



Mayor Martin J. Chávez

Fiscal Year 2006 Special Project

Air Aware III



City of Albuquerque
Environmental Health Department
Air Quality Division
December 2006



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Director

Forward

This report is provided to the United States Environmental Protection Agency's Region 6 representatives upon completion of the Air Aware III Special Project – the XRT; eXtraordinary Road Trip for fiscal year 2006.

The Environmental Health Department, Air Quality Division (Division) applied for and received grant funding to conduct this project to engage the participation of the general public to raise the level of awareness regarding air quality. The target audience includes young adults (14-18 years of age) residing in Bernalillo County. The report documents the Division's third Air Aware outreach program's planning, implementation, and describes our success and lessons learned.

Division staff gratefully acknowledges the cooperation and support of the Wisconsin Department of Natural Resources, Northwestern Indiana Regional Planning Commission and the State of New Mexico's Transportation Programming Division, Traffic Safety Bureau.

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FY2006 Special Project

Air Aware III – XRT; the eXtraordinary Road Trip

1.0 Goal

The over arching goal of the annual “Air Aware” outreach campaign is to improve air quality by maintaining Bernalillo County’s ground-level ozone and particulate material attainment status.

The City of Albuquerque, Environmental Health Department’s Air Quality Division (Division) submitted and was approved for a Special Project grant to promote and distribute an educationally interactive software program to young adult drivers in Bernalillo County. The XRT- eXtraordinary Road Trip is a electronic driving simulation software program developed with Congestion Mitigation and Air Quality grants by the Wisconsin Department of Natural Resources, Northwestern Indiana Regional Planning Commission and the Illinois Department of Transportation, and funded by the United States Environmental Protection Agency – Office of Transportation and Air Quality. Visit the XRT- eXtraordinary Road Trip web site at www.extraordinaryroadtrip.org/ for more information.

The XRT program introduces the Air Quality Index (AQI) as a tool to better understand the impacts from mobile sources to local and worldwide ambient air quality and fuel conservation. Educating the emerging population of drivers is gradually gaining in importance as air quality scientists strive to communicate the connection between air quality (air pollution) and climate change. This sustainable approach can be institutionalized by integrating it into the driver education curricula everywhere.

2.0 Project Overview

The XRT was developed to simulate a world where the AQI is “Very Unhealthy.” The goal of the game is to make the world’s AQI green or Good. The game is populated by 25 “people” who are representative of individuals found in any community. These people are driving on streets in urban and suburban networks, and on a highway. The XRT world is consistent with Bernalillo County with our network of interstate highways, boulevards, and streets.

Each of the 25 personalities is assigned an Eco-Score based on the AQI. Four variables consisting of Commute, Car Care, Behavior, and Vehicle are also rated based on the AQI. The sum of the four variables comprises the total Eco-Score for each individual. The sum of all 25 individual Eco-Scores determines the world’s AQI. The game is played by one or more players.

The software operates on a personal computer or Macintosh computer; the program requirements are clearly listed on the software packaging. Each compact disk (CD) was provided with motivational materials and literature regarding the Albuquerque/Bernalillo County Vehicle Pollution Management Division’s Inspection and Maintenance program;

quick tips on vehicle maintenance for Car Care Month; and information regarding the Division's web site (www.cabq.gov/airquality).

3.0 Project Planning

Air Aware III targeted students currently enrolled or planning to enroll in private and public drivers' education classes in Bernalillo County. Division staff also focused on juvenile justice programs, libraries, community centers, charter and public school programs as well as the local AAA organization to demonstrate the XRT.

Staff gave a demonstration of the XRT for the State of New Mexico's Transportation Programming Division, Traffic Safety Bureau Management. After reviewing the program, they drafted a letter of recommendation in support of the program. See Article A, Letter of Recommendation to Licensed Commercial Drivers' Education Schools, one of the letters to the commercial driver's education classes.

Project implementation was planned to start at the beginning of the public school year which also coincides with the summer ground-level ozone season. A poster was developed to advertise the program among public high school students and teachers and commercial drivers' education schools. [See Article B, XRT – eXtraordinary Road Trip Poster on page 14.]

