

Appendix H
The 911 Center



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1 The 911 Center

1.1 Agency Overview

The Baltimore County Central Communications Center (911 Center) provides for the consolidated receipt of emergency calls, the immediate assessment of the availability of response vehicles and manpower, and the dispatching of appropriate units to handle all public service emergencies throughout the County. The Center receives almost 900,000 calls per year. Of the 672,000+ calls actually dispatched, approximately 562,000 are for police service, 33,000 are for fire service, and 77,000 for emergency medical service. The 911 Center is under the control of the Director of Budget and Finance.

The following programs relating to the 911 Center were covered in this study:

- 911 Training
- Address Locators (Geocoding)
- AVL
- CAD
- MicroData GIS – Phase II Wireless E911 Support
- MicroData GIS – xALI 911 in House ALI
- MicroData GIS – Community Notification using ANI from in-house ALI

1.2 Agency Study Participants

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

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

Short Form Respondents
Brigid Robinson
Lee Ann Shope
Marie Whisonant
Marvin Weikel
Mike Wilson
Patrick Fangmeyer
Ray Windisch
Rosemary Jordan
Tammy Price

Table 1 - Short Form Respondents



There were a total of four individuals that participated in interviews conducted on November 8 and 13, 2006. These individuals are:

Interviewees
Lee Ann Shope
Marie Whisonant
Patrick Fangmeyer
Ray Windisch

Table 2 – Interviewees



2 Cost/Benefit Information

This section outlines the annual costs and benefits that are associated with GIS use and maintenance within the 911 Center. The total benefits and costs have been summarized in the table below, which are discussed in further detail in the remainder of this section.

Summary – Total Annual GIS Benefits	
Time Benefits:	\$140,026.78
Other Benefits:	\$0
Total Annual Benefits:	\$140,026.78
Summary - Total Annual GIS Cost	
Total Annual Costs:	\$255,950.48
Summary - Total GIS Cost/Benefit	
Total GIS Cost/Benefit:	-\$115,923.70

Table 3 – Annual Agency Cost and Benefit Summary

This table only includes benefits that are associated with capital returns and does not consist of other benefits such as more accurate information, faster response times, etc. A detailed review of all qualitative benefits realized by GIS users will be documented and analyzed in the Enterprise volume of the report.

2.1 Annual Agency Cost

The 911 Center contributes significantly to the cost of supporting the Enterprise GIS for Baltimore County. This agency maintains many of the core enterprise GIS datasets, incurs significant operational costs for maintaining specialized hardware and servers needed to support the call center operations, and carries approximately one and one half (1.5) fulltime employee equivalents. The total annual agency cost to support all of these elements is \$255,950.48.

Total Agency GIS Cost: \$255,950.48

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

2.1.1 Annual Operational Costs

The 911 Center does not support any external training for its staff members at this time. All training is performed in-house at no additional cost to the agency.



Type of Training	Estimated Cost	# of Staff Attending	Total Annual Cost
No external training	\$0		\$0

Table 4 – Annual GIS Training Costs

The 911 Center supports GIS related hardware and software expenses, to include specialized workstations and servers that support the 911 Center operations as follows:

Hardware/Software Items	Annual Costs
MicroData GIS Servers & ALITracker Workstations (10 year lifecycle on Hardware / 5 year lifecycle on Software)	\$42,950.00
MicroData GIS – Annual Software Maintenance	\$89,000.00
Total Hardware/Software Cost:	\$131,950.00

Table 5– Agency Hardware/Software Costs

The 911 Center supports GIS related administrative and supply expenses to include supporting the plotter and its related expenditures each year as follows:

Administrative/Supply Items	Annual Costs
Plotter Supplies, Paper and Ink	\$500.00
Total Administrative/Supply Cost:	\$500.00

Table 6– Agency Administrative/Supply Costs

2.1.2 Annual Resources (GIS Staff)

The agency contains six staff members that perform some activity that supports GIS for the agency. This assistance includes GIS database development efforts, as well as GIS application installation, configuration, and support. All of this support is totals approximately one and one half (1.5) full time employee equivalents. \$108,207.00 is spent annually to support the personnel associated with GIS maintenance activities (these data layers are listed in section 3.1.4), which is based the salary and overhead of each personnel multiplied by the percentage of time performing GIS maintenance activities. These individuals are listed in the table below, along with the percentage of their time allocated to GIS maintenance activities.



GIS Personnel	% Allocated to GIS Maintenance Activities
Patrick Fangmeyer	100%
Mike Wilson	15%
Marvin Weikel	15%
Mark Claridge	15%
Mike Fischer	10%
Ray Windisch	15%
Total GIS Personnel Cost:	\$108,207.00

Table 7 – Annual GIS Personnel Costs

2.1.3 Annual Enterprise Costs

The costs for providing the enterprise GIS have been totaled for the county and distributed among each of the county agencies relative to the number of users in each agency. These costs have been categorized as operating costs, or the costs that are expended to provide GIS support and resources (such as database management, infrastructure, software licensing etc.), and capital costs, which reflect the cost of purchasing the GIS data (such as Orthophotography or Contours). The total annual operating cost for the County GIS enterprise is \$859,717.21 and the total annual capital cost is \$272,000.00. The 911 Center has relatively few GIS users - three (or 1.35% of the total users in the county). Annual enterprise costs have been proportionately distributed to the 911 Center based on this 1.35% factor. These costs are calculated as \$11,617.80 in operating costs and \$3,675.68 in capital costs, totaling \$15,293.48. Each of these figures has been provided in the table below.

# of Users	% of Total Users	Factor of Operating Cost Applied to Agency	Factor of Capital Cost Applied to Agency	Total Annual Enterprise Cost Applied to Agency
3	1.35%	\$11,617.80	\$3,675.68	\$15,293.48

Table 8 – Annual Enterprise GIS Costs

2.2 Agency Benefit Assessment

The 911 Center supports a significant amount of the costs to maintain critical enterprise GIS data layers. These data layers include the facilities geodatabase, road centerlines, and Address Points data used by all county applications that use geocoding as a core functionality, such as CASS WORKS and ArcIMS. These data are required by the 911 Center to support call center tools and to ensure continued State funding of County 911 activities. The 911 Center response benefits are measured in lives; critical data at the required accuracy and the benefits that accrue to the county citizens through



use of these data are mostly intangible and cannot be calculated using the metrics used for this study. However, there are some activities documented in the study that provide efficiencies and time savings associated with performing the tasks with GIS technology.

For the purposes of this study, the existing benefits realized for each activity have been determined by analyzing the effort needed to perform a task with GIS in comparison to the time spent without GIS. Because GIS is integral to the activities of the 911 Center, it must be noted that use of alternative data sources would most surely be less accurate and less up-to-date than the county’s GIS data and the benefits of timely and accurate data are measured in lives saved. Some hourly benefits are realized through the use of the county’s GIS data instead of external or manual data sources. However, the current process used to support the 911 Center activities requires a mirror set of GIS data and non-GIS data that must be updated, in addition to updates performed on the county’s enterprise layers. This duplication of effort results in costs that are not realized as benefits to the 911 Center.

GIS appears to be used efficiently within the 911 Center, and it is anticipated that when the migration to the new MicroData GIS system that can use the county’s enterprise GIS data directly, instead of requiring duplicated efforts, the benefits to the 911 Center will increase significantly.

2.2.1 Existing GIS Benefits

The existing benefits realized by the 911 Center have been determined for each activity by analyzing the effort needed to perform a task with GIS in comparison to the time spent without GIS. This examination allows each activity to be measured in terms of time, which has been then recomputed to dollars that are realized annually. The existing benefits that are currently being realized have been summarized by program below and have been aggregated to give an annual dollar figure. These benefits are discussed in more detail in section 4. All dollar amounts are based on a flat rate of \$33.95 per hour.

Program	911 Training
Description	This program provides training for 911 operators.
Activities	<ul style="list-style-type: none"> • 911 Training – Creating Hardcopy Maps
Time Benefits (Annual)	\$1,324.05 (39 hours)
Other Benefits (Annual)	None
Total Benefits	\$1,324.05



Program	911 Call-Takers
Description	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.
Activities	<ul style="list-style-type: none"> • 911 Call Taking – Wireless • 911 Call Taking – Landline
Time Benefits (Annual)	\$74,061.93 (2,181.5 hours)
Other Benefits (Annual)	None
Total Benefits	\$74,061.93

Program	Address Locators (Geocoding)
Description	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.
Activities	<ul style="list-style-type: none"> • Address Locators (Geocoding) – Address Point Locator • Address Locators (Geocoding) – Adjacent County Locators • Address Locators (Geocoding) – Centerline Locator
Time Benefits (Annual)	\$0 – Would not be done without GIS
Other Benefits (Annual)	None
Total Benefits	\$0

Program	AVL
Description	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.
Activities	<ul style="list-style-type: none"> • AVL – MicroData GIS AVL • AVL – Routing
Time Benefits (Annual)	N/A – Future Program
Other Benefits (Annual)	N/A – Future Program
Total Benefits	\$0



Program	CAD
Description	Computer Aided Dispatch for location of 911 callers.
Activities	<ul style="list-style-type: none"> • CAD – 911 Geofile • CAD – Hazards File • CAD – Intersection File • CAD – Master Street Address Guide
Time Benefits (Annual)	\$46,986.80 (1,384.0 hours)
Other Benefits (Annual)	None
Total Benefits	\$46,986.80

