



**State of Tennessee  
Department of Finance and Administration  
Office For Information Resources  
GIS Services**

## **Tennessee Base Mapping Program Cost Recovery and Product Price Sheet**

Tennessee Code Annotated 10-7-506 provides the foundation for State and local government agencies to develop appropriate GIS data cost recovery policies. The following product listing and pricing structure was developed in accordance with this statute. The goal is to provide specific information on how the general public and private business can acquire and/or purchase GIS data developed through the Tennessee Base Mapping Program.

### **Background:**

The Department of Finance and Administration, Office for Information Resources (OIR) GIS Services has completed the development of a comprehensive statewide digital base map for Tennessee. The program is based on a cost share model between the State and local government partners. Initial statewide data production was completed on July 31, 2007 and the State has developed partnerships with approximately 58 counties as of January 1, 2008. The primary data products associated with this program consist of digital ortho photography, digital terrain models, and cadastral (property ownership) data, and other planimetric features.

### **Cost Recovery Policies:**

1. The data products referenced in this document reflect only a subset of the complete digital data developed through the Base Mapping Program and do not reflect the comprehensive suite of digital data provided to local government established through State contracts.
2. The State is continuing to pursue partnership development at the local level and will enter into contracts with local government for the complete set of basic data products identified in the Base Mapping Technical Specifications found at <http://gis.state.tn.us/mapping.html>.
3. Where an existing contract exists between OIR GIS Services and local government, OIR GIS Services will refer requests to obtain county GIS data to a local point of contact.
4. OIR GIS Services does not expect to receive or share in GIS revenue generated through local cost recovery efforts.
5. Multi-county data requests will be handled by OIR GIS Services irrespective of any local partnership. OIR GIS Services does not expect to share GIS revenue with local government partners.
6. OIR GIS Services will not sell any cadastral or property assessment related GIS data. The Comptroller of the Treasury is the custodian of this data and has developed a cost recovery model specific to these GIS data elements associated with the Base Mapping Program. To purchase GIS cadastral data, please contact David Tirpak at 615-401-7820.



State of Tennessee  
Department of Finance and Administration  
Office For Information Resources  
GIS Services

## **GIS Data Specifications, Formats, and Unit Cost**

### ***Initial Black and White Base Mapping Digital Orthophoto and DTM Specifications***

- The 1:30,000-scale photography was used to produce digital panchromatic (black/white) orthophoto sheets that are 1:4800 (1" = 400') scale with dimensions of 14,000' (East-West) by 8,000' (North-South). Each orthophoto has a ground pixel resolution of 2.0' x 2.0'.
- The 1:7,500-scale photography was used to produce high resolution digital panchromatic (black/white) orthophotos sheets that are 1:1200 (1" = 100') scale with dimensions of 3,500' (East-West) by 2,000' (North-South). Each final orthophoto has a ground pixel resolution of 0.5' x 0.5'.
- The digital orthophotos have a horizontal accuracy of +/- 2 pixels RMSE (4 feet @ 1"=400', 1 foot @ 1"=100') and are delivered as uncompressed GeoTIFF files.
- In addition to the uncompressed GeoTIFF files, all orthophotos for a county are compressed using the multiresolution seamless image format (MrSID). Imagery was processed using a target compression of 20:1.
- \*NOTE: All county black and white MrSID mosaic files are available for free download at <http://tngis.org>
- Associated with each 1:4800 and 1:1200 ortho photo is a digital terrain model (DTM). See Appendix A for detailed DTM specifications.

### ***Revised Color Base Mapping Digital Orthophoto Specifications***

- The 1:15,000-scale photography was used to produce digital color orthophoto sheets that are 1:2400 (1" = 200') scale with dimensions of 14,000' (East-West) by 8,000' (North-South). Each orthophoto has a ground pixel resolution of 1.0' x 1.0'.
- The digital orthophotos have a horizontal accuracy of +/- 2 pixels RMSE and are delivered as uncompressed GeoTIFF files.
- In addition to the uncompressed GeoTIFF files, all orthophotos for a county are compressed using the multiresolution seamless image format (MrSID). Imagery was processed using a target compression of 20:1.

### ***File Naming Convention and County Production Schedule***

The file naming convention for digital ortho files are as follows:

1" = 400' scale digital orthophoto sheets are named with five characters, the first two representing the county code and the next three being the 400-scale sheet number.

