



Greater Binghamton Airport

Dynamic Master Planning



McFarland Johnson

Engineering, Planning & Construction Administration

Introductions

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Background

- The Greater Binghamton Airport is a Primary – Non Hub Airport located in Broome County, New York
- The Airport is presently served by USAirways Express, Delta Connection, and United Express
- McFarland Johnson was contracted to complete a Master Plan Update at the Greater Binghamton Airport
- The scope of the project was expanded to include:
 - Stormwater Master Plan, including the creation of a GIS interface with Airport features
 - Financial programming including an expanded analysis of current and future Airport leases and associated revenues.

Overall Project Vision & Goals

Holistic Approach to Airport Planning

Improvements in the Airport's Financial Health

Comprehensive Airside & Landside Alternatives

Overall Project Vision & Goals

Maximize Utility of Available Property

- 1,199 Acres of Airport Property
- Significant Amount of Space Undeveloped & Unsited for Aviation Use
- BGM is Situated Within the Marcellus Shale Play
 - Natural Gas exploration has become a major source of revenue in the region

Overall Project Vision & Goals

Generate Additional Revenue

- Determine methods in future lease agreements and contracts to increase airport revenue

Allocate costs to appropriate cost centers

Overall Project Vision & Goals

Offset Costs to Current/Future Air Carriers

- BGM currently operates on a residual cost structure for Airline tenants
- Increases in Airport revenue outside of airline leases and fees will allow for a decrease in Airport costs for air carriers
 - This could entice new airlines to serve BGM, or allow for an increase in service levels and destinations from existing carriers

Phased Planning Approach

Standard Master Plan Components

- Inventory, Facility Requirements, Forecasts, Alternatives, Environmental Overview, etc.
- Preliminary Identification of Development Areas
- Basic Financial Components

Phased Planning Approach

Stormwater Master Plan

- Analyze current stormwater drainage patterns on airport as a result of developed facilities
- Utilize potential development areas identified in MPU to determine stormwater drainage as a result of future development
- Identify needed infrastructure for future development

Phased Planning Approach

Geographic Information Systems

- Utilize AutoCAD and Microstation files from previous projects completed at BGM to create attributed ArcGIS shapefiles
- New shapefiles to be created utilizing AC 150/5300-18b standards for attributes
- Shapefiles will provide significantly more information regarding features
- Shapefiles and orthoimagery to be utilized to create a website providing additional information regarding development areas

