

Appendix B

Department of Permits & Development Management



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1 Permits and Development Management

1.1 Agency Overview

The Baltimore County Department of Permits and Development Management's (PDM) primary responsibility is to govern the development and use of land and structures within Baltimore County. The agency accomplishes this task by managing and reviewing each new development within the county, enforcing county building and construction codes, administering land use zoning, as well as processing and approving permits for construction and other miscellaneous permits. Each of these responsibilities fall to the programs within the agency, which serve the public by ensuring the safety and well-being of each citizen is maintained and that the appearance and suitability of each community meets the standards of the county. Several of these programs use GIS technology and associated products to meet these needs and many more encounter mapping-related products that affect the business of the agency. As an entity whose primary responsibility is the land and property of Baltimore County, PDM has a great need for GIS to handle the many geographic phenomena and activities encountered each day.

Baltimore County PDM is divided into the following bureaus and divisions as noted below.

Building Plans Review:

Building Plans Review evaluates all building construction and fire suppression system plans and specifications in order to determine their compliance with applicable national and local building and fire codes and standards.

This division is responsible for the review, interpretation, application, and approval of State and Baltimore County construction, fire, and other related codes requiring building permits. Personnel assist in writing fire and building code ordinances and fire prevention activities, as well as writing detailed code review letters to explain code compliance deficiencies. Building Plans Review also review and approve all building construction and installed fire suppression system plans and specifications for compliance with the Baltimore County Fire Prevention Code, Baltimore County Building Code, State of Maryland Fire Prevention Code, N.F.P.A. "Life Safety Code", and other codes and standards related to construction. Components of these plans that are evaluated for suitability include sprinkler systems, fire line installations, construction materials, mechanical devices, hazardous materials installations, and fire protection equipment.

Code Inspection and Enforcement:

Code Inspection and Enforcement inspects and enforces county code, rules, and regulations related to buildings and construction. Code Inspection and Enforcement is the principle investigative arm of Permits Development and Management. Personnel are responsible for the inspection and enforcement of building, electrical, and plumbing codes, zoning laws, livability codes, and other laws, codes, rules,



regulations and policies pertaining to the health, safety, and appearance of the community, which in turn protects and preserves property values.

Development Plans Review:

Development Plans Review evaluates development plans within the county to ensure that they meet all county requirements for new developments. This section reviews all minor and major subdivision plans, minor and major landscape plans, as well as miscellaneous construction drawings that are inside of the Urban Rural Demarcation Line (URDL). These drawings are reviewed to determine compliance with existing utilities and infrastructure, as well as other county requisites.

Development Plans Review receives plans from Development Management, which are returned to the same division with comments for each development. Personnel participate in meetings scheduled by project managers within Development Management, in order to communicate issues to community members and real estate developers.

Development Management:

Development Management is responsible for overseeing the subdivision and development work of Baltimore County. Development projects are handled from their inception to construction. A developer can use this agency to determine the suitability of property for development, submit concept plans for review, submit development plans, and finally have approval of a particular development. Personnel within the section communicate real estate development constraints and requirements to real estate developers and provide information to the public about each development. A project manager schedules meetings to inform the affected communities, posts information on meetings, makes sure that legal requirements are met, and answers questions related to developments.

Permit & Licensing Processing:

This section receives and processes applications for permits and issues permits pertaining to building and construction, as well various miscellaneous permits and licenses. Personnel supervise and coordinate the receipt and processing of applications and the issuance of permits. Citizens and contractors submit applications for permits, which can be distributed to other county agencies for review. Agencies can provide comments for permit applications, which are used to give final approval to a permit.

This section serves as a liaison between Federal, State, and local government agencies, the business community, and the public concerning the coordination of various permit and license processes. Permits & Licensing Processing also resolves complaints and responds to inquiries from the public concerning applications, permits, licenses, & related matters.



Real Estate Services:

The Bureau of Land Acquisition is responsible for the purchase of real property for Baltimore County as well as the sale of real property no longer needed by the county. The property which is purchased or sold may be in fee simple or an easement/right-of-way. This section's functions include title examination, contract and deed preparation, appraisal, negotiation, and property settlement. Personnel handle road closing petitions and hearings, the sale of real property by auction or negotiation, the procedure for the granting of franchises in county roads, and maintain the county land inventory.

Zoning Review:

The Zoning Review section processes zoning petitions, forms for special zoning exceptions, special hearing and variances, as well as undersized lot applications. This section also schedules the Zoning Commissioner / Hearing Officer public hearings and determines and manages closing dates for Administrative Variances, Special Hearings and other required Zoning posting procedures. Personnel review all residential, commercial, and industrial building permits, including site and development plans, for compliance with the zoning regulations. Individuals also answer citizen inquiries and inform and assist the public concerning the interpretation and application of the Baltimore County Zoning Regulations.

The Agency serves many customers including county residents, businesses, government agencies, real estate developers, and elected officials. Agencies internal to the county serve as both customers to PDM, relying on the agency for assistance such as land acquisition, as well as service providers that provide guidance for issues such as development plans review. The agency also serves the need of external customers by approving permits and inspecting construction quality. Maps and mapping data are frequently key ingredients in successfully working with these customers to communicate issues, determine priorities, understand challenges and make informed decisions.

1.2 Agency Study Participants

Agency personnel contributed to the study by completing the short form online survey, participating in interviews, and providing miscellaneous data to support information provided throughout the report.

19 people completed the online short form survey, which was used to determine each person's role within the department and determine if these individuals were using GIS to support their activities. Each of the short form responses have been included in the appendix of this document. The following personnel completed the online short form survey:



Short Form Respondent
Brenda Payne
Colleen Kelly
Darlene Koluch
Darryl D. Putty
Dennis Kennedy
Dennis Maloney
Donald Roscoe
Eric Rockel
Jeffrey McCullough
Jeffrey Perlow
Joe Chmura
John M. Altmeyer
Karen Lewis
Kristin Weis
Linda Blackmon
Linda Taylor
Lois M Bergman
Tracey Book
Walter Smith

Table 1 - Short Form Respondents

There were a total of 27 individuals that participated in interviews conducted over several weeks in November 2006. These individuals are:

Interviewee
Don Rascoe
Carl Richards
Colleen Kelly
Darryl Putty
Dennis Kennedy
Dennis Maloney
Don Gabriel
Eric Rockel
Geoff Rice
James Thompson
Janice Kemp
Jeff McCullough
Jeff Perlow
Joe Chmura
John Altmeyer
Karen Koluch



Interviewee
Karen Lewis
Doug Swam
Kristen Weis
Linda Blackmon
Linda Taylor
Phil Martin
Steve Houk
Tim Kotroco
Tony Buckleman
Vishnu Desai
Walt Smith

Table 2 – Interviewees



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2 Cost/Benefit Information

This section outlines the annual costs and benefits that are associated with GIS use and maintenance within PDM. The total benefits and costs have been summarized in the table below, which are discussed in further detail in the remainder of this section.

Summary – Total Annual GIS Benefits	
Time Benefits:	\$276,170.26
Other Benefits:	\$0
Total Annual Benefits:	\$276,170.26
Summary - Total Annual GIS Costs	
Total Annual Costs:	\$208,174.76
Summary - Total GIS Cost/Benefit	
Total GIS Cost/Benefit:	+\$67,995.50

Table 3 – Annual Agency Cost and Benefit Summary

This table only includes benefits that are associated with capital returns and does not consist of other benefits such as more accurate information, faster response times, etc.

2.1 Annual Agency Cost

Permits and Development Management does not contribute significantly to the cost of supporting the Enterprise GIS for Baltimore County. This agency maintains relatively few GIS datasets, has almost no related operational costs, and carries less than one fulltime employee equivalent. The total annual agency costs to support each of these elements is \$208,174.76.

Total Agency GIS Cost: \$208,174.76

Details of each of the cost issues are discussed in the sections below.

2.1.1 Annual Operational Costs

Permits and Development Management supports the cost of one GIS-related training activity per year. Jeffrey McCullough attends the Towson GIS Conference each year. All other training is performed in-house at no additional cost to the agency.



Type of Training	Estimated Cost	# of Staff Attending	Total Annual Cost
Towson GIS Conference	\$200.00	1	\$200.00

Table 4 – Annual GIS Training Costs

2.1.2 Annual Resources (GIS Staff)

The agency contains three staff members that perform some activity that supports GIS for the agency. This assistance includes GIS database development efforts, as well as GIS application installation, configuration, and support. All of this support is located within the Bureau of Land Acquisition, which is approximately one (1) full time employee equivalent. \$55,040 is spent annually to support the personnel associated with GIS maintenance activities (these data layers are listed in section 3.1.4), which is based on the salary and overhead of GIS personnel multiplied by the percentage of time performing GIS maintenance activities. These individuals are listed in the table below, along with the percentage of their time allocated to GIS maintenance activities.

GIS Personnel	% Allocated to GIS Maintenance Activities
Jeffrey McCullough	95%
Joe Sirbaugh	3%
Ivena Colbert	2%
Total GIS Personnel Cost:	\$55,040

Table 5 – Annual GIS Personnel Costs

2.1.3 Annual Enterprise Costs

Each of the costs for providing the enterprise GIS have been totaled for the county and distributed among each of the county agencies relative to the number of users in each agency. These costs have been categorized as operating cost, or the cost that is expended to provide GIS support and resources (such as database management, infrastructure, software licensing etc.), and capital costs, which reflect the cost of purchasing the GIS data (such as Orthophotography or Contours). The total annual operating cost for the County GIS enterprise is \$859,717.21 and the total annual capital cost is \$272,000.00. PDM has a relatively large number of GIS users, 30 (or 13.51% of the total users in the county). Annual enterprise costs have been proportionately distributed to PDM based on this 13.51% factor. These costs are calculated as \$116,178.00 in operating costs and \$36,756.76 in capital costs, totaling \$152,934.76. Each of these figures have been provided in the table below.



# of Users	% of Total Users	Factor of Operating Cost Applied to Agency	Factor of Capital Cost Applied to Agency	Total Annual Enterprise Cost Applied to Agency
30	13.51%	\$116,178.00	\$36,756.76	\$152,934.76

Table 6 – Annual Enterprise GIS Costs

2.2 Agency Benefit Assessment

Permits and Development Management has seen relatively few benefits from GIS usage in relation to the size of the department and in comparison to other agencies within the county of similar magnitude. The limited use of GIS, both in terms of the number of activities taking advantage of the system and the level of usage for each activity, has impacted the benefits realized within each of the programs in the agency. However, GIS appears to be used efficiently, providing expected benefits in areas where applications and data are being used.

Since PDM is involved heavily with geographic events, there are many potential ways that benefits can be gained from using GIS within the agency. Almost every activity that is involved with spatial phenomena can increase GIS usage and improve benefits that are realized. PDM could be an important agency for the county to focus GIS expansion efforts, thereby further taking advantage of the GIS system supported by this and other agencies.

2.2.1 Existing GIS Benefits

The existing benefits realized by Permits and Development Management have been determined for each activity by analyzing the effort needed to perform a task with GIS in comparison to the time spent without GIS. This examination allows each activity to be measured in terms of time, which have been then recomputed to dollars that are realized annually. Each of the existing benefits that are currently being realized have been summarized by program below and have been aggregated to give an annual dollar figure. These benefits are discussed in more detail in section 4. All dollar amounts are based on a flat rate of \$33.95 per hour.



Program	Building Plans Review
Description	Building Plans Review is responsible for the review of all building construction and fire suppressions system plans and specifications in order to determine their compliance with applicable national and local building and fire codes and standards. This division reviews construction plans that are submitted with building permits for code compliance.
Activities	Building Plans Review – Building/ Fire
Time Benefits (Annual)	N/A (GIS Not Being Used)
Other Benefits (Annual)	N/A (GIS Not Being Used)
Total Benefits	\$0.00
Program	Code Inspection and Enforcement
Description	Code Inspection and Enforcement is the principle investigative arm of Permits and Development Management. This section is responsible for the inspection and enforcement of building, electrical, and plumbing codes, zoning laws, livability codes, and other laws, codes, rules, regulations and policies pertaining to the health, safety, and appearance of the community, which in turn protects and preserves property values.
Activities	Code Inspection and Enforcement - Building, Plumbing Electrical and other miscellaneous Inspections
Time Benefits (Annual)	N/A (GIS Not Being Used)
Other Benefits (Annual)	N/A (GIS Not Being Used)
Total Benefits	\$0.00



Program	Development Plans Review
Description	Development Plans Review is responsible for reviewing, supplying comments for, and approving development plans, construction drawings, record plats, flood plain studies and landscape plans. Personnel testify at public hearings for development issues. This program also reviews and comments on the Zoning Advisory Committee.
Activities	Development Plans Review - Inquiries Development Plans Review - Concept Plans Development Plans Review - Development Plans Development Plans Review – Minor Subdivision Plans Development Plans Review – Record Plats Development Plans Review – Flood Plain Studies Development Plans Review – Grading Plans/Sediment Erosion Plans Development Plans Review – Landscape Plans
Time Benefits (Annual)	\$64,997.27 (1914.5 hours)
Other Benefits (Annual)	N/A
Total Benefits	\$64,997.27



Program	Development Management
Description	Development Management is responsible for overseeing the subdivision and development work of Baltimore County. This program supervises each project from initial property use prospects, land use conceptualization, development plans, and into the construction phase. Each project within the county is processed by this arm of PDM. A project manager is responsible for coordinating the development and engineering efforts in order to complete developments within the specifications of county regulations and county agency restrictions. The project manager also informs the public of development efforts and ensures that proper legal requirements are met.
Activities	Development Management - Community Input Meetings Development Management - Concept Plan Review Development Management - Development Plan Review Development Management - Hearing Officers Hearings Development Management - Limited Exemption Plans Development Management - Minor Subdivision Plans Development Management - Pre-Concept Plan Conferences Development Management - Public Works Agreements Development Management - Inquiries Development Management - Street Naming Development Management - Utility & Right of Way Agreements Development Management - Water & Sewer House Connections
Time Benefits (Annual)	\$90,261.76 (2658 hours)
Other Benefits (Annual)	N/A
Total Benefits	\$90,261.76
Program	Permit & Licensing Processing
Description	Permit & Licensing Processing receives and processes applications for permits and issues permits pertaining to building and construction, as well various miscellaneous permits and licenses. Each of these permits are required by either the Baltimore County Code, Baltimore County Zoning Regulations, or Annotated Code of Maryland.
Activities	Permit & License Processing - Building Permit Processing Permit & License Processing - Miscellaneous Permit & License Processing
Time Benefits (Annual)	N/A (GIS Not Being Used)
Other Benefits (Annual)	N/A (GIS Not Being Used)
Total Benefits	\$0.00



Program	Real Estate Services
Description	Real Estate Services is responsible for the purchase of real property for Baltimore County as well as the sale of real property no longer needed by the county. The property, which is purchased or sold, may be in fee simple or an easement/right-of-way. Functions include title examination, contract and deed preparation, appraisal, negotiation, and property settlement. This bureau handles road closing petitions and hearings, the sale of real property by auction or negotiation, the procedure for the granting of franchises in county roads, and maintains the county land inventory.
Activities	Real Estate Services – Appraisals Real Estate Services - Contact & Negotiations/ Records Management Real Estate Services - Land Acquisition Property Inquiry Real Estate Services - Road Openings and Closings Real Estate Services - Surplus Property Real Estate Services - Title Examination/Property Settlement/Plat Review
Time Benefits (Annual)	\$120,911.23 (3561.5 hours)
Other Benefits (Annual)	N/A
Total Benefits	\$120,911.23
Program	Zoning Review
Description	The Zoning Review division processes all zoning petitions, schedules specific zoning hearings, reviews and approves building permits, zoning permits, and development plans for compliance with zoning regulations, and answers citizens inquiries related to zoning regulations.
Activities	Zoning Review - Permits Zoning Review - Petitions/Hearings Zoning Review - Plans Review Zoning Review - Public Information Counter
Time Benefits (Annual)	N/A (GIS recently implemented)
Other Benefits (Annual)	N/A (GIS recently implemented)
Total Benefits	\$0.00

Table 7 - Existing GIS Benefits by Program



The table below summarizes the benefits realized from each of the programs presented above. These numbers represent the total hours and dollars that have been saved by the agency as a result of utilizing GIS.

Total Annual GIS Benefits Summary			
Time Benefits Summary (By Program):	Hours Saved	Labor Rate (Avg)	Annual Time Benefits
Building Plans Review	N/A	\$33.95	N/A
Code Inspection and Enforcement	N/A	\$33.95	N/A
Development Plans Review	1914.5	\$33.95	\$64,997.27
Development Management	2658.0	\$33.95	\$90,261.76
Permit and Licensing Management	N/A	\$33.95	N/A
Real Estate Services	3561.5	\$33.95	\$120,911.23
Zoning Review	N/A	\$33.95	N/A
Total Time Benefits:	8134.0	\$33.95	\$276,170.26
Other Benefits Summary (By Program):			Annual Other Benefits
N/A			N/A
Total Other Benefits:			\$0.00
Grand Total Annual Benefits:	\$276,170.26		

Table 8 – Total Annual GIS Benefits

Each of the benefits for these programs have been depicted in the figure below, which provides a clear picture of the areas that are receiving the most benefits from GIS usage.

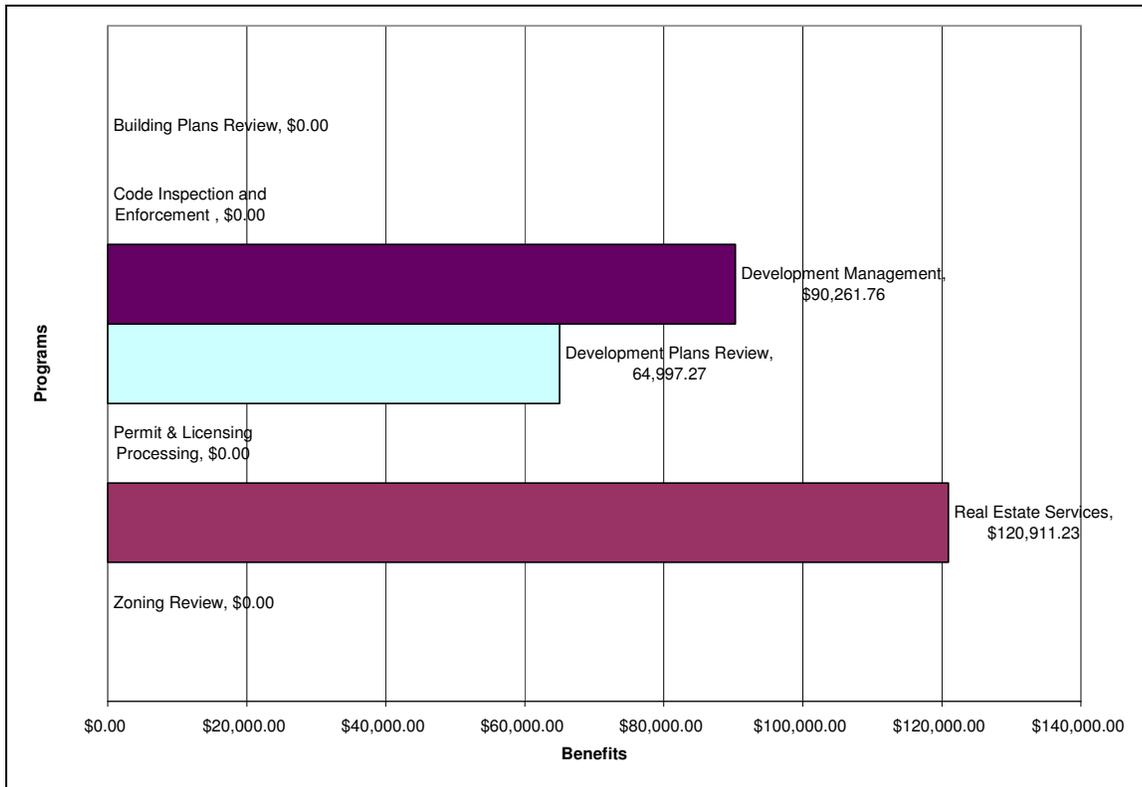


Figure 1 - PDM GIS Benefits by Program

The Real Estate services program has incorporated GIS into each of its activities more than any other area in PDM and has also managed to receive more benefits than the rest of the programs. Development Management and Development Plans Review, which are also moderately involved with GIS, also receive a substantial return in terms of the benefits received from GIS. The remaining programs with PDM have either not started to use GIS or have not fully incorporated GIS into their business processes, and therefore have not seen much benefit from GIS. Zoning Review is the exception, which has started to use GIS in each of the associated activities, but this service has not been implemented long enough to produce any substantial benefits.



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3 GIS Utilization and Recommendations

3.1 GIS Utilization Analysis

GIS has a relatively limited use with PDM and has only recently begun to be incorporated into most of the programs within the agency. Although GIS is being used often within several programs, there are still huge gaps in usage, leaving several programs without GIS support or knowledge. There has been an increase in GIS activities, but there does not appear to be a formal plan for rolling out the system to users, training personnel, or incorporating GIS into business processes.

3.1.1 GIS Personnel

GIS specialists and GIS-trained personnel are not prominent within PDM. This produces a reliance on a small number of individuals to meet the GIS needs of the department, constraining the reach of the system to appropriate programs and limiting the amount of effort that can be expended for GIS goals. The limited staff resources also narrowly focus the support provided by GIS instead of providing subject-matter experts in each program that are proficient with GIS technology.

PDM has already invested in providing GIS training through the Computer Training Center in the Office of Information Technology for a majority of its staff. The following shows a breakdown of the levels of training and the number of staff that have received training at that level:

Basic Training (DataQuery, ArcView)	Mid-Level (ArcGIS Intro)	Advanced (ArcGIS 8x or higher)
67	2	17

Most of the training provided has been more basic GIS usage. These personnel that have been trained are not necessarily using GIS at the present time and due to the delay in utilization of the skills will probably require additional training. Any further investment in training should be followed through with skill reinforcement and usage of the system to ensure the skills are transferred from the classroom to the business activity performed.