EXAMPLE: The ortho image file for Map Sheet 34 in Maury County would be named 60034.TIF.



**State of Tennessee  
Department of Finance and Administration  
Office For Information Resources  
GIS Services**

1" = 100' scale digital orthophoto sheets will be named with six characters, the first two representing the county code, the next three the 1" = 400' scale sheet, and the alpha character identifying the 1" = 100' scale sheet.

EXAMPLE: The ortho image file for Map Sheet 112A in Montgomery County would be named 63112A.TIF.

1" = 400' scale digital MrSID mosaic will be named with six characters, the first two representing the county code, an underscore character, and "400", denoting the 1"=400' scale mosaic.

EXAMPLE: The MrSID in Maury County would be named 60\_400.SID & 60\_400.SDW (MrSID world file).

### **GIS Product List and Itemized Cost**

The following table provides an itemized breakdown for each of the GIS Data products available through OIR GIS Services: Appendix B provides a sample breakdown of the data products by index grid, and Appendix C provides a GIS data catalog order form.

<b>Product</b>	<b>Unit</b>	<b>Unit Cost</b>
Digital Ortho Imagery	100' Map Sheet	\$5
Digital Ortho Imagery	400' Map Sheet	\$5
Digital Terrain Model	100' Map Sheet	\$5
Digital Terrain Model	400' Map Sheet	\$5
MrSID Ortho Imagery	B/W (400')	\$5
MrSID Ortho Imagery	Color (200')	\$5 x # of map sheets per county

- **OIR GIS Services will only sell these products on a county by county basis (see next page for breakdown by county). No single map sheet purchases will be allowed.**
- **The MrSID imagery fee for the Black and White B/W (400') is only associated with requests that require a CD or DVD deliverable. This imagery is available for free download at <http://tngis.org> The color MrSID imagery is not free and cannot be downloaded from this site.**

The data production efforts occurred over a ten year period. The following URL provides a statewide map of the production schedule and when the aerial photography was acquired by State contractors: [http://gis.state.tn.us/20070205\\_ProdYear\\_map.pdf](http://gis.state.tn.us/20070205_ProdYear_map.pdf)



**State of Tennessee**  
**Department of Finance and Administration**  
**Office For Information Resources**  
**GIS Services**

**MrSID Color County Mosaic Ortho Imagery Fee Schedule**

COUNTY NAME	Availability	Map Sheets	County Total
Anderson	2012	118	\$ 590.00
Bedford	2010	146	\$ 730.00
Benton	2009	143	\$ 715.00
Bledsoe	2011	134	\$ 670.00
Blount	2012	178	\$ 890.00
Bradley	2011	106	\$ 530.00
Campbell	2012	155	\$ 775.00
Cannon	2011	94	\$ 470.00
Carroll	2009	183	\$ 915.00
Carter	2012	119	\$ 595.00
Cheatham	2010	108	\$ 540.00
Chester	2009	100	\$ 500.00
Claiborne	2012	137	\$ 685.00
Clay	2011	91	\$ 455.00
Cocke	2012	144	\$ 720.00
Coffee	2011	145	\$ 725.00
Crockett	2009	96	\$ 480.00
Cumberland	2011	210	\$ 1,050.00
Davidson	2010	171	\$ 855.00
Decatur	2009	121	\$ 605.00
DeKalb	2011	109	\$ 545.00
Dickson	2010	151	\$ 755.00
Dyer	2009	165	\$ 825.00
Fayette	2009	203	\$ 1,015.00
Fentress	2011	160	\$ 800.00
Franklin	2011	163	\$ 815.00
Gibson	2009	181	\$ 905.00
Giles	2010	191	\$ 955.00
Grainger	2012	111	\$ 555.00
Greene	2012	193	\$ 965.00
Grundy	2011	114	\$ 570.00
Hamblen	2012	69	\$ 345.00
Hamilton	2011	178	\$ 890.00
Hancock	2012	78	\$ 390.00
Hardeman	2009	197	\$ 985.00
Hardin	2009	176	\$ 880.00
Hawkins	2012	164	\$ 820.00
Haywood	2009	157	\$ 785.00
Henderson	2009	164	\$ 820.00
Henry	2009	179	\$ 895.00
Hickman	2010	185	\$ 925.00
Houston	2010	78	\$ 390.00
Humphreys	2010	170	\$ 850.00



