

# **Appendix Q**

## **Baltimore County GIS Programs and Activities**





	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
1	<b>911</b>			
1.1	<b>911 Training</b>	<b>P</b>	911	This program provides training for 911 operators.
1.1.1	911 Training – Creating Hardcopy Maps	A	911	Production of Maps utilizing GIS data layers to show relative location, zip codes, community names, Police Reporting areas, and Fireboxes.
1.2	<b>911 Call Taking</b>	<b>P</b>	911	911 Call-taking is a service provided by Baltimore County to its citizens. It involves the receipt of calls and subsequent dispatch of emergency services to citizens. These services include Police, Fire, and Ambulance service. Call-takers receive 911 calls and locate callers using CAD software and Enhanced 911 software. A 911 call can come from a landline phone or a cell phone.
1.2.1	911 Call Taking – Wireless	A	911	911 call takers are the primary point of contact for the County citizens in an emergency. Call takers use MicroData GIS ALITracker software to accurately and quickly locate a wireless 911 caller using the Map display. Based upon the information received from the system and from the caller, the call taker decides whether or not the call should go to dispatch, and which respondents - Fire, Police, or Ambulance - should receive the call.
1.2.2	911 Call Taking - Landline	A	911	911 call takers are the primary point of contact for the County citizens in an emergency. Call takers use the CAD system along with MicroData GIS ALITracker software to accurately and quickly locate a 911 caller using the tabular data as well as the display. Based upon the information received from the system and from the caller, the call taker decides whether or not the call should go to dispatch, and which respondents; Fire, Police or Ambulance; should receive the call.
1.3	<b>Address Locators (Geocoding)</b>	<b>P</b>	911	A Standard ESRI tool that allows tabular data to be loaded and converted into a spatial data file. The results are used by all county activities that make use of geocoding.
1.3.1	Address Locators (Geocoding) – Address Point Locator	A	911	Centerline locators use a GIS point layer to spatially enable tabular data. The accuracy of the data produced relies heavily on the accuracy of the source line layer.
1.3.2	Address Locators (Geocoding) – Adjacent County Locators	A	911	Using Non- Baltimore County GIS data, 911 creates custom geocoding services to be used for address location in adjacent counties.
1.3.3	Address Locators (Geocoding) – Centerline Locator	A	911	Centerline locators use a GIS point layer to spatially enable tabular data. The accuracy of the data produced relies heavily on the accuracy of the source line layer.



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1.4	<b>Automatic Vehicle Location (AVL)</b>	<b>P</b>	911	Automatic Vehicle Location (AVL) is a GIS enhancement for 911 where call center staff can graphically track an emergency event and units as they respond to events or in daily patrol. This is a future program.
1.4.1	AVL – MicroData GIS AVL	A	911	MicroData GIS enables the AVL tool in its front office software ALITracker. Utilizing the street centerline data primarily, as well as address points, police reporting areas, fireboxes, and orthophotography secondarily, the software can track units to and from an event. Also, it can analyze and select the closest responder to an event. This is a future activity.
1.4.2	AVL – Routing	A	911	Utilizing AVL and street centerlines, routing will give a responder the quickest route to an event. It will take into account speed limits, bridge weight restrictions, and distances to the event. This will enhance the ability of the Police and Fire departments for creating their boundaries and response areas. This is a future activity.
1.5	<b>Computer Aided Dispatch (CAD)</b>	<b>P</b>	911	Computer Aided Dispatch for location of 911 callers.
1.5.1	CAD – 911 Geofile	A	911	This file is used in the CAD software to validate a location during a 911 call using tabular data. In the future, the Geofile will be created using GIS after migration of the MicroData GIS dispatch software to generation 2.
1.5.2	CAD – Hazards File	A	911	The Hazards File is used in 911 dispatch to alert first responders of hazards or impediments in the field. Currently GIS is not used to create this file. In the near future all hazard events will be tied to a specific geometry (points, lines or polygons) from GIS layers.
1.5.3	CAD – Intersection File	A	911	The Intersection File used to locate the closest intersection to an event during a 911 call. Currently it is created in CAD and is text based. In the future, it will be created using GIS after migration of the MicroData GIS dispatch software to generation 2.
1.5.4	CAD – Master Street Address Guide	A	911	This file lists every address for every structure in Baltimore County. Currently Verizon creates it; however, this file will be created in 911 in the near future using the facilities geodatabase data.



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1.6	MicroData GIS – Phase II Wireless E911 Support	P	911	The Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services (DPSCS) passed a bill in 2003 to increase phone fees to provide “wireless enhanced 911 service.” MicroData GIS is the software product used in 911 wireless dispatch support. This software helps to locate cell phone callers who have dialed 911 by using the location of the cell tower/sector that relays the call or the actual GPS latitude and longitude coordinates of the cell phone.
1.6.1	MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Centerlines	A	911	The data used in MicroData GIS is a mirror of the Facilities Geodatabase. However the MicroData GIS software requires the data to be in a slightly different format, thereby requiring duplication of work. The Facilities data layers are migrated regularly in order to keep the MicroData GIS data current and up-to-date. The centerline database maintenance is performed by utilizing the COGO'ed edge-of-pavement polygons from the plats. The centerline routine creates the geometry whereby the related address range and street name information can be stored. The centerline address and street name information comes from MD State Plats. Monthly updates to the file are necessary in the maintenance of this file.
1.6.2	MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Common Place	A	911	The data used in MicroData GIS is a mirror of the Facilities Geodatabase. However the MicroData GIS software requires the data to be in a slightly different format, thereby requiring duplication of work. The Facilities data layers are migrated regularly in order to keep the MicroData GIS data current and up-to-date. The Common Place database maintenance is performed by creation of the common place geometry with related facility information from the address point geodatabase and usecode tables as well as the Facility Name. Periodic updates to the file are necessary in the maintenance of this file.



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1.6.3	MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sites	A	911	The data used in MicroData GIS is a mirror of the Facilities Geodatabase. However the MicroData GIS software requires the data to be in a slightly different format, thereby requiring duplication of work. The Facilities data layers are migrated regularly in order to keep the MicroData GIS data current and up-to-date. Sites are equivalent to address points. The sites database maintenance is performed by utilizing the plat image and the COGO'ed cadastral database to create the geometry and associate the address and street name information. Periodic updates to the file are necessary in the maintenance of this file. This is a combination of the Address Points database and the address designation database.
1.6.4	MicroData GIS Phase II Wireless E911 Support – Database Maintenance – StreetNames	A	911	The data used in MicroData GIS is a mirror of the Facilities Geodatabase. However the MicroData GIS software requires the data to be in a slightly different format, thereby requiring duplication of work. The Facilities data layers are migrated regularly in order to keep the MicroData GIS data current and up-to-date. The StreetNames database maintenance is performed by utilizing the registered plat to create the unique StreetName associated to the centerlines. Periodic updates to the file are necessary in the maintenance of this file.
1.6.5	MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sector Locations	A	911	Sector locations are created from routing sheet submitted for approval by the wireless carrier. The sector's radius is created by using the associated tower's X,Y location, the azimuth, and distance, which once inputted into software creates a spatial GIS file to be used by the 911 center's dispatch solution.
1.6.6	MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Tower Locations	A	911	Tower locations are created from routing sheets submitted for approval by the wireless carrier. The X,Y location is inputted into software which creates a spatial GIS file to be used by the 911 center's dispatch solution.
1.6.7	MicroData GIS – ALITracker Workstation Support	A	911	Create and maintain mapping workstations at the Towson and Gilroy 911 centers.
1.6.8	MicroData GIS – ATStore Support	A	911	Create and maintain servers for mapping workstations at the Towson and Gilroy 911 centers.
1.7	MicroData GIS – xALI 911 In House ALI	P	911	Create, support, and maintain in house ALI database and apply phone numbers to correct locations. This is a future program.



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1.7.1	MicroData GIS – xALI 911 In House ALI	A	911	Create, support, and maintain in house ALI database and apply phone numbers to correct locations. This is a future activity.
1.8	MicroData GIS – Community Notification Using ANI from In House ALI	P	911	Create and support call back features for different circumstances using the MicroData Community Notification feature included with the system. This is a future program.
1.8.1	MicroData GIS – Community Notification Using ANI from In House ALI	A	911	Create and support call back features for different circumstances using the MicroData Community Notification feature included with the system. This is a future activity.
2	DED			
2.1	Business Attraction and Prospect Management	P	DED	The key mission of the Department of Economic Development is to foster the creation of family-supporting jobs and increase capital investment through the attraction of new businesses to the County and the expansion of resident County businesses.
2.1.1	Business Development – Area Analysis	A	DED	Mapping tools are used to display a wide variety of features (e.g., land use, zoning, environmental resources, roads, utilities, etc.) that affect the ability of a particular geographic area to accommodate new or expanded businesses. This analysis is useful for developing policy and capital program recommendations designed to enhance business attraction and evaluating the compatibility of business and land use proposals with surrounding communities.
2.1.2	Business Development – Mapping of Potential Sites for Business Prospects	A	DED	Maps are developed to show the location, zoning, configuration, utility service, etc. of specific sites that meet the requirements of businesses considering locating or expanding in the County. These maps are used both by prospective businesses and by professional site location consultants in their assessment of possible locations, and are critical to the mission of attracting high quality jobs and capital investment to the County.
2.2	Commercial Revitalization	P	DED	This program is designed to foster the revitalization of 13 designated older downtowns in the County by: 1) Retaining and attracting quality retail, office, service, residential, entertainment, and institutional uses that create well-balanced and economically vital commercial centers; 2) Improving appearance; and 3) Promoting and marketing the areas.
2.2.1	Commercial Revitalization – Area Analysis	A	DED	For this activity, maps are produced illustrating parcel boundaries, ownership, roadway access, zoning, environmental features, aerial photos, and other features to serve as the basis for developing policy and programs for areas targeted for commercial renaissance.



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2.2.2	Commercial Revitalization – Area Mapping	A	DED	This activity covers the maintenance of the official GIS boundary layer of the County's 13 Council-designated revitalization districts, including updates as zone boundaries are changed with Administration and County Council approval.
2.3	Enterprise Zones	P	DED	This program oversees the management of the County's two state-designed Enterprise Zones.
2.3.1	Enterprise Zones – Zone Analysis	A	DED	Mapping tools are used to analyze the degree and geographic distribution of Enterprise Zone participation by property owners and to illustrate investment levels.
2.3.2	Enterprise Zones – Zone Mapping	A	DED	This activity covers the maintenance of the county's GIS layer of Enterprise Zones, including updates as zone boundaries are changed with Administration and County Council approval.
2.4	Preservation and Enhancement of Assets to Support Economic Growth	P	DED	Preserving and enhancing the County's ability to attract quality jobs and investment in future years is central to the County's long-term economic health. Being successful in this endeavor requires maintaining adequate land inventory for business attraction.
2.4.1	Preservation and Enhancement of Assets to Support Economic Growth – Land Inventory for Prospect Attraction - Analysis	A	DED	The inventory of undeveloped and redevelopable land is used as the basis for the Comprehensive Zoning Map Process (CZMP), Planned Unit Development (PUD), and other land use recommendations, as well as the basis for developing recommendations for new policies and capital projects.
2.4.2	Preservation and Enhancement of Assets to Support Economic Growth – Land Inventory for Prospect Attraction - Mapping	A	DED	This activity covers the maintenance of an inventory of undeveloped land and land with redevelopment potential that has employment zoning.
3	DEPRM			
3.1	Agriculture Preservation	P	DEPRM	The comprehensive management of nationally recognized land preservation programs in Baltimore County, including, but not limited to the administration of the Maryland Agricultural Land Preservation Program, Rural Legacy Program, the Baltimore County Program, and RC 4 Watershed Conservancy Easements. The Program is also responsible for the protection of rural land resources on agricultural and watershed zoned lands, and the enhancement of agricultural industry in Baltimore County.



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3.1.1	Agricultural Industry Support	A	DEPRM	The Department works with the agricultural sectors in resolving issues and fostering the industry. GIS is used for policy analysis and planning of agricultural facilities, such as the planning of the agricultural resource center.
3.1.2	Annual Application Ranking and Optimization	A	DEPRM	Systematic analysis, ranking and optimization of applications to MALPF and Baltimore County programs to ensure best use of conservation easement funding. Properties are evaluated in light of program goals and are considered for protection.
3.1.3	Annual Report to MALPF	A	DEPRM	MALPF, a statewide farmland protection program, requires participating counties to submit an annual certification report. Data summary and analysis as well as map making is required.
3.1.4	Evaluating Farm Land	A	DEPRM	Evaluating farmland for eligibility and competitiveness for preservation programs. Evaluating farmland to provide recommendations to the Zoning Office on agricultural issues such as tenant buildings, reduce acreage farms and agricultural zoning complaints.
3.1.5	Grant Applications - TEP and FRPP	A	DEPRM	TEP (transportation enhancement program) and FRPP (farm and ranch land protection program) are two federal grant programs which fund conservation easement purchases. DEPRM studies these program's requirements, identifies owners of appropriate properties who may be interested in selling a conservation easement, evaluates which properties make the most appealing application to each program, and prepares and submits applications to each program.
3.1.6	Inspections, Monitoring and Stewardship	A	DEPRM	Inspections, monitoring and other stewardship activities are required by funding sources and to ensure compliance with easement restrictions. GIS is used to produce field maps, route inspectors, perform aerial photo inspections from the office, and record the locations of evidence photographs.
3.1.7	Local Land Trust Support	A	DEPRM	GIS support for local land trusts - work map creation, maps for application exhibits, maps for record keeping.
3.1.8	Record Keeping and Reporting	A	DEPRM	Record keeping and reporting on an annual basis to MALPF, and periodic basis for other programs, is required for funding. GIS feature classes are used to aid in the retrieval and reporting of land preservation/conservation easement holdings.



