Appendix I

Public Participation
SUSTAINABLE Master Plan UPDATE

The McFarland Johnson Team
What is an Airport Master Plan?

- Official FAA and NYSDOT Airport Planning Document
- Required by FAA Compliance Regulations
- Reflects Sponsor’s (NFTA) Goals for the Airport
- Depicts Future Airport Development Covering 10-20 Years
- Future Projects Contingent on Funding (FAA/Other) & Environmental Approval
Master Plan Process

1. **Inventory and Environmental**
   - Stakeholder Meeting
   - Phase I - 5 Months

2. **Forecast and Facility Requirements**
   - Stakeholder Meeting
   - Phase II - 6 Months

3. **Alternatives and Dynamic Analysis Tool**
   - Stakeholder Meeting
   - Community Advisory Committee

4. **Draft Recommendations**
   - Stakeholder Meeting
   - Community Advisory Committee
   - Public Meeting

5. **Final Report, ALP and GIS**
   - Public Meeting
   - Phase III - 6 Months
Goals and Objectives

**Goals**
- Meet Aviation Needs of the Region
- Focused Capital Development Plan
- Comply with Current Standards
- Enhance Airport Economic Viability
- Identify Future Constraints
- Promote Sustainable Ideas & Solutions for the Airport

**Objectives**
- Meet Needs of Future Aircraft Fleet Mix
- Develop Parking & Access Alternatives
- Identify Non-Aviation Use Areas
- Obtain Approval of the Airport Layout Plan
- Engage Public in Planning Effort
Public Participation Process

- **Technical Advisory Committee (4)**
  - NFTA, FAA, NYSDOT, Regional Planning Agencies, Airport Tenants, FBO, Military, General Aviation Users

- **Citizens Advisory Committee (2)**
  - Local Residents, Elected Officials, Local Officials

- **Public Meetings (2)**
  - Informal, Open-House Workshop

- **University Involvement**
  - Niagara University
  - Others
Understanding NFIA’s Unique Challenges & Opportunities

- Proximity to Canada
- Interaction with BNIA & Other Regional Airports
- Ultra Low-Cost Carriers
- Rapidly-Changing Airline Industry
- Public Perceptions
- Strong Desire for Economic Growth
- Air Force / NY Air National Guard Uncertainty
- Need for Strategic Planning
- Significant Infrastructure with Minimal Developable Space
  - Parking
  - General Aviation
  - Terminal Area
  - Economic Development (On-Airport)
  - Limited Expansion Capability
Dynamic Planning Approach
**Scenario Based Forecast**

**Multiple Scenario Forecasts Enable Dynamic Planning**

- Multiple Scenarios for Commercial Aviation Activity
  - Degree & Pace of Air Service Development
  - Types of Service Development
    - Domestic Low-Cost Carriers (LCCs)
    - International LCCs
  - NFIA’s Relationship to BNIA & Other Airports in the Region

- Air Cargo
- General Aviation
- Military Activity
- **Scenario-Based Forecasting is a Key Input into the Dynamic Analysis Tool**
How Dynamic Planning is Different

Traditional Master Plan Update

- Inventory
- Forecasts
- Facility Requirements
- Alternatives

= Airport Layout Plan (ALP)
How Dynamic Planning is Different

Dynamic Master Plan Update

Inventory
- Electronic Inventory
- Interactive GIS/CAD
- Financial Data

Forecasts
- Scenario Based
- User Input
- Adjustable

Facility Requirements
- Demand Driven
- Scenario Based
- User Input
- Instant Feedback

Alternatives
- Scenario Based
- User Input
- Adaptable
- Costs

Airport Layout Plan (ALP)
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**User Defined**

- **Type**
- **Aircraft Type**
- **Anticipated Load**
- **Start Year**
- **Frequency** & **Arrivals Per**
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<th>Existing Facility or Capacity</th>
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<td>Runway 10L Approaches</td>
<td>None</td>
<td>ILS</td>
<td>ILS</td>
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<td>Runway 28R Approaches</td>
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<td>Runway 6 Approaches</td>
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<tr>
<td>Runway 10L/28L</td>
<td>HIRL, RVR (25R), MALSR (28L), YASI (10L)</td>
<td>HIRL, RVR (28R), MALSR, PAPI, Centerline Lights PAPI, Centerline Lights, MALSR (10L)</td>
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<td>MIRL, PAPI, REIL, Beacon</td>
<td>MIRL, PAPI, REIL, Beacon</td>
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<tr>
<td>Runway 6/24</td>
<td>MIRL, PAPI, REIL, Beacon</td>
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<tr>
<th>Landside</th>
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<tbody>
<tr>
<td>Conventional Hangars</td>
<td>82,500 sq. ft.</td>
<td>80,000 sq. ft.</td>
<td>None</td>
</tr>
<tr>
<td>T-Hangars</td>
<td>36 units</td>
<td>36 units</td>
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<tr>
<td>Consolidated GA Apron</td>
<td>62,500 sq. yd.</td>
<td>42,500 sq. yd.</td>
<td>None</td>
</tr>
<tr>
<td>Demand</td>
<td>10,000 sq. yd.</td>
<td>20,000 sq. yd.</td>
<td>10,000 sq. yd.</td>
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<tr>
<td>Deicing Apron</td>
<td>8,000 sq. ft.</td>
<td>8,000 sq. ft.</td>
<td>None</td>
</tr>
<tr>
<td>Aircraft Maintenance Area</td>
<td>62,500 sq. ft.</td>
<td>62,500 sq. ft.</td>
<td>None</td>
</tr>
<tr>
<td>Airline Terminal</td>
<td>100,000 sq. ft.</td>
<td>250,000 sq. ft.</td>
<td>None</td>
</tr>
<tr>
<td>Cargo Facility</td>
<td>1,200 spaces</td>
<td>200 spaces</td>
<td>None</td>
</tr>
<tr>
<td>Airline Terminal Parking</td>
<td>1,200 spaces</td>
<td>200 spaces</td>
<td>None</td>
</tr>
<tr>
<td>Cargo Facility Parking</td>
<td>1,000 spaces</td>
<td>200 spaces</td>
<td>None</td>
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<tr>
<td>GA Area Auto Parking</td>
<td>20 spaces</td>
<td>20 spaces</td>
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<tr>
<td>AFFF Facility</td>
<td>3,000 sq. ft.</td>
<td>3,000 sq. ft.</td>
<td>None</td>
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<tr>
<td>AVGAS Storage</td>
<td>17,500 gal.</td>
<td>15,000 gal.</td>
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<tr>
<td>Jet-A Storage</td>
<td>35,000 gal.</td>
<td>60,000 gal.</td>
<td>45,000 gal.</td>
</tr>
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</table>
Sustainability & Environmental Features
Goals:

- **Strike a Balance Between:**
  - Environmental;
  - Social;
  - and Economic Considerations

- **Meet FAA Requirement to Evaluate Waste Management and Recycling Practices**

Source: faa.gov
Sustainability

Conduct Sustainability Baseline Assessment → Develop Goals & Objectives / Develop Performance Targets → Evaluate Sustainability Initiatives → Develop Implementation and Monitoring Plan

Identify Specific Areas for Enhancement → Recommend Performance Targets → Identify & Evaluate Initiatives → Plan & Monitoring Program
Sustainability Evaluation

- Consider Existing Facilities/Operations and MPU Alternatives

- Categories
  - Air Quality and Greenhouse Gases
  - Waste Management/Recycling
  - Water
  - Energy
  - Natural Resources
  - Hazardous materials
  - Noise/Land Use
Goals

- Early Identification of Environmental Constraints
- Incorporate Findings into Alternatives Analysis
  - Avoid/Minimize Impacts
  - Consider Mitigation Requirements
  - Informed Decision Making
- Basis for Future NEPA, SEQR, and Permit Processes
- Provide GIS-Based “Environmental Inventory”
### Environmental Impact Categories

- **Air Quality**
- Coastal Barriers
- Coastal Zone
- **Compatible Land Use**
- Construction Impacts
- Section 4(f)
- Farmlands
- Floodplains
- **Fish, Wildlife & Plants**
- Historical, Architectural, Archaeological, & Cultural Resources
- **Light Emissions & Visual Effects**
- **Hazardous Materials**
- Natural Resources & Energy Supply
- **Noise**
- Socioeconomic, Environmental Justice & Children’s Health and Safety Risks
- Solid Waste
- **Water Quality**
- **Wetlands**
- Wild & Scenic Rivers

*Identified in FAA Orders 1050.1E and 5050.4B*
Threatened and Endangered Species

- No Federally-Listed Threatened or Endangered Species
- Two State Listed Species on Airport
  - Northern Harrier
    - NYS Listed Endangered Species
    - Foraging Habitat Widespread on Airport
    - Unmaintained Wetlands Considered Breeding Habitat - Likely Time of Year Restrictions
  - Devil Crawfish
    - NYS Species of Conservation Concern
    - Known to Occur in Cayuga Creek
    - Relocation and Monitoring Likely Requirement
Noise/Compatible Land Use
Incorporating Local Universities

- Niagara University Environmental Science Program
- Classroom Session
  - Environmental Science, Policy, and Regulation
- Field Practicum
- Next Session - Alternatives/Environmental Impact Evaluation (Planned)
Existing Conditions and Infrastructure
- Runway 10L-28R - Primary
  - 9,829’ x 150’, ILS 28R, Limited Taxiway Connectivity
  - Weight Capacity of over 800,000 lbs

- Runway 6-24 - Crosswind
  - 5,188’ x 150’, Recently Published GPS Approaches
  - Favorable Wind Coverage Increases Utilization

- Runway 10R-28L - Parallel
  - 3,973’ x 75’

- Taxiways
  - Several Complex Intersections, Old/Abandoned Pavement
  - Taxiway A – Military Owned, Non-Movement
Key Issues - Airside

- New Runway/Taxiway Design Requirements
  - Taxi Routes to/from Terminal

- Crosswind Runway Capabilities
  - Existing/Future

- Physical Constraints
  - Property/Development

- Instrument Approaches
  - New Approaches to 6/24

- Canadian Airspace
  - 10L Approach
Taxiway Design Challenges

- Complex Taxiing Routes
- ATC Runway Crossing Procedures

NEW TAXIWAY DESIGN STANDARDS
- Y-Shape Taxiways Near Runway
- Direct Access to Runway
Key Issues - Landside

- Long Term Terminal Expansion
- Parking Demand Characteristics
- Roadway System
- Access
- Facilitating Economic Development
- Physical Constraints
- General Aviation
Terminal Area - Key Issues

- Terminal Expansion
- Physical Constraints
- Access
- Parking

Sustainable Master Plan Update

Niagara Falls International Airport

The McFarland Johnson Team
Key Issues - Terminal

- Capacity Capabilities
  - Aircraft Sizes
  - International Operations

- Demand Characteristics
  - Seasonal Changes in Demand

- Low-Cost Airline Considerations
  - Inbound Travel Market Requirements
  - Common Use Technology
    - For/Against
Military Facilities

- NY ANG 107 and USAF 914
  - 12 Aircraft Assigned to 914, Joint Operated with 107
- Provides ARFF Coverage for Airport
  - Index E
- Owns Taxiway A and West Portion of 10L-28R
- 4 Hangar Spaces
- Aircraft do not Fly GPS Approaches
- Keep Training Opportunities Available
Next Steps

- Finalize Existing Conditions
- Continue Sustainability Baseline Assessment
- Confirm Dynamic Scenarios
- Complete Aviation Forecasts
  - Scenario Based Forecast for Dynamic Analysis Tool
  - Submit Traditional Forecast for FAA Approval
- Determine Airport Facility Requirements
  - Dynamic Analysis Tool Development
- Stakeholder Meeting # 2 – June Timeframe
Project Contacts:

- Chad Nixon – Project Manager
  - cnixon@mjinc.com  607-723-9421

- Rick Lucas – Task Leader: Airside, Landside and Terminal
  - rluucas@mjinc.com  607-723-9421

- Jeff Wood – Task Leader: Environmental and Sustainability
  - jwood@mjinc.com  607-723-9421
Technical Advisory Committee

Meeting Minutes/Summary
February 20th, 2013

The first Technical Advisory Meeting was held on February 20th, 2013 at 1pm in the passenger terminal at the Niagara Falls International Airport, the meeting lasted until approximately 2:15pm. Representatives from McFarland Johnson presented on the background of the project, existing conditions, environmental features as well as the sustainable approach for the project. The following sections summarize what was presented along with comments and questions received during the presentation.

What is a Master Plan?

An airport master plan is a document required by the Federal Aviation Administration (FAA) in order to be eligible to receive federal funds for airport improvements. The Niagara Falls International Airport Dynamic and Sustainable Master Plan is funded by both the FAA and New York State. An airport master plan, typically updated every 5-10 years should reflect the sponsor’s (NFTA) goals for the airport. The master plan depicts airport development covering a 10-20 year span and becomes the official FAA and New York State Department of Transportation (NYSDOT) airport planning document.

