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16. Abstract <p align="center">The two Geographic Information System (GIS) databases created as part of Research Project 0-4007, <i>The Role of Rural Rail Transportation Districts in Texas</i> are meant to provide Texas Department of Transportation (TxDOT) officials with a ready reference to the location of Rural Rail Transportation Districts (RRTDs) in Texas and the location of abandoned and existing rail lines within the state.</p> <p align="center">The two GIS databases included in this product are:</p> <ol style="list-style-type: none"> 1) Rural Rail Transportation Districts, and 2) Texas Railroad System. <p>This manual describes the features within each of the two GIS databases.</p>					
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TEXAS RURAL RAIL TRANSPORTATION DISTRICTS: GIS INFORMATION MANUAL

**Research Project 0-4007
Product 4007-P2**

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Texas Department of Transportation

Prepared by:

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August 2001

DISCLAIMER

The data related to Rural Rail Transportation Districts in Texas is current as of September 1, 2001. The accuracy of the information provided in the Texas railroad system GIS database represents the research team's interpretation and understanding of the railroad operators and system in Texas.

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The research team would also like to thank Mr. John Helsley of Rail District Advisors, Inc. for his regular updates of Rural Rail Transportation District formation and activity around the State.

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SECTION I. OVERVIEW OF RURAL RAIL TRANSPORTATION DISTRICTS IN TEXAS

At the time this research was completed, 16 Rural Rail Transportation Districts (RRTDs) existed in Texas, with another three near development (possibly by the end of 2001). Initially created to preserve rail infrastructure and service in rural areas of Texas, RRTDs are also becoming increasingly involved in economic development activities such as constructing new spur lines to serve industrial parks or warehousing facilities. The recent growth in the number of RRTDs that are being formed makes knowledge of their location and the adjoining rail and highway infrastructure important to transportation planners at both the state and local levels.

In addition to the knowing the location of RRTDs, it is also important for transportation planners to know where other light traffic density rail lines are located that may have the potential to be abandoned in the future and the location of rail rights-of-way that have been abandoned in the recent past. Counties in these areas could potentially form RRTDs in order to keep existing lines in service or rebuild along the abandoned rail corridors. The continued operation of rail lines and corridors within rural communities can greatly affect transportation activities by requiring additional safety devices at highway-railroad intersections or even construction of grade separations that can dramatically change the character of the city. Loss of rail service, on the other hand, can alter the way shipments are moved in a region by leaving trucks as the only option, putting a heavier burden on the existing highway transportation system.

This document describes the two GIS databases created for TxDOT Research Project 0-4007, *The Role of Rural Rail Transportation Districts in Texas*. The GIS databases represent Research Product 4007-P2. The two GIS databases are:

- 1) Rural Rail Transportation Districts, and
- 2) Texas Railroad System.

Sections [II](#) and [III](#) describe each of these databases and their features. It is hoped that these GIS tools will be useful in helping planners incorporate the rail mode into overall transportation planning.

SECTION II. RURAL RAIL TRANSPORTATION DISTRICTS

1. File Description

Texas Rural Rail Transportation Districts (RRTDs) are sub-divisions of Texas state government whose boundaries are contiguous with those of the county or counties that pass a resolution to form such a specific district. The RRTD database uses county GIS shapefiles from the U.S. Department of Transportation, Bureau of Transportation Statistics (BTS). Each RRTD and its constituent counties are identified by name.

The following [table](#) lists the current and proposed RRTDs in Texas as well as the counties participating in each District. Bexar county could potentially be part of two separate RRTDs: a multi-county district and a single-county district.

<i>Current Rural Rail Transportation Districts</i>	
RRTD	COUNTY
Burnet County	Burnet
Calhoun County	Calhoun
Centex (5 Counties)	Brown, Comanche, Erath, Hood, Johnson
Deep East Texas (12 Counties)	Angelina, Houston, Jasper, Nacogdoches, Newton, Polk, Sabine, San Augustine, San Jacinto, Shelby, Trinity, Tyler
Ellis County	Ellis
Fannin County	Fannin
Gulf Coast (2 Counties)	Jackson, Wharton
Gulf Link (2 Counties)	Brazoria, Fort Bend
Matagorda County	Matagorda
North Central (2 Counties)	Collin, Grayson
North Texas (2 Counties)	Archer, Wichita
Northeast Texas (NETEX) (4 Counties)	Franklin, Hopkins, Hunt, Titus
Nueces County	Nueces
South Orient (11 Counties)	Brewster, Coleman, Crane, Crockett, Irion, Pecos, Presidio, Reagan, Runnels, Tom Green, Upton
South Texas (3 Counties)	Bexar, Karnes, Wilson
<i>Potential Rural Rail Transportation Districts</i>	
RRTD	COUNTY
Rio Grande Valley (3 Counties)	Cameron, Hidalgo, Willacy
San Patricio County	San Patricio
Bexar County	Bexar

The database includes 16 RRTDs, of which three were formed in the past year. Another three are listed as potentially forming by the end of 2001. The GIS database created by Texas

Transportation Institute (TTI) researchers includes the most current information available to the team at the time of development.

