Airport Issues for Readington Township

Prepared for: Readington Township Committee

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Overview

- GRA was asked to review airport proposals and options
- Key issue is community's goals and how best to meet them
- GRA's expertise
  - Aviation industry
    - Overall trends
    - Airport economics
  - FAA regulatory/policy constraints
    - FAA airport grants
    - National Plan of Integrated Airport Systems
    - Airport safety standards

The Small Airport Business

- Operates a lot like a marina
  - Based aircraft
    - Aircraft parking fees
    - Hangar rentals
    - Office space rental
    - Maintenance
    - Pilot training
    - Fuel sales
  - Visitors
    - Fuel sales
    - Tie down fees
    - Other (air show, restaurants, etc.) revenues

What Do Most Corporate Jets Require

- Paved runway length and width (currently 3,000’ x 50’ paved and 735’ sod. Runway needs for aircraft are:
  - 4,000’ for small business jets
  - 5,000’ for medium business jets
  - 6,000’ for largest business jets
- Instrument approach
- Lights
- Fuel
- Facilities (hangars, offices, etc.)
- Security
- Accessibility
  - Close to trip origination or destination
  - Rental cars
  - 24/7 hours of operation

Four Possible Outcomes

- Case 1: No agreement on airport between Solberg family and Readington Township
- Case 2: Parties agree on proposed development of 4,890’ runway today with possible expansion in future
- Case 3: Parties agree on limited development and rehabilitation of existing runway
- Case 4: Township acquires airport and rehabilitates with permanent development restrictions

Where Can Community End Up? Case 1

- **Case 1: No agreement between township and Solberg; this has many possible outcomes**
  - "As is" versus expanded to handle more jets—Initially 4,890' runway; planned up to 5,600'
  - Family continues to run
  - Finds "sponsor" to access FAA grants—county or state?
  - Sells to new owner
    - As airport
    - As land
    - To a government body (e.g., NJ DOT)
    - To a private party

Where Can Community End Up? Case 2

- **Case 2: Township and Solberg agree on proposed development in return for cap on subsequent development (per airport's master plan)**
  - 5,000'+ runway
  - 500,000 sq. ft. hangar and offices (2,500 sq. ft. for each mid-size jet; B-747 is approximately 46,000 sq. ft. length *x* wing span)
  - Airport develops as regional business airport handling jets, turboprops and other

Where Can Community End Up? Case 3

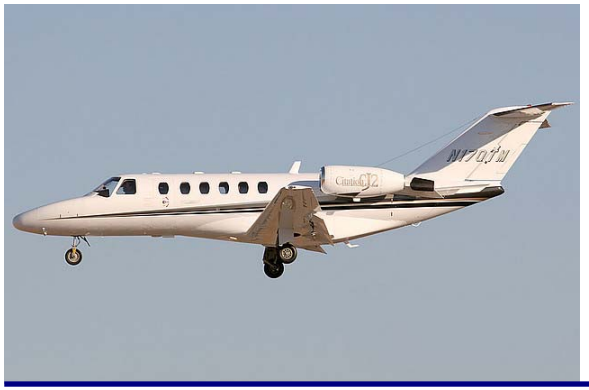
- **Case 3: Township and Solberg agree on limited development of runway and hangars in return for agreement on development rights**
  - Runway limited to handle current aircraft types that use airport
  - Developed with/without FAA grants
  - Offices and hangars sized to support based aircraft and aviation-related businesses
  - Likely to require expenditure of township funds

Where Can Community End Up? Case 4

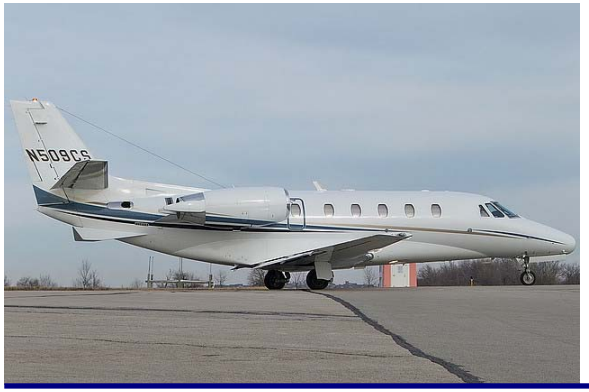
- **Case 4: Township acquires airport and restores infrastructure**
  - Repair existing runway
  - Offices can be developed to meet aviation needs
  - Contract out to manage and operate
  - Open space around airport preserved in perpetuity
  - Balloon festival and other local events continue at airport
  - Permanent deed restrictions to maintain nature of airport

Examples of Aircraft That Can Operate on 3,700' Runway

Type: Beechcraft King Air C90B
Wingspan: 50.3'
Length: 35.5'
Max Wt. 10,100 lbs.

