NOTICE OF A REGULAR MEETING
OF
THE FRIEDMAN MEMORIAL AIRPORT AUTHORITY

PLEASE TAKE NOTICE *that a regular meeting of the Friedman Memorial Airport Authority shall be held Tuesday, March 3, 2015 at 5:30 p.m. at the* **old Blaine County Courthouse Meeting Room** *Hailey, Idaho. The proposed Agenda for the meeting is as follows:*

AGENDA
March 3, 2015

I. **APPROVE AGENDA**

II. **PUBLIC COMMENT (10 Minutes Allotted)**

III. **ELECTION OF OFFICERS** — ACTION

IV. **APPPROVE FRIEDMAN MEMORIAL AIRPORT AUTHORITY MEETING MINUTES OF:**
- A. February 5, 2015 Regular Meeting – Attachment #1 — ACTION

V. **REPORTS**
- A. Chairman Report — DISCUSSION
- B. Blaine County Report — DISCUSSION
- C. City of Hailey Report — DISCUSSION
- D. Airport Manager Report — DISCUSSION

VI. **AIRPORT STAFF BRIEF (5 Minutes Allotted)**
- A. Noise Complaints
- B. Parking Lot Update
- C. Profit & Loss, ATCT Traffic Operations Count and Enplanement Data – Attachments #2 - #4
- D. Review Correspondence – Attachment #5
- E. Airport Commercial Flight Interruptions

VII. **UNFINISHED BUSINESS**
- A. Airport Solutions
  - 1. Existing Site
    - a. Plan to Meet 2015 Congressional Safety Area Requirement
      - i. Project 3 Terminal Reconfiguration — DISCUSS/DIRECT
      - ii. Project 4 Airport Operations Building — DISCUSS/DIRECT
      - iii. Project 6 Relocate Taxiway B/Remove Taxiway A/ North Apron — DISCUSS/DIRECT/ACTION
      - iv. Terminal Finish Out/Remodel – Attachment #6 — DISCUSS/DIRECT/ACTION
      - v. Future Projects — DISCUSS/DIRECT
    - b. Retain/Improve/Develop Air Service
      - i. Fly Sun Valley Alliance Update — DISCUSS/DIRECT
    - c. SUN Instrument Approach Improvements Phase 2 Update – Attachment #7 — DISCUSS/DIRECT
- B. Master Plan Update – Attachments #8 - #10 — DISCUSS/DIRECT/ACTION

VIII. **NEW BUSINESS**
- A. April Board Meeting — ACTION

IX. **PUBLIC COMMENT**

X. **EXECUTIVE SESSION – I.C. §67- 2345**

XI. **ADJOURNMENT**

FRIEDMAN MEMORIAL AIRPORT AUTHORITY MEETINGS ARE OPEN TO ALL INTERESTED PARTIES. SHOULD YOU DESIRE TO ATTEND A BOARD MEETING AND NEED A REASONABLE ACCOMMODATION TO DO SO, PLEASE CONTACT THE AIRPORT MANAGER'S OFFICE AT LEAST ONE WEEK IN ADVANCE BY CALLING 788-4956 OR WRITING TO 1616 AIRPORT CIRCLE, HAILEY, IDAHO 83333.

III. ELECTION OF OFFICERS

The Amended and Restated By-Laws of the Friedman Memorial Airport Authority Board of Commissioners states "The Board shall elect its Chairman, Vice Chairman, Secretary and Treasurer by a majority vote of the members of the Board. This election shall take place during the regular meeting of the Board in March in every odd-numbered year unless the Board, by majority vote, selects a different date for the election".

BOARD ACTION: 1. Action

IV. APPROVE FRIEDMAN MEMORIAL AIRPORT AUTHORITY MEETING MINUTES

A. February 5, 2015 Regular Meeting – Attachment #1

BOARD ACTION: 1. Action

V. REPORTS

A. Chairman Report

This item is on the agenda to permit a Chairman report if appropriate.

BOARD ACTION: 1. Discussion

B. Blaine County Report

This item is on the agenda to permit a County report if appropriate.

BOARD ACTION: 1. Discussion

C. City of Hailey Report

This item is on the agenda to permit a City report if appropriate.

BOARD ACTION: 1. Discussion

D. Airport Manager Report

This item is on the agenda to permit an Airport Manager report if appropriate.

BOARD ACTION: 1. Discussion

VI. AIRPORT STAFF BRIEF (5 Minutes Allotted)

A. Noise Complaints:

LOCATION	DATE	TIME	AIRCRAFT TYPE	INCIDENT DESCRIPTION	ACTION TAKEN
China Gardens	2/7	6:50 am	Jet	Loud Departure	Airport Manager and Ops Chief both left return msgs for the caller. Operation appeared appropriate.
Chanterelle	2/9	11:30 am	Jet	Approached FMA over Melrose street.	Ops Chief spoke with caller, who felt that the aircraft should have taken a different approach route.
Chanterelle	2/17	1:20 pm	Jet	Compliment on a departure	Caller wanted FMA to know that an aircraft departed, utilizing good noise abatement procedures. Expressed gratitude.
Lwr Broadford Rd	2/18	11:30 pm	Jet	Late arrival	Aircraft ID'd. Courtesy letter sent. Caller notified.
Bellevue (2)	2/20	12:45 am	Jet	Late operations	Aircraft ID'd. Courtesy letter sent. Caller notified.
Bellevue	2/24	4:00 am	Twin Turbine	Late operations	This was a Life Flight operation. Caller was notified.

B. Parking Lot Update

The Car Park Gross/Net Revenues

Month	FY 2013 Gross	FY 2013 Net	FY 2014 Gross	FY 2014 Net	FY 2015 Gross	FY 2015 Net
January	$14,779.00	$5,732.02	$19,257.00	$9,251.62	$26,312.83	$14,754.36

C. Profit & Loss, ATCT Traffic Operations Count and Enplanement Data - Attachments #2 - #4

Attachment #2 is Friedman Memorial Airport Profit & Loss Budget vs. Actual. Attachment #3 is 2001 - 2015 ATCT Traffic Operations data comparison by month. Attachment #4 is 2014 Enplanement, Deplanement and Seat Occupancy data. The following revenue and expense analysis is provided for Board information and review:

December 2013/2014

Total Non-Federal Revenue	December, 2014	$185,574.45
Total Non-Federal Revenue	December, 2013	$172,445.06
Total Non-Federal Revenue	FY '15 thru December	$541,709.98
Total Non-Federal Revenue	FY '14 thru December	$500,419.40
Total Non-Federal Expenses	December, 2014	$209,368.97
Total Non-Federal Expenses	December, 2013	$167,070.03
Total Non-Federal Expenses	FY '15 thru December	$633,650.41

Total Non-Federal Expenses	FY '14 thru December	$612,405.56
Net Income to include Federal Programs	FY '15 thru December	$-745,293.07
Net Income to include Federal Programs	FY '14 thru December	$-472,880.30

D. Review Correspondence - Attachment #5

Attachment #5 is information included for Board review.

E. Airport Commercial Flight Interruptions

Airline	Flight Cancellations	Flight Diversions
Horizon Air	0	0
Delta	0	4
United Express	4	2

VII. UNFINISHED BUSINESS

A. Airport Solutions

1. Existing Site

a. Plan to Meet 2015 Congressional Safety Area Requirement

i. Project 3 Terminal Reconfiguration

The terminal addition is beginning to take shape. Structural steel is complete with significant work on framing and roof decking completed. Electrical and mechanical work is ongoing. The next significant steps in the project include pouring the interior concrete floor and a variety of steps to prepare for the upcoming airport closure. A brief update will be provided at the meeting.

BOARD ACTION: 1. Discuss/Direct

ii. Project 4 Airport Operations Building

This project also continues to go well, with structural steel construction nearly complete and work beginning on framing and canopy construction. Consultants will attend the meeting to provide a progress update.

BOARD ACTION: 1. Discuss/Direct

iii. Project 6 Relocate Taxiway B/Remove Taxiway A/North Apron

Design of this project is complete and the project was delivered to contractors for bidding on February 9. A pre-bid conference was held on February 18, with excellent interest from contractors. Bids are scheduled to open at 2:00 pm on March 3. Though it likely won't be possible to complete a thorough review of the bids prior to the meeting, preliminary bid results will be presented to the Board. A special meeting may be necessary to award this project, as discussed at previous meetings.

BOARD ACTION:
1. Discuss/Direct
2. Select a low apparent Responsive Bidder based on Engineer Recommendation, if appropriate. Authorize Chair Execution of appropriate contract documents after appropriate Staff, Legal Counsel and FAA review and/or comment.
3. Schedule special meeting, if necessary

iv. Terminal Tenant Finish Out/Remodel – Attachment #6

As discussed previously, the goal of this project is to complete improvements for TSA office space, a conference room and public lounge space during the planned airport closure. The Public Lounge area and the Conference Room area will not be AIP eligible and will be funded out of operational funds. The TSA Office space and Break area will initially be funding by operational funds but will be reimbursed by the TSA. The Airport will lease the Office and Break area space to the TSA. Airport Staff is negotiating a lease with the GSA on behalf of the TSA and Airport Staff is also working on a reimbursable agreement with the TSA for design and construction costs.

A scope and fee for professional services related to development of the overall concept, along with design and construction administration of the portion planned for construction this year is included at Attachment #6. Airport Staff has reviewed the Scope of Work and determined that the work effort is necessary. The fee associated with the attachment above is a negotiated proposed fee.

The initial fee estimate to complete the Scope of Work was $144,862. This initial fee estimate only included Mead & Hunt fees for the work called for in the Scope of Work. T-O and RLB fees were not included in the fee proposal when it was forwarded to Airport Staff for discussion purposes. As stated above, the total Mead & Hunt fee was $144,862. $92,255 of the fee was associated with the TSA space and $55,953 was associate with the public space. These initial fees were unacceptable to Airport Staff particularly since T-O and RLB fees for work were not included.

As stated in the paragraphs above, the proposed fee is a negotiated fee. TO and RLB work are included in the proposed fee and the proposed breaks down in the following manner: The total fee for the work is $95,412. This includes $59,465 in effort for the TSA Office and Break space which as previously mentioned, will be reimbursed to the Airport. The Public Space effort includes a fee of $35,956. Airport Staff has reviewed the Scope of Work attached above and believes that the Scope of Work is reasonable and necessary. Airport Staff also has negotiated the fee that is included in the attachment above and believes that the fee is reasonable. Airport Staff is meeting with the Board's Finance Committee on February 26th. The Committee will report to the Board during the Board meeting if appropriate.

BOARD ACTION:
1. Discuss/Direct
2. Approve the project Scope of Work when appropriate.
3. Approve the proposed project fee Not-to-Exceed $95,412 and authorize Chair execution of Work Order 15-01 after appropriate reviews

v. **Future Projects**

Work is progressing on several smaller projects, including the following:

- Snow Removal Equipment Acquisition: The Procurement Agreement and Notice of Award have been reviewed by Airport Staff and Airport Legal Counsel and forwarded to Wausau Equipment Company, Inc. Airport Staff is waiting for executed documents, performance and payment Bonds, along with certificates of insurance.

- Terminal Parking Lot Improvements: Design of the terminal parking lot is approximately 65% complete and the project will be briefed at the meeting, including the proposed configuration of the parking lot and estimated costs for several options.

- Runway Rehabilitation: The runway rehabilitation is included in Project 6 for bidding and construction.

- Project 7 will include the demolition of the airport administration office and existing Snow Removal Equipment/ARFF building, followed by construction of the mid-field bypass apron and associated fencing and gates. The Board can expect to see a draft scope of work at the April meeting, with fee negotiation complete by the May meeting. A brief introduction to the project will be presented at the meeting.

BOARD ACTION: 1. Discuss/Direct

b. Retain/Improve/Develop Air Service

i. Fly Sun Valley Alliance Update

This item is on the agenda to permit a Fly Sun Valley Alliance report if appropriate.

BOARD ACTION: 1. Discuss/Direct

c. SUN Instrument Approach Improvements – Phase 2 Update – Attachment #7

DAC has completed an Instrument Approach Procedure Optimization Study, included as Attachment #7. A project update and presentation related to the study will be given at the meeting.

BOARD ACTION: 1. Discuss/Direct

B. Master Plan Update – Attachments #8 - #10

PROGRESS REPORT

- Mead & Hunt will present the following work products at the March 3rd Board Meeting:
  - **Chapter B,** Forecasts of Aviation Activity – Attachment #8
  - **Chapter C,** Capacity Analysis &Facility Requirements – Attachment #9

- **Chapter C: Executive Summary,** Dual Path Planning Thresholds – Attachment #10

- Mead & Hunt will also present next steps, including a proposed approach for developing facility alternatives.

BOARD ACTION:

1. Discuss/Direct/Comment (comment from the Board on the working papers is appropriate until mid-March).

2. The Consultant Team respectfully requests that the Authority provide approval at the April meeting for formal submittal of the finalized Forecasts chapter for FAA approval.

VIII. NEW BUSINESS

A. April Board Meeting

The FAA NW Mountain Region Airports Conference for aviation professionals is scheduled 6-8 April. This is the first time this Conference has been scheduled since 2012. Airport Staff would like the Board to consider changing the April Regular Board meeting date so that Staff, Interested Board members can attend this conference in Seattle. March 31st or April 2 might provide appropriate separation between the March and April meeting and provide an opportunity to attend the conference.

BOARD ACTION: 1. Action

IX PUBLIC COMMENT

X. EXECUTIVE SESSION - I.C. §67- 2345

XI. ADJOURNMENT

*MINUTES OF A REGULAR MEETING OF THE FRIEDMAN MEMORIAL AIRPORT AUTHORITY**

February 5, 2015
5:30 P.M.

IN ATTENDANCE:

BOARD MEMBERS: Chairman – Ron Fairfax, Vice-Chairman – Don Keirn, Board – Lawrence Schoen, Fritz Haemmerle, Jacob Greenberg, Pat Cooley: Via Conference Phone: Angenie McCleary
FRIEDMAN MEMORIAL AIRPORT STAFF: Airport Manager – Rick Baird, Emergency/Operations Chief – Peter Kramer, Contracts/Finance Administrator – Lisa Emerick, ASC/Special Projects Coordinator/Executive Assistant – Steve Guthrie, Administrative Assistant/Alternate Security Coordinator – Roberta Christensen, Administrative Assistant – Cecilia Vega
CONSULTANTS: T-O Engineers – Dave Mitchell; R/L/B – Nicholas Latham; Rexroat, Harberd & Associates – Laurie Harberd
AIRPORT TENANTS/PUBLIC: Bellevue City Council – James Stireman; Atlantic Aviation – Michael Rasch; FSVA - Carol Waller; Len Harlig, Marc Reinemann, Dick Fenton, Ed and Pam Jenkins, Bob Leahy; Horizon Airlines – Chelsey Wood & Family
AIRPORT LEGAL COUNSEL: Lawson Laski Clark & Pogue, PLLC – Jim Laski
PRESS: Idaho Mountain Express – Greg Moore

CALL TO ORDER: The meeting was called to order at 5:34 p.m. by Chairman Fairfax.

I. APPROVE AGENDA The agenda was approved with the following changes:

IV. AIRPORT STAFF BRIEF

A. ~~F.~~ Employee of the 2nd Quarter, 2014 – Attachment #6

VI. ~~V.~~ AIRPORT STAFF BRIEF CONT. (5 Minutes Allotted)

B. ~~A.~~ Noise Complaints
C. ~~B.~~ Parking Lot Update
D. ~~C.~~ Profit & Loss, ATCT Traffic Operations Count and Enplanement Data – Attachments #2 - #4
E. ~~D.~~ Review Correspondence – Attachment #5
F. ~~E.~~ Airport Commercial Flight Interruptions
~~F. Employee of the 2nd Quarter, 2014 – Attachment #6~~
G. Election of Officers

MOTION: ***Made by Vice-Chairman Keirn to move the Employee of the Quarter agenda items after agenda item II. Public Comment. Seconded by Board Member Schoen.***

PASSED UNANIMOUSLY

II. PUBLIC COMMENT No public comment was made.

III. AIRPORT STAFF BRIEF

A. ~~F.~~ Employee of the 2nd Quarter, 2014 (See Brief)

Airport Manager Baird announced that Ms. Chelsey Gough of Horizon Air was selected as the Employee of the 2nd Quarter for Calendar Year 2014. He congratulated Ms. Gough and thanked her for her efforts and service to the Friedman Memorial Airport.

Ms. Gough thanked the Board for the award.

IV. ~~III.~~ FMAA FINANCIAL STATEMENTS

Rexroat, Harberd & Associates CPA Laurie Harberd, briefly summarized and explained the FMAA Financial Statements for Fiscal Year 2014.

The Board discussed and clarified aspects of Ms. Harberd's presentation, including the depreciation related to the Environmental Impact Statement (EIS) Project.

Board Member Schoen commented that he is not in favor of how the long-term liability of compensated absences is accrued without limitations and suggested that the Board discuss a solution that limits the amount and/or time of the accruals as it is an unhealthy system for the Airport employees as well as the Airport itself.

Chairman Fairfax commented that he does not have a problem with how the compensated absences are accrued as a long-term liability and suggested that perhaps the Board could set a maximum allowable amount for compensated absences or allow employees the option to put end-of-the-year unused benefits into their retirement accounts.

Airport Manager Baird commented that due to the high workload since 2004 and the small size of the Airport Staff, a lot of them are unable to take their allocated vacation days; however, he expects a normal workload to return in October once the RSA project is complete at which time a new policy can be implemented. He also commented that if the Board wants to implement a new policy immediately then more Staff would need to be hired in order to handle the current workload.

The Board discussed whether or not the Finance Committee should work with Airport Manager Baird in the future to develop a reasonable end-of-the year policy for accrued compensated absences.

MOTION: ***Made by Board Member Greenberg to approve the Friedman Memorial Airport Authority Financial Statements and Other Financial Information for the year ended September 30, 2014 as presented by our auditors. Seconded by Vice-Chairman Keirn.***

PASSED UNANIMOUSLY

Board Member Schoen commented that he will vote in favor of the motion; however, he would like to register for discussion that he objected to FMAA carrying depreciation for the abandoned EIS on its books, because, he said, the EIS belonged to the FAA.

V. ~~IV.~~ APPROVE FMAA MEETING MINUTES

A. January 6, 2015 Regular Meeting (See Brief)

The January 6, 2015 Friedman Memorial Airport Authority Meeting Minutes were approved with the following changes:

V. ~~IV.~~ REPORTS

D. Airport Manager Report

Chairman Fairfax asked if funding for the ~~tower~~ AIP program will ~~ever~~ increase, as ~~it has been the same~~ the allocation has been ~~of~~ $3.35 billion for the last 10 years.

Airport Manager Baird answered that FMA is a member of the AAAE organization as well as the United States Contract Tower Association (USCTA) who both ~~support~~ lobby for airports ~~rights~~ on a national level.

VII. ~~VI.~~ UNFINISHED BUSINESS

A. Airport Solutions

1. Existing Site

a. Plan to Meet 2015 Congressional Safety Area Requirement (See Brief)

vii. Project 6 Relocate Taxiway B/Remove Taxiway A/North Apron (See Brief)

Engineer Mitchell updated the Board on the current status of Project 6 of the RSA Improvements Project. He also asked the Board to discuss the option of opening the Airport for a 17-day period to small general aviation aircraft during the 30 day closure in April and May at an additional cost of $160,000 . Consideration of this option was requested by small aircraft pilots.

ix. Work Order 14-08 Acquire Snow Removal Equipment (See Brief)

The Board discussed aspects of the snow removal equipment acquisition request including the following items:

- The life expectancy of this type of snow removal equipment.
- The age of the snow removal equipment the Airport currently utilizes.
- The reason engineers are ~~a necessary involvement~~ involved in the ~~purchase and~~ acquisition of this kind of equipment. The bid process for the equipment acquisition when 'piggy 'backing' on the purchase of similar equipment by another Idaho city in this case, Idaho Falls. ~~What the bidding process is for the equipment acquisition and how 'piggy-backing' on an Idaho Falls acquisition works.~~

x. Work Order 14-09 Terminal Parking Lot Improvements (See Brief)

The Board discussed aspects of Engineer Mitchell's request including the following items:

- The County's preference to minimize light trespass. ~~and their Dark Sky Ordinance.~~
- Whether or not lighting will also be replaced with more efficient lighting as fixtures ~~they~~ are relocated in the parking lot.

xii. Future Projects (See Brief)

Engineer Mitchell and Airport Manager Baird updated the Board on the current status of upcoming ~~future~~ projects of the RSA Improvements Project including a possible additional Terminal Remodel and Tenant Build Out.

The Board discussed technical aspects of Engineer Mitchell's and Airport Manager Baird's presentation including the following items:

- Why the proposed Terminal Remodel and Tenant Build Out was not included in the current terminal project.

- Whether it would be possible to add a nice restroom and part of a pilot briefing area in the terminal.
- At what time the Board made the decision to proceed with the non-eligible terminal remodel.