Program	MicroData GIS – Phase II Wireless E911 Support
Description	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.
Activities	<ul style="list-style-type: none"> • MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Centerlines • MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Common Place • MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sites • MicroData GIS Phase II Wireless E911 Support – Database Maintenance – StreetNames • MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sector Locations • MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Tower Locations • MicroData GIS ALITracker Workstation Support • MicroData GIS ATStore Support
Time Benefits (Annual)	\$17,654.00 (520 hours)
Other Benefits (Annual)	None
Total Benefits	\$17,654.00



Program	MicroData GIS – xALI 911 In House ALI
Description	Create, support, and maintain in house ALI database and apply phone numbers to correct locations. This is a future program.
Activities	<ul style="list-style-type: none"> • MicroData GIS – xALI 911 In House ALI
Time Benefits (Annual)	N/A – Future Program
Other Benefits (Annual)	N/A – Future Program
Total Benefits	\$0

Program	MicroData GIS – Community Notification Using ANI from In House ALI
Description	Create and support call back features for different circumstances using the MicroData Community Notification feature included with the system. This is a future program.
Activities	MicroData GIS – Community Notification Using ANI from In House ALI
Time Benefits (Annual)	N/A – Future Program
Other Benefits (Annual)	N/A – Future Program
Total Benefits	\$0

Table 9 - Existing GIS Benefits by Program



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

Total Annual GIS Benefits Summary			
Time Benefits Summary (By Program):	Hours Saved	Labor Rate (Avg)	Annual Time Benefits
911 Training	39	\$33.95	\$1,324.05
911 Call Taking	2,181.5	\$33.95	\$74,061.93
Address Locators (Geocoding)	N/A	\$33.95	N/A
AVL	N/A	\$33.95	N/A
CAD	1,384.0	\$33.95	\$46,986.80
MicroData GIS – Phase II Wireless E911 Support	520	\$33.95	\$17,654.00
MicroData GIS – xALI 911 In House ALI	N/A	\$33.95	N/A
MicroData GIS – Community Notification Using ANI from In House ALI	N/A	\$33.95	N/A
Total Time Benefits:	4,124.5	\$33.95	\$140,026.78
Other Benefits Summary (By Program):			
			Annual Other Benefits
None			
Total Other Benefits:			\$0
Grand Total Annual Benefits:		\$140,026.78	

Table 10- Total 911 Center Annual Benefits



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

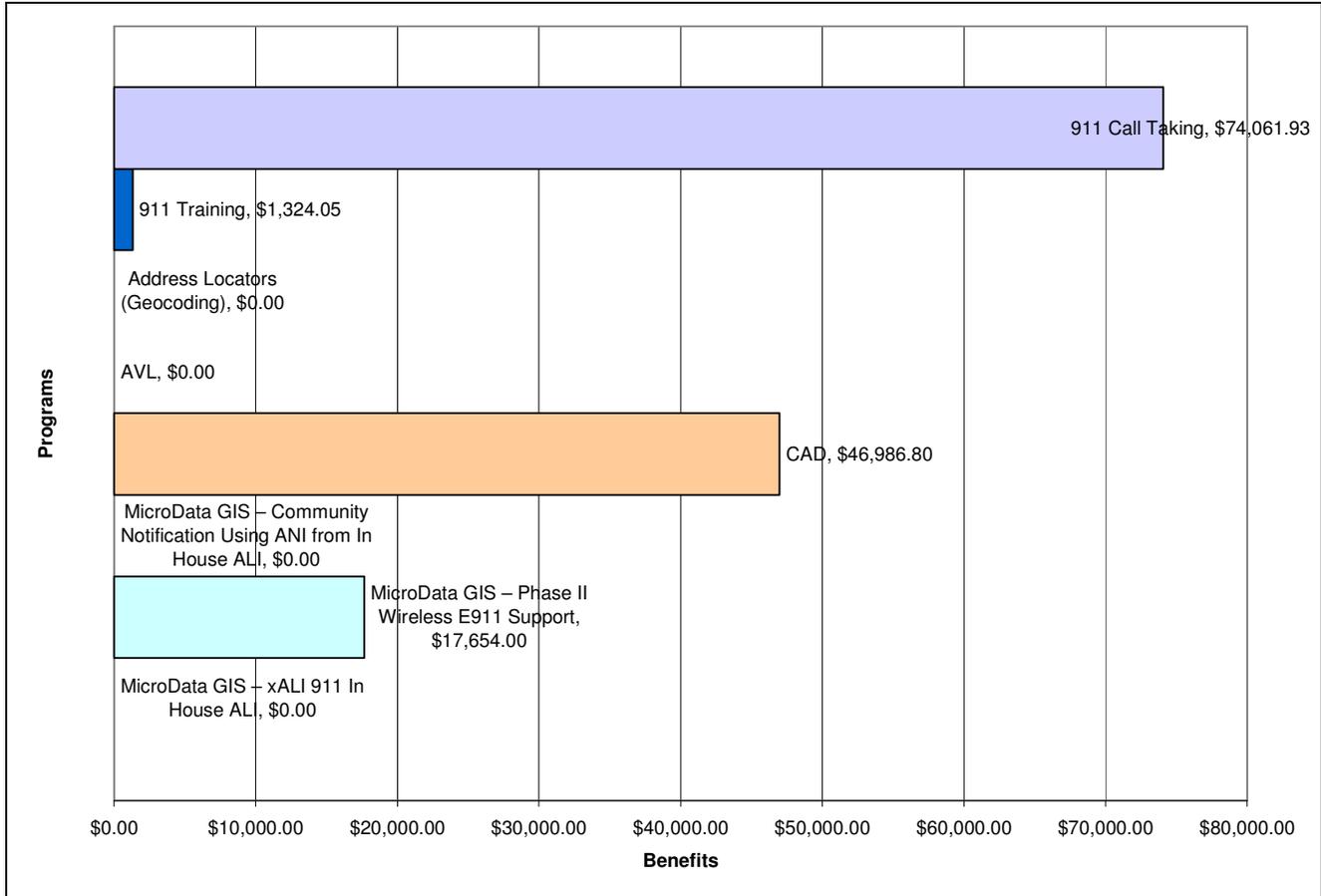


Figure 1 - 911 Center GIS Benefits by Program

The 911 Call Taking program realizes the most benefits due to the 24/7 utilization of the technology by the call-takers in the 911 Center. The MicroData GIS software is integrated into their workstations and automatically maps every call, which is now a key part of the business process in the Center. The CAD program realizes benefits through using GIS by automating the process of creating the Intersection File and the Master Street Address Guide.



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3 GIS Utilization and Recommendations

3.1 GIS Utilization Analysis

GIS is used by all of the 911 call center operators 24 hours a day, 7 days a week, in the form of the MicroData GIS software on each of their workstations. However, use of the county’s ArcGIS applications is limited within the 911 Center, being used mainly for database maintenance. The 911 Center training program focuses on use of the systems needed to perform 911 call center duties, not on county GIS applications.

Baltimore County is required to comply with the Phase II Wireless E911 requirements to receive funding from the Emergency Number Systems Board. GIS has been integrated into the 911 Center’s business operations to support the requirements and enable Phase II Wireless compliance.

3.1.1 GIS Personnel

The 911 Center has already invested in providing GIS training through the Computer Training Center in the Office of Information Technology for several of its staff. The following shows a breakdown of the levels of training and the number of staff that have received training at that level:

Basic Training (Data Query, ArcView)	Mid-Level (ArcGIS Intro)	Advanced (ArcGIS 8x or higher)
		1

Table 11 – GIS Training

Most of the training provided to date has been at a reasonably high level. Any further investment in training should be followed through with skill reinforcement and usage of the system to ensure the skills are transferred from the classroom to the business activity performed.

3.1.2 GIS Data Usage

The 911 Center uses a large number of the GIS data layers provided by OIT’s ArcSDE services via the County WAN. These datasets are used in a variety of ways, mainly to perform database maintenance functions on the data needed for the call center. The most important datasets used by the agency are summarized below, along with number of programs using these layers. GIS data usage is discussed in more detail in section 4.

GIS Data Layer	Used by # of Programs
AddressPoints (View)	8
Emergency Service Area	8
Fire Boxes	8
Freeway Boxes	8



GIS Data Layer	Used by # of Programs
Mutual Aid Boundaries	8
Police Reporting Areas	8
Roads	8
Street Centerlines	8
Street Centerlines (View)	8
Zip Codes	8
Basic Services - Transportation (Intersections)	7
Billiard Clubs (View)	7
Buildings	7
County Boundary	7
County Facilities	7
Facilities	7
Fire Battalion Boundary	7
Fire Hydrants	7
Fire Stations	7
Fire Stations Boundary	7
Golf Courses	7
Health Centers	7
Hydrology	7
Installations	7
Marine Fire Boxes	7
Movie Theaters	7
Orthophoto (2005)	7
PAL Centers	7
Police Precincts	7
Police Stations	7
Post Offices	7
Power Stations	7
Schools—Point Location	7
Sheriff Boundaries	7
Quarries	6
Racetracks	6
Abandoned Railroads	6
Athletic Fields	6
Bridges	6
Cell Tower Sectors	6
Cell Towers	6



GIS Data Layer	Used by # of Programs
Cemetery	6
Light Rail	6
Metro Railroad	6
Parks and Recreation	6
Playgrounds	6
Railroads	6
Reservoir	6
Skating Rinks	6
Streams and Ponds	6
Traffic Calming	6
Traffic Signals	6
Trails	6
Trails - Walkways	6
Transmission Lines	6
Wetlands	6
Dams	5
Junkyards	5
Orchards	5
Sand & Gravel Pits	5
Tree Cover	5
Tree Rows	5

Table 12 - Data Usage

3.1.3 GIS Applications Usage

The 911 Center has taken advantage of the applications provided by OIT. These applications appear to be effectively used where incorporated and personnel are proficient with these programs. ArcGIS version 9.0, service pack 3 (SP3) is the current County standard that is deployed throughout the various agencies. ArcGIS (Standard) is the primary GIS application used by personnel performing database maintenance.