State of Tennessee  
Department of Finance and Administration  
Office For Information Resources  
**GIS Services**

Jackson	2011	102	\$	510.00
Jefferson	2012	106	\$	530.00
Johnson	2012	103	\$	515.00
Knox	2012	172	\$	860.00
Lake	2009	81	\$	405.00
Lauderdale	2009	170	\$	850.00
Lawrence	2010	182	\$	910.00
Lewis	2010	95	\$	475.00
Lincoln	2010	169	\$	845.00
Loudon	2012	87	\$	435.00
Macon	2010	95	\$	475.00
Madison	2009	169	\$	845.00
Marion	2011	163	\$	815.00
Marshall	2010	125	\$	625.00
Maury	2010	190	\$	950.00
McMinn	2011	138	\$	690.00
McNairy	2009	174	\$	870.00
Meigs	2011	93	\$	465.00
Monroe	2012	206	\$	1,030.00
Montgomery	2010	163	\$	815.00
Moore	2010	56	\$	280.00
Morgan	2012	165	\$	825.00
Obion	2009	164	\$	820.00
Overton	2011	137	\$	685.00
Perry	2010	138	\$	690.00
Pickett	2011	67	\$	335.00
Polk	2011	138	\$	690.00
Putnam	2011	137	\$	685.00
Rhea	2011	116	\$	580.00
Roane	2012	130	\$	650.00
Robertson	2010	142	\$	710.00
Rutherford	2010	196	\$	980.00
Scott	2012	162	\$	810.00
Sequatchie	2011	96	\$	480.00
Sevier	2012	184	\$	920.00
Shelby	2009	236	\$	1,180.00
Smith	2010	108	\$	540.00
Stewart	2010	150	\$	750.00
Sullivan	2012	142	\$	710.00
Sumner	2010	172	\$	860.00
Tipton	2009	157	\$	785.00
Trousdale	2010	48	\$	240.00
Unicoi	2012	74	\$	370.00
Union	2012	86	\$	430.00
Van_Buren	2011	90	\$	450.00
Warren	2011	135	\$	675.00
Washington	2012	111	\$	555.00



**State of Tennessee**  
**Department of Finance and Administration**  
**Office For Information Resources**  
**GIS Services**

Wayne	2010	221	\$ 1,105.00
Weakley	2009	181	\$ 905.00
White	2011	124	\$ 620.00
Williamson	2010	182	\$ 910.00
Wilson	2010	182	\$ 910.00



## **Appendix A: Digital Terrain Model (DTM)**

The file format for DTMs is MicroStation Version SE (DGN). This file format uses a series of attributes defining values for Level, Color, Line Style, and Weight to identify features contained in a file. Using specific values assigned to each of these four attributes, the features contained in each DTM can be uniquely identified. The following table identifies all of the unique attribute values for all potential features contained in the DTM:

A DTM file is provided for each digital ortho image at both 100' scale and 400' scale. However, each DTM used to create a 100' scale ortho image is also included in the parent 400' scale DTM.

<b>FEATURE DESCRIPTION</b>	<b>LEVEL</b>	<b>COLOR</b>	<b>LINE STYLE</b>	<b>WEIGHT</b>
FALSE MASS POINTS	4	6	0	4
MASS POINTS	5	2	0	4
WATER MASS POINTS	6	1	0	4
BREAKLINES	7	3	0	1
BREAKLINES *	7	10	0	1
BREAKLINES ON BRIDGE DECK (IN 400-SCALE AREAS) *	8	10	3	1
BREAKLINE (RR CENTERLINE)	11	6	1	2
BREAKLINE (RR CENTERLINE) *	11	6	0	1
BREAKLINE (RR CENTERLINE ON BRIDGE DECK)	10	6	3	1
ROAD CENTERLINE	15	0	3	1
ROAD CENTERLINE *	15	0	0	1
ROAD CENTERLINE ON BRIDGE DECK	18	0	3	1
DRIVE CENTERLINE (OVER 200')	19	3	2	1
DRIVE CENTERLINE (OVER 200') *	19	3	0	1
DRIVE CENTERLINE ON BRIDGE DECK	20	3	3	1
CREEK (UNDER 25')	29	7	6	1
CREEK (UNDER 25') *	29	7	0	1
RIVERS (OVER 25')	28	7	6	1
RIVERS (OVER 25') *	28	12	0	1
LAKE/POND (OVER 25')	27	1	7	1
LAKE/POND (OVER 25') *	27	1	0	1
<b>Additional Features in 100' DTM only:</b>				
EOP IMPROVED ROAD ON BRIDGE DECK *	17	4	3	1
EOP IMPROVED ROAD	16	4	3	1
EOP IMPROVED ROAD *	16	4	0	1