C. Independent Board Member Selection Process (See Brief)

Board Member Schoen briefed the Board that the Airport received four resumes for the Independent Board Member position and after reviewing the resumes the Board Selection Committee determined that three of the four candidates did not meet the 5-year residency requirement listed in the conditions of eligibility. He suggested that the Board decide ~~to~~ either to wave that requirement and interview all four candidates, or support the approved criteria and select the only candidate that met the residency criteria, Ron Fairfax, as the Independent Board Member.

Attorney Laski commented that the Board already appointed ~~re-elected~~ Chairman Fairfax as the Independent Board Member during the December meeting, so no action is needed.

MOTION: ***Made by Board Member Greenberg to approve the January 6, 2015 Friedman Memorial Airport Authority Regular Meeting Minutes as amended. Seconded by Board Member Haemmerle.***

PASSED UNANIMOUSLY

VI. ~~V.~~ REPORTS

A. Chairman Report

No report was given.

B. Blaine County Report

No report was given.

C. City of Hailey Report

No report was given.

D. Airport Manager Report

Airport Manager Baird reported that he attended the annual US Contract Tower Association Policy Board Conference last week and learned that they are preparing a strategic plan to ensure that contract towers are funded through 2016 and beyond.

E. Communication Director Report

Airport Manager Baird reported that no Coffee Talk or Airport Tour was held in January.

VII. ~~VI.~~ AIRPORT STAFF BRIEF

B. ~~A.~~ Noise Complaints (See Brief)

C. ~~B.~~ Parking Lot Update (See Brief)

D. ~~C.~~ Profit & Loss, ATCT Traffic Operations Count and Enplanement Data (See Brief)

Board Member Haemmerle commented that he received a complaint from a citizen that they spent more time at the Airport waiting for baggage and waiting

in line at the parking lot exit than their entire flight from Salt Lake City to Hailey.

Airport Manager Baird commented that with the increase in passenger capacity of the CRJ 700s has caused congestion in the parking lot and Staff is currently researching solutions.

Board Member Schoen commented that he found it interesting that while the Airport Operations Traffic Count has reached record lows, the total enplanements numbers have increased.

Airport Manager Baird commented that last year's 30-day construction closure, the introduction of the CRJ 700s, which increased passenger capacity while decreasing the number of daily flights, and changes in general aviation traffic has contributed to the decrease in Airport operations and the increase in enplanements.

E. ~~D.~~ Review Correspondence (See Brief)

F. ~~E.~~ Airport Commercial Flight Interruptions (See Brief)

~~F. Employee of the 2nd Quarter, 2014 (See Brief)~~

G. Election of Officers (See Brief)

VIII. ~~VII.~~ UNFINISHED BUSINESS

A. Airport Solutions

1. Existing Site

a. Plan to Meet 2015 Congressional Safety Area Requirement (See Brief)

i. Project 3 Terminal Reconfiguration (See Brief)

Engineer Mitchell updated the Board on the current status of Project 3 of the RSA Improvements Project.

ii. Project 4 Airport Operations Building (See Brief)

Engineer Mitchell updated the Board on the current status of Project 4 of the RSA Improvements Project.

iii. Project 6 Relocate Taxiway B/Remove Taxiway A/North Apron (See Brief)

Engineer Mitchell updated the Board on the current status of Project 6 of the RSA Improvements Project and requested that the Board approve an Amendment to Work Order 14-06 in the amount of $41,907 for additional fees related to the demolition portions of the project.

MOTION: ***Made by Board Member Schoen to approve Amendment #1 to Work Order 14-06, in the additional amount of $41,907 and authorize Chair to sign the amendment after FAA & final Legal Counsel, Staff and Finance Committee review. Seconded by Vice-Chairman Keirn.***

PASSED

BOARD MEMBER HAEMMERLE ABSTAINED

iv. Facility Acquisitions (See Brief)

Engineer Mitchell updated the Board on the current status of the facility acquisition part the RSA Improvements Project.

v. Future Projects (See Brief)

Engineer Mitchell and Airport Manager Baird updated the Board on future projects including: snow removal equipment acquisition, parking lot improvements/landscaping, runway rehabilitation and terminal tenant remodel/build out.

The Board discussed technical aspects of the presentation including the allocated terminal space for the TSA and the value of a conference room in the terminal.

b. Retain/Improve/Develop Air Service

i. Fly Sun Valley Alliance Update (See Brief)

FSVA representative, Carol Waller briefed the Board that FSVA plans to have the Summer/Fall Flight Schedule negotiations with airlines completed by next week.

c. SUN Instrument Approach Improvements – Phase 2 Update (See Brief)

Airport Manager Baird updated the Board on Phase 2 of the Sun Instrument Approach Improvements Project.

Board Member Schoen commented that the lowering of approach minimums does not mean that aircraft will approach the Airport at a lower elevation but allows the aircraft to fly in when clouds are at a lower level.

B. Master Plan Update

Airport Manager Baird briefed the Board on the development of the Master Plan Update.

Board Member Haemmerle requested that Staff allow the Board a month to review and discuss Master Plan Chapter Drafts before including them as action items in a Board Meeting.

IX. ~~VIII.~~ PUBLIC COMMENT

Ed Jenkins commented that it's good the Airport is trying to lessen its carbon footprint by opting out of relocating dirt offsite with 750 truckloads; however, he questioned how the exhaust of 750 truckloads compared to the exhaust that comes from aircraft as they fly over Bellevue.

Dick Fenton commented that during the busy seasons there is a lot of congestion in front of the air carrier desks and makes it difficult for people who are not checking in to pass through comfortably.

Airport Manager Baird commented that the terminal reconfiguration will give us significant room and improvements that we do not have now.

X. ~~IX.~~ ADJOURNMENT

The February 5, 2015 Regular Meeting of the Friedman Memorial Airport Authority was adjourned at approximately 7:17 p.m.

_____

Lawrence Schoen, Secretary

* *Additional resources/materials that should be reviewed with these meeting minutes include but are not limited to the Friedman Memorial Airport Authority Board Packet briefing, the PowerPoint presentation prepared for this meeting and any referenced attachments.*

Friedman Memorial Airport
Profit & Loss Budget vs. Actual Combined
October through December 2014

	Oct - Dec 14	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
4000-00 · AIRCARRIER				
4000-01 · Aircarrier - Lease Space	21,130.11	84,600.00	-63,469.89	25.0%
4000-02 · Aircarrier - Landing Fees	22,424.00	120,101.00	-97,677.00	18.7%
4000-03 · Aircarrier - Gate Fees	300.00	1,200.00	-900.00	25.0%
4000-04 · Aircarrier - Utility Fees	4,215.86	7,600.00	-3,384.14	55.5%
4010-06 · Aircarrier - '12 PFC App	56,731.64			
4010-07 · Aircarrier - '14 PFC App	7,455.38	250,000.00	-242,544.62	3.0%
Total 4000-00 · AIRCARRIER	112,256.99	463,501.00	-351,244.01	24.2%
4020-00 · TERMINAL AUTO PARKING REVENUE				
4020-01 · Automobile Parking - Terminal	25,501.37	100,100.00	-74,598.63	25.5%
Total 4020-00 · TERMINAL AUTO PARKING REVENUE	25,501.37	100,100.00	-74,598.63	25.5%
4030-00 · AUTO RENTAL REVENUE				
4030-01 · Automobile Rental - Commission	66,534.00	390,000.00	-323,466.00	17.1%
4030-02 · Automobile Rental - Counter	3,183.60	12,800.00	-9,616.40	24.9%
4030-03 · Automobile Rental - Auto Prkng	43,442.94	60,900.00	-17,457.06	71.3%
4030-04 · Automobile Rental - Utilities	294.72	1,000.00	-705.28	29.5%
Total 4030-00 · AUTO RENTAL REVENUE	113,455.26	464,700.00	-351,244.74	24.4%
4040-00 · TERMINAL CONCESSION REVENUE				
4040-01 · Terminal Shops - Commission	0.00	1,200.00	-1,200.00	0.0%
4040-02 · Terminal Shops - Lease Space	661.02	6,120.00	-5,458.98	10.8%
4040-03 · Terminal Shops - Utility Fees	53.99	600.00	-546.01	9.0%
4040-10 · Advertising - Commission	8,965.00	33,000.00	-24,035.00	27.2%
4040-11 · Vending Machines - Commission	1,715.91	12,000.00	-10,284.09	14.3%
4040-12 · Terminal ATM	19.20			
Total 4040-00 · TERMINAL CONCESSION REVENUE	11,415.12	52,920.00	-41,504.88	21.6%
4050-00 · FBO REVENUE				
4050-01 · FBO - Lease Space	53,692.54	231,500.00	-177,807.46	23.2%
4050-02 · FBO - Tiedown Fees	34,350.30	375,000.00	-340,649.70	9.2%
4050-03 · FBO - Landing Fees - Trans.	50,661.55	345,000.00	-294,338.45	14.7%
4050-04 · FBO - Commission	4,063.20	20,000.00	-15,936.80	20.3%
Total 4050-00 · FBO REVENUE	142,767.59	971,500.00	-828,732.41	14.7%
4060-00 · FUEL FLOWAGE REVENUE				
4060-01 · Fuel Flowage - FBO	39,189.12	200,000.00	-160,810.88	19.6%
Total 4060-00 · FUEL FLOWAGE REVENUE	39,189.12	200,000.00	-160,810.88	19.6%
4070-00 · TRANSIENT LANDING FEES REVENUE				
4070-02 · Landing Fees - Non-Comm./Gov't	200.06	500.00	-299.94	40.0%
Total 4070-00 · TRANSIENT LANDING FEES REVENUE	200.06	500.00	-299.94	40.0%
4080-00 · HANGARS REVENUE				

ATTACHMENT #2

Friedman Memorial Airport
Profit & Loss Budget vs. Actual Combined
October through December 2014

	Oct - Dec 14	Budget	$ Over Budget	% of Budget
4080-01 · Land Lease - Hangar	105,666.90	430,100.00	-324,433.10	24.6%
4080-02 · Land Lease - Hangar/Trans. Fee	219.60	1,000.00	-780.40	22.0%
4080-03 · Land Lease - Hangar/Utilities	373.04	1,400.00	-1,026.96	26.6%
4080-20 · Land Lease - Government Revenue	1,176.53	7,150.00	-5,973.47	16.5%
Total 4080-00 · HANGARS REVENUE	107,436.07	439,650.00	-332,213.93	24.4%
4090-00 · TIEDOWN PERMIT FEES REVENUE				
4090-01 · Tiedown Permit Fees (FMA)	12,197.10	10,000.00	2,197.10	122.0%
Total 4090-00 · TIEDOWN PERMIT FEES REVENUE	12,197.10	10,000.00	2,197.10	122.0%
4100-00 · POSTAL CARRIERS REVENUE				
4100-01 · Postal Carriers - Landing Fees	2,668.48	12,000.00	-9,331.52	22.2%
4100-02 · Postal Carriers - Tiedown	2,970.00			
Total 4100-00 · POSTAL CARRIERS REVENUE	5,638.48	12,000.00	-6,361.52	47.0%
4110-00 · MISCELLANEOUS REVENUE				
4110-06 · Misc. - Security-Prox. Cards	20,290.00	27,000.00	-6,710.00	75.1%
4110-09 · Miscellaneous Expense Reimburse	109.08			
Total 4110-00 · MISCELLANEOUS REVENUE	20,399.08	27,000.00	-6,600.92	75.6%
4120-00 · GROUND TRANSP. PERMIT REVENUE				
4120-01 · Ground Transportation Permit	13,000.00	12,000.00	1,000.00	108.3%
4120-02 · GTSP - Trip Fee	780.00	3,200.00	-2,420.00	24.4%
Total 4120-00 · GROUND TRANSP. PERMIT REVENUE	13,780.00	15,200.00	-1,420.00	90.7%
4400-00 · TSA				
4400-02 · Terminal Lease	1,636.11	6,545.00	-4,908.89	25.0%
Total 4400-00 · TSA	1,636.11	6,545.00	-4,908.89	25.0%
4510-00 · DOT/Small Community Air Service				
4510-01 · Small Community Air Service	0.00	200,000.00	-200,000.00	0.0%
Total 4510-00 · DOT/Small Community Air Service	0.00	200,000.00	-200,000.00	0.0%
4520-00 · INTEREST INCOME				
4520-06 · Interest Income - '12 PFC	17.94			
4600-00 · Interest Income - General	1,660.76	10,000.00	-8,339.24	16.6%
Total 4520-00 · INTEREST INCOME	1,678.70	10,000.00	-8,321.30	16.8%
4739-00 · AIP 39 - Safety Area Proj. Imp.				
4739-01 · AIP '39 Project I	4,199.00			
Total 4739-00 · AIP 39 - Safety Area Proj. Imp.	4,199.00			
4740-00 · AIP 40 - Safety Area Proj. Imp.				
4740-01 · AIP '40 Project II	-84,475.00	9,375,000.00	-9,459,475.00	-0.9%
4740-00 · AIP 40 - Safety Area Proj. Imp. - Other	2,699,981.33			
Total 4740-00 · AIP 40 - Safety Area Proj. Imp.	2,615,506.33	9,375,000.00	-6,759,493.67	27.9%

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	Oct - Dec 14	Budget	$ Over Budget	% of Budget
4741-00 · AIP 41 - Project TBD				
4741-01 · AIP '41 Project TBD	0.00	7,500,000.00	-7,500,000.00	0.0%
Total 4741-00 · AIP 41 - Project TBD	0.00	7,500,000.00	-7,500,000.00	0.0%
Total Income	3,227,256.38	19,848,616.00	-16,621,359.62	16.3%
Gross Profit	3,227,256.38	19,848,616.00	-16,621,359.62	16.3%
Expense				
EXPENDITURES				
"A" EXPENSES				
5000-01 · Salaries - Airport Manager	39,225.00	156,900.00	-117,675.00	25.0%
5010-00 · Salaries -Contracts/Finance Adm	23,056.80	88,841.37	-65,784.57	26.0%
5010-01 · Salaries - Office Assist.	44,384.20	176,404.04	-132,019.84	25.2%
5020-00 · Salaries - ARFF/OPS Chief	23,056.80	88,841.37	-65,784.57	26.0%
5030-00 · Salaries - ARFF/OPS Specialist	75,807.81	323,743.52	-247,935.71	23.4%
5040-00 · Salaries-ASC/Sp.Prjct./Ex. Assi	16,799.79	63,740.68	-46,940.89	26.4%
5050-00 · Salaries - Temp.	6,220.50	20,000.00	-13,779.50	31.1%
5050-02 · Salaries - Merit Increase	0.00	22,247.13	-22,247.13	0.0%
5060-01 · Overtime - General	0.00	2,000.00	-2,000.00	0.0%
5060-02 · Overtime - Snow Removal	4,519.74	15,000.00	-10,480.26	30.1%
5060-04 · OT - Security	0.00	2,500.00	-2,500.00	0.0%
5100-00 · Retirement	27,059.55	111,481.32	-84,421.77	24.3%
5110-00 · Social Security/Medicare	16,247.78	73,456.68	-57,208.90	22.1%
5120-00 · Life Insurance	487.48	1,500.00	-1,012.52	32.5%
5130-00 · Medical Insurance	45,573.97	183,000.00	-137,426.03	24.9%
5160-00 · Workman's Compensation	-1,632.00	15,000.00	-16,632.00	-10.9%
Total "A" EXPENSES	320,807.42	1,344,656.11	-1,023,848.69	23.9%
"B" EXPENDITURES				
"B" EXPENSES - ADMINISTRATIVE				
6000-00 · TRAVEL EXPENSE				
6000-01 · Travel	1,555.98	15,000.00	-13,444.02	10.4%
Total 6000-00 · TRAVEL EXPENSE	1,555.98	15,000.00	-13,444.02	10.4%
6010-00 · SUPPLIES/EQUIPMENT EXPENSE				
6010-01 · Supplies - Office	3,624.57	13,000.00	-9,375.43	27.9%
6010-03 · Supplies - Computer	1,337.47			
Total 6010-00 · SUPPLIES/EQUIPMENT EXPENSE	4,962.04	13,000.00	-8,037.96	38.2%
6020-00 · INSURANCE				
6020-01 · Insurance - Liability	9,700.00	11,237.60	-1,537.60	86.3%
6020-02 · Insurance - Public Officials	4,867.72	4,489.10	378.62	108.4%
6020-03 · Insurance-Bldg/Unlic.Veh./Prop	46,329.00	33,962.50	12,366.50	136.4%
6020-04 · Insurance - Licensed Vehicles	6,276.00	6,659.40	-383.40	94.2%
Total 6020-00 · INSURANCE	67,172.72	56,348.60	10,824.12	119.2%

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6030-00 · UTILITIES				
6030-01 · Utilities - Gas/Terminal	835.19	13,000.00	-12,164.81	6.4%
6030-02 · Utilities - Gas/Maintenance	488.55	9,500.00	-9,011.45	5.1%
6030-03 · Utilities - Elect./Runway&PAPI	1,675.43	6,700.00	-5,024.57	25.0%
6030-04 · Utilities - Elec./Office/Maint.	2,820.86	11,000.00	-8,179.14	25.6%
6030-05 · Utilities - Electric/Terminal	7,199.01	30,000.00	-22,800.99	24.0%
6030-06 · Utilities - Telephone	4,093.57	12,000.00	-7,906.43	34.1%
6030-07 · Utilities - Water	233.34	1,200.00	-966.66	19.4%
6030-08 · Utilities - Garbage Removal	2,441.41	8,500.00	-6,058.59	28.7%
6030-09 · Utilities - Sewer	802.20	2,500.00	-1,697.80	32.1%
6030-10 · Utilities - Elec./Sewer	8.25	750.00	-741.75	1.1%
6030-11 · Utilities - Electric/Tower	1,277.75	6,000.00	-4,722.25	21.3%
6030-12 · Utilities - Elec./Brdfrd.Hghl	129.52			
6030-15 · Utilities - Elec/AWOS	677.68	2,000.00	-1,322.32	33.9%
6030-16 · Utilities - Elec. Wind Cone	27.25	210.00	-182.75	13.0%
6030-17 · Utilities - Elec.- Hangar	700.49			
6040-01 · Service Provider - Weather	0.00	2,000.00	-2,000.00	0.0%
6040-02 · Service Provider - Term. Music	227.40	1,000.00	-772.60	22.7%
6040-03 · Service Provider - Internet/ISP	1,414.96	6,500.00	-5,085.04	21.8%
6040-05 · Service Provider - ISP/Terminal	450.00	2,000.00	-1,550.00	22.5%
6040-06 · Service Provider - SSI Movement	9,850.00	12,000.00	-2,150.00	82.1%
6040-07 · Serv. Provider - Arpt Ins. Soft	0.00	3,750.00	-3,750.00	0.0%
Total 6030-00 · UTILITIES	35,352.86	130,610.00	-95,257.14	27.1%
6050-00 · PROFESSIONAL SERVICES				
6050-01 · Professional Services - Legal	7,424.50	35,000.00	-27,575.50	21.2%
6050-02 · Professional Services - Audit	0.00	30,000.00	-30,000.00	0.0%
6050-03 · Professional Services - Enginee	0.00	10,000.00	-10,000.00	0.0%
6050-04 · Professional Services - ARFF	3,000.00	2,000.00	1,000.00	150.0%
6050-05 · Professional Services - Gen.	3,767.00			
6050-07 · Professional Services - Archite	0.00	1,000.00	-1,000.00	0.0%
6050-08 · Professional Services - Securit	0.00	4,000.00	-4,000.00	0.0%
6050-10 · Prof. Srvcs.-IT/Comp. Support	2,500.00	14,000.00	-11,500.00	17.9%
6050-11 · Professional Services - Wildlif	0.00	1,000.00	-1,000.00	0.0%
6050-12 · Prof. Serv.- Planning Air Serv.	805.00	15,000.00	-14,195.00	5.4%
6050-15 · Prof. Serv. - Public Outreach	3,828.35	20,000.00	-16,171.65	19.1%
Total 6050-00 · PROFESSIONAL SERVICES	21,324.85	132,000.00	-110,675.15	16.2%
6060-00 · MAINTENANCE-OFFICE EQUIPMENT				
6060-01 · Maint.-Office Equip./Gen.	96.00	10,000.00	-9,904.00	1.0%
6060-04 · Maintenance - Copier	669.21			
6060-05 · Maintenance - Phone	1,393.20			
Total 6060-00 · MAINTENANCE-OFFICE EQUIPMENT	2,158.41	10,000.00	-7,841.59	21.6%
6070-00 · RENT/LEASE OFFICE EQUIPMENT				
6070-01 · Rent/Lease - Office Equip./Gen	0.00	3,400.00	-3,400.00	0.0%
6070-02 · Rent/Lease - Postage Meter	344.00	1,400.00	-1,056.00	24.6%