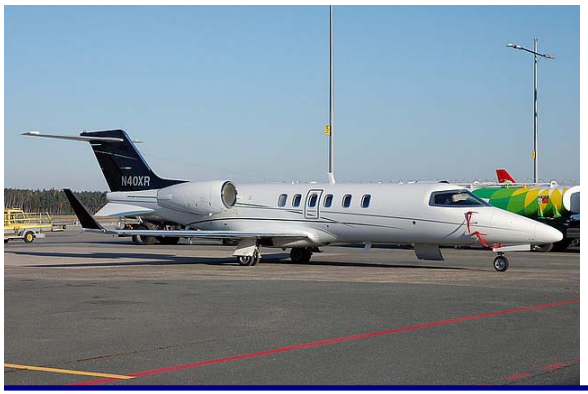


Type: Cessna CJ2 CE-525A
Wingspan: 49.8'
Length: 47.7'
Max Wt. 12,500 lbs.

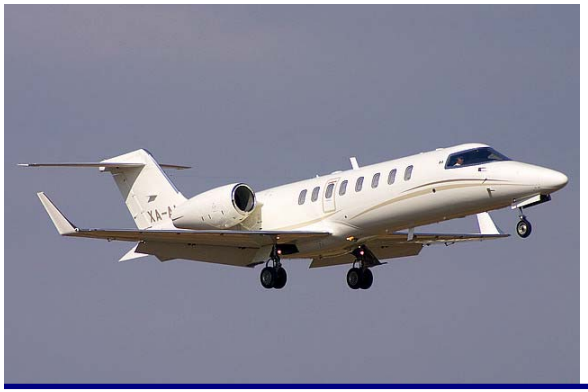


Type: Cessna Citation XLS CE-560-XL
Wingspan: 56.3'
Length: 51.8'
Max Wt. 20,200 lbs.

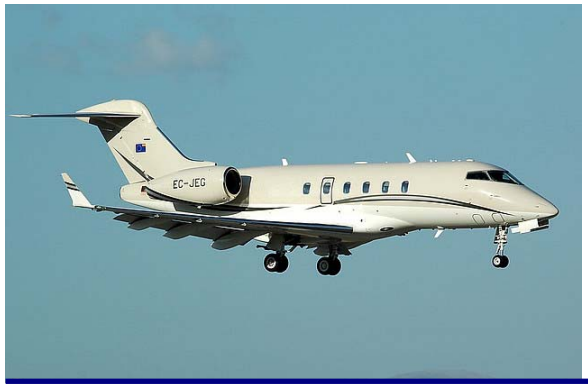
Examples of Aircraft That Can Operate on 4,800' Runway



Type:	Bombardier Learjet 40
Wingspan:	47.8'
Length:	55.6'
Max Wt.	20,350 lbs.

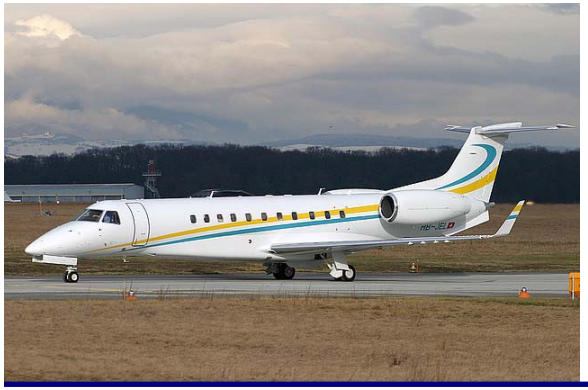


Type:	Bombardier Learjet 45
Wingspan:	47.8'
Length:	58.4'
Max Wt.	21,000 lbs.