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3.1.9	Zoning and Environmental Regulations Review	A	DEPRM	Program Administrator is also responsible for implementing County environmental regulations regarding agricultural and other resource protection. This includes review of Resource Conservation Agricultural (RC 2) and Watershed Protection (RC 4) Zones for impact of projects on prime and productive soils. Administration involves plan review, site visits, meetings with landowners and representatives, and submission of comments. Plan review, site visit planning, and field/exhibit maps all use GIS.
3.1.10	Rural Legacy Program - Grant Applications	A	DEPRM	Rural legacy grant applications to the State of Maryland for funding for the preservation of properties within specific areas named "rural 1 as". Evaluation of status, properties, and proposed cost of those acquisitions, as well as progress that can be expected from other preservation programs. Reports require narrative, maps, and data tables of analyses.
3.2	Baltimore Watershed Agreement	P	DEPRM	This program supports the implementation of the Baltimore Watershed Agreement. First signed in 2002 and recently updated in 2006, this agreement recognizes that natural resource protection and restoration can be greatly enhanced with better coordination among jurisdictions. Baltimore County shares common goals for the management of natural resources, shared watersheds, water quality, restoration of forest resources, and to manage air, land, water resources for the environmental, economic, recreational and aesthetic benefits of the citizens.
3.2.1	Coordination with City and Watershed Associations	A	DEPRM	Coordinate City/County planning, monitoring, education and restoration programs, assist in establishing a committee of principles, assist in conducting meetings of the principles (one per year with watershed associations)
3.2.2	Prepare Biennial Report and Conference	A	DEPRM	Collect and analyze data to write report, organize conference, including presentation materials.
3.3	Builders for the Bay	P	DEPRM	A first-of-its-kind program aimed at reducing environmental impacts from residential and commercial construction within the Chesapeake Bay watershed. Under the leadership of the Alliance for the Chesapeake Bay, the Center for Watershed Protection and the National Association of Home Builders, Builders for the Bay will encourage the voluntary adoption of 22 better site design principles that reduce the environmental effects of residential and commercial development.



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3.3.1	Watershed Quality Analysis and Mapping	A	DEPRM	A first-of-its-kind program aimed at reducing environmental impacts from residential and commercial construction within the Chesapeake Bay watershed. Under the leadership of the Alliance for the Chesapeake Bay, the Center for Watershed Protection and the National Association of Home Builders, Builders for the Bay will encourage the voluntary adoption of 22 better site design principles that reduce the environmental effects of residential and commercial development. Develop GIS-based decision support tools and set policy using said tools for protection of trout resources and drinking water resources.
3.4	Capital Improvement Program	P	DEPRM	The Capital Projects component funded by the Waterway Improvement Program is a major effort to address water quality issues along the 219 miles of subestuarine shoreline of the Chesapeake Bay and the 2,145 miles of upland streams in the County. The goals of the program are to improve the water quality and increase the recreational value of the County's waterways, and to enhance the economic and aesthetic qualities of communities. Integrates and prioritizes capital projects.
3.4.1	Citizen Complaints	A	DEPRM	This activity supports complaints that are either delivered by phone or office visits. All stream and waterway complaints go through the Capital Program and Operations Section. These complaints concern trash and other debris, erosion and capital infrastructure problems.
3.4.2	Dredging Projects	A	DEPRM	GIS is used to plan and present dredging projects to the community. The system is used for environmental assessments, engineering design, ownership and effectiveness evaluation.
3.4.3	Shoreline Enhancement Projects	A	DEPRM	GIS is used for environmental assessments, engineering design, land acquisition, construction, equipment, maintenance, and effectiveness evaluation.
3.4.4	Stormwater Retrofits	A	DEPRM	GIS is used for environmental assessments, engineering design, land acquisition, construction, equipment, maintenance, and effectiveness evaluation.
3.4.5	Stream Erosion Investigations	A	DEPRM	Responds to citizen inquiries and complaints concerning stream erosion. GIS is used to determine site conditions, ownership and watershed characteristics.
3.4.6	Stream Restoration Projects	A	DEPRM	GIS is used for environmental assessments, engineering design, land acquisition, construction, equipment, maintenance, and effectiveness evaluation. Come from complaints or watershed projects. Require public meetings and contacting the public, JPA (joint permit application) to the MDE and Fish and Wildlife Service.



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3.4.7	Submerged Aquatic Vegetation Inventory	A	DEPRM	A consultant performs a boat survey to create a data layer documenting SAV within the County. Small project areas are periodically completed by the County utilizing orthophotography.
3.5	Community Reforestation Program	P	DEPRM	The Section administers DEPRM's program to expend developer fees-in-lieu of mitigation under the Forest Conservation Act. Reforestation is also performed as required for capital projects of other County agencies. This Program provides a continuing source of labor for planting, monitoring, and maintaining community reforestation projects.
3.5.1	Planting, Monitoring and Maintenance of Reforestation Projects	A	DEPRM	Planting, monitoring, and maintenance of reforestation projects. More than 100 acres of reforestation have been planted to date.
3.5.2	Site Planning and Assessment for Reforestation Projects	A	DEPRM	Identify and perform ecological assessments of potential reforestation sites; develop planting plans and methodologies for planting, monitoring, and maintenance of reforestation projects; and provide training in forest functions and management topics for the reforestation crew.
3.6	Comprehensive Zoning Map Process (CZMP)	P	DEPRM	Comprehensive review of CZMP log of zoning issues for environmental and natural resource impacts.
3.6.1	Review for Natural Resource Impacts	A	DEPRM	Review rezoning requests in relation to natural resource concerns.
3.7	Development Coordination and Permit Processing	P	DEPRM	This program is responsible for logging, distributing and tracking all plans and documents related to Phase I and Phase II of the development review process, and reviewing for compliance with the Master Water and Sewer Plan. This Program compiles department comments and attends all pre-concept plan conferences, concept plan conferences, development plan conferences and hearing officer hearings, during which comments are presented and explained. The Project Manager also represents the department at the development review committee meetings, wherein it is determined which process a development must follow. The program also ensures that all subdivision plats meet all State and County development regulations and policies.
3.7.1	Citizen Assistance	A	DEPRM	Advise public of development rules and restrictions generally or as it pertains to a particular property.
3.7.2	Permit Processing	A	DEPRM	All grading, stormwater, management, building and razing permits are distributed by the Development Coordination and Permit Processing Section.
3.7.3	Preliminary Site Analysis	A	DEPRM	Prepare maps and analyze site plans to determine extent and kind of environmental restrictions likely to apply to a particular property.



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3.7.4	Presentation of Comments and Analyses	A	DEPRM	Compilation of comments and analysis to be used for presentations
3.8	Education and Citizen Participation Program	P	DEPRM	Staff assists in the development and implementation of public awareness, education, and community outreach programs and initiatives.
3.8.1	Education/Outreach	A	DEPRM	Staff assists the Director and other DEPRM sections in the development and implementation of public outreach materials and events. This includes preparation of fact sheets and brochures, lobby and festival displays, educational presentations and workshops, website pages, and recognitions. The County's annual Pitch in for Progress events, Household Hazardous Waste collection days, special projects, community watershed association partnerships, and local and regional conferences and workshops. DEPRM seeks and maintains partnerships with local businesses and non-profit organizations to provide support for environmental initiatives in local schools and communities. In support of community and school landscape projects, staff participates in evaluation of local conservation landscaping programs and in workgroups seeking to provide high-quality technical assistance.
3.8.2	Green Schools Program	A	DEPRM	DEPRM assists schools in their efforts to model environmental best management practices (BMPs) in their building and grounds and develop and maintain community partnerships. Staff also participates in local and regional educational conferences, workshops, and teacher training. Staff serves on the Board of Directors of Maryland Association for Environmental and Outdoor Education (MAEOE) and co-chair MAEOE's Green School Committee.
3.9	Environmental Health Inspections Program	P	DEPRM	This program, mandated by Baltimore County Code, provides for the inspection and enforcement of the Code of Baltimore County Regulations (COBCR) 1.01.01 - Food Service Facilities. This section also has delegated authority and responsibility from the Secretary of the Maryland State Department of Health and Mental Hygiene (DHMH) for food establishments regulated under COMAR 10.15.03 – Food Service Facilities.



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3.9.1	Community Hygiene Inspections	A	DEPRM	This involves routine inspections of hotels/motels, and mobile home parks. Response to and investigation of complaints related to insect infestation, illegal disposal of wastes, release of hazardous chemicals or petroleum products, nuisance dust from construction sites, open burning of trash, problems with private water and septic systems, keeping of animals, and miscellaneous nuisances. Corrective action, as required under County law and/or regulation, is initiated by the person(s) responsible for the problem or by private contractors authorized by DEPRM and under DEPRM oversight. Complaints are made by County residents, businesses, and government agencies and elected officials.
3.9.2	Environmental Site Assessments	A	DEPRM	Environmental site assessments to support of the County's land acquisition and property development efforts. These assessments are important to reduce County environmental liability, and reduce the potential environmental impact of on-site hazardous substances. Any transaction with a property requires an environmental site assessment (by 3rd party) If no environmental conditions, project closed. If environmental conditions, project goes to phase 2. Review the environmental site assessment reports and make recommendations to the appropriate County agencies. Environmental site assessments are conducted primarily through contractually-engaged consultants, but some are conducted by DEPRM staff.
3.9.3	Food Facility Inspections	A	DEPRM	COBCR 1.01.01 compliance inspections of over 2,800 annually permitted facilities currently in operation in the County. Investigations of food borne disease outbreaks, citizens' complaints, product recalls, and any other food-related matters. Furthermore disaster and/or emergency investigations of food service facilities are conducted on a twenty-four hour basis which includes response to requests concerning fires in food service facilities, food borne disease outbreaks, and outages of water, electricity, floods and similar crisis-related incidents. Appropriate enforcement activities related to food and drug recalls, facilities' liquor license transfer request inspections.
3.9.4	Recreational Hygiene Inspection	A	DEPRM	This includes providing a safe and healthy arena for water related recreational activities in accordance with the Baltimore County Code, State and County promulgated regulations. Inspections of camps, bathing beaches and swimming pools including any applicable day care pool inspections.



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3.9.5	Sanitary Sewage Overflow Monitoring and Response	A	DEPRM	Whenever a sanitary sewage overflow occurs which may negatively impact public health or the environment, samples of publicly accessible natural water bodies are collected for bacteriological analysis to ascertain the level of contamination. Public warning signage may be posted when appropriate.
3.9.6	Sanitary Survey of TNC Facilities	A	DEPRM	The Maryland Department of the Environment (MDE) has delegated to the County the responsibility for quarterly monitoring of food service facilities' and small businesses' private water supplies for bacteriological and limited chemical analyses (nitrate and nitrite). The designated private water systems are self-monitored, but are required to report to DEPRM, under a Transient Noncommunity Water System (TNC) Agreement. These facilities' sewage disposal systems are also surveyed during the required inspections. Every five years a sanitary survey is conducted on each facility's water and sewage disposal systems as required by applicable federal and state regulations.
3.9.7	Waste Management Facility Inspection and Monitoring	A	DEPRM	This involves routine inspections of landfills and recycling facilities. This includes the review of data from the analyses of water and soil samples collected from landfills and recycling facilities. Water samples are collected from residential wells located adjacent to some of these facilities. Response to and investigation of complaints related to illegal disposal of wastes and the release of hazardous chemicals or petroleum products. Corrective action, as required by County law and/or regulation, is conducted by person(s) responsible for the problem or by private contractors authorized by and under the supervision of this Section.
3.10	Environmental Health Outreach	P	DEPRM	This program, mandated by Baltimore County Code, provides for the inspection and enforcement of the Code of Baltimore County Regulations (COBCR) 1.01.01 - Food Service Facilities. This section also has delegated authority and responsibility from the Secretary of the Maryland State Department of Health and Mental Hygiene (DHMH) for food establishments regulated under COMAR 10.15.03 – Food Service Facilities.
3.10.1	Community Hygiene Outreach	A	DEPRM	This activity involves conducting programs to educate communities about rodent and mosquito control and prevention, the proper handling and disposal of household chemical wastes, and the use and maintenance of private water and septic systems. This section also organizes community clean-up projects using local organizations and volunteers.