Data Sources

The list of current and potential RRTDs was created based upon research collected during Research Project 0-4007. This information was implemented into a GIS database using the BTS's National Transportation Atlas Databases 1997 (NTAD 1997) County (1:100,000 base scale) database.

Coordinate System

Projection: Geographic
Units: Decimal Degrees
Datum Name: North American Datum 1983 (NAD83)
Ellipsoid Name: GRS1980

File Format

Files developed by TTI and submitted to TxDOT are in the Environmental Systems Research Institute (ESRI) shapefile (.shp) format and were created in the ArcView Version 3.2a software package.

File Naming Convention – Rural Rail Transportation District polygons

- 1) Statewide RRTDs: RRTD_State.shp; .shx; .dbf; .prj
- 2) RRTDs TxDOT District: RRTD_<TxDOT District Abbreviation>.shp; .shx; .dbf; .prj

TxDOT District Abbreviations:

- | | |
|------------------------|-----------------------|
| ▪ ABL – Abilene | ▪ LRD – Laredo |
| ▪ AMA – Amarillo | ▪ LBB – Lubbock |
| ▪ ATL – Atlanta | ▪ LFK – Lufkin |
| ▪ AUS – Austin | ▪ ODA – Odessa |
| ▪ BMT – Beaumont | ▪ PAR – Paris |
| ▪ BWD – Brownwood | ▪ PHR – Pharr |
| ▪ BRY – Bryan | ▪ SJT – San Angelo |
| ▪ CHS – Childress | ▪ SAT – San Antonio |
| ▪ CRP – Corpus Christi | ▪ TYL – Tyler |
| ▪ DAL – Dallas | ▪ WAC – Waco |
| ▪ ELP – El Paso | ▪ WFS – Wichita Falls |
| ▪ FTW – Fort Worth | ▪ YKM – Yoakum |
| ▪ HOU – Houston | |

2. Data Dictionary

1. COUNTY – County designation (String)

2. TXDOT – TxDOT District designation (String)

- Abilene
- Amarillo
- Atlanta
- Austin
- Beaumont
- Brownwood
- Bryan
- Childress
- Corpus Christi
- Dallas
- El Paso
- Fort Worth
- Houston
- Laredo
- Lubbock
- Lufkin
- Odessa
- Paris
- Pharr
- San Angelo
- San Antonio
- Tyler
- Waco
- Wichita Falls
- Yoakum

3. RRTD – Rural Rail Transportation District designation (String)

- Burnet County
- Calhoun County
- Centex
- Deep East Texas
- Ellis County
- Fannin County
- Gulf Coast
- Gulf Link
- Matagorda County
- North Central
- North Texas
- Northeast Texas
- Northwest Texas
- Nueces County
- South Orient
- South Texas
- *Rio Grande Valley
- *San Patricio County
- *Bexar County

*Potentially forming before the end of 2001

SECTION III. TEXAS RAILROAD SYSTEM

1. File Description

The rail system in Texas has undergone significant changes over the past twenty years. Since 1980, the number of Class I railroads has decreased from seven to three, and the rail system has decreased by approximately 2,800 miles due to abandonments. Currently approximately 40 shortline railroads operate over 2,000 miles of track.

The presence of active and inactive rail lines not only affects the activities of RRTDs, but also the activities of other transportation modes throughout the state. This GIS database is designed to provide TxDOT and local officials with both the location and attributes of existing and abandoned rail lines in Texas.

Data Sources

The NTAD 1997 Rail100K (1:100,000 base scale) database from the U.S. DOT Bureau of Transportation Statistics (BTS) provided the shapefiles for the rail lines used in this database. The research team gathered information from several additional sources to update the database in order to create the most accurate GIS database of the Texas rail system as possible.

Coordinate System

Projection:	Geographic
Units:	Decimal Degrees
Datum Name:	North American Datum 1983 (NAD83)
Ellipsoid Name:	GRS1980

File Format

Files developed by TTI and submitted to TxDOT are in the ESRI shapefile (.shp) format and were created in the ArcView Version 3.2a software package.

File Naming Convention – Texas Rail System polylines

- 1) Statewide Rail System: Rail_State.shp; .shx; .dbf; .prj

2) Rail System by TxDOT District: Rail_<TxDOT District Abbreviation>.shp; .shx; .dbf; .prj

TxDOT District Abbreviations:

- | | |
|------------------------|-----------------------|
| ▪ ABL – Abilene | ▪ LRD – Laredo |
| ▪ AMA – Amarillo | ▪ LBB – Lubbock |
| ▪ ATL – Atlanta | ▪ LFK – Lufkin |
| ▪ AUS – Austin | ▪ ODA – Odessa |
| ▪ BMT – Beaumont | ▪ PAR – Paris |
| ▪ BWD – Brownwood | ▪ PHR – Pharr |
| ▪ BRY – Bryan | ▪ SJT – San Angelo |
| ▪ CHS – Childress | ▪ SAT – San Antonio |
| ▪ CRP – Corpus Christi | ▪ TYL – Tyler |
| ▪ DAL – Dallas | ▪ WAC – Waco |
| ▪ ELP – El Paso | ▪ WFS – Wichita Falls |
| ▪ FTW – Fort Worth | ▪ YKM – Yoakum |
| ▪ HOU – Houston | |