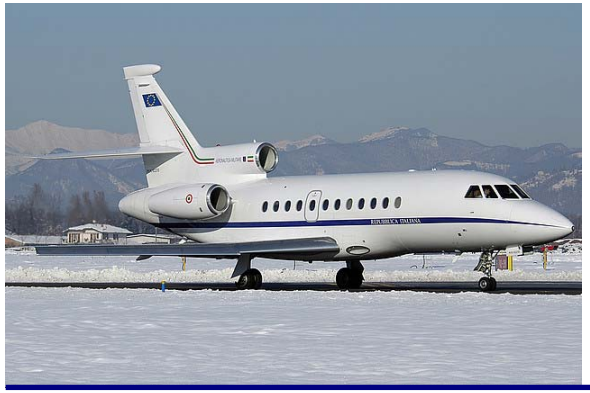


Type:	Bombardier Challenger 300 BD-100-1A10
Wingspan:	63.8'
Length:	68.6'
Max Wt.	38,850 lbs.

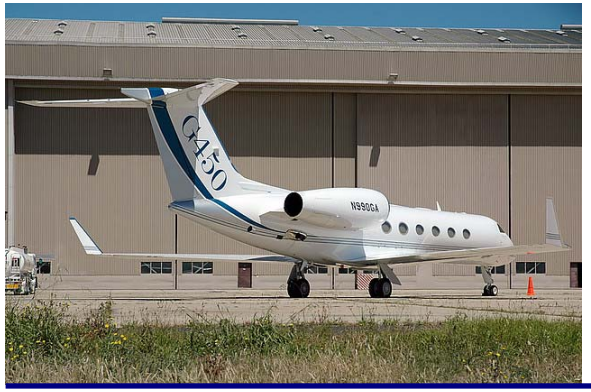
Examples of Aircraft That Can Operate on 5,600' Runway



Type: Embraer Legacy Shuttle EMB-135LR
Wingspan: 65.8'
Length: 86.4'
Max Wt. 44,092 lbs.
Similar to 35-seat regional jet