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3.10.2	Recreational Water Monitoring	A	DEPRM	Staff conducts routine microbiological sampling of the County's recreational waters and permitted natural bathing waters.
3.10.3	Waste Management Education, Outreach and Assistance	A	DEPRM	This involves conducting programs to educate communities about the proper handling and disposal of household chemical wastes. Part of this program includes the operation of a facility for the collection, recycling and/or proper disposal of household chemical wastes, such as flammable solvents, paints, automotive fluids, pesticides, pool chemicals, acids, caustics, and other material that cannot be handled through the routine solid waste collection system. This includes providing technical assistance concerning the disposal of wastes and chemicals from sites operated by various County agencies. This assistance may include the review of sample data and/or the collection of soil and water samples from County owned properties. Providing support for the drafting and finalizing of annual reports to be submitted to State agencies. Upon request, technical assistance may be provided to private companies.
3.11	Environmental Impact Review Program	P	DEPRM	Environmental Impact Review evaluates and regulates the impact of land development proposals on watercourses, wetlands, water quality, forests, shorelines, threatened and endangered species, and fish, plant and wildlife habitat by the Baltimore County Development Regulations, Regulations for the Protection of Water Quality, Streams, Wetlands and Floodplains; and State-mandated Regulations for Forest Buffer, Forest Conservation and Chesapeake Bay Critical Area Regulations.
3.11.1	Citizen Assistance	A	DEPRM	This responds to citizen inquiries and complaints concerning water pollution, wetland filling, forest clearing and stream erosion, initiating enforcement action for violations of County environmental regulations, and providing recommendations for the correction and/or abatement of these problems. This task includes handling of citizen walk-ins to the Department.
3.11.2	Development Review and Management	A	DEPRM	Reviewing plans, conducting field evaluations, providing recommendations for revisions to avoid or minimize impacts, and attending development meetings. This task includes follow up inspections of mitigation plans, regular inspections of County easements, preparation of revisions to Code and policy and database management. Regular coordination with Federal, State and County agencies occurs to resolve development-related issues.



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3.11.3	Environmental Enforcement Inspections	A	DEPRM	Inspection and enforcement pertaining to all local and State-mandated regulatory programs implemented by Environmental Impact Review. Specifically, staff responds to citizen complaints, issue citations, attend and testify at legal hearings and court cases, and issue fines involving enforcement actions. This task also includes setting up inspection schedules.
3.11.4	Environmental Enforcement Complaints	A	DEPRM	Inspection and enforcement pertaining to all local and State-mandated regulatory programs implemented by Environmental Impact Review. Specifically, staff responds to citizen complaints, issue citations, attend and testify at legal hearings and court cases, and issue fines involving enforcement actions. This task also includes establishment and maintenance of an enforcement database and coordination with County, State and Federal agencies.
3.12	Forest Sustainability Initiative	P	DEPRM	The Section develops and implements the County's forest sustainability program, an element of the Green Renaissance initiative. Staff coordinates the County's participation as one of three U.S. County pilots for the Linking Communities to the Montreal Process Criteria and Indicators project. Staff coordinates the implementation of the Forest Sustainability Strategy drafted in 2005. Staff coordinates with the USDA Forest Service, MD DNR, and American Forests for the implementation of the 2005 Forest Sustainability Memorandum of Understanding. Staff participates in the National Roundtable on Sustainable Forests.
3.12.1	Forest Health Assessments and Management Plans	A	DEPRM	Staff manages a pilot consultant project to conduct a forest health assessment of the nearly 900 acres of forests at Oregon Ridge Park and to prepare a forest management plan to guide actions needed to maintain forest health. Planning is conducted for future assessments and management plans for other large County-owned forest areas.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
3.12.2	Forest Sustainability Research	A	DEPRM	Staff works on projects and pilot studies in Baltimore County in support of implementation of the Forest Sustainability Strategy and Forest Health Monitoring. Projects include the development of a Countywide forest health monitoring network, the development of models of economic sustainability of public and private forests, studies in support of strengthening forest products markets, and valuation models of the ecological services provided by the County's urban forest canopy. Staff conducts landscape assessments of forest patch characteristics to enhance understanding of the vulnerability of forest areas and to identify opportunities to enhance forest sustainability. Work is also performed on the development and use of ecological and economic sustainability indicators and preparation of the County's biannual report on progress toward forest sustainability.
3.12.3	Growing Home Campaign	A	DEPRM	Growing home campaign, \$50K grant (NFWF, US Forest Service) plus \$30K from corporations (\$25k BGE, \$5K Weyerhaeuser Foundation). Campaign seeks to educate County homeowners about the benefits to them, their community, and the environment of planting trees. It provides a \$10 coupon toward the purchase of each \$25+ tree that homeowners plant in their yards. The coupon is cost-shared with the retail industry, resulting in a total 4:1 leverage for the County coupon cost-share. The Campaign has a goal of 10,000 new trees for the Spring 2006 pilot. This project is supported by a one-year grant from the US Forest Service, awarded through the 2004 Chesapeake Bay Small Watershed grant program.
3.12.4	Rural Residential Stewardship Initiative	A	DEPRM	Seeks to educate rural residential lot owners about their role as managers of larger forest and stream systems shared with other lot owners. Landowners are provided an incentive – free tree planting – to convert mowed, “excess” lawn areas to new forests. Landowners agree to monitor and maintain the reforestation areas on their lots. The project is supported by a one-year grant from the US Environmental Protection Agency, awarded through the 2004 Chesapeake Bay Small Watershed grant program.
3.13	Groundwater Management Program	P	DEPRM	The mission of Groundwater Management is to protect and manage the County groundwater resources.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
3.13.1	Enforce State OSDS Regulations	A	DEPRM	Performs field evaluations and describes soils to assure compliance with State Code requirements for installation of on-site sewage disposal systems; conducts feasibility studies to remediate area-wide sewage disposal system failures which are in violation of State and County Codes; and designs and provides final review of on-site sewage systems for all proposals involving on-site water and sewer systems to assure compliance with State Code and Baltimore County development regulations.
3.13.2	Enforce State Well Regulations	A	DEPRM	Issuance of well drilling permits and surveillance of well construction activities. Inspections are conducted in all phases of construction, including initial location approval, grouting, yield testing and bacteriological and chemical sampling for Certificate of Potability, in order to maintain the integrity of groundwater as a resource. Sanitary surveys are conducted by this program to assess the need for the extension of metropolitan water and/or sewer utilities. The program also includes inspection and permitting of scavenger trucks, and site inspections for trailer permits and review of zoning variance requests.
3.13.3	Implement Groundwater Management and Protection Strategy	A	DEPRM	Establishment of a long-term, regional groundwater monitoring program, based upon the results of the 1998 Maryland Geological Survey Report. Research and evaluation of technical and regulatory management solutions to areas not served by public sewer where chronic septic failures are occurring; Hydrogeologic consultation within County government for litigation and development projects; Evaluation of Hydrogeologic Assessments and Water Balance Assessments for commercial development proposals in ground water-dependent areas; Implementation of the County's golf course guidelines pertinent to golf course construction and groundwater monitoring; and Development of a groundwater education program.
3.13.4	Notify Residents of Groundwater Contamination Occurrences	A	DEPRM	State law requires that counties be responsible for notifying all residents in rural areas (areas served by well water supplies) that are within half-mile of a detected petroleum ground contamination occurrence.
3.14	NPDES Program	P	DEPRM	An EPA mandated program. WMM coordinates the NPDES Inter-Department Management Committee and provides coordination of all operational components. This NPDES permit focuses on non-point pollution loading modeling, storm event and base flow chemical monitoring, biological monitoring, geomorphologic monitoring, and illicit connections monitoring.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
3.14.1	Annual Report	A	DEPRM	Analysis and reporting of structural stormwater and sediment control facilities, Countywide source control practices, education, DEPRM capital restoration projects summary, in addition to data on the above mentioned monitoring. Analysis is completed on the County's overall pollutant reduction progress.
3.14.2	Illicit Connection Investigations	A	DEPRM	Field investigation and tracking of stormwater outfalls, to identify illegal connections to stormwater systems, which can impair stream water quality. This activity uses a DPW data layer that took two surveyors one year to collect.
3.14.3	Watershed Action Planning	A	DEPRM	Determine how to meet diverse environmental programs, including Chesapeake Bay Program, NPDES, TMDL, and diverse stakeholder goals. Research problems and coordinate the generation of solutions. Coordinate with agencies, watershed associations, business leaders, citizens, and other volunteers that are appropriate for each watershed. Analysis, outreach, education, community program development and whatever else is necessary for implementation of these initiatives. These plans, in conjunction with stakeholder input, will outline activities within each subwatershed unit. The plan will specify goals, itemize projects, calculate the cost/ benefit, and assign stakeholder responsibility. Several meetings conducted with watershed associations will be held to complete the development of these plans.
3.15	Operations Program	P	DEPRM	The Operations section manages the County's Waterway Debris Removal Program and the Derelict Boat program. This section also is responsible for the management and inspection of all publicly owned stormwater management facilities in the County.
	Stormwater Management Facility Inspection and Maintenance	A	DEPRM	County is responsible for approximately 2,200 stormwater management facilities. Every three years, each facility must be inspected and maintained as needed. Documentation of proper function of each facility is also required to meet MDE requirements. Analysis and reporting of structural stormwater and sediment control facilities, Countywide source control practices, education, DEPRM capital restoration projects summary, in addition to data on the above mentioned monitoring. Analysis is completed on the County's overall pollutant reduction progress.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
3.15.1	Waterway Debris Removal and Derelict Boat Removal	A	DEPRM	GIS is used by the Operations Section to assist in the management of the "Clean Shores" and the Derelict Boat Programs. This includes responding to individual complaints, removal of navigational hazards, organizing tributary clean-ups following natural disasters caused by ice and flooding, debris disposal, contract negotiation and management for private marine services, and meeting all necessary documentation for State funding.
3.16	Policy and Program Coordination	P	DEPRM	The Section develops and implements the County's forest sustainability program, an element of the Green Renaissance initiative. Staff coordinates the County's participation as one of three U.S. County pilots for the Linking Communities to the Montreal Process Criteria and Indicators project. Staff coordinates implementation of the Forest Sustainability Strategy drafted in 2005. Staff coordinates with the USDA Forest Service, MD DNR, and American Forests for the implementation of the 2005 Forest Sustainability Memorandum of Understanding. Staff participates in the national Roundtable on Sustainable Forests.
3.16.1	Chesapeake Bay Program	A	DEPRM	Staff serves on working groups with Federal, State, and local government representatives and non-public organizations, as needed, for development and implementation of programs in support of commitments under the inter-state Chesapeake 2000 Agreement, including Baltimore County's Local Partnership Agreements (1993 and 2000) with the State of Maryland, to address nutrient reduction, habitat enhancement, urban sprawl and watershed planning and restoration. Staff represents Baltimore County on the State's Patapsco/Back River and Upper Western Shore Tributary Strategy Implementation Teams and the Urban Nutrient Management Workgroup.
3.16.2	Coastal Zone Management	A	DEPRM	Staff serves as the Baltimore County designated government representative to the State's Coastal and Watershed Resources Advisory Committee (CWRAC), as well as the "Western Shore government" representative to the CWRAC Executive Committee. Staff also participates on the Maryland Interagency Review Committee to evaluate funding proposals for Coastal Zone program funds, Chesapeake Bay Implementation Grants and Non-Point Source Pollution Control grants.



