# TxDOT Road Inventory
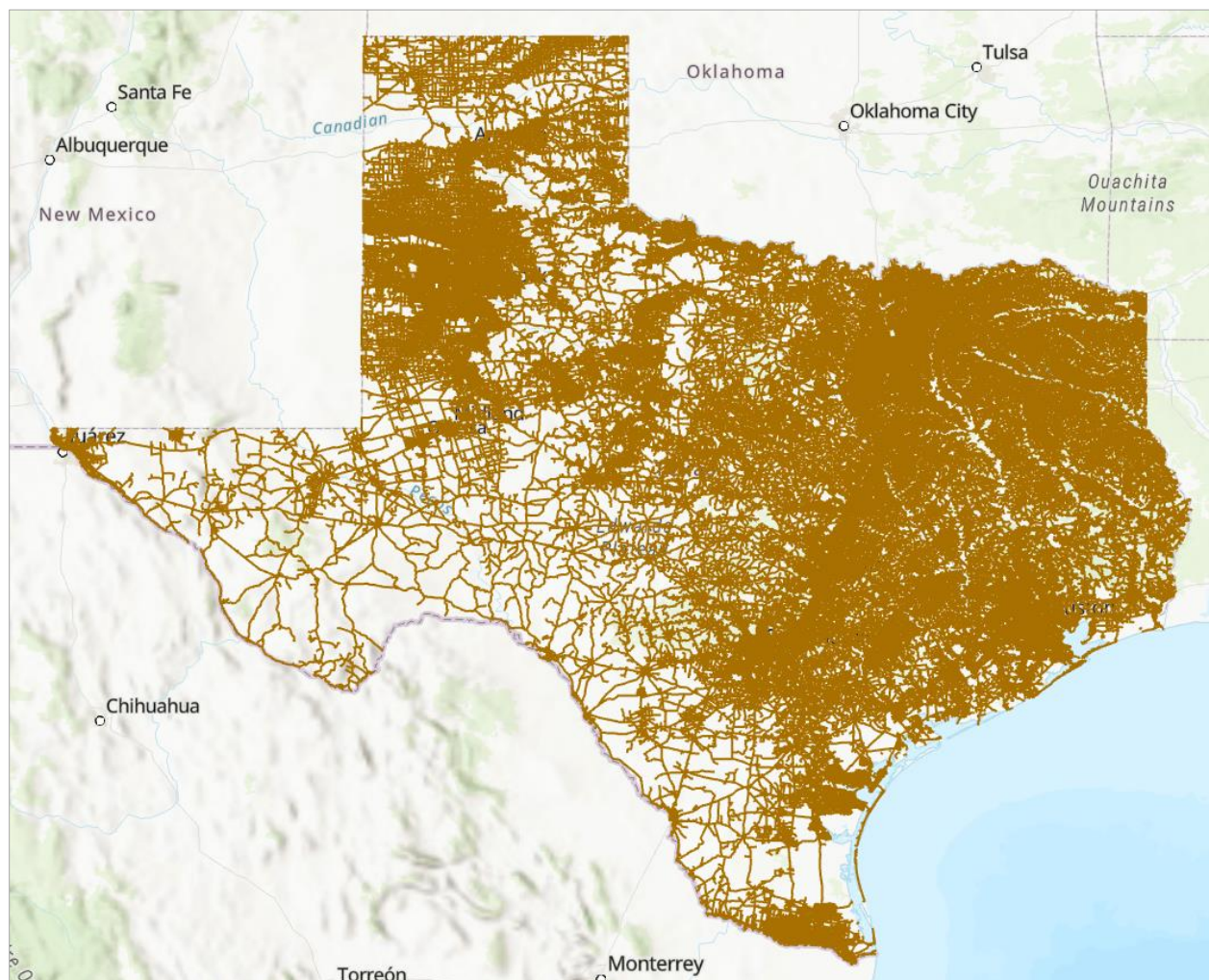
The complete copy of the TxDOT Roadway Inventory can be found in the TxDOT Open Data Portal at: https://gis-txdot.opendata.arcgis.com/datasets/TXDOT::txdot-roadway-inventory/ It is described as:

This feature class displays a polyline layer that contains roadway attributes of certain roadbeds that was routed using linear referencing tools to the TxDOT Roadway Linework (excludes supplemental roadbeds).

The TxDOT Roadway Inventory layer is a statewide dataset that has attribute information routed to TxDOT Roadway linework. By using linear referencing tools, attribute information from the TxDOT Roadway Inventory table are located on the linework. Roadway attributes such as functional system, traffic counts, surface types among many others can be found on a roadway simply by selecting it or performing a query.

This original dataset as of 12 January has 908,702 records in it.