Scope of Project

Mr. Ferraro with Niagara County Economic Development asked a question regarding the Master Plan as it related to nearby economic resources such as rail yards. Mr. Trevino with Niagara Falls Aviation also asked a question regarding development on parcels adjacent to the airport. The scope of the project was further clarified to the stakeholders by Mr. Vanecek.

An airport is an integral part of the community’s economic profile and the benefits of economic potential extend far beyond the physical airport property. While the Niagara Falls Airport Master Plan does not include an in-depth analysis of off airport utilities and infrastructure, the master plan is targeted to complement local and regional plans to help facilitate economic
development. External elements will be considered as they relate to adjacent development and compatible land use.

**Dynamic Planning Approach**

The unique and first of its kind Dynamic Master Plan approach is being used for this project with the goal of allowing the airport to consider the planning elements and requirements for a variety of scenarios that could occur over the planning period. A sample example of the Dynamic Analysis Tools was presented as part of the meeting. Over the course of this project the forecast, financial and facility requirement data will be populated into the Dynamic Analysis Tool which will be included as a final deliverable alongside the traditional master plan elements.

![Dynamic Master Plan Update](image)

**Incorporating Sustainability**

A key element in the Niagara Falls Airport Master Plan is the incorporation of sustainability into the planning process. The goal for this process is to have airport development strike a balance between social, economic and environmental needs for the surrounding community. Tenants and users may be asked to provide data and insight on items such as energy use, greenhouse gases, air quality and waste management throughout the course of the project.
Environmental Considerations

Environmental features are important considerations when planning future airport facilities. Early Identification of Environmental Constraints including wetland delineation was conducted this past fall, the data and findings will be used throughout the planning process. Goals for the environmental considerations include:

- Incorporate findings into alternatives analysis
  - Avoid/minimize impacts
  - Consider mitigation requirements
  - Informed decision making
- Basis for future National Environmental Policy Act (NEPA), State Environmental Quality Review (SEQR), and Permit Processes

Airside

Aside from the recent improvements on Runway 6-24, much of the airside infrastructure has been unchanged since the previous airport master plan conducted in 1994. In the fall of 2012 the FAA released a new design advisory circular that included sweeping changes for runway and taxiway design rationale. In addition, the FAA has recently revised operational practices for runway crossing practices within their air traffic control organization. These recent changes will have a notable impact on the airside facility requirements and development alternatives.

Terminal/Landside

With the passenger terminal being less than 3-years old, operational and capacity concerns are minimal. However the master plan will review the capacities and capabilities of the terminal building and landside features as they relate to the various forecast scenarios to help ensure that the facility can accommodate the necessary activity levels to support the community.
Public Participation Process

The Technical Advisory Committee assembled as part of this master plan will serve as a technical resource throughout the process and provide comment and insight on recommendations for NFIA. The Technical Advisory Committee meeting held on February 20th was the first of four such meetings that will occur as part of the master plan. Future meetings will discuss elements such as the forecast, facility requirements, alternatives and recommended development plan. In addition to the Technical Advisory Committee, there will be two Community Advisory Committee and two public meetings during the course of the project as well. The next Technical Advisory Committee meeting is currently planned for the June timeframe.

Organizations Represented

Calspan
City of Niagara Falls
Federal Aviation Administration
Greater Buffalo Niagara Regional Transportation Council
McFarland Johnson
New York Air National Guard 107th Air Wing
New York State Department of Environmental Conservation
New York State Department of Transportation
Niagara County
Niagara County Economic Development
Niagara Falls Aviation (FBO)
Niagara Falls Redevelopment
Niagara Frontier Transportation Authority
Standard Parking
Town of Wheatfield
Transportation Security Administration
US Customs and Boarder Protection

Organizations Invited, Not Present

Allegiant Airlines
Midwest Air Traffic (NFIA Tower)
Spirit Airlines
Town of Niagara
US Air Force 914th Air Wing
SUSTAINABLE Master Plan UPDATE

The McFarland Johnson Team
Master Plan Process

- **Inventory and Environmental**
  - Stakeholder Meeting Phase I - 5 Months

- **Forecast and Facility Requirements**
  - Stakeholder Meeting Phase II - 6 Months

- **Alternatives and Dynamic Analysis Tool**
  - Community Advisory Committee
  - Community Advisory Committee Public Meeting

- **Draft Recommendations**
  - Stakeholder Meeting
  - Community Advisory Committee
  - Public Meeting

- **Final Report, ALP and GIS**
  - Phase III - 6 Months
Public Participation Process

- Technical Advisory Committee (4)
  - NFTA, FAA, NYSDOT, Regional Planning Agencies, Airport Tenants, FBO, Military, General Aviation Users

- Citizens Advisory Committee (2)
  - Local Residents, Elected Officials, Local Officials

- Public Meetings (2)
  - Informal, Open-House Workshop

- University Involvement
  - Niagara University
  - Others
Sustainability Baseline & Energy Audit
Sustainability Evaluation Agenda

- Baseline Assessment Overview
  - Natural Resources
  - Air Quality / Greenhouse Gas Emissions
  - Energy
  - Waste Management / Recycling

- Sustainability Goal Setting

Diagram with the following sections:
- Economic Viability
- Operational Efficiency
- Natural Resource Conservation
- Social Responsibility
Water Resources

Water Use

- 2009: 1,000,000 gallons, 1.37 gallons per passenger
- 2010: 3,000,000 gallons, 4.68 gallons per passenger
- 2011: 1,000,000 gallons, 1.83 gallons per passenger
- 2012: 1,000,000 gallons, 1.33 gallons per passenger

Water Costs

- 2009: $5,000
- 2010: $25,000
- 2011: $30,000
- 2012: $40,000

Water Use per Passenger

- 2009: 1.37 gallons per passenger
- 2010: 4.68 gallons per passenger
- 2011: 1.33 gallons per passenger
- 2012: 1.83 gallons per passenger
Water Resources – Opportunities

- Continue to implement deicing best practices
- Continue to implement additional water conservation measures and look for new conservation opportunities
- Improve monitoring/tracking of water use. This includes:
  - Tracking and reporting quarterly water use
  - Understanding meter locations
  - Accounting for variation in water use
- Evaluate current landscaping practices and develop strategies to reduce chemical use, to plant native species, and to minimize landscaping water requirements
- Install a water leak detection system
Baseline Performance - AQ / GHG

- **Criteria Air Pollutant Emissions**
  - Negligible contribution to statewide ozone pollutant levels
  - CO, VOC, NO\(_x\), and SO\(_2\): aircraft are the largest contributors followed by motor vehicles, GSE and APU

- **Greenhouse Gas (GHG) Emissions**

![GHG Emissions: Existing & Forecasted](image)

![Existing GHG Emissions (2011) by Operational Boundary](image)
Air Quality / GHG Emissions – Opportunities

- Conduct regular (every 2 to 5 years) calculation and reporting of GHG emissions
- Encourage tenants to convert GSE to electric vehicles
- Provide 400 Hz power and preconditioned air at aircraft gates
- Restrict vehicle idling
- Encourage single-engine taxiing
- Phase out the use of ozone-depleting refrigerants
- Coordinate bus service to match airline schedule to maximize convenience.
Baseline Performance - Energy

- **Building Survey/Energy Audit**
  - Evaluated building envelope, mechanical, electrical, and plumbing systems for:
    - New Terminal
    - Old Terminal
    - FBO Hangar
    - Triturator Building
    - Air Cargo Warehouse
    - NFTA Equipment Storage Building
    - Electrical Vault
    - GA Administration and Garage
  - Numerous opportunities for improved energy efficiency identified
  - Most do not have reasonable payback as standalone projects
Opportunities

- New Terminal
  - Install CO₂ sensors for ventilation control
    - Payback ≈ 2.3 years
  - Install daylighting controls
    - Payback ≈ 12.1 years
  - Replace metal halide lamps in ticket lobby with LED
    - Payback ≈ 9.5 years

- Old Terminal
  - Existing systems adequate with minor upgrade for low intensity use (limited need for conditioned air)
  - Cost/benefit - major renovation vs. demolition/new construction
- **Other Opportunities**
  
  - Most HVAC and lighting systems have exceeded useful life; Replace with energy efficient systems as they fail
  - Improve thermal efficiency of building shells during renovations
    - Thermal pane windows; insulation; weatherstripping
  - Lower thermostat setpoint in garage to 55° (free – saves 1703 therms ($2,200/year))
  - Other low cost, short payback opportunities noted
    - Timed fan switches
    - Zoned lighting
    - Weatherstripping
- NFTA recycles paper, plastic, glass and metal
- Volume of recycled materials ~ 285 gallons or 1.4 cubic yards of waste (estimated)
- NFTA pays ~$6,000 annually in waste disposal fees
- Ratio of recycling bins to trash bins is ~3:2
- Existing waste minimization/recycling strategies at NFIA:
  • Purchasing of Recycled Materials
  • Recycling Signage
  • Waste Minimization
  • Materials Reuse
Waste Management - Opportunities

- Track waste and recycling by weight or volume
- Include in contractor agreements a requirement to recycle a minimum percentage of C&D waste
- Develop a waste and recycling education program (use educational materials from the NY State Department of Environmental Conservation and the Natural Resources Defense Council)
- Coordinate with airline tenants to increase recycling of deplaned waste
NFTA Mission Statement & Performance Goals

- **NFTA Mission Statement** - Adopted March 28, 2013
  - The NFTA is a multi-modal entity encompassing a skilled and dedicated workforce. We are firmly committed to providing **efficient** and **professional** transportation services that enhance the **quality of life** in the **Buffalo Niagara region** in a manner consistent with the needs of our customers.
  - **Aviation:** serves as a **catalyst for economic growth** by maintaining **cost effective**, **customer oriented**, and **efficient** airports to attract and retain comprehensive and competitive air transportation services.

- **NFTA Performance Goals for NFIA**
  - Continue the aggressive marketing approach to **capitalize on Air Cargo and Charter opportunities** in the most cost efficient operating manner.
  - Work closely with the FBO to assure the **performance of contracted services** and the marketing program for the airport
  - Continue to market the NFIA terminal to potential air service providers and concessionaires to **provide quality customer service** and **improve operating profits**
  - Continue to **increase satisfaction and customer service** and **enhance public and customer perception** of the airport
  - Continue to **promote and maintain a safe working environment** for NFIA employees with the goal of no lost time incidents and no workers’ compensation expense.
NFIA will serve as a sustainable catalyst for economic growth by promoting air service development and aviation-related business opportunities in an environmentally and socially responsible manner.
Potential Sustainability Goals

- Better understand and cater to NFIA’s customer base to enhance air service and terminal offerings.
- Maximize the economic potential of NFIA by providing business and employment opportunities.
- Conserve natural resources and minimize air and water pollution.
- Minimize waste and increase the rate of recycling.
Forecasts & Aviation Demand
Multiple Scenario Forecasts Enable Dynamic Planning

- Baseline Forecast
  - Historic trends and recent events
  - Inherently conservative

- Multiple Scenarios for Commercial Aviation Activity
  - Degree & Pace of Air Service Development
  - Types of Service Development
  - NFIA’s Relationship to BNIA & Other Airports in the Region

- Air Cargo
- General Aviation
- Military Activity
Core Considerations and Outputs

- **Considerations**
  - Regional demographic and economic trends
  - Trans-border factors
  - Traffic history and trends at region’s airports
  - Market segmentation
  - Access to regional traffic pool
  - Airline and airport competitive context
  - NFIA role, history and prospects

- **Outputs**
  - Annual total passenger volumes
  - Annual total aircraft movements
  - Forecast period: 2013 through 2040
Seven primary airports and many airlines competing for air travel demand in a bi-national market
Analytic Elements of the Forecast

Niagara Region

Air Travel Demand

Airport Shares

Factor Relationships

NFIA Forecast

- GDP, Exchange Rate
- Population
- US and Canada

- 2012: 34.7 million O&D pax
- Geographic markets
- Business vs leisure

- Competitive relationships
- Air traffic trends
- Airline considerations
- Airport considerations

- Trend correlations
- Application to NFIA

- Base case forecast
- Alternative scenarios
Figure 19

BASELINE O&D PASSENGER PROJECTION
Niagara Falls International Airport

Thousands

- 0% 5% 10% 20% 30% 40% 50% 60% 70% 80% 90% 10%

2011 2016 2021 2026 2031 2036

719,354

All Other US Market US Leisure Market Mexico & Caribbean Trans-Atlantic (Europe) Forecasted growth rate %
NFIA Aircraft Movements Forecast

