

2005 Land Use Methodology

The [2005 Land Use](#) inventory was completed for Collin, Dallas, Denton, Ellis, Hood, Hunt, Johnson, Kaufman, Parker, Rockwall, Tarrant and Wise counties, where approximately 95% of all residential and commercial activities in the NCTCOG region occur.

The methodology used to create the 2005 Land Use is significantly different from the methodology that has been used in the past to develop land use data for the area. The recent improvement of appraisal district data allowed the ability to assign land use codes to individual parcels, depending on the availability and the quality of the raw data.

Appraisal data quality varies widely by county. Some counties have digital data available; others do not. NCTCOG receives annual parcel and data file updates from appraisal districts with digital data. The first step in creation of the 2005 Land Use was an evaluation of the quality of the appraisal data. The following table summarizes the results of the evaluation of the digital data from the twelve appraisal districts.

County	Availability	Quality of Data	Quality of Parcel Shapes	Notes
Collin	Y	Very good	Very good	
Dallas	Y	Very good	Very good	
Denton	Y	Good	Very good	Poor year built data
Ellis	Y	Very good	Very good	
Hood	Partial	Poor	City of Granbury only	
Hunt	Partial	Fair	Good	
Johnson	Partial	Fair	Good	Transition from CAD in process
Kaufman	Partial	Fair	Good	Poor year built data
Parker	Partial	Fair	Good - CAD file	Data ID different than Parcel ID, could not join
Rockwall	Partial	Fair	Good	City of Rockwall data better than remainder of county, poor year built
Tarrant	Y	Very good	Very good	
Wise	N	Poor	Poor	Parcels for Decatur and Bridgeport only, line work poor

For counties with digital data, each parcel was assigned a three-digit NCTCOG Land Use code based on State Land Use Codes (see Appendix A). Compared to previous years, this step greatly improved the accuracy of the land use inventory and provided a more efficient method for the generation of the land use inventory.

For counties without digital data, the [2000 Land Use](#) inventory was used as a base. A new land use layer was created utilizing recent aerial photography, NCTCOG's [Development Monitoring](#) database, and geocoded employment locations from a file purchased from Dun and Bradstreet. This required visual inspection and interpretation by NCTCOG staff.

Five of the twelve counties – Collin, Dallas, Denton, Ellis, and Tarrant – were deemed to have sufficient data to assign the NCTCOG Land Use codes without considerable staff review. These counties provided raw parcel data that easily joined to their digital geographic files (shapefiles) and allowed staff to use a table of equivalence to assign a land use code. Commercial parcels were broken down further into retail and office use based on NCTCOG’s Development Monitoring database and the 2000 Land Use layer.

The remaining seven counties – Hood, Hunt, Johnson, Kaufman, Parker, Rockwall, and Wise – required staff time to review, and in some cases, create a usable 2005 Land Use layer. Aerial photography from 2003 and 2005, NCTCOG’s Development Monitoring database, and the 2000 Land Use layer were used to examine and assign codes where the appraisal district data were lacking. Below is a synopsis of the experience with the data for each of these seven counties.

- Hood County: A thorough parcel layer was obtained from the City of Granbury. The remainder of the county had digitized parcel boundaries, which gave staff the ability to assign land use codes using aerial photography. The appraisal district is currently working with a private company to complete a parcel layer for the remainder of the county.
- Hunt County: Data from the City of Greenville were obtained with an accompanying file from a private company that is working on the remainder. The parcel shapes were good, but the data lacked completeness and staff time was required to assign land use codes.
- Johnson County: The County is currently in the process from changing CAD files to an ArcMap layer. Updates were received as the work was completed. The data were sufficient so that staff time was targeted toward the denser urban areas of the county in proximity to Burleson, Cleburne, Joshua and Alvarado.
- Kaufman County: Other than poor data regarding the year the structure was built, the parcel shapes and data received from the county were sufficient.
- Parker County: The County has used a different software package in the past and is slowly changing to an ESRI-based system. The data received could not be joined to the parcel layer. This resulted in staff review using aerial photography, NCTCOG’s Development Monitoring database, and the 2000 Land Use layer to assign land use codes.
- Rockwall County: NCTCOG’s GIS team assisted the City of Rockwall in construction of its parcel layer. The rest of the county had relatively poor data, especially in regards to the year the structure was built. Significant staff review was necessary.
- Wise County: Some shapes and data were provided by the cities of Bridgeport and Decatur. The Appraisal District also provided a substandard parcel file that needed rectification by NCTCOG’s GIS staff. Staff review was necessary to assign codes for the majority of the county.