Division staff purchased 5,000 prepackaged compact disks from Wisconsin's Department of Natural Resources. Division staff gratefully acknowledges the Department of Natural Resources' generosity in sharing the original XRT art work which was utilized for the Air Aware III Special Project's marketing materials. Staff wanted to maintain consistency with the original marketing scheme, yet using local city logos for promotion here in Bernalillo County. [See Figure 1.0 Original XRT Artwork below and Figure 2.0 XRT Compact Disk on page 3.]



Figure 1.0 Original XRT Artwork

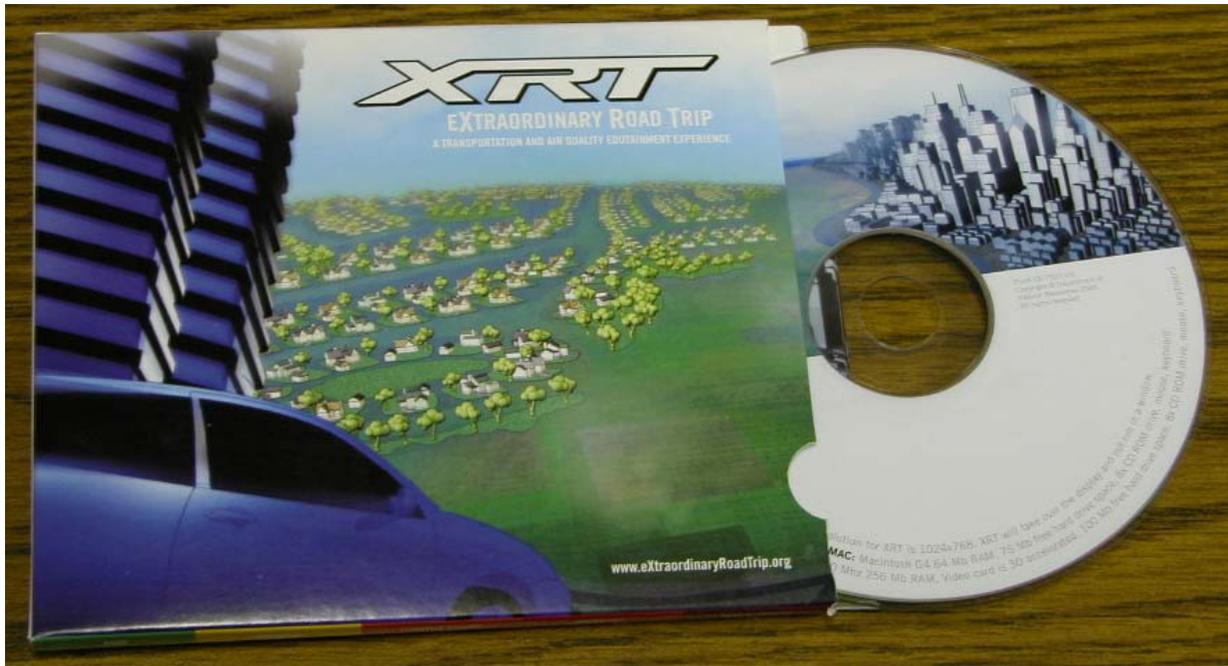


Figure 2.0 XRT Compact Disk

Division staff chose motivational materials with students in mind to capture their attention and engage them in the XRT game. Current high school students are game enthusiasts and the XRT provides a fun way of learning about air quality and its relationship with transportation. A draw-string knapsack was chosen as a carrier for the CD and materials. [See Figure 3.0 XRT Knapsack.]



Figure 3.0 XRT Knapsack



Figure 4.0 XRT Water Bottle

Staff also chose water bottles similar to those bottles purchased by Wisconsin to promote the XRT. The water bottle and knapsack were big hits with the students. [See Figure 4.0 XRT Water Bottle.]

The XRT pen was the third motivational tool purchased to distribute to the students. The marketing materials were used as rewards for participation. [See Figure 5.0 XRT Pen.] Marketing materials were distributed to public high school students during demonstrations.