3.1.2 GIS Data Usage

PDM uses a small number of the GIS datasets provided by OIT’s ArcSDE services via the County WAN. These datasets are used in a variety of ways. The most important datasets used by the department are summarized below, along with some of the most frequent uses. GIS data usage is discussed in more detail in section 4.



Dataset	Assessment of Agency Use
Orthophotography	This is the most frequently used dataset, which is typically used to give an idea of the existing landscape characteristics for a property. This dataset is used to view features such as trees, buildings, access, etc. These datasets are also used for historical purposes, in order to see how development has changed within the county over time.
Buildings	This dataset is used to determine the locations of buildings within the county. These features can be used to measure distances to other features (such as roads for setbacks), to determine change in building footprints, and for cartographic purposes.
Contours	Contours are used primarily to determine the slope of a piece of property. This information helps determine land use, land value, and accessibility, as each of these attributes are impacted by elevation differences
Election Districts	Election Districts are used to determine what election district a development is in, in order to invite proper officials to meetings. This layer is also used to support services provided to election officials.
Hydrology	This layer is used to determine how hydrologic features impact a piece of property or a potential development, which could impact the development needs. This layer is primarily used for cartographic purposes and for reference purposes, letting the user know where map features are in relation to hydrologic features.
Index Grid - 200 Scale (BCMD)	This layer outlines the areas that hardcopy basemaps cover, giving an index of maps by map ID. Once a location has been found within GIS, either from an address or street intersection, a hardcopy map can be gathered, which can often contain more information than is provided by the GIS, such as the location of developments.
Roads	Roads are used primarily for cartographic purposes, giving the map viewer an idea of the edge of pavement for these features.
Simultaneous Conveyance First Division (SimComFirstDiv)	Simultaneous Conveyance First Division layer represents the locations of plat maps, which have a link to digital versions of these documents. This layer is used by the agency to reference a particular plat, so that information can be retrieved about a piece of property from these documents.
Tax Parcel (Cadastral)	Tax parcels are used to determine the ownership of a piece of property. They are also used to determine property boundaries, which can be compared to other features to support decision-making.



Dataset	Assessment of Agency Use
Taxmaps (Images)	These images are used to provide detailed information about parcels, including ownership and easement locations. These data contain more information than is available otherwise in the GIS.
Zoning	This dataset is used to determine the zoning restrictions for a specific piece of property, which can influence developments, permits, and codes that are applicable to the particular property.
Encumbrance (Right of Way – ROW)	This dataset is used to research and identify the location of county-owned right of way properties, along with providing deed references and maintenance references.

Table 9 - Data Usage

3.1.3 GIS Applications Usage

PDM has taken advantage of the applications provided by OIT. These applications appear to be effectively used where incorporated and personnel are proficient with these programs. Custom applications are few and poorly maintained. This leaves several programs, which have specific and unique GIS needs, using GIS only minimally and not to its full potential.

PDM does not use GIS applications extensively. ArcGIS DataQuery is the primary GIS application used by personnel. This application meets the needs of most of the GIS users, since it simplifies the understanding of data layers provided while still allowing for complex spatial analysis that GIS gives. Several users take advantage of the less robust ArcIMS applications provided by the county, since these can be made available on almost any computer and provide simple tools for spatial analysis and map viewing. There are also a few GIS specialists that take advantage of the more comprehensive ArcGIS application, which provides an ample GIS toolset for conducting the most complex analysis and editing available within the county.

3.1.4 GIS Database Maintenance

GIS data maintenance responsibilities are also small. GIS data has been used when made available by other departments within the county, but only a small amount of resources have been allocated to producing and maintaining GIS data that would specifically be used by PDM, such as a zoning history layer. This results in many areas where GIS data is not provided, limiting the use of GIS and continually ensuring the agency’s reliance on hardcopy maps that contain the needed information.

PDM is responsible for maintaining the following layers in support of the enterprise GIS:



Dataset	Description	Update Frequency	Location	Complete	Programs Using Data
Encumbrance – (Right Of Way ROW)	Location of each of the county-owned right-of-ways, represented as polygons	Weekly	SDE	In-Progress	Development Plans Review, Development Management, Real Estate Services, Zoning Review
Tax Parcels	Boundaries of the tax parcels within the county, represented as polygons	Weekly	SDE	Complete	Development Plans Review, Development Management, Real Estate Services, Zoning Review
Cadastral Boundary	Lines representing cadastral features, including parcels and right-of-ways	Weekly	SDE	Complete	Development Plans Review, Development Management, Real Estate Services, Zoning Review
Right Of Way Points	Location of each of the county-owned right-of ways, represented as points	Weekly	SDE	Complete	Development Plans Review, Development Management, Real Estate Services, Zoning Review

Table 10 - Agency Data Maintenance

The Encumbrance ROW layer is 42% complete and it is estimated that it will be finished with existing resources approximately four (4) years from the date of this report. This layer is currently being updated with approximately one fulltime employee equivalent. The locations for each of these features have been researched as a preparation step for completing this layer, which have been included in the Right of Way points feature class. The tax parcel and cadastral boundary layers are a primary enterprise data layer used throughout the county by many programs. The maintenance of the tax parcel and cadastral boundary layers are the primary responsibility of OIT, and several agencies, including PDM, support various data maintenance efforts to update this layer.

The costs of maintaining each of these data layers are discussed in section 2.1.2.

3.1.5 Assessment of Business Process with GIS

PDM is using GIS within several business processes, but not to the extent that GIS can provide. GIS can be more fully integrated into activities with the agency, providing additional benefits to users and



customers. There are two major generalizations that can be given for PDM that provide some insight into the GIS integration with the agency’s business processes:

- ***PDM has introduced GIS into few business processes*** - PDM has incorporated GIS into business processes in the agency, but the system and associated applications have touched few activities within programs that handle geographic information. Three programs have introduced GIS into many of their business processes, taking advantage of the mapping and geographic analysis capabilities provided by the applications and data. One program within the agency has added GIS capability to a few business processes and three programs have no GIS usage.
- ***GIS has been used as a tool, not as a system*** - Although there are a few programs that have included GIS in their business processes, these activities have only been supported in a superficial manner. GIS has been introduced to handle ancillary issues of a small number of business processes, such as creating maps to show to customers or to answer simple geographic questions. However, GIS has not been fully incorporated into any business processes to handle more complex issues that include providing spatial components to existing databases, handling the transfer of information between customers and other agencies, and offering solutions to unique spatial problems that cannot be met with Commercial Off The Shelf (COTS) GIS applications. PDM does not have a comprehensive plan for incorporating GIS into business processes, which is represented by the lack of direction that the agency has for GIS to support activities and the ad hoc implementation of existing GIS into business processes.

GIS involvement in each of these program’s business processes are discussed in the table below.

Program	Business Process Assessment
Building Plans Review	This program is not using GIS. Several of the business processes within the program have geographic components and could benefit from the introduction of GIS.
Code Inspection and Enforcement	This program is not using GIS. Several of the business processes within the program have geographic components and could benefit from the introduction of GIS.
Development Plans Review	This program is using GIS throughout most of its business process, but is hindered by other groups within the agency that do not supply data in GIS format.
Development Management	This program is using GIS throughout most of the business processes that have a geographic component. This program understands the benefit of developing maps and using GIS to solve spatial problems, but has not developed any spatial databases and has not customized the GIS to manage specific business processes. Spatial data has not fully been integrated into existing PDM databases, since the project database and development plans have not been linked to spatial boundaries of projects,



Program	Business Process Assessment
Permit & Licensing Processing	This program is not using GIS. Several of the business processes within the program have geographic components and could benefit from the introduction of GIS.
Real Estate Services	This program is using GIS in associated business processes more than any other program. Complex analysis is being performed, spatial datasets are being maintained for their use, and expert GIS support is available. New datasets and updated applications would further incorporate GIS into business processes.
Zoning Review	This program only recently incorporated GIS into business processes. New datasets are needed to incorporate GIS further into each activity.

Table 11 - GIS Integration With Business Processes, By Program

The involvement of GIS in specific programs are discussed more thoroughly in section 4, which includes workflow diagrams for several business processes within the agency. There are several ways that GIS could be used to integrate the system more fully into business processes, which are discussed in detail in section 3.3.

3.2 GIS Needs Assessment

3.2.1 Applications

There are several custom applications that could be developed to support the business processes of PDM, which are discussed below.

- **Footprint change detection** – An application could be developed that points out buildings that have been modified without the appropriate building permits, reducing the agency’s reliance on public complaints. An algorithm could be used to compare the footprints of buildings between historical planimetric datasets. This could point out buildings that have potentially been modified during this time, in order to narrow the focus for buildings . This can be compared to the locations that building permits have been issued. Any change that has occurred without a permit could be followed up with a field visit. This application could require more frequent updates to the planimetric feature class, which is currently only updated every 3 years.
- **Address range calculation** - An algorithm could be developed within GIS to assign address ranges to new streets based on the location of new streets in relation to existing streets. This would save time spent assigning address ranges.
- **Upgrade Lacquire** - The “Lacquire” program, previously used to extract property owner information from the parcels that overlaid potential ROWs, should be upgraded from ArcView 3.2 to ArcGIS 9.x. This would allow for the program to be used with existing and current data, improving the business processes currently used with GIS.



3.2.2 Data

There are several datasets that could be developed to support the needs of various programs in PDM. Some of these datasets are listed in the table below.

Dataset	Programs That Could Benefit From Data
County-owned Easements	Development Plans Review Development Management Real Estate Services Zoning Review
Project Boundaries	Development Plans Review Development Management Zoning Review
Zoning History	Zoning Review Permit & License Processing Real Estate Services
Residential Parking Zones	Permit & Licensing Processing
County-owned Property	Real Estate Services
Title Search History	Building Plans Review Code Inspection and Enforcement Development Plans Review Development Management Permit & Licensing Processing Real Estate Services Zoning Review

Table 12 - Datasets That Need to be Created

Many datasets are already being created and maintained by OIT and PDM, but are not complete or do not contain the information needed by users with the agency. The layers below could be enhanced or completed to provide benefits to PDM:

Dataset	Current Data Limitation	Programs That Could Benefit From Data
Encumbrance (Right of Way – ROW)	Data compilation is only 42% complete	Development Plans Review Development Management Permit & Licensing Processing Real Estate Services Zoning Review
Development Boundaries	Data compilation is only for new developments boundaries, while historical developments need to be mapped.	Development Plans Review Development Management Zoning Review



Dataset	Current Data Limitation	Programs That Could Benefit From Data
Concept Plans	Data compilation is only for new concept plans, while historical developments need to be mapped.	Development Plans Review Development Management Zoning Review
Development Plans	Data compilation is only for new development plans, while historical developments need to be mapped.	Development Plans Review Development Management Zoning Review
Major and Minor Subdivisions	Data compilation is missing a moderate amount of minor subdivisions.	Development Plans Review Development Management Zoning Review

Table 13 - Datasets That Need Enhancement

Some other datasets would benefit from a link to address points or tax parcels, giving these datasets a spatial representation. Both databases currently reside on the AS400 and most likely have address and tax identifiers associated with each record to support the mapping process. These are:

Dataset	Programs That Could Benefit From Data
Permits	Building Plans Review Code Inspection and Enforcement Permit & Licensing Processing Real Estate Services Zoning Review
Code Complaints	Code Inspection and Enforcement Permit & Licensing Processing

Table 14 - Datasets That Need Spatial Representation

In addition, the address points dataset could be maintained by PDM, since this agency is responsible for and most knowledgeable of this information.

3.2.3 Training

As part of a rollout strategy, most personnel would benefit from training on GIS data and applications that are specific to each program. This training would include an overview of how applications can be used to support business processes and data that could be useful to activities. This training would have to be preceded with a business process analysis, in order to determine how data and applications could be used and what gaps exist in GIS knowledge.

3.2.4 Best Practices

There was one way that was initially determined for PDM to take advantage of best practices that have been implemented by other agencies or counties with similar business processes. This method is to:



- **Track code complaints** – PDM could utilize a system similar to CASS WORKS in DPW, which would enable the agency to track complaints received about code complaints for buildings, etc. This would allow for these complaints to be tracked spatially, in order to determine if a complaint has been received for the same property, or if there is a spatial trend to the complaints.
- **Data Storage** – All spatial data stored on local drive should be transferred to the enterprise ArcSDE database, which would promote information sharing with other agencies.

3.2.5 Communication and Agency Coordination

Communication within PDM is constrained by the limited staff dedicated to GIS activities. There is only one GIS specialist available for the entire agency, which hinders the amount of collaboration in GIS activities. All GIS efforts need to be funneled through one source, creating an additional link that each communication needs to be trafficked through. There is also no agency representative on the county GIS committee, limiting the communication of GIS needs of the agency and services that could be provided by the county.

3.3 Recommendations

Permits and Development Management could further benefit from GIS in many ways. This section outlines recommendations that can be implemented in the short-term and long-term to enhance the agency's GIS usage and further take advantage of the enterprise system provided by the county. These will in turn reduce time and money spent on activities performed by PDM and increase the level of service provided to customers.

3.3.1 Short-term Recommendations & Potential Benefits

There are several undertakings that should be implemented in the near term to improve GIS usage within the agency and meet the needs that were outlined in the previous section. These recommendations are categorized by activities that can be quickly deployed with little effort and by activities that require a greater investment but are greatly needed. Each of these recommendations are discussed below. See section 4 for more detailed recommendations to support individual activities.

3.3.1.1 Quick Deployment

The following recommendations have the potential to provide additional benefits to the agency and can be implemented with few additional resources:

Opportunity 1: Introduce GIS to each program

Each program should obtain at least one copy of the DataQuery application and associated personnel should receive training for this software. This will decentralize GIS support that is currently available, alleviating the dependency on the few resources available both external and internal to the agency and relax the level of effort expended by existing resources. Introducing



this program will also increase the general awareness of GIS potential and reveal additional ways that GIS can support business processes. GIS will also provide time and money savings to the county. Code Enforcement and Inspection will particularly see benefits from this introduction, since many field visits will be saved and the sites can be reviewed before inspectors leave the office.

Each of the resources needed to introduce GIS further into PDM have been included in the tables below, by program. The benefits that should be realized from the introduction of GIS have also been summarized by activity in the tables below, including the estimate of cost savings. The activity-based time savings by utilizing GIS as illustrated below are general estimates based on the provided workflow for enhancing the activities with the GIS tool. The costs were not calculated for this rollout, since most requirements are readily available and would be a minimal cost to implement.

Total Benefits for Introducing GIS to Each Program	
Time Benefits (In hours):	27,010
Cost Benefits:	\$916,989.50

Introduce GIS to Building Permits Review	
Software Requirements:	ArcGIS Enterprise License Installation of the DataQuery application
Hardware Requirements:	Upgrade to GIS Computer for affected user(s)
Data Requirements:	Available in ArcSDE databases
Training Requirements:	Need introduction to DataQuery application Develop a workflow for the usage of GIS to support the activities
Additional Costs:	None
Rolled Up Potential Benefits:	\$ 8,827.00



Benefits By Activity:						
Activity	Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
Building/ Fire	4.0	3.5	.5	520	260	\$ 8,827.00
As-Is Process Without GIS	Building Plans, which consist of building drawings and site plans, are reviewed in hardcopy format. Building plans are reviewed for non-geographic related items. Site plans are reviewed for water connections, fire hydrant locations, slopes, curb cuts, building locations, floodplains locations, topographic information, and location of tanks. Site visits are done on average one per month to verify some aspect of the building plans. Floodplain determinations are sent to DPW for review.					
To-Be Process With GIS	GIS could be used to look up information about the location of fire hydrants, water connections, and floodplains, as well as analyze the slope and curb cuts of the landscape.					
Projected Process Savings	Using GIS should reduce the amount of time spent researching various documents, saving approximately ½ hour for each review.					

Introduce GIS to Code Inspection and Enforcement	
Software Requirements:	ArcGIS Enterprise License Installation of the DataQuery application
Hardware Requirements:	Upgrade to GIS Computer for affected user(s)
Data Requirements:	Available in ArcSDE databases
Training Requirements:	Need introduction to DataQuery application Develop a workflow for the usage of GIS to support the activities
Additional Costs:	None
Rolled Up Potential Benefits:	\$ 882,700.00



Benefits By Activity:						
Activity	Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
Code Inspection and Enforcement	2.0	1.8	.2	130,000	26,000	\$ 882,700.00
As-Is Process Without GIS	An investigation starts with pulling information for a property, including tax information and permits. Tax assessment worksheets are gathered from the state website to determine the total value and square footage of a property, as well as the dimensions of setbacks. This is followed with a field visit to verify the complaint or notice. Multiple field visits may be necessary to handle the person with the complaint, as well as gathering additional ground information. A determination is then made of whether a violation has been made, which is reported and filed.					
To-Be Process With GIS	Aerial photography could be used to identify the accuracy of plot plans and current/previous pier locations. Historical aerial photography could be used to identify footprint changes in buildings, pointing out locations of violations of building permits. Cadastral data that has been linked to the state assessment database would allow for all of the information for a property to be gathered in one place. Historic aerial photography could give the exact location of an old structure. Complaints and planned construction inspections could be geocoded to a point, giving a spatial location of the locations where complaints are occurring. Time and money could be spent by more effectively dispatching inspectors and visualizing patterns in complaints received.					
Projected Process Savings	Using GIS should reduce field visits, reduce time spent in the field, and save time researching properties. This would save an average of approximately 10% of the effort currently required.					

Introduce GIS to Permit & License Processing	
Software Requirements:	ArcGIS Enterprise License Installation of the DataQuery application
Hardware Requirements:	Upgrade to GIS Computer for affected user(s)
Data Requirements:	Available in ArcSDE databases
Training Requirements:	Need introduction to DataQuery application Develop a workflow for the usage of GIS to support the activities
Opportunity Costs:	None
Rolled Up Potential Benefits:	\$ 25,462.50



Benefits By Activity:						
Activity	Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
Building Permit Processing	0.16	0.15	.01	5,419	54.19	\$ 1,839.75
As-Is Process Without GIS	A permit requires an application, site plan, and construction drawings, each of which are handled in hardcopy format. Information from these documents is used to create a record in the mainframe database of the permit. These documents are submitted to various agencies for approval: DEPRM for environmental purposes, Zoning for setbacks, building review to determine if meets codes, occasionally to DPW for utilities. Plans are distributed to agencies by putting hardcopies in bins for pickup. Plans are scanned with a reference number. Can search database by address, permit number, owner information, date of application. The critical area is the ADC map is used to see if permits are in the zone and if they need DEPRM approval.					
To-Be Process With GIS	Digital site and construction plans could be submitted by the developer or created by the Permits department from hardcopy plans. These digital plans could be referenced in a GIS, making the review of these plans potentially easier and more accurate. These would also be simpler to access from off-site if they were available on an intranet site. A website could be set up for permit applications, giving the developers an incentive for submitting plans digitally, since they would not have to travel to the office. Address data could be used to geocode addresses. Parcel data could be used to locate properties.					
Projected Process Savings	GIS is used for 25-50% of the 14,450 permits used, averaging to 37.5%. GIS would save about 30 seconds per review.					



Introduce GIS to Permit & License Processing (continued)						
Activity	Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
Miscellaneous Permit & License Processing	0.16	0.15	.01	65,000	650	\$ 22,067.50
As-Is Process Without GIS	A permit requires an application, site plan, and construction drawings, each of which are handled in hardcopy format. Information from these documents is used to create a record in the mainframe database of the permit. These documents are submitted to various agencies for approval: DEPRM for environmental purposes, Zoning for setbacks, building review to determine if meets codes, occasionally to DPW for utilities. Plans are distributed to agencies by putting hardcopies in bins for pickup. Plans are scanned with a reference number. Can search database by address, permit number, owner information, date of application.					
To-Be Process With GIS	Several types of permits, including amusement devices, trailer parks, rental housing, residential parking, would benefit from having address points associated with them. A layer could be developed for GIS that shows the locations of residential parking zones. This would allow for a person applying for a parking permit to easily know what zone they are in. GIS could be introduced to this activity, allowing for several permits to be approved in this group without going to zoning or other groups.					
Projected Process Savings	Using GIS should reduce the amount of time spent handling various permits by approximately 1%.					



Opportunity 2: Increase GIS Support or Centralized FTE Resource

Description:	<p>Each program should assign a lead GIS specialist that is responsible for the GIS activities within the program and acts as a liaison to GIS support provided at the agency level and through OIT. This person would need to be familiar with GIS applications and data provided by the county, as well as how these need to be incorporated into the program’s business processes. Training would need to be provided, where necessary, which includes an overview of data provided by the county, general GIS practices, and specific GIS activities that can support business processes.</p> <p>Another alternative would be to reorganize the existing GIS Specialist resource into an Administrative Unit that could support the entire PDM agency and help to coordinate rollout activities and develop the process workflows using GIS.</p>
Benefits:	<p>Business processes should be streamlined, since there are subject-matter experts that could understand how GIS could be used to make activities more efficient. Communication within PDM would be strengthened by providing more communication nodes within each program, reducing the dependency of sending all GIS-related communication traffic through one person.</p>

Opportunity 3: Increase awareness of GIS data

Description:	<p>Most programs should have a formal introduction to data layers that could be of relevance to the program. There is evidence from interviews conducted that personnel are not fully aware of all of the data layers that are provided by the enterprise GIS. This should be conducted as a training session, with summary documentation (which has already been developed by OIT) to reference in daily GIS use. These training sessions should be specific to each program, focusing on data layers that could be of value to the associated activities.</p>
Benefits:	<p>Programs would better utilize existing datasets, producing more benefits from existing resources. This could also give these users opportunities to realize more efficient methods of performing work, potentially saving the county time and money.</p>

Opportunity 4: Access to GIS Data from Other Agencies

Description:	<p>GIS data provided by other agencies should be made available to personnel within PDM. This data could be provided through OIT, either by incorporating the data into the SDE database, or by storing flat file data on a server accessible to the enterprise.</p>
Benefits:	<p>Programs would better utilize existing datasets, producing more benefits from existing resources. Redundancy of data compilation efforts would also be reduced, saving the county time and money.</p>



Opportunity 5: Address database maintenance

Description:	New addresses are created within PDM. Currently the 911 Center is responsible for maintaining the address point data and corresponds with PDM to retrieve a list of new addresses. These addresses should be maintained by PDM.
Benefits:	The level of effort for this maintenance could be reduced if PDM entered these new features as the addresses are created and approved, since this could be incorporated as a small additional step in the address creation process. This could also reduce discrepancies in the data, since PDM would be responsible for both the spatial and nonspatial address databases.