Once NCTCOG land use codes were assigned to parcels and other shapes for all twelve counties, adjacent shapes with the same code were dissolved to create unique areas by land use. Local governments were given an opportunity to review the 2005 land use before finalization.

While the use of the parcel data improved accuracy of the data and efficiency in the production, it also resulted in some issues that complicate compatibility between the 2005 land use and prior land use inventories. The digital appraisal files that depict parcels do not have polygons for roadways. In the past, NCTCOG land use files included roadways and right-of-ways as polygons. In the 2005 Land Use layer, roadways are the void areas that resulted from the dissolving of the coded polygons. Other layers, such as a water layer, were used to further refine the coding of areas. This too makes comparisons between the 2005 Land Use inventory and previous land use inventories difficult.

The 2005 land use inventory is available summarized by city or county through an interactive query and as a downloadable digital file at: <http://www.nctcog.org/ris/demographics/landuse.asp>.

Appendix A: State Land Use Code to NCTCOG Land Use Code Table of Equivalence

State Land Use Code	Description	NCTCOG Land Use Code
A1	Res Single Family	111
A2	Res Mobile Homes	113
A3	Res Condominiums	112
A4	Res Townhomes	112
A5	Residential Condominiums	112
A6	Residential	111
B1	Res Multi-family	112
B2	Res Duplex	111
B3	Res Triplex	112
B4	Res Quadplex	112
C1	Res Vacant Platted Lots	300
C2	Commercial Vacant Platted Lots	300
C3	Rural Vacant Platted Lots	300
C4		300
C6	Vacant Exempt (ROW)	300
D1	Acreage Ranch Land	300
D2	Acreage Timberland	300
D3	Acreage Farmland	300
D4	Acreage Undeveloped	300
E1	Farm and Ranch IMPS (Res)	111
E2	Farm and Ranch IMPS(Mob)	113
E3	Farm Build EX Homestead	111
F1	Real, Commercial	121
F2	Real, Industrial	131
F3	Billboards	300
G1	Oil, Gas and Mineral Reserves	143
J1	Utilities, Water Systems	143
J2	Utilities, Gas Companies	143
J3	Utilities, Electric Company	143
J4	Utilities, Telephone Companies	143
J5	Utilities, Railroads	141
J6	Utilities, Pipelines	143
J7	Utilities, Cable Companies	143
J8	Utilities, Other	143
L1	Commercial BPP	121

State Land Use Code	Description	NCTCOG Land Use Code
L2	Industrial BPP	131
M3	Mobile Home	113
O1	Inventory - Vacant	173
O2	Inventory - Improved	173
O3	Inventory - Condominium	173
O4	Inventory - Townhome	173
O5	Inventory - Condominium	173
O6	Inventory - Duplex	173
O7	Inventory - Triplex	173
O8	Inventory - Quadplex	173
AFAC	Airport Facility	144
APR	Airport	144
AROW	Airport Right of Way	142
CITY	City	123
CITYV	City Vacant	300
CITYW	Cityw	300
CRH	Church	123
GOV	Government	123
POS	Private Open Space	171
PRK	Park	171
PROW	Private Right of Way	300
ROW	Right of Way	142
SCH	School	123
UTIL	Utilities	143
VAC	Vacant	300
UNK	UNK	300
RUN	RUN	146
VOID	Void	0
BCP	BCP	171