Figure 20

BASELINE OPERATIONS PROJECTION
Niagara Falls International Airport

Thousands

2011 2016 2021 2026 2031 2036

8,238

Forecasted growth rate %

Cargo Operations  Military Operations  GA Operations  Commercial Operations  Forecasted growth rate %

The McFarland Johnson Team
Alternative Scenarios

- Input for *Dynamic Analysis Tool*
  - External factors will be key driver of traffic trends at NFIA

- 5 alternative scenarios were also forecasted for dynamic master plan modeling
  1. Introduction of trans-Atlantic services
  2. Introduction of large international tour operator program
  3. Low-cost carrier continued growth
  4. Expansion of air cargo freighter operations
  5. Softened Canadian demand for NFIA service

- Scenarios are additive (or subtractive) to baseline forecast

- Scenarios are not predictive, but assist in facility and operational planning as events occur and trends unfold
Airside Facility Requirements
Airfield Capacity Analysis

Multiple Factors Affect Airfield Capacity
- Touch-and-Go’s
- Number and Location of Taxiway Exits
- VFR/IFR Conditions (% Each)
- Seasonality/Peaking Characteristics
- Runway Configuration/Utilization

Existing Airfield Capacity = 213,628
- Analysis Excluded 10R-28L

Year 2040 Operations 23,160 = 11% Capacity
- Planning for New Capacity Not Required Until 128,000 Annual Operations (60% Threshold)
Key Issues - Airside

- **New Runway/Taxiway Design Requirements**
  - Taxi Routes to/from Terminal

- **Crosswind Runway Capabilities**
  - Existing/Future

- **Physical Constraints**
  - Property/Development

- **Instrument Approaches**
  - New Approaches to 6/24
  - 28R Glideslope
  - 10L Approach (Canadian Airspace)
Airport Overview
Runway Requirements

- Extend Runway 6-24 to 6,000 feet
  - Reclaim 402 feet of Pavement on the Runway 6 end
  - Construct 410 feet of Pavement on the Runway 24 end
  - LDA and ASDA for both runways of 5,600 feet
  - Obstruction Removal Required for Airline Utility

- Complex Confusing Intersection Near 28L, 24 Thresholds

- Runway 10R-28L No Longer Needed
  - Minimal Use, Primarily Convenience
  - Enable Additional Aviation Development
  - Alternatives will Evaluate Potential Use as Taxiway
Approaches / NAVAIDS

- 28R Glideslope Improvements
- Develop Approach Procedure for Runway 10L
- Improve Approach Minimums for Runways 6 & 24
  - Existing – 1 Mile (6 – LPV/LNAV, 24 – LP/LNAV)
  - Ultimate – ¾ Mile (LPV)
- Replace Runway 28R VASI with PAPI
- Install PAPI & Approach Lights on Runway 10L
- Install REILs
Taxiway Design Challenges

- Complex Taxiing Routes
- ATC Runway Crossing Procedures
- Potential for West Side Parallel Taxiway to Runway 6/24 Based on Preferred GA Alternative

- Update taxiway system in accordance with AC 150/5300-13A
- Improve Access from Taxiway A to Runway 24 end
- Improved Access from Terminal Area to Runway 10L end
Terminal
Facility Requirements
Terminal Planning

- Non-Traditional Planning
  - Less than Daily Service
  - High Seasonality, Peaking
  - Low Cost Airline Considerations

- Limited Historical Data
  - 2010 Minimal Service - 23,000 Enplanements (Up 35%)
  - 2011 Direct Air Service, High Growth
  - 2012 Direct Air Ceases (50% Share), Runway Closure

- Capacity Capabilities
  - Aircraft Sizes, International Operations
Terminal Building
Terminal - Departure Flow

- **Ticketing/Check in – Technology Changes**
  - Web/Mobile Check-in Minimizing Future Requirements
  - Leisure Oriented Service
    - More Checked Baggage, Larger Group Size
  - Ticket Counters
    - Assigned, but Flexible Use

- **Shared Baggage Makeup Area**
  - Limited Existing Space
  - 3rd Airline -> Overcrowding
Security Infrastructure

- Passenger Screening
  - Existing Configuration Good for up to 275 Pax/Hr
  - Intermediate/Long Term Requires 2 Lanes (550/Hr)
  - High Growth Could Ultimately Require 3 Lanes (825/Hr)

- Baggage Screening
  - Currently Using ETD Method
  - One EDS Allocated, Unfunded
    - 180 Bags/Hr Capacity Insufficient for Peak Ops
    - No Space for Expanded Baggage Screening Infrastructure
Circulation Improvements Required for Out-Year Peak Hour Operations (Holdroom + Inbound)
- Restrooms/Concessions

Two Baggage Belts/Total Frontage Sufficient
- Space/Circulation Component is Controlling Factor
- Effectiveness Dependant on Airline Operations

FIS Capacity 200/Hr = Boeing 757
- Expansion Required for Boeing 767/Airbus 330
### Terminal Annual Capacity Based on:
- Constrained by Peak Season, Capacity is Greater with Stronger Off-Season Demand
- Peak Season, 4-5 Peaks Per Day

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- Ticket Counters
- Check-In Queuing
- Kiosks
- Baggage Screening
- Baggage Makeup
- Security Checkpoint
- Holdroom
- Concessions
- Boarding Gates
- Circulation
- Baggage Claim
- Restrooms
- Curb Frontage

Legend:
- >65%
- 75%
- 85%
- 100%
- 110%
Landside Facility Requirements
Landside Requirements

- Inefficient, Confusing Roadway Layout
  - Old Terminal/New Terminal
  - IDA Building
  - Auto Parking Lots

- Curb Frontage
  - LOS Steadily Declines with Growth

- Ground Transportation
  - Increasing Demand for Rental Cars
    - Single Counter Overcrowding at Existing Levels
    - Rental Car Support Facilities
  - Greater Demand for Tour Busses - Staging Area
Terminal Area - Key Issues

- Terminal Expansion
- Physical Constraints
- Access
- Parking
Auto Parking

- Three (3) Primary Parking Lots,
  - Lot 1 & 2 - 238/255 Spaces
  - Lot 3 (Remote) – 1,100 Spaces (Seasonal)
- Connect/Consolidate Smaller Lots
- “Peak Season” – Average of Busiest 3 Months

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General Aviation

- Consolidated General Aviation Area
  - Existing FBO Site is Adjacent to Passenger Terminal
  - Existing Hangars/Based Aircraft Across Runway

- Hangars not Compatible with Mid/Large Corporate Jets
  - Existing Demand for Citation-X, Tail is too Large

- Consolidated GA Area Requires:
  - New Apron – Existing Apron Shared with Terminal, Direct Access to Runway 6-24
  - Taxiway Access Improvements, Potential New Parallel
- **Size/Infrastructure Driven by Developer/Provider**
  - Limited Local Demand, yet Abundant Infrastructure

- **Alternatives will Consider Boeing 747-8F (Group VI)**
  - Allows Airport to Evaluate A380 Diversions/Operations

- **Facility Sized for Up to 100,000 SF Processing Space w/ Direct Road Access**
Support Facilities / Equipment

- **Snow Removal Equipment**
  - Expanded Facility
    - Larger Doors for Newer Equipment (3,750 SF)
  - Current SRE Fleet are adequate
    - Replace equipment as necessary

- **Current ARFF Services are adequate under present arrangement with USAF**
  - Index B required
  - USAF provides services up to Index E

- **Relocate Air Traffic Control Tower**
  - Analysis to Follow Airside Alternatives
Military Facilities

- NY ANG 107 and USAF 914
  - 12 Aircraft Assigned to 914, Joint Operated with 107

- Provides ARFF Coverage for Airport
  - Index E

- Owns Taxiway A and West Portion of 10L-28R

- 4 Hangar Spaces

- Aircraft do not Fly GPS Approaches

- Keep Training Opportunities Available
Next Steps

- Finalize Facility Requirements
- Create Development Alternatives
- Development of *Dynamic Analysis Tool*
- Alternatives Analysis
  - FAA Coordination Meeting
  - Community Advisory Committee
  - Technical Advisory Committee
- Preferred Alternative
Give Us Your Comments!

- Review Report Documents and Provide Comments
  
  http://dynamic-planning.com/NiagaraFalls.html

- Meeting Minutes, Presentations and Draft Technical Report Chapters Available for Review
  - Contact Project Team Member if you Require Hard Copies

- Provide Comments to Any Member of the Project Team by September 30, 2013
Project Contacts

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  • cnixon@mjinc.com  607-723-9421
Rick Lucas – Task Leader: Airside, Landside and Terminal
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Jeff Wood – Task Leader: Environmental and Sustainability
  • jwood@mjinc.com  607-723-9421

Questions?
The second Technical Advisory Meeting for the Sustainable Airport Master Plan was held on September 12, 2013 at 2pm in the passenger terminal at the Niagara Falls International Airport; the meeting lasted until approximately 4:05pm. Bill Vanecek, Director of Aviation for the NFTA and Chad Nixon, Project Manager for McFarland Johnson welcomed the committee and provided a background on the project. Representatives from the McFarland Johnson team presented on the topics of sustainability, energy consumption, forecast of demand, and airport facility requirements. The following sections summarize what was presented along with comments and questions received during the presentation.

**Sustainability Baseline**

Ben Siwinski (VHB) introduced the concept of sustainability and discussed its definition which includes elements of social responsibility, operational efficiency, economic viability, and natural resource conservation. Roger Trevino noted that sustainable initiatives and their costs should be matched to market demands; Bill Vanecek noted that sustainable initiatives will be practical and make fiscal sense, with further review occurring in an upcoming NFTA strategic plan.

The energy audit portion of the Sustainability elements focused on air quality/greenhouse gas but the primary discussion was on water use and cost. Ben defined the charts as indicating both NFTA-wide and just at NFIA Terminal. Bill Vanecek noted that 2010/2011 spikes were most likely construction related. Ben Siwinski then discussed the NFTA mission statement, draft vision statement, and sustainability goals. Kim Minkel suggested incorporating the word “safe” into the vision/goals.

**Forecasts and Aviation Demand**

Barney Parella explained that the forecasts are not intended to predict the future, but rather serve as the baseline for the most likely scenario under current conditions. The forecast methodology which used the econometric model based on the multi-airport
region was discussed and what the role of NFIA is within that region. Mr. Parella noted that for military, general aviation and air cargo, growth is based on external forces and or business decisions that occur outside the airport’s control.

Roger Trevino and Bill Vaneczek discussed the conservative nature of the forecasts. Bill indicated that the Dynamic Analysis Tool will allow NFTA to look at future “what if” scenarios.

![Baseline O&D Passenger Projection](image)

**Facility Requirements**

At approximately 3:13pm, the meeting was turned over to Rick Lucas who discussed airport facility requirements. The discussion started with the airport capacity analysis where it was noted that there are no anticipated capacity related concerns for the airfield under any of the forecast scenarios.

Mr. Lucas indicated that there was no long term capacity need, nor any specific user need for the short parallel, Runway 10R-28L. Mr. Sloma mentioned that Jamestown and Niagara College have talked to him about flight training, in which they would prefer to use Runway 10R-28L. Mr. Lucas said that no one has reported use on this runway, but this is good information and that any support for justification of the runway should be documented in the master plan. When discussing the crosswind runway length, Mr. Trevino indicated that the peak season for airlines occurs in the winter when wind favors the crosswind runway, meaning that longer length would benefit air carriers.
Taxiway requirements were discussed, however it was noted that the requirements are a function of the general aviation and air cargo facility location which will be identified in the alternatives effort.

Terminal Area Requirements

Mr. Lucas moved on to discuss the passenger terminal facility requirements where it was noted that NFIA passenger terminal requirements involve non-traditional planning due to less than daily service and high seasonality and traffic peaks. It was noted that the theoretical annual capacity of the terminal is determined by peak characteristics, where that capacity could be increased if traffic was attracted to off-peak months. Terminal functional areas were broken down where it was identified that with the exception of ticket counters, the level of service for the functional areas deteriorates at approximately two simultaneous departures.

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Roadway and auto parking requirements were discussed where it was noted that the roadway configuration is a function of the parking lots. The terminal area development alternatives will likely recommend connecting and consolidating the parking lots in front of the terminal which will both increase parking and change the roadway layout.

General Aviation

Mr. Sloma mentioned that historically having a new GA terminal wasn't an issue, but could be in the future. He indicated that the old Army Hangar area would be ideal, due to location and existing facilities located there now. It was noted that this facility is not currently on airport property, but that the MPU should look at this site should it become available as other sites would cost great financial expenditures to accommodate.
Roger Trevino asked about based aircraft methodology, where it was explained that since only organic growth based on existing demand can be quantified, based jets would go from 3 to 9 over the planning horizon of 20 years.