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Total 6070-00 · RENT/LEASE OFFICE EQUIPMENT	344.00	4,800.00	-4,456.00	7.2%
6080-00 · DUES/MEMBERSHIPS/PUBLICATIONS E				
6080-01 · Dues/Memberships/Publications	4,251.76	15,000.00	-10,748.24	28.3%
6080-02 · Membership - Internet/Website	30.48			
6080-04 · Airport Marketing	2,044.37	25,000.00	-22,955.63	8.2%
6080-06 · Marketing - SCASDP	1,116.88	225,000.00	-223,883.12	0.5%
Total 6080-00 · DUES/MEMBERSHIPS/PUBLICATIONS E	7,443.49	265,000.00	-257,556.51	2.8%
6090-00 · POSTAGE				
6090-01 · Postage/Courier Service	672.01	1,500.00	-827.99	44.8%
Total 6090-00 · POSTAGE	672.01	1,500.00	-827.99	44.8%
6100-00 · EDUCATION/TRAINING				
6100-01 · Education/Training - Admin.	315.00	25,000.00	-24,685.00	1.3%
6100-03 · Education/Training - ARFF	1,044.92			
6100-05 · Education - Neighborl Flight	794.00			
6100-07 · Education - Public Outreach	2,017.81			
Total 6100-00 · EDUCATION/TRAINING	4,171.73	25,000.00	-20,828.27	16.7%
6110-00 · CONTRACTS				
6110-01 · Contracts - General	7,381.00			
6110-02 · Contracts - FMAA	8,400.00	33,600.00	-25,200.00	25.0%
6110-03 · Contracts - SVA/Fee Collection	14,700.00	58,900.00	-44,200.00	25.0%
6110-04 · Contracts - COH LEO	816.00	10,000.00	-9,184.00	8.2%
6110-05 · Contracts - Janitorial	774.20	20,000.00	-19,225.80	3.9%
6110-06 · Electronic Filing System	3,450.00	13,800.00	-10,350.00	25.0%
6110-07 · Contracts - Snow Removal	0.00	15,000.00	-15,000.00	0.0%
6110-08 · Contracts - Eccles Tree Lights	30,000.00	30,000.00	0.00	100.0%
6110-09 · Contracts - Website	240.00	350.00	-110.00	68.6%
6110-10 · Online Email Server Access	386.00	2,500.00	-2,114.00	15.4%
6110-11 · Contracts -Security CMS	10,650.00	50,000.00	-39,350.00	21.3%
Total 6110-00 · CONTRACTS	76,797.20	234,150.00	-157,352.80	32.8%
6120-00 · PERMITS				
6120-01 · Permits - General	23.00	100.00	-77.00	23.0%
Total 6120-00 · PERMITS	23.00	100.00	-77.00	23.0%
6130-00 · MISCELLANEOUS EXPENSES				
6130-01 · Misc. - General	3,788.41	6,500.00	-2,711.59	58.3%
6140-00 · Bank Fees	123.40	1,000.00	-876.60	12.3%
Total 6130-00 · MISCELLANEOUS EXPENSES	3,911.81	7,500.00	-3,588.19	52.2%
Total "B" EXPENSES - ADMINISTRATIVE	225,890.10	895,008.60	-669,118.50	25.2%
"B" EXPENSES - OPERATIONAL				
6500-00 · SUPPLIES/EQUIPMENT-ARFF/OPERATI				

Friedman Memorial Airport
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	Oct - Dec 14	Budget	$ Over Budget	% of Budget
6500-01 · Supplies/Equipment - General	683.25	10,000.00	-9,316.75	6.8%
6500-05 · Supplies/Equipment - Deice	14,681.00	15,000.00	-319.00	97.9%
6500-06 · Supplies/Equipment - ARFF	2,400.00	5,000.00	-2,600.00	48.0%
Total 6500-00 · SUPPLIES/EQUIPMENT-ARFF/OPERATI	17,764.25	30,000.00	-12,235.75	59.2%
6510-00 · FUEL/LUBRICANTS				
6510-01 · Fuel/Lubricants - General	0.00	45,000.00	-45,000.00	0.0%
6510-02 · Fuel	13,945.05			
Total 6510-00 · FUEL/LUBRICANTS	13,945.05	45,000.00	-31,054.95	31.0%
6520-00 · VEHICLES/MAINTENANCE				
6520-01 · R/M Equipment - General	2,230.06	25,000.00	-22,769.94	8.9%
6520-02 · R/M Equip. '93 Schmidt Snow	1,678.70			
6520-17 · R/M Equip. '01 Case 921 Ldr.	98.00			
6520-19 · R/M Equip. '02 Ford F-150 PU	1,511.68			
6520-20 · R/M Equip. - '02 Kodiak Blower	972.82			
6520-24 · R/M Equip. - '01 Ford F-250	77.08			
6520-25 · R/M Equip. - '04 Batts De-Ice	12.52			
6520-29 · R/M Equip.- 2010 Wausau Plow	286.95			
6520-30 · R/M Equip.-'05 Ford F-350	1,877.41			
Total 6520-00 · VEHICLES/MAINTENANCE	8,745.22	25,000.00	-16,254.78	35.0%
6530-00 · ARFF MAINTENANCE				
6530-01 · ARFF Maint. General	450.33	7,000.00	-6,549.67	6.4%
6530-04 · ARFF Maint. - Radios	388.89			
6530-05 · ARFF MAint. - '03 E-One	0.00			
Total 6530-00 · ARFF MAINTENANCE	839.22	7,000.00	-6,160.78	12.0%
6540-00 · REPAIRS/MAINTENANCE - BUILDING				
6540-01 · R/M Bldg. - General	810.62	29,000.00	-28,189.38	2.8%
6540-02 · R/M Bldg. - Terminal	5,034.62			
6540-03 · R/M Bldg. - Shop	485.00			
6540-04 · R/M Bldg. - Cold Storage	230.00			
6540-05 · R/M Bldg. - Manager's Bldg.	210.00			
6540-07 · R/M Bldg. - Tower	427.90			
Total 6540-00 · REPAIRS/MAINTENANCE - BUILDING	7,198.14	29,000.00	-21,801.86	24.8%
6550-00 · REPAIRS/MAINTENANCE - AIRSIDE				
6550-01 · R/M - General	0.00	12,000.00	-12,000.00	0.0%
6550-04 · R/M - Lights	1,867.42			
6550-05 · R/M - Grounds	285.00			
Total 6550-00 · REPAIRS/MAINTENANCE - AIRSIDE	2,152.42	12,000.00	-9,847.58	17.9%
6560-00 · SECURITY EXPENSE				
6560-01 · Security	5,561.71	20,000.00	-14,438.29	27.8%
Total 6560-00 · SECURITY EXPENSE	5,561.71	20,000.00	-14,438.29	27.8%

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6570-00 · REPAIRS/MAINT.-AERONAUTICAL EQU				
6570-01 · R/M Aeronautical Equp - NDB/DME	2,100.00	25,000.00	-22,900.00	8.4%
6570-04 · R/M Aeron. Equip. - AWOS/ATIS	7,653.00			
Total 6570-00 · REPAIRS/MAINT.-AERONAUTICAL EQU	9,753.00	25,000.00	-15,247.00	39.0%
Total "B" EXPENSES - OPERATIONAL	65,959.01	193,000.00	-127,040.99	34.2%
Total "B" EXPENDITURES	291,849.11	1,088,008.60	-796,159.49	26.8%
"C" EXPENSES				
7000-00 · MISC. CAPITAL EXPENDITURES				
7000-01 · Contingency	0.00	20,000.00	-20,000.00	0.0%
7000-05 · Computer Equipment/Software	5,525.82	30,000.00	-24,474.18	18.4%
7000-34 · Security Upgrades/Equipment	0.00	16,000.00	-16,000.00	0.0%
7000-41 · Terminal Air Service Support	0.00	20,000.00	-20,000.00	0.0%
7000-42 · Runway Improvements	0.00	200,000.00	-200,000.00	0.0%
7000-43 · Parking Lot Improvements	0.00	500,000.00	-500,000.00	0.0%
7000-44 · Materials for Bench Fabrication	0.00	2,000.00	-2,000.00	0.0%
7000-45 · Heavy Duty Shelving	0.00	2,500.00	-2,500.00	0.0%
7000-46 · Tower Roof	0.00	4,000.00	-4,000.00	0.0%
7000-47 · New Office Improvements	0.00	40,000.00	-40,000.00	0.0%
7000-48 · 139 Compliance Rep. Software	0.00	3,500.00	-3,500.00	0.0%
7000-49 · Heavy Duty Air Over Hydraulic J	0.00	4,000.00	-4,000.00	0.0%
7000-50 · Welding Equipment	0.00	4,500.00	-4,500.00	0.0%
7000-51 · Impact Compressor Gun	0.00	3,500.00	-3,500.00	0.0%
Total 7000-00 · MISC. CAPITAL EXPENDITURES	5,525.82	850,000.00	-844,474.18	0.7%
7539-00 · AIP '39 EXPENSE - Imp. ALP				
7539-03 · AIP '39 -AIP/PFC	6,708.99			
Total 7539-00 · AIP '39 EXPENSE - Imp. ALP	6,708.99			
7540-00 · AIP '40/PFC EXPENSE - Safety Ar				
7540-01 · AIP '40	112.50	9,375,000.00	-9,374,887.50	0.0%
7540-02 · AIP '40 Non-Eligible	66,141.30			
7540-03 · AIP '40 AIP/PFC	2,873,241.17			
7540-04 · AIP '40 Non Eligible - Terminal	195.10	990,750.00	-990,554.90	0.0%
7540-05 · AIP '40 AIP 40/PFC 14	0.00	401,000.00	-401,000.00	0.0%
7540-06 · AIP '40 Non-Eligible - OPS/Adm.	46,016.22			
7540-07 · AIP '40 RETAINER	40,081.68			
Total 7540-00 · AIP '40/PFC EXPENSE - Safety Ar	3,025,787.97	10,766,750.00	-7,740,962.03	28.1%
7541-00 · AIP 41 Expense - Project TBD				
7541-01 · AIP '41 - Eligible	4,000.00	7,500,000.00	-7,496,000.00	0.1%
7541-02 · AIP '41 - Non-Eligible	1,653.50			
Total 7541-00 · AIP 41 Expense - Project TBD	5,653.50	7,500,000.00	-7,494,346.50	0.1%
9001-00 · PFC 14-09-C-00-SUN				

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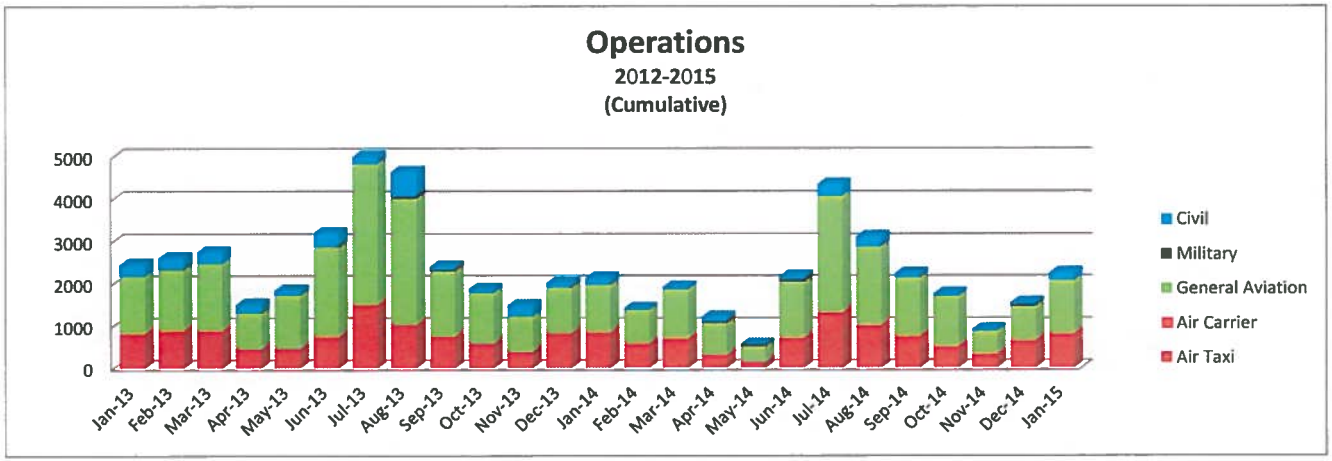
9001-02 · PFC '14 Acquire SRE	830.00	500,000.00	-499,170.00	0.2%
9001-03 · PFC '14 Master Plan	129,532.22	550,000.00	-420,467.78	23.6%
9001-04 · PFC '14 Relocate SW Taxilane By	247.78			
9001-05 · PFC '14 Relocate GA Apron	199.48			
9001-06 · PFC '14 Perimeter Fence Relocat	154.85			
9001-07 · PFC '14 RSA Grading	1,716.31			
9001-08 · PFC '14 Relocate Taxiway A & B	2,800.32			
9001-09 · PFC '14 Relocate Power to PAPI	46.98			
9001-10 · PFC '14 Relocate AWOS	13.06			
9001-11 · PFC '14 Relocate SRE/ARFF Bldg.	88,653.66			
9001-12 · PFC '14 Relocate Terminal Apron	34,391.80			
9001-13 · PFC '14 Relocate Cargo Apron	4,719.07			
9001-14 · PFC '14 Relocate Hangars	0.00			
9001-15 · PFC '14 Rehab Terminal Bldg.	59,053.38			
9001-20 · PFC '14 RETAINER	-5,910.96			
9001-00 · PFC 14-09-C-00-SUN - Other	0.00	1,125,000.00	-1,125,000.00	0.0%
Total 9001-00 · PFC 14-09-C-00-SUN	316,447.95	2,175,000.00	-1,858,552.05	14.5%
Total "C" EXPENSES	3,360,124.23	21,291,750.00	-17,931,625.77	15.8%
Total EXPENDITURES	3,972,780.76	23,724,414.71	-19,751,633.95	16.7%
Total Expense	3,972,780.76	23,724,414.71	-19,751,633.95	16.7%
Net Ordinary Income	-745,524.38	-3,875,798.71	3,130,274.33	19.2%
Other Income/Expense				
Other Income				
Finance Charges	231.31			
Total Other Income	231.31			
Net Other Income	231.31	0.00	231.31	100.0%
Net Income	**-745,293.07**	**-3,875,798.71**	**3,130,505.64**	**19.2%**

January 2015

ATCT Traffic Operations Record

Month	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
January	3,622	3,893	3,912	2,600	3,028	2,787	4,547	2,520	2,070	2,379	2,408	2,098	2,454	2,128	2,249
February	4,027	4,498	3,073	3,122	3,789	3,597	3,548	2,857	2,244	2,647	2,117	2,205	2,612	1,417	-
March	4,952	5,126	3,086	4,097	3,618	2,918	4,677	3,097	2,145	2,709	1,813	1,921	2,753	1,924	-
April	2,494	3,649	2,213	2,840	2,462	2,047	2,581	2,113	1,724	1,735	1,604	1,513	1,509	1,210	-
May	3,905	4,184	2,654	3,282	2,729	2,134	1,579	2,293	2,280	1,891	1,533	1,693	1,852	555	-
June	4,787	5,039	4,737	4,438	3,674	3,656	5,181	3,334	2,503	3,019	2,898	2,761	3,203	2,164	-
July	6,359	8,796	6,117	5,910	5,424	5,931	7,398	4,704	4,551	5,005	5,004	4,810	5,345	4,345	-
August	6,479	6,917	5,513	5,707	5,722	6,087	8,196	4,570	4,488	4,705	4,326	3,823	4,644	3,114	-
September	3,871	4,636	4,162	4,124	4,609	3,760	4,311	2,696	3,376	3,128	3,359	2,396	2,403	2,237	-
October	3,879	3,656	3,426	2,936	3,570	3,339	3,103	2,134	2,145	2,012	1,886	1,658	1,874	1,760	-
November	3,082	2,698	2,599	2,749	2,260	2,912	2,892	1,670	1,901	1,309	1,114	1,325	1,475	908	-
December	3,401	2,805	3,247	3,227	2,722	3,834	2,699	1,848	2,272	1,811	2,493	2,066	2,016	1,545	-
Totals	**50,858**	**55,897**	**44,739**	**45,032**	**43,607**	**43,002**	**50,712**	**33,836**	**31,699**	**32,350**	**30,555**	**28,269**	**32,140**	**23,307**	**2,249**



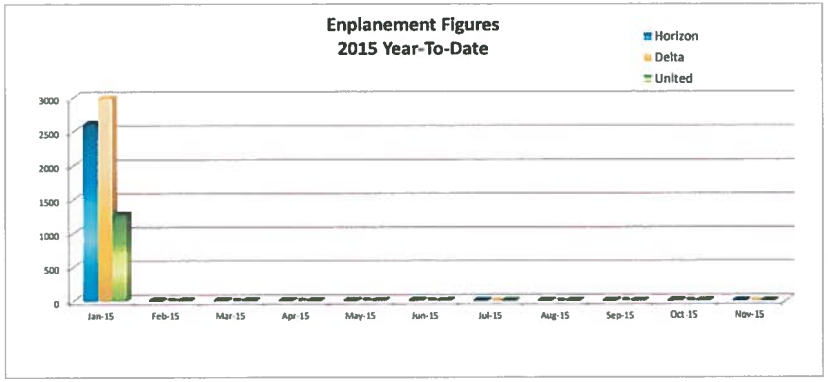
ATCT Operations Change (current month vs. same month last year)			
	2015	2014	% Change
Air Taxi	540	603	-10%
Air Carrier	264	241	10%
General Aviation	1,273	1,124	13%
Military	0	10	-100%
Civil	172	150	15%
Total	2,249	2,128	5.69%

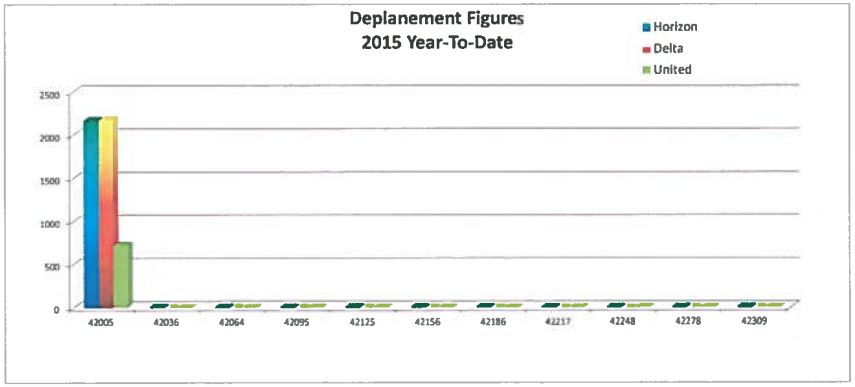
ATTACHMENT #3

Friedman Memorial Airport
January 2015

2015 Enplanements																		
	Alaska Airlines					Delta Airlines					United Airlines							
Date	Revenue	Non-Revenue	Total	Prior Year Month	Total % Change	Revenue	Non-Revenue	Total	Prior Year Month	Total % Change	Revenue	Non-Revenue	Total	Prior Year Month	Total % Change	Total Enp.	Prior Year Total Enp.	Total % Change
Jan-15	2,562	54	2,616	3,058	-14%	2,945	51	2,996	2,585	16%	1,240	37	1,277	992	29%	6,889	6,635	3.8%
Totals	**2,562**	**54**	**2,616**	**3,058**	**-14%**	**2,945**	**51**	**2,996**	**2,585**	**16%**	**1,240**	**37**	**1,277**	**992**	**29%**	**6,889**	**6,635**	**3.8%**
Legend for Chart:																		

2015 Deplanements																		
	Alaska Airlines					Delta Airlines					United Airlines							
Date	Revenue	Non-Revenue	Total	Prior Year Month	Total % Change	Revenue	Non-Revenue	Total	Prior Year Month	Total % Change	Revenue	Non-Revenue	Total	Prior Year Month	Total % Change	Total Dep.	Prior Year Total Dep.	Total % Change
Jan-15	2,113	55	2,168	2,432	-11%	2,117	59	2,176	1,901	14%	690	32	722	719	0%	5,066	5,052	0.3%
Totals	**2,113**	**55**	**2,168**	**2,432**	**-11%**	**2,117**	**59**	**2,176**	**1,901**	**14%**	**690**	**32**	**722**	**719**	**0%**	**5,066**	**5,052**	**0.3%**
Legend for Chart:																		





ATTACHMENT #4

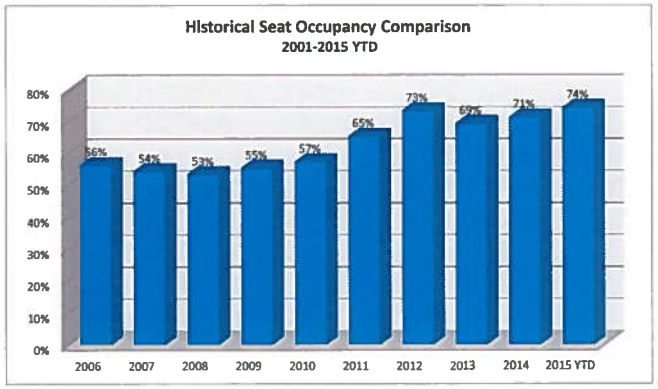
Friedman Memorial Airport

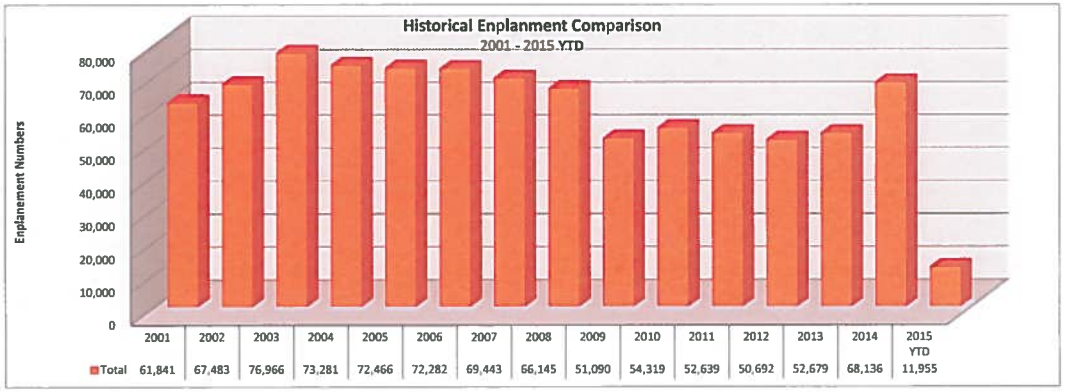
January 2015

2015 Seat Occupancy

Date	Alaska Airlines				Delta Airlines				United Airlines				Seat Occupancy Totals			Seat Occupancy Totals Prior Year Month-to-Month Comparison		
	Departure Flights	Seats Available*	Seats Occupied	Percent Occupied	Departure Flights	Seats Available	Seats Occupied	Percent Occupied	Departure Flights	Seats Available	Seats Occupied	Percent Occupied	Total Seats Available	Total Seats Occupied	Total Percent Occupied	Prior Year % Change Total Seats Available	Prior Year % Change Total Seats Occupied	Prior Year % Change Total % Occupied
Jan-15	44	3,344	2,616	78%	56	3,864	2,996	78%	31	2,046	1,277	62%	9,254	6,889	74%	3%	4%	0%
Totals	**44**	**3,344**	**2,616**	**78%**	**56**	**3,864**	**2,996**	**78%**	**31**	**2,046**	**1,277**	**62%**	**9,254**	**6,889**	**74%**			
Note:	Total of 68 Seats Available on aircraft for summer months Total of 76 Seats Available on aircraft for winter months				Total of 69 Seats Available on aircraft				Total of 66 Seats Available on aircraft from Jan. - June Total of 70 Seats starting in July									

***Seats are capped at 68 during some periods in the summer due to weight and balance requirements and other times of the year seats may be capped due to environmental conditions**





ATTACHMENT #5

Security enhancements coming to Atlanta airport

Posted: Feb 03, 2015 4:30 PM MST
Updated: Feb 03, 2015 4:38 PM MST

By Jeff Chirico CONNECT

WASHINGTON, DC (CBS46) - From expanded employee screening to re-programmed security badges, Hartsfield-Jackson Atlanta International Airport is making changes to improve passenger safety, general manager Miguel Southwell testified on Capitol Hill Tuesday.

