WV County GIS Tax Mapping Programs
(January 2012)

Populous Counties Utilize GIS

A survey that compares 2010 Census population data to county assessors' mapping programs reveals that most assessors who reside in more populated counties utilize geographic information systems (GIS) to manage and publish digital surface tax maps. Of the twenty most populous counties and incorporated areas in West Virginia (See Table 1 and status graphic), only a few geographic entities have not adopted a countywide digital parcel managements system which utilizes GIS software. While the most populous counties have implemented a digital mapping program, rural counties find it more challenging to convert from a paper to digital mapping system as well as continually maintain an electronic parcel mapping system due to fewer resources in personnel and funds.

Specification of a GIS Mapping Program

The preferred automated mapping system for maintaining and publishing digital map and parcel data is a geographic information system. It is recommended that a successfully deployed cadastral geographic information system meet the following requirements:

- Geo-referenced: All mapping layers are geo-referenced to a common coordinate system.
- Edge-matched: Parcel polygons are seamless across all jurisdictions and tax district boundaries for the entire county.
- Parcels Linkable to Databases: Parcel boundary polygons are topologically validated and linkable to external assessment databases via unique property identification numbers.
- Computer-Generated Maps: Finished tax maps are digitally produced and published in accordance with map design and layout rules set forth in this regulation.
- Continual Maintenance: Tax maps are continually maintained in a digital environment.

Benefits of Digital Mapping Program

Computerization of the map and parcel data enhances the county assessors' capabilities to manage, analyze, summarize, and display geographically referenced information. Digital cadastral map layers and parcel data are easily shared, allowing various users to manipulate and selectively retrieve layers of parcel and other information and to produce composite maps with only the data needed by each. Such sharing also reduces the duplication of effort inherent in separate, possibly incompatible, map systems. Advantages of digital tax maps over paper maps include:

- Flexibility to view and print maps at any scale and customized with different layers or annotation to suit different purposes.
- Ability to maintain and update tax maps much faster than paper maps.
- Requires less physical storage space and map files can be easily backed up electronically and protected against data loss.
- Can be easily integrated with other informational layers such as planning zones, structures, new roads, flood zones, and aerial photography.
- Parcel data and services can be made accessible through inter and intra-net and can be easily shared in an electronic environment.
- Can improve quality of property valuations and neighborhood analyses (See "GIS Matters Assessment" flyer).
- Easier data quality checking; for example, determining discrepancies between calculated and assessed acreages.

Limitations of Digital Mapping Program
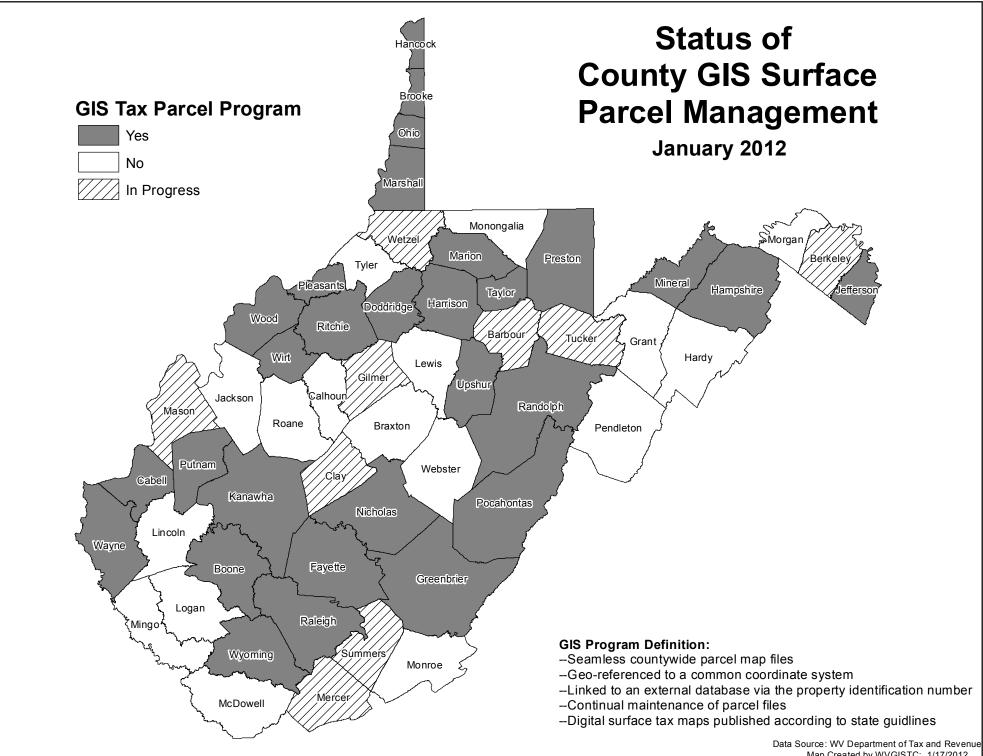
- GIS technologies incur recurrent costs for training, upgrading, and hiring of qualified staff. This necessitates that these costs are integrated into annual budgets.
- More coordination and technical expertise are required to combine the digital parcel layer with other mapping information such as roads and aerial photography.
- The conversion from a paper to digital system may require considerable funds and effort.