**Dynamic Analysis Tool**

The meeting was concluded by Mr. Nixon demonstrating a working draft of the Dynamic Analysis Tool. This tool depicted how the airport would be able to better plan for an anticipate facility needs should actions not reflected in the traditional, FAA approved forecast occur. Mr. Nixon illustrated the Air Cargo scenario where the financial and facility impactions of an air cargo operation were visually demonstrated to the committee.

**Next Steps**

The Technical Advisory Committee assembled as part of this master plan will serve as a technical resource throughout the process and provide comment and insight on recommendations for NFIA. The Technical Advisory Committee meeting held on September 12th was the second of four such meetings that will occur. Future meetings will discuss elements alternatives and recommended development plan. In addition to the Technical Advisory Committee, there will be two Community Advisory Committee and two public meetings during the course of the project as well. The next Technical Advisory Committee meeting is currently planned for the Winter 2013/2014 timeframe.

**Organizations Represented**

- Calspan
- Federal Aviation Administration
- Greater Buffalo Niagara Regional Transportation Council
- McFarland Johnson
- US Air Force 914th Air Wing
- Niagara County
- Niagara County Economic Development
- Niagara Falls Aviation (FBO)
- Niagara Falls Redevelopment
- Niagara Frontier Transportation Authority
- Standard Parking

**Organizations Invited, Not Present**

- Allegiant Airlines
- Midwest Air Traffic (NFIA Tower)
- Spirit Airlines
- Town of Niagara
- New York Air National Guard 107th Air Wing
- City of Niagara Falls
- New York State Department of Environmental Conservation
- New York State Department of Transportation
- Town of Wheatfield
- Transportation Security Administration
- US Customs and Boarder Protection
Agenda

- Progress to Date/Recap
- Purpose of Meeting
- Alternatives Analysis
  - Airside
  - Air Cargo
  - General Aviation
  - Landside
  - Terminal
  - Sustainability
  - Evaluation Criteria
- Next Steps

Open Format, Ask Questions at Any Time
Purpose of Meeting

- Present Development Alternatives for Airside, Landside, and Support Facilities

- Discuss Process
  - Development of Alternatives
  - Evaluation of Alternatives
  - Discuss Selection of Preferred Alternatives
  - Planning Horizon – 20 Years

- Obtain Feedback

- Concurrence of Recommended Development
Airside Alternatives
Airside Facility Requirements

- New Runway/Taxiway Design Requirements
  - Taxi Routes to/from Terminal

- Crosswind Runway Capabilities
  - Air Carrier Upgrades, Extension, Precision Approach

- Complex Confusing Intersection
  Near 28L, 24 Thresholds

- Runway 10R-28L Not Needed
Airside Alternatives

- Runway 24 Precision Approach
- Taxiway Widths Dependent on Air Cargo Location
- Alternative 1
  - Partial Parallel, Convert Abandoned Pavement to Taxiway
- Alternative 2
  - Convert 10R-28L to Taxiway
- Alternative 3
  - Standard Taxiway System
Air Cargo Facility Requirements

- Size/Infrastructure Driven by Developer/Provider
  - Limited Current Demand, yet Abundant Infrastructure

- Alternatives will Consider Boeing 747-8F (Group VI)
  - Allows Airport to Evaluate A380 Diversions/Operations

- Facility Sized for Up to 100,000 SF Processing Space w/ Direct Road Access
Air Cargo Alternatives

- **Alternative 1**
  - Acquire Former US Army Parcel

- **Alternative 2/2A**
  - Infield Development
  - Alternative 2 is Compatible with GA Alternative 2
  - Positioned to Avoid Environmental Impacts

- **Alternative 3**
  - Concept Only Viable if Military Mission Changes
  - Compatible with Business Park Concept
Air Cargo Alternative I
General Aviation Alternatives
General Aviation Facility Requirements

- Consolidated General Aviation Area
  - Existing FBO Site is Adjacent to Passenger Terminal
  - Existing Hangars/Based Aircraft Across Runway

- Existing Hangars Have Insufficient Tail Height Clearance

- Consolidated GA Area Requires:
  - New Apron – Existing Apron Shared with Terminal, Direct Access to Runway 6-24
  - Taxiway Access Improvements, Potential New Parallel
General Aviation Alternatives

- **Alternative 1**
  - Co-located with Calspan
  - Land Acquisition for Access

- **Alternative 2**
  - Infield Development, Consolidated GA area
  - Compatible with Air Cargo Alt 2

- **Alternative 3/3A**
  - Acquire Former US Army Parcel
General Aviation Alternative 3
Landside Alternatives
Landside Facility Requirements

- Inefficient, Confusing Roadway Layout
  - Old Terminal, IDA Building, Auto Parking Lots
  - Connect/Consolidate Parking Lots

- Ground Transportation
  - Increasing Demand for Rental Cars
  - Greater Demand for Tour Buses - Staging Area

- “Peak Season” – Average of Busiest 3 Months
  - 1,593 Existing Parking Spaces

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M. Landside Alternatives

- **Alternative 1**
  - Acquire IDA Building
  - Reconfigure/Maximize On Airport Parking
  - Connect Lot 3 to Terminal Roadway with New Intersection

- **Alternative 2**
  - Maximize Lot 1, Remove Roundabout
  - Isolate Lot 2, Credit Card or E-Z Pass Only

- **Alternative 3**
  - Maximize Lot 1, Maintain Roundabout
  - Isolate Lot 2, Credit Card or E-Z Pass Only
Landside Alternative 1

- Terminal Apron Expansion
- Aircraft Ron and Maintenance Area
- Remove Old Terminal Building
- Terminal Parking: 2,900 spaces (approximate)
- Rental Car Lot Bus/Taxi Staging Area
- Expand Off-Site Parking: 1,100 spaces (approximate)

Vehicle Cleaning and Servicing Building

Porter Road

Runway Safety Area

Niagara Falls Boulevard

Runway Object Free Area
Terminal Area Alternatives
Terminal Facility Requirements

- **Departure Flow**
  - Web/Mobile Check-in Minimizing Future Requirements
  - Leisure Oriented Service
    - More Checked Baggage, Larger Group Size
    - Shared Baggage Makeup Area
    - Assigned, but Flexible Use

- **Arrival Flow**
  - Flat Plate to Sloped Plate
    - Enhances Security and Capacity
  - International Aircraft Servicing
    - Customs and Int’l Bag Claim Sizing
Functional Area Summary

- **Terminal Annual Capacity Based on:**
  - Constrained by Peak Season, Capacity is Greater with Stronger Off-Season Demand
  - Peak Season, 4-5 Peaks Per Day

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- Circulation
- Baggage Claim
- Restrooms
- Curb Frontage

- >65%
- 75%
- 85%
- 100%
- 110%
Terminal Area Alternatives

- **Alt 1 – No Build**
  - Baggage Claim Enhancements
    - One International Wide body (300+ seats)
    - Two Domestic

- **Alt 2**
  - Replace Two Flat Plate Carousels with Sloped Plate

- **Alt 3**
  - International Baggage Claim Sized for Wide body Aircraft

- **Alt 4**
  - Outbound Baggage Handling Improvements
  - Expanded Gate Scenario
Terminal Area Alternative 2

LEGEND
- AIRLINES: 1,160
- CIRCULATION: 8,047
- RESTROOMS: 2,042
- MECHANICAL: 1,609
- T.S.A. PASSENGER SCREENING: 2,453
- T.S.A. HOLD BAGGAGE: 1,665
- T.B.P.: 7,695
- CONCESSION RETAIL: 1,878
- N.P. TRANSIT: 527
- BAGGAGE MAKEUP: 3,675
- TRAFFIC: 2,056
- HOLDROOM: 2,475
- BAGGAGE CLAIM-INTERNATIONAL: 3,415
- BAGGAGE CLAIM-DOMESTIC: 2,770
- BAGGAGE DROP-OFF: 1,758
- LOADING BAY: 793

TOTAL FLOOR: 52,895 SF

NIAGARA FALLS INTERNATIONAL AIRPORT

The McFarland Johnson Team
Terminal Area Alternative 3
Airport Sustainability
SUSTAINABILITY

Economic Viability

Operational Efficiency

Natural Resource Conservation

Social Responsibility

SUSTAINABILITY

NIAGARA FALLS INTERNATIONAL AIRPORT

The McFarland Johnson Team
Sustainability Planning Process

**Sustainability Study**
- Conduct Sustainability Baseline Assessment
- Develop Sustainability Goals and Objectives
- Develop Sustainability Criteria for Alternatives Screening
- Identify Sustainability Initiatives
- Evaluate Sustainability Initiatives (based on costs, benefits, and implementation challenges)
- Prepare Sustainability Strategy Memo

**Master Plan**
- Baseline Facilities Assessment
- Alternatives Development
- Project Phasing
- Capital Improvement Plan

Stakeholder Participation and Public Outreach
Sustainability Goals

- Utilize strategies to operate existing facilities with a reasonable return on investment and design future facilities to maximize energy and water efficiency.
- Maximize the economic potential of NFIA by enhancing air service offerings, and developing business and employment opportunities at the Airport.
- Conserve natural resources and minimize air and water pollution.
- Minimize waste and increase the rate of recycling.
• Identify potential initiatives
  – Baseline Assessment
  – Industry publications
  – Professional Experience

• Screen potential initiatives - criteria:
  – Goals & Objectives
  – Cost, including payback
  – Labor hours
  – Ability to implement

• Recommend initiatives
  – Review and prioritize
Alternatives Sustainability Screening

- **Purpose of incorporating sustainability criteria:**
  - Sustainability considerations become an element in alternatives selection
  - New sustainability opportunities may be identified

- **Goal to review and identify opportunities to implement a sustainable practice or introduce a sustainable design into a project**

- **Alternatives Screening Process**
  - Draft sustainability-specific evaluation criteria for alternatives evaluation
  - Criteria based on NFIA’s sustainability goals
Draft Sustainability Screening Criteria

- **Economic Vitality**
  - Does the alternative maximize aeronautical and/or non-aeronautical revenue-generating opportunities?
  - Does the alternative enhance air service?

- **Natural Resources**
  - Does the alternative protect and/or conserve natural resources?
  - Does the alternative reduce overall air pollutant and greenhouse gas emissions associated with the airport?
• **Energy and Infrastructure**
  - Does the alternative reduce overall airport energy use?
  - Does the alternative incorporate energy-saving measures and/or equipment, or an opportunity for renewable energy sources?

• **Waste**
  - Does the alternative allocate adequate space and facilities to support recycling?
  - If there is construction, does the alternative incorporate waste minimization practices?
- Develop an Implementation & Monitoring Plan
  - Includes prioritized initiatives
  - Establish metrics to measure performance
Alternatives
Evaluation Criteria
Evaluation Criteria

- **Airside**
  - **Facility Requirements:** Does the alternative meet existing/future needs?
  - **Environmental Impact:** What are the potential environmental impacts?
  - **FAA Standards:** Does the alternative meet FAA design standards?
  - **Development Costs:** Does the alternative have reasonable development costs?
  - **Development Flexibility:** To what extent are future changes accounted for?

- **Landside**
  - **Land Use Compatibility:** Is the alternative compatible with existing land uses?
  - **Environmental Impact:** What are the potential environmental impacts?
  - **Potential For Expansion:** Can this alternative accommodate future unanticipated expansion?
  - **Operational Efficiency:** Will this alternative contribute to a smoothly functioning airport with efficient landside movement?
  - **Revenue Generation Capability:** Does this alternative provide opportunities to increase revenue generation?
Next Steps

- Public Meeting Tonight
- Evaluate Development Alternatives
- Preferred Alternative
- Development of *Dynamic Analysis Tool*
Give Us Your Comments!

- Review Report Documents and Provide Comments
  [http://dynamic-planning.com/NiagaraFalls.html](http://dynamic-planning.com/NiagaraFalls.html)

- Meeting Minutes, Presentations, and Draft Technical Report Chapters Available for Review
  - Contact Project Team Member if you Require Hard Copies

- Provide Comments to Any Member of the Project Team by July 30, 2014
Mark Clark – Project Manager – NFTA
  • mark_clark@nfta.com  716-630-6133
Chad Nixon – Project Manager – MJ
  • cnixon@mjinc.com  607-723-9421
Rick Lucas – Task Leader: Airside, Landside and Terminal
  • rlucas@mjinc.com  978-692-0522
Jeff Wood – Task Leader: Environmental and Sustainability
  • jwood@mjinc.com  607-723-9421
The third Technical Advisory Committee (TAC) Meeting for the Sustainable Airport Master Plan Update (MPU) was held on June 4th, 2014 at 2:15 pm in the passenger terminal at the Niagara Falls International Airport; the meeting lasted until approximately 3:35 pm. Bill Vanecek, Director of Aviation for the NFTA, and Chad Nixon, Project Manager for McFarland Johnson, welcomed the committee and provided a recap of the project to date. Chad Nixon explained that the purpose of the meeting was to receive feedback on the draft airport alternatives and ultimately reach a concurrence on the direction of future airport development. Representatives from the McFarland Johnson (MJ) team then presented on the proposed airport development alternatives. The following sections summarize what was presented along with comments and questions received during the presentation. A copy of the presentation is attached.