3.3.1.2 Additional Investment Opportunities

The following recommendations have the potential to provide additional benefits to the agency and can be implemented with additional resources:

Opportunity 1: Zoning Case History Feature Class

Description

A zoning case history feature class should be developed to support the research and analysis performed by the zoning group and other agencies. This feature class should represent the 60,000 zoning public hearings held on particular properties from the establishment of the Baltimore County Zoning Regulations on January 2, 1945 to the present date. Each feature should be represented as a point and should have the following information associated as attributes and/or linked from an existing database:

- | | |
|-----------------------------------|--------------------------|
| Case Number | Order Date |
| Case Type | Property Description |
| Election & Councilmanic Districts | Requested Relief |
| Property Owner | Acreage |
| Zoning Classification | Granted or Denied |
| Contract Purchaser | Map Reference |
| Filing Date | Restrictions |
| Attorney | Existing / Proposed Uses |
| Hearing Date | |
| Street Address | |

This layer should also be linked to legislative digital documents by case number where necessary.



The Zoning Case History feature class will allow for spatial information that is currently only available in hardcopy format within the Zoning section to be provided to other county agencies and the public in digital format. This layer will reduce the amount of time and money spent researching hardcopy maps.

The total costs and benefits associated for this data development activity have been provided in the table below. This includes the cost to develop the data, as well as the costs for maintaining the dataset for two (2) years. The benefits that should be realized over the following two years after development have also been provided. These associated costs are not a quote and should be used as an estimate only. Further formal analysis should be done to formulate an accurate cost/ benefit assessment and an appropriate business case.

Potential Cost/ Benefit for Zoning Case History Feature Class Development				
Development Costs (1 Year)	Maintenance Cost (2 Years)	Total Cost (3 Years)	Benefits (2 years)	Cost/ Benefit Difference
\$231,760.93	\$13,325.36	\$245,086.29	\$429,639.60	\$184,553.31

Table 15 - Potential Cost/ Benefit for Zoning Case History Feature Class Development

Preliminary Cost Estimate

The development costs have been determined by using level of efforts previous calculated by the Baltimore County OIT department for this particular layer. Each of these levels of efforts were multiplied by a rate of \$33.95 to give the cost associated with developing the layer within the county agency (as opposed to having the work performed by a contractor). These development costs have been broken down by task according to the table below:

Zoning Case History Data Development Costs					
Task	Number of Instances	Time Per Instance (In Hours)	Total Hours	Rate	Estimated Cost
Requirements/Design	2 Design Iterations	N/A	N/A	N/A	\$27,000.00
Register Maps	825	.25	206.25	\$33.95	\$7,002.18
Digitize Zoning Points	825	1	825	\$33.95	\$28,008.75
Scan Zoning Documents	20,000	.25	5000	\$33.95	\$169,750
Total Cost					\$231,760.93

Table 16 - Zoning Case History Data Development Costs

The data maintenance costs have been calculated using the same methodology used for the database development costs. An estimate of the number of features that needs to be maintained was given from the Baltimore County OIT department, which was multiplied by a rate of \$33.95 to give the cost associated with maintaining the layer within PDM. These maintenance costs include:



Zoning Case History Data Maintenance Costs					
Task	Number of Instances	Time Per Instance (In Hours)	Total Hours	Rate	Cost
Register Maps	27	.25	6.75	\$33.95	\$229.16
Digitize Zoning Points	27	1	27	\$33.95	\$916.65
Scan Zoning Documents	650	.25	162.50	\$33.95	\$5,516.87
Total Cost					\$6,662.68

Table 17 - Zoning Case History Data Maintenance Costs

Preliminary Benefit Estimate

Benefits for developing and utilizing the Zoning Case History feature class will primarily be realized within the Zoning program of PDM. This program has four activities that would use this dataset. The benefits realized for each of these activities are shown in the table below, which were derived using the difference time it currently takes to perform the activity to the estimated time that would be spent with the new layer.

Zoning Case History Benefits Details						
Task	Staff Hours w/o Layer	Staff Hours with Layer	Difference	Annual # Iterations Per Year	Total Hours Saved Using Layer	Annual Time Savings Benefit (Based on \$33.95/hr)
Permits	0.5	0.08	0.42	10000	4,200	\$142,590.00
Petitions/ Hearings	0.5	0.08	0.42	700	294	\$9,981.30
Plans Review	0.5	0.08	0.42	156	65.52	\$2,224.40
Public Information Counter	0.25	0.08	0.17	10400	1,768	\$60,023.60
Total Annual Benefits						\$214,819.30

Table 18 - Zoning Case History Benefits Details

There are other activities within PDM that could benefit from having the zoning case history layer available, increasing the return significantly on the development expenditure. These activities have been provided in the table below, along with the potential number of annual iterations of the activity that could benefit from access to the zoning case history layer. This gives an idea of the significance of the data layer and the impact that its development could have on PDM.



Activities Providing Additional Benefits from Zoning Case History Feature Class	
Activity	Number of Iterations
Permit & License Processing - Miscellaneous Permit & License Processing	65,000
Real Estate Services - Appraisals	546
Real Estate Services - Contact & Negotiations/ Records Management	802
Real Estate Services - Land Acquisition Property Inquiry	2,236
Real Estate Services - Surplus Property	250
Real Estate Services - Title Examination/Property Settlement/Plat Review	75

Table 19 - Activities Providing Additional Benefits from Easement Feature Class

Cost /Benefit Analysis and Dewberry Recommendation

The Zoning Case History layer will save significant effort within the Zoning Program, justifying the creation of this layer. The development costs should be offset after approximately two (2) years, giving a very comfortable rate of return in the potential investment. The layer should also provide benefits to other activities throughout the county, providing an additional reason to develop the dataset.

An additional layer could also be created that represents the zoning legislative areas as polygons. This layer would allow for more complex analysis to be performed on these features that is currently not available in the zoning layer. This feature class could also save additional time spent pulling up and interpreting legislative documents. The costs for developing and maintaining this layer have been included below:

Zoning Case History Polygon Development Costs			
Task	Number of Instances	Time Per Instance (In Hours)	Cost
Develop Zoning Polygons	20,000	1	\$679,000

Table 20 - Zoning Case History Polygon Development Costs

Zoning Case History Polygon Maintenance Costs			
Task	Number of Instances	Time Per Instance (In Hours)	Cost
Develop Zoning Polygons	650	1	\$ 22,067.50

Table 21 - Zoning Case History Polygon Maintenance Costs

It is recommended that this layer be introduced during a second phase that would be completed after all of the zoning documents and maps have been scanned and referenced.



Opportunity 2: Easement Feature Class

Description

An easement feature class should be developed to support the research and analysis performed by programs within the agency and other agencies such as DPW and DEPRM. This feature class should show all drainage and utility easements, as well as forest buffers, conservation areas, and any other declarations granted to the county. The layer should be a polygon feature class that will include relevant information linked to the Land Acquisition Database. There should also be a URL to link to a scanned image of the easement deed and drawing if available.

The easement feature class will reduce the amount of time currently spent by personnel looking at hardcopy and digital tax parcel maps to research ownership and easement locations. The types of research that will see benefits from the research include:

- Police Department can use the easement layer to settle civil disputes.
- Public Works can use the layer to locate existing easements for new construction projects.
- Department of Environmental and Resource Management could use the layer for storm drain easements location.
- Office of Planning could use the layer for new projects, such as streetscapes.

This will also allow more complex analysis to be performed on the features, such as calculating the total acreage of easements within the county.

The total costs and benefits associated for this data development activity have been provided in the table below. This includes the cost to develop the data, as well as the costs for maintaining the dataset for two (2) years. The benefits that should be realized over the following two years after development have also been provided.

Potential Cost/ Benefit for Easement Feature Class Development				
Development Costs	Maintenance Cost (2 Years)	Total Cost	Benefits (2 years)	Cost/ Benefit Difference
\$314,820	\$35,100	\$349,920	\$59,901.38	\$-290,018.62

Table 22 - Potential Cost/ Benefit for Easement Feature Class Development

Preliminary Cost Estimate

The development costs have been determined by using costs associated with creating a similar dataset for county agencies. This development cost has been averaged to \$27.00 per feature, which includes the cost of recording the COGO and quality control of each feature, as well as project management and oversight. There are approximately 11,660 features that need to be captured, formulating a total development cost of \$ 314,820. This cost is an approximation only and should be followed with a more thorough investigation before proceeding with actual data creation.



Easement Feature Class Data Development Costs			
Task	Number of Instances	Cost Per Instance	Cost
Create Easements	11,660	\$27.00	\$ 314,820
Total Cost			\$ 314,820

Table 23 - Easement Feature Class Data Development Costs

Maintenance costs have also been determined using the \$27.00 development cost per feature. There are approximately 2.5 new easement features that would need to be captured per day, totaling 650 per week, \$ 17,550 per year, and \$35,100 over the course of two (2) years.

Easement Feature Class Data Maintenance Costs			
Task	Number of Instances	Cost Per Instance	Cost
Create Easements	650	\$27.00	\$17,550
Total Cost			\$17,550

Table 24 - Easement Feature Class Data Development Costs

Money could be saved in this development and maintenance effort if these features are captured at the same time as ROWs, since they are on the same digital documents.

Preliminary Benefits Estimate

Benefits have been determined by evaluating the time that would be saved handling inquiries using the easement feature class and multiplying this time by a flat rate of \$33.95 to produce a dollar value. Currently, these inquiries take 15-20 minutes and are done approximately 40 times per week. With GIS, it is estimated that this activity would take 3-5 minutes each time, saving \$575.97 per week, and \$29,950.69 per year. This results in a savings of \$59,901.38 over a period of two (2) years. The table below summarizes these benefits.

Easement Feature Class Benefits Details						
Task	Staff Hours w/o Layer	Staff Hours with Layer	Difference	Annual # Iterations Per Year	Total Hours Saved Using Layer	Annual Time Savings Benefit (Based on \$33.95/hr)
Inquiries	0.28	0.06	0.22	4010	882.2	\$29,950.69

Table 25 - Easement Feature Class Benefits Details

There are other activities that could benefit from having the easement layer available, increasing the return significantly on the development expenditure. These activities have been provided in the table below, along with the potential number of annual iterations of the activity that could benefit from access to the easement layer. This gives an idea of the significance of the data layer and the impact that its development could have on PDM.



Activities Providing Additional Benefits from Easement Feature Class	
Activity	Number of Iterations
Building Plans Review – Building/ Fire	520
Code Inspection and Enforcement - Building, Plumbing and Electrical Inspections	130,000
Development Management - Public Works Agreements	52
Development Management - Utility & Right of Way Agreements	52
Development Management - Water & Sewer House Connections	52
Development Management - Concept Plans	104
Development Management - Development Plans	52
Development Plans Review – Minor Subdivision Plans	200
Development Plans Review – Record Plats	150
Real Estate Services - Appraisals	546
Real Estate Services - Contact & Negotiations/ Records Management	802
Real Estate Services - Road Openings and Closings	10
Real Estate Services - Surplus Property	250
Real Estate Services - Title Examination/Property Settlement/Plat Review	75

Table 26 - Activities Providing Additional Benefits from Easement Feature Class

Cost /Benefit Analysis and Dewberry Recommendation

The Easement feature class requires significant development costs, which do not provide the return necessary from the one activity analyzed. However, there should be additional benefits realized in a multitude of other activities that could potentially provide the necessary return on investment. Based on the needs assessment performed, the data layer would certainly be useful, but further analysis should be performed before a dataset is determined to be a good return on investment.

3.3.2 Mid-term Recommendations & Potential Benefits

There are several undertakings that can be implemented in the mid-term to improve GIS usage within the agency. These are summarized below. See section 4 for more detailed recommendations to support individual activities.

Opportunity 1: Develop link between existing databases and GIS databases

Several databases are used within PDM that would benefit by having link built to GIS databases. The permits database could be linked to address points or tax parcels within the enterprise GIS database, allowing for a spatial representation of the permit addresses. The project database used in Development Management could be linked to a development feature class within a GIS database, allowing for a spatial representation of development information to be provided.



Opportunity 2: Update development plan history feature class

A development plan feature class has been created and is maintained by OIT, which contains information about development plans that have been submitted in the past year to PDM. This feature class could be updated to show the boundaries of ALL of the developments that have gone through Development Management, with information regarding their status (whether they were developed, what plans were submitted, etc.). This could be linked to digital development plans that show more detailed information about the development and associated agency comments that might have been submitted. This would allow for development plans reviewers to see where development reviews have been completed and what the associated constraints might have been.

Opportunity 3: Create County Owned Property Feature Class

A county-owned property feature class should be developed that identifies all of the property owned by the county as a polygon, as well as the responsible agency. The Parks and Recreation Agency currently maintains this dataset, but it is not necessarily accurate and is not available to the Enterprise. PDM is responsible for county owned land, and the selling and acquisition of this land, and as such would be best suited to develop and maintain this layer. This layer could be developed by extracting information already contained in the cadastral dataset.

The County Owned Property layer will save time spent researching material to find out various information about a property, including the location and responsible agency. This would also reduce other agencies dependency on providing this information, since the data could be provided through the Enterprise. Each of these benefits would help reduce the turnaround time for a request. As an added benefit, the development of this layer would help to identify small parcels that are not easily readable on the State Tax Maps and would result in a increased quality and accuracy of the Tax Parcel layer.

Opportunity 4: Require Digital Development Plan Submittal

A mandate could be developed that requires developers to submit concept and development plans in digital format with the hardcopies that are currently provided. This would reduce the amount of time that is spent by OIT to digitize these data. This would also allow for these plans to be submitted in digital format to agencies that review the plans. They could also be georeferenced so that reviews could be performed within a GIS, saving time and money spent during the review process. A website could be developed for digital submittals, providing an incentive to developers to submit the plans digitally, since they could avoid travel to the PDM office. These digital development plans could be used to print hardcopy plans when still needed as the process matures.



Opportunity 5: Develop Service-Orientated Architecture (SOA)

The existing and new databases, as well as supporting applications, should be designed in a manner that allows for integrating services. Currently each database within PDM meets the needs of a particular business process, but this cannot be extended to other unrelated business processes. Each database should be designed in a manner that allows for requests and responses to be received from many different service applications. This allows for applications and databases to be used for many different business processes. Each application should also be developed so that they meet the needs of a service, but can also communicate with other applications and databases.

This SOA would facilitate the discussed Land Management System. This system should include a geographic component to data provided, but does not have to be built on top of a GIS platform. This system should incorporate services that should be provided by PDM and the county in order to offer customized applications to each program within PDM. This ensures that the data and applications are reused between programs, while only providing mapping data and applications where necessary.

For example, the Permits & Licensing program could have an application that allows for permits to be recorded and tracked as they move through the system. This application could utilize a geocoding service provided by OIT to give a geographic coordinate to each permit address. This application could store this information in a database, which would be transmitted to OIT for distribution as a Permit location feature class service to the rest of the county. This application could also take advantage of data services already given by OIT. Similarly designed applications could be built throughout PDM to meet the needs of each program.



4 Programs and Activities

Each of the interviews conducted with agency officials and personnel were used to compile information about the business processes used for each program within the agency, as well as look at how GIS is being used and benefits are being realized.

Each program is described below, listed with GIS-related funding and mandates, as well as any social or political benefits that are being seen as a result of using GIS. The associated products, customers served, and data/ applications used are also discussed. Activities have also been included under their associated programs, along with the process with and without GIS used to complete this activity, benefits that have been realized, and recommendations for additional GIS implementation where appropriate.



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4.1 Building Plans Review

Program: Building Plans Review
Primary Point of Contact:
John Bryan
Overview:
<p>Building Plans Review is a program responsible for the review of all building construction and fire suppressions system plans and specifications in order to determine their compliance with applicable national and local building and fire codes and standards.</p> <p>The Building Plans Review Bureau reviews, interprets, applies, and approves Maryland State and Baltimore County construction, fire and other related codes requiring building permits. The Bureau assists in writing fire and building code ordinances and fire prevention activities, as well as writing detailed code review letters to explain code compliance deficiencies. The Bureau reviews and approves all building construction and installed fire suppression system plans and specifications for compliance with the Baltimore County Fire Prevention Code, Baltimore County Building Code, State of Maryland Fire Prevention Code, N.F.P.A. "Life Safety Code", and other codes and standards related to construction. Sprinkler systems, fire line installations, construction materials, mechanical devices, hazardous materials installations, and fire protection equipment are also evaluated for compliance with same codes.</p>
Funding:
There is no external funding related to GIS activities for this program.
Mandates:
There are no mandates that are related to GIS activities for this program.
Political Benefits:
None determined.
Social Benefits:
Social benefits include ensuring that all buildings within the county are safe for occupancy and that fire suppression systems are adequate for each of the structures within the county.
Products/Services:
<ul style="list-style-type: none"> • Building and fire code ordinances • Building and fire plan comments and approvals
Customers:
<ul style="list-style-type: none"> • Real estate developers • Citizens
Data (Enterprise Layers are Listed in Bold):
N/A



Applications Used:
N/A
Associated Activities:
4.1.1 Building Plans Review – Building/ Fire



4.1.1 Building Plans Review – Building/ Fire

Activity: Building Plans Review – Building/ Fire					
Primary Point of Contact:					
John Bryan					
Overview:					
Review & approve architectural, structural, mechanical plans & specifications for major & minor commercial & residential projects to ensure that specific requirements of the building code, mechanical code, life safety code, ADAAG (State Accessibility Code), & related standards have been complied with, & that the design and engineering have been properly executed to ensure a sound design in accordance with code requirements & recognized engineering theory & practice.					
Interviewee(s) Providing Information:					
Tony Buckelman					
Process with GIS:					
N/A (GIS is not currently being used)					
Process without GIS:					
Building Plans, which consist of building drawings and site plans, are reviewed in hardcopy format. Building plans are reviewed for non-geographic related items. Site plans are reviewed for water connections, fire hydrant locations, slopes, curb cuts, building locations, floodplains locations, topographic information, and location of tanks. Site visits are done on average one per month to verify some aspect of the building plans. Floodplain determinations are sent to DPW for review.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
N/A (GIS is not currently being used)					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Annual # Iterations Per Year	Difference	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
4	N/A	520	N/A	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
N/A (GIS is not currently being used)					



New Opportunities:

- Aerial photography could be used to determine what features on a site, such as piers, have historically been present. This would help understand if the plans reviewed meet the historical requirements, increasing the accuracy of judgments.
- GIS and Floodplain data, in conjunction with training, could be used to support residential site plans for use in determining whether a structure is within a floodplain. This would alleviate the need to send these determinations to DPW, saving time waiting for results and focusing time to a single individual.
- GIS could be used with cadastral data to help determine distances from a structure to property lines, verifying the measurements supplied on the site plan.
- Fire hydrant data would help determine the locations of fire hydrants when they are not provided on site plans, eliminating the need for occasional field visits. Having GIS available may also give added tools for analyzing these data, such as determining how many fire hydrants are within a given distance.
- Topographic data could be used to create a slope dataset that could be displayed in a GIS and used to determine the grade of a piece of property on plans where this is not provided. Complex analysis could be used with this dataset to determine how much of a building would be on a certain grade, etc.
- The information that is gathered for roads to determine if they are suitable for fire truck access could be spatially represented as an street centerline feature, with attributes to use by the 911 Center to determine routing for fire trucks.
- GIS could be used to show the locations of proximate buildings to determine if the building plan meets the design criteria for a given area.
- Recording the address of a building permit and having this linked to the address point dataset (within Permits & Licensing Processing) could help find a the status of a building plans review (using street intersections or map browsing), instead of relying on the permit number.