For work on the Streamflow II project, we have been advised by Michael Chamberlain of TxDOT TPP to filter the dataset using the following criteria:

**RDBD_ID IN ('GS', 'RG', 'AG', 'BG', 'LG', 'MG', 'PG', 'SG', 'XG', 'YG', 'TG')**

**OR (RDBD_ID = 'KG' And (MED_TYPE = 0 Or HWY_DES NOT IN (0, 3, 4, 5)))**

**OR HSYS IN ('LS','CR')**

These identifiers can be understood from the roadway inventory data dictionary accessible at: https://www.caee.utexas.edu/prof/maidment/StreamflowII/Documents/TxDOT_Roadway_Inventory_Specifications_2023.pdf

| Column Name | Definition | |
|---|---|---|
| RDBD_ID | **For Centerline File**<br>AG=Right Frontage Road<br>CG=Centerline / Single Roadbed<br>GS=Grade Separated Connector *(New for YE2014)*<br>XG=Left Frontage Road | **For Roadbed File**<br>AG=Right Frontage Road<br>BG=Right Supplemental Frontage Road<br>GS=Grade Separated Connector *(New for YE2014)*<br>KG=Centerline / Single Roadbed<br>LG=Left Roadbed<br>MG=Left Supplemental Mainlane<br>PG=Left Supplemental Supplemental Mainlane<br>RG=Right Roadbed<br>SG=Right Supplemental Mainlane<br>TG=Right Supplemental Supplemental Mainlane<br>XG=Left Frontage Road<br>YG=Left Supplemental Frontage Road<br>NG=Left Managed Lane<br>OG=Left Supplemental Managed Lane<br>UG=Right Managed Lane<br>VG=Right Supplemental Managed Lane |

**RDBD_ID IN ('GS', 'RG', 'AG', 'BG', 'LG', 'MG', 'PG', 'SG', 'XG', 'YG', 'TG')**

This query identifies all roadway inventory lines except for KG, the roadway centerline.

| MED_TYPE | 0=No median<br>2=Unprotected<br>3=Curbed<br>4=Positive Barrier - Unspecified<br>5=Positive Barrier Flexible<br>6=Positive Barrier Semi-Rigid<br>7=Positive Barrier Rigid<br>99=Unknown |
|---|---|

**MED_TYPE = 0** means no median

| HWY_DES | 0=One-way-pair (couplet)<br>1=One-way<br>2=Two-way, Undivided<br>3=Two-way, Divided - Boulevard<br>4=Two-way, Divided - Expressway (partial access control)<br>5=Two-way, Divided - Freeway (full access control)<br>99=Unknown |
|---------|---------|

**HWY_DES NOT IN (0, 3, 4, 5)** HWY_DES1 not in 0,3,4,5 means that the Highway Designation is One-way or Two-Way undivided.

| HIGHWAY-SYSTEM | HSYS | On-System:<br>BF=Business FM<br>BI=Business IH<br>BS=Business State<br>BU=Business US<br>FM=Farm to Market<br>FS=FM Spur<br>IH=Interstate<br>PA=Principal Arterial<br>PR=Park Road<br>RE=Rec Road<br>RM=Ranch to Market<br>RP=Rec Road Spur<br>RR=Ranch Road<br>RS=RM Spur | On-System (continued):<br>RU=RR Spur<br>SA=State Alternate<br>SH=State Highway<br>SL=State Loop<br>SS=State Spur<br>UA=US Alternate<br>UP=US Spur<br>US=US Highway<br><br>Off-System:<br>CR=County Road<br>FD=Federal Road<br>LS=(Local) City Street<br>TL=Off-System Toll Road |
|---|---|---|---|

**HSYS IN ('LS','CR')** means City Street or County Road

The effect of this query is to select out the KG centerline from major highways but include it on the smaller roads. In ArcGIS Pro, this query is applied using Select by Attributes:

## Select By Attributes    ?  ✕

Input Rows

AustinTRIRoads

Selection Type

New selection

Expression

📁 Load   💾 Save   ✕ Remove

✓                                    SQL 🔵 ⚙

```
RDBD_ID IN ('GS', 'RG', 'AG', 'BG', 'LG', 'MG', 'PG', ↵
  'SG', 'XG', 'YG', 'TG')
OR (RDBD_ID = 'KG' And (MED_TYPE = 0 Or HWY_DES NOT IN ↵
  (0, 3, 4, 5)))
OR HSYS IN ('LS','CR')
```

☐ Invert Where Clause

This produces a slightly reduced number of roadway lines 873,293 out of 908,702, or 96% of the original dataset.

|   | 8 | Polyline M | 0 | 14045 | 153706 | 10940 | 0.3 |
|---|---|---|---|---|---|---|---|
|   | 9 | Polyline M | 0 | 1599254204 | 153722 | 1599254204 | 0.2 |
| 0 | 10 | Polyline M | 0 | 1599254875 | 153712 | 1599254875 |  |
| 1 | 11 | Polyline M | 0 | 1599254090 | 153706 | 1599254090 |  |
| 2 | 12 | Polyline M | 0 | 10844 | 153708 | 10844 |  |

≣ ▤  ◁ ▷ 873,293 of 908,702 selected

The image below shows the filtered roadways in purple and the original inventory in brown.  It can be seen that the KG line appears on all the smaller streets and roads, but is omitted from the centerline of IH-35 going over the Colorado River.

◢ ☑ TxDOT_Roadway_Filtered

◢ ☑ TxDOT_Roadway_Inventory_