Southwell said the airport has advised all employees that they could be "screened or inspected" as they enter the airport and its grounds.

"I'm not subscribing that every airport would screen all of its employees. We believe given the high-profile of Atlanta, it would be applicable," said Southwell to a subcommittee on transportation security.

The security lapse was highlighted when the FBI busted a long-running gun smuggling operation in Atlanta involving a Delta baggage handler and a former employee.

When asked what the incident in Atlanta taught him, acting deputy administrator Mark Hatfield responded , "we were reminded...that our airports are open and to a degree knowingly, porous facilities."

Southwell said there will be some exceptions to the 100% employee screening, including law enforcement, first responders and other employees specially credentialed by the TSA.

In addition to screening almost all employees, the airport is working to limit the number of employee access portals from 70 to 10 and re-program access badges to keep some workers out of sensitive areas.

Rick Baird

From: Adam Snider <adam.snider@aaae.org>
Sent: Thursday, February 12, 2015 11:41 AM
To: Rick Baird
Subject: Airport Alert: AAAE Campaign to Modernize PFC Continues with Op-Ed by Hauptli in Aviation Daily

AAAE Campaign to Modernize PFC Continues With Op-Ed by Hauptli in Aviation Daily

February 12, 2015

Aviation Daily published an op-ed piece from AAAE President and CEO Todd Hauptli today noting one simple action that Congress could take to address airport infrastructure needs - modernizing the PFC program.

"The call for self-help from the airport community through a modernized PFC program is based on the recognition that we can't rely on Washington for help either through additional federal funding or through some other new approach," Hauptli wrote in the article. "So, if the government can't help, it needs to get out of the way and let airports address pressing infrastructure development needs themselves."

The 600-word opinion piece in Aviation Daily is another part of AAAE's continued campaign to press Congress to address the stagnant PFC so that airports can meet growing infrastructure development needs.

You can read the text of the op-ed here and below.

As we hope you have seen, we also have a series of timely videos urging people to call Congress and ask that their local lawmakers support a boost in the PFC. The latest is based on Valentine's Day. You can watch that ad here and you can access all of our recent PFC videos on our YouTube page.

Please share Hauptli's article and the newest Valentine's Day video to help us spread the word and get as many people as possible calling on Congress to modernize the PFC.

A Simple, Straightforward Way to Finance Necessary Airport Infrastructure Upgrades

By Todd Hauptli, President and CEO, American Association of Airport Executives

As was apparent in this week's appearance by Department of Transportation Secretary Anthony Foxx before the House Transportation Committee, Washington faces a tough challenge in finding a way forward with long-term financing for the nation's highway and transit programs.

In the absence of an "easy fix" to address the current mismatch between gas tax revenues and necessary road improvements, a laundry list of proposals has emerged to raise funding for highways, including temporary tax breaks for repatriation of oversees corporate profits, capturing royalties for oil and gas exploration on federal lands, and expanded use of public-private partnerships. Roadblocks abound, however, and the path forward for these controversial and complex approaches is unclear.

As Congress grapples with surface transportation funding, lawmakers will also contemplate the future of our nation's aviation system as part of Federal Aviation Administration reauthorization. Funding for critical airport infrastructure upgrades will be a part of the debate, and notably the "fix" for addressing the long-term financing of critical airport facilities is as simple and straightforward as the solution on the highway side is complicated.

What's the simple fix? Additional local flexibility and self- help to airports through a modernized Passenger Facility Charge - a local user fee that is established locally, collected locally, and used locally to build critical airport infrastructure. By any measure, the PFC has proven enormously beneficial over the years in allowing airports to add capacity, enhance competition, and repair aging facilities.

The PFC is an effective local tool, but it's becoming less so because of an outdated federal cap last adjusted to $4.50 in 2000. Airports can buy roughly half of what they did 15 years ago with that amount, and the airport community and others are asking Congress to modernize the program by increasing the federal cap to $8.50 to restore lost purchasing power. In an era of $25 bag fees, a proposed $4 increase for necessary infrastructure upgrades - which would have to be approved locally - is a modest request, particularly for important infrastructure investments.

The call for self-help from the airport community through a modernized PFC program is based on the recognition that we can't rely on Washington for help either through additional federal funding or through some other new approach. So, if the government can't help, it needs to get out of the way and let airports address pressing infrastructure development needs themselves.

Sounds simple, but the path forward is complicated by false claims from some of our industry colleagues that the PFC is a tax. It's not by any definition since it is determined and used locally and never flows to the federal Treasury. The non-partisan Congressional Research Service defines the PFC as a "state, local, or port authority fee,

not a federally imposed tax deposited into the Treasury." Important checks and balances in the existing program ensure that PFC revenues are utilized for critical, locally supported projects.

A modernized PFC is a simple, straightforward win-win for everyone - the federal government, local governments, and most importantly the traveling public, which is clearly eager to see America's airports upgraded and modernized to meet the needs of today and the challenges of tomorrow.

Congress can avoid future problems - like those that are clearly now being evidenced on the highway side - by modernizing the PFC and allowing the nation's airports to help themselves and their communities. It's a simple fix, and it needs to happen as part of the upcoming FAA reauthorization bill. AAAE and the airport community will be doing everything we can to convince lawmakers it's the right approach for the long term benefit of the nation's aviation system.

Joel Bacon, Executive Vice President
Brad Van Dam, Senior Vice President
Gwen Basaria, Staff Vice President
Adam Snider, Director

Rick Baird

From: Barbara Cook <barbara.cook@aaae.org>
Sent: Friday, February 13, 2015 7:24 PM
To: Rick Baird
Subject: Airport Report Today, February 16, 2015

airportreporttoday

Upcoming Events | Positions Open | Business Opportunities | Video News | Staff Directory

DELIVERING THE NEWS YOU NEED ■ AMERICAN ASSOCIATION OF AIRPORT EXECUTIVES ■ FEBRUARY 16, 2015

TOP STORIES IN THIS ISSUE — VOL. VI, NUMBER

GA Aircraft Sales, Shipments Increase In 2014
White House Plans Actions To Alleviate Entry Delays
House Passes Bills Affecting TSA, Worker ID Credential
Southwest To Add Love Field Flights
Armstrong New Orleans Bonds Rated
S&P Rates Williamson County Airport Bonds
SkyWest Posts Loss For 2014
JetBlue Plans Seasonal Flights From Boston
Highlight AAAE Advances Campaign For Congress To Approve Modernized PFC
American To Launch Flights With Boeing 787 Equipment
FAA Grants UAS Waiver For N.D. Test Site
Rod Propst, A.A.E., Named To San Diego Position
AAAE Recognizes Airports With Digicast Training Award
Digicast Offers ARFF Training
Did You Know

Need Help? **Editorial Suggestions/Questions** | **Technical Assistance** | **E-mail Address Changes**

GA Aircraft Sales, Shipments Increase In 2014

Total worldwide general aviation aircraft shipments rose 4.3 percent in 2014, the General Aviation Manufacturers Association (GAMA) announced.

Billings for GA airplanes worldwide increased to $24.5 billion, up 4.5 percent from 2013. This fixed-wing billings increase marks the second-largest sales value recorded after 2008, when billings were $24.8 billion, according to GAMA.

Shipments of piston-engine airplanes were positive, rising 9.6 percent in 2014. Business jet shipments increased by 6.5 percent during the year. Turboprop shipments declined, however, by 6.5 percent to 603 units, GAMA reported. Rotorcraft shipments slowed for both piston and turbine aircraft compared with the previous year. A total of 230 rotorcraft and 741 turbine rotorcraft were shipped in 2014, a 31.3 percent and 22.4 percent reduction, respectively, from the strong deliveries posted in 2013.

HIGHLIGHT

AAAE ADVANCES CAMPAIGN FOR CONGRESS TO APPROVE MODERNIZED PFC

The industry publication Aviation Daily has published an op-ed piece from AAAE President and CEO Todd Hauptli that calls for Congress to modernize the PFC program.

The article, which may be viewed at http://www.aaae.org/?e=showFile&l=FFXBFR, notes that, "The for self-help from the airport community through a modernized F program is based on the recognition that we can't rely on Washington for help either through additional federal funding or through some other new approach. So, if the government can't it needs to get out of the way and let airports address pressing infrastructure development needs themselves."

To view AAAE's Valentine's Day video urging modernization of PFC, go to https://www.youtube.com/watch?v=rlOQV8jYd2M&feature=you

In related news, eight GA associations, including GAMA, last week unveiled an industry-wide study detailing the economic contributions of general aviation to the U.S. economy. The study, conducted by PricewaterhouseCoopers, determined that general aviation supports 1.1 million total jobs and supplies $219 billion in total economic output in the U.S.

White House Plans Actions To Alleviate Entry Delays

The White House on Friday announced new actions to help alleviate the bottleneck that can lead to long waits for many international travelers entering the U.S.

The announcement is designed to help the administration meet its National Travel and Tourism Strategy goal of having 100 million international travelers enter the country by 2021, which the White House said it is on pace to meet.

An interagency task force, co-chaired by the DHS and Commerce secretaries, will establish quarterly goals and meet with industry stakeholders. The secretaries of both departments will give the President updates on progress this year and in 2016.

DHS and the Commerce Department issued a report noting that an additional 19 million international travelers have entered the U.S. over the last five years. To keep up that progress, the report set "a new national goal for the United States to provide a best-in-class international arrivals experience as compared to our global competitors to an ever-increasing number of international visitors while maintaining the highest standards of national security."

The report also outlined action plans specific to 17 of the largest airports that account for almost three-quarters of international visitors entering the country.

Those action plans include several different approaches, as outlined by the White House:

- The private sector will spend an additional $20 million for 340 automated passport control kiosks at 13 locations, which allow travelers arriving at U.S. airports to scan their own passport. The kiosks can help to reduce the amount of time a Customs and Border Protection (CBP) officer spends on each person from 55 to 30 seconds.

- CBP will expand the use of new mobile passport control technology to the top 20 airports by 2016. That program, which allows travelers to use a mobile device to submit passport information, has been part of a pilot program at Hartsfield-Jackson Atlanta International.

FEATURED MEETING

AAAE Airport Wildlife Management Techniques Course
May 31 - June 3, 2015 | Minneapolis, MN

UPCOMING EVENTS

AAAE/ACI-NA Washington Legislative Conference
March 3 - 4, 2015 | Washington, DC

AAAE/Great Lakes Chapter AAAE Ground Handling Initiatives Workshop
March 8, 2015 | Tucson, AZ

AAAE/Great Lakes Chapter AAAE National Air Service Confere
March 8 - 10, 2015 | Tucson, AZ

South Central Chapter AAAE Annual Conference and Expositi
March 9 - 11, 2015 | Tulsa, OK

Regional Basic ASOS School - ELP
March 18 - 19, 2015 | El Paso, TX

AAAE/SC Chapter AAAE Loretta Scott, A.A.E. Accreditation/Certification Academy
March 22 - 28, 2015 | Dallas, TX

18th Annual AAAE Geographic Information Systems (GIS) Conference and Exhibition
March 22 - 25, 2015 | Savannah, GA

U.S.-South Africa Aviation Leadership Forum
March 23 - 25, 2015 | Capetown, South Africa

Airport 101 OnSite
March 31, 2015 | Los Angeles, CA

Airport 101 OnSite
April 1, 2015 | Los Angeles, CA

Fitch said the A minus ratings reflect Louis Armstrong New Orleans International's continued strong traffic recovery post-Hurricane Katrina and stabilizing airline cost structure and financial operations.

S&P Rates Williamson County Airport Bonds

Standard & Poor's assigned its A plus long-term rating to the Williamson County (Illinois) Airport Authority series 2015A taxable general obligation limited airport bonds. The outlook is stable.

"The rating reflects our view of the authority's very strong reserves and moderate debt burden," said S&P credit analyst Helen Samuelson. "The rating further reflects our view of the authority's stable local economy."

SkyWest Posts Loss For 2014

SkyWest reported that it incurred a net loss, including special items, of $24.2 million in 2014, compared with net income of $59 million in 2013.

Carrier Chairman and CEO Jerry Atkin commented that "SkyWest made significant progress in executing our long-term strategy in the fourth quarter, including reducing the total number of unprofitable aircraft and flying over time. We expect these changes to continue through 2017, as we continue to work with our major airline partners to meet their needs with larger RJ opportunities during that same period. We expect that reducing our total fleet count while improving the overall fleet composition will put us on a path of continued financial and operational improvement."

JetBlue Plans Seasonal Flights From Boston

JetBlue said it will operate three new summer seasonal, nonstop flights from Boston Logan International to Martha's Vineyard, Massachusetts; Port-au-Prince, Haiti (subject to government approval); and Sacramento, California.

American To Launch Flights With Boeing 787 Equipment

American said it will institute domestic service with Boeing 787 Dreamliner equipment in May and international flights in June.

The 787 initially will be deployed between Dallas/Fort Worth International and Chicago O'Hare International, beginning May 7. International flights will begin June 2 between DFW and Beijing Capital International. The new aircraft also will operate between DFW and Ministro Pistarini International in Buenos Aires, Argentina, effective June 4.

American has placed firm orders for 42 Boeing 787 aircraft, with the right to acquire an additional 58.

Rick Baird

From: Barbara Cook <barbara.cook@aaae.org>
Sent: Tuesday, February 17, 2015 3:41 PM
To: Rick Baird
Subject: Airport Report Today, February 18, 2015

airportreporttoday

DELIVERING THE NEWS YOU NEED ■ AMERICAN ASSOCIATION OF AIRPORT EXECUTIVES ■ FEBRUARY 18, 2015

TOP STORIES IN THIS ISSUE VOL. VI, NUMBER 13

FAA Proposes Rules For Small UAS Operation	Highlight John Sanders Named Principal Innovation and Technology Advisor to AAAE Airport Innovation Accelerator
Spirit Airlines To Add New Routes	Seattle-Tacoma To Gain Additional China Route
Frontier Plans Increased Service From Chicago	Digicast Offers ARFF Training
U.S. Airlines' Load Factor Declines In November	Did You Know

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FAA Proposes Rules For Small UAS Operation

FAA on Sunday proposed rules that would allow routine use of certain small unmanned aircraft systems (UAS) in today's aviation system, while maintaining flexibility to accommodate future technological innovations. The current unmanned aircraft rules will remain in place until the agency completes the rulemaking.

The public will be able to comment on the proposed regulations for 60 days from the date of publication in the *Federal Register*, which can be found at www.regulations.gov. Separate from this proposal, the agency said it will convene public meetings to discuss innovation and opportunities at the test sites and a new UAS Center of Excellence. These meetings will be announced in a future *Federal Register* notice.

The proposed regulations offer safety rules for small UAS (under 55 pounds) conducting non-recreational operations. The rules would limit flights to daylight and visual-line-of-sight operations. They also address height restrictions, operator certification, optional use of a visual observer, aircraft registration and marking and operational limits.

HIGHLIGHT

JOHN SANDERS NAMED PRINCIPAL INNOVATION AND TECHNOLOGY ADVISOR TO AAAE AIRPORT INNOVATION ACCELERATOR

AAAE President and CEO Todd Hauptli announced the appointment of highly regarded technology executive John Sanders as principal innovation and technology advisor to the AAAE Airport Innovation Accelerator, which was established recently by the association to directly assist qualified companies in accelerating the process and requirements of bringing their technology and services to the airport marketplace.

The proposed rules include discussion of the possibility of an additional, more flexible framework for "micro" UAS under 4.4 pounds. The agency requests the public to comment on this possible classification to determine whether it should be included as part of the final rules. FAA also is asking for comment about how it can further leverage the UAS test site program and an upcoming UAS Center of Excellence to further spur innovation at "innovation zones."

The proposed rules would require an operator to maintain visual line of sight of a small UAS. They would allow, but not require, an operator to work with a visual observer who would maintain constant visual contact with the aircraft. The operator still would need to be able to view the UAS with unaided vision, except for glasses. The agency is requesting comments on whether the rules should permit operations beyond line of sight, and if so, what the appropriate limits should be.

"We have tried to be flexible in writing these rules," said FAA Administrator Michael Huerta. "We want to maintain today's outstanding level of aviation safety without placing an undue regulatory burden on an emerging industry."

Under the proposed rules, the person actually flying a small UAS would be an "operator." An operator would have to be at least 17 years old, pass an aeronautical knowledge test, and obtain an FAA UAS operator certificate. To maintain certification, the operator would have to pass the FAA knowledge tests every 24 months. A small UAS operator would not need any further private pilot certifications (i.e., a private pilot license or medical rating).

The new rules also propose operating limitations designed to minimize risks to other aircraft and people and property on the ground:

• A small UAS operator must always see and avoid manned aircraft. If there is a risk of collision, the UAS operator must be the first to maneuver away.

• The operator must discontinue the flight when continuing would pose a hazard to other aircraft, people or property.

• A small UAS operator must assess weather conditions, airspace restrictions and the location of people to lessen risks if he or she loses control of the UAS.

• A small UAS may not fly over people, except those directly involved with the flight.

"John Sanders is a visionary executive of absolute integrity," Hauptli said. "His animating objective, both in the private sector and in government, has been to find solutions to challenging problems and drive innovation. I am most grateful for his willingness to utilize his unique experience, relationships, sheer brain-power and determination to help guide the Airport Innovation Accelerator on behalf of our industry."

Sanders recently left government service at TSA where he was assistant administrator for the Office of Security Capabilities and chief technology officer. Prior to his government service, Sanders served on the executive leadership teams of some of the most innovative companies in the aviation industry over the past 20 years, and he has played an instrumental role in the evolution of transportation security technology.

The Accelerator will focus on assisting emerging companies, as well as established companies new to aviation or with new, innovative ideas. The assistance of the Airport Innovation Accelerator will serve critical needs for interested companies, but also engage AAAE members in providing assistance, guidance and expertise that will in turn lead to better products and services in the airport marketplace.

Additional information on the Accelerator can be viewed on the Airport Innovation

• Flights should be limited to 500 feet altitude and no faster than 100 mph.