Benefits of Pursuing New Opportunities:

- Increased accuracy of historical requirements
- Decrease time waiting for DPW response to floodplain determinations
- Increased reliability of site plan measurements
- More complex spatial analysis tools would be available
- Decreased time responding to inquiries



4.2 Code Inspection and Enforcement

Program: Code Inspection and Enforcement
Primary Point of Contact:
John Altmeyer, James Thompson
Overview:
Code Inspection and Enforcement is the principle investigative arm of Permits Development and Management. This sections is responsible for the inspection and enforcement of building, electrical, and plumbing codes, zoning laws, livability codes, and other laws, codes, rules, regulations and policies pertaining to the health, safety, and appearance of the community, which in turn protects and preserves property values.
Funding:
There is no external funding related to GIS activities for this program.
Mandates:
There are no mandates that are related to GIS activities for this program.
Political Benefits:
None determined.
Social Benefits:
Social benefits include ensuring that the health and safety of the Baltimore County citizens are preserved. The appearance of individual communities are also upheld, which protects and preserves property values.
Products/Services:
<ul style="list-style-type: none"> • Inspections
Customers:
<ul style="list-style-type: none"> • County agencies • State agencies • Citizens • County Attorney
Data (Enterprise Layers are Listed in Bold):
N/A
Applications Used:
N/A
Associated Activities:
4.2.1 Code Inspection and Enforcement - Building, Plumbing and Electrical Inspections



4.2.1 Code Inspection and Enforcement - Building, Plumbing and Electrical Inspections

Activity: Code Inspection and Enforcement - Building, Plumbing and Electrical Inspections
Primary Point of Contact:
John Altmeyer
Overview:
<p>Performs building, electric, plumbing and construction inspections for Single Family and Commercial Buildings in the county. Also responds to inquires regarding violations.</p> <p>Responsible for the inspection and enforcement of codes, laws, rules, regulations and policies related to building, electrical, and plumbing activities in relation to new structures, renovations and repairs. Contacts and negotiates with builders, homeowners, developers, landlords, and others to resolve violation disputes. Makes field inspections to investigate potentially controversial violations or situations with far-reaching implications. DEPRM provides GIS maps. A new construction is visited as work progresses, inspecting various regulations at each stage. The plat is compared to what has actually been built to determine if there has been a violation.</p>
Interviewee(s) Providing Information:
Tony Buckelman
Process with GIS:
N/A (GIS is not currently being used)
Process without GIS:
<p>An investigation starts with pulling information for a property, including tax information and permits. Tax assessment worksheets are gathered from the state website to determine the total value and square footage of a property, as well as the dimensions of setbacks. This is followed with a field visit to verify the complaint or notice. Multiple field visits may be necessary to handle the person with the complaint, as well as gathering additional ground information. A determination is then made of whether a violation has been made, which is reported and filed.</p>
Benefits Assessment: (H, M, L) Identify confidence level
<ul style="list-style-type: none"> • High
Benefits to Using GIS for this Activity:
N/A (GIS is not currently being used)



Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
2	N/A	N/A	130,000	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
N/A (GIS is not currently being used)					
New Opportunities:					
<ul style="list-style-type: none"> • Aerial photography could be used to identify the accuracy of plot plans and current/ previous pier locations. This would potentially save a field visit. • Historical aerial photography could be used to identify footprint changes in buildings, pointing out locations of violations of building permits. This would potentially save a field visit. Historic planimetric data could be used to develop an algorithm for automatically detecting footprint changes, reducing the time spent researching these changes and allowing for these to be detected without a complaint being registered. • Cadastral data that has been linked to the state assessment database, would be valuable to the inspector. This would allow for all of the information for a property to be gathered in one place, potentially reducing the amount of time spend researching a property. • Historic aerial photography could give the exact location of an old structure, eliminating the need for a land surveyor being paid for by a property owner. • Linking permits to address points by address could help determine where the locations are of properties that have expired permits. This could be used before a field visit. • Having GIS on a ruggedized laptop in the field would be beneficial, by allowing the inspector to answer a citizens question about a property without going back to the office and allowing the inspector to perform calculations of distances of a property. Data entry time could also be reduced, since data would only be entered once into the laptop, as apposed to recording on hardcopy and transferring to a database. Data compilation time could be reduced, since the inspector would have all the materials needed already on the laptop, as apposed to gathering these items in the office. • Complaints and planned construction inspections could be geocoded to a point, giving a spatial location of the locations where complaints are occurring. Time and money could be spent by more effectively dispatching inspectors and visualizing patterns in complaints received. 					



Benefits of Pursuing New Opportunities:

- Approximately 6,500 field visits would be saved if GIS was available, saving around \$441,350 per year.
- Decreased time entering data in office.
- Some property owners would not require surveyor for building permit if location of old structure was available, saving these individuals \$2,000-2,500 per permit.
- Reduced time spent researching a property
- Reduced time spent in field



4.3 Development Management

Program: Development Management
Primary Point of Contact: Walt Smith
Overview: Development Management is responsible for overseeing the subdivision and development work of Baltimore County. This program supervises each project from initial property use prospects, land use conceptualization, development plans, and into the construction phase. Each project within the county is processed by this arm of PDM. A project manager is responsible for coordinating the development and engineering efforts in order to complete developments within the specifications of county regulations and county agency restrictions. The project manager also informs the public of development efforts and ensures that proper legal requirements are met.

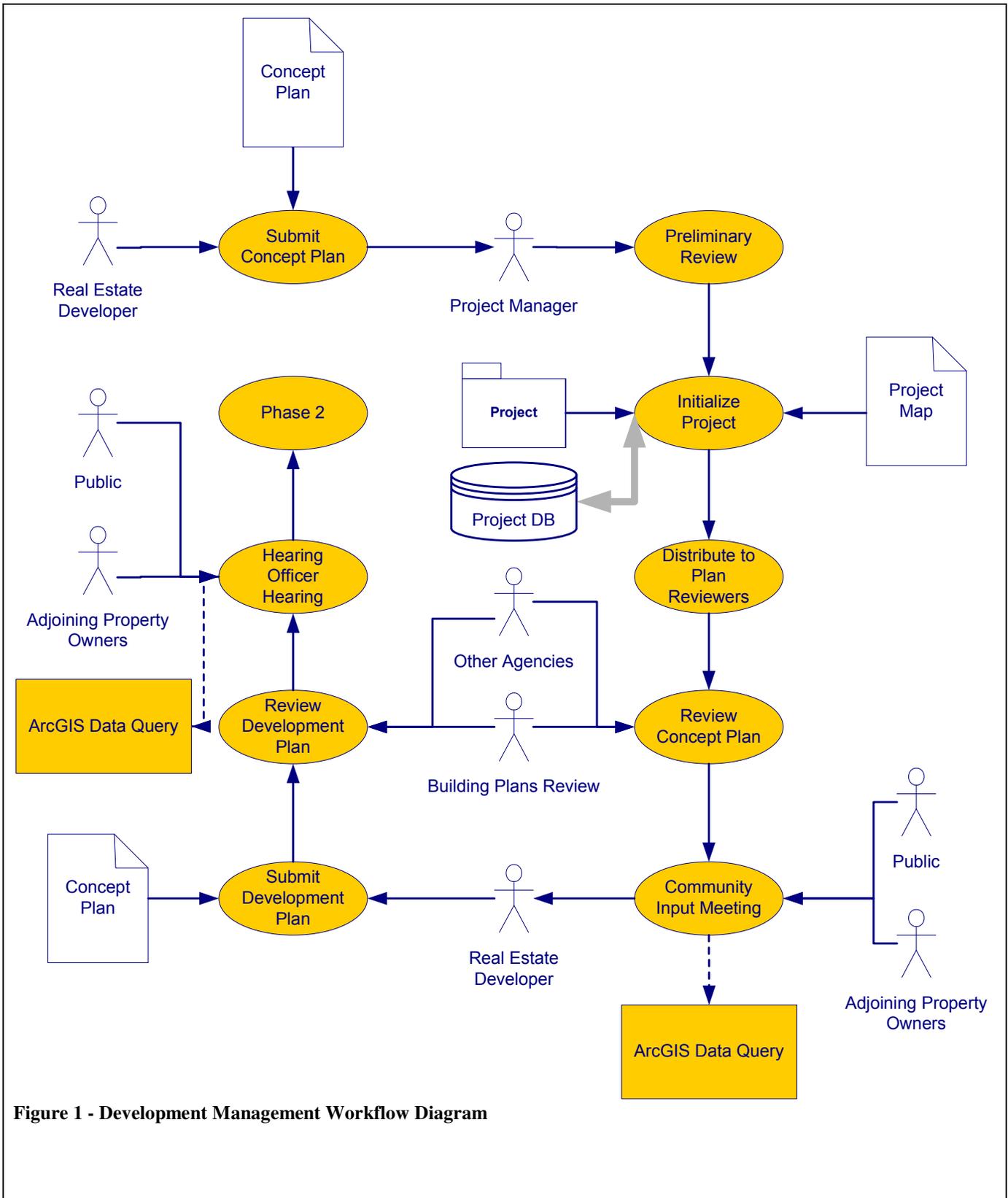


Figure 1 - Development Management Workflow Diagram



Figure 1 describes the process that each development goes through within Development Management. A real estate developer submits a concept plan in hardcopy format, which is recorded as a new development project and assigned a project manager. After a preliminary review to ensure that all applicable materials have been submitted, a physical file is made for the project and associated information about the project is recorded in a project database. The location of the development is also recorded on a hardcopy map. The concept plan is distributed in hardcopy format to agencies for review. Comments from each agency are received, which are then given and explained to the developer. A community input meeting is held to make the public aware of the potential development and to receive input from citizens. The comments received from this meeting, as well as the comments from the concept plan, are used to create a development plan that is submitted to Development Management for review. This plan is distributed to several agencies and returned with comments. These comments are given to the developer and a Hearing Officer Hearing meeting is conducted to address development issues. The development then goes into construction phase and the project is closed out.

Funding:

There is no external funding related to GIS activities for this program.

Mandates:

There are no mandates that are related to GIS activities for this program.

Political Benefits:

None determined.

Social Benefits:

Citizens are made aware of new developments and are allowed to voice their opinions about the direction of these developments.

Products/Services:

- Concept Plan and associated agency comments
- Development Plan and associated agency comments
- Handling citizen inquiries

Customers:

- Real Estate Developers
- Citizens



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • Basic Services • Basic Services - Transportation (Intersections) • Basic Services – Water • Basic Services –Sewer • Buildings • Commercial Revitalization Districts • Congressional Districts (2002) • Contours • Councilmatic Districts (2002) • County Boundary • County Historic Districts • Design Review Panel Areas • Development Plans 	<ul style="list-style-type: none"> • Digital Elevation Models • Election Districts • Encumbrance • Facilities • FEMA Maps • Index Grid - 200 Scale (BCMD) • Legislative Districts (2002) • Mask—County Satellite Images • Master Plan - Sewer • Master Plan - Water • Orthophoto (1995) • Orthophoto (1996) • Orthophoto (1997) • Orthophoto (1998) 	<ul style="list-style-type: none"> • Orthophoto (2000) • Orthophoto (2001) • Orthophoto (2002) • Orthophoto (2005) • Right of Way (LACQ) • Roads • SimComFrstDiv • Spot Elevations • State Legislative District • Subwatersheds • Tax Parcel • Taxmaps (Images) • Urban Rural Demarcation Line (URDL) • Zoning • Zoning - 1999 • Zoning Overlay Districts
Applications Used:		
<ul style="list-style-type: none"> • ArcGIS DataQuery • ArcIMS • ArcIMS MyNeighborhood 		
Associated Activities:		
<ul style="list-style-type: none"> 4.3.1 Development Management - Community Input Meetings 4.3.2 Development Management - Concept Plan Review 4.3.3 Development Management - Development Plan Review 4.3.4 Development Management - Hearing Officers Hearings 4.3.5 Development Management - Limited Exemption Plans 4.3.6 Development Management - Minor Subdivision Plans 4.3.7 Development Management - Pre-Concept Plan Conferences 4.3.8 Development Management - Public Works Agreements 4.3.9 Development Management – Inquiries 4.3.10 Development Management - Street Naming 4.3.11 Development Management - Utility & Right of Way Agreements 4.3.12 Development Management - Water & Sewer House Connections 		



4.3.1 Development Management - Community Input Meetings

Activity: Development Management - Community Input Meetings					
Primary Point of Contact:					
Darlene Koluch					
Overview:					
Community Input Meetings are held to discuss issues related to a specific development with adjacent property owners, county agencies, project managers, and the real estate developer. A project manager develops an agenda for these meetings, schedules a date for each one to take place, notifies each participant of the meeting, posts information about the meeting to the county website, and then hosts the meeting. GIS is used to check the election and councilmatic districts for each development, in order to invite the proper representatives.					
Interviewee(s) Providing Information:					
Kristen Weis, Darleen Koluch; Darryl Putty					
Process with GIS:					
In order to check the related districts to a development, a GIS user enters the address or street intersections of a property into the GIS application. This location is compared with the boundaries of each district to determine the associated district. These are recorded with the project.					
Process without GIS:					
Several reference documents would need to be evaluated, including the “Where Do I Vote?” guide, the “White Book”, and the ADC map book. Additional time would be spent determining the location of the development in each document.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
GIS saves time and money spent researching the locations of developments in relation to each district.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.5	0.03333	0.46667	104	48.5	\$1,647.72
Annual Benefit: \$ 1,647.72					
Areas for Improvement:					
<ul style="list-style-type: none"> • GIS could be used to find the adjacent property owners that need to be notified, reducing time spend researching owners. This would require a cadastral dataset linked to the state assessment database, in addition to a project location spatial dataset. 					



New Opportunities:

- Digital versions of the concept plans could be submitted to the county website for public viewing, making the public more informed and potentially eliminating the need to join a meeting.
- Digital maps of the affected area could be developed for these meetings to help inform the public of spatial characteristics of the area that are not on the development plans. These could also be posted to the county website.

Benefits of Pursuing New Opportunities:

- Public would be more informed of the spatial characteristics of each potential development
- Public could avoid time spent in meetings



4.3.2 Development Management - Concept Plan Review

Activity: Development Management - Concept Plan Review
Primary Point of Contact:
Kristen Weis, Darlene Koluch
Overview:
<p>Development Management acts as a central clearing station and hub for the submittal of concept engineering plans associated with a development. A concept plan drafts a proposed development and begins a project within Project Management. The concept plan generally contains a proposal and a constraints view, which could be the same or separate documents. The proposal includes the location of houses, orientation of site and buildings, lot lines, topography, traffic information, proposed roads, and an areal view of site without trees. The constraints view includes existing conditions map with buildings, land use, etc.</p> <p>A plan is dropped off in hardcopy format to the Development Management office by a real estate developer. After associated fees are paid, a project is started within the project database. A physical file is created for the project, in which the original concept plan is stored. The concept plan is reviewed by a project manager to ensure that the plan contains all of the necessary information. 36 copies are made of the plan, which are distributed to various county agencies for review. OIT is digitizing, georeferencing, and managing these plans, which are not complete.</p> <p>A Concept Plan Conference is scheduled, which is chaired by a project manager. Each of the county agency comments are discussed at this meeting.</p>
Interviewee(s) Providing Information:
Kristen Weis, Darleen Koluch; Darryl Putty
Process with GIS:
N/A (GIS is not currently being used)
Process without GIS:
A plan is dropped off in hardcopy format to the Development Management office by a real estate developer. 36 copies are made of the plan, which are distributed to various county agencies for review.
Benefits Assessment: (H, M, L) Identify confidence level
<ul style="list-style-type: none"> • High
Benefits to Using GIS for this Activity:
N/A (GIS is not currently being used)



Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A	N/A	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
N/A (GIS is not currently being used)					
New Opportunities:					
<ul style="list-style-type: none"> • Engineers would benefit from a right-of-way (ROW) layer and easement layer, since they are currently asked to identify all of these existing features around a development. Having these completed layers would reduce the times spent researching hardcopy plats. • Developers could submit concept plans digitally, reducing the amount of time spent by OIT digitizing these plans and making the transmittal of these plans to the public and other county agencies easier. 					
Benefits of Pursuing New Opportunities:					
<ul style="list-style-type: none"> • Reduced time spent researching hardcopy plats • Reducing data maintenance of concept plans • Easier transmittal of concept plans 					



4.3.3 Development Management - Development Plan Review

Activity: Development Management – Development Plan Review					
Primary Point of Contact:					
Kristen Weis, Darlene Koluch					
Overview:					
<p>Act as a central clearing station and hub for the submittal of development engineering plans associated with a development. A development plan formally proposes a development based on comments received from the public and county agencies of the concept plan. The development plan contains more detailed information about a development, including utilities, floodplains, etc.</p> <p>A plan is dropped off in hardcopy format to the Development Management office by a real estate developer. After associated fees are paid, the plan is logged in the project file. The development plan is reviewed by a project manager to ensure that the plan contains all of the necessary information. 36 copies are made of the plan, which are distributed to various county agencies for review. OIT is digitizing, georeferencing, and managing these plans, which are not complete.</p>					
Interviewee(s) Providing Information:					
Kristen Weis, Darleen Koluch; Darryl Putty					
Process with GIS:					
N/A (GIS is not currently being used)					
Process without GIS:					
A plan is dropped off in hardcopy format to the Development Management office by a real estate developer. 36 copies are made of the plan, which are distributed to various county agencies for review.					
Benefits Assessment: (H, M, L) Identify confidence level					
• High					
Benefits to Using GIS for this Activity:					
N/A					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A	N/A	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
N/A (GIS is not currently being used)					



New Opportunities:

- GIS, with layers such as topography, floodplains, and wetlands, would help verify the information submitted by developers on the development plan, increasing the accuracy of constraints to a development.
- Developers could submit concept plans digitally, reducing the amount of time spent by OIT digitizing these plans and making the transmittal of these plans to the public and other county agencies easier.

Benefits of Pursuing New Opportunities:

- Increased accuracy in determining constraints to development, saving the developer money in situations when the problem is found before construction begins.
- Reducing data maintenance of development plans
- Easier transmittal of development plans



4.3.4 Development Management - Hearing Officers Hearings

Activity: Development Management - Hearing Officers Hearings					
Primary Point of Contact:					
Darlene Koluch					
Overview:					
Hearing Officers Hearings are held to discuss issues related to a specific development with adjacent property owners, county agencies, project managers, and the real estate developer. A project manager develops an agenda for these meetings, schedules a date for each one to take place, notifies each participant of the meeting, posts information about the meeting to the county website, and then hosts the meeting. GIS is used to check the election and councilmatic districts for each development, in order to invite the proper representatives.					
Interviewee(s) Providing Information:					
Kristen Weis, Darleen Koluch; Darryl Putty					
Process with GIS:					
In order to check the related districts to a development, a GIS user enters the address or street intersections of a property into the GIS application. This location is compared with the boundaries of each district to determine the associated district. These are recorded with the project.					
Process without GIS:					
Several reference documents would need to be evaluated, including the "Where Do I Vote?" guide, the "White Book", and the ADC map book. Additional time would be spent determining the location of the development in each document.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching the locations of developments in relation to each district. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.5	0.03333	0.46	52	24.26	\$823.86
Annual Benefit: \$ 823.86					
Areas for Improvement:					
<ul style="list-style-type: none"> • GIS could be used to find the adjacent property owners that need to be notified, reducing time spent researching owners. This would require the existing cadastral dataset linked to the state assessment database, in addition to a project location spatial dataset. 					



New Opportunities:

- Digital versions of the development plans could be submitted to the county website for public viewing, making the public more informed and potentially eliminating the need to join a meeting.
- Digital maps of the affected area could be developed for these meetings to help inform the public of spatial characteristics of the area that are not on the development plans. These could also be posted to the county website.

Benefits of Pursuing New Opportunities:

- Public would be more informed of the spatial characteristics of each potential development
- Public could avoid time spent in meetings



4.3.5 Development Management - Limited Exemption Plans

Activity: Development Management - Limited Exemption Plans					
Primary Point of Contact:					
Kristen Weis					
Overview:					
Limited Exemption Plans are submitted for developments that have existing structures that are requesting modification. GIS is used to check the election and councilmatic districts for each development , in order to invite the proper representatives to associated meetings.					
Interviewee(s) Providing Information:					
Kristen Weis, Darleen Koluch					
Process with GIS:					
In order to check the related districts to a development, a GIS user enters the address or street intersections of a property into the GIS application. This location is compared with the boundaries of each district to determine the associated district. These are recorded with the project.					
Process without GIS:					
Several reference documents would need to be evaluated, including the “Where Do I Vote?” guide, the “White Book”, and the ADC map book. Additional time would be spent determining the location of the development in each document.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching the locations of developments in relation to each district. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.5	0.03333	0.46	52	24.26	\$823.86
Annual Benefit: \$ 823.86					
Areas for Improvement:					
None determined.					



New Opportunities:

- Digital versions of the limited exemption plans could be submitted to the county website for public viewing, making the public more informed and potentially eliminating the need to join a meeting.

Benefits of Pursuing New Opportunities:

- Public would be more informed of the spatial characteristics of each potential development
- Public could avoid time spent in meetings



4.3.6 Development Management - Minor Subdivision Plans

Activity: Development Management - Minor Subdivision Plans
Primary Point of Contact:
Joe Chmura
Overview:
<p>Minor Subdivision Plans are submitted for subdivisions that have three lots or less. A plan is dropped off in hardcopy format to the Development Management office. After associated fees are paid, the plan is logged in the project file. The development plan is reviewed by a project manager to ensure that the plan contains all of the necessary information. 22 copies are made of the plan, which are distributed to various county agencies for review. County agency comments are collected and returned to the engineer. This process is repeated until all agencies are satisfied and the plans are approved. The locations of minor subdivisions are plotted on a hardcopy map posted on a wall in PDM.</p> <p>OIT is digitizing, georeferencing, and managing these plans, which are not complete.</p> <p>Each plan in GIS is used to check the election and councilmatic districts for each development , in order to invite the proper representatives to associated meetings.</p>
Interviewee(s) Providing Information:
Joe Chmura; Darryl Putty
Process with GIS:
In order to check the related districts to a development, a GIS user enters the address or street intersections of a property into the GIS application. This location is compared with the boundaries of each district to determine the associated district. These are recorded with the project.
Process without GIS:
Several reference documents would need to be evaluated, including the “Where Do I Vote?” guide, the “White Book”, and the ADC map book. Additional time would be spent determining the location of the development in each document.
Benefits Assessment: (H, M, L) Identify confidence level
<ul style="list-style-type: none"> • High
Benefits to Using GIS for this Activity:
<ul style="list-style-type: none"> • GIS saves time and money spent researching the locations of developments in relation to each district.



Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.5	0.03333	0.46	18	8.4	\$285.18
Annual Benefit: \$ 285.18					
Areas for Improvement:					
None determined.					
New Opportunities:					
<ul style="list-style-type: none"> • GIS, with layers such as topography, floodplains, and wetlands, would help verify the information submitted by developers on the development plan, increasing the accuracy of constraints to a development. • Plans could be submitted digitally, reducing the amount of time spent by OIT digitizing these plans and making the transmittal of these plans to the public and other county agencies easier. 					
Benefits of Pursuing New Opportunities:					
<ul style="list-style-type: none"> • Increased accuracy in determining constraints to development, saving the developer money in situations when the problem is found before construction begins. • Reducing data maintenance of development plans • Easier transmittal of development plans 					



4.3.7 Development Management - Pre-Concept Plan Conferences

Activity: Development Management - Pre-Concept Plan Conferences
Primary Point of Contact:
Colleen Kelly
Overview:
<p>Pre-Concept Plan Conferences are weekly meetings that are conducted by project managers to discuss options for land use with property owners</p> <p>Maps are made of the area, including the address of the site, zoning, property boundaries, and other geographic data. These maps are used to give the public an understanding of the spatial representation of the area.</p> <p>GIS is used to check the election and councilmatic districts for each development , in order to invite the proper representatives.</p>
Interviewee(s) Providing Information:
Kristen Weis, Darleen Koluch
Process with GIS:
<p>In order to check the related districts to a development, a GIS user enters the address or street intersections of a property into the GIS application. This location is compared with the boundaries of each district to determine the associated district. These are recorded with the project.</p> <p>GIS is used to create a map of the property and surrounding area by adding several layers to a map template and plotting for use in the meeting.</p>
Process without GIS:
<p>In order to check the related districts to a development, several reference documents would need to be evaluated, including the “Where Do I Vote?” guide, the “White Book”, and the ADC map book. Additional time would be spent determining the location of the development in each document.</p> <p>Creating maps of properties without GIS would require looking up hardcopy maps, copying these maps, pasting maps together to cover the area, and adding additional features to these maps.</p>
Benefits Assessment: (H, M, L) Identify confidence level
<ul style="list-style-type: none"> • Medium – Time used to create maps without GIS estimated from other similar processes.
Benefits to Using GIS for this Activity:
<ul style="list-style-type: none"> • GIS saves time and money spent researching the locations of developments in relation to each district. • GIS saves time and money spent compiling maps.



Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
4.5	0.53	3.97	260	1,032.2	\$ 35,043.19
Annual Benefit: \$ 35043.19					
Areas for Improvement:					
None determined.					
New Opportunities:					
None determined.					
Benefits of Pursuing New Opportunities:					
None determined.					



4.3.8 Development Management - Public Works Agreements

Activity: Development Management - Public Works Agreements						
Primary Point of Contact:						
Darryl Putty						
Overview:						
Public Works Agreements (PWA's) are reviewed and processed through approval by this bureau. A developer submits a 5-6 page document that binds the developer to provide water, sewer, roads, etc. to county specifications within a given timeframe.						
Interviewee(s) Providing Information:						
Darryl Putty						
Process with GIS:						
N/A (GIS is not currently being used)						
Process without GIS:						
A developer submits a 5-6 page document, which is signed by the county, owner, and attorneys. There are generally no drawings included. One copy of development plan drawing is included that is highlighted with the public works improvements.						
Benefits Assessment: (H, M, L) Identify confidence level						
<ul style="list-style-type: none"> • High 						
Benefits to Using GIS for this Activity:						
N/A (GIS is not currently being used)						
Annual Savings from Use of GIS:						
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)	
N/A	N/A	N/A	N/A	N/A	\$0	
Annual Benefit: \$ 0						
Areas for Improvement:						
<ul style="list-style-type: none"> • The locations of existing utilities, ROWs, and easements would be beneficial to the plan designer and reviewer, since they would have an idea of how the new features fit in with existing infrastructure and county –owned land. 						
New Opportunities:						
None determined.						



Benefits of Pursuing New Opportunities:

None determined.



4.3.9 Development Management - Inquiries

Activity: Development Management - Inquiries					
Primary Point of Contact:					
Darryl Putty					
Overview:					
Project Managers answer questions from the public and developers about specific developments or related materials.					
Interviewee(s) Providing Information:					
Darryl Putty					
Process with GIS:					
N/A (GIS is not currently being used)					
Process without GIS:					
<p>Project Managers answer questions from public about how the development will impact others, including traffic, flooding potential, etc. Most want to see the file related to a project and have it explained. Agencies are asked if they have received all of the files that they need from the developers. Developers call and ask how the progress of the comments from county agencies for concept and development plans are going.</p> <p>A wall map is referenced to find out where a subdivision is and find out the subdivision ID, which is then used to pull a file for this area to answer specific questions about these properties.</p>					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
N/A (GIS is not currently being used)					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.25	N/A	N/A	3,120	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
N/A (GIS is not currently being used)					



New Opportunities:

- GIS with a development feature class could be used to look up developments that are referenced by address of geographic location. These features would need to be linked to the existing project database and could also be linked to digital copies of the development plans. This would save time researching a development.
- Development and concept plans, with the comments received from county agencies, could be posted to the county website for public view. This would require these plans to be digitized. This could potentially save the project manager time handling these inquiries.
- A GIS layer with minor subdivision layer would allow for users to respond to inquiries faster. This layer would be used to determine what properties are within a minor subdivision and could be referenced to other layers as well. This would save approximately \$3,700 per year, based on a savings of 10 minutes per task, completed 650 times per year.

Benefits of Pursuing New Opportunities:

- GIS could save time and money spent researching the locations of developments.
- GIS could save time and money handling inquiries.



4.3.10 Development Management – Street Naming

Activity: Development Management - Street Naming						
Primary Point of Contact:						
Janice Kemp, Linda Blackmon						
Overview:						
Street Naming approves all new road names in the county and assigns new addresses to structures, as well as renaming roads and renumbering addresses. Concept and development plans are reviewed for new roads.						
Street Naming determines the locations of addresses for zoning as requested.						
Addresses are checked for certain building permit applicants.						
Interviewee(s) Providing Information:						
Janice Kemp, Linda Blackmon						
Process with GIS:						
Addresses are entered into the GIS and a location is returned. Street names are used to find intersections of streets.						
Address ranges are assigned to new developments after the development plan has been submitted. Address ranges are determined by looking at address ranges of proximate parallel streets and assigning similar ranges to the required street.						
Process without GIS:						
The tax number would need to be looked up, which would be used to determine where an address is on the street. ADC maps would be used to determine the location, then the associated 200' scale map would be gathered to determine the parcel number.						
Benefits Assessment: (H, M, L) Identify confidence level						
<ul style="list-style-type: none"> • High 						
Benefits to Using GIS for this Activity:						
<ul style="list-style-type: none"> • GIS saves time and money spent researching the locations of streets, parcels, and addresses. 						
Annual Savings from Use of GIS:						
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)	
0.41	0.02	0.39	3,900	1,521	\$51,637.95	
Annual Benefit: \$ 52,079.30						



Areas for Improvement:

- An algorithm could be developed within GIS to assign address ranges to new streets based on the location of new streets in relation to existing streets. This would save time spend assigning address ranges.
- Time would be saved maintaining the address point layer, so that hardcopy maps do not have to be referenced when there is an address that needs to be verified that is not in the database.

New Opportunities:

- The address layers could be updated as new addresses are assigned, saving time for other agencies coordinating with PDM to enter these features.
- Address points could be used to determine address ranges instead of streets. This would provide a more accurate idea of the range that needs to be assigned, since these features are disaggregated for each structure that has one or multiple addresses.
- Zoning could research addresses for plats themselves, saving time spent collaborating with Street Naming.

Benefits of Pursuing New Opportunities:

- GIS could save time and money spent maintaining address point dataset and increase reliability of this dataset, since the source of the addresses assignments would be responsible for this data entry.
- GIS could increase accuracy of address ranges assigned to new streets.



4.3.11 Development Management - Utility & Right of Way Agreements

Activity: Development Management - Utility & Right of Way Agreements					
Primary Point of Contact:					
Brenda Payne					
Overview:					
Utility & Right of Way Agreements are agreements that are executed between the county and a developer for the completion of improvements on development sites. Improvements include water, sewer, drains, roads, landscaping, sidewalks and water tanks.					
Interviewee(s) Providing Information:					
Darryl Putty					
Process with GIS:					
N/A (GIS is not currently being used)					
Process without GIS:					
These agreements are processed and approved then sent to DPW along with construction drawing sets for the work to be inspected.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
N/A (GIS is not currently being used)					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A	N/A	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
<ul style="list-style-type: none"> • The locations of existing utilities, ROWs, and easements would be beneficial to the plan designer and reviewer, since they would have an idea of how the new features fit in with existing infrastructure and county –owned land. 					
New Opportunities:					
None determined.					
Benefits of Pursuing New Opportunities:					
None determined.					



4.3.12 Development Management - Water & Sewer House Connections

Activity: Development Management - Water & Sewer House Connections					
Primary Point of Contact:					
Linda Blackmon					
Overview:					
Water & Sewer House Connections is responsible for processing contracts between citizens and utility contractors to connect new and existing homes to county water and sewer mains.					
Interviewee(s) Providing Information:					
Linda Blackmon					
Process with GIS:					
N/A (GIS is not currently being used)					
Process without GIS:					
The plat is reviewed, then submitted to construction inspection for approval. The drawing for water and sewer, site plan, and proposal are submitted. There is no database entry of these requests.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
N/A (GIS is not currently being used)					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A	N/A	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
<ul style="list-style-type: none"> • The locations of existing utilities, ROWs, and easements would be beneficial to the plan designer and reviewer, since they would have an idea of how the new features fit in with existing infrastructure and county-owned land. 					
New Opportunities:					
<ul style="list-style-type: none"> • Digital copies of plats could be submitted so that these could be overlaid within a GIS and compared with existing infrastructure. This could save time spend comparing plats to other map materials. 					
Benefits of Pursuing New Opportunities:					
<ul style="list-style-type: none"> • GIS could save time and money spent comparing plats to other map materials. 					



4.4 Development Plans Review

Program: Development Plans Review
Primary Point of Contact:
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin, Dave Derickson
Overview:
Development Plans Review is responsible for reviewing, supplying comments for, and approving development plans, construction drawings, record plats, flood plain studies and landscape plans. Personnel testify at public hearings for development issues. This program also reviews and comments on the Zoning Advisory Committee.
Funding:
There is no external funding related to GIS activities for this program.
Mandates:
There are no mandates that are related to GIS activities for this program.
Political Benefits:
None determined.
Social Benefits:
Citizens and developers are made aware of the constraints and permitted uses of various properties, which can influence sales decisions and help understand development potential.
Products/Services:
<ul style="list-style-type: none"> • Development plan reviews • Answers to inquiries
Customers:
<ul style="list-style-type: none"> • Real Estate Developers • Citizens • County Agencies • Engineering Firms



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • Address Points (View) • Basic Services • Basic Services - Transportation (Intersections) • Basic Services - Water • Basic Services -Sewer • Buildings • Contours • Hydrology • Orthophoto (1995) 	<ul style="list-style-type: none"> • Orthophoto (1996) • Orthophoto (1997) • Orthophoto (1998) • Orthophoto (2000) • Orthophoto (2001) • Orthophoto (2002) • Orthophoto (2005) • Sewer • Sewer Service Areas • Sewer Subsheds • Sewer Treatment Plants • SimComFrstDiv • SimCon • Street Centerlines 	<ul style="list-style-type: none"> • Street Centerlines (View) • Tax Parcel • TaxParcel • Zoning • URDL • SWM • 100 Year Flood Plain • Open Space • Historic Districts • Storm Drain Reservations • Councilmanic Districts • Election Districts • Water • Watersheds • Master Plan Layouts
Applications Used:		
<ul style="list-style-type: none"> • ArcGIS DataQuery 		
Associated Activities:		
<p>4.4.1 Development Plans Review - Inquiries</p> <p>4.4.2 Development Plans Review - Concept Plans</p> <p>4.4.3 Development Plans Review - Development Plans</p> <p>4.4.4 Development Plans Review – Minor Subdivision Plans</p> <p>4.4.5 Development Plans Review – Record Plats</p> <p>4.4.6 Development Plans Review – Flood Plain Studies</p> <p>4.4.7 Development Plans Review – Grading Plans/Sediment Erosion Plans</p> <p>4.4.8 Development Plans Review – Landscape Plans</p>		



4.4.1 Development Plans Review – Inquiries

Activity: Development Management - Inquiries					
Primary Point of Contact:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin, Dave Derickson					
Overview:					
Development Plans Review handles inquiries from real estate developers and citizens. These inquiries are generally regarding comments received for development plans that have previously been submitted for a property, in order to get an idea of the development potential and constraints for that particular property. Also inquiries can deal with any individual inquiring with any question in reference to developing a property and what can they do with their property.					
Interviewee(s) Providing Information:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin					
Process with GIS:					
Addresses are entered into the GIS and a location is returned. Street names are used to find intersections of streets. This is used to find the property being reviewed and the information in GIS is used to assist in the overall review or assistance to the person doing the inquiry.					
Process without GIS:					
The address would be researched from an ADC map, which would give the location to look for the development on the index map. The index map would give the name of the 200' scale map, which would be gathered. The development name could then be gathered from this map and would be used to manually go to the file folder with development plan comments if the folder is on file. If the file is in storage, a request is placed to retrieve it (may take several days). Then a return phone call would be made to answer the question after the information has been found.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching the locations of streets and addresses. Allows the staff to respond to inquires in a much shorter period of time and more through with much less information gathering than without GIS. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
1.0	0.5	0.5	1,750	875	\$29,706.25
Annual Benefit: \$29,706.25					



Areas for Improvement:

- Time would be saved maintaining the address point layer, so that hardcopy maps do not have to be referenced when there is an address that needs to be verified that is not in the database.

New Opportunities:

- A development feature class could be developed that would show the locations of developments that have been reviewed, and link to appropriate concept and development plans that have been reviewed. This could also be linked to the project database so that the review status of these developments could be quickly retrieved. This would save time spent researching previous development plans.
- A major and minor subdivision layer available within GIS would help determine the location of these projects. This would reduce the time spend looking for them on hardcopy cards in a filing system currently used.

Benefits of Pursuing New Opportunities:

- GIS could save time and money spent researching the locations of previously reviewed concept and development plans. This information could be shared countywide allowing any County agency to access what development is being considered and how it will affect whatever project an agency is concerned. It will allow the elected officials to access this information without having to put further inquiry burden on County employees.



4.4.2 Development Plans Review – Concept Plans

Activity: Development Management - Concept Plans					
Primary Point of Contact:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin, Dave Derickson					
Overview:					
Development Plans Review is responsible for reviewing the concept plans for new project to determine if criteria needed for development are available, including water, sewer, drainage, existing road infrastructure and tie-ins, etc. Concept plans are received in hardcopy format from Development Management, which are reviewed and returned with comments. These concept plans are stored in hardcopy format.					
Interviewee(s) Providing Information:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin					
Process with GIS:					
A map is made of the overview of the project area, as well as a detailed map of the project location. Topography, planimetric data, street centerline data, watersheds, hydrography, etc. are added to this map, which is printed for review to get an idea of the landscape before the concept plan is fully reviewed. GIS helps determine if the plan meets the criteria for a flood plain study.					
Process without GIS:					
Various maps and plans would have to be gathered in hardcopy format from files. These would have to be copied and pasted together to get a complete view of the area with all relevant data included.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching maps and plans. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
1.0	0.5	0.5	104	52	\$1,765.40
Annual Benefit: \$ 1,765.40					



Areas for Improvement:

- Concept plans could be overlaid in GIS in digital format so that other layers could be analyzed relative to the development. This could increase the accuracy of the determinations, since the source data would be in one projection and overlaying each other properly. This could also save time spent overlaying hardcopy maps and transferring information from one document to another.

New Opportunities:

- A development feature class could be developed that would show the locations of developments that have been reviewed, and link to appropriate concept and development plans that have been reviewed. This could also be linked to the project database so that the review status of these developments could be quickly retrieved. This would save time spent researching previous development plans.
- The locations of floodplains within GIS would help the developers understand the constraints of these features to development, helping show immediate constraints to development before it moves too far along in the project process. This would save the developer time planning for a development.
- A major and minor subdivision layer available within GIS would help determine the location of these projects. This would reduce the time spent looking for them on hardcopy cards in a filing system currently used.

Benefits of Pursuing New Opportunities:

- GIS could save time and money researching the locations of development plans.
- GIS could save time spent by the developer planning for a project.
- GIS could save time and money researching various maps and plans.
- GIS could make this data available countywide so that all County agencies could follow development throughout the County.



4.4.3 Development Plans Review – Development Plans

Activity: Development Management - Development Plans					
Primary Point of Contact:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin, Dave Derickson					
Overview:					
Development Plans Review is responsible for reviewing the development plans for project to determine if criteria needed for development are available, including water, sewer, drainage, existing road infrastructure and tie-ins, etc. Development plans are received in hardcopy format from Development Management, which are reviewed and returned with comments. These development plans are stored in hardcopy format.					
Interviewee(s) Providing Information:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin					
Process with GIS:					
GIS is used to look up utility features within the area and reference copies of relevant plans. GIS is used to see where watersheds are and what the slope of the area is to make determinations for new utility locations. GIS is used to show where current roads are and how to connect to these features.					
Process without GIS:					
Various maps and plans would have to be gathered in hardcopy format from files. These would have to be copied and pasted together to get a complete view of the area with all relevant data included. More research time would be needed.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching maps and plans. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
7.0	5.0	2.0	200	400	\$13,580.00
Annual Benefit: \$13,580.00					



Areas for Improvement:

- Development plans could be overlaid in GIS in digital format so that other layers could be analyzed relative to the development. This could increase the accuracy of the determinations, since the source data would be in one projection and overlaying each other properly. This could also save time spent overlaying hardcopy maps and transferring information from one document to another.

New Opportunities:

- A development feature class could be developed that would show the locations of developments that have been reviewed, and link to appropriate digital concept and development plans that have been reviewed. This could also be linked to the project database so that the review status of these developments could be quickly retrieved. This would save time spent researching previous development plans.
- Utilities layers, such as electric, water, sewer, and storm drain, would be beneficial within the GIS. These layers could be used to determine what existing assets are in an area, and could be linked to digital documents to help find the proper construction plans for each feature.
- The locations of floodplains within GIS would help the developers understand the constraints of these features to development, saving time spent by DPW to make these determinations.
- ROW features within GIS would be helpful, saving time to look up plans of these features for each particular area.
- Master plans of transportation and utilities within GIS would help to size utilities, reducing the time spent researching these hardcopy plans.
- Having a digital copy of each version of the development plan would be beneficial, helping to better manage and access these materials.
- A major and minor subdivision layer available within GIS would help determine the location of these projects. This would reduce the time spent looking for them on hardcopy cards in a filing system currently used.

Benefits of Pursuing New Opportunities:

- GIS could save time and money researching the locations of development plans.
- GIS could save time and money researching various maps, files, and plans.
- GIS could make this data available countywide so that all County agencies could follow development throughout the County.



4.4.4 Development Plans Review – Minor Subdivision Plans

Activity: Development Plans Review – Minor Subdivision Plans					
Primary Point of Contact:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin, Dave Derickson					
Overview:					
Development Plans Review is responsible for reviewing the minor subdivision plans for a project to determine if criteria needed for development are available, including water, sewer, drainage, existing road infrastructure and tie-ins, etc. Minor subdivision plans are received in hardcopy format from Development Management, which are reviewed and returned with comments. These minor subdivision plans are stored in hardcopy format.					
Interviewee(s) Providing Information:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin					
Process with GIS:					
GIS is used to look up utility features within the area and reference copies of relevant plans. GIS is used to see where watersheds are and what the slope of the area is to make determinations for new utility locations. GIS is used to show where current roads are and how to connect to these features.					
Process without GIS:					
Various maps and plans would have to be gathered in hardcopy format from files. These would have to be copied and pasted together to get a complete view of the area with all relevant data included. More research time would be needed.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching maps and plans. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
5.0	4.0	1.0	200	200	\$6,790.00
Annual Benefit: \$6,790.00					



Areas for Improvement:

- Minor subdivision plans could be overlaid in GIS in digital format so that other layers could be analyzed relative to the development. This could increase the accuracy of the determinations, since the source data would be in one projection and overlaying each other properly. This could also save time spent overlaying hardcopy maps and transferring information from one document to another.

New Opportunities:

- A development feature class could be developed that would show the locations of developments that have been reviewed, and link to appropriate digital minor subdivision plans that have been reviewed. This could also be linked to the project database (CASSWORKS) so that the review status of these developments could be quickly retrieved. This would save time spent researching previous minor subdivision plans.
- Utilities layers, such as electric, water, sewer, and storm drain, would be beneficial within the GIS. These layers could be used to determine what existing assets are in an area, and could be linked to digital documents to help find the proper construction plans for each feature.
- The locations of floodplains within GIS would help the developers understand the constraints of these features to development, saving time spent by DPW to make these determinations.
- ROW features within GIS would be helpful, saving time to look up plans of these features for each particular area.
- Master plans of transportation and utilities within GIS would help to size utilities, reducing the time spent researching these hardcopy plans.
- Having a digital copy of each version of the minor subdivision plan would be beneficial, helping to better manage and access these materials.
- A major and minor subdivision layer available within GIS would help determine the location of these projects. This would reduce the time spent looking for them on hardcopy cards in a filing system currently used.

Benefits of Pursuing New Opportunities:

- GIS could save time and money researching the locations of minor subdivision plans.
- GIS could save time and money researching various maps, files, and plans.
- This data could be made available countywide so that all County agencies could follow development throughout the County.



4.4.5 Development Plans Review – Record Plats

Activity: Development Plans Review – Record Plats					
Primary Point of Contact:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin, Dave Derickson					
Overview:					
Development Plans Review is responsible for reviewing the record plats for a project to determine that the boundaries, easements, environmental reservations match a minor subdivision plan, development plan, or previously record plat, and for lot line adjustments. Record plats are received in hardcopy format from Development Management, which are reviewed and returned with comments. These record plats are stored in hardcopy format.					
Interviewee(s) Providing Information:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin					
Process with GIS:					
GIS is used to look up utility features within the area and reference copies of relevant plans. GIS is used to see adjacent properties and through GIS can check adjacent parcel information. GIS is used to show where current tax parcel boundaries exist and can quickly point a review to associated record plat information to expedite the review of the record plat.					
Process without GIS:					
Various maps and plats would have to be gathered in hardcopy format from files. These would have to be copied and pasted together to get a complete view of the area with all relevant data included. More research time would be needed.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching maps and plans. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
4.0	3.5	0.5	150	75	\$2546.25
Annual Benefit: \$2546.25					



Areas for Improvement:

- Record plats could be overlaid in GIS in digital format so that other layers could be analyzed relative to the land records. This could increase the accuracy of the determinations, since the source data would be in one projection and overlaying each other properly. This could also save time spent overlaying hardcopy maps and transferring information from one document to another.

New Opportunities:

- ROW features within GIS would be helpful, saving time to look up plans of these features for each particular area.
- Master plans of transportation and utilities within GIS would help to size utilities, reducing the time spent researching these hardcopy plans.
- Having a digital copy of the recorded record plat would be beneficial, helping to better manage and access these materials.

