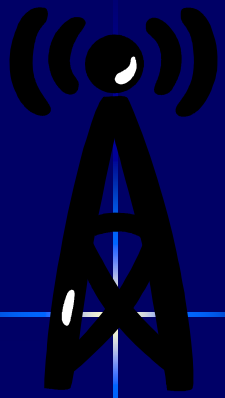
Dorothy to the Wizard: "Can You Hear Me Now?"

An Innovative Approach to Providing Public Safety and Intelligent Transportation Systems (ITS) Communications in Rural Kansas

What is 800 MHz?

- Radio frequency licensed by KDOT from FCC
- Replaced low VHF
- Low VHF was great in the Sixties...just like Leslie
- Did not meet KDOT's needs as we moved into the 1990s



1990

Kansas Department of Transportation (KDOT)

- Identifies need for statewide communication system
- Construction and maintenance activities statewide, especially for rural areas
- System was based on a trunked 800 MHz system

1992

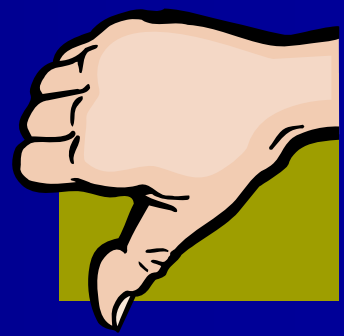
- KDOT partnered with the Kansas Highway Patrol for legislative approval for expenditure
- Obtained 14-year program of implementation at a cost of $36 million

Problems with Local Entities

- Zoning for Tower Sites
- Acquiring the Right Location
- Resistance to Not Having the Tower in Their Backyard
- Impact of the 1996 Federal Telecommunication Act

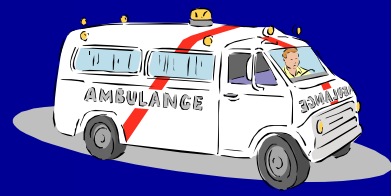
Private Entities

- Request for access to the 800 MHz system for commercial purposes
- KDOT denied access, but didn't want to limit options to the rural community



Rural Public Partners Want Access

- Rural Transit Providers
- Local Emergency Responders
- Local Police
- Hospitals
- County Agencies



Problem for Rural Public Partners

- Limited Budget
- Cheaper to purchase a radio from RadioShack® for the police
- Radio can not communicate with other public safety partners

Rural ITS Success Factor

While not wanting to incur any extra cost, KDOT recognized the critical success factor for rural ITS application was a statewide interoperable communication system.

Hoisington Tornado

Kansas acknowledged the need for interoperable communication systems, not only for the urban but more important in the rural.

Columbine Shootings

September 11, 2001

Interoperability

Backbone of such interoperable communication system was installed in KDOT's own maintenance backyard—the 800 MHz system.

Providing Interoperability

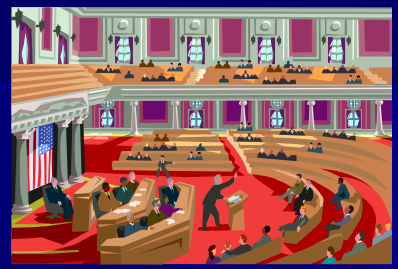
- KDOT wanted to provide an interoperable communication backbone for local governmental entities especially in rural areas.

- But how?

Providing Interoperability

- Hired a consultant for a conceptual design for providing the 800 MHz to both public and private sectors.
- Go from “No” to “Yes.”

2004 Legislature



- KDOT worked to have legislative approval and passage of law to allow tower accessibility by non-KDOT entities.
- New legislation allowed for equipment leasing programs for government/public safety users.

2004 Legislature

- Passed bonding authority
- Allow KDOT to provide an equipment leasing program to public safety users so they can afford the cost of access to the 800 MHz
- Allow private sector to pay commercial rate for a lease on KDOT towers

Kansas Statutes Annotated 75-5073

- Definitions
- Establishing Prices for Leasing Communication Equipment
  - Governmental entities recover actual incremental costs of administration, etc.
  - Prices for non-governmental agencies at prevailing rates
- Revolving Fund
- Issuance of Bonds
- Administrative Rules

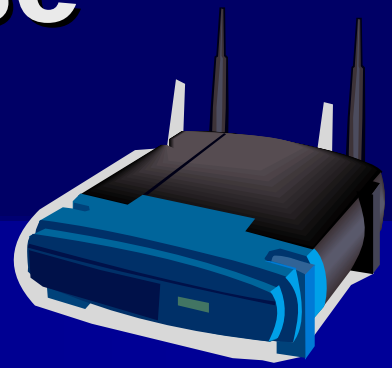
Kansas Administrative Regulations 36-41-1 et seq.

- Provide a strong legal and operational structure
- All entities have the same access to either tower or equipment leasing opportunities

Tower Lease Agreements

- Cover critical operation issues
- Insurance requirements
- Requires engineering assessment for structural and spectrum interference
- Private or governmental

Equipment Lease Agreements



- Equipment leased to governmental entities only
- KDOT provides maintenance
- Puts money back into the revolving fund for future equipment purchases

Status

Project just getting started this summer

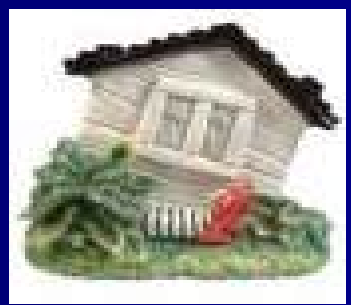
- 1 signed agreement for private access
- 4 possible private access agreements
- Working with 5 public entities for access
- Working with several counties, a MPO and state agencies for equipment leases.