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3.16.3	Reservoir Watershed Management	A	DEPRM	Formal political agreement to maintain standards and manage the data providing changes and stressors of watersheds. Staff participates on the Reservoir Technical Group (RTG) of the Reservoir Watershed Management Program, coordinated through the Baltimore Metropolitan Council. The RTG reviews proposed changes to master/comprehensive and community plans, local water and sewer plans, zoning, and development policies in Baltimore and Carroll Counties that would affect the quality of the region's drinking water supplies. The RTG provides technical assistance and recommendations to the reservoir program's inter-jurisdictional Watershed Protection Committee and the signatories to the Agreement regarding actions to protect the reservoirs.
3.16.4	Resource Management Research	A	DEPRM	Staff initiate, coordinate, and assist in the implementation of miscellaneous environmental research projects and programs. Staff also review research proposals and prepare letters of support for state, federal, and non-profit research projects conducted in Baltimore County and the region. In addition, staff works with research organizations and universities to develop cooperative research projects and to provide internship opportunities for students. Staff participates in policy and program development and evaluation roundtables.
3.17	Public Data Access	P	DEPRM	Produce and distribute informational materials via websites, publications, and displays at meetings and events. Prepare GIS and tabular data for citizen, non-profit, consultant, and inter-agency requests.
3.18	Sediment and Erosion Control Program	P	DEPRM	Responsible for monitoring the implementation and maintenance of sediment and erosion control practices. Construction has to be permitted, approved and must have a grading permit. Follow-up monitoring is performed every two weeks.
3.18.1	Complaint Response	A	DEPRM	Citizen complaints regarding sediment control, wetland violations and/or drainage problems resulting from improper grading in new developments are inspected and processed by the enforcement personnel.
3.18.2	Monitoring, Inspection and Enforcement	A	DEPRM	Monitor and inspect sediment and stormwater control practices as they are installed and used during construction projects. Enforcement activities related to the Sediment Control and Grading Ordinance. Documentation and reporting of violations.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
3.19	<b>Stormwater Management</b>	<b>P</b>	DEPRM	Responsible for review of stormwater management and grading plans for all new public, residential, commercial, industrial and institutional development. Also coordinates all agency comments pertaining to stormwater management, grading and sediment control.
3.19.1	<b>Citizen Assistance</b>	<b>A</b>	DEPRM	Technical assistance to private citizens, and public and private organizations related to stormwater runoff, drainage and site grading.
3.19.2	<b>Inspections</b>	<b>A</b>	DEPRM	Post-construction inspections to ensure compliance with stormwater management "As-Built" requirements. One year maintenance and triennial inspections of public and private stormwater management facilities for compliance with Baltimore County and State stormwater management regulations.
3.19.3	<b>Stormwater Management and Grading Plan Review</b>	<b>A</b>	DEPRM	Review of stormwater management and grading plans for all new public, residential, commercial, industrial and institutional development.
3.20	<b>Total Maximum Daily Load (TMDL) Program – Drainage Areas and Major Watersheds</b>	<b>P</b>	DEPRM	Coordination with Maryland Department of the Environment in the development of TMDLs for the impaired water bodies for submittal to US EPA.
3.21	<b>Water Quality Monitoring</b>	<b>P</b>	DEPRM	Monitor chemical, physical, and biological water quality data to fulfill obligations under NPDES and TMDL programs, and develop policy, regulations, and initiatives.
3.21.1	<b>Biological Water Quality Monitoring</b>	<b>A</b>	DEPRM	Field investigation and laboratory analysis of stream water and habitat quality data.
3.21.2	<b>Chemical Water Quality Monitoring</b>	<b>A</b>	DEPRM	Field investigation and laboratory analysis of chemical stream water quality. Baseflow and storm event monitoring.
3.21.3	<b>Stream Geomorphic Monitoring</b>	<b>A</b>	DEPRM	Field investigation and laboratory analysis of stream dimension measurements, which respond to erosion, etc.
3.22	<b>Watershed and Water Quality Protection Grants</b>	<b>P</b>	DEPRM	The goal of this activity is to support effective grant applications which are available to fund the watershed restoration projects. WRAS – Watershed Restoration Action Strategies (funded by MDE) is designed to look at necessary watershed planning and restoration actions. This program is currently focusing on the Prettyboy Watershed and is supported at 29 hours/week, contract employee, not FTE, role funded from federal dollars, down to state and local.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
3.22.1	Grant Implementation	A	DEPRM	Use of GIS in support of grants. Implement of planning, restoration, and monitoring projects. Provide support to watershed associations for restoration, planning, and monitoring grants awarded by Baltimore County.
<b>4</b>	<b>DPW</b>			
4.1	Basic Services	P	DPW	The Basic Services Analysis is used to study areas that are deficient for Transportation, Water, and Sewer, and is an important factor when analyzing areas for future development.
4.1.1	Basic Services Maps (Water, Transportation, and Sewer)	A	DPW	The Basic Services Maps are used to identify areas that are deficient for Transportation, Water, and Sewer and are an important factor when analyzing areas for future development. By having the data layers available on GIS, the areas can be recognized easily and accurately.
4.2	Bridge Management	P	DPW	Bridge Management is a Federally mandated program necessary for maintaining bridge safety for the citizens.
4.2.1	Bridge Inspections	A	DPW	Bridge Inspections are Federally mandated. The GIS database records locations of all bridges that can then be plotted for display purposes and joined to all respective inspection results data for each bridge
4.2.2	Bridge Inventory	A	DPW	Maintaining an inventory of County owned bridges is Federally mandated. The GIS database used for this activity records locations of all bridges that can then be plotted for display purposes.
4.2.3	Bridge Permitting and Routing	A	DPW	Information is needed about bridge locations, their carrying capacity, any proposed closures, etc. for routing of school buses, trash trucks, and fire trucks. This information is needed for safety, travel time, and mileage purposes.
4.3	Surplus Property Reviews	P	DPW	Each department in the county must sign off on county-owned properties that are proposed for release. If a property is too close to a bridge or is needed for an easement, it will not be released.
4.4	Building and Equipment Services Management	P	DPW	Maintain and repair all County government owned and leased facilities; provide custodial services; deaccession surplus equipment; provide county equipment maintenance and repair.
4.4.1	County Owned Buildings Analysis	A	DPW	Currently the GIS is used to investigate county owned properties to verify the location of any existing county owned buildings on the properties. If buildings exist, they are assigned attributes, displayed, and printed to be used for resource allocations.



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4.5	<b>Building Permit Review (Residential)</b>	<b>P</b>	DPW	Infill Lot review is part of the Development Process Review and DPW verifies floodplain determinations, water and sewer availability, ingress/egress, and approves water and sewer hook ups for the infill lots.
4.5.1	Building Permit Review (Residential)	A	DPW	Infill Lot review is part of the Development Process Review and DPW verifies floodplain determinations, water and sewer availability, ingress/egress, and approves water and sewer hook ups for the infill lots. Making one GIS map allows the individual to accurately locate the lot and have all necessary planimetric data to efficiently and accurately do their analysis.
4.5.2	Perc Test Approvals	A	DPW	Infill Lot review is part of the Development Process Review and DPW reviews perc test approvals for the infill lots. Making one GIS map allows the individual to accurately locate the lot and have all necessary planimetric data to efficiently and accurately do their analysis.
4.6	<b>Complaint Tracking and Response (Research)</b>	<b>P</b>	DPW	The GIS planimetric/topographic data is used to perform the research needed to respond to drainage complaints, thus reducing the fieldwork necessary to respond to a complaint.
4.6.1	Complaint Tracking and Response (Research)	A	DPW	The GIS planimetric/topographic data is used to perform the research needed to respond to drainage complaints, thus reducing the fieldwork necessary to respond to a complaint.
4.7	<b>Engineering Management</b>	<b>P</b>	DPW	Engineering Management is a part of the overall infrastructure maintenance and repair process of the county facilities.
4.7.1	Alley Reconstruction	A	DPW	Alley reconstructions are part of the overall infrastructure maintenance and repair of the county facilities. GIS data is used to analyze alley reconstruction projects. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient analysis of project areas without more costly field surveys.
4.7.2	Grinder Pump Locations	A	DPW	Grinder pump locations are part of the overall infrastructure improvement of the county facilities. There are currently approximately 2,300 grinder pumps throughout the County. The installation of grinder pumps and associated sewer lines reduces sewer waste flowing into rivers and the Chesapeake Bay. GIS data is used to analyze locations. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient location design without costly field surveys.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
4.7.3	Pump Stations	A	DPW	Pump station locations are part of the overall infrastructure improvement of the county facilities. There are currently 112 pumping stations throughout the County. GIS data is used to analyze locations. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient location design without costly field surveys.
4.7.4	Curb and Gutter – Conditions/Repair/Permits/Petitions	A	DPW	Curb and Gutter construction and/or reconstruction are part of the overall infrastructure maintenance and repair of the county facilities. GIS data is used to analyze Curb and Gutter conditions for repair, permits, and, petitions. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient analysis of project areas without more costly field surveys.
4.7.5	Hydrologic Modeling (HSPF and SWMM)	A	DPW	The modeling of water flowing through storm drains is a factor in studying present systems and gauging the needs for the future. The GIS planimetric/topographic layers can be used to determine the drainage area based on available contour data in the office, thus saving costly field surveys to determine elevations.
4.7.6	Preliminary Alignment and Engineering Studies	A	DPW	Roadway reconstruction and newly planned roadways are part of the overall infrastructure maintenance, repair, and improvement of county facilities. The GIS planimetric data can be used as a preliminary design tool that replaces more costly field surveys. This activity includes preliminary alignment and engineering studies for highway, bridge, sanitary sewer, water, and storm drain projects.
4.7.7	Rehab Projects	A	DPW	Roadway rehabilitation projects are part of the overall infrastructure maintenance, repair, and improvement of county facilities. The GIS planimetric data can be used as a preliminary design tool that replaces more costly field surveys.
4.7.8	Road / Stream Intersections for Bridge Inspection	A	DPW	The amount of water flowing through a large culvert or under a bridge is determined by the drainage area for the bridge. GIS was used to locate intersections of streams with roads to determine the locations of bridges. The GIS planimetric/topographic layers are used to determine the drainage area based on available contour data in the office thus saving costly field surveys to determine elevations.
4.7.9	Sidewalk Ramp Design	A	DPW	Sidewalk ramps are required by ADA. GIS data is used to determine, locate, and plot the best location for the ramps.



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4.7.10	Storm Drain Culvert Studies	A	DPW	Constructing new Storm Drain Culverts and facilities is a part of the overall infrastructure maintenance, repair, and improvement of the county facilities. GIS data is used to analyze future site locations for all of these. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient analysis of possible project areas without more costly field surveys.
4.8	Floodplain Management	P	DPW	Floodplain management is a FEMA required process. Baltimore County must provide information to individuals verifying if a property is in a 100-year floodplain.
4.8.1	Floodplain Analysis and Investigations, Flood Control, Inspections	A	DPW	Investigate properties which may be within floodplain areas. Requests to build upon or remodel existing structures are received. Using GIS contours, road layer, building locations, and the property layer, flood elevations can be calculated, viewed, and/or plotted in the office in minutes as opposed to days of research, field checks, and drawing creation. All properties in a 100-year tidal floodplain and riverine floodplain must have flood insurance as required by FEMA. The County's GIS planimetric and orthophoto layers allow Baltimore County DPW to make accurate floodplain determinations.
4.8.2	Flood Studies	A	DPW	FEMA awarded a grant to DPW to inventory all floodplain studies based on the accuracy of the county's GIS.
4.8.3	Letters of Map Amendment	A	DPW	Letters of Map Amendment (LOMAs) are requests for FEMA to review the county's flood study and elevation data and make a determination if a dwelling should be removed from the 100-year floodplain. Since having GIS data available, the LOMAs have increased from an average of 5 per year to 27 per year.
4.8.4	Letters of Map Revision	A	DPW	Letters of Map Revision are requests for FEMA to revise an area on a Flood Insurance Rate Map based on updated flood studies and GIS data when they conflict with the FEMA maps.
4.8.5	Map Modernization	A	DPW	Baltimore County's orthophotos and planimetric data, along with the Baltimore County Bureau of Engineering flood studies have allowed the county to update several flood areas, most notably, Herbert Run. Additional updates are in progress.
4.9	Highways (Roads) Management	P	DPW	Highways management is a portion of the overall infrastructure maintenance and improvement of the county facilities. GIS data is used to analyze activities.



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4.9.1	Master Roads Inventory / Street Segment Integration	A	DPW	The Bureau of Highways maintains a database of all County road segments with a segment number assigned to each. The GIS functionality will be used to join the database with the GIS roads layer to enable plotting of roads with the master roads inventory segment number attached.
4.9.2	Responding to Citizen Complaints	A	DPW	Highways management is a portion of the overall infrastructure maintenance and improvement of the county facilities. GIS data is used to analyze activities. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient studies.
4.9.3	Right-of-Way Investigations	A	DPW	Highways management is a portion of the overall infrastructure maintenance and improvement of the county facilities. GIS data is used to analyze activities. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient studies.
4.9.4	Repaving Support	A	DPW	Repaving existing roads greatly improves the quality of life in Baltimore County by smoothing out traffic flow and easing snow removal operations. GIS allows roads to be coded as to condition.
4.9.5	Salt Dome Runoff Investigation	A	DPW	The runoff effect from County owned salt domes is studied using GIS topographic data to review grades and location of storm drain facilities.
4.9.6	Snow Removal / Routing Issues	A	DPW	Snow removal is a necessary function of a local government. Planning and plotting the boundaries of snow routes insures all areas of the County are addressed during a snow event in a timely manner. A GIS database allows this planning to be accomplished and/or adjusted quickly, as needed.
4.9.7	Street Sweeping Program – Street Sweeping Schedule Maps	A	DPW	Street sweeping is a necessary function of a local government. A GIS database allows homeowners along the routes to be notified of upcoming sweeping so they can clear the roads of parked cars.
4.10	Inquiries - Citizens	P	DPW	Response to citizen inquiries must be made as quickly as possible. Having GIS functionality available greatly improves response time since most inquiries involve data that can be viewed/investigated at the responder's desk.
4.10.1	Fire Hydrant – Pool Filling	A	DPW	Contractors who fill swimming pools request the locations of fire hydrants with the availability of water for their trucks. GIS can provide locations of properties, and eventually locations of utilities. An analysis can also be performed using the planimetrics/topography as related to truck access.



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4.11	<b>Master Plan Development – Water and Sewer Master Plan Development</b>	<b>P</b>	DPW	The Baltimore County master plan development is a required function for planning, allowing, and controlling development in the County. It is required by the Code of Maryland Regulations (COMAR) Title 26 Department of Environment. Maps are prepared entirely through GIS. The water and sewer master plan consists of maps of areas planned, conditionally planned, and not planned for public water and sewer utility service with associated attributes.
4.11.1	<b>Water and Sewer Amendment Process</b>	<b>A</b>	DPW	Property owners and developers request the County to amend the Water and Sewer Plan to accommodate their needs. The executive Order of April 11, 1990, specifies this annual process. The GIS functions as the tool to create, modify, display, map, and archive the amendments.
4.12	<b>MDE/EPA Consent Decree Requirements / Deliverables</b>	<b>P</b>	DPW	Baltimore County is under a Consent Decree required by MDE/EPA. Most phases of the decree necessitate using a GIS and associated databases to accomplish the requirements. Not meeting the numerous deadlines and requirements within the decree will result in substantial financial penalties levied upon the County.
4.12.1	<b>MDE/EPA Consent Decree Map Deliverables</b>	<b>A</b>	DPW	Baltimore County is under a Consent Decree required by MDE/EPA. Most phases of the decree necessitate using a GIS and associated databases to accomplish the requirements. Not meeting the numerous deadlines and requirements within the decree will result in substantial financial penalties levied upon the County.
4.12.2	<b>Placement of Sewer Flow Monitors</b>	<b>A</b>	DPW	Baltimore County is under a Consent Decree required by MDE/EPA. Most phases of the decree necessitate using a GIS and associated databases to accomplish the requirements. Not meeting the numerous deadlines and requirements within the decree will result in substantial financial penalties levied upon the County. Placement locations are being determined, mapped, and displayed through GIS. GIS data is used for the placement designs in lieu of numerous and costly field investigations.
4.12.3	<b>Placement of Rain Gauges</b>	<b>A</b>	DPW	Baltimore County is under a Consent Decree required by MDE/EPA. Most phases of the decree necessitate using a GIS and associated databases to accomplish the requirements. Not meeting the numerous deadlines and requirements within the decree will result in substantial financial penalties levied upon the County. Rain gauge locations are being determined, mapped, and displayed through GIS. GIS data is used for the placement designs in lieu of numerous and costly field investigations.