Benefits of Pursuing New Opportunities:

- GIS could save time and money researching the locations of minor subdivision plans.
- GIS could save time and money researching various maps, files, and plans.
- GIS could make this data available countywide so that all County agencies could follow development throughout the County.



4.4.6 Development Plans Review – Flood Plain Studies

Activity: Development Plans Review – Flood Plain Studies					
Primary Point of Contact:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin, Dave Derickson					
Overview:					
Development Plans Review is responsible for reviewing the flood plain studies for an area to determine the limits of a 100-year storm. Flood Plain studies plans are received in hardcopy format from Development Management, which are reviewed and returned with comments. These flood plain studies are stored in hardcopy format.					
Interviewee(s) Providing Information:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin					
Process with GIS:					
GIS is used to look up the contours and drainage area to a make determination if a drainage area effecting a parcel is greater then 30 acres in which a flood plain study is required by County regulations.					
Process without GIS:					
Various maps and plans would have to be gathered in hardcopy format from files. These would have to be copied and pasted together to get a complete view of the area with all relevant data included. More research time would be needed.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching maps and plans. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
3.0	2.5	0.5	25	12.5	\$424.37
Annual Benefit: \$424.37					
Areas for Improvement:					
<ul style="list-style-type: none"> • Flood Plain Studies could be overlaid in GIS in digital format so that other layers could be analyzed relative to the development. This could increase the accuracy of the determinations, since the source data would be in one projection and overlaying each other properly. This could also save time spent overlaying hardcopy maps and transferring information from one document to another. 					



New Opportunities:

- The locations of floodplains within GIS would help the developers understand the constraints of these features to development, saving time spent by DPW to make these determinations.
- Having a digital copy of the accepted for filing copy of the flood plain study would be beneficial, helping to better manage and access these materials. This would reduce the time spend looking for them on hardcopy cards in a filing system currently used.

Benefits of Pursuing New Opportunities:

- GIS could save time and money researching the locations of minor subdivision plans.
- GIS could save time and money researching various maps, files, and plans.
- This data could be made available countywide so that all County agencies could follow development throughout the County.



4.4.7 Development Plans Review – Grading Plans/Sediment Erosion Plans

Activity: Development Plans Review – Grading Plans/Sediment Erosion Plans					
Primary Point of Contact:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin, Dave Derickson					
Overview:					
Development Plans Review is responsible for reviewing the grading plans/sediment erosion plans for a project to determine if the grading and sediment control plans have any adverse effect on adjacent parcels and to make sure that the grading on site does not cause drainage problems within the site as well.. Grading plans/sediment erosion plans are received in hardcopy format from Development Management, which are reviewed and returned with comments. These grading plans/sediment erosion plans are stored in hardcopy format.					
Interviewee(s) Providing Information:					
Dennis Kennedy, Vishnu Desai, Geoff Rice, Phil Martin					
Process with GIS:					
GIS is used to look up the parcel being graded and the adjacent properties to look for drainage problems which can occur on the adjacent properties that are not shown on the drawings.					
Process without GIS:					
Various maps and plans would have to be gathered in hardcopy format from files. These would have to be copied and pasted together to get a complete view of the area with all relevant data included. More research time would be needed.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching maps and plans. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
1.5	1.0	0.5	200	100	\$3,395.00
Annual Benefit: \$3,395.00					



Areas for Improvement:

- Grading Plans/Sediment Erosion Plans could be overlaid in GIS in digital format so that other layers could be analyzed relative to the development. This could increase the accuracy of the determinations, since the source data would be in one projection and overlaying each other properly. This could also save time spent overlaying hardcopy maps and transferring information from one document to another.

New Opportunities:

- A development feature class could be developed that would show the locations of developments that have been reviewed, and link to appropriate digital minor subdivision plans that have been reviewed. This could also be linked to the project database (CASSWORKS) so that the review status of these developments could be quickly retrieved. This would save time spent researching previous minor subdivision plans.
- The locations of floodplains within GIS would help the developers understand the constraints of these features to development, saving time spent by DPW to make these determinations.
- ROW features within GIS would be helpful, saving time to look up plans of these features for each particular area.
- Master plans of transportation and utilities within GIS would help to size utilities, reducing the time spent researching these hardcopy plans.
- Having a digital copy of each version of the grading plans/sediment erosion plans would be beneficial, helping to better manage and access these materials. This would reduce the time spent looking for them on hardcopy cards in a filing system currently used.

Benefits of Pursuing New Opportunities:

- GIS could save time and money researching the locations of minor subdivision plans.
- GIS could save time and money researching various maps, files, and plans.
- This data could be made available countywide so that all County agencies could follow development throughout the County.



4.4.8 Development Plans Review – Landscape Plans

Activity: Development Plans Review – Landscape Plans					
Primary Point of Contact:					
Dennis Kennedy, Geoff Rice, Phil Martin, Avery Harden					
Overview:					
Responsible for reviewing concept, schematic, and final landscape plans submitted in conjunction with development plans to ensure compliance with the Baltimore County Landscape Manual. Landscape plans include (in part) existing and proposed trees associated with streets, parking lots, and buffers. Most landscape plans are received and stored as hard copies. Some plans are received as digital.					
Interviewee(s) Providing Information:					
Avery Harden, Geoff Rice, Phil Martin					
Process with GIS:					
GIS would be used to examine existing conditions of existing surrounding developments. A reduction of site visits would be possible with the use of GIS detail information. GIS could be used to compare supplemental information provided with the development and landscape plans submitted for review.					
Process without GIS:					
More site visits, more contacts with developers, and other investigations would be necessary to confirm the supplemental information provided with the development and landscape plans submitted for review.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching maps and plans and would reduce the number of field visits. 					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
5.0	4.0	1.0	200	200	\$6,790.00
Annual Benefit: \$6,790.00					
Areas for Improvement:					
<ul style="list-style-type: none"> • Landscape plans could be overlaid in GIS in digital format so that other layers could be analyzed relative to the development. This could increase the accuracy of the determinations, since the source data would be in one projection and overlaying each other properly. This could also save time spent overlaying hardcopy maps and transferring information from one document to another. 					



New Opportunities:

- Save time searching for locations of streets, addresses, buildings, utilities, trees, development on adjacent properties, sidewalks, and many other site details.

Benefits of Pursuing New Opportunities:

- Increased accuracy of information about existing conditions. Save time from needed field trips for a quicker turn around on the landscape plans review.



4.5 Permit & Licensing Processing

Program: Permit & Licensing Processing
Primary Point of Contact:
Karen Lewis
Overview:
Permit & Licensing Processing receives and processes applications for permits and issues permits pertaining to building and construction, as well various miscellaneous permits and licenses. Each of these permits are required by either the Baltimore County Code, Baltimore County Zoning Regulations, or Annotated Code of Maryland.
Funding:
There is no external funding related to GIS activities for this program.
Mandates:
There are no mandates that are related to GIS activities for this program.
Political Benefits:
None determined.
Social Benefits:
This program ensures that the buildings that are accessed and inhabited by citizens are safe and are suitable for communities.
Products/Services:
<ul style="list-style-type: none"> • Building Permits • Miscellaneous Permits
Customers:
<ul style="list-style-type: none"> • Real Estate Developers • Citizens • County Agencies
Data (Enterprise Layers are Listed in Bold):
N/A
Applications Used:
N/A
Associated Activities:
4.5.1 Permit & License Processing - Building Permit Processing
4.5.2 Permit & License Processing - Miscellaneous Permit & License Processing



4.5.1 Permit & License Processing - Building Permit Processing

Activity: Permit & License Processing - Building Permit Processing					
Primary Point of Contact:					
Doug Swam					
Overview:					
Responsible for the processing and issuance of all permits pertaining to building, electrical, plumbing, and construction activities in Baltimore County. Supervises and coordinates the receipt and processing of applications and the issuance of building, electrical, plumbing, waste water discharge, grading permits, razing permits & other various permits, as required by the building, plumbing, and electrical codes, Baltimore County Code, and Baltimore County Zoning Regulations.					
Interviewee(s) Providing Information:					
Karen Lewis, Doug Swam					
Process with GIS:					
N/A (GIS is not currently being used)					
Process without GIS:					
A permit requires an application, site plan, and construction drawings, each of which are handled in hardcopy format. Information from these documents is used to create a record in the mainframe database of the permit. These documents are submitted to various agencies for approval: DEPRM for environmental purposes, Zoning for setbacks, building review to determine if meets codes, occasionally to DPW for utilities. Plans are distributed to agencies by putting hardcopies in bins for pickup. Plans are scanned with a reference number. Can search database by address, permit number, owner information, date of application.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
N/A (GIS is not currently being used)					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A	N/A	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
N/A (GIS is not currently being used)					



New Opportunities:

- Digital site and construction plans could be submitted by the developer or created by the Permits department from hardcopy plans. These digital plans could be referenced in a GIS, making the review of these plans potentially easier and more accurate. These would also be simpler to access from off-site if they were available on an intranet site. A website could be set up for permit applications, giving the developers an incentive for submitting plans digitally, since they would not have to travel to the office.

Benefits of Pursuing New Opportunities:

- GIS could save time and money spent by a permit applicant traveling to the PDM office.
- Digital plans could allow for easier access to plans, saving time gathering these materials.
- GIS could save time and money reviewing plans, as well as make these reviews more accurate.



4.5.2 Permit & License Processing - Miscellaneous Permit & License Processing

Activity: Permit & License Processing - Miscellaneous Permit & License Processing					
Primary Point of Contact:					
Karen Lewis					
Overview:					
The receipt and processing of applications and the issuance of various miscellaneous permits and licenses, as required by the Baltimore County Code, Baltimore County Zoning Regulations, & Annotated Code of Maryland. Animal license wardens and office staff. Coordinates miscellaneous permitting with various state and local agencies, investigates and resolves complaints related to miscellaneous permits, testifies at hearings about violations of permits, and recommends changes and assists in developing new permits.					
Interviewee(s) Providing Information:					
Karen Lewis, Doug Swam					
Process with GIS:					
N/A (GIS is not currently being used)					
Process without GIS:					
Benefits Assessment: (H, M, L) Identify confidence level					
• High					
Benefits to Using GIS for this Activity:					
N/A (GIS is not currently being used)					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A	N/A	N/A	\$0
Annual Benefit: \$ 0					
Areas for Improvement:					
N/A (GIS is not currently being used)					



New Opportunities:

- Several types of permits, including amusement devices, trailer parks, rental housing, residential parking, would benefit from having address points associated with them. This would allow for zoning to easier determine where the license is being issued. This would also help save time mailing permit notices to rental properties.
- A layer could be developed for GIS that shows the locations of residential parking zones. This would allow for a person applying for a parking permit to easily know what zone they are in.
- GIS could be introduced to this activity, allowing for several permits to be approved in this group without going to zoning or other groups. This could save time spent corresponding and transmitting materials to other groups.

Benefits of Pursuing New Opportunities:

- GIS could help determine where licenses are being issued and need to be issued.
- GIS could save time and money spent sending notices to rental properties.
- GIS could save time and money spent corresponding with other groups.



4.6 Real Estate Services

Program: Real Estate Services
Primary Point of Contact: Shirley Murphy
Overview: Real Estate Services is responsible for the purchase of real property for Baltimore County as well as the sale of real property no longer needed by the county. The property which is purchased or sold may be in fee simple or an easement/right-of-way. Functions include title examination, contract and deed preparation, appraisal, negotiation, and property settlement. This bureau handles road closing petitions and hearings, the sale of real property by auction or negotiation, the procedure for the granting of franchises in county roads, and maintains the county land inventory.

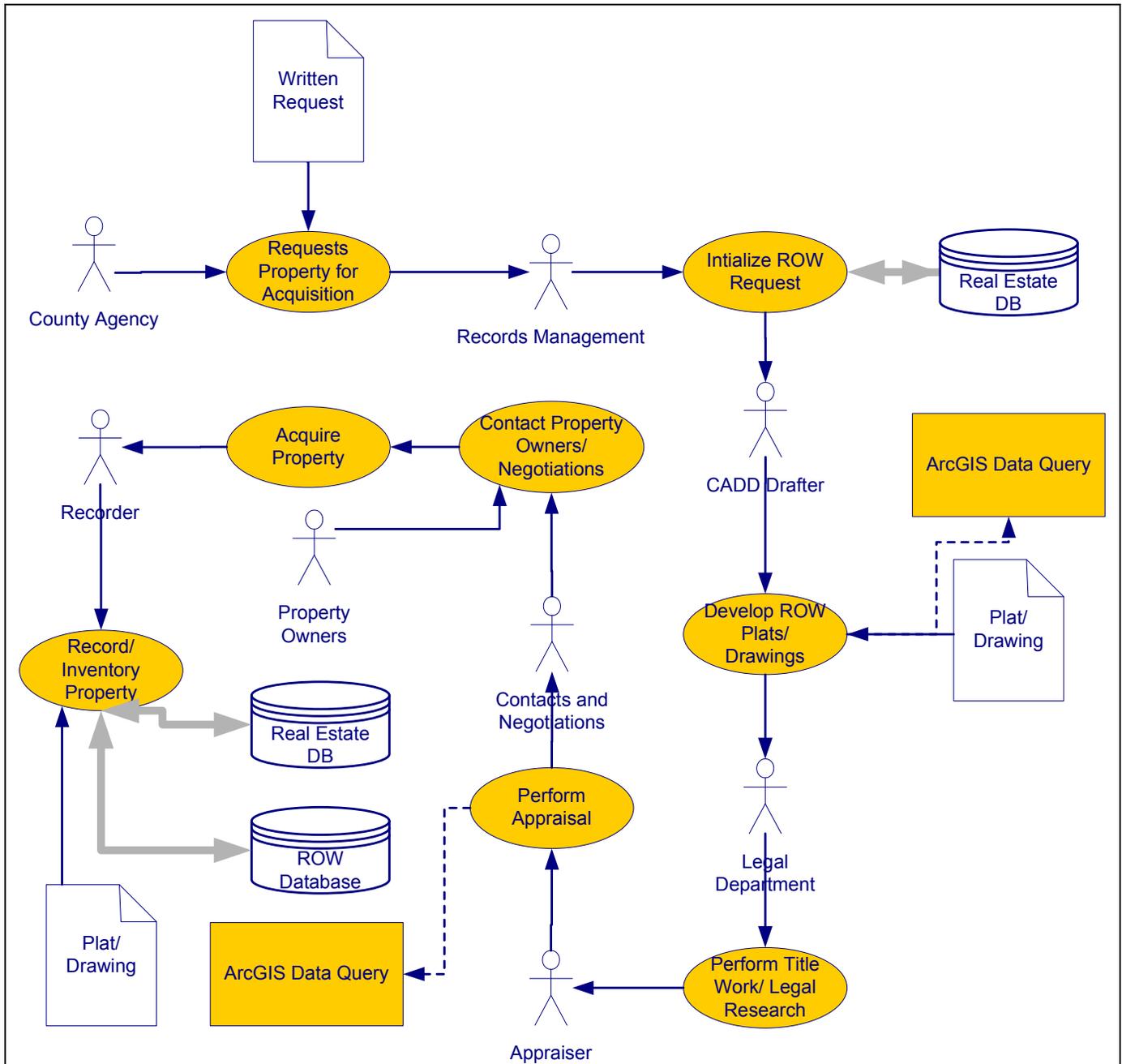


Figure 2 - Real Estate Services Workflow Diagram

Funding:

There is no external funding related to GIS activities for this program.

Mandates:

There are no mandates that are related to GIS activities for this program.



Political Benefits:		
None determined.		
Social Benefits:		
This program ensures that the citizens receive proper compensation for properties acquired for the counties use. Properties are sold for citizens use.		
Products/Services:		
<ul style="list-style-type: none"> • Appraisals • Plat Drawings • Property Acquisition • ROW Dataset • Maps 		
Customers:		
<ul style="list-style-type: none"> • Citizens • County Agencies 		
Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • AddressPoints (View) • Buildings • Bulkheads • Congressional Districts (2002) • Contours • Councilmanic Districts (2002) • County Boundary • Development Plans • Election Districts • Facilities • FEMA Maps • Floodwalls • Geology • Government Lands • Hydrology • Index Grid - 200 Scale (BCMD) 	<ul style="list-style-type: none"> • Index Grid - 200 Scale (MCS) • Index Grid - 600 Scale • Index Grid - ADC Map • Legislative Districts (2002) • Orthophoto (1995) • Orthophoto (1996) • Orthophoto (1997) • Orthophoto (1998) • Orthophoto (2000) • Orthophoto (2001) • Orthophoto (2002) • Orthophoto (2005) • Pumping Stations • Right of Way (LACQ) • Roads • Sewer • Sewer Service Areas 	<ul style="list-style-type: none"> • Sewer Subsheds • Sewer Treatment Plants • SimComFrstDiv • SimCon • Soils • Spot Elevations • Stormwater (Geodatabase) • Street Centerlines • Tax Parcel • Taxmaps (Images) • TaxParcel • Urban Rural Demarcation Line (URDL) • Wetlands • Zip Codes • Zoning • Zoning Overlay Districts
Applications Used:		
<ul style="list-style-type: none"> • ArcGIS (Standard) • ArcGIS DataQuery 		



Associated Activities:

- 4.6.1 Real Estate Services – Appraisals
- 4.6.2 Real Estate Services - Contact & Negotiations/ Records Management
- 4.6.3 Real Estate Services - Land Acquisition Property Inquiry
- 4.6.4 Real Estate Services - Road Openings and Closings
- 4.6.5 Real Estate Services - Surplus Property
- 4.6.6 Real Estate Services - Title Examination/Property Settlement/Plat Review



4.6.1 Real Estate Services - Appraisals

Activity: Real Estate Services - Appraisals						
Primary Point of Contact:						
Don Gabriel						
Overview:						
Appraisals performs appraisals for property that needs to be acquired for use by the county. These appraisals will be done in-house or through a consultant. This program reviews and analyzes appraisals to ensure they meet with Federal, State and County requirements and also the appraisal will be reviewed for accuracy, standards, format, value and procedures.						
Interviewee(s) Providing Information:						
Eric Rockel, Don Gabriel						
Process with GIS:						
A map containing ROWs and parcels is made of the project area, which is submitted with the appraisal. Calculations are also performed within GIS of property features.						
Process without GIS:						
Various maps and plans would have to be gathered in hardcopy format from files. These would have to be copied and pasted together to get a complete view of the area with all relevant data included. Calculations would need to be performed with analog tools on the hardcopy maps.						
Benefits Assessment: (H, M, L) Identify confidence level						
<ul style="list-style-type: none"> • High 						
Benefits to Using GIS for this Activity:						
<ul style="list-style-type: none"> • GIS saves time and money spent creating maps and performing calculations. 						
Task	Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
Calculations	1	0.5	0.5	78	39	\$1324.05
Maps	4	0.28	3.72	468	1740.96	\$59,105.59
Total						\$60,429.64
Annual Benefit: \$ 60,429.64						
Areas for Improvement:						
None determined.						



New Opportunities:

- GIS could point out potential areas that affect the value of a property, which can be verified in the field; for example, environmental issues such as dumping, wetlands, marsh, etc. This could reduce some time spent in the field.
- Adjacent parcels, linked with sales information and building details, could help in determining appraisals, since these can affect the value of the property.
- Soil contamination affects the value of a property and would be beneficial to have as a GIS layer. This could make property appraisals more accurate and save the county money when purchasing property.
- GIS could be used by an expert appraiser to determine other scenarios for property acquisition in areas where costs are high. This could save the county money when purchasing property.
- Easements would be beneficial layer, since they could determine where existing easements are when acquiring property. This could reduce research time spent looking for these features.
- Digital construction drawings would allow for these plans and associated property to be evaluated in the context of GIS, allowing for additional visual and spatial analysis.

Benefits of Pursuing New Opportunities:

- GIS could reduce time spent in field.
- GIS could reduce money spent on property acquisitions.
- GIS could reduced time spent researching property owned by the county.
- GIS could make appraisals more accurate.



4.6.2 Real Estate Services - Contact & Negotiations/ Records Management

Activity: Real Estate Services - Contact & Negotiations/ Records Management
Primary Point of Contact:
Eric Rockel
Overview:
<p>Contact & Negotiations/ Records Management is responsible for recording all requests received from county agencies for property acquirement, acquiring property by contacting property owners and handling negotiations, and inventorying all new land acquired by the county. Property acquisition requests are stored within a database. ROWs are inventoried as new properties are acquired, both spatially and within a nonspatial database.</p> <p>Contact & Negotiations/ Records Management also reviews all development plans to insure that they comply with Baltimore County regulations and land use policies.</p> <p>Maps of areas are taken to negotiations to communicate the area of interest more effectively.</p> <p>GIS is used to determine what property owners are within a potential ROW and need to be contacted to begin the negotiation and property acquirement process.</p>
Interviewee(s) Providing Information:
Eric Rockel, Don Gabriel
Process with GIS:
<p>ArcGIS is used to make maps of affected properties of county acquisition. Each layer is added to the application and symbolized as necessary. Layers in the map include ROWs, parcels, and planimetric data.</p> <p>Parcels are selected within GIS that would be affected by the potential ROW. The property attribute information of these selected parcels are then exported and used to contact the owners for further communication.</p>
Process without GIS:
<p>Various maps and plans would have to be gathered in hardcopy format from files. These would have to be copied and pasted together to get a complete view of the area with all relevant data included.</p> <p>The state assessment database would need to be queried to find information for each property owner. Each property would have to researched individually, which would take more time.</p>
Benefits Assessment: (H, M, L) Identify confidence level
<ul style="list-style-type: none"> • High
Benefits to Using GIS for this Activity:
<ul style="list-style-type: none"> • GIS saves time and money spent creating maps.