Need for Redundancy

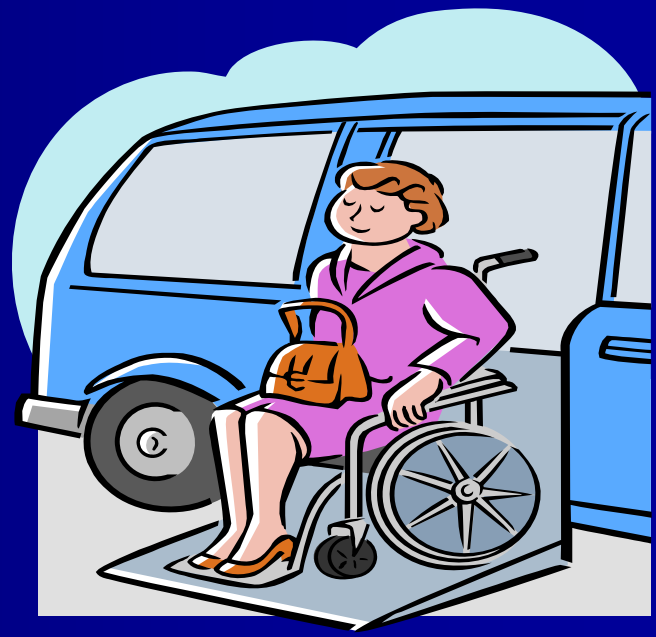
KDOT negotiated with its fiber vendor to allow the 800 MHz system to connect with the statewide fiber system.

Unlimited Opportunities

- Coordinate local and rural emergencies
- Another communication infrastructure



Automated Vehicle Location (AVL) for Rural Transit



Rural ITS Program

Rural transit projects based on the 800 MHz and fiber will have the ability to provide dispatch and fleet management in rural corridors providing better services and mobility to rural Kansas.

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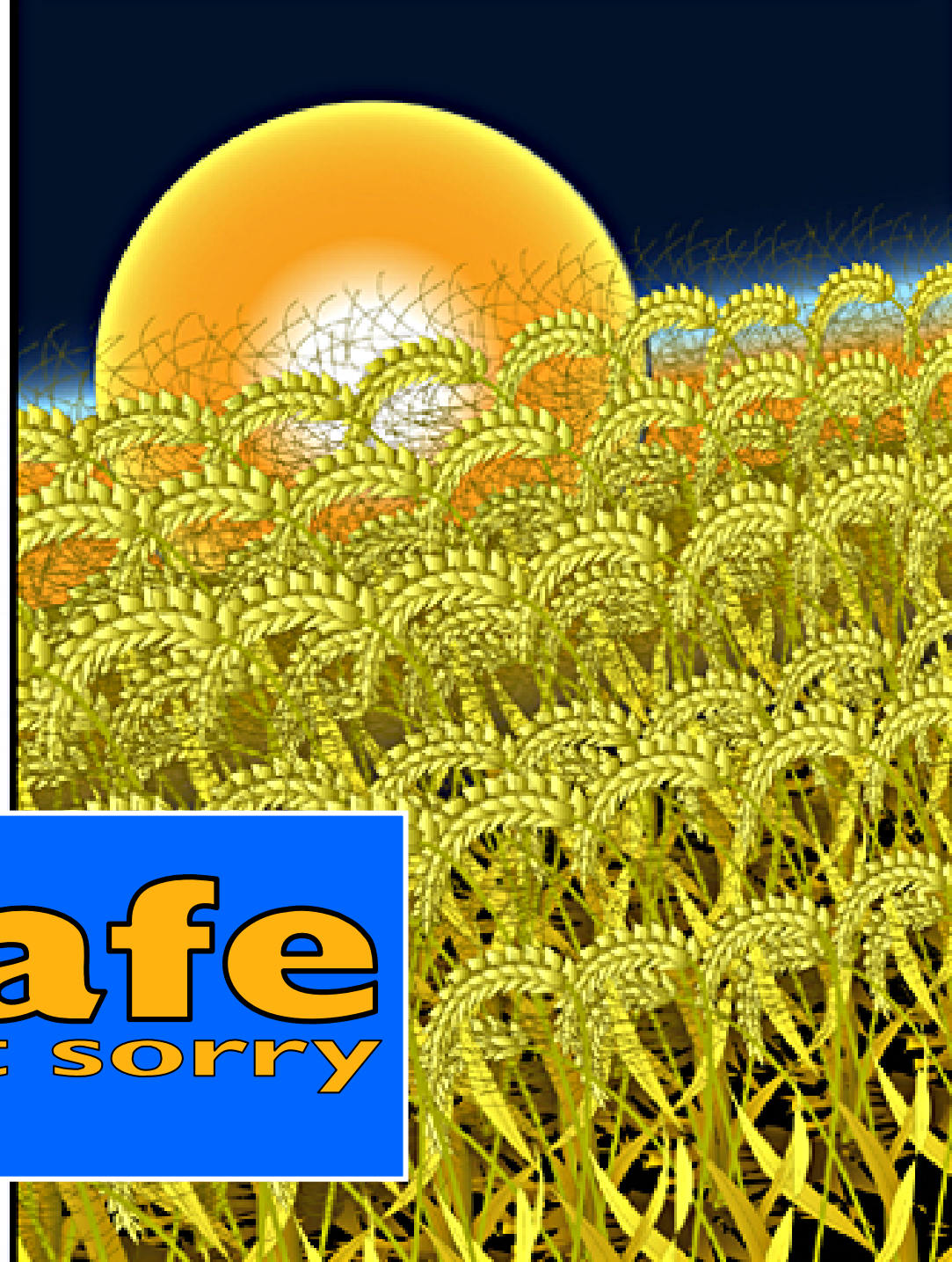

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KANSAS

KANSAS DRIVING

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not sorry