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4.12.4	Large Line Cleaning	A	DPW	Baltimore County is under a Consent Decree required by MDE/EPA. Most phases of the decree necessitate using a GIS and associated databases to accomplish the requirements. Not meeting the numerous deadlines and requirements within the decree will result in substantial financial penalties levied upon the County.
4.13	MDE/EPA Utilities Maintenance Applications/Program Management (CASS WORKS)	P	DPW	Baltimore County performs pipeline maintenance activities to repair and replace sanitary sewer and storm pipes, as well as responding to citizen requests for emergency service problems or inspection requests. The CASS WORKS application tracks the maintenance activities performed on a work order and associates the work order with the specific infrastructure assets of the sewer and storm systems. Baltimore County is under a Consent Decree required by MDE/EPA. Numerous phases of the decree necessitate using the CASS WORKS application and associated databases to accomplish the requirements. Not meeting the numerous deadlines and requirements within the decree will result in substantial financial penalties levied upon the County.
4.13.1	Geographic Analysis of Sewer Study Area	A	DPW	Baltimore County responds to citizen inquiries about problems related to storm drains and sanitary sewer service. CASS WORKS is a work order management system that is integrated with the CASSView map interface. Together they provide access to GIS layers and spatial query / proximity and geocoding functionality for analysis, and will keep historical records as well. Additionally, several years of historical records have been entered into the system.
4.13.2	Responding and Tracking Citizen Inquiries and Complaints	A	DPW	Baltimore County responds to citizen inquiries about problems related to storm drains and sanitary sewer service. When a citizen calls to report a potential problem for investigation, the staff will log a Service Request into the CASS WORKS system with an address that can be geocoded for reference. The issue is prioritized and dispatched to an available crew for inspection and review in the field. CASS WORKS is a work order management system that is integrated with the CASSView map interface. Together they provide access to GIS layers and spatial query / proximity and geocoding functionality for analysis.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
4.13.3	Identification of Infrastructure Drawing Numbers	A	DPW	Baltimore County is responsible for performing maintenance on the sanitary sewer infrastructure, along with fixing problems with the system. In order to understand the details of the system, it is helpful for the maintenance staff to access the as-built design drawings. These drawings are used to supplement the GIS data for the infrastructure.
4.13.4	Tracking, Cleaning, and Television Inspections of Utility Lines	A	DPW	Baltimore County is responsible for performing Television (TV) inspections of all sanitary sewer pipes within the County limits. During an inspection, a TV operator will document problems and issues that are present along the pipe segment, including blockages, roots, cracks, and other classifications of defects. The TV operator will also capture video or still photo images of the defect. The data and images from the inspection are then uploaded into the CASS WORKS application for display in the Physical Inspection screens. The TV inspection records are interactive with the CASSView map interface, allowing users to access and review the inspection results using a graphical interface.
4.13.5	Assigning New Connections to Sewer Service Areas	A	DPW	Baltimore County adds new customers to its CASS WORKS system. CASS WORKS is a work order management system that is integrated with the CASSView map interface. Together they provide access to GIS layers and spatial query / proximity and geocoding functionality for analysis.
4.14	Metropolitan District Financing and Petitions	P	DPW	This program includes administration of the petition process for sewer and water extensions and connections, and alley improvements. Also included is the assessment and maintenance of files for all Metropolitan Charges, such as Water and Sewer Benefit Charges, Sewer Service Charges, and Water Distribution Charges. This program also includes responsibility for billing Food Service Class and Industrial Wastewater surcharges. Requests are received for extensions of public sewer and water lines, alley repairs, and construction of roadways, curbs and gutters, and private road takeovers. Design and construction are coordinated with other County agencies, methods of funding and repayment are secured, and the necessary public meetings are conducted.
4.14.1	Alley Petitions	A	DPW	Requests for alley replacement projects are submitted as petitions. The GIS and associated data are used to check the validity of the petition by verifying that all properties and property owners adjoining the alley in question are included in the petition.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
4.14.2	Sanitary Sewer Extensions	A	DPW	Requests for sewer extensions are submitted as petitions. The GIS and associated data are used to check the validity of the petition by checking the location of existing sewer mains and verifying that all properties affected by the extension are included in the petition and are assessed accordingly.
4.14.3	Sidewalks	A	DPW	Requests for sidewalks are submitted as petitions. The GIS and associated data are used to check the validity of the petition by checking the location of existing sidewalks and verifying that all properties affected by the extension are included in the petition and are assessed accordingly.
4.14.4	Assessments (Citizens and Developers)	A	DPW	Assessment determinations for developers or individual property owners are processed and/or reviewed using the GIS and the associated databases. Assessments can be from water and sewer petitions, alley petitions, or the billing process for Chesapeake Bay Restoration fees. The property layer is used along with other DPW layers to complete this.
4.15	Miscellaneous Map and Display Creation – Department Wide	P	DPW	The GIS data allows maps to be created for: public presentations/meetings, quick studies of County features, proposed projects, problem areas, informational print-outs, etc. All increase the speed of responding to our citizens. Additionally, maps of all DPW Facilities, including pumping stations, highway/utility shops, highway districts, and snow routes, along with maps of all County owned bridges, and numerous other features are prepared and forwarded to the Emergency Operations Center (EOC) periodically for their use in emergency preparations and response.
4.15.1	Miscellaneous Map and Display Creation – Department Wide	A	DPW	The GIS data allows maps to be created for: public presentations/meetings, quick studies of County features, proposed projects, problem areas, informational print-outs, etc. All increase the speed of responding to our citizens.
4.15.2	Emergency Operations Center Maps	A	DPW	Maps of all DPW Facilities, including pumping stations, highway/utility shops, highway districts, and snow routes, along with maps of all County owned bridges, and numerous other features are prepared and forwarded to the Emergency Operations Center periodically for their use in emergency preparations and response.
4.16	Solid Waste Management	P	DPW	Program function is to provide a safe, environmentally sound integrated solid waste management program to promote waste prevention, increase recycling and resource recovery, and decrease the quantity of solid waste requiring land filling, in accordance with the Ten Year Solid Waste Management Plan.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
4.16.1	Community Clean-ups	A	DPW	GIS data and functionality are used to plan and map community clean-ups.
4.16.2	Collection Routes and House Counts	A	DPW	Presently there are 50 solid waste collection routes. Maps are created for the 50 collection routes and also for the 229 different pick-up day plans. Maps are also created to adjust routes when conditions necessitate due to bridge closures, bridge weight restriction changes, roadway construction, etc. The data layers available from GIS make these mapping projects possible. Also, GIS is used to calculate mileage for payment to haulers. With a budget of \$24,000,000 for solid waste removal, payment to haulers is based partially on the number of houses on a given collection route. The GIS is used to assist in auditing the number of houses on the 54 collection routes and edit databases for new addresses allowing the most cost effective results.
4.16.3	Collection Routes – Truck Turnarounds	A	DPW	To avoid a dangerous situation, truck turnarounds are constructed to avoid having trucks backing up on a residential street. The road layer, building layer, property layer, and the orthophotos are used for both the proposed layout of the turnaround, and property search required to acquire turnaround area.
4.16.4	Recycling Route Studies	A	DPW	Users are planning to apply GIS functionality to create recycling reports on the 50 collection routes when CASS WORKS is put into operations in the Bureau by recording recycling route issues, weights of refuse of collection routes, etc.
4.17	Surveys	P	DPW	This program includes maintenance of the County’s approximately 27,000 benchmarks that have been established using GIS and GPS. Additionally, this program includes field surveys of existing topographic features that support engineering design projects. Survey crews are sent out with GIS location maps showing existing GIS generated topography. The survey crews use the GIS data as a base layer and then refine areas that need more detail or a higher degree of accuracy.
4.17.1	Project Site Survey Base	A	DPW	Field surveys of existing topographic features support engineering design projects. Survey crews are sent out with GIS location maps showing existing GIS generated topography. The survey crews use the GIS data as a base layer and then refine areas that need more detail or a higher degree of accuracy.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
4.17.2	Survey Control Management	A	DPW	GIS helps plan projects and estimate their duration using the orthophotos. Surveys maintains a database of the control monuments. There are 27,000 benchmarks maintained by the county. Information is provided to consultants and via the web site. Before 1999, they used the city datum. In 1999 they converted to NAD83. Before GIS, they stored the information about the benchmarks on index cards. They scanned and did OCR to get the cards into the GIS layer. Field sketches are done using AutoCAD now. They add 6-8 points per week. GPS field work is done on Thursdays. Entering a new point requires 4-man days of field work, plus half a day to process the GPS data for 6 points, 1 day to make sketches for 6 points, and 0.5 hours to put 6 points in the geodatabase. They also create PDFs to post on the web.
4.18	Traffic Management	P	DPW	Traffic Management is a portion of the overall infrastructure maintenance and improvement of the county facilities. GIS data is used to analyze activities.
4.18.1	Detour Plans	A	DPW	Requests from citizens and elected officials about speeding and cut through traffic in neighborhoods are evaluated. If the community meets certain requirements with enough community support, speed deterrents (speed humps) are installed. Activities involve working with contractors to maintain traffic flow while work is being done. This sometimes requires closing the street and designing detours to assist motorists around the closure. Using available GIS planimetrics and aerials allows this to be accomplished quickly without numerous field visits.
4.18.2	Install Roundabouts	A	DPW	Roundabouts are designed and installed. Using the available GIS data provides a means of studying various design scenarios to find the best solution to location and size issues.
4.18.3	Pavement Marking Inventory (Restriping) Activities	A	DPW	GIS is used to view a roadway's previous striping after repaving operations to ensure correct re-striping.
4.18.4	Road Closures Permanent / Temporary	A	DPW	Road closures, both temporary and permanent, are necessary to maintain safe conditions for traffic flow. The GIS data are more accurate, current, and complete compared to previously existing data, which allows these closures to be accomplished more efficiently. Road closures are necessary for events such as town or local festivals or gatherings that use the roadway as part of the festival area. Temporary closures are also needed for extended construction operations such as bridge reconstruction. Permanent closures result from new construction.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
4.18.5	Street Sign - Maintenance	A	DPW	There are 8,425 roadway segments in Baltimore County with existing signs that are evaluated every seven years as to their condition (e.g., faded or damaged). Additional maintenance is performed as needed when complaints are received about their condition or visibility. Using the GIS database will allow plotting signs and displaying their condition at correct locations.
4.18.6	Street Sign Inventory	A	DPW	In 1997 the sign inventory program was developed so that existing signs along every roadway segment (8,425) in Baltimore County were evaluated over a seven year period. All signs are evaluated as to their condition (e.g., faded or damaged). Using the GIS database allows plotting signs and displaying their condition at correct locations.
4.18.7	Traffic Calming	A	DPW	Requests from citizens and elected officials about speeding and cut through traffic in neighborhoods are evaluated. If the community meets certain requirements with enough community support, speed deterrents like Traffic Calming are implemented as required. Using available GIS planimetrics and aerials for base data allows this to be accomplished quickly without numerous field visits.
4.18.8	Traffic Signals - Maintenance	A	DPW	Baltimore County designs, constructs, and maintains traffic signals. Maintenance of the signals range from minor tasks (bulb replacement) to implementing signal system timing plans with many varied tasks in between. Due to the enormous quantity of work involved, services of consultants / contractors have been acquired to meet the needs. Using a GIS geodatabase for keeping maintenance records and mapping will greatly facilitate this process and reduce dependence on outside forces. This activity consists of designing, constructing, and maintaining traffic signals. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient analysis and design.
4.18.9	Sidewalk Ramp Maintenance	A	DPW	GIS helps show which wheelchair ramps have domes and which ones don't. GIS also shows where curb and gutter cuts for ramps are needed. They also install whistles and chirps at large intersections. GIS supports inventory and needs identification, is used to add maps to reports. The county-wide inventory of ramps is a multi-year project and is approximately half done. With GIS, assume 0.25 hours to call up in GIS. Use of GIS saves 2 hours per intersection. Each intersection has at least 4, and up to 6 ramps. They rebuilt 13 intersections in 2006.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
4.18.10	Traffic Signals – Design, Inventory	A	DPW	This activity consists of designing, constructing, and maintaining traffic signals. The GIS data is more accurate, current, and complete compared to previously existing data, which allows for easier and more efficient analysis and design.
4.18.11	Traffic Studies	A	DPW	Traffic studies must be completed on all roadways within Baltimore County to maintain records of traffic counts, traffic volume, intersection ratings, etc. Using available GIS planimetrics and aerials allows this to be accomplished as quickly as possible.
<b>5</b>	<b>DRP</b>			
5.1	Capital Projects Engineering and Design - Parklands	P	DRP	The cross functionality of Arcmap with AutoCAD is utilized to provide consultants and in-house staff with data that is used for formal park design and engineering projects.
5.2	Mapping Required for Permits or Approval Processes	P	DRP	GIS is utilized to prepare assorted maps needed for the procurement of permits. These maps are used to show the proposed projects in relation to the surrounding landscape and cultural features. Types of permits include Chesapeake Bay Critical Areas Program permits and county permits.
5.3	Park Development Planning	P	DRP	Use of geographic data to produce maps for park development planning.
5.4	Park Maintenance	P	DRP	This activity oversees the maintenance activities of all DRP assets. Each asset is contained within the MaintStar application as a site or piece of equipment. Work orders are created within this application and database for each maintenance activity, which are assigned to maintenance personnel. GIS was used to determine where grassy areas are that need to be mowed, how much area they cover, what type of slope the area has, obstacles that exist. This allows for estimates of the amount of effort required, and also allows for the land to be better managed and resources to be better allocated. Other maintenance efforts include, trash collection, repairing picnic tables, signs, out buildings, etc.
5.5	Parkland and Open Space Acquisition Site Analysis	P	DRP	Sites being considered for potential acquisition as parklands are analyzed to determine their viability for park construction and/or general land conservation. GIS also provided more up to date topography information. This activity also supports the Neighbor Space Program, which acquires individual vacant lots. GIS helps determine if lots are suitable for their needs.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
5.6	Parkland and Open Space Complaint Research	P	DRP	Research of complaints and inquiries that could pertain to County-owned parklands and open space. Complaints can be about encroachments into park land or areas that require maintenance. Complaints can come from agency staff or the public.
5.7	Parkland Needs Analysis	P	DRP	Analysis of existing parkland and open space networks on a geographic basis, typically at the neighborhood level or higher.
5.8	Presentation and Publication Mapping	P	DRP	A wide variety of maps are prepared for use at public meetings and events, or to be used within an assortment of publications. Community meetings are held to solicit input on the use of properties determined as viable for parkland during the Parkland and Open Space Acquisition Site Analysis activity. Community meetings are also held to get consensus on a preferred plan for a potential park. Site maps are made for these meetings that include orthophotography, property boundaries, topography, hydrography, and stream buffers (for environmental concerns), which are used as a valuable public relations tool to communicate potential uses of a property.
<b>6</b>	<b>FIRE</b>			
6.1	Emergency Operations Center - Support	P	FIRE	GIS is used to provide onsite GIS support and create pre-made maps for use at the EOC and to maintain and produce data and maps facilitating large-scale emergency management. Some items of importance are evacuation routes, road conditions, characteristics of population at risk, location of facilities and hospitals to be used in disasters, location of vulnerable populations at institutions, hazardous material, hurricane evacuation routes, schools, college campuses, assisted living facilities, flood plains. GIS has just recently been applied to the EOC operations. It is used to provide on-the-fly mapping support upon request of the EOC officers during an activation.
6.1.1	Emergency Operations Center - Support - EOC Activities	A	FIRE	Maintain and produce data and maps facilitating large-scale emergency management. Some items of importance are evacuation routes, road conditions, characteristics of population at risk, location of facilities and hospitals to be used in disasters, location of vulnerable populations at institutions, hazardous material, hurricane evacuation routes, schools, college campuses, assisted living facilities, and flood plains.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
6.2	<b>Emergency Response</b>	<b>P</b>	FIRE	The Fire Department is responsible for maintaining a credible and effective team of experts and systems for responding to emergency incidents. A critical component of this preparedness is the development, maintenance, and analysis of geospatial data in support of all aspects of the department's activities. The FD Emergency Response program uses GIS technology for primary data gathering and display as well as for analysis and reporting. GIS technology helps support decision making processes, improving and enhancing the department's effectiveness in deploying people and apparatus to emergencies. All emergency apparatus carry maps books which have been developed using GIS.
6.2.1	Emergency Response - Fire Survey	A	FIRE	Fire Surveys are performed on large or high hazard buildings to show the locations of features that are important to response (e.g., pull boxes, hoses, stand pipes, building construction, stairwells, locations of hazardous materials, etc.) on building floor plans.
6.2.2	Emergency Response - Rural Water Sources	A	FIRE	The Fire Department uses GIS and GPS technology to identify rural water resources that can be used by emergency vehicles.
6.2.3	Emergency Response - Redistricting Inspection Territories	A	FIRE	The Fire Department is required by county code to do inspections of buildings (other than single family homes) once a year. To fairly divide up labor hours among inspectors, inspection territories are redistricted every 2 - 3 years by "box grids."
6.2.4	Emergency Response - Analysis of the Distribution of Emergency Incidents	A	FIRE	Examination of the spatial distribution of calls for service and specific incidents to support various activities such as site selection and dispatch policy changes.
6.2.5	Emergency Response - Analysis to Support the Production of Running Assignments	A	FIRE	Running Assignments for each firebox, highway, and marine box are produced based on travel distance; this serves as the basis for CAD to determine which apparatus in which order is dispatched to an incident in a given box.
6.2.6	Emergency Response - Workload Analysis with Spatial Component	A	FIRE	Adding a spatial component to data allows for the identification of specific county areas with high incident volume, high travel time, and thus improves the deployment of resources.
6.2.7	Emergency Response - Maps for Grant Applications	A	FIRE	This activity involves using GIS to make maps included in grant application packages.
6.2.8	Emergency Response - Districting (re) - Fire Stations and Firebox Boundaries	A	FIRE	Station boundaries and box boundaries are set to promote efficient response to emergency incidents; firebox boundaries are closely related to running assignments.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
6.2.9	Emergency Response – Railroad Crossing Dataset	A	FIRE	This activity involves creation and maintenance of a railroad crossing dataset for CSX tracks. In areas of the county where railroads are located, GIS could help pinpoint driveways divided by the rail lines. Currently available data are far from complete. Not all driveways are marked by signage from the rail owner with a number. Ascertaining this data would help both the county and the rail line.
6.2.10	Emergency Response - New Street Notices and New Development Monitoring	A	FIRE	As development progresses within the county, the Fire Department must keep field personnel aware of new streets and development, update firebox maps, and evaluate the impact of new streets on firebox alignment and running assignments. Access to the periodic updates of small scale centerline data will facilitate this process.
6.2.11	Emergency Response - Produce Map Books for Emergency Apparatus	A	FIRE	Maps are produced to be carried in all emergency vehicles. There is a map book page for each firebox, freeway box, and marine box. There are approximately 850 fireboxes, 50 marine boxes, and 50 freeway boxes. Each map is customized in scale and layout. Special detail is developed for institutions such as college campuses, hospitals, and multi-building institutions. Reference is made to related documents called fire surveys that have information specific to firefighting in larger buildings. Completeness of data, labeling, and annotation is of particular importance, but also visibility on the map, such as annotation above hydrants. If a battalion, station, or firebox boundary changes, all fireboxes affected by that area have to be redrawn to reflect the changes. Maps with contours and trails information will expedite search and rescue in remote areas such as State Parks, along streams, rivers, and reservoirs.
6.2.12	Emergency Response - Produce Wall Maps for EOC, Stations, and Special Projects	A	FIRE	GIS data provide information to emergency managers, station personnel, and also is used in special projects.
6.2.13	Emergency Response - Support Special Units HazMat and ATR	A	FIRE	The Hazardous Material Team carries a PC in their vehicle. In the future they may be able to carry GIS data that includes industrial sites and types of material stored. Additionally, other GIS data sets would be helpful including contours, hydrology, storm drains, etc. The ATR team performs specialized rescues. GIS data would be helpful to them, as well.
7	Health			