**State of Tennessee  
Department of Finance and Administration  
Office For Information Resources  
GIS Services**

---

*Note:*

*WORKING UNITS = 1000/1 SF/TH*

*GLOBAL ORIGIN = 0,0,0*

## **NOTES:**

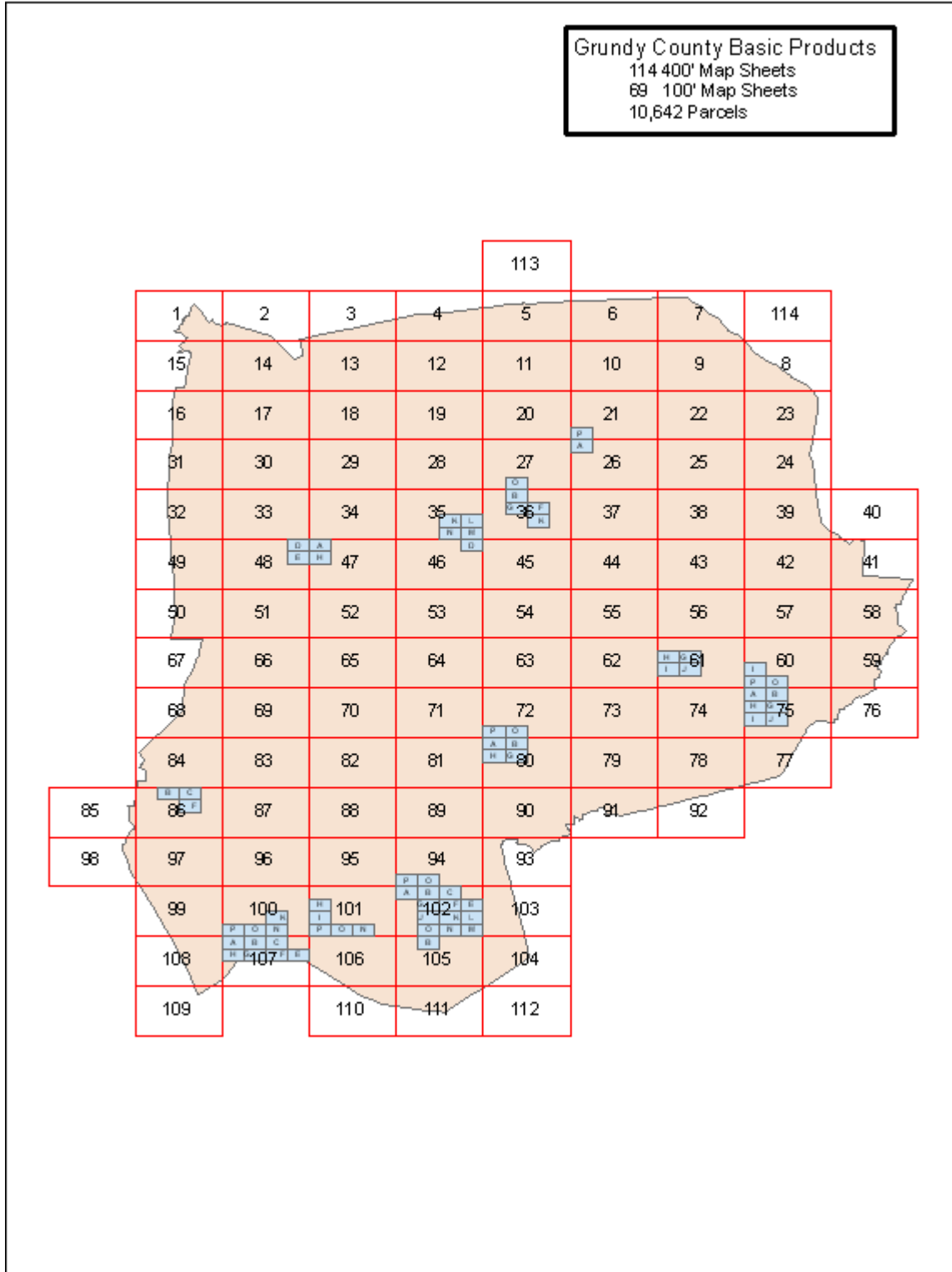
1. False Mass Points are a derived point of elevation based on the average elevation surrounding a building feature that is of significant size. The area of a building is considered depending on Map Sheet scale. For 100' scale map sheets, any structures larger than 300' x 300' (90,000 square feet or approximately 2 acres) will require the addition of a False Mass Point. For 400' scale map sheets, any structures larger than 900' x 900' (810,000 square feet or approximately 18.5 acres) will require the addition of a False Mass Point.