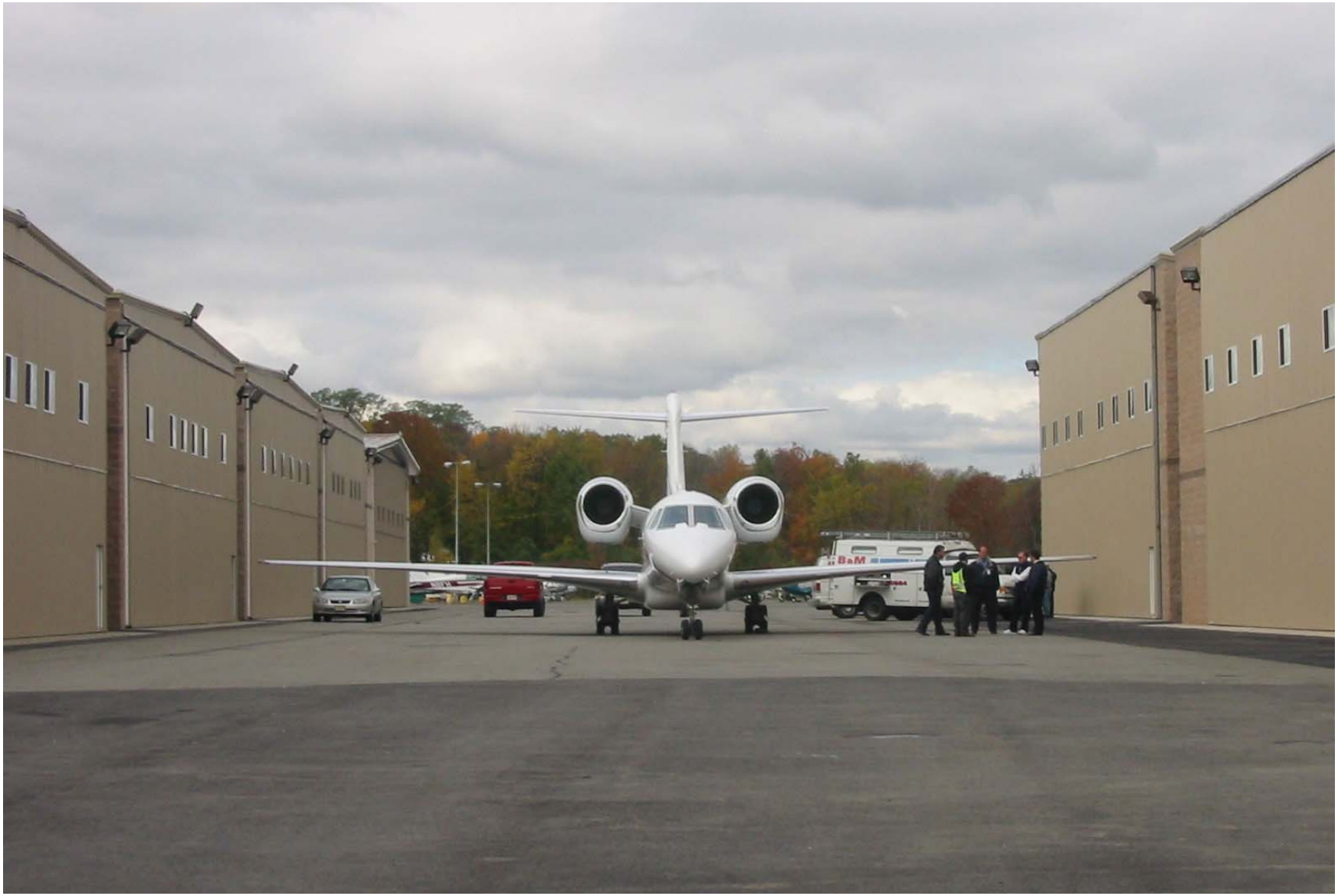


Type: Dassault Falcon 900EX
Wingspan: 63.4'
Length: 66.3'
Max Wt. 46,700 lbs.