Airside Alternatives

Rick Lucas, of McFarland Johnson, began the alternatives presentation by emphasizing NFTA’s forward thinking and how the sustainability component of the MPU allowed for a holistic approach to be incorporated into all airport alternatives. Mr. Lucas briefly summarized the airside facility requirements which led to the development of the airport alternatives, and also explained the evaluative process that goes into finalizing the preferred alternatives. Finally, he stressed the interdependency of the airport development options, indicating how the alternative selected in one category would affect that which is feasible in another (i.e. air cargo and general aviation).

Mr. Lucas discussed the four (4) Airside Alternatives, which are summarized below:

- **Alternative One:**
  - Partial-parallel taxiway to Runway 10L/28R
  - Use abandoned pavement for new taxiways
- **Alternative Two:**
  - Convert Runway 10R/28L to taxiway for Runway 6-24
- **Alternative Three:**
  - Implement a standard taxiway system
- **Alternative Four:**
  - No Build

Mr. Lucas pointed out that the closure of Runway 10R-28L was an assumption made in each of the Airside Alternatives, with the exception of the No-Build, under which no changes would occur. Mr. Lucas inquired about the military’s perspective with regard to the standard taxiways to Runway 24 under Alternative 3. Both military representatives – Colonel Higgins and Colonel Parker - indicated that the taxiways would not be a factor
to their operations since RW 24 is hardly ever used for takeoffs and the military drop zones are located further west. Mr. Vanecek asked about the Glide Slope Critical Area and Mr. Lucas responded it was shifted to avoid any disturbances. Mr. Lucas did point out that the feasibility of a parallel taxiway to RW 6-24 would be dependent upon the selected General Aviation (GA) Alternatives discussed later.

Air Cargo Alternatives

Mr. Lucas continued the presentation with descriptions of the four (4) Air Cargo Alternatives, which are summarized below:

- **Alternative One:**
  - Acquire former U.S. Army Parcel
- **Alternative Two (and 2A):**
  - Infield development (assumes RW 10R-28L is closed)
  - Compatible with GA Alternative 2
  - Positioned to avoid Environmental Impacts
- **Alternative Three:**
  - Only viable if change in military mission
  - Compatible with Business Park Concept
- **Alternative Four:**
  - No Build

Mr. Lucas implied that cargo development would be driven by the needs of the cargo providers, specifically the size of aircraft and service capacity. Mr. Nixon pointed out that Air Cargo Alternatives 2 and 2A avoid impacts to the nearby creek. Mr. Vanecek inquired about road access to the potential development areas. Mr. Lucas said road access would be considered during the final design phase, but that there is potential for the Air Cargo and GA sites to share the same access road in order to reduce cost and redundancy. He also intimated that future development in this area is contingent upon the former Army parcel being acquired.

General Aviation Alternatives

The presentation transitioned to a discussion of the GA facility requirements and alternatives. Given the existing GA facilities are currently located adjacent to the passenger terminal; it would be more effective to separate the GA facilities and consolidate based and itinerant areas/services. Mr. Lucas presented the four (4) GA alternatives below:

- **GA Alternative One:**
  - Co-located with Calspan
  - Land acquisition for access road
- **GA Alternative Two:**
Mr. Lucas highlighted the complementary nature of the Air Cargo and GA Alternatives. Mr. Vanecek asked if jet blast would be a concern since smaller airplanes and vehicles could be in the same vicinity of the larger jet aircraft. Mr. Lucas said that dynamic would be taken into account during the final design stage.

Mr. Sloma pointed out that acquisition of the former U.S. Army parcel is influential to which Air Cargo and GA Alternatives can be developed. Mr. Vanecek stated that the Department of Defense (DoD) intended to turn the parcel over to the Town of Niagara Falls; however, environmental and hangar issues had precluded the exchange from taking place. The convergence is currently scheduled for Spring 2015. Mr. Lucas agreed the property plays an integral part and the timing of acquisition is crucial to the MPU. According to Ms. Minkel, the NFTA has reached out to the Town, but has not received a response or any indication of intent to engage in dialogue regarding the parcel. Mr. Clark also stated that there were attempts to reach out to Town representatives, but to no avail.

Mr. Sloma inquired about stormwater impacts from the proposed airfield development. Mr. Lucas responded that environmental considerations are included in the evaluative criteria, and as part of the sustainability component. Ms. Minkel asked if there was a specific type of pavement, perforated for example, that is used in aviation to reduce stormwater impacts. Mr. Nixon replied that similar pavement types could potentially be incorporated on the landside, but not on the airside due to the weight of aircraft and maintenance equipment. He went on to say that the design process would account for any results determined during the sustainability studies.

Landside Alternatives

Mr. Lucas steered the presentation toward the landside components of the airport, emphasizing the need for more efficient traffic flows around the terminal area, as well as increasing the number of available parking spots due to seasonal passenger peaks. The four (4) Landside Alternatives are summarized below:

- **Alternative One:**
  - Acquire IDA building
  - Reconfigure on-airport parking
  - Connect Lot 3 to terminal roadway with new intersection

- **Alternative Two:**
  - Maximize Lot 1; Remove roundabout
Mr. Lucas explained that under Landside Alternative One, approximately 2,300 parking spaces would be dedicated solely to commercial service passengers, rather than co-mingling with GA. He also said that given the cost, it is suggested that the old terminal building be demolished rather than renovated. Mr. Vanecek asked about cell-phone lots and Mr. Lucas responded they would be included in the final design considerations. Mr. Lucas also highlighted the need for better methods of ticketing and revenue control. Mr. Vanecek then suggested that acquisition of the IDA building would maximize space. Mr. Nixon said that Landside Alternative One would be ideal, but there are several contingency factors, where “if this then that.” Mr. Sloma added it would be necessary to help drivers and passengers navigate the new roadway and parking areas. Mr. Lucas indicated the project(s) would be phased over 5-10 years, which would allow sufficient time for the community to get acclimated to any new traffic flows.

With the discussion centered on access to the airport, Mr. Sloma mentioned that the former U.S. Army parcel currently has Through-The-Fence (TTF) access to the airfield. Mr. Vaneczek clarified that although the parcel does provide TTF, military approval is required to access both the parcel and airfield. Mr. Casale said fliers promoting the parcel advertised as having airport access. Ms. Minkel stated it is necessary to explain to the Town of Niagara and/or future developers why TTF agreements are not looked upon favorably by the FAA and assert that it is not an option. Mr. Sloma asked what the implications would be if future development on the parcel were not aviation related. Mr. Nixon said that pending the final outcome of the parcel transfer, a fence would need to be put up immediately, and unless the lease is reverted back to NFIA there would be no TTF access. Mr. Nixon went on to say that the Business Park concept would be structured similarly, if in the future there are changes to the military’s missions and additional land becomes available for development.

With no further questions or comments, Mr. Lucas turned the presentation over to Mr. Dave MacLeod from Cannon to discuss the Terminal Area Alternatives.

Terminal Area Alternatives

Mr. MacLeod presented the Terminal Area Alternatives, which centered on improvements to the baggage claim area. The four (4) Alternatives addressed are summarized as follows:

- **Alternative One:**
  - No-Build
  - Baggage-claim enhancements to accommodate:
    - One international wide body (300+ seats) aircraft
    - Two domestic aircraft
- **Alternative Two:**
  - Replace two flat-plate carousels with sloped-plate

- **Alternative Three:**
  - International baggage claim sized for wide body aircraft

- **Alternative Four:**
  - Outbound baggage handling improvements
  - Expanded gate scenario

Mr. MacLeod explained that using a baggage carousel with a sloped track, instead of flat, allows for greater capacity since luggage can be stacked and there is a better use of floor space. This implies shorter wait times for passengers picking up baggage and easier lifting for elderly persons because the belt is higher. Also, with more floor space, there is increased queuing space for passengers and possibly concession areas. Mr. Vanecek mentioned that a sloped-plate would also assist with security since portions of the rear loading areas can be sealed off for TSA security reasons. Mr. Jim Celeste inquired if the cost of maintenance would be comparable between the flat and sloped-plate belts, and Mr. MacLeod indicated that the newer systems would be comparable due to the antiquated nature of the older baggage carousel.

Mr. MacLeod clarified that Terminal Area Alternative 4 is considered the 20-year build-out, assuming the airport has a five-gate configuration and more than double the number of enplanements. This option would incur an International baggage claim area and belt that could be separated from the Domestic area, including its own separate exit. Ms. Minkel asked about possible concession opportunities and space available for deplaning passengers. Mr. Lucas explained that those factors, as well as extending the exterior curb frontage in conjunction with the roadway and parking alternatives, would be considered during the design phase.

Mr. MacLeod handed the presentation over to Ms. Carol Lurie and Ms. Emmanuelle Humblet of VHB for the section on Airport Sustainability.

**Airport Sustainability**

Ms. Lurie presented on the sustainability component of the MPU, emphasizing that sustainability encompasses more than just environmental, but also social, economical, operational, etc. Of importance, Ms. Humblet explained that the sustainability goals and best practices would be incorporated into the overall evaluation of the aforementioned airport development alternatives to ensure the MPU’s objectives are met. As part of the process, an Implementation and Monitoring Plan would be incorporated, which is intended to continue indefinitely after the planning process has been completed. With no further questions or comments, Ms. Humblet turned the presentation back to Mr. Nixon.
Next Steps

Mr. Nixon indicated that feedback on the alternatives would be solicited from the TAC, and input on the evaluation thereof would be sought at the Public Information Meeting being held later that night. The next steps of the MPU will be to select the Preferred Airport Development Alternative and develop the Dynamic Analysis Tool (DAT). The last TAC meeting is tentatively scheduled for the Fall timeframe to discuss those components and wrap-up the MPU. Mr. Vanecek closed out the meeting by thanking everyone for their participation and reminding them to provide comments on the airport alternatives.

Organizations Represented

Calspan
Federal Aviation Administration
Greater Buffalo Niagara Regional Transportation Council
McFarland Johnson
US Air Force 914th Air Wing
NY Air National Guard 107th Air Wing
Niagara County Economic Development
Niagara Falls Aviation (FBO)
Niagara Falls Redevelopment
Niagara Frontier Transportation Authority
Standard Parking
VHB

Organizations Invited, Not Present

Allegiant Airlines
Midwest Air Traffic (NFIA Tower)
Spirit Airlines
Town of Niagara
City of Niagara Falls
New York State Department of Environmental Conservation
New York State Department of Transportation
Town of Wheatfield
Transportation Security Administration
US Customs and Boarder Protection
Agenda

- Master Plan Recap
- Changes Occurring During the Master Plan
- Alternatives Overview
- Recommended Plan
- Sustainable Strategies
- Next Steps

Open Format, Ask Questions at Any Time
Purpose of Meeting

- Recap of Master Plan Process
- Review Preferred Alternatives
- Present Sustainable Strategies
- Next Steps and Review Process
Master Plan Process

1. Inventory and Environmental
2. Forecast and Facility Requirements
3. Alternatives and Dynamic Analysis Tool
4. Recommended Plan
5. Final Report, ALP and GIS

- Stakeholder Meeting
- Stakeholder Meeting
- Stakeholder Meeting Public Meeting
- Stakeholder Meeting Public Meeting
Changes During MP Process

- New Approaches to Runways 6, 24, and 10L
  - 10L Approach Required Coordination with NavCanada
- EDS Baggage Scanning System Replacing ETDs
- Calspan Assuming FBO Duties from Niagara Falls Aviation
- No Resolution on Former Army Parcel
  - Master Plan Alts Exclude Army Parcel Development
- Military Mission Unchanged
  - Alternatives Maintain Training Opportunities
  - Airfield Capable of Supporting New Refueling Aircraft
Preferred Alternatives
Evaluation Criteria

- **Facility Requirements:** Does the Alternative Meet Existing/Future Needs?

- **Environmental Impact:** What are the Potential Environmental Impacts?

- **Sustainability:** What Opportunities to Implement a Sustainable Practice or Introduce a Sustainable Design are Available with this Alternative?
  - **Natural Resources:** Does the Alternative Protect and/or Conserve Natural Resources?
  - **Waste:** Does the Alternative Allocate Adequate Space and Facilities to Support Recycling?
  - **Energy & Infrastructure:** Does the Alternative Reduce Overall Airport Energy Use? Does the Alternative Incorporate Energy-Saving Measures and/or Equipment?
  - **Economic Vitality:** Does the Alternative Maximize Aeronautical and/or Non-Aeronautical Revenue Generation?