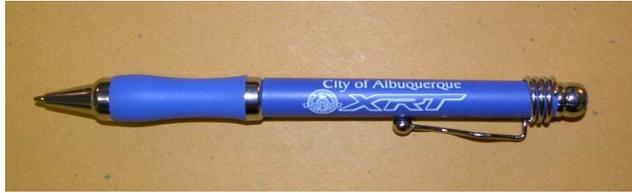


Figure 5.0 XRT Pen

4.0 Project Delivery & Demonstration

Initially, Division staff targeted high school and private drivers' education classes in Bernalillo County. The New Mexico Traffic Safety Bureau's Education Program Manager is responsible for training and certifying all drivers' education trainers in the state and Bernalillo County. They provided a list of all licensed commercial schools. Staff contacted all the schools to schedule demonstrations and delivery of the XRT.

Staff expanded the focus group to include juvenile justice programs such as the Bernalillo County Juvenile Detention Center and Hogares, a private treatment foster care program. Innovative educational products like the XRT are well received by these types of programs because their clientele are typically low income and minority students who lack access to air quality educational programs. The XRT was very well received and was also provided to parents and guardians during open houses and orientation. Staff delivered presentations and materials to 13 public institutions.

Twenty-one XRT demonstrations were given to high school drivers' education classes of 30 or more students in the Albuquerque Public School system. The Juvenile Detention Center houses a component of Albuquerque Public School for students held there. Charter schools such as the Los Puentes and the Creative Education Preparatory Institute (see Figure 6.0 Demonstration at CEPI) were included with traditional public schools. Staff was requested to provide one-hour presentations and on several occasions, repeat sessions for additional classes.



Figure 6.0 XRT Demonstration at CEPI

Staff also provided seven demonstrations to the owners of the commercial driving schools. Division staff was especially fortunate to give a demonstration of the XRT to a commercial class of students of Old School of Driving. Commercial drivers' education classes are

typically held in the afternoon and evenings to better accommodate students who are enrolled in high school.

Interactive presentations provided the best outcome in regards to the AQI progress seen by the participants. For example, 27 students at Manzano High School worked as a team and changed the AQI in the XRT from Very Unhealthy to Moderate in less than 30 minutes. This was the swiftest change that staff experienced in all the presentations given. Figure 7.0 shows the student participants at Highland High School.



Figure 7.0 XRT Demonstration at Highland High School

Table 1.0 XRT Public School Participants below indicates the name and address of participating local public high schools, including the Bernalillo County Juvenile Detention Center, and Hogares.

| Public Schools | Legend | Address |
|--|---------------|---------------------------|
| Cibola High School | A | 1510 Ellison Drive, NW |
| Valley High School | B | 1505 Candelaria, NW |
| West Mesa High School | C | 6701 Fortuna Rd, NW |
| Albuquerque High School | D | 800 Odelia Rd. NE |
| Sandia High School | E | 7801 Candelaria NE |
| Eldorado High School | F | 11300 Montgomery Blvd. NE |
| La Cueva High School | G | 7801 Wilshire NE |
| Highland High School | H | 4700 Coal Ave. SE |
| Manzano High School | I | 12200 Lomas Blvd. NE |
| CEPI Charter School | J | 4801 Montano Rd NW |
| Hogares | K | 1218 Griegos Rd. NW |
| Bernalillo County Juvenile Detention Center | L | 5100 Second St. NW |
| Los Puentes Charter School | M | 1130 Griegos Rd. NW |

Table 1.0 XRT Public School Participants



Figure 8.0 XRT Public School Participants Map

5.0 Air Aware Partners

The partners in this Air Aware project include the commercial drivers' education owners, AAA of New Mexico, and the Traffic Safety Bureau. [See Table 2.0 XRT Commercial Driving School Participants.] They have been very enthusiastic and supportive partners in XRT project. Each company requested several hundred XRT CDs and associated literature for distribution to their students. Most of the companies have multiple locations and train over 200 students per month. The map [Figure 9.0 Commercial Drivers' Education Participants Map] on page 8 displays the 15 commercial driver school sites that participated in the project.