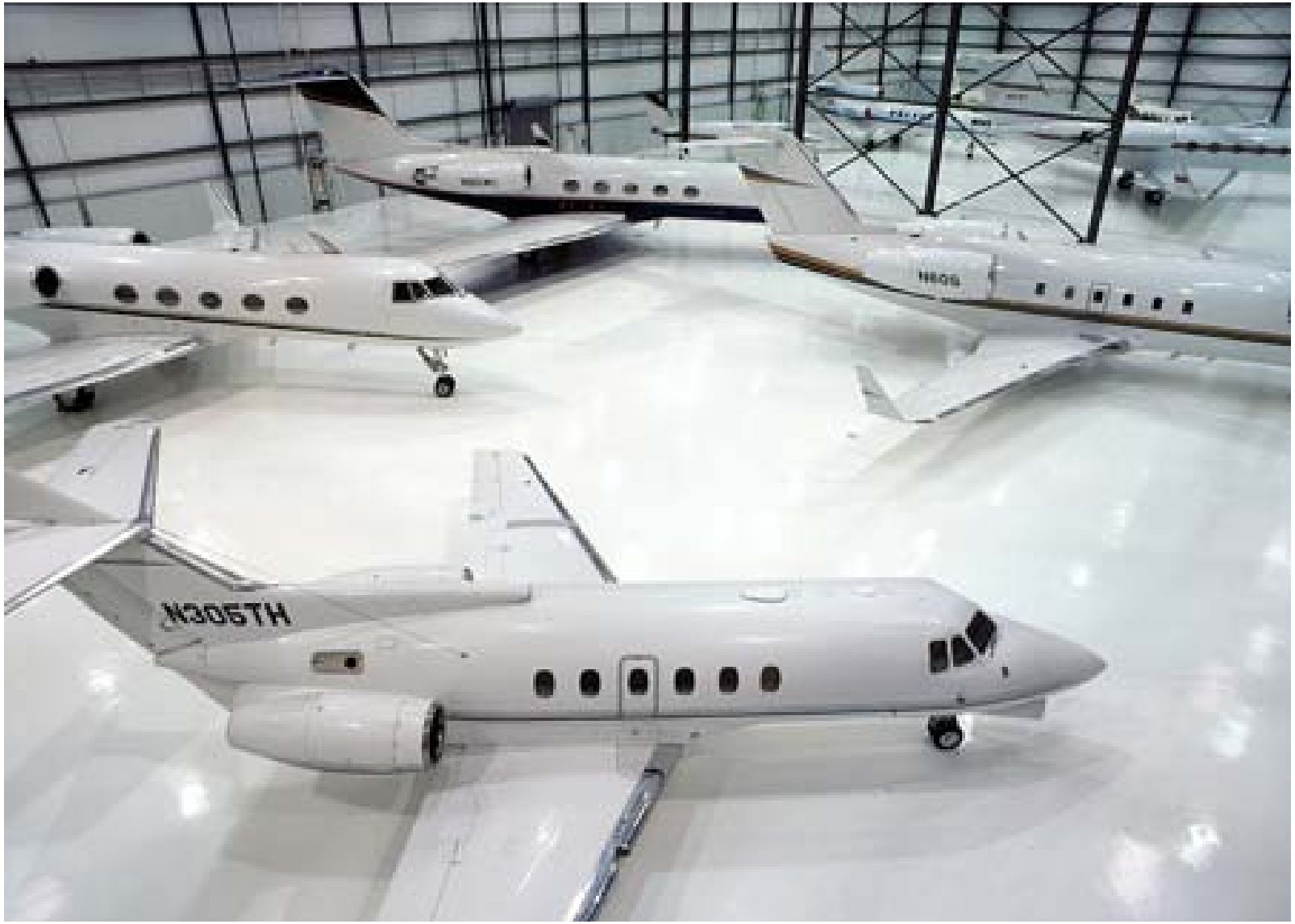


Type: Gulfstream 450 (GIV-X)
Wingspan: 77.8'
Length: 89.3'
Max Wt. 73,900 lbs.
Similar to 50-seat regional jet