- **FAA Standards:** Does the Alternative Meet FAA Design Standards?

- **Development Costs:** Does the Alternative have Reasonable Development Costs?

- **Development Flexibility:** To what Extent are Future Changes Accounted for?

- **Operational Efficiency:** Will this Alternative Contribute to a Smoothly Functioning Airport with Efficient Landside Movement?

- **Land Use Compatibility:** Is the Alternative Compatible with Existing Land Uses?
Airside Facility Requirements

- New Runway/Taxiway Design Requirements
  - Taxi Routes to/from Terminal

- Crosswind Runway Capabilities
  - Air Carrier Upgrades, Extension, Precision Approach

- Complex Confusing Intersection Near 28L, 24 Thresholds

- Runway 10R-28L Not Needed
Preferred Airside Alternative
Air Cargo Facility Requirements

- Size/Infrastructure Driven by Developer/Provider
  - Limited Current Demand, yet Abundant Infrastructure

- Alternatives will Consider Boeing 747-8F (Group VI)
  - Allows Airport to Evaluate A380 Diversions/Operations

- Facility Sized for Up to 100,000 SF Processing Space w/ Direct Road Access
Preferred Air Cargo Alternative
Consolidated General Aviation Area
- Existing FBO Site is Adjacent to Passenger Terminal
- Existing Hangars/Based Aircraft Across Runway

Existing Hangars Have Insufficient Tail Height Clearance

Consolidated GA Area Requires:
- New Apron – Existing Apron Shared with Terminal, Direct Access to Runway 6-24
- Taxiway Access Improvements, Potential New Parallel
Preferred General Aviation Alternative

- Proposed Building
- Proposed Pavement
- Proposed Ground Vehicle Pavement
- To Be Removed

NIAGARA FALLS INTERNATIONAL AIRPORT

The McFarland Johnson Team
Landside Facility Requirements

- **Inefficient, Confusing Roadway Layout**
  - Old Terminal, IDA Building, Auto Parking Lots
  - Connect/Consolidate Parking Lots

- **Ground Transportation**
  - Increasing Demand for Rental Cars
  - Greater Demand for Tour Buses - Staging Area

- **“Peak Season” – Average of Busiest 3 Months**
  - 1,593 Existing Parking Spaces

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Preferred Landside Alternative
Refined GA/Air Cargo Alternative

NIAGARA FALLS INTERNATIONAL AIRPORT

The McFarland Johnson Team
Preferred Airport Alternative
Terminal Facility Requirements

- **Departure Flow**
  - Web/Mobile Check-in Minimizing Future Requirements
  - Leisure Oriented Service
    - More Checked Baggage, Larger Group Size
    - Shared Baggage Makeup Area
    - Assigned, but Flexible Use

- **Arrival Flow**
  - Flat Plate to Sloped Plate
    - Enhances Security and Capacity
  - International Aircraft Servicing
    - Customs and Int’l Bag Claim Sizing
## Terminal Annual Capacity Based on:

- Constrained by Peak Season, Capacity is Greater with Stronger Off-Season Demand
- Peak Season, 4-5 Peaks Per Day

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Capital Development Plan & Funding
### Development Plan – Short Term

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### Development Plan – Med/Long Term

#### Phase II Projects (2020-2024)

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Total Cost</th>
<th>FAA</th>
<th>State</th>
<th>NFTA</th>
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<tbody>
<tr>
<td>Terminal Improvements - Outbound Baggage</td>
<td>$3,100,000</td>
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<td>Runway 28 Approach Improvements Phase II</td>
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<td>Runway 6-24 Extension</td>
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<td>Runway 6 Approach Improvements (Survey and MALSR)</td>
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<td>Pavement Removal</td>
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<td>$10,716,000</td>
<td>$9,644,400</td>
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<tr>
<td>GA Apron Phase II</td>
<td>$11,620,526</td>
<td>$10,458,473</td>
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<tr>
<td>Air Cargo Apron Phase I</td>
<td>$18,480,960</td>
<td>$16,632,864</td>
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<td>Expand Remote Parking Lot and Reconfigure Entrance</td>
<td>$11,620,526</td>
<td>$10,458,473</td>
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<tr>
<td><strong>Total Phase II Project Costs</strong></td>
<td><strong>$72,768,586</strong></td>
<td><strong>$62,701,727</strong></td>
<td><strong>3,483,429</strong></td>
<td><strong>15,522,429</strong></td>
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#### Phase III Projects (2025-2034)

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<th>NFTA</th>
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<td>Terminal Improvements and Expansion</td>
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<td>Reconfigure Terminal Roadway and Unite Parking Lots</td>
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<td><strong>Total Phase III Project Costs</strong></td>
<td><strong>$36,768,560</strong></td>
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<td>Time Frame</td>
<td>Total Cost</td>
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<td>State</td>
<td>NFTA</td>
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<td>Mid-Term (2019-2024)</td>
<td>$72,768,586</td>
<td>$62,701,727</td>
<td>$3,483,429</td>
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<td>Long Term (2025-2034)</td>
<td>$36,768,560</td>
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<td><strong>Total Planning Period</strong></td>
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<td><strong>$7,746,080</strong></td>
<td><strong>$41,221,180</strong></td>
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Funding Sources

- **Federal**
  - Entitlement $1-1.2 Million, Growing with Enplanements
  - Discretionary – Nationally Competitive Projects

- **State**
  - 5% State Match on FAA Funded Projects
  - Aviation Capital Grant Program
    - 80% Up to $1 Million

- **Local**
  - NFTA Funds - (Airport/General)
  - PFC Funds - PFC Program Under Development

- **Private Investment**
Airport Sustainability
Sustainability Planning Process

Sustainability Study
- Conduct Sustainability Baseline Assessment
- Develop Sustainability Goals and Objectives
- Develop Sustainability Criteria for Alternatives Screening
- Identify Sustainability Initiatives
- Evaluate Sustainability Initiatives (based on costs, benefits, and implementation challenges)
- Prepare Sustainability Strategy Memo

Master Plan
- Baseline Facilities Assessment
- Alternatives Development
- Project Phasing
- Capital Improvement Plan

Stakeholder Participation and Public Outreach
Utilize Strategies to Operate Existing Facilities with a Reasonable Return on Investment (ROI) and Design Future Facilities to Maximize Energy and Water Efficiency

Maximize the Economic Potential of NFIA by Enhancing Air Service Offerings and Developing Business and Employment Opportunities at the Airport

Conserve Natural Resources and Minimize Air and Water Pollution

Minimize Waste and Increase the Rate of Recycling
Purpose of incorporating sustainability criteria in the screening of alternatives:

- Sustainability considerations becomes an element in alternatives selection
- New sustainability opportunities may be identified
Draft Sustainability Screening Criteria

- **Economic Vitality**
  - Does the Alternative Maximize Aeronautical and/or Non-Aeronautical Revenue-generating Opportunities?
  - Does the Alternative Facilitate Air Service?

- **Natural Resources**
  - Does the Alternative Protect and/or Conserve Natural Resources?
  - Does the Alternative Reduce Overall Air Pollutant and Greenhouse Gas Emissions Associated with the Airport?
Energy and Infrastructure
- Does the Alternative Reduce Overall Airport Energy Use?
- Does the Alternative Incorporate Energy-saving Measures and/or Equipment, or an Opportunity for Renewable Energy Sources?

Waste
- Does the Alternative Allocate Adequate Space and Facilities to Support Recycling?
- If there is Construction, does the Alternative Incorporate Waste Minimization Practices?
- Identify Potential Initiatives
  - Baseline Assessment
  - Industry Publications
  - Professional Experience

- Screen Potential Initiatives - Criteria:
  - Goals & Objectives
  - Cost (including ROI)
  - Labor Hours
  - Ability to Implement

- Recommend Initiatives
  - Review and Prioritize
Sustainability Strategies - Examples

- **Energy**
  - Replace Metal Halide Lights with LEDs (over $1,000/yr. Savings)
  - Install Manual Timer Fan Switch (ROI is less than 2 yrs.)

- **Natural Resources**
  - Conduct a Utility Master Plan
  - Install Water Leak Detection Equipment

- **Waste and Recycling**
  - Enhance Signage and Education of Recycling Program in Terminal
  - Encourage Airlines to Recycle On-Board Waste

- **Economic Vitality**
  - Promote Non-Aeronautical Land Use Development
  - Apply for NYSERDA Funding Opportunities
Develop an Implementation & Monitoring Plan

- Includes Prioritized Initiatives
- Establish Metrics to Measure Performance
Next Steps
Next Steps

- Public Meeting Tonight
- FAA Submission, Review, Approval
- Completion of *Dynamic Analysis Tool*
- Regional Resource Document
Give Us Your Comments!

- Review Report Documents and Provide Comments
  [http://dynamic-planning.com/NiagaraFalls.html](http://dynamic-planning.com/NiagaraFalls.html)

- Meeting Minutes, Presentations, and Draft Technical Report Chapters Available for Review
  - Contact Project Team Member if you Require Hard Copies

- Provide Comments to Any Member of the Project Team by **May 14th, 2015**
Project Contacts

Mark Clark – Project Manager – NFTA
  • mark_clark@nfta.com  716-630-6133

Chad Nixon – Senior Vice President – MJ
  • cnixon@mjinc.com   607-723-9421

Rick Lucas – Project Manager - MJ
  • rlucas@mjinc.com   978-692-0522

Jeff Wood – Task Leader: Environmental and Sustainability - MJ
  • jwood@mjinc.com   607-723-9421

Questions?
Niagara Falls International Airport
Public Workshop

View and discuss the Sustainable Master Plan for the Niagara Falls International Airport.

Wednesday June 4, 6 to 8 p.m.

Niagara Falls International Airport
2035 Niagara Falls Blvd., lower level

Free parking in the general passenger lots. Refreshments will be served.
Welcome and thank you for joining us for the Sustainable Master Plan Public Information Meeting. The information presented tonight takes you through the development of the Sustainable Master Planning Process. You will learn:

- What a Master Plan is and its purpose
- What information is collected and how it is used for the project; and
- How the master plan is used by the airport and what it means for the surrounding area

**ROOM FORMAT**

The format of the room is presented with six stations that represent the steps taken to develop an airport master plan. Airport and McFarland Johnson staff will describe the process to you and answer any questions you have at each station. At the end, there are two public input stations which enable you to provide input on the next steps of the airport master plan, and we strongly encourage you to participate. After providing your input, we invite you for refreshments and offer you an opportunity to provide us with any additional thoughts via the comment sheet you received with this information. Again, we thank you for joining us this evening and look forward to speaking with you.

**MASTER PLAN INFORMATION STATIONS**

**Background:** Highlights the Goals and Objectives used to guide this process sets the direction and guiding principles for the plan.

**Inventory and Forecasts:** The Inventory documents and reviews all existing facilities and conditions on the airport which serves as the baseline going forward. The Forecast assesses historical data and industry trends to create projections of future aviation demand.

**Facility Requirements:** Facility Requirements compares the existing conditions with projected aviation demand to determine the requirements for the various elements of the airport. These elements are grouped into airside, terminal, landside and support facilities.

**Sustainability:** A unique component was included by the NFTA to have this master plan to take a sustainable approach with regards to future development with the goal of improving the airports social, economic and environmental standing in the community.

**Environmental Overview:** Environmental conditions were identified at the beginning of the process with the goal of minimizing the environmental effects of the Airport’s operation and growth on the surrounding environment and community.

**PUBLIC COMPONENT STATIONS**

**Visioning Exercise:** This station offers you an opportunity to describe how you see the airport today, and how you envision the airport 20 years from now. Please use the sticky notes that are provided.