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Table 1. GIS Program Status for the Most Populous Counties and Incorporated Places in 2010 in West Virginia

Rank	Geographic area	2010 Population	# Parcels	GIS Program
	COUNTY			
1	Kanawha County………………	193,063	116,681	Yes
2	Berkeley County………………	104,169	31,652	In Progress
3	Cabell County…………………	96,319	42,590	Yes
4	Monongalia County……………	96,189	49,777	No
5	Wood County…………………	86,956	59,989	Yes
6	Raleigh County………………	78,859	62,519	Yes
7	Harrison County………………	69,099	55,580	Yes
8	Mercer County………………	62,264	45,065	In Progress
9	Marion County………………	56,418	23,824	Yes
10	Putnam County………………	55,486	36,951	Yes
11	Jefferson County………………	53,498	28,400	Yes
12	Fayette County………………	46,039	37,427	Yes
13	Ohio County…………………	44,443	25,598	Yes
14	Wayne County………………	42,481	21,846	Yes
15	Logan County………………	36,743	27,385	No
16	Greenbrier County……………	35,480	26,210	Yes
17	Preston County………………	33,520	30,240	Yes
18	Marshall County………………	33,107	14,969	Yes
19	Hancock County………………	30,676	18,573	Yes
20	Randolph County……………	29,405	15,542	Yes
	INCORPORATED PLACE			
1	Charleston city…………………	51,400		Yes
2	Huntington city…………………	49,138		Yes
3	Parkersburg city………………	31,492		Yes
4	Morgantown city………………	29,660		No
5	Wheeling city…………………	28,486		Yes
6	Weirton city…………………	19,746		Yes
7	Fairmont city…………………	18,704		Yes
8	Beckley city…………………	17,614		Yes
9	Martinsburg city………………	17,227		Yes
10	Clarksburg city………………	16,578		Yes
11	South Charleston city…………	13,450		Yes
12	St. Albans city…………………	11,044		Yes
13	Vienna city…………………	10,749		Yes
14	Bluefield city…………………	10,447		In Progress
15	Moundsville city………………	9,318		Yes
16	Bridgeport city………………	8,149		Yes
17	Dunbar city…………………	7,907		Yes
18	Oak Hill city…………………	7,730		Yes
19	Nitro city…………………	7,178		Yes
20	Elkins city…………………	7,094		Yes

Sources: U.S. Census Bureau and WV State Tax Department

Notes: (1) Total Population: The 20 most populated counties cover almost 70% of the *total population* (1.8 million) of West Virginia
(2) Total Parcels: The 20 most poopulation counties include 61% of the estimated *total surface parcels* (1.3 million) of West Virginia

Status of County GIS Surface Parcel Management
January 2012

GIS Tax Parcel Program

- Yes
- No
- In Progress

Counties (labels on map):

Hancock, Brooke, Ohio, Marshall, Wetzel, Tyler, Pleasants, Wood, Ritchie, Wirt, Doddridge, Harrison, Monongalia, Marion, Taylor, Preston, Barbour, Tucker, Grant, Mineral, Hampshire, Morgan, Berkeley, Jefferson, Hardy, Jackson, Calhoun, Gilmer, Lewis, Upshur, Randolph, Pendleton, Mason, Roane, Braxton, Putnam, Clay, Webster, Pocahontas, Cabell, Kanawha, Nicholas, Wayne, Lincoln, Boone, Fayette, Greenbrier, Logan, Raleigh, Mingo, Wyoming, Summers, Monroe, McDowell, Mercer

GIS Program Definition:
--Seamless countywide parcel map files
--Geo-referenced to a common coordinate system
--Linked to an external database via the property identification number
--Continual maintenance of parcel files
--Digital surface tax maps published according to state guidlines

GIS MATTERS
ASSESSMENT

GIS technologies help county Assessors develop fair and equitable valuations

HERE ARE JUST A FEW EXAMPLES:

- *Improving quality of property valuations*
- *Knowing the location of the subject property in relation to factors such as flood zones or water frontage improves valuation*
- *Use of automated valuation systems help identify homogeneous areas so mass assessment techniques can be used*
- *Spotting disparities between selling prices and assessed values or missing assessments*
- *Properly locate properties with similar use codes, sizes, and location*
- *Square footage and acreage calculations can be performed on the fly*

Are all levels of government are working together to create maps that help identify factors relating to each property to be considered in determining values of properties in West Virginia.

Government agencies carry out the day-to-day tasks of reducing crime, enhancing public safety, containing costs, managing growth, improving accountability and protecting the environment. Nearly all of them rely on geographic information systems (GIS) technology to make decisions that directly affect all West Virginia citizens and determine our quality of life.

SELL YOUR HOUSE
IN 7 DAYS OR LESS!

Get started
NOW!

FOR MORE INFORMATION

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