Custom applications (CAD, AVL, and MicroData GIS) are used by all 911 call center staff at each of their workstations. MicroData GIS is an Enhanced 911 capable software package that is integrated into the 911 CAD system and provides mapping functionality to locate 911 callers (Landline or Cell phones) using GIS data layers and address information.



3.1.4 GIS Database Maintenance

The 911 Center is responsible for maintaining some of the county’s most valuable and widely used data layers. The address points and street centerline data are used by virtually all county agencies and by all of the county’s GIS applications, to include the MyNeighborhood web-based applications seen by the public. The 911 systems used in the 911 Center rely on GIS data to show the locations of callers, incidents, and response resources. Use of GIS by the 911Center is critical to its mission of saving lives.

The 911 Center is responsible for maintaining the following layers in support of the enterprise GIS:

Dataset	Address Points (Component of Facilities Geodatabase)
Description	Building point locations with associated addresses, sub-units and street names.
Update Frequency	Static – Currently under construction by vendor
Location	SDE
Complete	In-Compilation
Programs Using Data	<ul style="list-style-type: none"> • 911 Training • 911 Call Taking • Address Locators (Geocoding) • AVL • MicroData GIS – Phase II Wireless E911 Support

Dataset	Cell Tower Sectors
Description	Polygons representing service areas created from cell tower locations.
Update Frequency	As needed
Location	Local
Complete	Yes
Programs Using Data	<ul style="list-style-type: none"> • 911 Training • 911 Call Taking • Address Locators (Geocoding) • MicroData GIS – Phase II Wireless E911 Support



Dataset	Cell Towers
Description	Point locations of cell towers.
Update Frequency	As needed
Location	Local
Complete	Yes
Programs Using Data	<ul style="list-style-type: none">• 911 Training• 911 Call Taking• Address Locators (Geocoding)• MicroData GIS – Phase II Wireless E911 Support

Dataset	Emergency Service Area
Description	Public Safety (PSAP) emergency service areas for Baltimore County.
Update Frequency	As needed
Location	Local
Complete	Yes
Programs Using Data	<ul style="list-style-type: none">• 911 Training• 911 Call Taking• Address Locators (Geocoding)• AVL• MicroData GIS – Phase II Wireless E911 Support



Dataset	Facilities (Component of Facilities Geodatabase)
Description	Relational attribute information about facilities in Baltimore County that have an address and a use code, specifically focusing on the facilities identified in the Geofile Requirements.
Update Frequency	Static - Currently under construction by vendor
Location	SDE
Complete	In-Compilation
Programs Using Data	<ul style="list-style-type: none"> • 911 Training • 911 Call Taking • Address Locators (Geocoding) • AVL • CAD • MicroData GIS – Phase II Wireless E911 Support

Dataset	Street Centerlines (Component of Facilities Geodatabase)
Description	Street centerlines with address range attributes, including alleys.
Update Frequency	<p>Monthly – As an enterprise SDE layer with Geocoding Services</p> <p>Static - Currently under construction by vendor</p> <p>**Once the Facilities Geodatabase collection is complete, the enterprise centerlines will be maintained only within the Facilities Geodatabase.</p>
Location	SDE
Complete	Yes
Programs Using Data	<ul style="list-style-type: none"> • 911 Training • 911 Call Taking • Address Locators (Geocoding) • AVL • CAD • MicroData GIS – Phase II Wireless E911 Support

Table 13 - Agency Data Maintenance

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



3.1.5 Assessment of Business Process with GIS

The 911 Center is using GIS within each of its business processes. GIS involvement in each of these programs' business processes is discussed in the table below.

Program	Business Process Assessment
911 Training	GIS is used to create hardcopy maps used for training 911 call center operators.
911 Call Taking	GIS is used to: <ul style="list-style-type: none"> • Locate Cell Phone callers using e911 MicroData GIS software • Geocode addresses and acts as an adjunct to CAD for landline calls • Communicate with callers about proximity and surroundings based on the map
Address Locators (Geocoding)	GIS is used to: <ul style="list-style-type: none"> • Geocode addresses for use by all Baltimore County agencies • Perform multi-level geocoding: Address Points, Centerlines, and Adjacent County Data • Support agency applications and daily business processes for geocoding operations.
AVL	This is a future program. GIS will be used to: <ul style="list-style-type: none"> • Automatically locate vehicles using GIS data and base maps. • Route emergency vehicles to an emergency event based upon base map features using the routing software.
CAD	GIS is used to: <ul style="list-style-type: none"> • Automatically update the Master Street Address Guide (MSAG), 911 Geofile, and Intersection File used by CAD. • Help update and maintain an all-inclusive Hazards file that can be accessed by Police and Fire Dispatchers as well as 911 call takers.
MicroData GIS – Phase II Wireless E911 Support	The MicroData GIS data is a mirror of the county's GIS data, and is updated regularly. Updates to the MicroData GIS data are made more easily using the county's GIS data than they would be without it.
MicroData GIS – xALI 911 In House ALI	This is a future program. GIS will be used to: <ul style="list-style-type: none"> • Automatically create the In House ALI and remove the need for a 3rd party vendor to supply the data.
MicroData GIS – Community Notification Using ANI from In House ALI	This is a future program. GIS will be used to: <ul style="list-style-type: none"> • Select a geographic area and alert the community based on the feature selected (reverse 911 notification functionality)

Table 14 - GIS Integration with Business Processes, by Program

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



3.2 GIS Needs Assessment

3.2.1 Applications

The 911 Center is currently well served by the custom applications used within the agency. These include CAD, AVL, and MicroData GIS. The only additional need is for the current MicroData GIS application to be upgraded to take advantage of ESRI’s ArcGIS 9.2 data model, enabling the county’s enterprise GIS data within the Facilities Geodatabase to be used seamlessly. This upgrade will also incorporate the functionality currently provided by the CAD application. Once the upgrade is made, the need to maintain duplicate datasets for use within the MicroData GIS and CAD applications will be reduced or eliminated.

3.2.2 Data

The 911 Center uses the Orthophotography as a primary base map used to investigate a call. Due to development and the amount of change in the landscape, the 911 Center applications and end users may benefit from having Orthophotography updated on a two year cycle, instead of the current three year replacement cycle.

The Facilities Geodatabase is the primary database needed to support 911 call center functions. Other county GIS data layers provide valuable background information on-screen. Currently Baltimore County is contracting with a vendor to perform a Field Verification project. This will greatly improve the accuracy of the underlying data layers used in the 911Center’s daily business processes. The database will be enhanced to include the Common Places (Facilities entity), Sub Unit address data, Use Codes, NAICS Codes, HSIP codes, and Installations.

There is one dataset that could be developed to support the needs of the 911 Center. This dataset is listed in the table below.

Dataset	Programs That Could Benefit From Data
Road closures	<ul style="list-style-type: none"> • AVL

Table 15 - Datasets that Need to be Created



Many datasets are already being created and maintained by OIT and the 911 Center, but a few do not yet contain all the information needed by users within the agency. The layers below could be enhanced to provide benefits to the 911 Center.

Dataset	Current Data Limitation	Programs That Could Benefit From Data
Road centerlines	Needs updates to: <ul style="list-style-type: none"> • Alleys • Shopping center access roads • Remove miscellaneous legacy splits • Adjust directionality to reflect flows and one-way streets 	<ul style="list-style-type: none"> • 911 Training • Address Locators (Geocoding) • AVL • CAD • MicroData GIS – Phase II • Wireless E911 Support
Address Points	Subunit (apartment) information will be available upon completion of the field verification of the Facilities Geodatabase.	<ul style="list-style-type: none"> • 911 Training • Address Locators (Geocoding) • AVL • CAD • MicroData GIS – Phase II • Wireless E911 Support

Table 16 - Datasets that Need Enhancement

3.2.3 Training

As part of a rollout strategy, several personnel would benefit from training on GIS data and applications that are specific to each program. However, the majority of the 165 call center staff do not require GIS training beyond the training they receive related to the 911 software they use. When the MicroData GIS application is upgraded to the next generation, all call center staff will require additional training on its use.

3.2.4 Best Practices

There are several ways for the 911 Center to take advantage of best practices that have been implemented by other agencies or counties with similar business processes. These methods are to:

- **Upgrade MicroData GIS** – The 911 Center plans to upgrade its MicroData GIS software application to the next generation when it is available from the vendor. This upgrade will take advantage of ESRI’s ArcGIS 9.2 data model, enabling the county’s enterprise GIS data within the Facilities Geodatabase to be used seamlessly. This upgrade will also incorporate the functionality currently provided by the CAD application. Once the upgrade is made, the need to maintain duplicate datasets for use within the MicroData GIS and CAD applications will be reduced or eliminated.
- **Develop a Facilities Geodatabase Maintenance Plan** – Upon completion of the field verification of the Facilities Geodatabase, a comprehensive Maintenance Plan needs to be created to ensure that the data is updated accurately, correctly and in a timely manner. The Maintenance Plan should include sections that detail the Initial Post-Field Verification Update and the Routine Maintenance.



The Maintenance Plan should define the triggers, methods, and time frames for completing the maintenance.