| Commercial Drivers' Education Participants | Legend | Address |
|---|---------------|--------------------------|
| Albuquerque Elite School of Driving | A | 3765 Isleta Blvd SW |
| Coach Al's Driving School, LLC | B | 800 Odelia Road NE |
| Driving Success, Inc., DBA/McGinnis School of Driving-Eubank Ext. | C | 1523 Eubank NE |
| Driving Success, Inc., DBA/McGinnis School of Driving-MAIN | C | 2745 San Mateo NE |
| Driving Success, Inc., DBA/McGinnis School of Driving-Montgomery Ext. | C | 12500 Montgomery NE |
| Old School of Driving | D | 111 Coors Blvd NW |
| Old School of Driving-Golf Course Road Extension | D | 10200 Golf Course Road |
| T.J. McGinnis School of Driving | E | 7321 San Antonio NE |
| T.J. McGinnis School of Driving | E | 9311 Coors Rd. NW |
| TLC of Albuquerque Driving School Inc. | F | 4000 Louisiana NE |
| Turner School of Driving, VCS | G | 1011 Lambertton Place NE |
| Turner School of Driving, SVA | G | 3426 Blake SW |
| Turner School of Driving, SVA | G | 3750 Juan Tabo NE |
| Turner's School of Driving, Los Puentes CS | G | 1106 Griegos NW |
| Veteran's Affairs Medical Center | H | 1501 San Pedro SE |