The level, color, line style, and weight values for the features denoted above with an \* have been altered to better improve internal quality review of the DTMs. Those marked with an \* were implemented in Year 3 and all future production efforts.



State of Tennessee  
Department of Finance and Administration  
Office For Information Resources  
**GIS Services**

**Appendix B: County Map Index Grid**





**State of Tennessee**  
**Department of Finance and Administration**  
**Office For Information Resources**  
**GIS Services**

**Appendix C: GIS Data Order Form and Disclaimer**

Date:				
Name and Organization:				
Mailing Address:				
Description and/or list of GIS data products (County names and map sheets):				
Please enter the number of map units and total cost below:				
Product	Unit	Unit Cost	Number of Units	Total Cost
Digital Ortho	100' Map Sheet	\$5		
Digital Ortho	400' Map Sheet	\$5		
DTM	100' Map Sheet	\$5		
DTM	400' Map Sheet	\$5		
MrSID	Countywide 200' scale	\$5 x # of map sheets		
Tax (9.25%)				
<b>Total Cost:</b>				

1. The State must receive payment prior to processing any data request and will accept cash or check only. No credit or debit card accepted.
2. Please make check payable to: The State of Tennessee
3. Mail the completed order form with check payment to:  
  
 Chris Meeks  
 OIR GIS Services  
 312 8<sup>th</sup> Ave. North  
 Tennessee Tower Suite 1600  
 Nashville TN 37243
4. Please contact Mr. Meeks at 615-532-0078 or email at [chris.meeks@state.tn.us](mailto:chris.meeks@state.tn.us) with questions about ordering these products.



State of Tennessee  
Department of Finance and Administration  
Office For Information Resources  
GIS Services

**PRODUCT DISCLAIMER:**

THERE IS NO WARRANTY ASSOCIATED WITH THESE DATA PRODUCTS. THE USER OF THIS PRODUCT ACKNOWLEDGES THAT THE DATA MAY CONTAIN SOME NONCONFORMITIES, DEFECTS, OR ERRORS. THERE IS NO WARRANTY THAT THE DATA WILL MEET THE EXPECTATIONS OF ANY USER'S NEEDS OR EXPECTATIONS, THAT THE USE OF THE DATA WILL BE UNINTERRUPTED, OR THAT ALL NONCONFORMITIES, DEFECTS, OR ERRORS CAN OR WILL BE CORRECTED. USERS OF THIS PRODUCT SHOULD ALWAYS VERIFY ACTUAL DATA. THERE IS NO WARRANTY FOR THIS PRODUCT, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING, THIS PRODUCT IS BEING PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THIS PRODUCT IS WITH THE USER. IN NO EVENT, UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING, WILL THE STATE OF TENNESSEE, INCLUDING THE DEPARTMENT OF FINANCE AND ADMINISTRATION, ITS OFFICERS, AGENTS, SERVANTS, AND EMPLOYEES, AND THEIR RESPECTIVE HEIRS, SUCCESSORS, AND ASSIGNS, BE LIABLE FOR COSTS OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, LOST PROFITS, LOST SALES OR BUSINESS EXPENDITURES, INVESTMENTS, OR COMMITMENTS IN CONNECTION WITH ANY BUSINESS, LOSS OF ANY GOODWILL, OR FOR ANY DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY THE USER OR THIRD PARTIES OR A FAILURE OF THE PRODUCT TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF THE STATE OF TENNESSEE, INCLUDING THE DEPARTMENT OF FINANCE AND ADMINISTRATION, ITS OFFICERS, AGENTS, SERVANTS, AND EMPLOYEES, AND THEIR RESPECTIVE HEIRS, SUCCESSORS, AND ASSIGNS, HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.