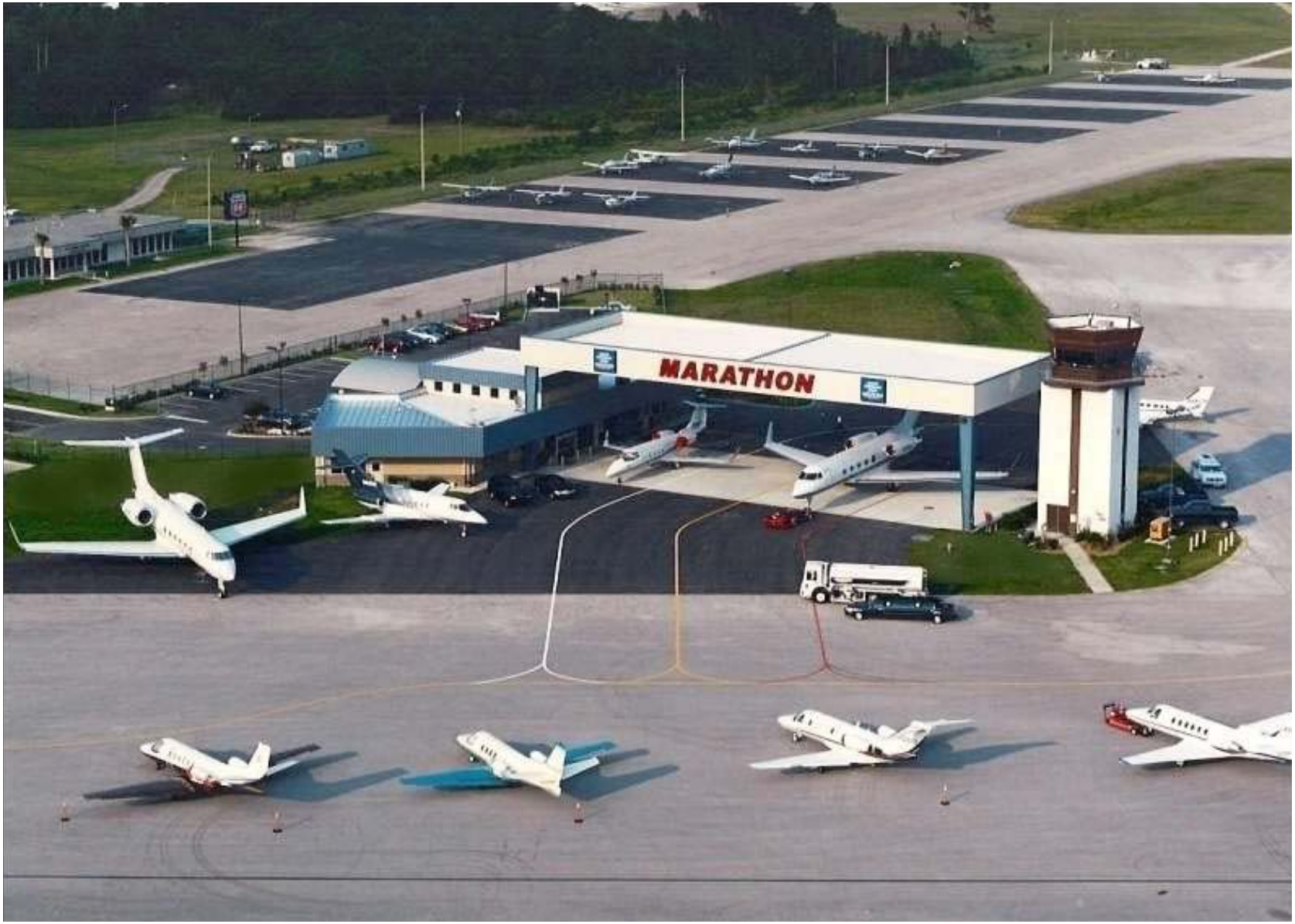
Typical Business Jet and Hangars



Typical Business Jets and Hangar



Typical Business Jet Terminal and Aircraft



Airports with Comparable Runway Length

Airport	Current Runways (l x w)	Based Aircraft				Annual Operations			
		SE	ME	Jets	Total	Commercial/ Air Taxi	General Aviation	Military	Total
Somerset	2,733 x 65 2,200 x 100 1,900 x 200	172	25	0	197	0	40,764	0	40,764
Readington Township	3,000 x 50 3,440 x 200	67	9	1	77	0	37,282	0	37,282
Trenton-Mercer	6,006 x 150 4,800 x 150	80	18	20	118	7,257	93,217	3,232	103,706
Morristown Municipal	5,999 x 150 3,998 x 150	154	40	57	251	11,068	207,806	322	219,196
Palwaukee Municipal	3,660 x 50 4,386 x 50 5,000 x 150	188	44	59	291	9,884	149,374	23	159,281

Source: FAA Airport Master Record, Form 5010-1

FAA and NJ DOT Positions

- Airport is in FAA's National Plan as reliever
  - Eligible for federal funds
  - No application for federal funds submitted yet
    - Sponsor assurances can tie up uses of land
    - Receipt of FAA funds can trigger limits on ability to restrict use
  - FAA will not take over or force expansion of airport
- Airport in NJ State Aviation System Plan
  - State offered to buy airport for $22 million
  - State wants to preserve and develop this airport for small jets

Airport Economics

- Business driven by revenue sources
- FAA recognizes that most small airports cannot be self supporting
- Solberg will require outside funding (via a grant) to relocate runway or to make major capital improvement. Potential sources include:
  - FAA
  - State DOT
  - Local government
  - Other benefactor

Appendix

Jets and Turboprops: Runway Lengths

	Aircraft Type	Manufacturer	Model	to (SL/ISA temp)	to (5,000' @ 25 C)
3,700'	SET	Cessna	Caravan CE-208-675	2,053	2,950
	VLJ	Eclipse Aviation	EA 500	2,155	3,698
	SET	Pilatus	PC-12/45	2,300	3,770
	MET	Vulcanair SpA	Spartacus AP68 Tp Series 300	2,300	3,400
	SET	Cessna	Grand Caravan CE-208B	2,420	3,604
	SET	New Piper	Meridian PA-46-500T	2,438	3,691
	SET	Socata	TBM 700C2/TBM 700	2,840	4,282
	VLJ	Cessna	Mustang Citation CE-510	3,120	n/a
	LJ	Cessna	CJ3 CE-525B	3,180	4,750
	LJ	Cessna	CJ1 CE-525	3,200	5,820
	MET	Beechcraft	King Air 350	3,300	5,376
	MET	Beechcraft	King Air B200	3,411	4,600
	LJ	Cessna	CJ2 CE-525A	3,420	5,080
	JET	Cessna	Citation Encore CE-560	3,490	5,750
	LJ	Sino Swearingen	SJ30-2	3,515	5,873
	JET	Cessna	Citation XLS CE-560-XL	3,560	5,490
	JET	Cessna	Citation Soveriegn CE-680	3,580	4,860
	LJ	Cessna	Citation Bravo CE-550	3,600	5,520
	MET	Beechcraft	King Air C90B	3,650	5,350

Sea level, standard day 15°C

Source: George, Fred. "Business Airplanes," *Business & Commercial Aviation*, May 2005, p. 117-156.