• Operators must stay out of airport flight paths and restricted airspace areas, and obey any FAA Temporary Flight Restrictions.

The proposed rules maintain the existing prohibition against operating in a careless or reckless manner, and bar an operator from allowing any object to be dropped from the UAS.

Operators would be responsible for ensuring an aircraft is safe before flying, but FAA is not proposing that small UAS comply with current agency airworthiness standards or aircraft certification. For example, an operator would have to perform a preflight inspection that includes checking the communications link between the control station and the UAS. Small UAS with FAA-certificated components also could be subject to agency airworthiness directives.

The new rules would not apply to model aircraft. However, model aircraft operators must continue to satisfy all of the criteria specified in Sec. 336 of Public Law 112-95, including the stipulation that they be operated only for hobby or recreational purposes, FAA said. Generally speaking, the new rules would not apply to government aircraft operations, because the agency said it expects that these government operations will typically continue to actively operate under the Certificate of Waiver or Authorization (COA) process unless the operator opts to comply with and fly under the new small UAS regulations.

In addition to FAA's rulemaking announcement, the White House issued a Presidential Memorandum concerning transparency, accountability, and privacy, civil rights and civil liberties protections for the federal government's use of UAS in the national airspace system that directs the initiation of a multi-stakeholder engagement process to develop a framework for privacy, accountability, and transparency issues concerning commercial and private UAS use.

Spirit Airlines To Add New Routes

Spirit Airlines announced that it will institute nine new nonstop routes from Atlanta on phased dates beginning in May.

The routes and effective dates are:

• Atlanta to Cleveland, Las Vegas and Orlando, beginning May 7

• Atlanta to Baltimore, Philadelphia and Tampa, beginning June 18

• Atlanta to Los Angeles, beginning Aug. 20

• Atlanta to Boston and Fort Myers, beginning Sept. 10

Accelerator website at www.airportinnovation.org.

FEATURED MEETING

AAAE Airport Wildlife Management Techniques Course
May 31 - June 3, 2015 | Minneapolis, MN

UPCOMING EVENTS

AAAE/ACI-NA Washington Legislative Conference
March 3 - 4, 2015 | Washington, DC

AAAE/Great Lakes Chapter AAAE Ground Handling Initiatives Workshop
March 8, 2015 | Tucson, AZ

AAAE/Great Lakes Chapter AAAE National Air Service Conference
March 8 - 10, 2015 | Tucson, AZ

South Central Chapter AAAE Annual Conference and Exposition
March 9 - 11, 2015 | Tulsa, OK

Regional Basic ASOS School - ELP
March 18 - 19, 2015 | El Paso, TX

AAAE/SC Chapter AAAE Loretta Scott, A.A.E. Accreditation/Certification Academy
March 22 - 28, 2015 | Dallas, TX

18th Annual AAAE Geographic Information Systems (GIS) Conference and Exhibition
March 22 - 25, 2015 | Savannah, GA

U.S.-South Africa Aviation Leadership Forum
March 23 - 25, 2015 | Capetown, South Africa

Airport 101 OnSite
March 31, 2015 | Los Angeles, CA

Airport 101 OnSite
April 1, 2015 | Los Angeles, CA

Rick Baird

From: Barbara Cook <barbara.cook@aaae.org>
Sent: Tuesday, February 24, 2015 6:05 PM
To: Rick Baird
Subject: Airport Report Today, February 25, 2015

airportreporttoday

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DELIVERING THE NEWS YOU NEED ■ AMERICAN ASSOCIATION OF AIRPORT EXECUTIVES ■ FEBRUARY 25, 2015

TOP STORIES IN THIS ISSUE — VOL. VI, NUMBER 15

Allegiant Announces New Service On 22 Routes	Kentucky's Blue Grass Airport Wins ACC Award
Delta To Add Daily Sea-Tac Flights To Kona, Hawaii	Marion Blakey Named Head Of Rolls-Royce, N.A.
U.S. Outbound Travel Gains In 2014	Digicast Offers ARFF Training
LAN Peru Plans Orlando-Lima Nonstop Flights	Did You Know
Scheduled Airlines Increase Workforce In December	

Need Help? **Editorial Suggestions/Questions** | **Technical Assistance** | **E-mail Address Changes**

Allegiant Announces New Service On 22 Routes

Allegiant on Tuesday announced it will offer new, nonstop jet service on 22 routes.

New seasonal routes will link:

• Austin-Bergstrom International from Cincinnati, effective June 4

• Los Angeles International from Little Rock, Ark., beginning June 4

• Telluride, Colo., via Montrose Regional Airport, from Los Angeles, effective June 5

• Myrtle Beach, S.C., from Akron/Canton, Ohio, beginning June 3; from Clarksburg, W.Va., effective June 5; from Indianapolis, beginning June 4; from Orlando, beginning June 4; and from Pittsburgh, beginning June 5

• Oakland International from Omaha, beginning May 1

FEATURED MEETING

87th Annual AAAE Conference and Exposition
June 7 - 10, 2015 | Philadelphia, PA

UPCOMING EVENTS

AAAE/ACI-NA Washington Legislative Conference
March 3 - 4, 2015 | Washington, DC

AAAE/Great Lakes Chapter AAAE Ground Handling Initiatives Workshop
March 8, 2015 | Tucson, AZ

AAAE/Great Lakes Chapter AAAE National Air Service Conference
March 8 - 10, 2015 | Tucson, AZ

South Central Chapter AAAE Annual Conference and Exposition
March 9 - 11, 2015 | Tulsa, OK

• Savannah/Hilton Head International (Ga.) from Akron/Canton, beginning May 21; from Cincinnati, beginning May 8; and from Columbus, beginning June 4

Year-round routes are:

• Fort Lauderdale-Hollywood International from Concord, N.C., beginning May 8; and from Memphis, beginning May 22

• Las Vegas McCarran International from Brownsville, Texas, beginning June 4; and from Memphis, effective May 22

• Los Angeles International from Boise, Idaho, effective June 5

• Orlando-Sanford International from Memphis, beginning May 22; and from Raleigh-Durham N.C., effective May 7

• Punta Gorda, Fla., from Raleigh-Durham, N.C., beginning May 7

• St. Pete-Clearwater, Fla., from Akron/Canton, Ohio, effective May 21; and from Raleigh-Durham N.C., beginning May 6

Delta To Add Daily Sea-Tac Flights To Kona, Hawaii

Delta said it will add daily service from Seattle-Tacoma International to Kona (Hawaii) International, effective Dec. 19, and will increase service from certain other seasonal markets, beginning this summer.

In addition to the Kona flights, Delta will offer:

• One additional daily flight to Palm Springs, Calif., for a total of two daily seasonal flights, beginning Dec. 19

• One daily seasonal flight to Tucson, which was previously Saturday-only service, beginning Dec. 19

• An extension of seasonal service to daily year-round service to Fairbanks and Juneau, Alaska, beginning May 15

• Expanded seasonal service to Los Cabos and Puerto Vallarta, Mexico, beginning Oct. 3

U.S. Outbound Travel Gains In 2014

U.S. travel to overseas markets rose 6 percent in 2014, the U.S. Commerce Department reported this week.

Top destinations last year, in order, were: Europe, Caribbean, Asia, Central America, Middle East, South America, Oceania and Africa. Increased travel was reported in all of these markets.

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April 1, 2015 | Los Angeles, CA

Rick Baird

From: Brad Van Dam <brad.vandam@aaae.org>
Sent: Wednesday, February 25, 2015 4:03 PM
To: Rick Baird
Subject: Airport Alert: Lawmakers Continue ATC Reform Discussions

Lawmakers Continue ATC Reform Discussions

February 25, 2015

Three months after a full committee hearing on Air Traffic Control reform, the House Aviation Subcommittee reconvened today for a roundtable discussion on the same topic. The continued focus on ATC reform shows that House lawmakers remain interested in pursuing a "transformational" FAA reauthorization bill that could fundamentally change how the FAA is financed.

Sharon Pinkerton, the Senior Vice President for Legislative and Regulatory Policy at Airlines for America (A4A), said that the US has the safest aviation system in the world -- but not the most efficient. She said that A4A is still evaluating how other countries provide air traffic services as it considers ATC reform proposals.

Robert Poole, the Director of Transportation Policy at the Reason Foundation, has been a longtime advocate for ATC reform. During today's session, Poole said that the FAA's culture is reluctant to change. He said separating the Air Traffic Organization from the FAA would help it take a more dynamic approach to technology.

Poole also discussed the efforts by the Business Roundtable to put together an ATC reform package. He said the latest draft of the BRT "term sheet" proposes to replace the current system of excise taxes and finance basic safety functions from the General Fund of the U.S. Treasury.

Poole pointed out that a big question remains how to fund the Airport Improvement Program, which receives its revenue from the Airport and Airway Trust Fund. Without the current system of excise taxes in place, Poole said you would have to fund AIP some other way, through some other AIP tax.

Rep. Sam Graves (R-MO), a strong advocate general aviation, quickly warned his colleagues that separating AIP and creating a new funding mechanism for airport infrastructure projects would create a bigger problem. He said AIP was created to help provide funding for smaller airports around the country.

Like Poole, Matthew Hampton, the Assistant Inspector General for Aviation Audits at DOT's Office of Inspector General, argued that the FAA's organizational structure is resistant to change. The DOTIG's office has long criticized the FAA for NextGen-related delays and cost overruns. He then proceeded to describe how Canada and other countries have separated their air traffic service functions.

National Air Traffic Controllers Association Executive Vice President Trish Gilbert warned lawmakers about the issues that Canada encountered when it transitioned its air traffic functions. She pointed out that some small communities lost air service and warned that a NavCanada-type model in the US could similarly impact service to rural America.

"If we jump too quickly, we may break something," Gilbert told lawmakers.

Joel Bacon, Executive Vice President
Brad Van Dam, Senior Vice President
Gwen Basaria, Staff Vice President
Adam Snider, Director

WORK ORDER 15-01
EXHIBIT A – Scope of Work
Friedman Memorial Airport (SUN)
Hailey, Idaho

Terminal Tenant and Public Space Finish-Out

Design and Construction Administration Services

This Scope of Work describes professional services to be provided in support of a project that will complete improvements to portions of the terminal at Friedman Memorial Airport. These improvements will include "finish-out" construction in areas designated for public space and for use by the Transportation Security Administration (TSA).

PROJECT UNDERSTANDING

The airport is currently undertaking a large project to expand and reconfigure the terminal building as part of a large Runway Safety Area Improvement effort. The areas identified for improvement are located in a part of the terminal that will be vacated following completion of the expansion of the building. This project will improve those areas, so that they will be useable by the public and by the TSA. Improvements consist primarily of installation/removal of interior walls and associated lighting, electrical mechanical and interior finish improvements.

This Scope of Work includes building design and construction administration phase services for TSA tenant and public space finish-out to be incorporated into the terminal renovation and expansion project at the airport. Tenant finish-out is defined by the schematic design layout plan, or basis of design, dated January 26, 2015 and attached as Exhibit 1 to this Scope of Work. The Work consists of two main areas:

- TSA office and breakroom
- Public lounge and administrative conference room

This basis of design was developed through conversations with Airport Staff and the TSA.

PROJECT APPROACH

Upon receipt of notice-to-proceed, the Consultant will begin design development work on the TSA office and breakroom and public lounge and conference room space per the basis of design and using the TSA Field Office Program of Requirements, Appendix A through D provided by the GSA as exhibits to their lease with the Airport. The Consultant will schedule weekly conference calls with TSA representatives, the Owner and Client to review progress, request information and answer questions in order to move design development forward allowing for timely review and approval of the documents. It should be noted that the TSA has very specific requirements for space utilized by their personnel, and this scope reflects a high level of effort to accommodate and incorporate these requirements.

Upon Owner approval of design development, the Consultant will begin work on construction documents. These documents will include the Terminal Renovation and Expansion construction documents by reference and will be supplemented by additional plans, enlarged plans, interior elevations, wall sections and details specific to the requirements of this project. The final deliverable will be a set of building finish-out construction documents that will be released to the terminal construction Contractor in a request for construction pricing. The work is anticipated to be incorporated into the existing construction contract by Change Order.

None of the work included in this scope of work or in the anticipated construction is eligible for FAA Airport Improvement Program or Passenger Facility Charge participation, therefore it must be funded locally. A portion of the work, however, is eligible for reimbursement by the TSA, and this scope is structured so that services related to the TSA work can be tracked separately.

PROJECT SCHEDULE

The Work Scope included in this proposal is predicated on the basis of design and submitted to the Client as one design and construction administration phase services package. The Consultant proposes to execute and issue the design phase Work described above within eight weeks of notice-to-proceed from the Client. The anticipated approval of the Work Order is March 3, 2015 with notice-to-proceed issued March 4, 2015 and completion of construction documents for this project by no later than April 29, 2015, provided all lessee and Owner approvals are forthcoming and timely.

The Consultant proposes construction administration services that will cover the duration of construction for the TSA space. For the purposes of this proposal, construction duration is anticipated to require eight (8) weeks for the TSA portion of the project. Construction administration services associated with the public spaces will be incidental to other efforts.

ANTICIPATED STAFFING

T-O Engineers is the prime consultant for this project and will provide contract management, coordination and all other project management services. These services will primarily be provided by a Principal in the firm, in order to provide the experience and leadership necessary to complete the project on an aggressive schedule.

All architectural elements of the project, including architectural, structural, mechanical, plumbing, electrical and security design will be completed by qualified architectural consultants. Mead & Hunt will serve as the primary architectural consultant, with assistance from Ruscitto/Latham/Blanton (RLB), who will provide local knowledge and coordination for the project. RLB will also provide on-site observation during construction.

SCOPE OF SERVICES

The terminal tenant finish-out schematic design layout was completed on January 26, 2015 and will serve as the basis of design for the Work which is defined as follows:

- Design development and construction documents phase services, and
- Construction administration services for the TSA space

The Work will be delivered as a set of construction documents with reference to the RSA Project 3 - Terminal Renovation & Expansion set of construction drawings and specifications along with supplemental drawings and specifications as required by the design, materials, furnishings and fixtures. A separate set of construction bid documents, to be used in the event that the Contractor and Owner are unable to agree a price for construction of the projects, will be considered an additional service with cost to be determined through a subsequent negotiation.

Design Phase Services

The Consultant will be responsible for providing architectural and engineering design services for the Project, including Architectural, Interior Design to include standard furniture, fixtures and equipment (FF&E), Mechanical, Electrical, Plumbing and Fire Protection, Fire alarm, Audio/visual, Cable television, Telecommunications, Sound/intercom and Security systems (MEP/FACTSS) as outlined in the following tasks:

Listings of attendees at meetings in the following scope of services shall be designated as follows: Project Manager (PM); Project Architect (PA); Interior Designer, (ID); Intern Architect, (IA); Mechanical Engineer (ME); Electrical Engineer (EE); Lighting Designer (LD); Special Systems/Technology Specialist (SS); and Construction Administrator (CA). Based on the compressed nature of review periods necessary to meet requested timelines, teleconference/web-based meetings are proposed to efficiently resolve design issues on a weekly basis for TSA/GSA review and updates. Arrangements should be made to provide computer display equipment at the Owner's conference room to allow the Owner full participation in the discussion.

Task 1 Project Management

This task provides project administration and coordination throughout the course of this project and will involve communicating project progress and issues with Client, coordinating the team's activities, providing oversight and quality control, checking documents, organizing project information, administering invoices, and managing the project budget.

Task 2 Design Development

Design Development phase will include design work for further development of the approved architectural basis of design along with associated MEP/FACTSS building systems and cross-discipline coordination predicated on TSA Field Office Standards for TSA spaces and Owner input for public and conference room spaces. These tasks consist of the following:

- Building Code Review/Check
- Finalize the architectural design including typical interior floor plans, primary interior elevations, finishes and typical details, lighting design and schedules

- Finalize MEP & FACTSS building systems design
- Finalize building phasing for the project, coordinating building systems with subsequent ATO finish-out planning
- Determine extent of demolition and prepare demolition plan
- Terminal Finish-Out Construction Phasing Development
- Finalize FF&E design
- Conduct weekly progress meetings with Owner, Client and TSA
- Prepare documentation of weekly progress meetings
- Prepare a design development presentation level plan and interior elevations for TSA & Owner
- Prepare Draft Specifications
- Obtain TSA, Client and Owner approvals for design development plans

Meetings

- Four (4) design development progress teleconference meetings with the Owner, Client and TSA to exchange information and review development of the design. Attendees: PM, PA, ID, CA; The following will be invited on an as-needed basis: ME, EE, LD, SS

Deliverables

Design Development Phase deliverables will be submitted for Owner review and approval to include the following items:

- Design Development level architectural floor plans; finish plan, reflected ceiling plan, interior elevations, wall sections, details and schedules in two half-size sets
- Furniture, fixtures and equipment (FF&E) selection with cut sheets, specifications
- Furnishings plan
- MEP, FACTSS drawings, lighting & power plans

Owner's review comments will be incorporated into the Construction Documents. Owner changes affecting project scope, schedule or budget will be reviewed with Client regarding potential Consultant contract modifications.

Task 3 Construction Documents Phase

Upon receipt of design development approval, Consultant will prepare construction documents for submittal to the Contractor in a request for cost proposal (RFCP). RSA Project 3 – Terminal Renovation & Expansion construction documents and specifications will be incorporated by reference with supplemental design details included in the building finish-out set. Tasks specific to this phase of the work include the following:

- Finalize construction documents for architectural, interior design, mechanical, plumbing, fire protection, electrical and data/communication technology components on the project
- Finalize specifications to include those specific materials, products and/or systems not included in the original project specifications

- Submit 90% complete pre-final construction documents to Owner, Client and TSA for review and approval. Incorporate comments into final construction documents
- Conduct weekly progress meetings with Owner, Client and TSA
- Prepare documentation of weekly progress meetings
- Provide opinion of probable construction cost for the TSA space for comparison to Contractor cost proposal

Meetings

- Four (4) construction document phase progress teleconference meetings with the Owner, Client and TSA to exchange information and review development of the design. Attendees: PM, PA, ID, IA, CA; The following will be invited on an as-needed basis: ME, EE, LD, SS
- One (1) final meeting to review construction documents with the Owner, Client & TSA. Attendees: PM, PA

Deliverables

Contract Documents will be submitted to the Owner, Client and TSA and will include the following:

- Architectural, interior design, MEP/FACTSS construction drawings and project manual (specifications)
- Furniture, fixtures and equipment (FF&E) selection and specifications
- Independent opinion of probable construction cost estimate for the project

Task 4 Permit Phase

The permit phase involves the Consultant in the municipal permit review process and generally requires time to respond to questions. The tasks included in this phase are the following:

- Submit plans/specifications to applicable governmental agencies for review and approval
- Review agency comments and provide timely responses to the agency for review

Deliverables

Permit Phase deliverables include the following:

- Building permit package: Three (3) signed and sealed copies of the contract documents for building permit submittal

Construction Administration Phase Services

The following services will be provided during the construction of the project.

Task 5 Construction Administration Phase

Construction administration (CA) phase services for the TSA space involves the Consultant in office administration but will include one site visit for the firm's technology engineer to review TSA technology and security work in place. CA services will be administered on a time and expense basis for the

construction period noted above. Should the construction period exceed that cited the Consultant will inform the Client of work remaining to completion and provide an estimate of the time necessary to complete the work to the Client for approval. Upon client approval, the consultant will bill their services as time and expenses under the Work Order resulting from this proposal.

Construction administration tasks include:

- Pre-construction Meeting
  Meeting is predicated on Contractor's successful cost proposal for the Work.
  - Conduct pre-construction conference with Owner, Client, Contractor & Construction Administrator (RLB) via teleconference
  - Prepare and distribute meeting minutes

- Construction Progress Meetings
  Mead & Hunt will participate in the weekly progress meetings via teleconference

- Submittal and shop drawing processing
  - Review and monitor Contractor's submittal schedule
  - Review and process submittals, samples and shop drawing required by contract documents
  - Distribute reviewed submittals per project protocols

- Requests for Information
  - Create and maintain log of Contractor's requests for information (RFIs)
  - Review, research, and respond to Contractor's RFIs
  - Generate supplemental design detailing/sketches or product information as required to clarify Responses to RFIs

- Pay Application review
  - Review Contractor's schedule of values and waivers of lien
  - Review Contractor's monthly draft pay applications
  - Review Contractor's monthly final pay application with recommendation to T-O Engineers

- Construction Site Observation
  Weekly construction site visits will be conducted by the Construction Administrator (RLB)

- Review Contractor's periodic progress reports to identify areas of work activity to correlate with Construction Administrator's site visits
- Review Contractor's schedule updates and notify Client and Owner of deviations from the schedule
- Establish dates of Substantial Completion and Final Completion
- Substantial Completion and Final Punch List walk-through will be performed by the Construction Administrator with the exception of IT/Communications, for which Mead & Hunt will perform Substantial Completion review
- Project closeout and documentation as required. This is anticipated to include a summary of cost information and a brief (one-page) narrative of the work for use in obtaining reimbursement from the TSA.

Deliverables

Construction administration deliverables include those products generated from above tasks.