Task	Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
Maps	0.5	0.08	0.42	572	240.24	\$8,156.19
Property Owners	0.26	0.08	0.18	240	43.2	\$1,466.64
Total						\$9,622.83
Annual Benefit: \$ 9,622.83						
Areas for Improvement:						
<ul style="list-style-type: none"> The “Lacquire” program, previously used to extract property owner information from the parcels that overlaid potential ROWs, should be upgraded from ArcView 3.2 to ArcGIS 9.x. This would allow for the program to be used with existing and current data, improving the business process currently used with GIS. 						
New Opportunities:						
<ul style="list-style-type: none"> The enterprise database that inventories requests for ROW, as well as the database of acquired ROWs, should be linked to the spatial feature class that outlines the boundaries of these ROWs. This would allow for records to be linked spatially so that complex queries could be performed. Requests for property could be submitted in CAD or GIS format by the agency making the request. This would save the Real Estate Services drafter time in compiling this data. This data could then be directly imported into the GIS database. 						
Benefits of Pursuing New Opportunities:						
<ul style="list-style-type: none"> GIS could save time and money spent by the CADD technician. GIS could allow for more complex spatial queries. 						



4.6.3 Real Estate Services - Land Acquisition Property Inquiry

Activity: Real Estate Services - Land Acquisition Property Inquiry					
Primary Point of Contact:					
Bob Maiolatesi					
Overview:					
Land Acquisition Property Inquiry researches and processes right-of-way and property inquiries from the public, engineering firms, and other government agencies. This group is required to interpret various legal documents such as deeds, plats, and agreements and non-legal documents such as construction drawings, survey plats, and home drawn plot plans. Interpretations are cross-referenced with various informational sources such as databases, maps and GIS in order to determine extent of Baltimore County rights, title or interests.					
Interviewee(s) Providing Information:					
Jeff McCullough					
Process with GIS:					
GIS is used to determine the location of an address. This location is used to find easement, ROW, and other documents.					
Process without GIS:					
A search would have to be done for each county project that is in or near a site of interest. These projects would require a referencing of many different search functions, including road cards, road books, microfilm, and various other databases.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching county-owned properties. 					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.38	0.08	0.30	2236	670.8	\$ 22,773.66
Annual Benefit: \$ 22,773.66					



Areas for Improvement:

- A completed ROW layer would benefit this activity, since the researcher could look up and address, determine if there are any ROW features nearby, and gather needed information from this feature. This feature could be linked to associated plat documents for more information. This would save time and money spent on researching these features.

New Opportunities:

- Easements would be beneficial layer, since they could determine where existing easements are when looking up information. These features could be linked to associated plat documents. This could reduce research time spent looking for these features.

Benefits of Pursuing New Opportunities:

- Easement features could reduce time and money spent on research.



4.6.4 Real Estate Services - Road Openings and Closings

Activity: Real Estate Services - Road Openings and Closings					
Primary Point of Contact:					
Steve Houk					
Overview:					
Real Estate Services is responsible for opening and closing new roads that are maintained by the county. Roads within subdivision plats that exist legally need to be opened. In addition, citizens may request that unused roads be closed for various reasons. This activity handles these events, which are eventually approved by several agencies.					
Interviewee(s) Providing Information:					
Steve Houk, Dennis Maloney					
Process with GIS:					
GIS is used to determine the location of a street and to determine if there is a county ROW in this area. A street is referenced in the database, and then the ROW layer is searched for proximate features. The ROW layer is only 42% complete, so GIS is only beneficial 42% of the time.					
Process without GIS:					
The street would have to be looked up in an ADC map book, which would give the location of the street in the county. This would be used to pull the correct plat, which would be used to determine if there were any ROW features in the area. Features within the area on the plat would then be searched for on the hardcopy map.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching county-owned properties. 					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
45	27.9	17.1	10	171	\$5805.45
Annual Benefit: \$ 5805.45					



Areas for Improvement:

- A completed ROW layer would benefit this activity, since the researcher could look up and address, determine if there are any ROW features nearby, and gather needed information from this feature. This feature could be linked to associated plat documents for more information. This would save time and money spent on researching these features.

New Opportunities:

- Easements would be beneficial layer, since they could determine where existing easements are when looking up information. These features could be linked to associated plat documents. This could reduce research time spent looking for these features.

Benefits of Pursuing New Opportunities:

- Easement features could reduce time and money spent on research.



4.6.5 Real Estate Services - Surplus Property

Activity: Real Estate Services - Surplus Property					
Primary Point of Contact:					
Lois Bergman					
Overview:					
Real Estate Services is responsible for selling surplus property that is owner by the county. Citizens often call to inquire about a piece of property and find out if it is for sale. Personnel respond to these calls by determining where the piece of property is and if there are any constraints to the sale. Property is sold to citizens through this activity.					
Interviewee(s) Providing Information:					
Lois Bergman					
Process with GIS:					
The GIS system is used to provide visual locations of surplus property and assist in locating small parcels not clearly defined on the state tax map, determining access to sites, existence of structures, streams, topography, etc. It is also used to determine usage and improvements on adjoining parcels, existence of paved right of ways, pole lines, etc.					
Process without GIS:					
A site visit would have to be performed to determine the suitability of a piece of property for sale.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching county-owned properties. 					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
2.0	0.5	1.5	250	375	\$ 12731.25
Annual Benefit: \$ 12731.25					
Areas for Improvement:					
<ul style="list-style-type: none"> • A completed ROW layer would benefit this activity, since the researcher could look up and address, determine if there are any ROW features nearby, and gather needed information from this feature. This feature could be linked to associated plat documents for more information. This would save time and money spent on researching these features. 					



New Opportunities:

- Easements would be beneficial layer, since they could determine where existing easements are when looking up information. These features could be linked to associated plat documents. This could reduce research time spent looking for these features.
- A county-owned property dataset would be beneficial, since this would help determine all of the county-owned properties available. This would save time and money spent researching these properties.

Benefits of Pursuing New Opportunities:

- Easement and county-owned property datasets could reduce time and money spent on research.



4.6.6 Real Estate Services - Title Examination/Property Settlement/Plat Review

Activity: Real Estate Services - Title Examination/Property Settlement/Plat Review
Primary Point of Contact:
Dennis Maloney
Overview:
Reviews title abstracts on each property that is part of a county project, prepares required legal documents, conducts settlements, prepares condemnation request, council actions request packages, processes road closing and road openings, request and conducts hearings, writes memorandum and opinions, handles surplus property dispositions, assist in processing tax sale properties and attends inter-office departmental meetings, and reviews, approves and processes all developers legal documents. The Drafting section reviews title work for ownership information, prepares plats based on construction plans for various projects, reviews plats prepared by outside contractors, plots and prepares legal descriptions, reviews and provides comment on minor sub plans, tracks projects thru its section and the office, computes and verifies areas to be acquired or released for any given project, initiates deed request and performs special request from the Bureau Chief and or department. GIS is used to export data to CADD dxf file, including orthophotography, Project will differ significantly, could be small or large number of parcels. Plats are drafted of submitted by others, Often these are partial - portion of easement only. Seller of property requires property description. GIS provides map to give to surveys to help locate property for boundary markers. Maps are also made for the council, who must approve acquisitions that are over \$5000. GIS is used to achieve this, which show the property. ROWs developed during this procedure are used to update the GIS ROW layer. Plats are developed by COGO from deeds, and COGO from surveys done of the properties
Interviewee(s) Providing Information:
Steve Houk, Dennis Maloney
Process with GIS:
GIS is used to determine the location of an address. This location is used to find easement, ROW, and other documents.
Process without GIS:
A search would have to be done for each county project that is in or near a site of interest. These projects would reference deeds, which would have to be looked at on microfilm.
Benefits Assessment: (H, M, L) Identify confidence level
<ul style="list-style-type: none"> • High
Benefits to Using GIS for this Activity:
<ul style="list-style-type: none"> • GIS saves time and money spent researching county-owned properties.



Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
4.0	0.25	3.75	75	281.25	\$ 9548.43
Annual Benefit: \$ 9548.43					
Areas for Improvement:					
<ul style="list-style-type: none"> A completed ROW layer would benefit this activity, since the researcher could look up and address, determine if there are any ROW features nearby, and gather needed information from this feature. This feature could be linked to associated plat documents for more information. This would save time and money spent researching these features. 					
New Opportunities:					
<ul style="list-style-type: none"> Easements would be beneficial layer, since they could determine where existing easements are when looking up information. These features could be linked to associated plat documents. This could reduce research time spent looking for these features. 					
Benefits of Pursuing New Opportunities:					
<ul style="list-style-type: none"> Easement features could reduce time and money spent on research. 					



4.7 Zoning Review

Program: Zoning Review
Primary Point of Contact:
Carl Richards
Overview:
<p>Plan & regulate safe and responsible land use. Interprets all the details, procedures and laws that would regulate the intentions of property owners in Baltimore County. These development and permits activities are either initiated or go through zoning for final or a necessary approval pathway.</p> <p>Every four years the County Council adopts a comprehensive zoning map. More than 800 different maps, in both 200 and 1000 scale, are transmitted to this office for safekeeping. These are in PDF format. There is a GIS index layer to these maps. Previous adopted and superseded maps are kept on file for a research reference. Other maps include master plan, highway classification, commercial motorways, microwave paths, airport noise, revitalization zones, Chesapeake Bay Critical Area, political districts, and official County Council adopted zone boundary description books.</p>
Funding:
There is no external funding related to GIS activities for this program.
Mandates:
There are no mandates that are related to GIS activities for this program.
Political Benefits:
None determined.
Social Benefits:
Products/Services:
<ul style="list-style-type: none"> • Maps
Customers:



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • AddressPoints (View) • Agricultural Preservation • Basic Services - Transportation (Intersections) • Basic Services - Water • Basic Services -Sewer • BCMD Grid • Buildings • Bulkheads • Cell Tower Sectors • Cell Towers • Chesapeake Bay Critical Area • Community Plans • Conservation Easements • Contours • Councilmanic Districts (2002) • Councilmanic Districts (2002) • County Boundary • County Facilities • County Historic Districts • CZMP Zoning Issues (1996) • CZMP Zoning Issues (2000) • Design Review Panel Areas • Digital Elevation Models • Election Districts • Emergency Service Area • Encumbrance 	<ul style="list-style-type: none"> • Enterprise Zones • Facilities • FEMA Maps • Floodwalls • Floodwalls • Golf Courses • Hydrologic Facilities • Hydrology • Index Grid - 200 Scale (BCMD) • Index Grid - 200 Scale (MCS) • Index Grid - 600 Scale • Index Grid - ADC Map • Index Grid - MrSID Tiles • Index Grid - Phase I • Index Grid - Phase II • Index Grid - Phase III • Index Grid - VARGIS Orthophoto (1998) • Index Grid - VARGIS Orthophoto (2000) • Installations • Junkyards • Landfills • Landfills • Mask—County Satellite Images • Metropolitan District Line • Movie Theaters • National Register Historic Districts • Orthophoto (1995) 	<ul style="list-style-type: none"> • Orthophoto (1996) • Orthophoto (1997) • Orthophoto (1998) • Orthophoto (2000) • Orthophoto (2001) • Orthophoto (2002) • Orthophoto (2005) • Parcel Based Landuse • Park Points • Position Sheet Grid • Post Offices • Proposed Land Use • Quarries • Renaissance Opportunity Areas • Rights-of-Way Inception Instances • Roads • Satellite Image—1990 • Satellite Image—1990—Bands 3,4,5 • Satellite Image—1996—Bands 3,4,5 • Skating Rinks • Spot Elevations • Streams and Ponds • Street Centerlines • Street Centerlines (View) • Taxmaps (Images) • Urban Rural Demarcation Line (URDL) • Zip Codes • Zoning • Zoning – 1999 • Zoning Overlay Districts
Applications Used:		
<ul style="list-style-type: none"> • ArcGIS DataQuery • ArcIMS MyNeighborhood 		
Associated Activities:		
<p>4.7.1 Zoning Review - Permits</p> <p>4.7.2 Zoning Review - Petitions/Hearings</p> <p>4.7.3 Zoning Review - Plans Review</p> <p>4.7.4 Zoning Review - Public Information Counter</p>		



4.7.1 Zoning Review - Permits

Activity: Zoning Review - Permits					
Primary Point of Contact:					
Jeff Perlow					
Overview:					
Permits processes applications and approve for zoning, state & county permits for construction, re-construction, erection, alteration, repair, & use of buildings, structures, & land. This task involves in-person & referral reviews & research to determine compliance or conflicts with zoning laws & policy. Occasionally, an on-site inspection is necessary to document existing conditions prior to final zoning action. Included in this service is the resolution of conflicts, involving applications for approval & existing conditions including waterfront construction in the Chesapeake Bay Critical Area.					
Interviewee(s) Providing Information:					
Carl Richards, Jeff Perlow, Dave Devale					
Process with GIS:					
The MyNeighborhood ArcIMS web mapping application is used to find the location of the permit. The corresponding record plat is then gathered from the state assessment website. This parcel location is compared to the comprehensive zoning map (which is maintained by DEPRM and available in hardcopy format and PDF) and zoning history maps and documents to determine the zoning restrictions.					
Process without GIS:					
The location of the permit would need to be looked up within an ADC map book, which would give the location of the property. This would be used to gather the plat record from the state assessment website.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS does not currently provide the county any savings, sine it has not been in production long enough to realize any significant benefits. 					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.5	0.5	0	10000	0	\$0
Annual Benefit: \$ 0					



Areas for Improvement:

- The cadastral dataset that is linked to the state assessment database could be used to find plat records. This would reduce the document retrieval process, since all of the research could be conducted in one application.
- Address points would help search for specific property, since these could be used to pinpoint the exact location of a structure within a parcel. This would also eliminate the need to use the MyNeighborhood web application, since all analysis could be performed within the DataQuery application. This would reduce the amount of time spent trying to determine the location of a property.

New Opportunities:

- The comprehensive zoning map could be stored in a feature class and viewed within GIS. This would allow for the parcel of interest to be overlaid on this zoning feature class, reducing the time spent looking at the hardcopy maps.
- A zoning history dataset that shows the boundaries of zoning restrictions would be beneficial to have within GIS, since these would eliminate the need to search through physical files for hardcopy maps. These zoning layers could be linked to associated digital legislative documents, eliminating the need to search through files.
- The locations of permits that have been approved and applied for could be introduced as a dataset. This would allow for an individual to determine where permits have been applied for or approved, helping reduce the amount of time spent making zoning determinations.

Benefits of Pursuing New Opportunities:

- GIS could reduce the time spent researching hardcopy maps.
- GIS could reduced the time spent searching hardcopy documents and files.
- GIS could reduce the amount of time spent approving permits.



4.7.2 Zoning Review - Petitions/Hearings

Activity: Zoning Review - Petitions/Hearings					
Primary Point of Contact:					
Jeff Perlow					
Overview:					
<p>Petitions/Hearings is responsible for handling the petitions for rezoning of specific properties. This group meets with petitioners, engineers, architects, and attorneys to examine petitions for general zoning legal sufficiency and technical compliance with zoning laws, regulations, policies, and procedures. They research and confirm the zoning history of the property and accept for filing and initiate processing of all zoning petitions for reclassification, special exception, variance, special hearing and required public notice use permits before the Zoning Commissioner and Board of Appeals. Approved petitions are plotted on a hardcopy map.</p>					
Interviewee(s) Providing Information:					
Carl Richards, Jeff Perlow, Dave Devale					
Process with GIS:					
<p>The MyNeighborhood ArcIMS web mapping application is used to find the location of the permit. The corresponding record plat is then gathered from the state assessment website. This parcel location is compared to the comprehensive zoning map (which is maintained by DEPRM and available in hardcopy format and PDF) and zoning history maps and documents to determine the zoning restrictions.</p>					
Process without GIS:					
<p>The location of the permit would need to be looked up within an ADC map book, which would give the location of the property. This would be used to gather the plat record from the state assessment website.</p>					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS does not currently provide the county any savings, sine it has not been in production long enough to realize any significant benefits. 					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.5	0.5	0	700	0	\$ 0
Annual Benefit: \$ 0					



Areas for Improvement:

- The cadastral dataset that is linked to the state assessment database could be used to find plat records. This would reduce the document retrieval process, since all of the research could be conducted in one application.
- Address points would help search for specific property, since these could be used to pinpoint the exact location of a structure within a parcel. This would also eliminate the need to use the MyNeighborhood web application, since all analysis could be performed within the DataQuery application. This would reduce the amount of time spent trying to determine the location of a property.

New Opportunities:

- The comprehensive zoning map could be stored in a feature class and viewed within GIS. This would allow for the parcel of interest to be overlaid on this zoning feature class, reducing the time spent looking at the hardcopy maps.
- A zoning history dataset that shows the boundaries of zoning restrictions would be beneficial to have within GIS, since these would eliminate the need to search through physical files for hardcopy maps. These zoning layers could be linked to associated digital legislative documents, eliminating the need to search through files.
- The locations of petitions that have been approved and applied for could be introduced as a dataset. This would allow for an individual to determine where petitions have been applied for or approved, helping reduce the amount of time spent making zoning determinations.

Benefits of Pursuing New Opportunities:

- GIS could reduce the time spent researching hardcopy maps.
- GIS could reduced the time spent searching hardcopy documents and files.
- GIS could reduce the amount of time spent approving petitions.



4.7.3 Zoning Review - Plans Review

Activity: Zoning Review - Plans Review					
Primary Point of Contact:					
Jeff Perlow					
Overview:					
Plans Review is responsible for reviewing and researching concept and development plans for compliance with the zoning law and policies.					
Interviewee(s) Providing Information:					
Carl Richards, Jeff Perlow, Dave Devale					
Process with GIS:					
The MyNeighborhood ArcIMS web mapping application is used to find the location of the development plan. This location is compared to the comprehensive zoning map (which is maintained by DEPRM and available in hardcopy format and PDF) and zoning history maps and documents to determine the zoning restrictions.					
Process without GIS:					
The location of the permit would need to be looked up within an ADC map book, which would give the location of the property.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS does not currently provide the county any savings, sine it has not been in production long enough to realize any significant benefits. 					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.5	0.5	0	156	0	\$0
Annual Benefit: \$ 0					



Areas for Improvement:

- Address points would help search for specific property, since these could be used to pinpoint the exact location of a structure within a parcel. This would also eliminate the need to use the MyNeighborhood web application, since all analysis could be performed within the DataQuery application. This would reduce the amount of time spent trying to determine the location of a property.
- Development plans could be overlaid in GIS in digital format so that other layers could be analyzed relative to the development. This could increase the accuracy of the determinations, since the source data would be in one projection and overlaying each other properly. This could also save time spent overlaying hardcopy maps and transferring information from one document to another.

New Opportunities:

- The comprehensive zoning map could be stored in a feature class and viewed within GIS. This would allow for the parcel of interest to be overlaid on this zoning feature class, reducing the time spent looking at the hardcopy maps.
- A zoning history dataset that shows the boundaries of zoning restrictions would be beneficial to have within GIS, since these would eliminate the need to search through physical files for hardcopy maps. These zoning layers could be linked to associated digital legislative documents, eliminating the need to search through files.
- A development feature class could be developed that would show the locations of developments that have been reviewed, and link to appropriate digital concept and development plans that have been reviewed. This could also be linked to the project database so that the review status of these developments could be quickly retrieved. This would save time spent researching previous development plans.

Benefits of Pursuing New Opportunities:

- GIS could reduce the time spent researching hardcopy maps.
- GIS could reduced the time spent searching hardcopy documents and files.
- GIS could reduce the amount of time spent reviewing development plans.



4.7.4 Zoning Review - Public Information Counter

Activity: Zoning Review - Public Information Counter					
Primary Point of Contact:					
Jeff Perlow					
Overview:					
The Public Information Counter interprets zoning documents (including Petition files (4 categories) / Zoning Commissioner and Board of Appeals Hearing Case Docket / Final Development Plan Files (2 categories) / Minor Subdivisions / Misc. Zoning Approvals (17 categories) / Use Permits / Misc. Posting Files (6 categories) / Special Review Files (4 categories) / Correspondence Files (2 categories) / Commercial Building Permit & Shopping Center Plans File/Card Files (3 categories) / Calendars (4 categories) / Microfilm Records (4 categories) / Audio Cassette Tapes) to answer questions posed by citizens. Inquires can include questions about a property's zoning, whether a property is vested or protected, setbacks, floor to area ratio, whether a hearing is required, and history of zoning.					
Interviewee(s) Providing Information:					
Carl Richards, Jeff Perlow, Dave Devale					
Process with GIS:					
Customers supply an address or street intersection, which is used to find a location within the DataQuery GIS application. Orthophotography helps customers that come in to the office to find the location of their property.					
Process without GIS:					
Addresses would have to be looked up within the ADC map, which would be used to find a parcel on cadastral maps.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
<ul style="list-style-type: none"> • GIS saves time and money spent researching the locations of addresses. 					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
0.25	0.25	0	10400	0	\$ 0
Annual Benefit: \$ 0					



Areas for Improvement:

- Address points would help search for specific property, since these could be used to pinpoint the exact location of a structure within a parcel. This would also eliminate the need to use the MyNeighborhood web application, since all analysis could be performed within the DataQuery application. This would reduce the amount of time spent trying to determine the location of a property.

New Opportunities:

- The comprehensive zoning map could be stored in a feature class and viewed within GIS. This would allow for the parcel of interest to be overlaid on this zoning feature class, reducing the time spent looking at the hardcopy maps.
- A zoning history dataset that shows the boundaries of zoning restrictions would be beneficial to have within GIS, since these would eliminate the need to search through physical files for hardcopy maps. These zoning layers could be linked to associated digital legislative documents, eliminating the need to search through files.

Benefits of Pursuing New Opportunities:

- GIS could reduce the time spent researching hardcopy maps.
- GIS could reduced the time spent searching hardcopy documents and files.



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5 Short-form Online Questionnaires

Agency PDM

Name Brenda Payne

Job Title Engineering Associate IV

Briefly, what activity(s) do you perform within your department?

Utility Agreements, Right-Way Agreements, Letters of Credit for Development. Reductions and returns of developer's security.

Approximately what percentage of your work week do you spend for each activity identified in question #9?

25%

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

yes, orthos, property maps

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

yes DataQuery

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

no

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

no

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

no

Do you perform any GIS data maintenance activities? If yes, please provide an example.

no

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

determining where a house location are

What activities do you think could benefit from use of (or increased use of) GIS?

Check to see if development is completed

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.



Agency PDM

Name Colleen Kelly

Job Title Project Manager

Briefly, what activity(s) do you perform within your department?