3.2.5 Communication and Agency Coordination

Communication within the 911 Center and between the 911 Center and the Police and Fire departments is required for daily operations. The 911 Center also coordinates with OIT regarding database maintenance activities including updates to the Facilities geodatabase, Address Points, and road centerlines data layers. Communication with other county agencies that maintain critical infrastructure such as transportation and highways regarding road closures, plowing status, etc. could be improved, allowing the 911 Center better access to real-time information.

3.3 Recommendations

The 911 Center could further benefit from GIS in a few ways. This section outlines recommendations that can be implemented in the short-term and mid-term to enhance the agency's GIS usage and further take advantage of the enterprise system provided by the county. These will in turn reduce time and money spent on activities performed by the 911 Center and increase the level of service provided to customers.

3.3.1 Short-term Recommendations & Potential Benefits

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

3.3.1.1 Quick Deployment

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

Opportunity 1: Complete Road Centerline Updates

Once the Facilities Geodatabase verification is complete, completion of several planned updates to the road centerlines file would benefit the 911 Center's operations as well as other county agencies. These include updates to add all alleys, one-way street directions, flow directionality updates, and shopping center access roads to the road centerline file.

Additionally, extraneous pseudonodes should be deleted from the road centerline file to improve performance and enhance the AVL software to include routing.



3.3.1.2 Additional Investment Opportunities

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

Opportunity 1: Upgrade MicroData GIS

When available from the vendor, the 911 Center should upgrade its licenses of MicroData GIS to the next generation of the software. This upgrade will take advantage of ESRI's ArcGIS 9.2 data model. It should also enable the county's enterprise GIS data, particularly the Facilities Geodatabase, to be used seamlessly. If necessary, the county should work with the vendor to ensure that this is possible, even if customization is required. This upgrade will also incorporate the functionality currently provided by the CAD application. Once the upgrade is made, the need to maintain duplicate datasets for use within the MicroData GIS and CAD applications will be reduced or eliminated. Additional training for 911 Center operators will also be required.

Opportunity 2: Regional Data

Several other county agencies, notably the Departments of Fire, Health, Corrections, and Aging, have need for regional data that extend into Baltimore City and other adjacent jurisdictions. The 911 Center should explore the possibilities of partnering with other agencies to add data for the entire region to aid in responding to calls and incidents that are large in scale or that have the capacity to move quickly beyond the county borders. One key layer would be State-wide Address Points for improved geocoding on an expanded geographic area. Also, the participation in the State-wide Centerline project should yield an expanded street centerline network that will support routing into adjacent jurisdictions.

3.3.2 Mid-term Recommendations and Potential Benefits

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

Opportunity 1: Scanned Floor Plans Linked to Buildings

Another recommendation that has been mentioned in the context of several agencies is scanned floor plans that would be linked to the building points. This would allow viewing of the floor plans by 911 Center operators to verify a caller's location as well as use by emergency and rescue workers before entering a building to more quickly locate an incident or to locate critical building utilities.



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4 Programs and Activities

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

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



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4.1 911 Training

Program: 911 Training
Primary Point of Contact:
Patrick Fangmeyer
Overview:
This program provides training for 911 operators.
Funding:
Funding for most Baltimore County 911 programs is provided through the Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services (DPSCS). Telephone fees provide the funding for 911 service and projects.
Mandates:
There are routine audits that ensure compliance with the requirements of the Numbers Board. Non-compliance would result in loss of 911 funding.
Political Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. Training for call center operators is required before they can perform their jobs.
Social Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. Well-trained operators are key to the success of the call center and its services.
Products/Services:
<ul style="list-style-type: none"> • Training materials • Maps for operations centers
Customers:
<ul style="list-style-type: none"> • Police department • Fire department • County citizens



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • Abandoned Railroads • AddressPoints (View) • Athletic Fields • Basic Services - Transportation (Intersections) • Billiard Clubs (View) • Bridges • Buildings • County Boundary • County Facilities • Dams • Emergency Service Area • Facilities • Fire Battalion Boundary • Fire Boxes • Fire Hydrants • Fire Stations • Fire Stations Boundary • Freeway Boxes • Golf Courses 	<ul style="list-style-type: none"> • Health Centers • Hydrology • Installations • Light Rail • Marine Fire Boxes • Metro Railroad • Movie Theaters • Mutual Aid Boundaries • Orchards • Orthophoto (2005) • PAL Centers • Parks and Recreation • Playgrounds • Police Precincts • Police Reporting Areas • Police Stations • Post Offices • Power Stations • Quarries 	<ul style="list-style-type: none"> • Racetracks • Railroads • Reservoir • Roads • Sand & Gravel Pits • Schools—Point Location • Sheriff Boundaries • Streams and Ponds • Street Centerlines • Street Centerlines (View) • Tennis Courts • Trails • Trails - Walkways • Transmission Lines • Tree Cover • Tree Rows • Wetlands • Wooded • Zip Codes
Applications Used:		
<ul style="list-style-type: none"> • ArcGIS (Standard) • MicroData GIS 		
Associated Activities:		
4.1.1 911 Training – Creating Hardcopy Maps		



4.1.1 911 Training – Creating Hardcopy Maps

Activity: 911 Training – Creating Hardcopy Maps					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
Production of Maps utilizing GIS data layers to show relative location, zip codes, community names, Police Reporting areas, and Fireboxes.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
With GIS: 30 maps are made each quarter.					
Process without GIS:					
Without GIS: 1 map would take 1 week and each reproduction (29) would take 15 mins (7.25 hours for reproductions). Time based on 40 hour week.					
Benefits Assessment: (H, M, L) Identify confidence level					
• High					
Benefits to Using GIS for this Activity:					
Accurate and up to date maps are needed in the training classrooms and the call center.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
47.25	37.5	9.75	4	39	\$1,324.05
Annual Benefit: \$1,324.05					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.2 911 Call Taking

Program: 911 Call Taking
Primary Point of Contact:
Ray Windisch
Overview:
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.
Funding:
Funding for the 911 call center comes from the Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services. Telephone fees provide the funding for 911 services and projects.
Mandates:
There are routine audits that ensure compliance with the requirements of the Numbers Board. Non-compliance would result in loss of 911 funding.
Political Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. 911 call taking directly locates 911 callers so dispatch is timelier and emergency services can assist citizens.
Social Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. 911 call taking directly locates 911 callers so dispatch is timelier and emergency services can assist citizens.
Products/Services:
<ul style="list-style-type: none"> • 911 services
Customers:
<ul style="list-style-type: none"> • Citizens who call 911



<p>Data (Enterprise Layers are Listed in Bold):</p>		
<ul style="list-style-type: none"> • Abandoned Railroads • AddressPoints (View) • Athletic Fields • Basic Services - Transportation (Intersections) • Billiard Clubs (View) • Bridges • Buildings • Cell Tower Sectors • Cell Towers • Cemetery • Commercial Pools • Communication Towers • County Boundary • County Facilities • Emergency Service Area • Facilities • Fire Battalion Boundary • Fire Boxes • Fire Hydrants • Fire Stations • Fire Stations Boundary 	<ul style="list-style-type: none"> • Freeway Boxes • Golf Courses • Health Centers • Hydrology • Installations • Landfills • Light Rail • Marine Fire Boxes • Metro Railroad • Movie Theaters (View) • Mutual Aid Boundaries • Orthophoto (2005) • PAL Centers • Parks and Recreation • Playgrounds • Police Precincts • Police Reporting Areas • Police Stations • Post Offices • Power Stations 	<ul style="list-style-type: none"> • Railroads • Reservoir • Roads • Schools—Point Location • Sheriff Boundaries • Skating Rinks (View) • Streams and Ponds • Street Centerlines • Street Centerlines (View) • Traffic Signals • Traffic Calming • Trails • Trails - Walkways • Transmission Lines • Wetlands • Zip Codes
<p>Applications Used:</p> <ul style="list-style-type: none"> • MicroData GIS • CAD • AVL 		
<p>Associated Activities:</p> <p>4.2.1 911 Call Taking - Wireless</p> <p>4.2.2 911 Call Taking - Landline</p>		



4.2.1 911 Call Taking – Wireless

Activity: 911 Call Taking - Wireless
Primary Point of Contact:
Patrick Fangmeyer
Overview:
911 call takers are the primary point of contact for the County citizens in an emergency. Call takers use MicroData GIS ALITraker 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.
Interviewee(s) Providing Information:
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer
Process with GIS:
The incoming phone call has a tower, sector, and in GPS capable phones, has an X, Y location associated with it. The system uses the pertinent information to retrieve the geographic boundary of the Fire station or Police beat that should respond to an event. The ALITraker map stations move the digital maps so that call takers can see the location on an interactive map display and use the adjunct GIS layers to help locate a caller if the exact location cannot be determined.
A cell phone coming into CAD pre-GIS would have been “911-000-0000”, which does not find an entry in CAD. In most situations, the caller knows where they are and can provide directions for Call-takers for 911 service. For this type of call, GIS would provide minimal savings of 10 seconds. In some instances, they do not know where they are and they may not be able to provide the information. For this type of call, GIS would provide a greater time savings. Typically, cell phone calls are not from the primary address and are mostly on the road with accident reports, etc. Overall, for wireless callers, the time savings using automatic GIS location, Cell Tower, Sector and X,Y capabilities would result in an average 15 seconds per call.
Calculation Basis:
15 seconds savings x 304,462 wireless calls per year = 4,566,930 seconds per year 4,566,930 seconds per year / 60 seconds / min = 76,115.5 minutes per year 76,115.5 minutes per year / 60 mins/hour = 1268.59 hours saved annually
Process without GIS:
Prior to GIS, the 911 Center did not receive any information from a cell phone. The call taker would have to get any information verbally from the caller.
Benefits Assessment: (H, M, L) Identify confidence level
High