**Alternative Evaluation Criteria:** This input station allows you to select the factors you believe should be most important when evaluating potential airport development. Please use the dots that are provided.
NOTES

Background: ____________________________
_____________________________________________________________________________________
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Inventory: __________________________________________________________________________
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Forecasts: __________________________________________________________________________
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Facility Requirements: ____________________________
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Sustainability: _______________________________________________________________________
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_____________________________________________________________________________________
Environmental Overview: ____________________________
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_____________________________________________________________________________________
_____________________________________________________________________________________
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<th>NAME</th>
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<th>PHONE</th>
<th>EMAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrell Holling</td>
<td>2723 22nd St. N.F.</td>
<td></td>
<td><a href="mailto:terrellholling@yahoo.com">terrellholling@yahoo.com</a></td>
</tr>
<tr>
<td>Natasha Whitesek</td>
<td>9455 N 311W C6</td>
<td></td>
<td><a href="mailto:antjassmom@gmail.com">antjassmom@gmail.com</a></td>
</tr>
<tr>
<td>Joseph Reiser</td>
<td>81 King Street Court</td>
<td></td>
<td><a href="mailto:c0n33126@spirit.com">c0n33126@spirit.com</a></td>
</tr>
<tr>
<td>John Reitano</td>
<td>165 Cherry Ave.</td>
<td>340-646-5552</td>
<td><a href="mailto:jackwritman@yahoo.com">jackwritman@yahoo.com</a></td>
</tr>
<tr>
<td>Michael W. Han</td>
<td>565 Grand St. #3</td>
<td>674-854-542</td>
<td><a href="mailto:mhke@mywall.com">mhke@mywall.com</a></td>
</tr>
<tr>
<td>Mary Stein</td>
<td>72 Grand St.</td>
<td>479-800-92</td>
<td><a href="mailto:mkstein@ymail.com">mkstein@ymail.com</a></td>
</tr>
<tr>
<td>Andrea Blandon</td>
<td>681-794-3200 N.Y/N.Y.</td>
<td>341-6773</td>
<td></td>
</tr>
<tr>
<td>Matt Graen</td>
<td>645 W Main St. 503 East N.Y.</td>
<td>850-2026 x 516</td>
<td><a href="mailto:mmgrae@bkartz.co">mmgrae@bkartz.co</a></td>
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<tr>
<td>Augie Incenti</td>
<td>4995 Forest St. Limerick</td>
<td>912-6889</td>
<td></td>
</tr>
<tr>
<td>Robert Weber</td>
<td>484 Fuller Pl. Lewiston</td>
<td>754-0892</td>
<td><a href="mailto:webbergroup@rotoconnect.com">webbergroup@rotoconnect.com</a></td>
</tr>
<tr>
<td>Paul C. Dodds</td>
<td>2501 Parkview Dr. North</td>
<td></td>
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<tr>
<td>Tom Lott</td>
<td>8803 Port Dr. N.Y.</td>
<td>1430-4</td>
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<tr>
<td>Dana M. Conti</td>
<td>134-51 Street N.Y.</td>
<td>283-1816</td>
<td><a href="mailto:mickcotti1930@yahoo.com">mickcotti1930@yahoo.com</a></td>
</tr>
<tr>
<td>George D'Almaiz</td>
<td>6905 Roth Rd. Lpt.</td>
<td>434-0680</td>
<td><a href="mailto:mariarz@enysmart.gov">mariarz@enysmart.gov</a></td>
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<tr>
<td>Michael White</td>
<td>1730 Connelsville Dr. N.Y.</td>
<td>310-850-1157</td>
<td><a href="mailto:mwhite1930@gmail.com">mwhite1930@gmail.com</a></td>
</tr>
<tr>
<td>William Black</td>
<td>2433 Stockings St.</td>
<td>781-346-5</td>
<td></td>
</tr>
</tbody>
</table>

**Sign-in Sheet**
Public Information Meeting

Note: No one is present to comment.

Thank you in advance for your participation.

Comment Sheet

Niagara Falls
Sustainable Airport Master Plan
McFarland Johnson

Please address this problem with passengers or airport staff.

Baggage Area: Have you considered the following?

Blimp emanation, NY 1980.49 Court Street, Metrocentre, Po Box 1980.
NFA Sustainable Airport Master Plan
McFarland Johnson

Bitte geben Sie Ihre Anmerkungen unter den folgenden Punkten:

1. Baggage Area: Achten Sie auf mögliche Hindernisse und
   versuchen Sie, Passagiere und Personal zu kontaktieren.

2. Participants' feedback:
   - Please address the problem with passengers or airport staff.

Thank you in advance for your participation.

Comment Sheet

Niagara Falls
Sustainable Airport Master Plan
McFarland Johnson
Your input and participation in this process is very important. Please use the space below to provide comments on any aspect of the airport master plan. When finished, please place your sheet in the comment box located near the entrance. If you need more time, you may write your comments at home and return them to the address below. All comments must be postmarked or emailed by June 30, 2014.

Thank you in advance for your participation.

FEMA Sustainable Airport Master Plan
McFarland Johnson
NFIA Sustainable Airport Master Plan
49 Court Street, Metrocenter, PO Box 1080
Binghamton, NY 13902-1980
NFIA@metroinc.com

Passenger Lining Home

Have Been Confused Thinking

They Were At BFI -

And Vice-Versa -

Citing Ruffino - Nigro Name

To Just Ruffino Introduced
Public Information Meeting

Thank you in advance for your participation.

and return them to the address below. All comments must be postmarked or emailed by June 30, 2014.

Thank you for your comments on any aspect of the Airport Master Plan. When finished, please place your sheet in the comment box located near the entrance. If you need more time, you may write your comments at home.

Comment Sheet
I would like to add one final thought that I "fly high" out of Arizona and New Mexico.

For instance, for flights on Southwest Airlines, I can fly for 3 cents more on a Southwest Airlines flight out of Phoenix than I can on a Southwest Airlines flight into Phoenix from New Mexico.

Please include your comments on the comment sheet located near the entrance. If you need more time, you may write your comments at home and return them to the address below. All comments must be postmarked or emailed by June 30, 2014.

Thank you in advance for your participation.

MCFARLAND JOHNSON
McFarland Johnson
NFI A Sustainable Airport Master Plan
49 Court Street, Metrocenter, PO Box 1880
Binghamton, NY 13902-1880
NFIAM@jcmninc.com
Comment Sheet
Your input and participation in this process is very important. Please use the space below to provide comments on any aspect of the airport master plan. When finished, please place your sheet in the comment box located near the entrance. If you need more room, you may write your comments at home and return them to the address below. All comments must be postmarked or emailed by June 30, 2014.

Mcfarland Johnson
 Niagara Sustainable Airport Master Plan
 49 Court Street, Metrocenter, PO Box 1980
 Binghamton, NY 13902-1980
METFAMAP@mirillis.com

Should the local airport be sold to Holiday

Dear...
Your input and participation in this process is very important. Please use the space below to provide comments on any aspect of the airport master plan. When finished, please place your sheet in the comment box located near the entrance. If you need more time, you may write your comments at home and return them to the address below. All comments must be postmarked or emailed by June 30, 2014. Thank you in advance for your participation.

McFarland Johnson
NFIA Sustainable Airport Master Plan
49 Court Street, Metrocenter, PO Box 1980
Binghamton, NY 13902-1980
NeiAMP@mac.com

- Regional Access and Wayfinding
  - To/from brothels - how to distinguish NFIA from BNA or human smuggling - to ease access to/from border crossings

- Continue to attract low-cost carriers
Let us show you the future of NFIA
Public Workshop # 2 and FINAL
April 14th, 2015 Tuesday evening
6:00pm - 8:00pm
6:30pm Group presentation

Niagara Falls International Airport
Public Workshop

Niagara Falls International Airport
2035 Niagara Falls Blvd., lower level
Free parking in the general passenger lots. Refreshments will be served.
What is a Master Plan?

- Official FAA and NYSDOT Airport Planning Document
- Reflects Sponsor’s Goals for the Airport
- Depicts Future Airport Development Covering 10-20 Years
- Future Projects Contingent on FAA Funding and Environmental Approval

Goals
- Meet Aviation Needs of the Region
- Comply with Current Standards
- Enhance Airport Economic Viability
- Identify Future Constraints
- Promote Sustainable Ideas & Solutions For the Airport

Objectives
- Meet Needs of Future Aircraft Fleet Mix
- Develop Parking and Access Alternatives
- Identify Non-Aviation Use Areas
- Obtain Approval of the Airport Layout Plan
- Engage Public in Planning Effort

Master Plan Process

- Stakeholder Meeting
- Stakeholder Meeting Public Meeting
- Stakeholder Meeting
- Stakeholder Meeting Public Meeting

Stakeholder Committee
- Airport Sponsor (NFTA)
- Federal Aviation Administration (FAA)
- New York State Department of Transportation (NYSDOT)
- Greater Buffalo Niagara Transportation Council (GBNRTC)
- Airport Users and Businesses
- Local Government Officials
- Other Community Stakeholders

Stakeholder Committee Meetings
- Public Information Meeting
Airport Background

- Non-Hub Primary Commercial Service Airport
- Passenger Service
  - 2 Airlines, 5 Destinations
- 24,674 Operations, 58 Based Aircraft
- Enplanements
  - 2011: 98,538
  - 2012: 88,711
  - 2013: 95,137
- Full Service Fixed Base Operator
  - Calspan Air Services
- Calspan Flight Research and Development
- Military Facilities
  - US Army Reserve
  - US Air Force Reserve
  - New York Air National Guard
Existing Airside Conditions

- **Runway 10L-28R**
  - Primary
  - 9,829 x 150
  - MALSR
  - HIRL

- **Runway 6-24**
  - Crosswind
  - 5,188 x 150
  - MIRL

- **Runway 10R-28L**
  - Parallel/Utility
  - 3,973 x 75
  - MIRL

- **Taxiways**
  - MITLS on All
  - TW A and D Full Parallel
  - 50 ft Wide – General Aviation
  - 75 ft Wide – Air Carrier/Military

- **Visual/Navigational Aids**
  - REILs to All RW Ends
  - VASI RW 10L
  - PAPI RW 6-24; 10R-28L
  - Rotating Beacon
  - Windsock

- **Approach Procedures**
  - ILS/LOC to RW 28R
  - GPS to RW 6, 10L, 28R, 24
  - TACAN RW 28R
  - NDB RW 28R
**Existing Landside Facilities**

**Military Facilities**
- NY ANG 107 and USAF 914
- 12 Aircraft Joint Operated
- Provides ARFF Coverage
- Owns TW A and West Portion of RW 10L-28R
- 4 Hangar Spaces
- Aircraft Do Not Fly GPS Approaches

**General Aviation**
- FBO Facilities
- Aircraft Maintenance Garage
- T-hangars and Conventional Hangars
- Apron Tie-downs
- Fuel Facilities

**Terminal Area**
- New Terminal Building
- Old Terminal Building
- Terminal Access
- Parking Facilities
Existing Terminal Facilities

Passenger Terminal
Upper Level

Passenger Terminal
Main Level
Aviation Forecasts

Forecast Elements

- **Niagara Region**
- **Air Travel Demand**
- **Airport Shares**
- **Factor Relationships**
- **NFIA Forecast**

- **GDP, Exchange Rate**
- **Population**
- **US and Canada**

- **2012: 34.7 million O&D pax**
- **Geographic markets**
- **Business vs leisure**

- **Competitive relationships**
- **Air traffic trends**
- **Airline considerations**
- **Airport considerations**

- **Trend correlations**
- **Application to NFIA**

- **Base case forecast**
- **Alternative scenarios**

**Historical Passenger Traffic**
Buffalo Niagara Region

- **Growth Rate**

- **Seven primary airports and many airlines competing for air travel demand in a bi-national market**
## Aviation Forecasts

### Projected Activity

#### Baseline Operations Projection

<table>
<thead>
<tr>
<th>Year</th>
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<td>7,846</td>
<td>10,957</td>
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#### Annual Growth Rates

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#### Compound Annual Growth Rates

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Airside Facility Requirements

Runway Requirements

- Extend Runway 6-24 to 6,000 feet
  - Reclaim 402 feet of Pavement on the Runway 6 end
  - Construct 410 feet of Pavement on the Runway 24 end
  - LDA and ASDA for both runways of 5,600 feet
  - Obstruction Removal Required for Airline Utility
- Complex Confusing Intersection Near 28R, 24 Thresholds
- Runway 10R-28L No Longer Needed
  - Minimal Use, Primarily Convenience
  - Enable Additional Aviation Development
  - Alternatives will Evaluate Potential Use as Taxiway

Approach/NAVAIDS Requirements

- 28R Glideslope Improvements
- Develop Approach Procedure for Runway 10L
- Improve Approach Minimums for Runways 6 & 24
  - Existing – 1 Mile (6 – LPV/LNAV, 24 – LP/LNAV)
  - Ultimate – ¾ Mile (LPV)
- Replace Runway 28R VASI with PAPI
- Install PAPI & Approach Lights on Runway 10L
- Install REILs

Taxiway Requirements

- Update taxiway system in accordance with AC 150/5300-13A
- Improve Access from Taxiway A to Runway 24 end
- Improved Access from Terminal Area to Runway 10L end

Key Issues

- New Runway/Taxiway Design Requirements
  - Taxi Routes to/from Terminal
- Crosswind Runway Capabilities
  - Existing/Future
- Physical Constraints
  - Property/Development
- Instrument Approaches
  - New Approaches to 6/24
  - 28R Glideslope
  - 10L Approach (Canadian Airspace)