Table 2.0 XRT Commercial Drivers' Education Participants

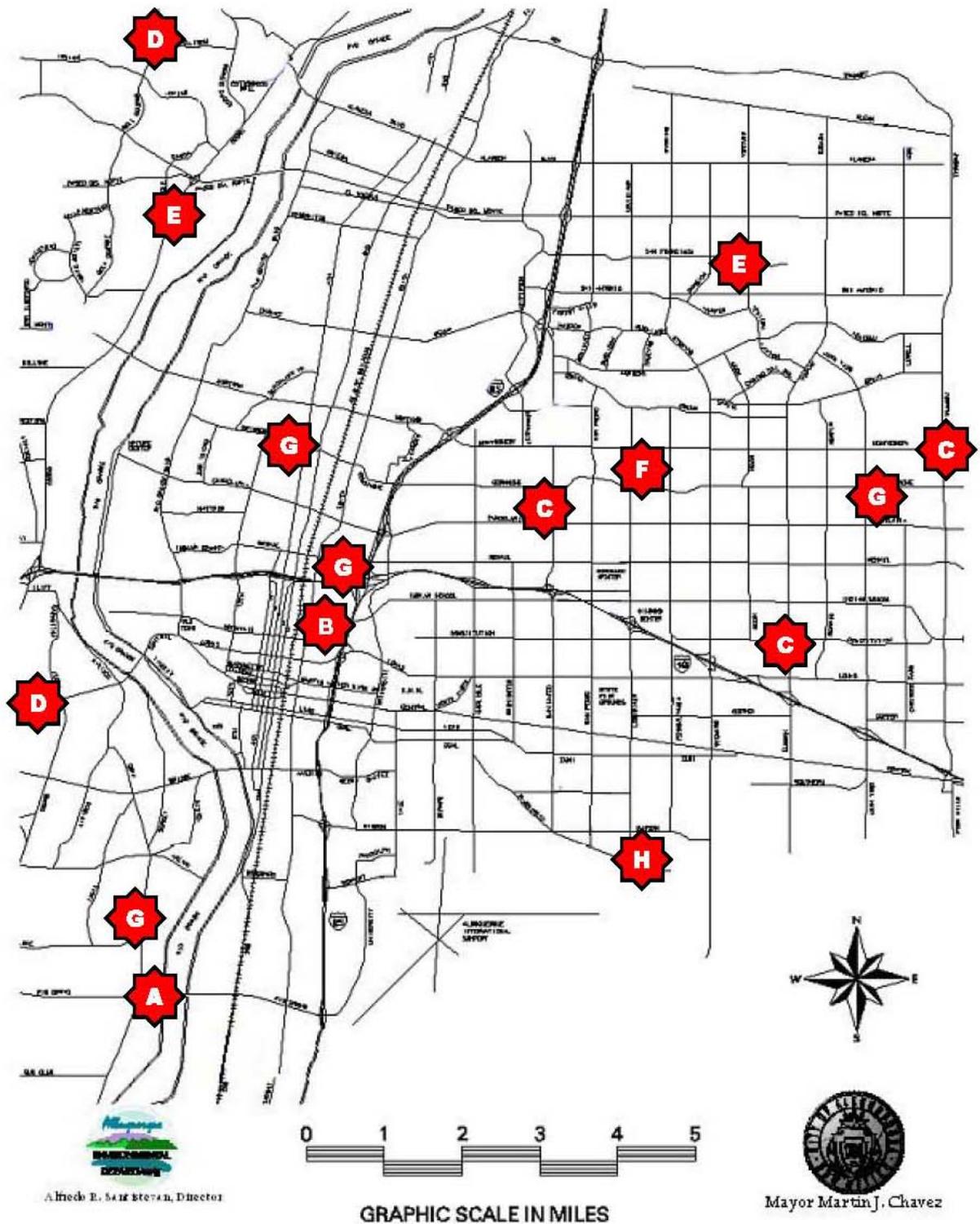


Figure 9.0 XRT Commercial Drivers' Education Participants Map

6.0 Lessons Learned

Although the XRT is a good learning tool, students in this age group were not as enthusiastic about playing the game as much as adults who were introduced to the game in demonstrations. The local newspaper; the “Albuquerque Journal” coordinates a journalism intern program called YES – Youth Express. Two high school seniors working as interns in the YES program volunteered to critique the XRT and provide comment for this report.

“When I first looked at the case for the XRT (eXtraordinary Road Trip), I was expecting to be playing a ridiculous game that would drive me mad. I definitely got what I expected.

The XRT is a great game to play with your computer muted; cars in the game will be driving along and constantly honking at nothing in a very unrealistic manner. The game will also verbally give you instructions while the same instructions are written at the bottom of the screen, just adding to the noise and annoyance. Though air quality is an important issue, this computer game is not a way to teach people how to keep the air clean. The only goal in the game is to make the air quality healthy, but there are no real obstacles or demons that need to be fought in order to do so. Granted, there are quizzes that allow the player to obtain points in this game, they are all simple true or false questions that don't even take any real brain power. Now granted, I've never enjoyed playing computer or video games, but I would much rather play one of the games I see my little brother playing than the XRT.

This game would be excellent and mildly entertaining in a driver's ed class, but apart from that, there is a slim to none chance that a typical teen will wake up on a Saturday morning and play XRT. This game is not the next video game craze; it won't be replacing Halo anytime soon.” Kait W. YES Intern

“It is a keen way to educate people. The quiz definitely is educational, although with some of the questions the timing is too short. It does tell people how somebody could make their car/driving habits better, but after awhile, the player can just check for the same old wrong boxes and fix them. It gets pretty repetitive, not in the quiz, but in the processes. Take the quiz until you can't answer one; fix everybody until you have to take the quiz. The only thing is that I'm afraid it might not keep the attention of an older teen audience. But for younger teens, ones who might have just started driving, it might work.” Robert J. YES Intern

Additionally, the XRT was programmed to store the game initiated by any number of players for continuation at a later time. This presents a problem when integrating the XRT into library or community center computers. Library policies prohibit storage or internet downloads because of security or data storage issues. Initially, Division staff approached the XRT programming contractor Fluid Entertainment to evaluate potential programming changes to the game. However, due to programming cost considerations, City of Albuquerque Information Service Division staff developed a simple program to delete the stored games when the computers are turned off when the facility closes. In the coming months of 2007, the XRT – eXtraordinary Road Trip will be available for play at all 17 Albuquerque/Bernalillo County Libraries and at the 24 City of Albuquerque Community Centers.

7.0 Success

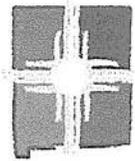
The project was kicked off in late September 2006 and the last demonstration took place in mid-December. In four months, 21 presentations were given at 11 public schools, the county juvenile detention center, and one foster treatment center. Approximately 570 students attended these demonstrations. Demonstrations were also provided to the commercial driving schools, where 1,730 XRT compact disks were delivered. These disks will have been distributed to the students attending all private and public high schools in Bernalillo County. XRT disks have also been distributed during the grand opening of the West Mesa Community Center as the initiation of the game at the libraries and community centers.