Benefits to Using GIS for this Activity:					
The direct benefit of this activity is saving lives. Reducing the time it takes to find a caller, and identifying what should respond correlates into direct operational savings as well. Cell phone callers would not be easily located without GIS and E911.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
1,438	169	1,269	1	1,269	\$43,082.55
Annual Benefit: \$43,082.55					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.2.2 911 Call Taking - Landline

Activity: 911 Call Taking - Landline
Primary Point of Contact: Patrick Fangmeyer
Overview: 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 ALITraker 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.
Interviewee(s) Providing Information: Ray Windisch, Lee Ann Shope, Patrick Fangmeyer
Process with GIS: The incoming phone number has an address associated with it. The CAD system then performs a location verify to ensure the address given by the system was the correct one. If the CAD system cannot get a correct address location, call takers use the ALITraker map display to zoom, pan and identify adjunct GIS features to help identify the callers location. GIS is needed because CAD fails for any type of reason. The spectrum of time to handle these issues may range from 2 seconds to 15+ minutes. Therefore, we averaged 15 minutes savings based on 10 issue calls per day. Examples of Problem Calls: --CAD database does not have landline premise address and Caller does not know address (15 mins) --Caller gives address information (2 seconds)
Calculation Basis: 10 calls/day x 365 days / year = 3,650 issue calls per year 3,650 calls x 15 minutes = 54,750 minutes per year 54,750 minutes / 60 mins/hour = 912.5 hours savings annually
Process without GIS: The 911 Center uses the CAD system to find a location for a landline call. If the location cannot be determined, prior to GIS, the call taker would have to get verbal information from the caller, or use a hardcopy map book to find the caller. Then the call taker would have to figure out the correct dispatch information prior to sending the call to the dispatchers.
Benefits Assessment: (H, M, L) Identify confidence level High



Benefits to Using GIS for this Activity:					
The direct benefit of this activity is saving lives. Reducing the time it takes to find a caller, and identifying what should respond correlates into direct operational savings as well.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
920.5	8	912.5	1	912.5	\$30,979.38
Annual Benefit: \$30,979.38					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.3 Address Locators (Geocoding)

Program: Address Locators (Geocoding)
Primary Point of Contact:
Patrick Fangmeyer
Overview:
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.
Funding:
Funding for most Baltimore County 911 programs is provided through the Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services (DPSCS). Telephone fees provide the funding for 911 service and projects.
Mandates:
There are routine audits that ensure compliance with the requirements of the Numbers Board. Non-compliance would result in loss of 911 funding.
Political Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. Geocoded addresses help locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location.
Social Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. Geocoding allows data to become spatial, and therefore, it can be mapped. Without geocoding, most Police, Fire, and 911 information could not be mapped. 911 services would be very hard to perform without geocoded data.
Products/Services:
<ul style="list-style-type: none"> • Maps • Databases (geocoded incidents for PD and FD, facilities database, etc)
Customers:
<ul style="list-style-type: none"> • Police department • Fire department • Other county agencies • MyNeighborhood web sites



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • AddressPoints (View) • Billiard Clubs (View) • Buildings • Cell Tower Sectors • Cell Towers • Cemetery • Commercial Pools • Communication Towers • County Boundary • County Facilities • Development Plans • Emergency Service Area • Facilities • Fire Battalion Boundary • Fire Boxes • Fire Hydrants • Fire Stations • Fire Stations Boundary • Freeway Boxes • Golf Courses • Health Centers • Hydrology • Index Grid - 200 Scale (BCMD) 	<ul style="list-style-type: none"> • Installations • Junkyards • Key Sheets • Metropolitan District Line • Movie Theaters • Mutual Aid Boundaries • Orthophoto (1995) • Orthophoto (1996) • Orthophoto (1997) • Orthophoto (1998) • Orthophoto (2000) • Orthophoto (2001) • Orthophoto (2002) • Orthophoto (2005) • PAL Centers • Park Points • Police Precincts • Police Reporting Areas • Police Stations • Polling Places • Post Offices • Power Stations • Pumping Stations • Quarries 	<ul style="list-style-type: none"> • Racetracks • Refuse Collection Routes • Right of Way (LACQ) • Roads • Scenic Routes • School Districts - Elementary • School Districts - High • School Districts - Middle • Schools—Point Location • Sewer Treatment Plants • Sheriff Boundaries • Skating Rinks • Snow Plow Routes • Solid Waste Facilities • Street Centerlines • Street Centerlines (View) • Tax Parcel • TaxParcel • Traffic Calming • Traffic Signals • Urban Rural Demarcation Line (URDL) • Water Plats • Zip Codes
Applications Used:		
<ul style="list-style-type: none"> • ArcGIS (Standard) 		
Associated Activities:		
4.3.1 Address Locators (Geocoding) – Address Point Locator 4.3.2 Address Locators (Geocoding) – Adjacent County Locators 4.3.3 Address Locators (Geocoding) – Centerline Locator		



4.3.1 Address Locators (Geocoding) – Address Point Locator

Activity: Address Locators (Geocoding) – Address Point Locator					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
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.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
Static for now; will be updated weekly in the future. This will primarily be for use in the facilities geodatabase.					
Process without GIS:					
This activity would not be done without GIS. Without the benefit of the county’s enterprise GIS data, address geocoding for 911 activities would not be possible.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
Geocoding allows data to become spatial, and therefore, it can be mapped. Without geocoding, most Police, Fire, and 911 information could not be mapped. 911 services would be very hard to perform without geocoded data.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	0.17	N/A	12	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
State-wide Address Point database					
Benefits of Pursuing New Opportunities:					
This would eliminate the need for Adjacent County Locators					



4.3.2 Address Locators (Geocoding) – Adjacent County Locators

Activity: Address Locators (Geocoding) – Adjacent County Locators					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
Using Non- Baltimore County GIS data, the 911 Center creates custom geocoding services to be used for address location in adjacent counties.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
Updated yearly.					
Process without GIS:					
This activity would not be done without GIS. Without the benefit of the county’s enterprise GIS data, address geocoding for 911 activities would not be possible.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
Geocoding allows data to become spatial, and therefore, it can be mapped. Geocoding adjacent county data allows other county agencies to locate addresses in adjacent counties.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	0.08	N/A	1	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
State-Wide Centerlines and address points					
Benefits of Pursuing New Opportunities:					
These State-wide datasets would eliminate the need for this activity					



4.3.3 Address Locators (Geocoding) – Centerline Locator

Activity: Address Locators (Geocoding) – Centerline Locator					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
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.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
Updated monthly. This will primarily be for use in the facilities geodatabase.					
Process without GIS:					
This activity would not be done without GIS. Without the benefit of the county’s enterprise GIS data, address geocoding for 911 activities would not be possible.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
Geocoding allows data to become spatial, and therefore, it can be mapped. Without geocoding, most Police, Fire, and 911 information could not be mapped. 911 services would be very hard to perform without geocoded data.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	0.08	N/A	12	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
State-Wide Centerline database					
Benefits of Pursuing New Opportunities:					
This would eliminate the need for the Adjacent County Locators activity					



4.4 Automatic Vehicle Location (AVL)

Program: Automatic Vehicle Location (AVL)
Primary Point of Contact:
Patrick Fangmeyer
Overview:
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.
Funding:
Funding for most Baltimore County 911 programs is provided through the Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services (DPSCS). Telephone fees provide the funding for 911 service and projects.
Mandates:
There are routine audits that ensure compliance with the requirements of the Numbers Board. Non-compliance would result in loss of 911 funding.
Political Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. AVL will help locate resources in the field so dispatch is timelier and officers in need of additional support are easily located.
Social Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. AVL will help locate resources in the field so dispatch is timelier and officers in need of additional support are easily located.
Products/Services:
<ul style="list-style-type: none"> • 911 services
Customers:
<ul style="list-style-type: none"> • Police department



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • Abandoned Railroads • AddressPoints (View) • Athletic Fields • Basic Services - Transportation (Intersections) • Billiard Clubs (View) • Bridges • Buildings • Bulkheads • Cell Tower Sectors • Cell Towers • Cemetery • County Boundary • County Facilities • Dams • Emergency Service Area • Facilities • Fire Battalion Boundary • Fire Boxes • Fire Hydrants • Fire Stations • Fire Stations Boundary • Freeway Boxes 	<ul style="list-style-type: none"> • Golf Courses • Health Centers • Hydrology • Installations • Junkyards • Landfills • Light Rail • Marine Fire Boxes • Metro Railroad • Movie Theaters • Mutual Aid Boundaries • Orchards • Orthophoto (2005) • PAL Centers • Parks and Recreation • Playgrounds • Police Precincts • Police Reporting Areas • Police Stations • Post Offices • Power Stations • Quarries • Racetracks 	<ul style="list-style-type: none"> • Railroads • Reservoir • Roads • Sand & Gravel Pits • Schools—Point Location • Sheriff Boundaries • Skating Rinks • Streams and Ponds • Street Centerlines • Street Centerlines (View) • Traffic Calming • Traffic Signal and Calming Layers • Traffic Signals • Trails • Trails - Walkways • Transmission Lines • Tree Cover • Tree Rows • Wetlands • Wooded • Zip Codes
Applications Used:		
<ul style="list-style-type: none"> • MicroData GIS 		
Associated Activities:		
4.4.1 AVL – MicroData GIS AVL		
4.4.2 AVL - Routing		