EXHIBIT B

Friedman Memorial Airport — **Terminal Tenant and Public Space Finish-Out**
Work Order #15-01

Fee Worksheet — **Part 1 - TSA Services**

FIRM	T-O	Mead & Hunt								RLB			TASK TOTAL
LABOR CLASSIFICATION	PM	PA	A	ME	PE	EE	SS	CT	CL	SP	CA	Total	
BILLING RATE	$170	$158	$94	$138	$141	$138	$141	$104	$76	$150	$95	Hours	
TASK 1 - PROJECT MANAGEMENT													
Project Administration & Coordination	4	1										5	$838
Communicate Progress & Isssues with Owner	2	1										3	$498
Coordinate Team's Activities	2	2										4	$656
Coordinate Design with Owner		1										1	$158
Provide Oversight & Quality Control	1	1										2	$328
Check Documents		2										2	$316
Organize Project Information		1										1	$158
Administer Invoices	1											1	$170
Manage Project Budget	1											1	$170
Coordinate with Terminal Contract Documents		1										1	$158
Corodinate with Terminal Phasing	1	1										2	$328
Subtotal, Task 1	12	11	0	0	0	0	0	0	0	0	0	23	**$3,778**
TASK 2 - DESIGN DEVELOPMENT PHASE													
Building Code Review/Check		1										1	$158
Finalize Architectural Design		2						16				18	$1,980
Finalize MEP & FACTSS Building Systems Design				6		8	16	44				74	$8,764
Finalize Project Phasing/Coord. Building Systems		1										1	$158
Determine Extent of Demolition		1										1	$158
Terminal Finish-Out Phasing (See Lounge-Conf.)												0	$0
Finalize FF&E Design		1	4									5	$534
Conduct/Attend Weekly Progress Meetings	4	2		2		2	4	16				30	$3,776
Prepare Documentation of Weekly Progress Mtgs		2						8				10	$1,148
Develop Draft Specifications		1		2		2	4					9	$1,274
Review Probable Construction Cost Estimate		1										1	$158
QA/QC	1	2										3	$486
Revise Drawings Per TSA & Owner Mark-Ups		2		2		2	2	12				20	$2,398
Subtotal, Task 2	5	16	4	12	0	14	26	96	0	0	0	173	**$20,992**

EXHIBIT B

Friedman Memorial Airport — **Terminal Tenant and Public Space Finish-Out**
Work Order #15-01

Fee Worksheet — **Part 1 - TSA Services**

FIRM	T-O	Mead & Hunt								RLB			TASK TOTAL
LABOR CLASSIFICATION	PM	PA	A	ME	PE	EE	SS	CT	CL	SP	CA	Total Hours	
BILLING RATE	$170	$158	$94	$138	$141	$138	$141	$104	$76	$150	$95		
TASK 3 - CONSTRUCTION DOCUMENTS PHASE													
Finalize Construction Documents All Disciplines		4		4		8	12	64				92	$10,636
Finalize Specifications		2		2		4	4		4			16	$2,012
Review Probable Construction Cost Estimate		1		1		1	1					4	$575
Submit 90% & 100% Complete Const. Docs		2		1				4				7	$870
Conduct Weekly Progress Meetings	4	2		2		2	4					14	$2,112
Prepare Documentation of Weekly Progress Mtgs		6						4				10	$1,364
QA/QC		2		2		2	4					10	$1,432
Subtotal, Task 3	4	19	0	12	0	17	25	72	4	0	0	153	**$19,001**
TASK 4 - PERMITTING													
Coordinate Permitting Process to Obtain Permits	1	2										3	$486
Address Code Questions & Revise Drawings		2						2				4	$524
Subtotal, Task 4	1	4	0	0	0	0	0	2	0	0	0	7	**$1,010**
TOTAL, TASKS 1 THROUGH 4													
TOTAL LABOR HOURS	22	50	4	24	0	31	51	170	4	0	2	356	
TOTAL LABOR COSTS	$3,740	$7,900	$376	$3,312	$0	$4,278	$7,191	$17,680	$304	$0	$190		**$44,971**

EXHIBIT B

Friedman Memorial Airport — **Terminal Tenant and Public Space Finish-Out**
Work Order #15-01

Fee Worksheet — **Part 1 - TSA Services**

FIRM	T-O	Mead & Hunt								RLB			TASK TOTAL
LABOR CLASSIFICATION	PM	PA	A	ME	PE	EE	SS	CT	CL	SP	CA	Total	
BILLING RATE	$170	$158	$94	$138	$141	$138	$141	$104	$76	$150	$95	Hours	
TASK 5 - CONSTRUCTION ADMINISTRATION PHASE													
Project Management	4	1								1		5	$988
External Communication	2	1					2				2	5	$970
Contractor Submittal Processing		1		2	2	2	2	4				13	$1,690
Coordinate RFI and ASI Process		1		2	2	2	2	4			2	13	$1,880
Coordinate RFCP and CO Process		1									2	1	$348
Pay Application Review		1									1	1	$253
Monitor Construction Progress		1								2	16	1	$1,978
Technology and Substantial Compl. Site Review	1	1					20					22	$3,148
Project Closeout	2										2	2	$530
Task 5 Total Labor Hours	9	8	0	4	4	4	26	8	0	3	25	63	
Task 5 Total Labor Costs	$1,530	$1,264	$0	$552	$564	$552	$3,666	$832	$0	$450	$2,375		$11,785
TOTAL LABOR, ALL TASKS	31	58	4	28	4	35	77	178	4	3	27	449	
TOTAL LABOR COSTS, ALL TASKS	$5,270	$9,164	$376	$3,864	$564	$4,830	$10,857	$18,512	$304	$450	$2,565		$56,756

EXPENSES

Description	Amount
Cost Estimating Consultant	$1,000
Air Travel (M&H - 1 Trip)	$1,200
Travel/Misc. (T-O/RLB)	$500
TOTAL	$2,700

TOTAL, LABOR PLUS EXPENSES	$59,456

EXHIBIT B

Friedman Memorial Airport
Work Order #15-01

Terminal Tenant and Public Space Finish-Out

Fee Worksheet

Part 2 - Public Spaces

FIRM	T-O	Mead & Hunt								RLB			TASK TOTAL
LABOR CLASSIFICATION	PM	PA	A	ME	PE	EE	SS	CT	CL	SP	CA	Total	
BILLING RATE	$170	$158	$94	$138	$141	$138	$141	$104	$76	$150	$95	Hours	
TASK 1 - PROJECT MANAGEMENT													
Project Administration & Coordination	2	1										3	$498
Communicate Progress & Isssues with Owner	1	1										2	$328
Coordinate Team's Activities	1	1										2	$328
Coordinate Design with Owner		1										1	$158
Provide Oversight & Quality Control		1										1	$158
Check Documents		1										1	$158
Organize Project Information		1										1	$158
Administer Invoices	1											1	$170
Manage Project Budget	1											1	$170
Coordinate with Terminal Contract Documents		1										1	$158
Corodinate with Terminal Phasing	1	1										2	$328
Subtotal, Task 1	7	9	0	0	0	0	0	0	0	0	0	16	**$2,612**
TASK 2 - DESIGN DEVELOPMENT PHASE													
Building Code Review/Check		0										0	$0
Finalize Architectural Design		2						8				10	$1,148
Finalize MEP & FACTSS Building Systems Design				2		2	4	18				26	$2,988
Finalize Project Phasing/Coord. Building Systems		1						2				3	$366
Determine Extent of Demolition		1										1	$158
Terminal Finish-Out Phasing		32						20				52	$7,136
Finalize FF&E Design		1	4									5	$534
Conduct/Attend Weekly Progress Meetings	2	2		1		1	1					7	$1,073
Prepare Documentation of Weekly Progress Mtgs		2										2	$316
Develop Draft Specifications		1		2	2	2	2					9	$1,274
Review Probable Construction Cost Estimate		1										1	$158
QA/QC	1	1		1		1	1					5	$745
Revise Drawings Per TSA & Owner Mark-Ups												0	$0
Subtotal, Task 2	3	44	4	6	2	6	8	48	0	0	0	121	**$15,896**

EXHIBIT B

Friedman Memorial Airport — **Terminal Tenant and Public Space**
Work Order #15-01 — **Finish-Out**

Fee Worksheet — **Part 2 - Public Spaces**

FIRM	T-O	Mead & Hunt								RLB			TASK TOTAL
LABOR CLASSIFICATION	PM	PA	A	ME	PE	EE	SS	CT	CL	SP	CA	Total	
BILLING RATE	$170	$158	$94	$138	$141	$138	$141	$104	$76	$150	$95	Hours	
TASK 3 - CONSTRUCTION DOCUMENTS PHASE													
Finalize Construction Documents All Disciplines		8		2		2	4	52				68	$7,788
Finalize Specifications		2		4		4	4		4			18	$2,288
Review Probable Construction Cost Estimate		2		1		1	1					5	$733
Submit 90% & 100% Complete Const. Docs		2						4				6	$732
Conduct Weekly Progress Meetings	2	2		2		2	4					12	$1,772
Prepare Documentation of Weekly Progress Mtgs		2										2	$316
QA/QC		2		4		4	4					14	$1,984
Subtotal, Task 3	2	20	0	13	0	13	17	56	4	0	0	125	**$15,613**
TASK 4 - PERMITTING													
Coordinate Permitting Process to Obtain Permits	1	1										2	$328
Address Code Questions & Revise Drawings		1						1				2	$262
Subtotal, Task 4	1	2	0	0	0	0	0	1	0	0	0	4	**$590**
TOTAL, TASKS 1 THROUGH 4													
TOTAL LABOR HOURS	13	75	4	19	2	19	25	105	4	0	0	266	
TOTAL LABOR COSTS	$2,210	$11,850	$376	$2,622	$282	$2,622	$3,525	$10,920	$304	$0	$0	$34,711	

EXHIBIT B

Friedman Memorial Airport — **Terminal Tenant and Public Space Finish-Out**
Work Order #15-01

Fee Worksheet — **Part 2 - Public Spaces**

FIRM	T-O	Mead & Hunt								RLB			TASK TOTAL
LABOR CLASSIFICATION	PM	PA	A	ME	PE	EE	SS	CT	CL	SP	CA	Total Hours	
BILLING RATE	$170	$158	$94	$138	$141	$138	$141	$104	$76	$150	$95		
TASK 5 - CONSTRUCTION ADMINISTRATION PHASE													
Project Management												0	$0
External Communication												0	$0
Contractor Submittal Processing												0	$0
Coordinate RFI and ASI Process												0	$0
Coordinate RFCP and CO Process												0	$0
Pay Application Review												0	$0
Monitor Construction Progress											4	0	$380
Technology and Substantial Compl. Site Review												0	$0
Project Closeout	1										1	1	$265
Task 5 Total Labor Hours	1	0	0	0	0	0	0	0	0	0	5	1	
Task 5 Total Labor Costs	$170	$0	$0	$0	$0	$0	$0	$0	$0	$0	$475		$645
TOTAL LABOR, ALL TASKS	14	75	4	19	2	19	25	105	4	0	5	272	
TOTAL LABOR COSTS, ALL TASKS	$2,380	$11,850	$376	$2,622	$282	$2,622	$3,525	$10,920	$304	$0	$475		$35,356

EXPENSES

Description	Amount
Cost Estimating Consultant	$500
Air Travel (M&H - 1 Trip)	$0
Travel/Misc. (T-O/RLB)	$100
TOTAL	$600

TOTAL, LABOR PLUS EXPENSES	**$35,956**
TOTAL, PART 1 + PART 2	**$95,412**

ATTACHMENT #7

Instrument Approach Procedure Optimization Study

Friedman Memorial Airport (KSUN)

Hailey, Idaho

February, 2015

Introduction

The beautiful and inimitable location of Friedman Memorial Airport in Hailey, Idaho provides a daunting challenge for instrument flight procedure (IFP) design. Bordered on each side by high terrain, the particular alignment of the runway does not allow for a "straight in" procedure to be developed under TERPS criteria, nor does it allow for conventional, non-precision IFP's from the North.

Previous Studies

In 2013, Spohnheimer Consulting developed a report on the improvement of instrument approach procedures at the airport. This report cited several suggestions for "better arrival reliability", including amendments to the design of the RNAV (RNP) Y RWY 31 missed approach, RNAV (GPS) W RWY 31 missed approach, and adding an IFP that would be available to WAAS-equipped aircraft.

In the FAA's response to the Spohnheimer report, the Western Flight Procedures Team stated "...study of other procedures will need to be accomplished by a source other than the FPT. If a viable design is submitted to the FPT, we will process it accordingly..." .

The FAA is currently planning amendments to the existing RNAV flight procedures in 2016 and 2017, so now is the opportune time to identify optimization concepts at Friedman Memorial Airport based on the results of these studies

Feasibility Results – Airport Infrastructure

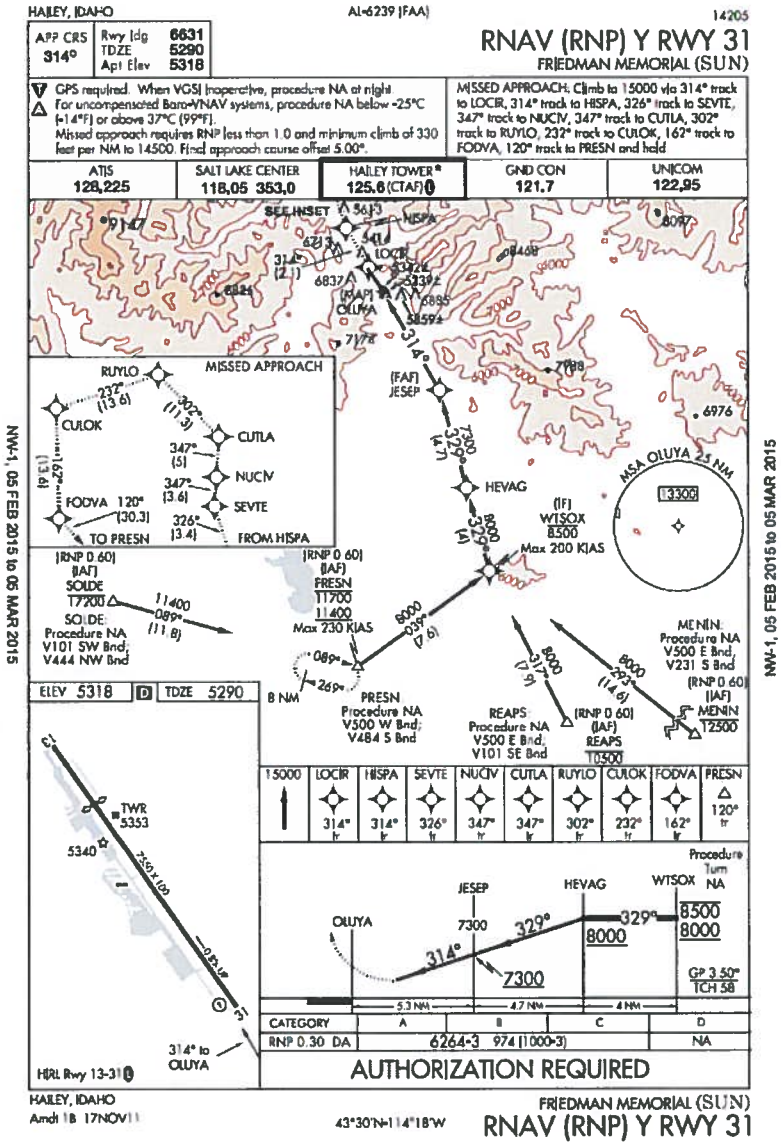
Friedman Memorial Airport's runway 13/31 is 7550' x 100'. Runway 13 has non-precision runway markings in good condition and high intensity runway lights. There is no visual glide slope indicator (VGSI) equipment associated with this runway. The runway threshold is displaced 1701'.

Runway 31 has precision markings in fair condition and high intensity runway lights. Precision Approach Path Indicator (PAPI) equipment is installed on this runway at an angle of 3.50 degrees and a threshold crossing height (TCH) of 55'. There are no approach lights or Runway End Identifier Lights (REIL) installed on either runway. Both runways list a Vertically Guided (VG) obstacle surveys. There are no instrument approaches to Runway 13, but aircraft are allowed to circle to the runway during daylight hours. The current airport infrastructure supports the development of both precision and non-precision instrument approach procedures to Runway 31 (AC 150/5300-13A Table 3-4, Standards for Instrument Approach Procedures).

Review of Current Flight Procedures

The airport currently has three public instrument approach procedures (IAPs); RNAV (RNP) Y RWY 31, RNAV (GPS) W RWY 31, and NDB/DME-A. There is also a "special" (not for public use) IAP, the RNAV (GPS) X RWY 31. The NDB/DME-A was not reviewed for optimization.

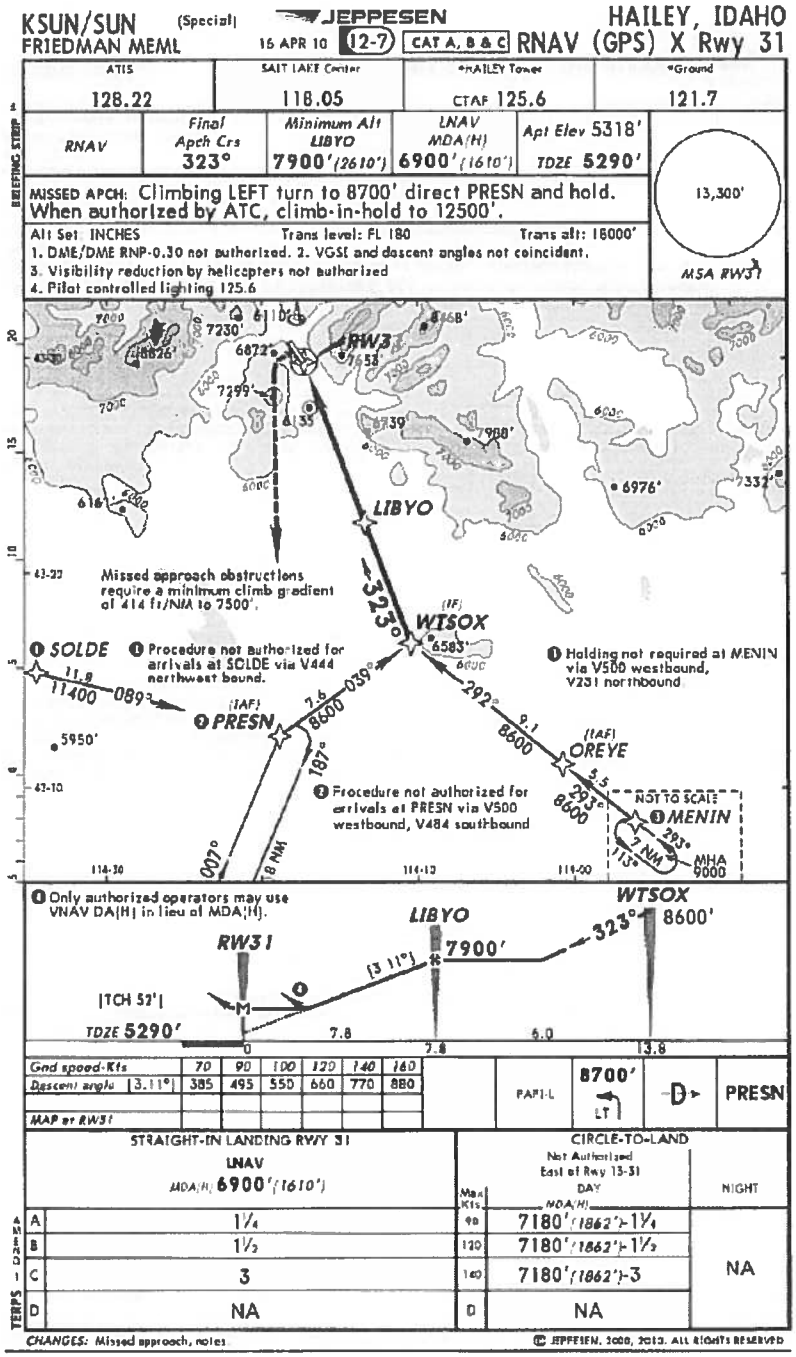
The **RNAV (RNP) Y RWY 31** procedure has the lowest landing minima of the IFPs; with a decision altitude (DA) of 6264', which is over 800 feet lower than the minimum descent altitude (MDA) of the RNAV (GPS) W RWY 31. Unfortunately, the procedure has been severely underutilized due to the length of the published missed approach, which is 81 miles. The FAA currently has this procedure scheduled for amendment on 7/21/16. In an email from the FAA to the airport, they state they are "very close to a viable solution that significantly reduces the missed approach segment length on RNAV (RNP) Y RWY 31". RNP procedures require special aircraft and aircrew certification, and not all users at Friedman Memorial are equipped to execute this approach. It is assumed that Horizon would be the proponent and primary user for this improved procedure.