Facilitate 'pre-concept' meetings w/ citizens. Facilitate concept and development meetings. Process water and sewer connections. Process, review and approve development plans. Assist persons that visit our office. Answer phone calls and email messages. Manage Hearing Officer Hearings (HOH) Conduct Community Input Meetings. Process close-outs when necessary.

Approximately what percentage of your work week do you spend for each activity identified in question #8?

Pre-concepts-(15%) Concept and Dev. Meetings-(10%) Water and Sewer-(15%) Process Plans-(10%) Assist visitors-(25%) Answer phone calls-(15%) Manage HOH-(5%) Conduct CIM (5%)

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Yes, I use GIS data such as layers, cadastral and land planning, overlay districts, administrative and political, imagery, and topography. I print the aerial photos and use for meetings.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

Yes, I use DataQuery when I need to determine certain information about a property. For example, when preparing for the pre-concept meetings, I use GIS to determine information about a property such as tax ID number, address, zoning, layout of parcel, layout of surrounding properties, location of improvements or other items including roads, homes, sheds, pools, forest, streams, property lines, waterways etc. using the aerial photos. Sometimes check

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

Yes, I use maps for meetings.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

Yes, mostly the public. I may give an 8.5' X 11' aerial print-out of a particular area or parcel to a citizen who visits my office.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

No.

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

Create maps for meetings. Create maps for zoning commissioner when needed. Locate water and sewer customer addresses. Determine zoning classification. Determine approx. property line info. Check addresses. Obtain tax ID numbers. Check roadways.

What activities do you think could benefit from use of (or increased use of) GIS?

Location of existing recorded plats. Names of existing subdivisions. Zipcodes. Basic Services Maps incorporated into GIS. Identify areas affected by recent changes in the law such as building moratorium areas, panhandle lot restricted areas, etc.



Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

GIS is a wonderful tool that makes my job easier and assists in making presentations more professional. GIS is invaluable to my dept.-PDM. GIS is great now but I hope GIS continues to get better and better. Thank you.



Agency PDM

Name Darlene Koluch

Job Title Office Assistant

Briefly, what activity(s) do you perform within your department?

Prepare the Development Review Committee Agenda. Set Pre-Concept Plan Conferences. Set and distribute plans for Concept Plan Conferences, Development Plan Conferences, and Hearing Officer's Hearings. Distribute Community Input Meeting Schedules. Type letters, enter data, and other office duties.

Approximately what percentage of your work week do you spend for each activity identified in question #8?

Percentages vary each week due to the work load, and volume.

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Yes, I need to locate sites, and be sure the election and councilmanic districts are correct.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

No.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

I do not think so.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

Yes, I need to print the map to show the election and councilmatic districts.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

Yes, I provide this information to the Council Office, all county agencies, public libraries, and the general public.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

No.

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

I locate sites, by address or intersection and check the election and councilmatic districts.

What activities do you think could benefit from use of (or increased use of) GIS?

This system is very helpful in my daily job activities. It is very important for our office to send plans and schedules with correct information obtained by using the GIS technology.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

The GIS technology is very accurate and helpful. The resources I used in the past were not accurate, and extremely time consuming. I think the county employees in the Council Office would greatly appreciate having the use of this GIS technology. Thank you very much, great



Agency PDM

Name Darryl D. Putty

Job Title Project Manager

Briefly, what activity(s) do you perform within your department?

Manage project as it goes through the development process. Handle issues that are particular to the project. Set meetings, hearings, etc. Maintain hard file and computer files for each project.

Approximately what percentage of your work week do you spend for each activity identified in question #9?

Equal percentages.

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Yes. Use this tool to locate particular street addresses, property locations, zoning classification, numbering sequence, owner information, site layout.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

Yes. My zoning to determine zoning.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

No.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

Occasionally. Print out copies of info. for general public and other agencies.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

No.

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

Locate addresses, verify zoning, show property improvements, street numbering sequence.

What activities do you think could benefit from use of (or increased use of) GIS?

house number verification and location for zoning purposes. Locate properties for various agencies and public.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.



Agency PDM

Name dennis kennedy

Job Title Engineer IV

Briefly, what activity(s) do you perform within your department?

I supervise technical and clerical personnel who review and approve development plans

Approximately what percentage of your work week do you spend for each activity identified in question #9?

100

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

ortho-to look at a property that is being developed

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

no, it has been loaded onto my computer, but I haven't been trained.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

I believe I will when I am trained.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

yes, I go to the Director of Public Works' office and check out sites, investigate drainage patterns, see if curb and gutter exist, etc.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

no, but the potential is there

Do you perform any GIS data maintenance activities? If yes, please provide an example.

no

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

see 11 and 12

What activities do you think could benefit from use of (or increased use of) GIS?

I know it will allow me to do my job better and more efficiently. I spend a lot of time pulling construction drawings, record plat and checking for other information that I know is available on GIS now.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.



Agency PDM

Name Dennis Maloney

Job Title title examination supervisor

Briefly, what activity(s) do you perform within your department?

Assign work to employees. Administrative work. Advise Independent Contractors. dictate and Review Legal Documents. Manage Projects. Answer questions from employees. Attend various meetings. Review workload data info.

Approximately what percentage of your work week do you spend for each activity identified in question #8?

90%

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

No.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

No.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

No.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

No.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

No.

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

None.

What activities do you think could benefit from use of (or increased use of) GIS?

None.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

None



Agency PDM

Name Donald

Job Title Deputy Director

Briefly, what activity(s) do you perform within your department?

I am the deputy director of the department responsible for all phases of the department

Approximately what percentage of your work week do you spend for each activity identified in question #9?

100

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Periodically I am contacted by both in house personnel as well as citizens concerning property. It is extremely helpful to be able to call up an aerial photo or a site plan to discuss the issue at hand.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

Yes, citizens contact our office about various properties and it is helpful to be able to pull up zoning maps and other graphical information about the site.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

no

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

Yes, sometimes I have a need to print out a copy of the information I collected to share with others for a quick response.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

no

Do you perform any GIS data maintenance activities? If yes, please provide an example.

no

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

I have a need to look up a property when citizens or other employees ask about a variety of situations that arise on a property in Baltimore County.

What activities do you think could benefit from use of (or increased use of) GIS?

Having quick access via GIS to information that now requires a walk down the hall and opening of several file cabinets just to be able to answer a single question for a constituent is a tremendous benefit.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

Baltimore County has made an enormous investment in GIS. GIS should be make available to all employees, so they can understand how GIS capabilities can help them improve their service to citizens and other agencies of the county.



Agency PDM

Name Eric Rockel

Job Title Supervisor, Contact, Negotiations & Records

Briefly, what activity(s) do you perform within your department?

Supervise the right of way agents, and our property research and GIS personnel; contact person with attorneys and engineers concerning real estate-related development questions

Approximately what percentage of your work week do you spend for each activity identified in question #9?

right of way agents-40%; property research and GIS- 20%; development issues- 25%; other-15%

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Not necessarily on a daily basis, but certainly on a weekly basis to get overviews of property lines and their relationship to physical features.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

No, not personally

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

Not on a daily basis, but yes we use hardcopy maps to look at subdivision layouts, to identify man made features in the physical environment etc.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

Not personally as it relates directly to GIS

Do you perform any GIS data maintenance activities? If yes, please provide an example.

No, not personally.

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

none personally

What activities do you think could benefit from use of (or increased use of) GIS?

Unsure

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

The property and right of way layers have decreased the response time for many inquiries by multiple fold.



Agency PDM

Name Jeffrey McCullough

Job Title Engineer Associate III

Briefly, what activity(s) do you perform within your department?

I implement coordinate and support Geographic informations systems activities and related hardware and software components. Construct, edit and maintain several layers of the GIS

Approximately what percentage of your work week do you spend for each activity identified in question #9?

100%

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Yes. 1. Maps for appraisers that show contour lines overlaid on an ortho with property lines. May contain acreage calculations to show development areas. 2. During the course of my construction and editing of the database, I use all the layers mention and more.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

DataQuery. To find all affected people involved in a road widening project.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

Yes. In the course of editing the layers and assisting costumers.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

Yes. Provide my supervisors, appraisers and costumers maps to assist in their activities.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

Yes, to the public. I provide right of way information to the public. This entails information regarding all property owned by Baltimore County. Occasionally, when merited, provide maps.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

Yes. I am constructing and maintaining several layers in the system. Encumbrance, Tax Parcel, SimConFirstDivision and Boundary. All layers are required to be coincidental. As I add

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

Create maps Construct data layers GIS Analysis Assist other bureaus with GIS

What activities do you think could benefit from use of (or increased use of) GIS?

I think all the activities in our agency could benefit from the use of the GIS system, simply because it is so under used.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

I feel the department of Permits & Development Management is not using the GIS system to the fullest extent possible and would greatly benefit from increased exposure through new applications and data layers (i.e. Zoning History Layer) to make our activites more efficient.



Agency PDM
Name Jeffrey Perlow
Job Title Planner II

Briefly, what activity(s) do you perform within your department?

Review & comment on development and site plans. Interpret & apply zoning, development, flood plain, environmental regulations, policies & guidelines. Coordinate the review of plans. Duties now include Permit Processing, Public Works, Building Plans Review, Developer's Plans Review & Land Acquisition functions that were transferred to the Zoning Review office from other agencies. Coordinate & guide projects through review & approval processes. Serve as liaison between County agencies, developers & engineers, attorneys & the public for development & permitting functions. Develop, modify & administer the zoning regulations & other policies, legislation & guidelines affecting development. Research, review & comment on variance, special exception & special hearing petitions & petitions & issues related to the comprehensive and cyclical zoning processes. Make recommendations in accordance with applicable zoning & development regulations as they involve integration with the above. Conduct & participate in meetings with community groups, advisory groups, developers, other County & government agencies, attorneys, engineers & others regarding planning zoning & development issues. Assist & provide information to the public regarding planning, zoning & development processes. Prioritize capital improvement projects. Process & review permits related to planning, zoning & development processes. Operate & create GIS & other automated computer systems to research & analyze various planning, zoning & development issues. Perform the duties of a Project Manager. determine when coordination with other agencies is required for completion of projects under review. Initiate contact with those agencies & facilitate resolution of their issues as necessary.

Approximately what percentage of your work week do you spend for each activity identified in question #9?

Between 6% and 55% depending on the specific activity.

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Yes, intranet, internet (MyNeighborhood) or arcims versions of the following maps: street centerlines, roads, road names, buildings, zoning geodatabase, zoning overlay districts, lakes & ponds, streams & rivers, spot elevations, 200 scale BCMD (old) grid tiles, 200 scale MCS (new) grid tiles, ADC map grid tiles, parcel or cadastral or property, bulkheads or hydrology, contours or elevations or topography, images or orthophotos, Urban Rural Demarcation Line (URDL), etc.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

Yes, MyNeighborhood websites. While there are plans by our departmental network administrator to update our computers and software to handle the latest version of DataQuery for access to GIS layers, this has not been done yet.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

Yes, the Zoning Review Office has produced unofficial 1"=1000' zoning maps, Honeygo overlay district maps, combined old grid/new grid/roads index maps (as a zoning map locator), etc. We use even more hardcopy maps that we did not produce such as: Zoning Overlay District Maps, Design Review District Overlay maps, Chesapeake Bay Critical Area (CBCA) maps, Urban Rural Demarcation Line (URDL) Maps, State Highway Street Classification Maps, etc.



Do you provide data products or services to other agencies or the public? If yes, please provide an example.

Yes, primarily through central printing such as the following maps: current 1'=200' scale zoning maps, unofficial 1'=1000'scale zoning maps, old year 2000 1'=200' scale zoning maps, old year 1971 zoning case history maps.



Do you perform any GIS data maintenance activities? If yes, please provide an example.

No

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

Yes, create maps for permit review, zoning petition filings, development plans review, phone inquiries, etc.

What activities do you think could benefit from use of (or increased use of) GIS?

Every activity in the Zoning Review Office could benefit from use of or increased use of GIS.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

The Zoning Review Office is probably 5 or more years behind other agencies regarding the use of GIS technology. Our departmental network administrator, as well as other departmental co-workers knowledgeable in the use of GIS, have been instrumental in attempting to close that gap.



Agency PDM

Name Joe Chmura

Job Title Engineering associate

Briefly, what activity(s) do you perform within your department?

Process Minor Subdivision applications, process concept & development plan check prints.
Collect phase 2 review fees. Answer constituents' questions on telephone & in person.
Substitute in House Numbers.

Approximately what percentage of your work week do you spend for each activity identified in question #9?

70%, 15%, 5%, 5%,5%.

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Refer to record plats & property tax maps several times daily to clarify property location or extent.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

No, but I have been scheduled to attend a DataQuery course 11/9/06.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

No.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

No.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

I send , via Central Printing, digitized copies of approved Minor Subdivision Plans to OIT.

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

Use tax maps & record plats to locate properties.

What activities do you think could benefit from use of (or increased use of) GIS?

House numbers & Street Addresses.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.



Agency PDM

Name John M. Altmeyer

Job Title supervisor Code Inspection and Enforcement

Briefly, what activity(s) do you perform within your department?

conduct building, electrical, and plumbing inspections for new homes, additions ,alterations to and new commercial buildings. respond to constituent inquiries relating to county code violations, respond to natural disasters and fire calls

Approximately what percentage of your work week do you spend for each activity identified in question #8?

inspections 50% constituent inquiries 25% code questions 20% other 5%

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

no but it would be useful

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

no but it would be helpful

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

no

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

no

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

constituent inquiries, departmental interaction, inquiries with county council

Do you perform any GIS data maintenance activities? If yes, please provide an example.

no

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

aerial view of properties in question, overlay boundaries etc.

What activities do you think could benefit from use of (or increased use of) GIS?

property line issues, location of structures on property etc.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

gis would help us greatly in the performance of our daily work.



Agency PDM

Name Karen Lewis

Job Title Processing Supervisor

Briefly, what activity(s) do you perform within your department?

Supervising the issuing between 35-40 different types of permits and/or licenses for Baltimore County.

Approximately what percentage of your work week do you spend for each activity identified in question #9?

100%

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Maps, Real Properties & Criss-Cross once in a while to determine if something is in Baltimore County, for Rental Housing licenses to locate addresses which may require licenses; Residential Parking for addresses.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

No

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

I make requests for maps when new Rental Housing areas or Residential Parking areas are added in Baltimore County.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

No

Do you perform any GIS data maintenance activities? If yes, please provide an example.

No

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

None

What activities do you think could benefit from use of (or increased use of) GIS?

Looking up maps with addresses or street numbers.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

If GIS program is accessible in the department, it would be helpful.



Agency PDM

Name Kristin Weis

Job Title Office Assistant

Briefly, what activity(s) do you perform within your department?

log in/out letters, development plans and other correspondence into access, process concept plans, development plans, appeals & limited exemptions. Retrieve development comments from various agencies and send to engineers. Prepare meetings to be posted onto the internet. Serve as back up to Darlene Koluch when she is not here.

Approximately what percentage of your work week do you spend for each activity identified in question #8?

Varies due influx from engineers, projects, county agencies, etc. Either feast or famine.

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Recently, received GIS system to locate addresses for election and councilmanic district for DRC. Also, used real property off internet to verify addresses from Community Input Meetings.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

Not to my knowledge.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

Not to my knowledge.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

For the drc, I have to print out address from gis and put w/drc package to verify correct districts for council since they are not capable of doing it.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

DRC package is distributed to Planning office, to development plans review and to council.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

Not to my knowledge.

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

locate addresses for verification purposes.

What activities do you think could benefit from use of (or increased use of) GIS?

I believe it is always better to learn as much as you can so that you can help coworkers or customers in the county.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

I think it is slow but I am grateful to have it because this department did not have the maps to give correct verification of the districts and I would hear it from Adele in council 2 that the districts were wrong. Now, there is a hard copy to prove correct addresses.



Agency PDM

Name Linda Blackmon

Job Title Engineering Assistant

Briefly, what activity(s) do you perform within your department?

House numbers House Connections-water-sewer

Approximately what percentage of your work week do you spend for each activity identified in question #9?

House numbers vary, depends on customers greatly same with house connections. maybe 60
40Ye

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Yes, maps for areas for address and property location (I have only been in this job 3 weeks)

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

My neighborhood

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

no

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

no

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

House numbers for the public.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

no

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

address location

What activities do you think could benefit from use of (or increased use of) GIS?

Computer classes

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.



Agency PDM

Name Linda Taylor

Job Title Office Assistant

Briefly, what activity(s) do you perform within your department?

answer incoming calls, assist customers, handle mailing incoming and outgoing, typing, make sure that the plats and Mylar get the engineer pull files, make up file cards for property

Approximately what percentage of your work week do you spend for each activity identified in question #9?

all-day

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

n/a

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

n/a

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

n/a

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

n/a

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

n/a

Do you perform any GIS data maintenance activities? If yes, please provide an example.

n/a

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

n/a

What activities do you think could benefit from use of (or increased use of) GIS?

don't know

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

n/a



Agency PDM

Name Lois M Bergman

Job Title Real Estate Specialist III

Briefly, what activity(s) do you perform within your department?

Prepare legal documents, review titles and bring titles to date, conduct settlements, Oversee sale of surplus property, acquisitions for Rec & Parks and other agencies, Road Closings, provide information to the general public as well as elected officials, etc.

Approximately what percentage of your work week do you spend for each activity identified in question #8?

It is impossible to determine the percentage of time per week because most of the items are done in conjunction with each other. The information provided to general public and elected

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Yes. The GIS data is extremely helpful in determining locations of properties not clearly identified on the state tax map, assist in determining property ownership, determining what improvements are located on the site, existence of paved and non paved access, giving an overview of the surrounding properties, existence of streams, electrical poles and other above ground utilities, topographical information. The ability to overlay the GIS information on aerial photos is a great asset when you cannot immediately get out into the field to see the property and its surrounding area.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

No, because I am not sure how to navigate around and utilize the site. I rely primarily on our Engineering Associate III/GIS person which many times over burdens him. I would really appreciate attending a class which provides the information needed to utilize the site and would allow me to obtain the information myself.

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No because I have not been trained on how to use the site, as previously expressed I have to rely on our Engineering Associate/GIS person to do it for me. It would be extremely helpful

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

I don't, but our Engineering Associate II/GIS person prepares and prints them for me. These maps are used in meeting regarding acquisitions (i.e. types of surrounding properties, topographical information, existence of utility poles, rights of ways, improvements, streams, etc.) complaints, sales, road closings, etc.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

Yes. County Agencies - Provide information regarding properties to be acquired or already acquired for their agencies, usage of other County properties, intended disposition of County owned property, maintenance issues, etc. County Councilmen/aides - Information regarding County owned or maintained roads, easements, properties, surplus properties, on-going projects, GIS maps, etc. General Public - Ownership information regarding real property, roads, easements, disposition or maintenance of County owned properties, code requirements, etc.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

No



Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

As previously expressed, I do not perform the activities, I have to rely on our Engineering Associate/GIS person to do it for me.

What activities do you think could benefit from use of (or increased use of) GIS?

Information could be obtained quicker and easier. The Engineering Associate III/GIS person would be able to spend more of his time updating and correcting any errors which are reported to him.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

I think the GIS technology could be a very powerful and effective tool if it was utilized properly. In order to use it properly everyone would need to be: (1) made aware of just what functions are available on the GIS system and its capabilities, (2) properly trained on how to use, access and process the information on the system.



Agency PDM

Name Tracey Book

Job Title Account Clerk III

Briefly, what activity(s) do you perform within your department?

Process financial reconciliations of developers' projects which include working with the capital accounting system. Also process letters of credit, post payroll and deposit funds into various accounts.

Approximately what percentage of your work week do you spend for each activity identified in question #9?

approximately 25% for each activity

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

no

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

no

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

no

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

no

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

no

Do you perform any GIS data maintenance activities? If yes, please provide an example.

no

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

n/a

What activities do you think could benefit from use of (or increased use of) GIS?

I have not had any training on the GIS System so I don't think with the work that I am responsible for the GIS system would be of any use.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.



Agency PDM

Name Walter Smith

Job Title Development Manager

Briefly, what activity(s) do you perform within your department?

I supervise 13 employees. Our bureau is responsible for processing land development and subdivision work.

Approximately what percentage of your work week do you spend for each activity identified in question #9?

100

Do you use GIS data or databases (e.g., orthophotos, topography, property maps) to perform your daily job? If yes, please provide an example.

Yes, I and staff use Access databases to track and schedule development projects. We use GIS to identify parcels, roads, addresses, zoning, districts, ownership, topography regarding property.

Do you use GIS applications (e.g., DataQuery, MyNeighborhood websites) to perform your daily job? If yes, please provide an example.

Yes. Citizens come into the office with questions about what can be done with their property. We also use GIS to verify boundaries and council districts on plans and applications that we

Do you use spatial analysis (e.g. geocoding, routing) to perform your daily job? If yes, please provide an example.

No.

Do you use or produce hardcopy or digital maps to perform your daily job? If yes, please provide an example.

Yes, I sometimes print out plans showing property, house, road locations, etc.

Do you provide data products or services to other agencies or the public? If yes, please provide an example.

Yes, we plot property locations for the Zoning Office to verify zoning. We also provide print outs to the public for permitting information.

Do you perform any GIS data maintenance activities? If yes, please provide an example.

no.

Briefly list the activities that you perform using GIS? (create maps for master plan, locate water customer addresses for work orders, etc.)

Check council and election district information. Identify locations for public notice signs. Identify property ownership. Compare changes made to property using the different aerial maps available. Addressing of new properties. Check the zoning.

What activities do you think could benefit from use of (or increased use of) GIS?

We have only had GIS access for about 2 months. In that time we have streamlined some of our processing and have used this valuable resource to better serve the public. The public is in our office all day long looking for information about property. GIS is valuable tool in providing instant information.

Please provide any additional comments you have regarding the use of GIS technology by your department, agency or the County as a whole.

GIS is being made available to the permitting counter in the dept. As that happens, permit processors will have better and instant information available to them. Citizens should see a shorter waiting period and the county will be in better control of the permitting process.