiency fixtures and dry fixtures such as composting toilets and waterless urinals; reuse stormwater or use grey-water for sewage conveyance or on-site wastewater treatment systems. (Composting toilets are maintenance intense.)	May Want To Consider
Have buildings/facilities been designed with equipment to measure energy and water performance? Has a measurement and verification plan been drafted to use during building operation that compares predicted savings to those actually achieved?	Essential

Site Work And Environmental Mitigation At Site

Does design incorporate pervious paving/vegetated swales, constructed wetlands, or vegetated filter strips at stations and along guideway to manage drainage?	Essential
Do the alternatives maximize water efficiency to reduce the burden on municipal water supply and wastewater systems?	Should Do
Do alternatives limit the disruption of natural water flows by minimizing stormwater runoff, increasing on-site infiltration, and reducing contaminants?	Should Do
Does design limit the use of potable water for landscaping?	Should Do
Does design consider use of stormwater and greywater?	May Want To Consider

Benefit to the environment for year:

Water Usage at UTA Bus Divisions		
	Total Gallons Used	Water Saved (Gallons)
2007	25,841,652	-
2008	20,315,824	5,525,828
2009	18,963,216	6,878,436

Water Usage Along the North-South TRAX Line		
	Total Gallons Used	Water Saved (Gallons)
2007	23,716,574	-
2008	20,164,485	3,552,089
2009	16,315,980	7,400,594

Benefit or savings for company:

Water Usage: Savings at UTA Bus Divisions		
	Average Cost	Water Saved (Gallons)
2008	\$1.15/1,000 Gallons	\$6,354.70
2009	\$1.43/1,000 Gallons	\$9,836.16

Water Usage: Savings Along the North-South TRAX Line		
	Average Cost	Water Saved (Gallons)
2008	\$1.15/1,000 Gallons	\$4,084.90
2009	\$1.43/1,000 Gallons	\$10,582.85

Targeted Goals for 2011 (include specific measurement)

Project #1: UTA Air Emission Reduction Project

UTA will continue monitor and report on the following parameters and monitor the progress towards the 2015 goal of 80 % reduction of air pollutants:

- The number of new buses and the manufactured year of the bus replaced.
- The vehicle miles traveled for all buses within a manufactured year.

Project #2: UTA Water Conservation Project

Clean water is one of Utah's most valuable and limited resources. UTA is a significant stakeholder in the development and growth for communities along the Wasatch Regional Front. Through this project UTA will take an active role to conserve water consumption at our facilities, park n'rides and rail stations.

Objectives:

1. **Baseline Measurement:** Beginning in 2007, UTA has begun efforts to reduce water usage at bus divisions, park-n'rides and rail stations. UTA has achieved a significant reduction of more than 25% through 2009.

2. Vehicle washing is a significant source of water usage by UTA. UTA will evaluate current vehicle washing infrastructure to ensure its integrity and efficiency for water recycling. UTA will set a goal to ensure that water recycling from vehicle washing is operating at 90% efficiency.
3. In 2010 UTA made landscape changes at the 3300 South and 9000 South park-n-rides to reduce water usage for irrigation. UTA will evaluate grounds keeping maintenance to minimize water use and work with community stakeholders to implement "Xeriscaping" where allowed.