Jets and Turboprops: Runway Lengths

	Aircraft Type	Manufacturer	Model	to (SL/ISA temp)	to (5,000' @ 25 C)
4,800'	LJ	Beechcraft	Premier I Model 390	3,792	6,888
	LJ	Raytheon Aircraft	Hawker 400XP Model 400 A	3,906	6,311
	MET	Piaggio Aero Ind	Avanti P180	4,250	5,700
	JET	Bombardier	Learjet 40 Model 45	4,330	7,130
	JET	Bombardier	Learjet 45 Model 45	4,350	7,290
	MET	Reims Cessna	Caravan II RA406	4,363	6,000
	JET	Bombardier	Learjet 40XR Model 45	4,680	5,910
	JET	Bombardier	Challenger 300 BD-100-1A10	4,720	6,860
5,600'	JET	Dassault	Falcon 900DX	4,890	6,910
	JET	Dassault	Falcon 50EX/Mystere-Falcon 50	4,935	7,247
	JET	Bombardier	Global 5000	5,000	6,650
	JET	Raytheon Aircraft	Hawker 800XP	5,032	7,952
	JET	Bombardier	Learjet 45XR Model 45	5,040	6,300
	JET	Gulfstream Aero.	Gulfstream 350 (GIV-X)	5,050	7,212
	JET	Raytheon Aircraft	Hawker Horizon Model 4000	5,088	7,598
	JET	Cessna	Citation X CE-750	5,140	7,350
	JET	Gulfstream Aero.	Gulfstream 500 (GV-SP)	5,150	7,680
	JET	Dassault	Falcon 7X	5,200	n/a
	JET	Dassault	Falcon 900EX	5,213	7,214
	JET	Dassault	Falcon 2000EX	5,375	7,665
	JET	Gulfstream Aero.	Gulfstream 100 (G100)	5,395	8,700
	JET	Dassault	Falcon 2000	5,436	7,656
	JET	Bombardier	Learjet 60 Model 60	5,450	8,520
	JET	Gulfstream Aero.	Gulfstream 450 (GIV-X)	5,450	7,886
	JET	Embraer	Legacy Executive EMB-135BJ	5,453	7,385
	JET	Embraer	Legacy Shuttle EMB-135LR	5,600	7,024

Sea level, standard day 15°C

Source: George, Fred. "Business Airplanes," *Business & Commercial Aviation*, May 2005, p. 117-156.

Richard Golaszewski

Richard Golaszewski is an Executive Vice President of GRA, Incorporated. He has developed expertise in the areas of aviation economics, safety and public policy. Mr. Golaszewski has studied the economics of airports, airlines, aircraft manufacturing and safety. He has testified in front of the U.S. Congress on aviation and aerospace technology economics and public policies.

Mr. Golaszewski specializes in the application of economic, financial and statistical analysis to the transportation industry for both private and public sector clients. He supports the Federal Aviation Administration (FAA) in economic, policy and safety analyses, and has done so for almost 30 years. He also has assessed the financial condition of U.S. airports and developed the economic criteria used in benefit-cost analyses of FAA-funded investments.

Mr. Golaszewski also has a number of airport-related clients who he assists in benefit-cost analysis, economic impact analysis, air services development and related matters

Mr. Golaszewski is a member of the Aviation Economics and Forecasting Committee of the Transportation Research Board, American Association of Airport Executives, the Public Policy Committee of the American Institute of Aeronautics and Astronautics, the Vietnam Helicopter Pilots Association and the Air Traffic Control Association. In 2004, he completed his second and final three-year term as a member of the Aeronautics and Space Engineering Board, an arm of the National Research Council. In 2003, he was appointed as a Lifetime National Associate of the National Academy of Sciences because of his significant *pro bono* involvement in National Research Council activities.

Mr. Golaszewski received a B.S. in Accounting (*magna cum laude*) from LaSalle College and an M.P.A. in Public Sector Management and Finance from the Wharton School, University of Pennsylvania. He was a military officer and helicopter pilot from 1967 to 1972.