Demand Capacity Analysis

- Multiple Factors Affect Airfield Capacity
  - Touch-and-Go’s
  - Number and Location of Taxiway Exits
  - VFR/IFR Conditions (% Each)
  - Seasonality/Peak Characteristics
  - Runway Configuration/Utilization
- Existing Airfield Capacity = 213,628
  - Analysis Excluded 10R-28L
- Year 2040 Operations 23,160 = 11% Capacity
  - Planning for New Capacity Not Required Until 128,000 Annual Operations (60% Threshold)
**Terminal Facility Requirements**

**Terminal Planning**

- **Non-Traditional Planning**
  - Less than Daily Service
  - High Seasonality, Peaking
  - Low Cost Airline Considerations

- **Limited Historical Data**
  - 2010 Minimal Service - 23,000 Enplanements (Up 35%)
  - 2011 Direct Air Service, High Growth
  - 2012 Direct Air Ceases (50% Share), Runway Closure

- **Capacity Capabilities**
  - Aircraft Sizes, International Operations

**Security Infrastructure**

- **Passenger Screening**
  - Existing Configuration Good for up to 275 Pax/Hr
  - Intermediate/Long Term Requires 2 Lanes (550/Hr)
  - High Growth Could Ultimately Require 3 Lanes (825/Hr)

- **Baggage Screening**
  - Currently Using an EDS
    - 180 Bags/Hr Capacity Insufficient for Peak Ops
    - Supplemented by ETD Method
    - No Space for Expanded Baggage Screening Infrastructure

**Terminal - Departure Flow**

- **Ticketing/Check in – Technology Changes**
  - Web/Mobile Check-in Minimizing Future Requirements
  - Leisure Oriented Service
    - More Checked Baggage, Larger Group Size
  - Ticket Counters
    - Assigned, but Flexible Use

- **Shared Baggage Makeup Area**
  - Limited Existing Space
  - 3rd Airline -> Overcrowding

**Terminal – Arrival Flow**

- **Circulation Improvements Required for Out-Year Peak Hour Operations (Holdroom + Inbound)**
  - Restrooms/Concessions

- **Two Baggage Belts/Total Frontage Sufficient**
  - Space/Circulation Component is Controlling Factor
  - Effectiveness Dependant on Airline Operations

- **FIS Capacity 200/Hr = Boeing 757**
  - Expansion Required for Boeing 767/Airbus 330
Landside Facility Requirements

General Aviation

- Consolidated General Aviation Area
  - Existing FBO Site is Adjacent to Passenger Terminal
  - Existing Hangars/Based Aircraft Across Runway

- Hangars not Compatible with Mid/Large Corporate Jets
  - Existing Demand for Citation-X, Tail is too Large

- Consolidated GA Area Requires:
  - New Apron – Existing Apron Shared with Terminal, Direct Access to Runway 6-24
  - Taxiway Access Improvements, Potential New Parallel

Air Cargo

- Size/Infrastructure Driven by Developer/Provider
  - Limited Local Demand, yet Abundant Infrastructure

- Alternatives will Consider Boeing 747-8F (Group VI)
  - Allows Airport to Evaluate A380 Diversions/Operations

- Facility Sized for Up to 100,000 SF Processing Space w/ Direct Road Access

Support Facilities/Equipment

- Snow Removal Equipment
  - Expanded Facility
    - Larger Doors for Newer Equipment (3,750 SF)
  - Current SRE Fleet are adequate
    - Replace equipment as necessary

- Current ARFF Services are adequate under present arrangement with USAF
  - Index B required
  - USAF provides services up to Index E

- Relocate Air Traffic Control Tower
  - Analysis to Follow Airside Alternatives

Auto Parking

- Three (3) Primary Parking Lots,
  - Lot 1 & 2 -238/255 Spaces
  - Lot 3 (Remote) – 1,100 Spaces (Seasonal)

- Connect/Consolidate Smaller Lots

- “Peak Season” – Average of Busiest 3 Months

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Challenges

- Taxiway Layout
- Congested Airspace
- Physical Constraints

NEW TAXIWAY DESIGN STANDARDS
- Y-Shape Taxiways Near Runway
- Direct Access to Runway

- Complex Taxiing Routes
- ATC Runway Crossing Procedures
Airside Alternatives

Alternative 1
• Maintain Existing Infrastructure

Alternative 2
• Air Carrier-Capable Crosswind Runway
• Runway 24 Approach Improvements
• Efficient Taxi Routes to/from Terminal
• Supports GA Development West of 6-24
• Eliminates Complex Intersections
• Avoids Impacts to Creek

Alternative 3
• Air Carrier-Capable Crosswind Runway
• Runway 24 Approach Improvements
• Eliminates Complex Intersections
• Converts Runway 10R-28L to Taxiway

Alternative 4
• Air Carrier-Capable Crosswind Runway
• Supports GA Development West of 6-24
• Runway 24 Approach Improvements
• Standard Taxiway Geometry

*Orange denotes preferred option*
**Landside Alternatives**

**Landside Alternative 1 - No Build**
- Maintain Existing Infrastructure

**Landside Alternative 2**
- Central Parking Lot Adjacent to Passenger Terminal
- Connects Remote Lot with Terminal Roadway System (with Traffic Light)

*Orange denotes preferred option*

**Landside Alternative 3**
- Reconfigures Roadway Within Adjacent Buildings Footprint
- Expands Remote Parking Lot

**Landside Alternative 4**
- No Building Acquisition/Demolition

---

NIAGARA FALLS INTERNATIONAL AIRPORT

The McFarland Johnson Team
Air Cargo Alternatives

Alternative 3
• Dedicated Group VI Operating Area
• Compatible with Preferred GA Alt
• Dedicated Access Road

*Orange denotes preferred option

Alternative 2
• Requires Acquisition of Army Parcel
• Limited Development Opportunities West of 6-24

Alternative 4
• ONLY Considered if Military Role Changes on Airport
• Converts Existing Infrastructure to Air Cargo Use

Alternative 3A
• Dedicated Access Road
• Minimal new Taxiway Infrastructure Required
General Aviation Alternatives

**Alternative 1** - No Build
• Maintain Existing Infrastructure

**Alternative 2**
• Aligns GA Development Adjacent to Calspan
• Land Acquired for New Access Road

**Alternative 3**
• Compatible with Preferred Air Cargo Alternative
• Supports West Side Taxiway Development
• Shares Dedicated Access Road with Air Cargo

**Alternative 4**
• Requires Acquisition of Army Parcel
• Limited Development Opportunities West of 6-24

**Alternative 4a**
• Requires Acquisition of Army Parcel

*Orange denotes preferred option*
Terminal Alternatives

**Terminal Alternative 1 – No Build**
- Baggage Claim Enhancements

**Terminal Alternative 2**
- Replace Two Flat Plate Carousels with Sloped Plate Carousels

**Terminal Alternative 3**
- International Baggage Claim Sized for Wide Body Aircraft

**Terminal Alternative 4**
- Outbound Baggage Handling Improvements
- Expanded Gate Scenario

*Orange denotes preferred option*
### Alternative Scoring Matrices

#### 6.3.7 Airside Alternatives Summary and Selection of Preferred Alternative

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**Orange denotes preferred**

#### 6.4.8 Air Cargo Alternatives Summary and Selection of Preferred Alternative

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*Alternative 4 is not the preferred air cargo alternative for the airport. Alternative 4 is presented for consideration should the military mission on the airport change.

#### 6.5.8 General Aviation Alternatives Summary and Selection of Preferred Alternative

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**Orange denotes preferred**

#### 6.7.7 Landside Alternatives Summary and Selection of Preferred Alternative

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**Orange denotes preferred**
Preferred Alternative

PREFERRED AIRPORT ALTERNATIVE

NIAGARA FALLS INTERNATIONAL AIRPORT

The McFarland Johnson Team
Potential Sustainability Vision Statement

- NFIA will serve as a sustainable catalyst for economic growth by promoting air service development and aviation-related business opportunities in an environmentally and socially responsible manner.

Potential Sustainability Goals

- Better understand and cater to NFIA’s customer base to enhance air service and terminal offerings.
- Maximize the economic potential of NFIA by providing business and employment opportunities.
- Conserve natural resources and minimize air and water pollution.
- Minimize waste and increase the rate of recycling.
Sustainability Baseline Performance

Waste Management

- NFTA recycles paper, plastic, glass and metal
- Volume of recycled materials ~ 285 gallons or 1.4 cubic yards of waste (estimated)
- NFTA pays ~$6,000 annually in waste disposal fees
- Ratio of trash bins to recycling bins is ~3:2
- Existing waste minimization/recycling strategies at NFIA:
  - Purchasing of Recycled Materials
  - Recycling Signage
  - Waste Minimization
  - Materials Reuse

Water Resources

Water Use

- 2009: 5,000,000 gallons
- 2010: 4,500,000 gallons
- 2011: 5,000,000 gallons
- 2012: 4,000,000 gallons

Water Costs

- 2009: $50,000
- 2010: $45,000
- 2011: $50,000
- 2012: $40,000

Air Quality / Greenhouse Gas

GHG Emissions: Existing & Forecasted

- 2011: 25,000 metric tons
- 2015: 20,000 metric tons
- 2020: 15,000 metric tons

Existing GHG Emissions (2011) by Operational Boundary

- Scope 1: 2%
- Scope 2: 6%
- Scope 3: 92%

Criteria Air Pollutant Emissions

- Negligible contribution to statewide ozone pollutant levels
- CO, VOC, NOx and SO2: aircraft are the largest contributors followed by motor vehicles, GSE and APU
### Sustainability Opportunities

#### Waste Management
- Track waste and recycling by weight or volume
- Include in contractor agreements a requirement to recycle a minimum percentage of C&D waste
- Develop a waste and recycling education program (use educational materials from the NY State Department of Environmental Conservation and the Natural Resources Defense Council)
- Coordinate with airline tenants to increase recycling of deplaned waste

#### Water Resources
- Continue to implement deicing best practices
- Continue to implement additional water conservation measures and look for new conservation opportunities
- Improve monitoring/tracking of water use. This includes:
  - Tracking and reporting quarterly water use
  - Understanding meter locations
  - Accounting for variation in water use
- Install a water leak detection system

#### Air Quality / Greenhouse Gas
- Conduct regular (every 2 to 5 years) calculation and reporting of GHG emissions
- Encourage tenants to convert GSE to electric vehicles
- Provide 400 Hz power and preconditioned air at aircraft gates
- Restrict vehicle idling
- Encourage single-engine taxiing
- Phase out the use of ozone-depleting refrigerants
- Coordinate bus service to match airline schedule to maximize convenience.
Environmental Considerations

Goals

- Early Identification of Environmental Constraints
- Incorporate Findings into Alternatives Analysis
  - Avoid/Minimize Impacts
  - Consider Mitigation Requirements
  - Informed Decision Making
- Basis for Future NEPA, SEQR, and Permit Processes
- Provide GIS-Based “Environmental Inventory”

Environmental Impact Categories

- Air Quality
- Coastal Barriers
- Coastal Zone
- Compatible Land Use
- Construction Impacts
- Section 4(f)
- Farmlands
- Floodplains
- Fish, Wildlife & Plants
- Historical, Architectural, Archaeological, & Cultural Resources
- Light Emissions & Visual Effects
- Hazardous Materials
- Natural Resources & Energy Supply
- Noise
- Socioeconomic, Environmental Justice & Children’s Health and Safety Risks
- Solid Waste
- Water Quality
- Wetlands
- Wild & Scenic Rivers

*Identified in FAA Orders 1050.1E and 5050.4B

Threatened and Endangered Species

- No Federally-Listed Threatened or Endangered Species
- Two State Listed Species on Airport
  - Northern Harrier
    - NYS Listed Endangered Species
    - Foraging Habitat Widespread on Airport
    - Unmaintained Wetlands Considered Breeding Habitat - Likely Time of Year Restrictions
  - Devil Crawfish
    - NYS Species of Conservation Concern
    - Known to Occur in Cayuga Creek
    - Relocation and Monitoring Likely Requirement
Niagara University Collaboration

- Niagara University
  - Environmental Science Program

- Classroom Session
  - Environmental Science, Policy, and Regulation

- Field Practicum
  - Applied Classroom Theory to NFIA Environmental Overview
  - Considered Aviation Policies and Regulations
  - Discussed Implications on Airport Planning
Give Us Your Comments!

We Are Always Open to New Ideas. Please Share Your Perspective!

Place Your Comments in the Comment Box.

E-mail to: NFIAMPU@mjinc.com

Mail to: McFarland Johnson
        PO Box 1980
        Binghamton, NY 13902

Provide Comments by May 15, 2015
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<th>ADDRESS</th>
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<td>Paul Bostick</td>
<td>3611 Hemenway Ave</td>
<td>716-481-0241</td>
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<tr>
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<tr>
<td>Lance &amp; Sally Henry</td>
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<td>716-748-7685</td>
<td><a href="mailto:greatestpapa@roadrunner.com">greatestpapa@roadrunner.com</a></td>
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