MSB Online Mapping Program

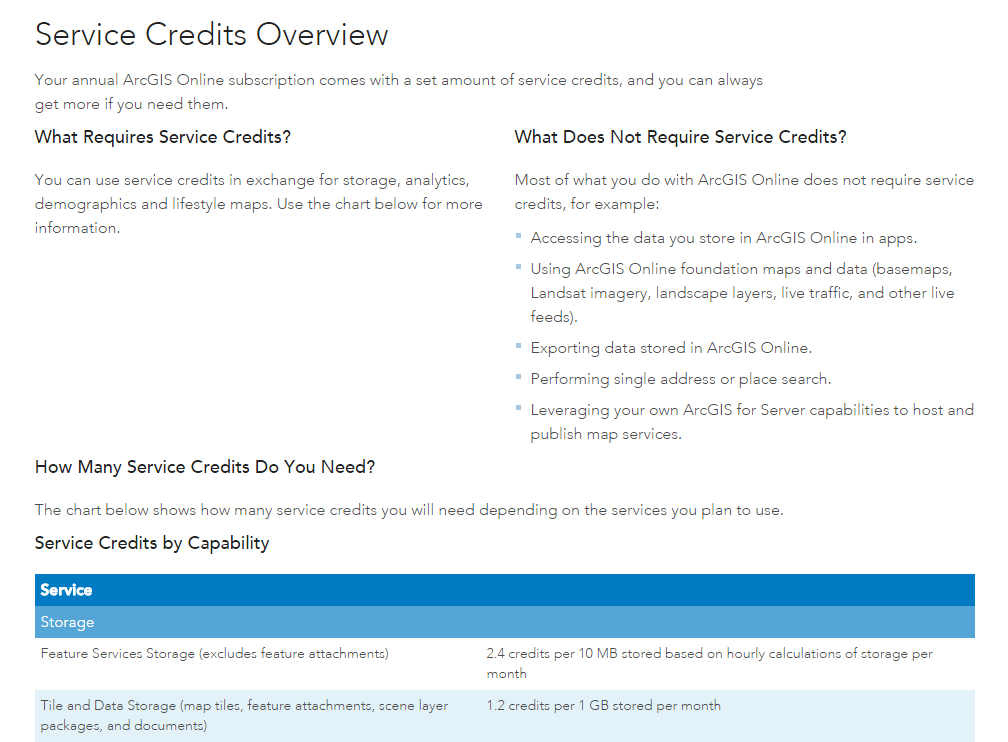
# **Cost Analysis Considerations**

This document provides a summary of the cost analysis considerations discussed during the planning stage of the Online Mapping Program.

Currently the greatest cost impacts will be where data and applications are hosted and when the program reaches or exceeds the current capacity of existing infrastructure, there will be a cost to scale up. To mitigate the risk with hosting, decision points will be defined in the [Web GIS Decision Tree](https://intranet.matsugov.us/projectmanagement/Shared%20Documents/1-Web%20GIS%20Decision%20Tree.vsd). The planning group considered the following costs when outlining the decision points.

* ArcGIS Online credit usage – data hosted on ArcGIS Online (AGO) uses credits when accessed. An application hosted AGO also uses credits if using hosted data or geoprocessing tools. An application hosted on AGO that uses MSB hosted data services (and no geoprocessing tools) consumes no credits.

**Tip**: if the project is heading in the direction of hosting on ArcGIS Online and it is expected to consume credits estimate the credit usage using Esri’s online estimates found [here](http://www.esri.com/software/arcgis/arcgisonline/credits). Then speak with the Web GIS Committee about the expected cost of the project.



* Costs of custom development – the costs of custom development can include hiring a contractor, purchasing additional software or infrastructure and a higher number of staff hours.

**Tip**: estimating the cost of contracted work takes a bit of preparation on the analyst’s part. To get an accurate cost first gather requirements then develop a scope of work. A Request for Proposals (RFP) will give you a range of cost once the proposals are received. Alternatively, the department may only have a specific budget. With the same requirements and scope of work the RFP will have a fixed budget, responses received will identify if the scope of work can be completed within the budget. Coordinate with the Purchasing office and your Manager if the project is heading in the direction of custom development. Note – it is very important that funds are verified before proceeding with custom development.

* Purchasing additional infrastructure – requests that include high availability may require additional infrastructure to be purchased (e.g., servers). As the Web GIS Program grows the demand may exceed the current infrastructure ability.

**Tip**: the requirements gathering process should help to identify if additional infrastructure may be needed. For example: creating a tile package of the entire Borough could result in the need for a large amount of storage. This may be storage that is needed to purchase in order to accommodate the request. Consult with the IT Infrastructure and BI teams on costs for purchasing additional infrastructure and whether IT will cover the costs or if the cost needs to be shared with the customer’s department. They will have the knowledge of current capacity and availability of existing infrastructure and will be able to tell you if there is capacity for the new project. IT staff will be monitoring infrastructure usage continually.

* Staff resources in hours worked – the number of staff hours whether it is to maintain infrastructure, develop custom code, or create new data is a cost consideration when prioritizing app development. It is also a consideration if there is significant savings on the customer side of the project where MSB staff time is saved due to the implementation of an Online Mapping Program product.

**Tip**: since the project starts with a Help Desk ticket, once that ticket is assigned it should be used to track the analyst’s time on the project. If changes to infrastructure are needed request that the IT staff supporting the project also track their time within the ticket.

If there is potential savings of staff hours from the customer’s department after the project is implemented this should be identified in the requirements gathering process as a measure of success.

* Tie end users to a cost – identifying a cost associated with end users is about demonstrating a need for the project and may not be a monetary figure that is factored into the cost of the project.

**Tip**: if it is identified in the requirements that implementation of the project will primarily benefit the end user in number of hours saved you can associate those hours with the cost of that employee per hour. If the end user is the public, the requirements may have also identified the staff person who no longer e.g., has to answer as many phone calls or respond to public requests if the information is available for the end user to get themselves.

* Equate dollars to services provided – the IT Department supports all other MSB departments consuming costs of software, licenses, and infrastructure. Considering how to apply these costs to specific services that could be billed to a department could benefit the Online Mapping Program in a tight budgetary climate.

**Tip**: if it is identified that a specific project will require new services (i.e., software, licenses or infrastructure), speak with the IT department about what those costs are and if they have other solutions that may mitigate the cost. If indeed there is significant purchases needed for the project further consult with IT about covering the costs internally or if the cost needs to be shared with the customer’s department.

* Who gets billed/Who pays? – additional considerations around spreading out costs to departments. Below are examples of the types of costs that could be spread to other departments.
  + Maintenance – after the project is implemented, are there costs associated with maintaining the application, fixing bugs, and data updates?
  + Credits – the department may have already exceeded their credit allotment, estimate the additional credits they will need to purchase to host the application or data.
  + Infrastructure – the project requirements will help answer if this is needed but the IT department will have the knowledge of current capacity and availability of existing infrastructure and will be able to tell you if there is capacity for the new project. IT staff will be monitoring infrastructure usage continually.

**Tip**: as mentioned in previous cost scenarios, some costs may need to be shared with the customer’s department. After consulting with IT, if this is the case, then schedule a meeting with your manager, the customer, and their manager or colleague that can make financial decisions for the department. Be prepared for the meeting, having outlined all the costs with the IT department first and summarize which costs and how much of those costs the department is expected to consume.

If you have additional questions about cost considerations for a particular project consult with the Online Mapping Program Lead about next steps.