4.4.1 AVL – MicroData GIS AVL

Activity: MicroData GIS AVL					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
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.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
The AVL system is completely dependent on the 911 data layers. Updates to the AVL data will be made monthly based on updates to the MicroData GIS data.					
Process without GIS:					
This activity would not be done without GIS. Without the benefit of the county’s enterprise GIS data, database maintenance for use by AVL activities would not be possible.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
AVL will help locate resources in the field so dispatch is timelier and officers in need of additional support are easily located.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A	N/A	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
Fire Dispatch should implement AVL as well.					
New Opportunities:					
None noted					



Benefits of Pursuing New Opportunities:
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None noted



4.4.2 AVL – Routing

Activity: AVL - Routing					
Primary Point of Contact:					
Patrick Fangmeyer, CAD Support					
Overview:					
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.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
Routes used by the AVL system are a product of centerlines. Updates to the AVL data will be made monthly based on updates to the MicroData GIS data.					
Process without GIS:					
This activity would not be done without GIS. Without the benefit of the county's enterprise GIS data, database maintenance for use by AVL activities would not be possible.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
AVL will help locate resources in the field so dispatch is timelier and officers in need of additional support are easily located.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A	N/A	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					



Benefits of Pursuing New Opportunities:
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None noted



4.5 Computer Aided Dispatch (CAD)

Program: Computer Aided Dispatch (CAD)
Primary Point of Contact:
Patrick Fangmeyer, CAD Support
Overview:
Computer Aided Dispatch for location of 911 callers.
Funding:
Funding for most Baltimore County 911 programs is provided through the Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services (DPSCS). Telephone fees provide the funding for 911 service and projects.
Mandates:
There are routine audits that ensure compliance with the requirements of the Numbers Board. Non-compliance would result in loss of 911 funding.
Political Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. CAD helps locate 911 callers so response is timelier and needed resources can be quickly dispatched to the correct location.
Social Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. CAD helps locate 911 callers so response is timelier and needed resources can be quickly dispatched to the correct location. CAD program improvements are ultimately passed on to the citizens through better responses.
Products/Services:
<ul style="list-style-type: none"> • Maps • Databases
Customers:
<ul style="list-style-type: none"> • Police department • Fire department • Citizens who call 911



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • AddressPoints (View) • Basic Services - Transportation (Intersections) • Emergency Service Area • Fire Boxes 	<ul style="list-style-type: none"> • Freeway Boxes • Index Grid - ADC Map • Marine Fire Boxes • Mutual Aid Boundaries • Police Reporting Areas 	<ul style="list-style-type: none"> • Roads • Street Centerlines • Street Centerlines (View) • Zip Codes
Applications Used:		
<ul style="list-style-type: none"> • MicroData GIS 		
Associated Activities:		
<p>4.5.1 CAD – 911 Geofile</p> <p>4.5.2 CAD – Hazards File</p> <p>4.5.3 CAD – Intersection File</p> <p>4.5.4 CAD – Master Street Address Guide</p>		



4.5.1 CAD – 911 Geofile

Activity: CAD – 911 Geofile					
Primary Point of Contact:					
Ray Windisch					
Overview:					
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.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
In the future, all updates to the CAD system will be automatic when the facilities geodatabase is updated. Currently, quarterly updates are made to the tabular data used by the CAD system; these updates are done separately from the GIS data updates.					
Process without GIS:					
Quarterly updates are made to the tabular data used by the CAD system. Updates are not as accurate or as easy to update as GIS data. Batch processes cannot be done like you can in GIS, so it is laborious.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
CAD helps locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
16	0	16	52	832	\$28,246.40
Annual Benefit: \$28,246.40					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.5.2 CAD – Hazards File

Activity: CAD – Hazards File					
Primary Point of Contact:					
Ray Windisch					
Overview:					
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.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
In the future, all updates to the CAD system will be automatic when the facilities geodatabase is updated. Currently, updates are made to the tabular data used by the CAD system; these updates are done separately from the GIS data updates.					
Process without GIS:					
Updates are made to the tabular data used by the CAD system. Police and Fire each update their own Hazards files twice a year. Updates are not as accurate or as easy to update as GIS data. Batch processes cannot be done like you can in GIS, so it is laborious.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
CAD helps locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
8	1	7	52	364	\$12,357.80
Annual Benefit: \$12,357.80					
Areas for Improvement:					
Consolidated Hazard file (between Fire, Police, and 911) and streamlined update process					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.5.3 CAD – Intersection File

Activity: CAD – Intersection File					
Primary Point of Contact:					
Ray Windisch					
Overview:					
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.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
In the future, all updates to the CAD system will be automatic when the facilities geodatabase is updated. Currently, updates are made to the tabular data used by the CAD system; these updates are done separately from the GIS data updates.					
Process without GIS:					
Updates are made to the tabular data used by the CAD system. Updates are not as accurate or as easy to update as GIS data. Batch processes cannot be done like you can in GIS, so it is laborious.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
CAD helps locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
16	0	16	2	32	\$1,086.40
Annual Benefit: \$1,086.40					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.5.4 CAD – Master Street Address Guide

Activity: CAD – Master Street Address Guide					
Primary Point of Contact:					
Ray Windisch					
Overview:					
This file lists every address for every structure in Baltimore County. Currently Verizon creates it; however, this file will be created in the 911 Center in the near future using the facilities geodatabase data.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
In the future, all updates to the CAD system will be automatic when the facilities geodatabase is updated. Currently, updates are made to the tabular data used by the CAD system; these updates are done separately from the GIS data updates.					
Process without GIS:					
Updates are made to the tabular data used by the CAD system. Updates are not as accurate or as easy to update as GIS data. Batch processes cannot be done like you can in GIS, so it is laborious. Updates are done twice, once in GIS and once in CAD. Updates to the GIS data are done three times more frequently because the updates are easier to process and it is more efficient.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
CAD helps locate 911 callers so response is timelier and needed resources can be quickly dispatched to the correct location.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
40	1	39	4	156	\$5,296.20
Annual Benefit: \$5,296.20					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.6 MicroData GIS – Phase II Wireless E911 Support

Program: MicroData GIS – Phase II Wireless E911 Support
Primary Point of Contact:
Patrick Fangmeyer
Overview:
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.
Funding:
Funding for most Baltimore County 911 programs is provided through the Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services (DPSCS). Telephone fees provide the funding for 911 service and projects.
Mandates:
There are routine audits that ensure compliance with the requirements of the Numbers Board. Non-compliance would result in loss of 911 funding.
Political Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. MicroData GIS helps locate wireless 911 callers so response is timelier and needed resources can be quickly dispatched to the correct location. Compliance with Numbers Board requirements for Phase II is required. Non-compliance would result in loss of 911 funding.
Social Benefits:
911 activities provide for public safety and timely and accurate emergency response, which in turn can help save lives. MicroData GIS helps locate wireless 911 callers so response is timelier and needed resources can be quickly dispatched to the correct location.
Products/Services:
<ul style="list-style-type: none"> • 911 services
Customers:
<ul style="list-style-type: none"> • Citizens who call 911 • Police Department • Fire Department



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • Abandoned Railroads • AddressPoints (View) • Athletic Fields • Basic Services - Transportation (Intersections) • Billiard Clubs (View) • Bridges • Buildings • Bulkheads • Cell Tower Sectors • Cell Towers • Cemetery • Commercial Pools • Communication Towers • County Boundary • County Facilities • Dams • Emergency Service Area • Facilities • Fire Battalion Boundary • Fire Boxes • Fire Hydrants • Fire Stations • Fire Stations Boundary 	<ul style="list-style-type: none"> • Freeway Boxes • Golf Courses • Health Centers • Hydrology • Installations • Junkyards • Landfills • Light Rail • Marine Fire Boxes • Metro Railroad • Movie Theaters • Mutual Aid Boundaries • Orchards • Orthophoto (2005) • PAL Centers • Parks and Recreation • Playgrounds • Police Precincts • Police Reporting Areas • Police Stations • Post Offices • Power Stations • Quarries 	<ul style="list-style-type: none"> • Racetracks • Railroads • Reservoir • Roads • Sand & Gravel Pits • Schools—Point Location • Sheriff Boundaries • Skating Rinks • Streams and Ponds • Street Centerlines • Street Centerlines (View) • Traffic Calming • Traffic Signal and Calming Layers • Traffic Signals • Trails • Trails - Walkways • Transmission Lines • Tree Cover • Tree Rows • Wetlands • Wooded • Zip Codes
Applications Used:		
<ul style="list-style-type: none"> • MicroData GIS 		
Associated Activities:		
<p>4.6.1 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Centerlines</p> <p>4.6.2 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Common Place</p> <p>4.6.3 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sites</p> <p>4.6.4 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – StreetNames</p> <p>4.6.5 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sector Locations</p> <p>4.6.6 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Tower Locations</p> <p>4.6.7 MicroData GIS ALITracker Workstation Support</p> <p>4.6.8 MicroData GIS ATStore Support</p>		



4.6.1 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Centerlines

Activity: MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Centerlines
Primary Point of Contact:
Patrick Fangmeyer
Overview:
<p>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.</p> <p>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.</p>
Interviewee(s) Providing Information:
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer
Process with GIS:
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.
Process without GIS:
This activity would not be performed without GIS. Without the benefit of the county's enterprise GIS data, database maintenance for use by MicroData GIS would require additional research to identify changes to street centerlines.
Benefits Assessment: (H, M, L) Identify confidence level
<ul style="list-style-type: none"> • High
Benefits to Using GIS for this Activity:
MicroData GIS helps locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location.



Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
65	40	25	4	100	\$3,395.00
Annual Benefit: \$3,395.00					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.6.2 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Common Place

Activity: MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Common Place					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
<p>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.</p> <p>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.</p>					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
The Common Place database maintenance is performed 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.					
Process without GIS:					
A tabular file would need to be maintained with related address, street name, and facility name. The updates would be less accurate and more laborious.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
MicroData GIS helps locate 911 callers so response is timelier and needed resources can be quickly dispatched to the correct location.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
30	15	15	4	60	\$2,037.00
Annual Benefit: \$2,037.00					



Areas for Improvement:
None noted
New Opportunities:
None noted
Benefits of Pursuing New Opportunities:
None noted



4.6.3 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sites

Activity: MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sites					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
<p>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.</p> <p>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.</p>					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
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.					
Process without GIS:					
This activity would not be performed without GIS. Without the benefit of the county's enterprise GIS data, database maintenance for use by MicroData GIS would not be possible.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
MicroData GIS helps locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	8	N/A	12	N/A	\$0
Annual Benefit: \$0					



Areas for Improvement:
None noted
New Opportunities:
None noted
Benefits of Pursuing New Opportunities:
None noted



4.6.4 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – StreetNames

Activity: MicroData GIS Phase II Wireless E911 Support – Database Maintenance – StreetNames					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
<p>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.</p> <p>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.</p>					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
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.					
Process without GIS:					
Street names would be housed inside the tabular centerline data. Also, county agencies would each have their own version of a street name database which create multiple versions which would be laborious to maintain so all agencies had the most up-to-date data.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
CAD helps locate 911 callers so response is timelier and needed resources can be quickly dispatched to the correct location. Also, a centralized database would save time across the enterprise and would show benefits for all agencies using GIS.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
40	10	30	12	360	\$12,222.00
Annual Benefit: \$12,222.00					



Areas for Improvement:

All county agencies could access the Master Street names database and all updates would take place in one location so all agencies would have the same, accurate data.

New Opportunities:

None noted

Benefits of Pursuing New Opportunities:

None noted



4.6.5 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sector Locations

Activity: MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Sector Locations					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
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.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
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.					
Process without GIS:					
This activity would not be performed without GIS. Without the benefit of this data, the county would be unable to comply with the Phase I and Phase II wireless E911 mandates.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
MicroData GIS helps locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	40	N/A	4	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					



Benefits of Pursuing New Opportunities:
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None noted



4.6.6 MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Tower Locations

Activity: MicroData GIS Phase II Wireless E911 Support – Database Maintenance – Tower Locations					
Primary Point of Contact:					
Patrick Fangmeyer					
Overview:					
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 Ccenter’s dispatch solution.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
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.					
Process without GIS:					
This activity would not be performed without GIS. Without the benefit of this data, the county would be unable to comply with the Phase I and Phase II wireless E911 mandates.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
MicroData GIS helps locate 911 callers so response is timelier and needed resources can be quickly dispatched to the correct location.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	40	N/A	4	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					



Benefits of Pursuing New Opportunities:
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None noted



4.6.7 MicroData GIS – ALITracker Workstation Support

Activity: MicroData GIS – ALITracker Workstation Support					
Primary Point of Contact:					
CAD Support					
Overview:					
Create and maintain mapping workstations at the Towson and Gilroy 911 Centers.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
Hardware maintenance is performed by two people.					
Process without GIS:					
This activity would not be performed without GIS.					
Benefits Assessment: (H, M, L) Identify confidence level					
• High					
Benefits to Using GIS for this Activity:					
MicroData GIS ALITracker workstations are required for use in the 911 call centers.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	288	N/A	1	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.6.8 MicroData GIS – ATStore Support

Activity: MicroData GIS – ATStore Support					
Primary Point of Contact:					
CAD Support					
Overview:					
Create and maintain servers for mapping workstations at the Towson and Gilroy 911 Centers.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
Server maintenance is performed by two people.					
Process without GIS:					
This activity would not be performed without GIS.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
MicroData GIS workstations are required for use in the 911 call centers; the ATStore servers store and serve the required data to the workstations.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	288	N/A	1	N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.7 MicroData GIS – xALI 911 In House ALI

Program: MicroData GIS – xALI 911 In House ALI
Primary Point of Contact:
Patrick Fangmeyer, CAD Support
Overview:
Create, support, and maintain in house ALI database and apply phone numbers to correct locations. This is a future program.
Funding:
Funding for most Baltimore County 911 programs is provided through the Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services (DPSCS). Telephone fees provide the funding for 911 service and projects.
Mandates:
There are routine audits that ensure compliance with the requirements of the Numbers Board. Non-compliance would result in loss of 911 funding.
Political Benefits:
911 activities provide for public safety and timely and accurate emergency response which in turn can help save lives. MicroData GIS helps locate wireless 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location. Compliance with Numbers Board requirements for Phase II is required. Non-compliance would result in loss of 911 funding. This program will provide quicker and more accurate geographic information to be used during service calls while reducing annual costs.
Social Benefits:
911 activities provide for public safety and timely and accurate emergency response which in turn can help save lives. MicroData GIS helps locate wireless 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location.
Products/Services:
<ul style="list-style-type: none"> • 911 services
Customers:
<ul style="list-style-type: none"> • Citizens who call 911 • Police Department • Fire Department



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • Abandoned Railroads • AddressPoints (View) • Athletic Fields • Basic Services - Transportation (Intersections) • Billiard Clubs (View) • Bridges • Buildings • Bulkheads • Cell Tower Sectors • Cell Towers • Cemetery • Commercial Pools • Communication Towers • County Boundary • County Facilities • Dams • Emergency Service Area • Facilities • Fire Battalion Boundary • Fire Boxes • Fire Hydrants • Fire Stations • Fire Stations Boundary 	<ul style="list-style-type: none"> • Freeway Boxes • Golf Courses • Health Centers • Hydrology • Installations • Junkyards • Landfills • Light Rail • Marine Fire Boxes • Metro Railroad • Movie Theaters • Mutual Aid Boundaries • Orchards • Orthophoto (2005) • PAL Centers • Parks and Recreation • Playgrounds • Police Precincts • Police Reporting Areas • Police Stations • Post Offices • Power Stations • Quarries 	<ul style="list-style-type: none"> • Racetracks • Railroads • Reservoir • Roads • Sand & Gravel Pits • Schools—Point Location • Sheriff Boundaries • Skating Rinks • Streams and Ponds • Street Centerlines • Street Centerlines (View) • Traffic Calming • Traffic Signal and Calming Layers • Traffic Signals • Trails • Trails - Walkways • Transmission Lines • Tree Cover • Tree Rows • Wetlands • Wooded • Zip Codes
Applications Used:		
<ul style="list-style-type: none"> • MicroData GIS 		
Associated Activities:		
4.7.1 MicroData GIS – xALI 911 In House ALI		



4.7.1 MicroData GIS – xALI 911 In House ALI

Activity: MicroData GIS – xALI 911 In House ALI					
Primary Point of Contact:					
Patrick Fangmeyer, CAD Support					
Overview:					
Create, support, and maintain in house ALI database and apply phone numbers to correct locations. This is a future activity.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
Create, Support and maintain in house ALI database and apply phone numbers to correct locations. This is a future program.					
Process without GIS:					
This activity would not be performed without GIS.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
MicroData GIS helps locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location. This activity will provide quicker and more accurate geographic information to be used during service calls while reducing annual costs.					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A		N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



4.8 MicroData GIS – Community Notification Using ANI from In House ALI

Program: MicroData GIS – Community Notification Using ANI from In House ALI
Primary Point of Contact:
Patrick Fangmeyer, CAD Support
Overview:
Create and support call back features for different circumstances using the MicroData Community Notification feature included with the system. This is a future program.
Funding:
Funding for most Baltimore County 911 programs is provided through the Emergency Number Systems Board, under the Maryland Department of Public Safety and Correctional Services (DPSCS). Telephone fees provide the funding for 911 service and projects.
Mandates:
There are routine audits that ensure compliance with the requirements of the Numbers Board. Non-compliance would result in loss of 911 funding.
Political Benefits:
911 activities provide for public safety and timely and accurate emergency response which in turn can help save lives. MicroData GIS helps locate wireless 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location. Compliance with Numbers Board requirements for Phase II is required. Non-compliance would result in loss of 911 funding. This program will provide quicker and more accurate geographic information to be used during service calls while reducing annual costs.
Social Benefits:
911 activities provide for public safety and timely and accurate emergency response which in turn can help save lives. MicroData GIS helps locate wireless 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location. Will be able to accurately identify locations if correct information is supplied by the citizen (caller).
Products/Services:
<ul style="list-style-type: none"> • 911 services
Customers:
<ul style="list-style-type: none"> • Citizens who call 911 • Police Department • Fire Department