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
7.1	<b>Administrative Support Services</b>	<b>P</b>	HEALTH	This program provides oversight to activities including annual birth reports, annual death tracking, and other special projects.
7.1.1	Birth Tracking for Annual Report and School Projections	A	HEALTH	Birth records are geocoded and compared to elementary school districts to project trends and identify needs for news schools. This annual report is prepared for use by the County and the State.
7.1.2	Death Tracking for Annual Report	A	HEALTH	Deaths of county residents are tracked as needed for cancer cluster investigations and other studies included in the annual report.
7.2	<b>Media Relations</b>	<b>P</b>	HEALTH	This program provides media relations support to all agency bureaus and activities.
7.2.1	Media Relations	A	HEALTH	Media relations support to all agency bureaus and activities.
7.3	<b>Public Health Emergency Preparedness</b>	<b>P</b>	HEALTH	This program provides oversight to activities that include preparedness for public health emergencies, disaster planning and response, and outbreak analysis.
7.3.1	Outbreak Tracking and Analysis	A	HEALTH	GIS is used for disaster planning and response, mapping health care facilities, and outbreak analysis. Outbreak tracking is done for bio-occurrences such as West Nile Virus, bird flu, etc. GIS is used to track data (standing pools of water, dead birds, etc.) and model mosquito spray swaths.
7.4	<b>Substance Abuse</b>	<b>P</b>	HEALTH	This program provides oversight to activities including prevention, early intervention, and treatment programs as well as, substance abuse tracking.
7.4.1	Special Projects – Ad Hoc Mapping Requests	A	HEALTH	Ad hoc mapping requests that are supported through use of GIS include maps for grant applications, mapping elementary schools for flu mist clinics, mapping for Head Start activities, and creation of a health department carpool system.
7.4.2	Substance Abuse Tracking and Annual Report	A	HEALTH	The Bureau of Substance Abuse publishes an annual report (Pathways to Progress) to show the current status of substance abuse in Baltimore County that is GIS intensive. Baltimore County is the first county in the state to use maps in the annual report. Additionally, GIS is used to track and trend patient data and compare changes in substance abuse
<b>8</b>	<b>OCC</b>			



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
8.1	<b>Community Planning and Development, Revitalization Projects</b>	P	OCC	OCC oversees the management of numerous Federally and State funded grant programs and entitlement programs as well as redevelopment and revitalization programs. These grant programs are primarily designed to benefit low and moderate-income households and individuals through various activities carried out by public agencies and non-profit organizations, such as housing rehabilitation, home ownership assistance, drug and alcohol counseling, fair housing, education and counseling services to the homeless and at-risk, capital improvements for community-based facilities and public infrastructure, and programs which benefit the disabled.
8.1.1	Community Conservation Areas	A	OCC	The agency gives programming priority to "community conservation areas" which were first established in the early 1990s. These areas are currently mapped with a GIS layer. The community conservation areas are further segmented into "sectors," which are also delineated via GIS layers. The agency's Settlement Expense Loan Program for first-time homebuyers is only available to people purchasing in the community conservation areas.
8.1.2	Community Development Block Grant Program (Redevelopment)	A	OCC	The office frequently uses GIS maps to review the location of its grant awards against U.S. Census tracts to ensure that grants are awarded in locations that meet HUD income eligibility requirements.
8.1.3	Consolidated Plan	A	OCC	The Consolidated Plan is done every five years but there are annual updates called Annual Action Plans that are submitted in May of each year. The Action Plan details what activities are being proposed to meet the priorities identified in the Consolidated Plan. It usually takes anywhere from 8-16 hours to produce these maps. The maps are created to show the locations of proposed projects that are to be funded with federal entitlement funds. Typically, 5-10 maps have been created.
8.1.4	Harbor Team Project Development	A	OCC	Explore and articulate projects associated with the County's participation in the Harbor Options Team, a State of Maryland-sponsored committee charged with facilitating community involvement with the Port of Baltimore's Dredge Material Management Program. GIS is used frequently to perform the evaluations. The community enhancement projects are designed to offer benefits to ease the impact of the Port's interest in establishing a new dredge material containment facility in the environs of Baltimore County.



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8.1.5	Homeless Management Information System (Integration)	A	OCC	OCC employs a homeless coordinator as well as an individual who manages the county's Homeless Management Information System (HMIS). These positions oversee management of shelters for the homeless in the county and pursue strategies to prevent homelessness and help the homeless achieve self-sufficiency.
8.1.6	Revitalization Support	A	OCC	Revitalization of older communities is a core function of OCC and a top priority of Baltimore County government. GIS maps are frequently created to assist in developing and managing specific revitalization projects that are not directly relate to UDATs.
8.2	UDAT Project Management	P	OCC	UDAT stands for Urban Design Assistance Team, a group affiliated with the American Institute of Architects (AIA). UDAT projects have been undertaken in Dundalk, Randallstown, Essex-Middle River, and Towson. GIS resources are used extensively in preparing a community to host a UDAT, in outreach efforts to involve the community, and during the one-week visit by the team. Also, the UDAT planning paradigm results in long term visionary plans that are implemented over many years, some projects sooner than others. OCC uses GIS resources very often in evaluating UDAT recommendations and developing more refined data concerning property ownership, topography, water features, parcel square footage, etc. GIS is a critical component of successfully conducting a UDAT. 25% of OCC's GIS efforts are to support UDAT.
8.2.1	UDAT Project Management – Map Production	A	OCC	Maps are developed of multi-feature base layers prior to and during UDAT team visits. The implementation plans are also evaluated using detailed/refined project maps.
8.2.2	UDAT Project Management – Outreach Mailings	A	OCC	Outreach mailings are prepared using cadastral data to identify property owners in the UDAT area and addresses obtained from the assessment file for properties within the study area. Using geographic overlays, the impacted properties are identified and outreach mailings are sent to the citizens.
8.2.3	UDAT Project Management – Study Area Development	A	OCC	This activity involves developing the study area extent and creating a boundary to delineate the area for use throughout the UDAT process.
9	OPZ			