Phased Planning Approach

Financial Planning

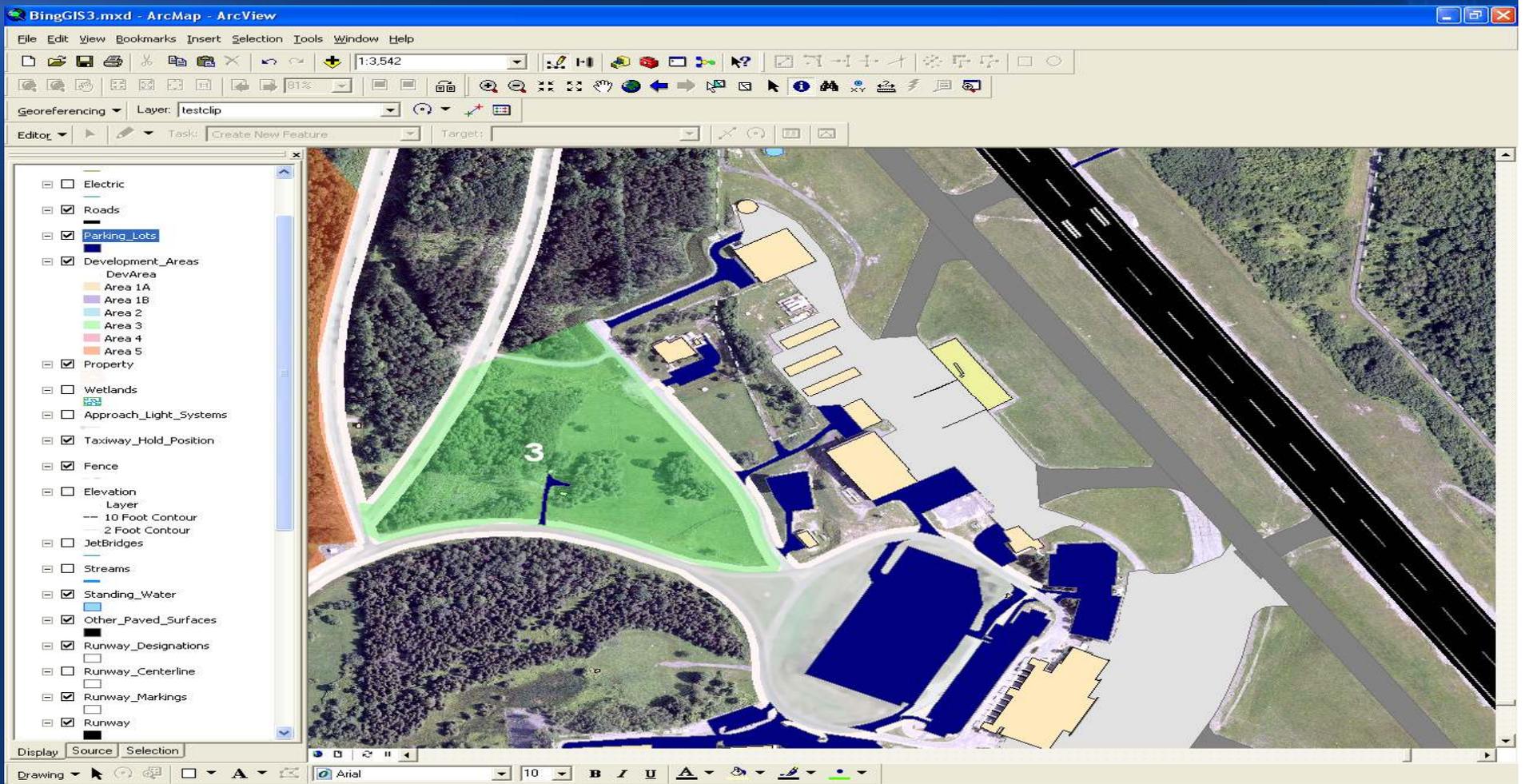
- Analysis of current leases, agreements, and historical revenues and expenses at BGM
- Determine methods to increase revenues through current and future leases and agreements
- Develop a dynamic model that will allow airport staff to easily change variables related to revenue sources and rates in the future to account for industry and local changes

Phased Planning Approach

Dynamic Approach to Master Planning

- Financial Model and GIS data can be easily updated to account for changes at the Airport
- GIS files will be easy to utilize and can be accessed utilizing readily available free GIS software (MapWindow, ArcGIS Explorer, etc.)
- Master Plan includes not only the typical report and ALP set, but necessary tools to assist the growth and stability of BGM into the future

Geographic Information Systems (GIS)



Geographic Information Systems (GIS)

The screenshot displays the ArcMap interface with a map of the Greater Binghamton Airport. The Identify window is open, showing the following data:

Identify from: <Visible layers>

- Property
 - Greater Binghamton Airport
- Runway_Markings
 - 26
- Runway
 - Runway 16

Location: 75°58'59.004"W 42°12'38.721"N

Field	Value
FID	0
Shape	Polygon
ACRES	892.5
OWNERNAME	County Of Broome
STREET	P.O. Box 1766 Govt Plz
CITY	Binghamton
STATE	NY
ZIPCODE	13902
YEARBUILT	1960
SEWER	Private
WATER	Private
UTILITY	Electric
WETLANDS	Yes
DEC_WET	No
STEEPSLOPE	Yes
FIRECOV	East Maine Fire
WATERSHED	Little Choconut Creek
RAIL	No
name	Greater Binghamton Airport
descriptio	Property owned in fee-simple for Airport use.
status	Lands utilized for use as a commercial airfield.
authority	Broome County
acquisition	
costToAcqui	0
dateAcquire	<null>
grantProje	0
howAcquired	
yearAssess	2008
userFlag	
Alternativ	0
marketValu	\$11,452,219
FaaSiteNum	14904
IataCode	BGM
FaaLocatio	BGM
IcaoCode	KBGM
airportFac	Commercial Service - Primary (Non-Hub)
area_1	1095

Geographic Information Systems (GIS)

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Identify from: <Visible layers>

- Property
 - Greater Binghamton Airport
- Runway_Markings
 - 26
- Runway
 - Runway 16

Location: 75°58'52.493"W 42°12'45.095"N

Field	Value
FID	26
Shape	Polygon ZM
NAME	Runway Centerline
DESCRIPTIO	Runway 16-34
STATUS	ACTIVE
MARKINGFEA	RWY_CL
COLOR	WHITE
USERFLAG	
ALTERNATIV	0

Identified 3 features

Geographic Information Systems (GIS)

