TECHNOLOGY AND TRIBAL TRANSPORTATION IN RURAL NEW MEXICO

Presented by
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New Mexico

- a rural state covering 121,356 square miles with a population of 1.9 million.

- There are only three urban communities in the state. Albuquerque, Santa Fe and Las Cruces. However these communities comprise over 1/3 of the state’s total population.
New Mexico

- A per square mile population density of 16 persons (ranked 45th in the U.S. ranked ahead of only North Dakota, South Dakota, Montana, Wyoming and Alaska).

- 9.8% of the population of the state are American Indian. This includes 19 pueblos, the Jicarilla and Mescalero Apache and portions of the Navajo Nation.
23 rural public transit providers operating in the state.

Over 75% of these systems operate demand responsive systems.

These systems provided 1,609,299 passenger trips in 2007.

The state currently provides no funds to support public transportation.
Is the largest of the nineteen pueblos in the state with a population of 12,069 persons and a reservation area covering 463,300 acres (724 square miles).

Over 94% of this population are tribal members. The population of the pueblo is young with 66.5% of the total being under the age of 40.

The pueblo is remote and isolated from the mainstream culture of the state located 150 miles from Albuquerque, 200 miles from the state capital of Santa Fe and 45 miles from the nearest city of Gallup. This isolation from the mainstream of the state has allowed the pueblo to maintain their unique language and culture.

This isolation has also had a significant and adverse impact on the pueblo.
There has been no economic or industrial development within the reservation. As a result:

- The unemployment rate consistently exceeds 60% of the workforce each year.
- In excess of 52% of the population of the pueblo live in poverty.
- 25% of the citizens have no consistent access to dependable transportation.
- Over 50% of the residents living in substandard housing.
There have been a number of significant challenges to providing transportation in such a remote tribal community. These include:

- Remoteness of the pueblo from other areas of the state.

- Distances required be traveled to connect the community members with employment opportunities, education and health care outside of the reservation. Many tribal residents travel daily to Gallup for employment and education. A round trip distance of 90 miles.

- Significant poverty limits fare levels and the availability of local match to support the program.

- An increased number of persons with disabilities and mobility limitations requiring specialized transportation (10% of the population have disabilities and/or impairments).
ZEE Inc. is a non-profit organization begun in 1989 to provide employment and independent living services for persons with disabilities within the Zuni reservation.

We soon realized that we could not provide such services without developing transportation support for such individuals.

To address this unmet need we began a demand responsive public transportation program in 1994 with a staff of two. A dispatcher and a driver and two vehicles.
This transportation program currently provides 50,000 trips annually and travels over 225,000 miles each year.

The system provides 8,000 vehicle hours.

The cost per trip averages $2.75, with .25 trips per vehicle mile, 5.75 trips per hour and a cost of $15.80 per vehicle hour.

Our fleet now consists of 15 vehicles with the oldest being a 2000 vehicle with in excess of 300,000 miles.
In 2000, The New Mexico Department of Transportation implemented the Client Referral, Ridership and Financial Tracking System (CRRRAFT). This system was designed to provide a common mechanism for tracking ridership, fares collected and reporting expenditures of all transit providers in the state.

This system combines ridership reporting and expenditure reporting into a single comprehensive system.

The system is internet based requiring transit providers to login and use the database remotely.
Transit Technology

- Such a system requires high speed internet connections for transit systems to access the database.

- The system also piloted an on-board equipment system to include GPS, PDAs and a smart card used by passengers.

- PDAs are synced with CRRAFT system and ridership information downloaded. This system if worked as designed significantly reduced manual entry by the driver and administrative staff completing data input.
Technology Barriers

- DSL speed internet connections not available in much of rural New Mexico. This required us to develop an alternative to dial up to access the system. That alternative was satellite based internet service.

- PDAs and other on-board equipment was prone to malfunction due to the road and weather conditions. When malfunctions occurred manual data entry was required to track rides, mileage, pickup and drop off locations and other information managed by the on-board system.
Where We Are Now

- The state continues to require transit providers to use the system.

- Much of the on-board equipment no longer functions and we have returned to paper system with the drivers recording rides, mileage, fares and related information and data input staff completing the entry into the database.

- The long term of this system remains a “work in progress”
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