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
9.1	Adequate Public Facilities	P	OPZ	County legislation requires the County to provide adequate schools, roads, sewer, and water facilities for Baltimore County. This program provides oversight of studies and reports prepared to assess the adequacy of the County's public facilities.
9.1.1	Adequate Public Facilities – School Capacity Analysis	A	OPZ	Legislation requires the OP to study and report on the enrollment capacity of County schools. Areas where schools are over capacity are subject to a building moratorium unless mitigated by spare capacity in adjacent schools or by plans for school expansion.
9.2	Charrette and UDAT Project Management	P	OPZ	An initiative of the County Executive to turn underused or neglected parcels of land into community assets. This "collaborative" design process involves full community participation in order to ensure certainty that what is planned is what will be built. UDAT stands for Urban Design Assistance Team, a group affiliated with the American Institute of Architects (AIA). Most teams range in size from 6-12 members. They are made up of seasoned professionals in architecture, landscape architecture, planning, economics, land development, and related disciplines. UDATs only go where they are invited. Their job is to work very closely with community residents to learn about the community's challenges and then devise a plan for solutions. They often focus on large-scale physical improvements. They look closely at a community's culture and history, the health of its commercial centers, its road network, public and private institutions, parks, and open spaces. They do address social issues, though their primary expertise is land use and the built environment



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
9.2.1	Charrette and UDAT Project Management – Data and Map Production	A	OPZ	GIS is used to prepare mailings and maps of the study area prior to the UDAT. GIS is used on-site during the UDAT to review options, prepare data to support decision-making, present options, etc. Due to the intensive and iterative nature of the real-time interactions and decision making process, GIS is considered a key ingredient to the success of these charrettes. About one per year is currently performed; however, this is expected to double in the near future as a result of their success, popularity and effectiveness in quickly creating an urban in-fill/revitalization development plan. PostUDAT, GIS is used to refine the proposed options, prepare recommendations and implementation plans, prepare presentation materials, etc. Some of the UDAT GIS products have been distributed to implementation committee meeting and have served as the basis for identifying potential capital projects involving improvements/alterations to intersections, pedestrian crossings, sidewalks, alleys and streetscape sections. UDAT maps have appeared in full-color report booklets that have been released to the greater communities at large. GIS analyses performed in support of UDATs includes items such as exploration of potential locations for open space/green space; scrutiny of aerial photography, property lines, and ownership; and calculating square footages. Detailed property identification maps for private sector interests exploring property acquisition and redevelopment have been prepared. UDAT maps are also used to foster public communication in meetings, in printed reports, and in briefing papers for County executives.
9.3	Community Planning	P	OPZ	The Community Planning Division serves as the principal citizen contact for matters related to planning. Each County Council District has an assigned community planner who works with residents and businesses, keeping them informed and seeking their input on local plans and projects.
9.3.1	Community Planning – Information Requests	A	OPZ	This activity supports responding to calls or walk-ins from customers (internal or external) requesting information on current projects, zoning, meetings, etc.
9.3.2	Community Planning – General Activities	A	OPZ	This activity supports the mapping of data for community plans and the creation of map products for meetings and final plans, assessment of sites for development/redevelopment potential based on current zoning and development guidelines, and special studies used in the community planning process. Some examples of special studies include walkability studies, parking studies, and streetscapes.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
9.4	<b>Demographic Analysis</b>	<b>P</b>	OPZ	Analysis of Census and development data for population forecasts and planning studies. Complex statistical analyses are performed and customized to meet a variety of needs.
9.4.1	Demographic Analysis	A	OPZ	Analysis of Census and development data for population forecasts and planning studies. Complex statistical analyses are performed and customized to meet a variety of needs.
9.5	<b>Development Review</b>	<b>P</b>	OPZ	The Development Review Division coordinates the Office's review of residential, commercial, and industrial development, including concept and development plans, planned unit developments, minor subdivisions, waivers, limited exemptions, undersized lots, assisted living facilities, variances and special exception petitions, and the cycle zoning process. The division develops guidelines and manuals to be used in the review of the development plans.
9.5.1	Development Review – Development Tracking	A	OPZ	This activity involves collection of data about development projects as they are proposed and constructed for use in population forecasts, land use studies, and external market research. Also, development and occupancy permits are reviewed, approved and tracked.
9.6	<b>Districting (re)</b>	<b>P</b>	OPZ	This program manages the process of changing of County Council district borders, usually in response to periodic Census results. This takes place to prevent geographic malapportionment.
9.6.1	Districting (re) – Council Districts	A	OPZ	There are 7 contiguous and equally-populated councilmanic districts in Baltimore County. GIS tools and staff are used to help create the new boundaries every 10 years after the Census.
9.7	<b>Historic Preservation</b>	<b>P</b>	OPZ	This program oversees the preservation of historic districts, buildings, and their settings from erosion caused by neglect, abandonment, or the intrusion of incompatible designs and uses.
9.7.1	Historic Preservation – Information Requests	A	OPZ	This activity involves responding to calls or walk-ins from customers (internal or external) requesting information on one or many historically significant entities; mapping of historic districts, sites, environments, landmarks, African American survey districts, and upkeep of the historic database; and assessing a property (building and surrounding environment) for its historic significance to Baltimore County, in order to protect it from neglect, abandonment, or the intrusion of incompatible designs and uses.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
9.8	Land Use Analysis/Vacant Land Analysis	P	OPZ	This program involves production of an accurate land use layer to help determine areas for possible development/redevelopment to forecast population projections based on different build-out scenarios.
9.8.1	Land Use Analysis/Vacant Land Analysis	A	OPZ	This activity involves production of an accurate land use layer to help determine areas for possible development/redevelopment and to forecast population projections based on different build-out scenarios.
9.9	Master Planning	P	OPZ	The Master Plan program consists of a comprehensive plan that must be adopted every 10 years, master plan updates, special plans (such as a bicycle and pedestrian facility plan) and community or local area plans that are adopted as amendments to the master plan.
9.9.1	Master Planning – Ten Year	A	OPZ	The Baltimore County Charter requires a master plan be adopted or updated at least every ten years. The master plan is an important document that provides policies and guidelines for sustaining livable communities and achieving balanced development in Baltimore County. Also, there are other, smaller scale and more-frequently created plans such as community or local plans and special plans, such as bicycle and pedestrian facilities plans. These other plans are generated based on the Countywide Master Plan and will be incorporated with the subsequent Master Plan.
9.10	Rezoning	P	OPZ	Zoning is a legal mechanism by which local government is able to regulate an owner's right to use privately owned land for the sake of protecting the public health, safety, morals, and/or general welfare. Rezoning is the method used to change the current zoning to a new zone class. CZMP, In-Cycle, and Out-of-Cycle Rezoning are the methods that individuals can use to rezone properties in Baltimore County. The digital zoning layer is legally authoritative for Baltimore County.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
9.10.1	Rezoning – CZMP	A	OPZ	The Comprehensive Zoning Map Process (CZMP) takes place every four years on an exact schedule specified in the County Code. The zoning data layer is required by County Code to be maintained in the GIS. Any citizen may request a zoning change on any property in the County. The CZMP covers a period of approximately 12 months and results in zoning decisions that are reflected in a log of issues. Ultimately, the County Council decides on each issue whether to retain the existing zoning or to enact a different zone(s) or district(s). Generally, each issue is a single property, but an issue may cover many adjoining properties and might even cover many hundreds of acres. The zoning on all properties that were not issues is re-enacted without change.
9.10.2	Rezoning – In-Cycle Requests	A	OPZ	During the years between the quadrennial "comprehensive" process, the zoning map can be changed through the "cycle" process. This opportunity arises twice a year, on a specified schedule, with the ultimate decision made by the Baltimore County Board of Appeals instead of the County Council. Only the property owner is entitled to petition in the cycle process.
9.10.3	Rezoning – Out-of-Cycle Requests	A	OPZ	The out-of-cycle variation provides for expedited scheduling of the Board of Appeals hearing and decision. This option is set in motion if the Planning Board agrees to certify that a quicker decision is in the public interest or because of emergency and if the County Council also approves the certification.
9.10.4	Rezoning – Map Corrections	A	OPZ	Using GIS, the erroneous zoning data is mapped and compared with the details of the indicated error. The error is researched and a recommendation is offered and submitted to higher authorities (Planning Board, County Council, and the Board of Appeals) for review and final determination. The final decision is then integrated with the authoritative GIS zoning layer and PDF of the change is posted to the web. This process takes about one day of effort (7 hours) for a GIS analyst to process each request and an average of four requests are received each year.
<b>10</b>	<b>PDM</b>			



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.1	<b>Building Plans Review</b>	<b>P</b>	PDM	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. 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.
10.1.1	<b>Building Plans Review – Building/ Fire</b>	<b>A</b>	PDM	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.
10.2	<b>Code Inspection and Enforcement</b>	<b>P</b>	PDM	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.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.2.2	Code Inspection and Enforcement - Building, Plumbing and Electrical Inspections	A	PDM	Performs building, electric, plumbing and construction inspections for Single Family and Commercial Buildings in the county. Also responds to inquires regarding violations. 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.
10.3	Development Management	P	PDM	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.
10.3.1	Development Management - Community Input Meetings	A	PDM	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.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.3.2	Development Management - Concept Plan Review	A	PDM	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.
10.3.3	Development Management - Development Plan Review	A	PDM	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. 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.
10.3.4	Development Management - Hearing Officers Hearings	A	PDM	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.
10.3.5	Development Management - Limited Exemption Plans	A	PDM	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.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.3.6	Development Management - Minor Subdivision Plans	A	PDM	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.
10.3.7	Development Management - Pre-Concept Plan Conferences	A	PDM	Pre-Concept Plan Conferences are weekly meetings that are conducted by project managers to discuss options for land use with property owners. Maps are made of the area, including the address of the site, zoning, property boundaries, and other geographic data. GIS is used to check the election and councilmatic districts for each development, in order to invite the proper representatives.
10.3.8	Development Management - Public Works Agreements	A	PDM	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.
10.3.9	Development Management - Inquiries	A	PDM	Project Managers answer questions from the public and developers about specific developments or related materials.
10.3.10	Development Management – Street Naming	A	PDM	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.
10.3.11	Development Management - Utility & Right of Way Agreements	A	PDM	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.
10.3.12	Development Management - Water & Sewer House Connections	A	PDM	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.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.4	<b>Development Plans Review</b>	<b>P</b>	PDM	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.
10.4.1	Development Plans Review – Inquiries	A	PDM	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 inquires can deal with any individual inquiring with any question in reference to developing a property and what can they do with their property.
10.4.2	Development Plans Review – Concept Plans	A	PDM	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.
10.4.3	Development Plans Review – Development Plans	A	PDM	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.
10.4.4	Development Plans Review – Minor Subdivision Plans	A	PDM	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.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.4.5	Development Plans Review – Record Plats	A	PDM	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.
10.4.6	Development Plans Review – Flood Plain Studies	A	PDM	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.
10.4.7	Development Plans Review – Grading Plans/Sediment Erosion Plans	A	PDM	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.
10.4.8	Development Plans Review – Landscape Plans	A	PDM	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.
10.5	Permit & Licensing Processing	P	PDM	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.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.5.1	Permit & License Processing - Building Permit Processing	A	PDM	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.
10.5.2	Permit & License Processing - Miscellaneous Permit & License Processing	A	PDM	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.
10.6	Real Estate Services	P	PDM	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.
10.6.1	Real Estate Services - Appraisals	A	PDM	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.
10.6.2	Real Estate Services - Contact & Negotiations/ Records Management	A	PDM	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.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.6.3	Real Estate Services - Land Acquisition Property Inquiry	A	PDM	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.
10.6.4	Real Estate Services - Road Openings and Closings	A	PDM	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.
10.6.5	Real Estate Services - Surplus Property	A	PDM	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.
10.6.6	Real Estate Services - Title Examination/Property Settlement/Plat Review	A	PDM	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 plats, 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,