The screenshot displays the ArcMap interface with a map of Greater Binghamton Airport. The Identify window is open, showing the following data:

Identify from: <Visible layers>

- Property
 - Greater Binghamton Airport
- Runway_Markings
 - 26
- Runway
 - Runway 16

Location: 75°58'52.288"W 42°12'44.805"N

Field	Value
FID	1
Shape	Polygon ZM
name	Runway 16
description	North-South Primary Runway 16
status	Active
runwayDesi	16/34
width	150
length	7100
userFlag	
surfaceTyp	P
surfaceMat	AG
pavementCl	98
surfaceCon	Good
area	983506

Identified 3 features

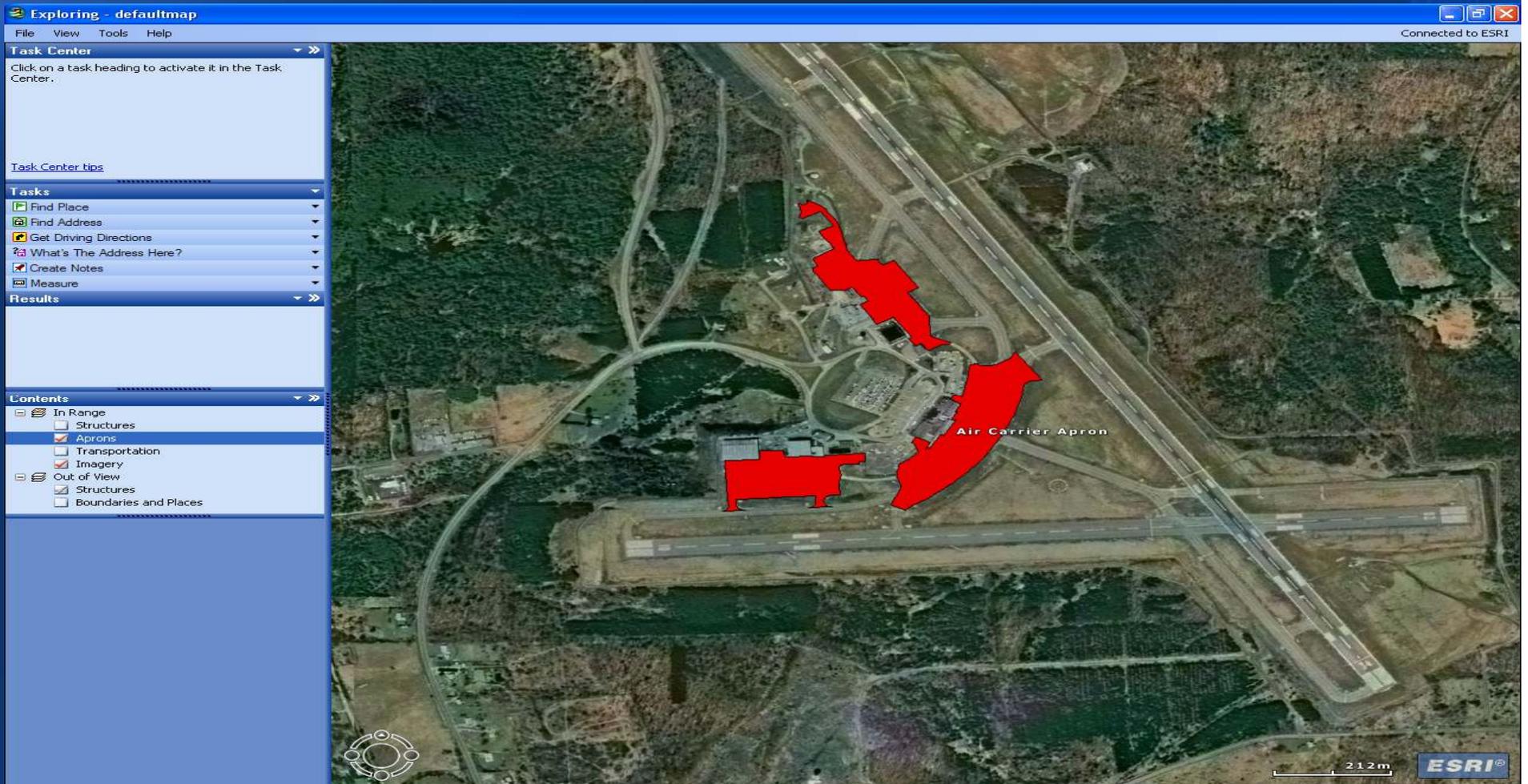
Geographic Information Systems (GIS)



