

Mossel Bay Municipality Using GIS in the Mossel Bay LM

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History Mossel Bay LM GIS

- Mossel Bay Municipality (MBM) has initiated their GIS in 1998
- After the implementation of a new financial system we entered into an agreement with a third party that provided us a proprietary GIS Viewer
- We had the Cadastre kept up to date and certain services was taken up into the GIS
- We had another two upgrades of viewers during this period up to 2010 which certainly showed a whole lot more information than in 1998

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- We appointed a new official in December 2010 and one of the main job functions for this post was GIS. Finally we started getting momentum with our GIS again.
 - We engaged in discussions with EDEN and this matter was escalated and raised at our EDEN ICT Forum where we discussed a shared services model for GIS
 - What you are about to see is where we got to in a space of 3 years.
 - Some source data was also received from Eden District Municipality to start building our GIS Database.

Adoption of ESRI and Developing a 3 year Project Plan for Corporate GIS

- ESRI South Africa was appointed by EDEN District Municipality (Eden DM), via a competitive bid process, to provide a shared services ELA to Eden DM and the various B-Municipalities of which MBM is one.
- As the Mossel Bay ELA includes unlimited access to the entire ESRI product range MBM was in a position to set up an Enterprise wide GIS solution.

SHORT TERM DELIVERABLES

(FINANCIAL YEAR 2013/2014)

- Update SG Approved Spatial Layer (Covered under Eden DM Project)
- Create Registered Property Spatial Layer
- Design and implement data models for infrastructure assets i.e. allocate an asset ID field (Join Field) obtained from the financial system to spatial entities
- Migrate all available spatial data for municipal fixed assets into a Geodatabase (Municipal properties and infrastructure assets) and identify the gaps.
- Capture spatial data from As-builts and populate data models i.e. Scan, Georeference and GIS data capture (a number of 3290 AO/A1 As Built plans was captured)
- Assign Asset ID to Spatial Features (in conjunction with Finance)
- Improve Spatial Web Viewers (Silverlight Viewer) to included reporting
- On site one-on-one skills transfer to maintain, update and query spatial data
- R 395 000.00 + -

MEDIUM TERM DELIVERABLES

(FINANCIAL YEAR 2014/2015)

- Migrate additional spatial data for municipal fixed assets into a Geodatabase (Municipal properties and infrastructure assets) and identify the gaps.
- Capture spatial data from As-built plans and populate data models i.e. Scan, Georeferenced and GIS data capture (a number of 151 AO/A1 As Built plans was captured)
- Assign Asset ID to Spatial Features (Asset Register on Financial System)
- Document processes and workflows for maintaining spatial data.
- Enhance internal web viewers based on MBM user needs.
- On site one-on-one skills transfer to maintain, update and query spatial data.
- R 609 000.00 + -

LONG TERM DELIVERABLES

(FINANCIAL YEAR 2015/2016)

- Assist the MBM to identify a GIS staff structure that will ensure that the GIS solution at Mossel Bay will be sustainable. This will include creating GIS dedicated professional GIS positions.
- Further develop interfaces with subsidiary systems ensuring compliance with SCOA requirements.
- Enhance internal web viewers based on MBM user needs.
- On site one-on-one skills transfer to maintain, update and query spatial data.
- R 425 000.00 + -

BIG Projects – Currently Implemented per agreement with ESRI

1. Billing System Viewer
2. As-Built Scanning
3. Asset Register Linking to GIS
4. Compile Database Schemes for Technical Department
 - Roads
 - Stormwater
 - Electricity
 - Water
 - Sewer

(Demonstration will follow covering all Projects)

IN-HOUSE Projects (Completed – Daily modifications as the needs arise)

- Fire Department Trimble's (GPS)
 - ArcGIS Mobile
 - Mobile Project Centre
 - Create Fire Department GIS Viewer
- Create Town Planning Viewer
 - Zoning Maps
 - Valuation System
 - Credit Control Data



Future Possibilities /Needs

- IDP Viewer (Work in process no example yet)
 - Linking all Capital projects per ward
 - Focusing on IDP Legislation and displaying data on the Viewers
- Community Services Viewer
 - Refuse Removal
- High Risk Accident Zone – Traffic Department
- Combine Vehicle tracking system with GIS Viewers.
- Start GIS online account