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
				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
10.7	Zoning Review	P	PDM	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. 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.
10.7.1	Zoning Review - Permits	A	PDM	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.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
10.7.2	Zoning Review - Petitions/Hearings	A	PDM	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.
10.7.3	Zoning Review - Plans Review	A	PDM	Plans Review is responsible for reviewing and researching concept and development plans for compliance with the zoning law and policies.
10.7.4	Zoning Review - Public Information Counter	A	PDM	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.
11	<b>POLICE</b>			
11.1	Traffic Accident Analysis	P	POLICE	Provide geographic information to Field Operations and Traffic Resource Management regarding traffic accidents and motor vehicle violation charges.
11.1.1	Traffic Accident Analysis - Driving Under Influence (DUI) maps	A	POLICE	Analysts map out street segments showing number of incidents involving DUI arrests and DUI related accidents. Traffic demand models are used in conjunction with this information to determine where traffic is coming from and going to, and what the impact would be for interdiction points along specific routes of travel. This information is used to identify possible DUI interdiction points.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
11.1.2	Traffic Accident Analysis - Traffic accident maps	A	POLICE	Analysts map out street segments showing number of traffic accidents, traffic complaints, and DUI incidents. Street segments are thematically mapped by number of accidents. Information is provided to Field Operations on a monthly basis, or by request. Information is used to identify accident abatement locations.
11.2	Collaborative Supervision and Focused Enforcement (CSAFE)	P	POLICE	Analysts assist field personnel in defining communities targeted for CSAFE funding by State government. This task is influenced by PSI maps. All maps are maintained in RCAGIS.
11.3	4.3 Command and Control	P	POLICE	Provide geographic support to Command and Control for specific incidents. Used for significant weather events or extraordinary criminal incident.
11.4	Homeland Security	P	POLICE	This program provides geographic support to police personnel involved in Homeland Security. Maps are made that include aerial photographs, building footprints, and highway networks. GIS supports Homeland Security exercises and assists in disaster prediction and producing "dignitary protection" maps. They also provide some support to our Homeland Security operations in the form of maps and aerial photographs that are used for drills and exercise.
11.5	Public Safety Indicators	P	POLICE	Produced quarterly, analysts provide maps showing communities experiencing high amounts of violent crime, maintenance of order calls for service, drug arrests, and juvenile offender place of residence. A composite map showing all four indicators is also produced. Information is used for Strategic Planning programs, community policing, and outreach programs. All maps are maintained in RCAGIS.
11.6	Scanning and Forecasting	P	POLICE	Analysts monitor internal and external factors that directly/indirectly influence Department's ability to deliver police service.
11.6.1	Scanning and Forecasting - Demographic/Socioeconomic Community Profiles	A	POLICE	Analysts express crime in relation to opportunity or risk measures, in order to get an understanding the causes of crimes. Population and housing are typically used, but there are situations that require demographic subsets such as the number of males age 15-24 years old.
11.6.2	Scanning and Forecasting - Metropolitan District Maps	A	POLICE	Baltimore County Code, Title 2, Firearms and Weapons, Paragraph 17-2-101 mandates that accurate maps are posted that show metropolitan district line in all precincts, county courthouse, and substations throughout the county.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
11.6.3	Scanning and Forecasting - Post Car Realignment Studies	A	POLICE	Analysts review patrol workload by time of day and redistrict posts as needed, with the objective of equally distributing service demand.
11.6.4	Scanning and Forecasting - Response Time Studies	A	POLICE	Analysts compute police response times for high priority calls and identify areas having excessive times. This usually results in a reconfiguration of police posts.
11.6.5	Scanning and Forecasting - Workload Analysis	A	POLICE	This activity computes the workload for patrol officers staffing cars and assigned posts.
11.7	Tactical Crime Analysis	P	POLICE	Crime has a geographic component that is often one of the first known attributes of an incident. Analysts map incident locations, recovery locations, offender place of residence, and other geographic information that may relate to a crime pattern or series.
11.7.1	Tactical Crime Analysis - Regional Crime Analysis Geographic Information System (RCAGIS)	A	POLICE	The Regional Crime Analysis was GIS application designed by US DOJ and Baltimore County Police. This application is used by analysts, police officers, and command staff to produce maps showing locations of crimes, recovery locations, and offender place of residences. CrimeStat is used to perform spatial analysis.
11.7.2	Tactical Crime Analysis - Crime Activity Maps	A	POLICE	Analysts geocode all tactical crime locations. Points are examined for the presence of a crime pattern or crime series. Attributes associated with point locations include modus operandi, dates, times, and suspect information. Coordinates are used for RCAGIS, but analysts will also use GIS programs to explore point distributions.
11.7.3	Tactical Crime Analysis - Crime Hot Spot Maps	A	POLICE	Analysts identify areas having unusually high concentrations of crime. During the holiday season, similar maps are made from historical data, in order to determine where crimes during this time are likely to occur. Maps are produced for each command staff and for specialized units. This information is used for directed patrol, field contacts, traffic stops, and resource deployment.
11.7.4	Tactical Crime Analysis - Offender Activity Space Probability Surface Maps	A	POLICE	CrimeStat's Journey to Crime routine is used to construct a probability surface of the area that represents the activity space of a criminal. This surface is mapped with relevant basemap data, in order to understand the area that the offender could be located in. Network analyst extension is used to identify potential travel routes of offenders.
11.7.5	Tactical Crime Analysis - Offender Travel Routes	A	POLICE	This activity used GIS to show roadways that may be used by a serial offender. This information is used by Criminal Investigative Units and Patrol officers in response to a crime series.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
11.8	Traffic Stop Data Collection	P	POLICE	This program is mandated by the State of Maryland (Article 25-113 Annotated Code) that results in the collection of driver demographics, and circumstances leading to and following the stop. Traffic stops are georeferenced to reporting areas and aggregated to posts. The department uses this information to determine the demographics associated with traffics stops for posts and officers. Data has been analyzed in response to allegations of racial or sexual profiling.
12	CLUSTER 4			
12.1.1	Auditor Office – Miscellaneous	A	AUDITOR	The Auditor Office is responsible for special projects handed down from the County Council, responding to public inquiries, budget analyses, revenue forecasts, and quarterly digests. Personnel are specifically concerned with understanding issues associated with councilmanic districts and new projects.
12.1.2	Board of Appeals – Miscellaneous	A	APPEALS	The Board of Appeals handles appeals cases, but does not use GIS or geographic information.
12.1.3	Board of Elections – Voter Precincts Mapping	A	ELECTIONS	Personnel are responsible for determining the boundaries of voter precincts locations of polling places. These areas are mapped and distributed to election districts in hardcopy format and available to the public via the MyNeighborhood website. The Office of Information Technology produces an Elections Map Series for the Board of Elections on a two-year cycle. The map series includes 6 Congressional Maps, 8 Councilmanic maps and 9 Legislative maps, along with one of each district map at a Countywide scale. Additionally, OIT produces a Countywide election district map.
12.1.4	Board of Elections – Logistics	A	ELECTIONS	Board of Elections handles the logistics necessary for holding elections by providing materials to polling places. Individuals rely on trucks to deliver voting machines. Computers and polling books are also delivered to these locations.
12.1.5	Board of Elections – Voter Address & Precinct Verification	A	ELECTIONS	Personnel are responsible for driving to sites to confirm areas with zip code issues and house numbers on a street that is bisected by a voter precinct. The staff are using ArcIMS to validate addresses and locations of voter residence, which has resulted in a decrease in field visits by personnel.
12.1.6	Board of Elections – Precinct Identification Process	A	ELECTIONS	Personnel are responsible for identifying the corresponding precinct that a new development and streetname (provided from the Fire Department) resides within after the Board of Elections is notified of the changes.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
12.1.7	Department of Aging – Nursing Homes/ Assisted Living	A	AGING	Nursing homes and assisted living facilities are monitored through semiannual inspections and complaint responses. The location of these facilities is important for managing and conducting field visits.
12.1.8	Department of Aging – County Ride Transportation	A	AGING	CountyRide is Baltimore County’s paratransit service comprised of 24 buses able to accommodate 12 ambulatory and two wheelchairs each. It is designed to serve county residents 60 years of age and over, handicapped residents age 21-59, and those living in the rural area of the County of any age.
12.1.9	Department of Aging – Miscellaneous	A	AGING	Involves several miscellaneous activities that used or have need of geographic information. Baltimore County volunteers is a service coordinated by the agency that could benefit from understanding the location of volunteers in order to improve recruiting. Maps are made of various issues, including Community Outreach clients, Rebuilding Together project homes, and senior centers.
12.1.10	Department of Corrections – Inmates	A	CORRECTIONS	The Department of Corrections is responsible for helping released offenders, understanding offender demographics and socioeconomic characteristics, managing home detentions, and community service placement. Each of these duties relies on geographic information that is currently maintained as addresses for data that includes offenders, community service programs, and job placement locations.
12.1.11	Department of Corrections – Correction Facility Management	A	CORRECTIONS	The Department of Corrections could use geographic information to recruit new applicants for correctional careers and locate new facilities.
12.1.12	Department of Social Services - Collaborative Supervision and Focused Enforcement (CSAFE)	A	SOCIAL SERVICES	Support is given to the Collaborative Supervision and Focused Enforcement program. Maps and geographic data are used to give an understanding of hotspots of various types of crime, such as substance abuse, domestic violence, and juvenile arrests, in order to effectively support prevention and mitigation strategies, such as addiction recovery, community mobilization, and nuisance abatement, in high profile areas.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
12.1.13	Department of Social Services – Housing Office	A	SOCIAL SERVICES	The Housing Office helps provide over 6000 rent subsidies to low income families or elderly/ disabled persons. The location of these residential structures are important to this activity. Individuals need to analyze the spatial relationships between housing and transportation, schools, employment centers, public assistance centers, etc., in order to recognize patterns, detect trends in movement, and understand accessibility to services. This information would allow the agency to effectively allocate resources and service customers.
12.1.14	4.6.3 Department of Social Services – Foster Care	A	SOCIAL SERVICES	The Foster Care unit is responsible for connecting children with foster care. Individuals also recruit and train foster care parents and license group foster homes. The locations of the origins of children, foster homes, and services are important to the agency for allocating resources, assigning children to homes, and understanding trends and patterns of child movement.
12.1.15	Executive Office – Constituent Services and Office of Communication	A	EXECUTIVE OFFICE	The Executive Office handles complaints, issues, and questions received from the public and community associations. These issues are shared with the executive and delegated to the responsible agency. Staff meet with communities to discuss issues, which occasionally use maps provided by the Office of Planning. Personnel also develop publications and design video and photographic media. Maps are occasionally received from OIT and DEPRM to incorporate into these various media formats.
12.1.16	Human Resources – Employee Administration	A	HUMAN RESOURCES	Human Resources is responsible for managing employee records, recruiting new job applicants, training new hires, and handling workplace issues (such as violence or sexual harassment).
12.1.17	Law Office – Legal Support	A	LAW OFFICE	The Law Office supports litigation matters with evidence. Maps produced by OIT are occasionally used as evidence for property/ boundary disputes or to aid in location reference. The MyNeighborhood web mapping application is used to research legal transactions in negotiations and preparation of legal documents.
12.1.18	Liquor Board – Liquor License Regulation	A	LIQUOR BOARD	The Liquor Board is responsible for assigning liquor licenses and inspecting businesses for compliance. Personnel also answer questions from the public regarding the locations of businesses with liquor licenses and the availability of liquor licenses within an election district.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
12.1.19	Local Management Board – Child Well-being	A	LOCAL MANAGEMENT BOARD	The Local Management Board (LMB) monitors indicators related to child well-being. Data from various sources and in various formats is analyzed, leading to recommendations on how resources should be allocated. Personnel are interested in the availability and accessibility of different services, including mentoring, respite services, skill development youth out of school programs, mental health counseling, therapy, and substance abuse treatment, in order to determine the need for new services based on existing and projected populations. The major constraint to the use of GIS by the Local Management Board is the availability of information from the main organizations in the County. LMB has to request information and data from specific sources, however responsiveness, consistency, accuracy and usability of the data is always an issue and a concern that impacts the ability to utilize GIS for analysis and decision making.
12.1.20	Office of Budget and Finance – County Property	A	BUDGET AND FINANCE	The Office of Budget and Finance is interested in the properties that the County owns or that could be acquired, in order to understand where future County services might be located. There is also interest in investigating tax sale properties for which the County became the default tax sale certificate holder. This investigation and analysis is performed to determine if it would be in the best interest of the County to initiate legal foreclosure actions.
12.1.21	Workforce Development– Employment	A	WORKFORCE AND DEVELOPMENT	The Office of Workforce Development is responsible for matching employees up with employers. Personnel are interested in understanding the profile of existing and potential employees, in addition to the nature of businesses within the County, in order to effectively connect the two with each other.
12.1.22	Peoples Counsel – Zoning Laws	A	PEOPLES COUNSEL	The Peoples Counsel defends the zoning laws of the County. Personnel present evidence in trials to show how new development might have a negative impact on the community. This evidence can include maps showing the location and zoning for an area.
12.1.23	Sheriff Department - Transportation	A	SHERIFF	The Sheriff Department is responsible for the service of warrants and summons, as well as posting signs informing of the sale of a property. 22 officers travel to approximately 30 addresses per day to complete this work with warrant and transportation squads traveling throughout Baltimore County and the state of Maryland throughout the week and weekends. Hardcopy ADC maps are used by the officers to find addresses and determine directions.



	Functional Area/Program	Program Activity	Primary Agency	Program / Activity Description
12.1.24	States Attorney	A	STATE'S ATTORNEY	Maps are used in court cases as supporting evidence or to illustrate a geographic issue. Some ways that these maps are used include: showing distance between items or locations, supporting an officer or witness testimony, explanation of the crime, and understanding the crime scenario in spatial terms.
13	<b>OIT</b>			
13.1.1	OIT Services - Application Development and Support	A	OIT	Develop custom applications for use by OIT staff and other Baltimore County agencies to simplify processes, improve workflow, enhance QC procedures, and streamline operations. Create ArcIMS web mapping applications used by the public through the County's web site. Create ArcIMS web mapping applications used by Baltimore County agencies through the Internet/Intranet.
13.1.2	OIT Services - Database Administration	A	OIT	Database Administration of the county's GIS licenses and databases ensures that they can be deployed throughout all county agencies. Managing user accounts and privileges ensures that users have access to the data they need but cannot harm data that are sensitive.
13.1.3	OIT Services - Database Maintenance	A	OIT	Maintain enterprise GIS data layers and enforce topology among data layers that require it.
13.1.4	OIT Services - EOC Support and Staffing	A	OIT	Provides support and staffing to assist the EOC with GIS functionality, including data, maps, and analysis.
13.1.5	OIT Services - Public Access	A	OIT	Provide access to GIS data, maps, and analysis.
13.1.6	OIT Services - Spatial Analysis and Support	A	OIT	Provides spatial analysis and support to the Baltimore County Enterprise including Model Builder support, 3D Modeling, and ArcGIS Analysis. The county LiDAR data is usually the base for creating 3d models.