Greater Binghamton Airport

McFarland Johnson

Geographic Information Systems (GIS)



Geographic Information Systems (GIS)

The screenshot shows the ArcGIS Explorer interface. The main map area displays an aerial view of an airport with a red polygon highlighting a specific apron. A pop-up window titled 'Air Carrier Apron' is overlaid on the map, displaying the following metadata:

name	Air Carrier Apron
descriptio	Adjacent to terminal, accessible via Taxiways "A", "F", "G", "K", and "P"
apronType	Air Carrier Operations
numberOfTi	0
status	Operational
userFlag	Loading
surfaceTyp	P
surfaceMat	ANG
pavementCl	
surfaceCon	Fair
fuel	A, 100LL
area	448035

The interface also includes a 'Task Center' on the left with various tasks like 'Find Place' and 'Find Address', and a 'Contents' pane showing layers like 'Structures', 'Aprons', and 'Transportation'. The map includes a scale bar (212m) and the ESRI logo.

Geographic Information Systems (GIS)

Analysis of Data for Development Areas

- Minimal existing data available
- Contour data was utilized to identify the number of acres within each development area that would be the most appealing for development
- Utilized GPS technology to identify features within the five identified development areas
 - Culverts, potential wetlands, utility markings, etc.

Geographic Information Systems (GIS)

Creation of Website for Public Viewing

- A website was created that portrays images and details regarding the data obtained utilizing GIS
- Each development area includes a listing of important features, as well as an aerial image of the site
- Photographs were also included to provide images of specific features

Geographic Information Systems (GIS)



Geographic Information Systems (GIS)



Greater Binghamton Airport

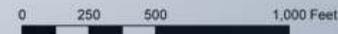


Development Area 1B

Location:	Southeastern Airport Property, South of Runway 10
Access:	Via Commercial Drive
Road Frontage:	600 feet
Approximate Area:	74 acres
Predominant Soil Type:	Lordstown channery silt loam
Hydric Soils:	None present
Current Development:	NOAA Dopplar Radar and Accessory Storage Facilities; Access Road to Dopplar Facility and Runway 34
Wetlands Present:	None noted
Vegetation Cover:	Approximately 75%
Public Sewer:	Planned for 2011
Public Water:	None at Present, Available from Airport Road
Electricity:	Electricity provided to Dopplar Radar Facility from Commercial Road; additional electricity available from Airport Road
Airside Access:	None
Zoning:	Industrial

Legend

Photo Available	Fence
Development Area 1B Limits	10 Foot Contour
Utility Post	Streams
Treelines	Standing Water
Wetlands (National Wetland Inventory)	Structures
Wetlands (Observed)	Airport Property



Geographic Information Systems (GIS)



Financial Planning

Components

- Review of existing agreements
 - Recommended changes to future lease agreements
- Review of costs/expenditures
- Consideration of additional revenue enhancements
- Capital Improvements (Funding & Phasing)
- Dynamic Revenue Model

Financial Planning

- **Existing Agreements**
 - Agreements reviewed and summarized
 - Included airlines, rental cars, restaurant and vending, FAA, and hangar leases
 - Recommendations will be made for future lease updates (i.e. Longer terms, annual rent increases based on CPI, modifications to cancellation clauses)

Financial Planning

Review of Costs/Expenditures

- Considers historic expenses at BGM and potential costs in the future
- Includes costs associated with Capital Improvements identified on the ACIP
- Analysis to determine potential cost savings (contracting to a parking lot concessionaire, etc.)

Financial Planning

Consideration of Additional Revenue Enhancements

- Private Development
 - Sites located off Commercial Road, Airport Road, and Knapp Road are not ideal for Aviation Use
- Natural Gas Drilling
 - BGM is located above the Marcellus Shale
 - Currently not approved by the NYS Dept. of Environmental Conservation
 - Significant amount of acreage to be considered for natural gas easements
- Addition of new services
 - Additional airline service
 - Additional rental car service
 - Additional hangar availability

Financial Planning

Dynamic Revenue Model

- Allows for future updates to account for actual conditions.
- Includes a baseline model as well as various additional models that account for potential significant changes to the airport (i.e., land development, new airline service, etc.)

Summary

- **Financially Sustainable Master Plan for the Airport**
- **Incremental Revenue Increases**
- **Offsetting Costs to Current/Future Tenants**
- **Improvements in Competitive Position to Attract Future Airline Tenants**
- **Ability to Fund Operational and Capital Needs**

Questions?