Data (Enterprise Layers are Listed in Bold):		
<ul style="list-style-type: none"> • Abandoned Railroads • AddressPoints (View) • Athletic Fields • Basic Services - Transportation (Intersections) • Billiard Clubs (View) • Bridges • Buildings • Bulkheads • Cell Tower Sectors • Cell Towers • Cemetery • Commercial Pools • Communication Towers • County Boundary • County Facilities • Dams • Emergency Service Area • Facilities • Fire Battalion Boundary • Fire Boxes • Fire Hydrants • Fire Stations • Fire Stations Boundary 	<ul style="list-style-type: none"> • Freeway Boxes • Golf Courses • Health Centers • Hydrology • Installations • Junkyards • Landfills • Light Rail • Marine Fire Boxes • Metro Railroad • Movie Theaters • Mutual Aid Boundaries • Orchards • Orthophoto (2005) • PAL Centers • Parks and Recreation • Playgrounds • Police Precincts • Police Reporting Areas • Police Stations • Post Offices • Power Stations • Quarries 	<ul style="list-style-type: none"> • Racetracks • Railroads • Reservoir • Roads • Sand & Gravel Pits • Schools—Point Location • Sheriff Boundaries • Skating Rinks • Streams and Ponds • Street Centerlines • Street Centerlines (View) • Traffic Calming • Traffic Signal and Calming Layers • Traffic Signals • Trails • Trails - Walkways • Transmission Lines • Tree Cover • Tree Rows • Wetlands • Wooded • Zip Codes
Applications Used:		
<ul style="list-style-type: none"> • MicroData GIS 		
Associated Activities:		
4.8.1 MicroData GIS – Community Notification Using ANI from In House ALI		



4.8.1 MicroData GIS – Community Notification Using ANI from In House ALI

Activity: MicroData GIS – Community Notification Using ANI from In House ALI					
Primary Point of Contact:					
Patrick Fangmeyer, CAD Support					
Overview:					
Create and support call back features for different circumstances using the MicroData Community Notification feature included with the system. This is a future activity.					
Interviewee(s) Providing Information:					
Ray Windisch, Lee Ann Shope, Patrick Fangmeyer					
Process with GIS:					
Create and support call back features for different circumstances using the MicroData Community Notification feature included with the system.					
Process without GIS:					
This activity would not be performed without GIS.					
Benefits Assessment: (H, M, L) Identify confidence level					
<ul style="list-style-type: none"> • High 					
Benefits to Using GIS for this Activity:					
MicroData GIS helps locate 911 callers so response is more timely and needed resources can be quickly dispatched to the correct location. This activity will provide quicker and more accurate geographic information to be used during service calls while reducing annual costs. Will be able to accurately identify locations if correct information is supplied by the citizen (caller).					
Annual Savings from Use of GIS:					
Staff Hours w/o GIS (Manual)	Staff Hours with GIS	Difference	Annual # Iterations Per Year	Total Hours Saved Using GIS	Annual Time Savings Benefit (Based on \$33.95/hr)
N/A	N/A	N/A		N/A	\$0
Annual Benefit: \$0					
Areas for Improvement:					
None noted					
New Opportunities:					
None noted					
Benefits of Pursuing New Opportunities:					
None noted					



5 Short-form Online Questionnaires

Agency 911 Center

Name Brigid Robinson

Job Title Emergency Technician II

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

dispatch calls for Police Department and answer 911 calls from the public

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

100

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

For Police Dispatch, I use maps to check where a call may be located. I also have to perform daily checks on the GPS for the police cars. I use the map to see how close an officer may be to an emergency call. For 911 use, I use the mapping stations to verify cross streets or view a general area.

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

Not to my knowledge

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

No

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

I use ADC MAPS (If this is what you are referring) when the location I am looking for is not in our current mapping station or when a location is in Baltimore City.

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

Not that I know of.

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

I do submit corrections. I do not perform maintenance on GIS.

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

I have already answered in question 11. I use GIS to track police cars and to locate addresses of 911 calls. In 911, I use to check an area or describe a location or house.

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

The county is growing so rapidly. The new communities are good to have on the computer because no many people may be familiar with them. Also, for officers, if you in an area you are not familiar with, and they cannot get to their map for emergency reason it is not to have that map close at hand. The GIS System is helpful for locating officers when they are yelling on the radio and you cannot understand them. This same is true for the public.

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



Agency 911 Center
Name lee ann shope
Job Title operations supervisor

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

We process 911 and non emergency calls for service from the public for police, fire and ambulance calls. We have a mapping system 'Ali-Trakker' that displays the location of the caller on the map. This product was originally purchased to support phase 2 wireless callers.

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

The 911 Center is open 24 hours a day, 7 days a week. We receive calls during that time, every call in 911 that has an address with it is displayed on the Ali-Trakker map.

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

The Orthophotos are used in 911 to help better identify where a call is coming from, or to identify where help is needed.

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

At this point in time I do not use the above mentioned applications. I think they would be helpful to use in locating street information to correct any records in our system that are wrong. I (Lee Ann) receive geo-file error reports from that are identified by the call-takers and dispatchers as not accurate. I'm sure there are GIS applications that would be helpful - need

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

I do not, but I'm sure that Patrick Fangmeyer (who supports our mapping product) does.

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

We do need hardcopy maps - they are used in the training process & also for reference in the operational areas of the center.

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

We provide geo-files to other agencies, i.e. traffic engineering.

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

No, I forward info to Patrick Fangmeyer to be investigated & corrected on the GIS side.

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

Ali-Trakker Application Future Police AVL system

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

We will be converting over to a GIS based geo-file that will seamlessly interface with our Ali-Trakker mapping application. We will benefit from 'real time' updates to the streets in Balto County, the delay and lag time should be greatly reduced in receiving info on new streets, bldgs, etc.

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



Agency 911 Center

Name Marie Whisonant

Job Title Chief

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

Administrative management of 9-1-1 Center

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

100%

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

No But it is used in the 9-1-1 Center on daily basis

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

No

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

No

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

No

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

No

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

No

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

N/A

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

Some time in the future, I would like to see the 9-1-1 Center mapping layer upgraded to include in addition to the orthos a visual picture of the structure

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



Agency 911 Center

Name Marvin Weikel

Job Title Unix Programmer / System Adm

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

Program System Admin.

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

all

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

Yes 911 mapping

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

no

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

No

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

no

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

911 apps

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

no

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

updating map products

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

public safety

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

none



Agency 911 Center

Name Mike Wilson

Job Title PC Support Tech.

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

PC maintenance, support and design PC hardware maintenance Network maintenance and design Siemens switch maintenance Telephony support

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

50% PC maintenance, support and design, PC hardware maintenance, Network maintenance
50% Siemens switch maintenance and telephony support

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

Yes, I support the applications that the 911 call takers use involving GIS data. This includes ALI Trakker, which utilizes orthophotos and maps. I do not directly change or manipulate and GIS data, I only handle it after it has been sent from the GIS data department.

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

No

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

No

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

No

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

No

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

No

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

None, I only support 911 applications that use GIS data

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

None

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



Agency 911 Center

Name Patrick Fangmeyer

Job Title 911 GIS Technician

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

I am the database technician for the 911 center. I maintain the GIS data that is integral to the performance of the 911 Phase II wireless dispatch solution.

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

95%

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

Yes. Street centerlines, address points, facilities, wireless towers, wireless sectors, zip codes.

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

Data Query, MicroData GIS

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

Geocoding of street centerlines, address points.

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

Yes, creating facility maps for attribute collection

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

Yes, providing maps for the 911 training center that thematically displays community names, police precincts, street centerlines.

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

Updating street centerlines, address points, zip codes, facilities, wireless towers, wireless sectors

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

Create wireless towers and sector for use in the 911 call center and dispatch. Also create centerlines and address points to be used by 911 call center to locate a 911 event in real time.

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

Reverse 911, Hazard files, Master Street Address Guide.

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

In my work with my agency and other agencies, GIS technology has proven itself to be not only useful but imperative for the increased productivity and functionality of county government and service to the public. The need for this technology and the persons to use this technology has been and should continue to be top priority for the county.



Agency 911 Center

Name Ray Windisch

Job Title CAD Proj Mgr

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

Responsible managing and selecting all computer hardware and software plus telephones deployed within the 911 Communications Center. This includes the mapping technology used for Phase II Wireless and Automated Vehicle Location.

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

100%

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

no

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

no

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

no

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

no

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

no

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

Yes - indirectly the 911 GIS support staff answers to me.

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

na

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

Better location information related to calls for service received from the public and more information supplied to the firsteldaccurate and

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

In the future using accurate location information for facility call back. Additionally, dispatch plans for both Police and especially EMS can be altered for closest available unit by actual arrival time versus perceived arrival time used today.



Agency 911 Center

Name Rosemary Jordan

Job Title Emergency Comm Tech 2

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

Dispatch fire, EMS and police incidents. Handle phone requests and field units in both fire and police. Train need hires, and act as supervisor.

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

There is no way to divide them up. 100% of my work week is devoted to any and all of these areas.

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

When in police dispatch I use the AVL map.

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

No

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

NO

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

When in police dispatch I use the AVL map

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

No

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

No

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

I do not use any of these areas.

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

I think that a broader knowledge of this area would be helpful to better allow us to perform or jobs.

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

No additional comments at this time.



Agency 911 Center
Name Tammy Price
Job Title ECT 2

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

manage the recruitment department write, update, and teach training programs

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

70 - recruitment 25- training programs

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

In the training programs we teach how to use ALI Trakker and use GIS maps to teach communities, precinct boundaries, fire stations and sectors, police posts, outlying communities and boundaries, etc.

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

No.

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

No.

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

Yes, see question #11.

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

No.

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

Use the discrepancy form on ALI Trakker when there is a correction that needs to be made to an address.

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

Use ALI Trakker to teach trainees how to properly verify locations in order to send equipment to emergency and non-emergency calls.

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

1. More indepth knowledge of Baltimore County locations 2. Easier to verify locations with callers for emergency calls 3. Better visuals for Training programs

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