Supplies of knap sacks and water bottles have been depleted during hands-on demonstrations. XRT compact disks and pens are in fair supply and will be used to continue promotion of the project. In early 2007, AQD staff will be distributing XRT disks to community centers operated by Bernalillo County for access in unincorporated areas of the County. The Albuquerque Journal may also promote the project in an YES – Youth Express editorial in a Tuesday Journal at a later date in 2007, so we may experience a surge of interest in the winter or early spring.

Overall, promotion of the XRT – eXtraordinary Road Trip has been successful and student feedback has been warm, but not overly enthusiastic. The comments provided by the YES interns were not voiced uniformly by all student participants but were provided in writing and were included in this report. Students as a whole are sophisticated game players and given the technology of today's software programs, the XRT may seem simple in comparison.

Staff considers the XRT as a starting place towards learning more about the connection between air quality and mobile source emissions for both new and experienced drivers. As fuels become more expensive and global warming trends are better understood, the XRT will find a place as an educational resource to demonstrate how safety, fuel conservation, and air quality can coexist. Staff recommends that this program be considered as an on-going tool in drivers' education programs nation-wide. The Division will continue to evaluate new and improved methods toward delivering this and other educational opportunities to communicate air quality issues to the community.

Article A
Letter of Recommendation to
Licensed Commercial Drivers' Education Schools



New Mexico DEPARTMENT OF
TRANSPORTATION
 MOBILITY FOR EVERYONE

October 30, 2006

Albuquerque Elite School of Driving
 Roxanne Correa
 3765 Isleta Blvd SW
 Albuquerque, NM 87105

Dear Ms. Correa:

The purpose of this letter is to introduce and recommend your review and use of software educational materials provided at no cost to you by the City of Albuquerque Environmental Health Department's Air Quality Division. Ms. Therese Martinez-Loner demonstrated and provided the Traffic Safety Bureau with the XRT – the eXtraordinary Road Trip educational software. The software provides an interactive experience that combines safe driving strategies with resource conservation and environmental measures, three timely and appropriate concepts for new drivers.

We cannot require its use in any State of New Mexico driver's education training courses. However, the software has value in providing new drivers with information and education that enhances what is taught in approved private and public driver's education programs taught in New Mexico.

Please review the information and provide any feedback to Ms. Martinez-Loner at 768-1970 or tloner@cabq.gov. You may contact me at 505-827-3200 if you have any questions or concerns.