2. Data Dictionary

1. COUNTY – County designation (String)

2. TXDOT – TxDOT District designation (String)

- | | |
|------------------|-----------------|
| ▪ Abilene | ▪ Laredo |
| ▪ Amarillo | ▪ Lubbock |
| ▪ Atlanta | ▪ Lufkin |
| ▪ Austin | ▪ Odessa |
| ▪ Beaumont | ▪ Paris |
| ▪ Brownwood | ▪ Pharr |
| ▪ Bryan | ▪ San Angelo |
| ▪ Childress | ▪ San Antonio |
| ▪ Corpus Christi | ▪ Tyler |
| ▪ Dallas | ▪ Waco |
| ▪ El Paso | ▪ Wichita Falls |
| ▪ Fort Worth | ▪ Yoakum |
| ▪ Houston | |

3. RRTD – Rural Rail Transportation District designation (String)

This field indicates the Rural Rail Transportation District in which it is located. The following lists the current and potential RRTDs in Texas.

- Burnet County
- Calhoun County
- Centex
- Deep East Texas
- Ellis County
- Fannin County
- Gulf Coast
- Gulf Link
- Matagorda County
- North Central
- North Texas
- Northeast Texas
- Northwest Texas
- Nueces County
- South Orient
- South Texas
- *Rio Grande Valley
- *San Patricio County
- *Bexar County

*Potentially forming before the end of 2001

4. OPERATOR – Abbreviated code of the current operator of the rail line (String)

5. OP_NAME – Current operator name (String)

This field provides the name of the operator. The following list provides the abbreviated code and the associated operator name.

- AATR – Austin Area Terminal
- AGCR – Alamo Gulf Coast
- ANR – Angelina & Neches River
- BLR - Blacklands
- BNSF – Burlington Northern Santa Fe
- BOP – Border Pacific
- BRG – Brownsville & Rio Grande International
- CCTA – Corpus Christi Terminal
- DART – Dallas Area Rapid Transit
- DGNO – Dallas, Garland & Northeastern
- EconoRail – Econo-Rail
- FWWD – Fort Worth & Dallas Belt
- FWWR – Fort Worth Western
- GCSR – Gulf, Colorado & San Saba
- GRR – Georgetown Railroad
- GVSR – Galveston Railroad
- KCS – Kansas City Southern
- KRR – Kiamichi Railroad
- MCSA – Moscow, Camden & San Augustine
- O/S – Out of Service
- PCN – Point Comfort & Northern
- PNR – Panhandle Northern
- PTC – Plainview Terminal
- PTRR – Port Terminal Railroad Association
- PVS – Pecos Valley Southern
- RSS – Rockdale, Sandow & Southern
- RVSC – Rio Valley Switching
- SRN – Sabine River & Northern
- SSC – Southern Switching
- SW - Southwestern
- TCT – Texas City Terminal
- TIBR – Timberrock Railroad
- TM – Texas Mexican Railway
- TN – Texas & Northern
- TNER – Texas Northeastern
- TNMR – Texas-New Mexico
- TPT – Texas Pacifico
- TSE – Texas South-Eastern
- TSRR – Texas State Railroad
- TXGN – Texas Gonzales & Northern
- TXNW – Texas North Western
- TXOR – Texas Oklahoma
- TXTC – Texas Transportation
- UP – Union Pacific
- USG – U.S. Government Utility
- WTJR – Wichita, Tillman & Jackson
- WTLR – West Texas & Lubbock

6. CLASSIFICA – TTI developed railroad classification (String)

This field contains the Surface Transportation Board (STB) classification of railroads based on annual revenue, along with several other classification categories developed. The STB classifications are defined according to 1991 dollar values.

Classification	Definitions
Abandoned	Indicates the rail line is abandoned
Class I	Indicates the annual revenue exceeds \$250 million*
Class II	Indicates the annual revenue is between \$20-250 million*
Class III	Indicates the annual revenue is less than \$20 million*
Scenic	Indicates the railroad is used for tourism only
Transit	Indicates the rail line is owned by a Transit Agency

*These revenue thresholds were set in 1991 dollars and are adjusted annually. Current limits are \$255.9 million and \$20.5 million. For more information see 49 CFR Part 1201.

7. LENGTH – Length in decimal degrees (Number, 5 decimal places)

8. LENGTH_MET – Length in meters (Number, 5 decimal places)

9. LENGTH_MIL – Length in miles (Number, 5 decimal places)

10. NOTES – Notes related to specific rail line (String)

This field was used to add comments relevant to several rail lines, including lines with pending abandonments.

11. TRAFFIC – Low traffic level indication (String)

This field provides the rail lines in Texas that experience low traffic levels, 0.1 to 4.9 million gross ton-miles per mile (MGTM/Mi). This can be used to identify potential rail line abandonment locations and, as a result, potential locations for new Rural Rail Transportation Districts.