Review of Current Flight Procedures (continued)

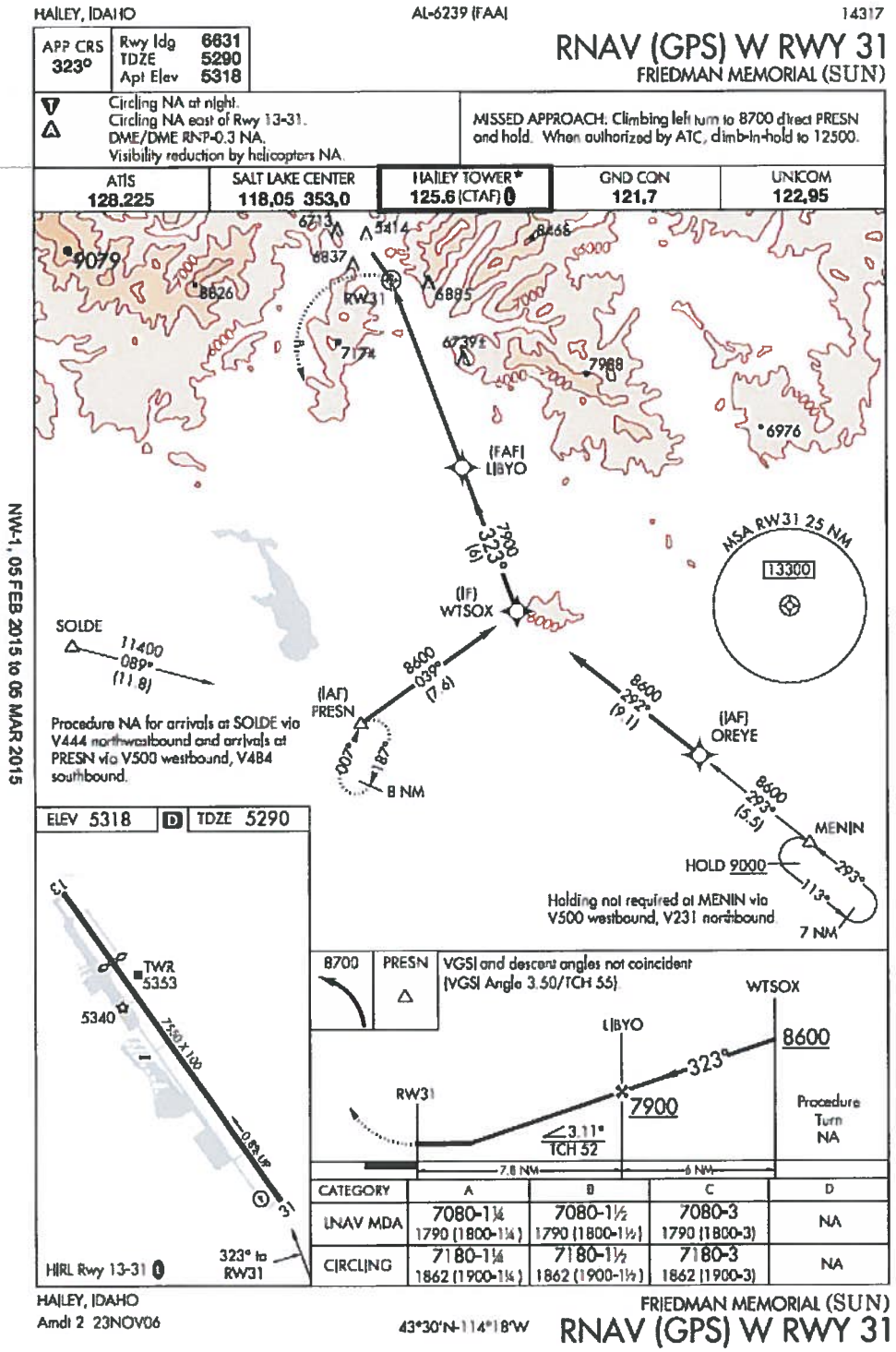
The "special" **RNAV (GPS) X RWY 31** has a MDA is 6900'; 180' less than the MDA of the public RNAV (GPS) W RWY 31. The missed approach requires a minimum climb gradient of 414' per nautical mile to 7500'.

Based on the design of the missed approach, it appears that this procedure may be utilizing criteria from FAA Order 8260.38, which has been superseded by FAA Order 8260.58.



Review of Current Flight Procedures (continued)

The primary focus of this optimization study was to improve the **RNAV (GPS) W RWY 31** since it is most utilized public IFP. Again, based on the design of the missed approach and the final segment controlling obstacle, it appears that this procedure may be utilizing criteria from FAA Order 8260.38, which has been superseded by FAA Order 8260.58.



Evaluation Parameters

Proposed procedures were limited to Approach Category 'C' aircraft. The following criteria were used to evaluate the optimization of the RNAV (GPS) W Rwy 31, and to analyze a Localizer Performance (LP) procedure:

-FAA Order 8260.3 (including changes 1-26), *United States Standard for Terminal Instrument Procedures (TERPS)*, and associated memorandums through 11/04/14

-FAA Order 8260.19F, *Flight Procedures and Airspace*, and associated memorandums through 1/28/14

-FAA Order 8260.58, *United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design,* and associated memorandums through 8/4/14

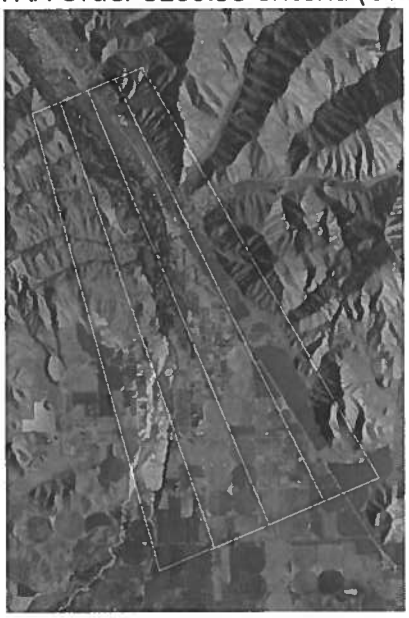
A current Digital Obstacle File as well as the latest obstacle survey and airport information available through NFDC was used to create the project. Terrain used was DTED Level 1.

Although the publication of the RNAV (RNP) Y Rwy 31 signifies there is no precipitous terrain in the final segment, FAA's software may determine that an adjustment for precipitous terrain to the final MDA may be necessary.

Optimization Results – RNAV (GPS) W RWY 31

It appears benefit can be gained by simply updating the RNAV (GPS) W RWY 31 procedure to current criteria addressed in the FAA Order 8260.58, *United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design.* Although the previous criteria is still valid, improvements in equipment and RNAV (GPS) procedure design through the past few years have resulted in smaller, more precise obstacle evaluation areas (see final segment examples below) which can benefit airports located in terrain-rich environments such as Friedman Memorial Airport. By updating the IFP to current criteria, reducing the amount offset final approach course from the runway centerline, and applying an increased climb gradient for the missed approach, the goal is to reduce the minimum descent altitude of the RNAV (GPS) W Rwy 31 by 100' or more. Although this may seem to be a small change, it may make a considerable difference in arrival reliability due to the way the clouds settle between the mountains.

FAA Order 8260.38 Criteria (Old)



FAA Order 8260.58 Criteria (Current)

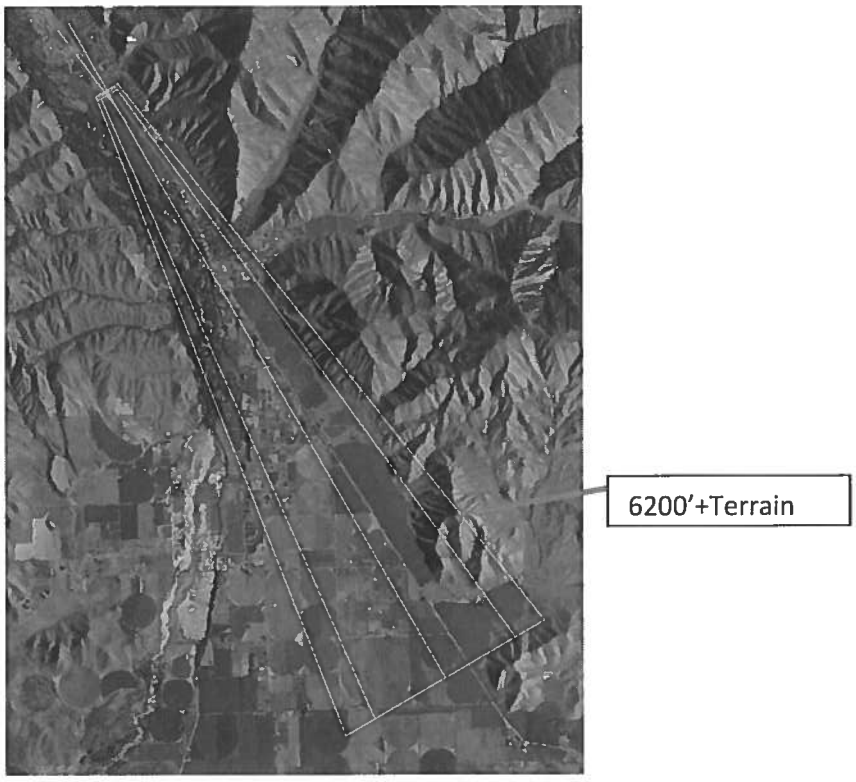
Final Segment (LNAV): The currently published procedure is offset from the runway centerline by 15 degrees. By utilizing the current final segment criteria, the final segment was evaluated with an offset of 9.66 degrees. This offset better aligned the final segment into the valley and avoids the high terrain to the west. The final approach course crosses the extended runway centerline at 1500' from the landing threshold, as per criteria.

An optimum descent angle of 3 degrees was used. The final segment controlling obstacle is a surveyed bush of 6475' MSL which lies in the secondary obstacle evaluation area (OEA). The raw MDA for this obstacle is 6520'. However, the first section of the missed approach is penetrated by a surveyed bush at 6535' MSL which also lies in the secondary OEA. By increasing the MDA to 6600, this obstacle can be mitigated.

Missed Approach: To update the procedure to current criteria, the missed approach needs to be redesigned. The terrain to the north east of the airport is higher and closer to the airport, so a left turn was chosen. An aggressive climb gradient of 400' per NM was evaluated in order for aircraft to reach an elevation of at least 8000' prior to turning. The first turn fix was located approximately 5.3 NM from the approach end of Runway 31 [which is also the missed approach point (MAP)]. Following the first missed approach fix, a maximum turn of 90 degrees was developed, followed by a straight segment of approximately 6.87 NM to account for along-track tolerance (or fix error) and distance of turn anticipation (DTA). Another fix was added to the end of this segment, and another 90 degree turn was developed to return the aircraft on a southeast heading to lower terrain and the initial approach fix. Ideally, the missed approach could have multiple lines of minima reflecting longer segments and multiple climb gradients.

LP Feasibility

Although the obstacle evaluation area for the localizer performance (LP) WAAS- based procedure is much smaller than the LNAV, it would need to be offset from the runway centerline as well to avoid high terrain (see below). Since this terrain falls outside of the adverse assumed obstacle (AAO) exemption area, an additional 200' would be added to any terrain falling within the obstacle evaluation area. The terrain could also be mitigated by placing a stepdown fix in the final segment, which would significantly reduce the final MDA. HOWEVER, although the MDA for the LP procedure could be as low as 5600', the terrain in the missed approach would then become penetrations that would cause the MDA to be increased until the penetrating obstacles were mitigated. Therefore, a similar MDA could be expected on the LP procedure as the LNAV procedure. Again, the missed approach could have multiple lines of minima reflecting longer segments and multiple climb gradients.



Recommendations

As discussed, updating the RNAV (GPS) W Rwy 31 public use procedure to current criteria, reducing the final course offset, and adding the benefit of a missed approach climb gradient similar to the one utilized on the special RNAV (GPS) X Rwy 31 can result in a lower MDA while benefitting the most users.

There is an ongoing effort to remove underutilized flight procedures from the National Airspace System (NAS) unless there is a valid requirement to retain the procedure. Combining the benefits of the special procedure into the public procedure will enable the FAA to cancel the special RNAV (GPS) X Rwy 31. If the NDB procedure is underutilized or not used at all, it could be cancelled as well...removing two procedures from the NAS in exchange for one highly optimized procedure available to most users could be leveraged positively with the FAA.

CHAPTER B

Forecasts of Aviation Demand

Executive Summary

Forecasts of aviation activity are necessary in order to provide a functioning plan that analyzes existing airport facilities and demand, and identifies future needs and requirements. The validity of these predictions is critical as changes in aviation demand also affect airport capital improvement programming, funding, and budgeting, as well as on-site facilities, services, and staff. These projections estimate potential future activity levels through evaluation of historical data and the application of various projection models. Existing conditions and potential future needs that are unique to Friedman Memorial Airport have also been accounted for and analyzed in the forecasts prepared as part of this Master Plan.

Although passenger and aircraft activity at SUN have fluctuated during recent years, the forecasts developed for this Master Plan suggest positive growth in passenger enplanements, the number of based aircraft, and total aircraft operations at the Airport during the next 20 years. Projections of short-, intermediate-, and long-term activity at the Airport that are based on 5-, 10-, and 20- year milestones (2019, 2024, and 2034) are presented in Table B1, *SUMMARY FORECAST TABLE OF PASSENGER ENPLANEMENTS, BASED AIRCRAFT, AND AIRCRAFT OPERATIONS*.

Table B1 **SUMMARY FORECAST TABLE OF PASSENGER ENPLANEMENTS, BASED AIRCRAFT, AND AIRCRAFT OPERATIONS**

Activity Measure	2014 (Actual/Estimated)	2019 (Projected)	2024 (Projected)	2034 (Projected)
Passenger Enplanements	66,409	78,797	93,496	131,630
Based Aircraft	157	169	183	213
Air Carrier Operations	2,840	3,228	3,608	4,453
Air Taxi and Commuter Operations	5,185	5,342	5,505	5,450
General Aviation Operations	20,310	21,921	23,660	27,564
Military Operations	145	145	145	145
Total Aircraft Operations	28,480	30,636	32,918	37,612

SOURCE: Mead & Hunt analysis.

Introduction

Friedman Memorial Airport provides commercial and general aviation services for the Wood River Valley and South Central Idaho, including the Sun Valley resort area. The economy of the Airport's service area is oriented towards tourism and outdoor recreation, and the Airport serves many tourists and those who have second homes in the area, as well as permanent residents. Therefore, the air service schedule is designed to accommodate seasonal travel in order to meet fluctuating demand throughout the year. It is important that the Airport is able to continue to employ a reasonable balance of services and infrastructure during periods of peak and non-peak passenger activity.

Other major considerations taken into account in development the forecasts in this chapter include the various constraints on aviation activity at SUN that restrict the Airport's ability to meet long-term market demand and

facility needs at its existing site. The current constraints consist of modifications of FAA design standards for size of aircraft operating at SUN; surrounding mountainous terrain that limits aircraft approaches and departures, and often creates visibility issues necessitating aircraft diversions; and a property footprint restricted by steep terrain and development in the City of Hailey.

Forecasts of aviation activity serve as a guideline for demand based implementation of airport improvement programs. While such information is essential for successful comprehensive airport planning, it is important to recognize that forecasts are only approximations of future activity, based upon historical data, present conditions, and expected future trends. Forecasts are a particularly important element of the master planning process for SUN, as they provide the basis for several key analyses, including:

- Determining the role of the Airport, with respect to the type of aircraft to be accommodated in the future, within both the confines and parameters of the existing airfield limitations as well as those of a future relocated airport.
- Evaluating the capacity of existing Airport facilities and their ability to accommodate projected aviation demand. Specifically in the case of SUN, projections of aviation demand will be used to determine the level(s) of activity, or thresholds that could reasonably indicate the practicality or necessity of relocating the Airport to a new site. Demand analysis will focus especially on forecasted market demand that the Airport at its existing site may not be able to accommodate due to the existing site's operational constraints that have necessitated the institution of aircraft weight and wingspan restrictions.
- Estimating the extent of airside and landside improvements required in future years to accommodate projected demand at the current Airport site. If it is determined that certain required improvements cannot be accomplished within existing site constraints, they would lend additional support to the need to relocate the Airport.

Projections of short-, intermediate-, and long-term activity presented in this chapter are based on five-, ten-, and twenty-year milestones (2019, 2024, and 2034), using 2014 as the base year. Although the most recent full calendar year of data is usually used in forecasting, these forecasts use 2014 as the base year, which is the same year in which the forecasts were prepared.

Calendar year 2014 was used as a baseline for the forecasts because it is the first full year that exhibits the full effects of recent commencement of regional jet operations at the Airport, which closely followed the 2012 FAA Finding of No Significant Impact (FONSI) allowing for the Initiation of Turbojet Service at the Airport. Thus, although 2013 is the most recent full calendar year of available data, enplanements and operations figures for 2013 do not fully display the major trend shifts that will stem from this action in future years. Namely, the introduction of jet operations is anticipated to create an increasing trend in enplanements and initial decreasing trend in commercial operations during the coming years. Therefore, utilization of 2013 data that more closely reflects the conditions prior to the introduction of regional jet operations would not be of significant relevance to these forecasts, as such operations have had a significant impact on activity and are expected to continue to operate at the Airport throughout the 20-year planning period.

Historical data analyzed for the forecasts generally begins in 2008. However, historical data prior to 2008 has been included where appropriate to provide additional context. Calendar year 2014 base year figures were estimated based upon historical data as well as upon trends observed during the 2014 year-to-date. Actual data for 2014 was also included in the estimate, when available.

Activity level thresholds that indicate the need to reconfigure, expand, or relocate the Airport constitute specific levels of increasing market-driven activity whose growth would be severely constrained or even prevented by conditions at the current site. These are identified in a chapter C of the Master Plan, and are based on projected

levels for enplanements and operations; aircraft types forecasted to operate at the Airport in the future; and facility and space requirements needed to accommodate passengers, based aircraft, vehicle parking, or other future airside or landside development.

The forecasts are documented in the following sections:

- Summary of 2008 Forecasts
- Forecasting Approach
- Commercial Service Trends (2008-2014)
- Commercial Service Activity Forecasts
  - Annual Passenger Enplanements Forecasts
  - Peak Passenger Activity Forecasts
  - Commercial Passenger Fleet Mix and Operations Forecasts
- General Aviation Forecasts
  - Based Aircraft Forecast
  - Based Aircraft Fleet Mix Forecast
  - General Aviation Operations Forecast
- Air Taxi and Commuter Operations Forecast
- Military Operations Forecast
- Air Cargo Forecast
- Local and Itinerant Forecast
- Instrument Operations Forecast
- Peak Period Operations Forecast
  - General Aviation and Air Taxi Peak Period Operations Fleet Mix Forecasts
- Summary

Summary of 2008 Forecasts

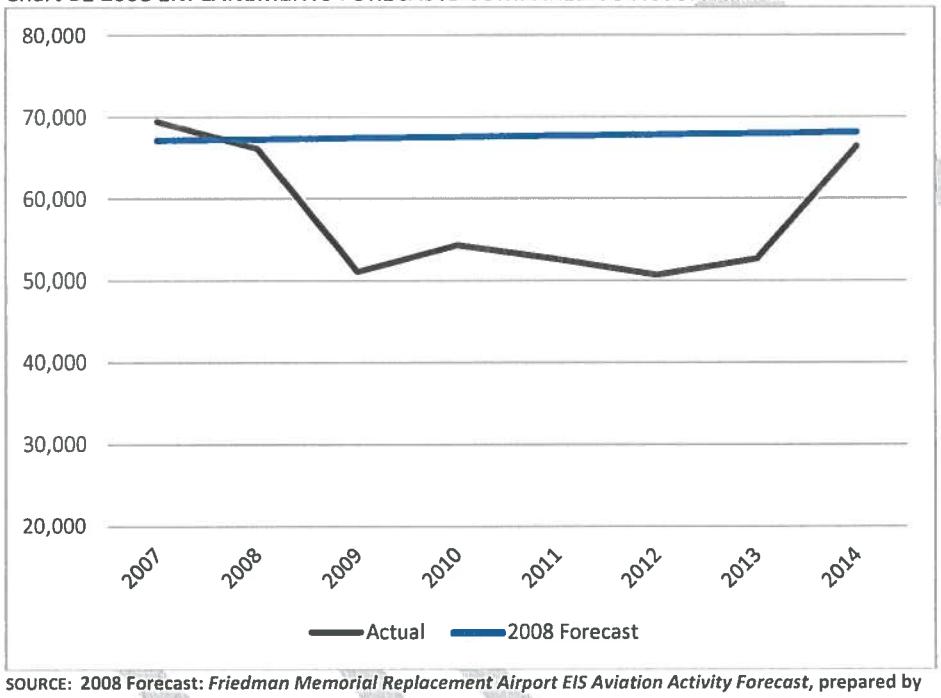
In 2008, detailed forecasts were prepared for SUN by Landrum & Brown as part of the Replacement Airport EIS. The EIS was prepared to identify a safe and efficient relocation site that could accommodate FAA design and safety standards commensurate with projected future use of the Airport.