Costing

- The total amount Invested in the GIS by Mossel Bay Municipality is +- R720 000.00 for the year 2012 – June 2015.
- The costs cover the following areas:
 - License Fees
 - Training
 - Purchasing GPS Handheld Devices + Ipad
 - Setup of the GPS Handheld Devices and Ipad
- Funding Sources:
 - Funded by Provincial Government
 - Funded by MSIG
 - Funded by MBM

Training

- GIS Viewer Training (ESRI)
- ArcEdit Training (ESRI) focus on Departments
- ArcServer Training (ESRI) GIS Administrator / IT Department

Challenges / Constraints

- Funding
 - Funding for projects
 - Aerial Photography
 - HERE Routable Data Set
- Resources
 - GPS Handheld Devices
 - Aerial Photography – 10cm at least every second year.
- Additional support - Skills Transfer

Lessons Learned / Advice

- MBM fully acknowledge that without the help of the ELA Agreement and Government Funding MBM Corporate GIS would never have developed to this extent. Furthermore we foresee that with this financial support for the next 5 years we would be able to develop a fully functional Corporate GIS for MBM.
- With a committed champion MBM's GIS will develop quicker and will be organized.
- Committed Management will grow bigger within the Municipality and get more funding

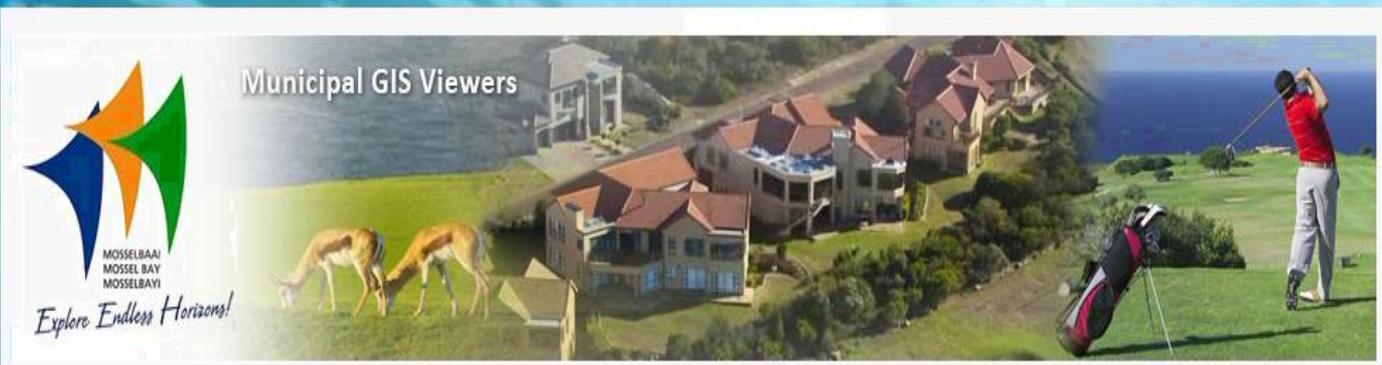
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- As with any asset like a building or car which you need to maintain and service regularly to get optimal use from the asset, the same principals apply for a fully functional GIS.
 - To achieve this we need correct data and integration to subsidiary systems. As you might have seen, a lot of skills transfers and training has happened during this three phased approach as Mossel Bay believes that when the users know and understand the product that only then will real value be added to the entire GIS environment.

Conclusion

- In conclusion, Mossel Bay has taken the first steps towards providing a Corporate GIS solution to its users but also realizes that there is still a lot of continued work to be done in ultimately ensuring that everyone will be able to use the available data in making their daily task more informed and visually understandable.

Demonstration video

- This video will show how to download our As-built scans from our GIS server (<http://esri-mb-oo>)
- The As-built scans includes the water, sewer, roads, electricity and stormwater for our technical assets
- Everybody within the Municipality can use this viewer.



Name	Description	Technology	Thumbnail View
GIS Viewer	General GIS Viewer	Microsoft Silverlight	
Billing Viewer	Cadastral data linked to billing data	Microsoft Silverlight	
Technical Assets	Viewer of Infrastructure assets	Microsoft Silverlight	
Fire Department	Fire hydrants in Mossel Bay	Microsoft Silverlight	
Disaster Management	Disaster Management Areas	Microsoft Silverlight	
IDP Viewer	IDP Viewer	Microsoft Silverlight	
Town Planning	Town Planning	Microsoft Silverlight	



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Thank You

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