Sincerely,

Franklin Garcia
 Franklin Garcia
 Staff Manager
 Traffic Safety Bureau

Enclosure

Bill Richardson
 Governor

Rhonda G. Faught P.E.
 Cabinet Secretary

Commission

Johnny Cope
 Chairman
 District 2

David Schutz
 Vice Chairman
 District 5

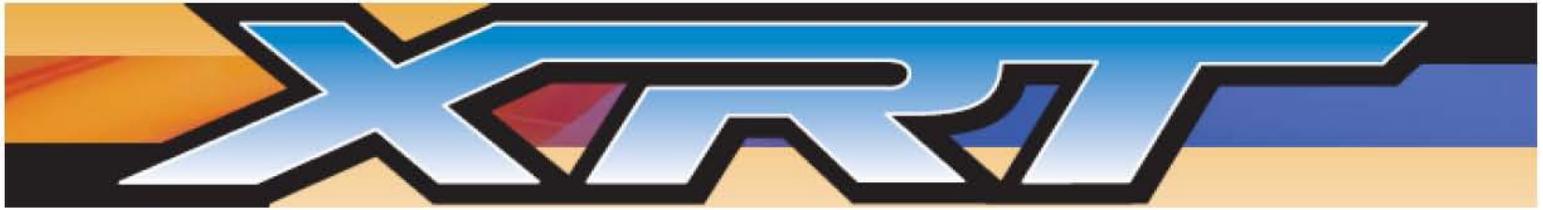
Gregory T. Ortiz
 Secretary
 District 6

Norman Assed
 Commissioner
 District 3

Jim Franken
 Commissioner
 District 4

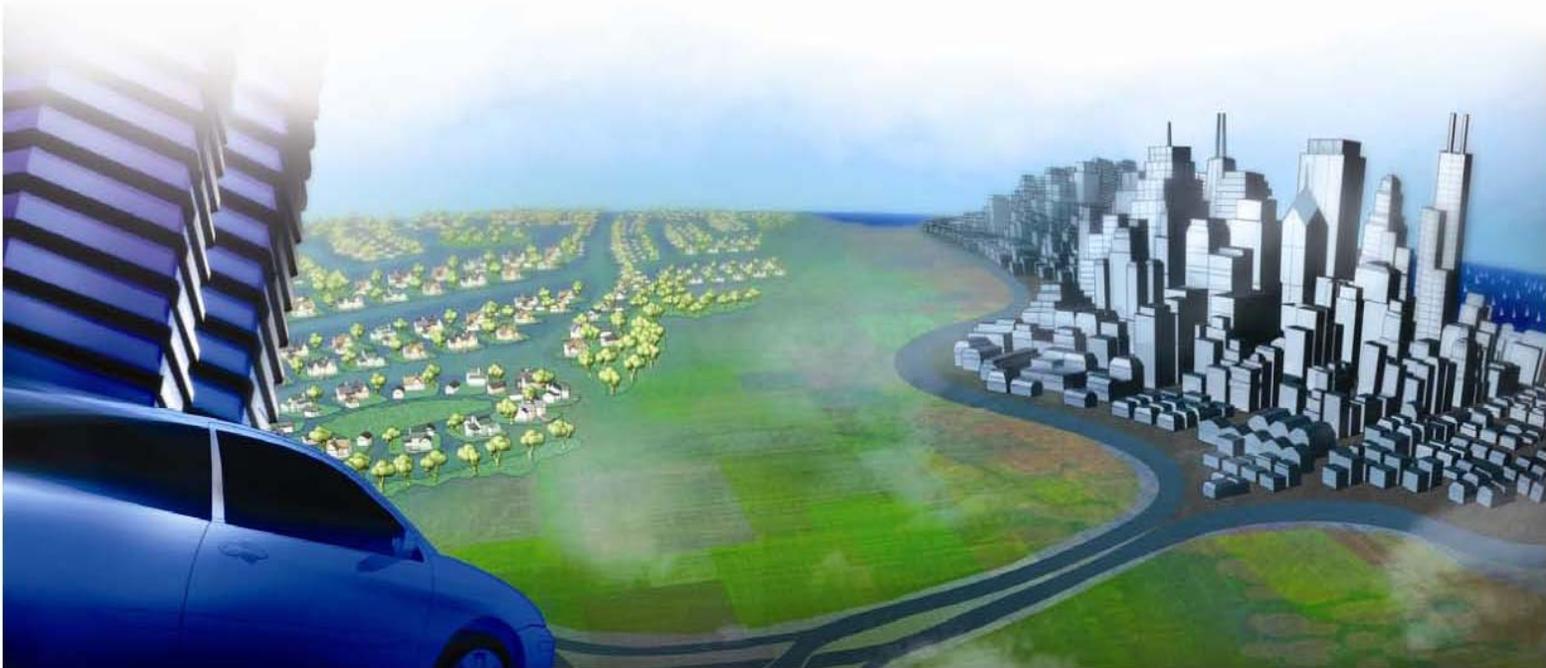
John L. Hummer
 Commissioner
 District 1

Article B
XRT – eXtraordinary Road Trip Poster



eXtraordinary Road Trip

A TRANSPORTATION & AIR QUALITY EDUTAINMENT EXPERIENCE



**BE AN ECO-DRIVER, WE'LL ALL BREATHE EASIER!
XRT IS A DRIVING EXPERIENCE THAT TAKES YOU TO AN URBAN,
SUBURBAN, OR HIGHWAY ENVIRONMENT TO MAKE
POSITIVE CHANGE TO OUR WORLD.**

PLAY THE QUIZ! TEST YOUR SKILLS! LEARN HOW TO IMPROVE AIR QUALITY!

GET YOUR **FREE CD OF THE XRT FOR MAC OR PC
CONTACT THE AIR QUALITY DIVISION**



Martin J. Chávez, Mayor

**CALL 768-1970
City of Albuquerque
Environmental Health Department
Air Quality Division**



**Alfredo R. Santistevan
Director**

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TTY users please call the New Mexico Relay at 1-800-659-8331.