The 2008 forecasting effort included forecasts for commercial passenger enplanements, operations, and fleet mix, as well as general aviation, military, and air cargo activity. The following provides a summary of the methodology and key findings:

Enplanements. Two sequential sets of enplanement forecasts were developed, to reflect a continuous enplanements forecast for the existing Airport site from 2008 to 2015, and for the replacement Airport site for 2015 and beyond. This methodology reflected expectations for the Airport's future at the time of the EIS analysis. The first phase of the enplanements forecast was a constrained forecast, assuming that the Airport continued operating at its existing site, and taking into account the limitations of the site. The constrained forecast assumed no future increases in aircraft size and no change in air service at the existing airport site, and represented the years 2008-2015 as the replacement airport was expected to open in 2016 at that time. This initial constrained forecast was based on historical data, and was projected using an average growth rate of several socioeconomic indicators. The second phase of the enplanements forecast was an unconstrained forecast representing the years after 2015 when the airport was to have been relocated, and market-driven demand would be the primary determinant of activity. Because the unconstrained forecast was unprecedented, it could not rely upon historical data, and instead was formed using a variety of other indicators.

The preferred unconstrained forecast, Scenario A (Regional Approach), used an unconstrained demand-based regional approach that assumed SUN would recapture leakage to Boise Airport-Gowen Field (BOI) and Twin Falls Airport (TWF). Enplanements were projected for the three airport region (SUN, TWF, and BOI) using passenger survey information about airport choice; estimates of additional passengers gained from competing airports who would be drawn away by improved service at a relocated airport; and historical airline yields and passenger traffic for SUN, TWF, and BOI. Enplanements were then allocated amongst the three airports based on the constrained forecast for SUN, a 2% capture rate for TWF, and the remainder allocated to BOI. The 2008 enplaned passenger forecasts are illustrated in Chart B1, *2008 ENPLANEMENTS FORECAST COMPARED TO ACTUAL ENPLANEMENTS*, in comparison to actual enplanements through 2014.

Chart B1 **2008 ENPLANEMENTS FORECASTS COMPARED TO ACTUAL ENPLANEMENTS**



SOURCE: 2008 Forecast: *Friedman Memorial Replacement Airport EIS Aviation Activity Forecast*, prepared by Landrum & Brown, 2008. Actual enplanements: Airport management records, Mead & Hunt.
Note: Enplanements for January through August 2014 from Airport management records; enplanements estimated for September through December 2014 based on scheduled departures, historical load factors, and historical flight cancellations/diversions. The 2014 annual enplanement estimate was also adjusted to account for artificially reduced enplanements associated with Airport closure from April 29 to May 21, 2014.

Commercial Operations. The commercial operations forecast assumes that commuter airlines would upgrade their fleet to regional jets after the opening of the replacement airport. Seasonal service would also be added with 125-seat narrow-body aircraft. This increase in average air carrier size would cause a corresponding temporary decrease in operations, due to the increase in available seats, which would increase to normal levels by 2021. It would also cause a slight initial decrease in load factor that would also later increase.

Commercial Fleet Mix. The commercial fleet mix forecast was characterized by the following assumptions: continued use of Bombardier De Havilland Q400 turboprop aircraft by Alaska Airlines; upgrade of Delta/Sky West fleet to 50-seat regional jets; and introduction of seasonal service to Salt Lake City or Los Angeles.

General Aviation Activity. Based on national trends and the FAA Terminal Area Forecast (TAF), general aviation operations were projected to grow steadily at a rate of 1.3% annually, with a significant increase in the proportion of jet operations over time.

The forecasts also included a detailed socioeconomic trends analysis that included tourism and housing profiles of the Wood River Valley, as well as analysis of regional income, population, employment, and Gross Domestic Product (GDP). The forecasts also included a thorough interviewing process of passengers departing from SUN and TWF; passengers on Sun Valley Express shuttles operating between BOI and SUN; U.S. domestic air carriers; general aviation pilots; and businesses in the Wood River Region.

The 2008 forecasts can serve to some degree as a model and guide for applying a dual-path analysis in this forecasting effort. Similar to these forecasts, they incorporated two scenarios/phases representing conditions for operation of the Airport at its current location as well as at a future relocated site. However, they have little specific applicability for current and future conditions at SUN in light of several major changes that have taken place since 2008, all of which have important implications for future aircraft activity at SUN. Among those major changes since the publication of the 2008 forecasts are:

- The termination of the Replacement Airport EIS in March 2013;
- The 2012 FAA Finding of No Significant Impact (FONSI) that allowed for the initiation of regional jet service at SUN;
- The approval of several Modifications to Standards (MOSs) in November 2013 stipulating airfield improvements while imposing restrictions on aircraft types and operating procedures;
- Recent passenger load factor increases, both in the airline industry in general and at the Airport in particular; and
- Airline capacity reductions and fleet mix change, both in the airline industry in general and at the Airport in particular.

All of these changes have important implications for aircraft activity at SUN that will be properly accounted for in these updated forecasts.

Forecasting Approach

A number of forecasting techniques may be used to project aviation activity that range from subjective judgment to sophisticated mathematical modeling. Since a large number of variables affect a facility plan, it is important that each one be considered in the context of its use in the plan. These forecasts were prepared based on industry standard technical analysis. Methodologies used to develop forecasts described in this chapter include:

- Time-series methodologies
- Market share methodology
- Socioeconomic methodology

Time-Series Methodologies. Trend analysis is a widely used method of forecasting. This technique utilizes time-series data and is most useful for a pattern of demand that demonstrates a historical relationship with time. Linear trend analysis used in this chapter establishes a basic linear regression trend by utilizing a best-fit line to known historical data.

Market Share Methodology. Market share, ratio, or top-down models compare local levels of activity with a larger entity. Such methodologies imply that the proportion of national or regional activity that can be assigned to the local level is a regular and predictable fraction of the overall whole. This method has been used extensively in the aviation industry to develop forecasts at the local level. It is most commonly used to determine the share of total national traffic activity that will be captured by a particular region or airport. Historical data is examined to determine the ratio of local airport traffic to total national traffic. The FAA develops national forecasts annually in its *Aerospace Forecasts*. This data source is compared with historical levels of activity reported by Friedman Memorial Airport.

Socioeconomic Methodology. Though trend line extrapolation and market share analysis may provide mathematical and formulaic justification for demand projections, there are many factors beyond historical levels of activity that may identify trends in aviation and impact on aviation demand locally. Socioeconomic analysis used in this chapter examines historical and projected compounded annual growth rates (CAGR) and extrapolates future data values by assuming a similar compounded annual growth rate for the future. Local conditions that are examined in this chapter include gross regional product (GRP), income, and regional retail sales. The GRP and income variables especially capture the major influence that tourism has on commercial passenger demand at SUN.

Commercial Service Trends (2008-2014)

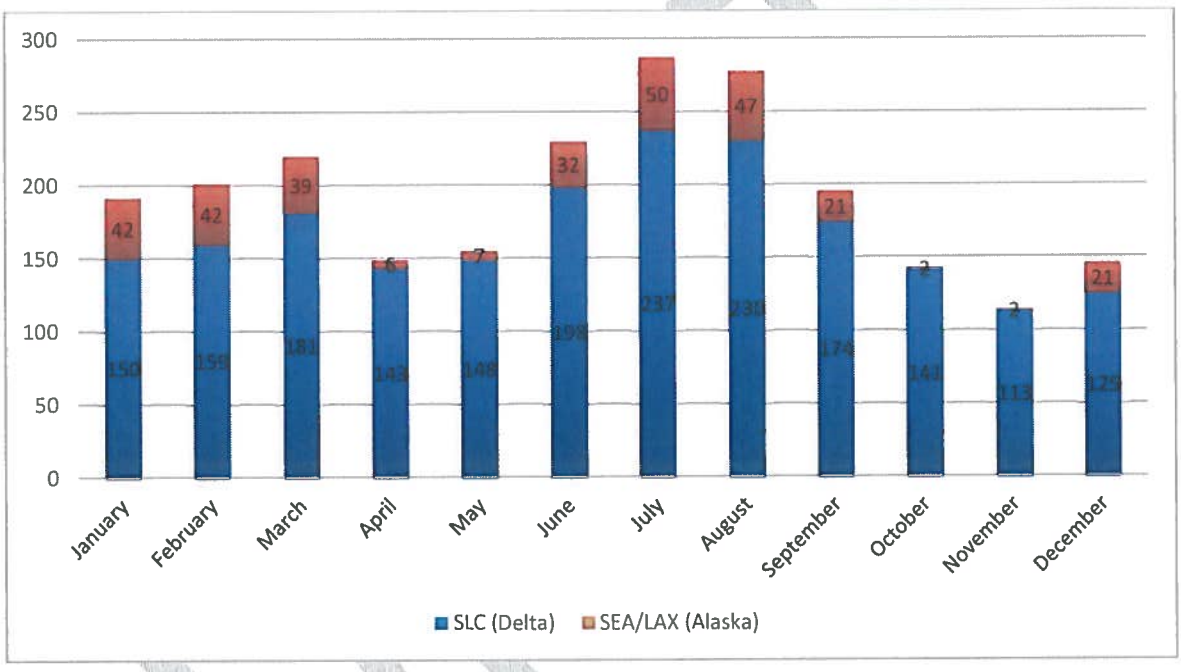
This section describes commercial passenger service trends at Friedman Memorial Airport since development of the comprehensive 2008 forecasts described in the previous section. It is important that these trends are understood and taken into account in development of new commercial passenger service activity forecasts. Trends discussed in subsequent subsections include the following:

- Commercial Passenger Operations
- Commercial Flight Diversions/Cancellations
- Annual Passenger Enplanements
- Monthly Passenger Enplanements
- Actual Departing Seats
- Peak Passenger Enplanements
- Passenger Load Factors
- Recent Air Service Studies

Commercial Passenger Operations

The Airport is served by three airlines: Delta Airlines, Alaska Airlines (operated by Horizon Air), and United Airlines (operated by Skywest Airlines). Since 2008, SUN has supported year-round service to Salt Lake City International Airport (SLC) on Delta Air Lines, and seasonal service to Seattle-Tacoma International Airport (SEA) and Los Angeles International Airport (LAX) on Alaska Airlines. Average monthly departures to these destinations from 2008 to 2013 at SUN are summarized in Chart B2, *AVERAGE MONTHLY COMMERCIAL DEPARTURES AT SUN (2008-2013)*. In 2014, United Airlines added seasonal service from SUN to Denver International Airport (DEN) and San Francisco International Airport (SFO). However, this additional service is not reflected in the chart below, as it did not begin until 2014.

Chart B2 **AVERAGE MONTHLY COMMERCIAL DEPARTURES AT SUN (2008-2013)**



SOURCE: U.S. Department of Transportation T-100 Database.

During the years 2008 to 2013, service to SLC was conducted using 30-seat Embraer 120 Brasilia turboprop aircraft, with reduced service during off-peak months (April-May and September-November). In January 2014, Delta Air Lines replaced the Embraer 120 Brasilia on its SLC flights with 65-seat Bombardier Canadair 700 (CRJ700) regional jets, and as a result reduced flight frequencies to SUN by nearly half. Alaska Airlines service to SEA and LAX is conducted using 76-seat Bombardier DeHavilland Q-400 turboprop aircraft. In 2014, United Airlines added seasonal service from SUN to Denver International Airport (DEN) and San Francisco International Airport (SFO). These routes are conducted using 70-seat CRJ700 regional jets.

The initial Airport inventory for this Master Plan was conducted in October of 2014. Peak periods of commercial activity at SUN generally correspond to the Summer months of June through September and the Winter months of December through March. The Airport's base commercial schedule during off-peak periods in 2014 included two flights per day to SLC. During peak winter and summer periods in 2014, the schedule increased to seven daily departures with addition of non-stop service to DEN, LAX, SFO, and SEA, as well as a third daily flight to SLC.

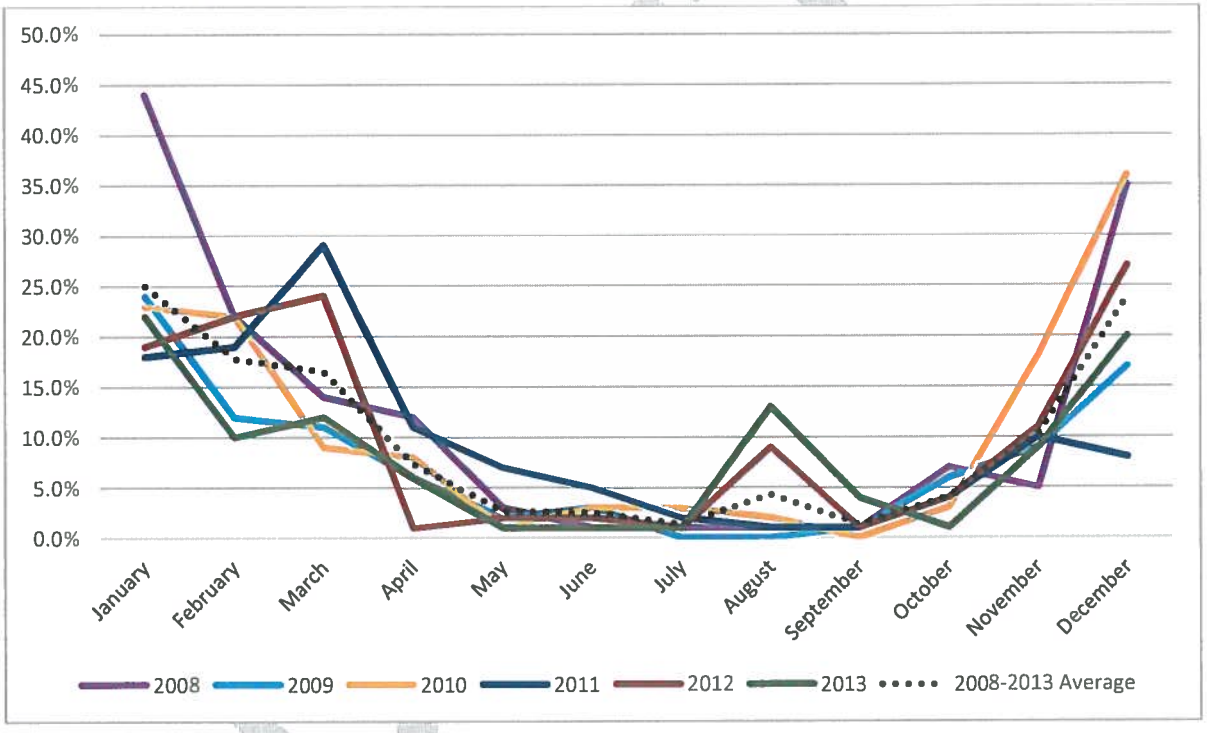
Commercial service to SLC is currently self-supporting, while service to SEA, LAX, DEN, and SFO is supported by minimum revenue guarantees (MRGs) provided by the Fly Sun Valley Alliance and the Sun Valley Resort. The Fly Sun Valley Alliance (FSVA) is an Idaho non-profit 501c(6) corporation with the stated mission of retaining, developing, and improving air service access to the Wood River Valley. The FSVA is supported with financial contributions from local governments, businesses, organizations, and realtors. The FSVA works with airlines, consultants, and community partners to negotiate air service contracts, coordinate air service marketing, track existing service data, research potential future air service opportunities, manage and promote fundraising activities, and provide community outreach and education to key stakeholders and the general public regarding the importance of air service to the local economy.

One form of financial support for air service are MRGs that are funded by local option taxes (LOTs) and FSVA contributions. MRGs are economic incentives that reduce the amount of risk airlines take when deciding to serve the Wood River Valley passenger market, by making up any shortfalls in airline revenue resulting from fluctuations in passenger activity at the Airport. Instead, the majority of the risk is transferred to the local community. MRGs are common airline subsidies in tourist markets. Because SUN serves primarily a tourist passenger market that is seasonal and varies from day to day, MRGs provide a financial bridge that allows for continuous service without interruptions during peak tourist seasons. LOTs are currently collected by the Cities of Hailey, Ketchum, and Sun Valley, and are levied on items including lodging, rental cars, restaurant meals, retail purchase, recreation/lift tickets, and liquor-by-the-drink. In addition to being used for MRGs, LOTs are also used for air service marketing, cash reserves/future flight bank, and air service consulting, research, and program management.

Commercial Flight Cancellations/Diversions

Commercial service at SUN is subject to frequent flight diversions and some cancellations in the winter months due to low visibility and/or low cloud ceiling. In addition, the Airport has only a single runway, and most takeoffs and landings must take place to/from the south, further limiting the options for conducting operations during inclement weather. Diversion rates are highest during the colder months from December through March. The 2005-2014 average diversion/cancellation rate was approximately 22% for the months of December through March, and approximately 4% for the remaining months of the year. Although diversions and cancellations certainly occur for mechanical or other reasons, it is generally understood that many cancellations and most diversions at SUN relate to visibility issues. Monthly commercial flight cancellations/diversions from 2008 to 2013 at SUN are summarized in Chart B3, *COMMERCIAL FLIGHT CANCELLATIONS/DIVERSIONS AT SUN (2008-2013)*.

Chart B3 **COMMERCIAL FLIGHT CANCELLATIONS/DIVERSIONS AT SUN (2008-2013)**

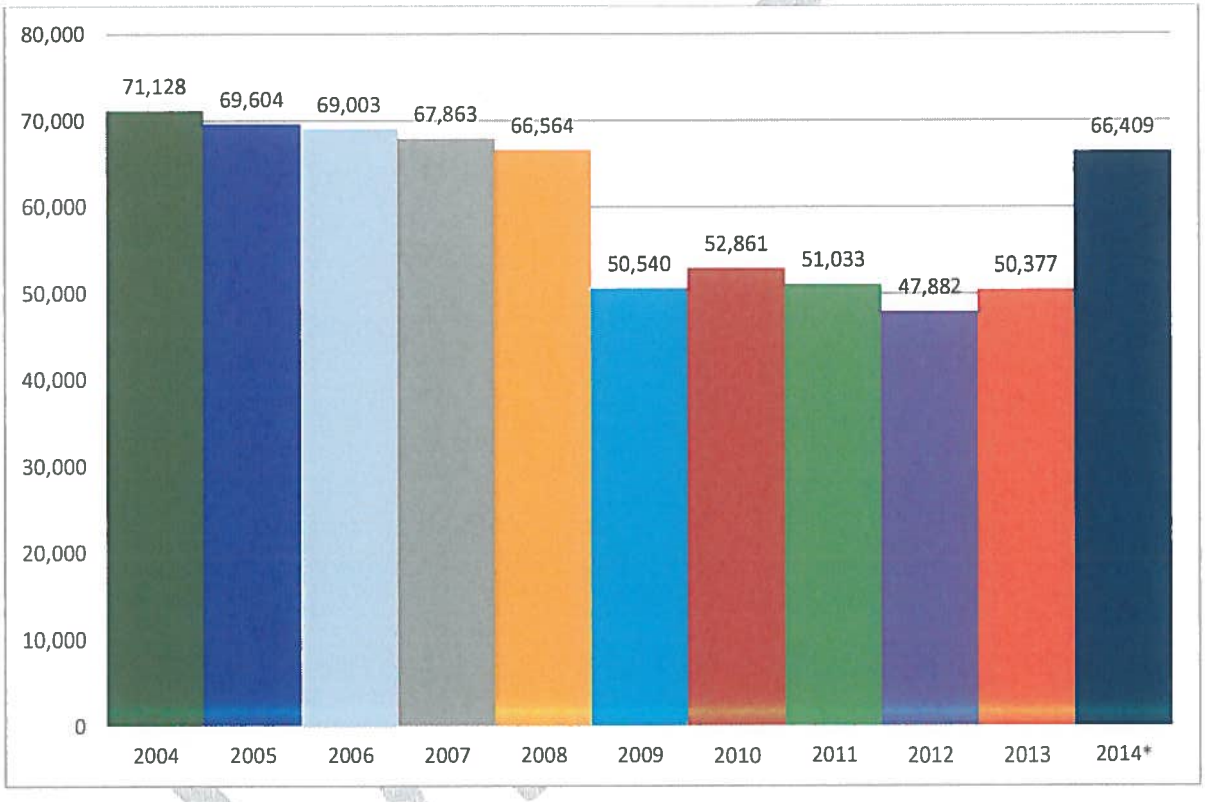


SOURCE: U.S. Department of Transportation T-100 Database.
Note: August 2013 figures included higher-than-normal diversions and cancellations due to large-scale wildfires.

Annual Passenger Enplanements

Passenger enplanements at SUN declined moderately between 2004 and 2008. Enplanements then declined sharply in 2009, largely due to the nationwide economic recession. Enplanements remained at approximately 2009 levels through 2013, and then rebounded strongly in 2014, aided by improved economic conditions and increased capacity from addition of new routes to DEN and SFO. Annual commercial passenger enplanements at SUN from 2004 to 2014 are summarized in Chart B4, *ANNUAL PASSENGER ENPLANEMENTS AT SUN (2004-2014)*.

Chart B4 **ANNUAL PASSENGER ENPLANEMENTS AT SUN (2004-2014)**

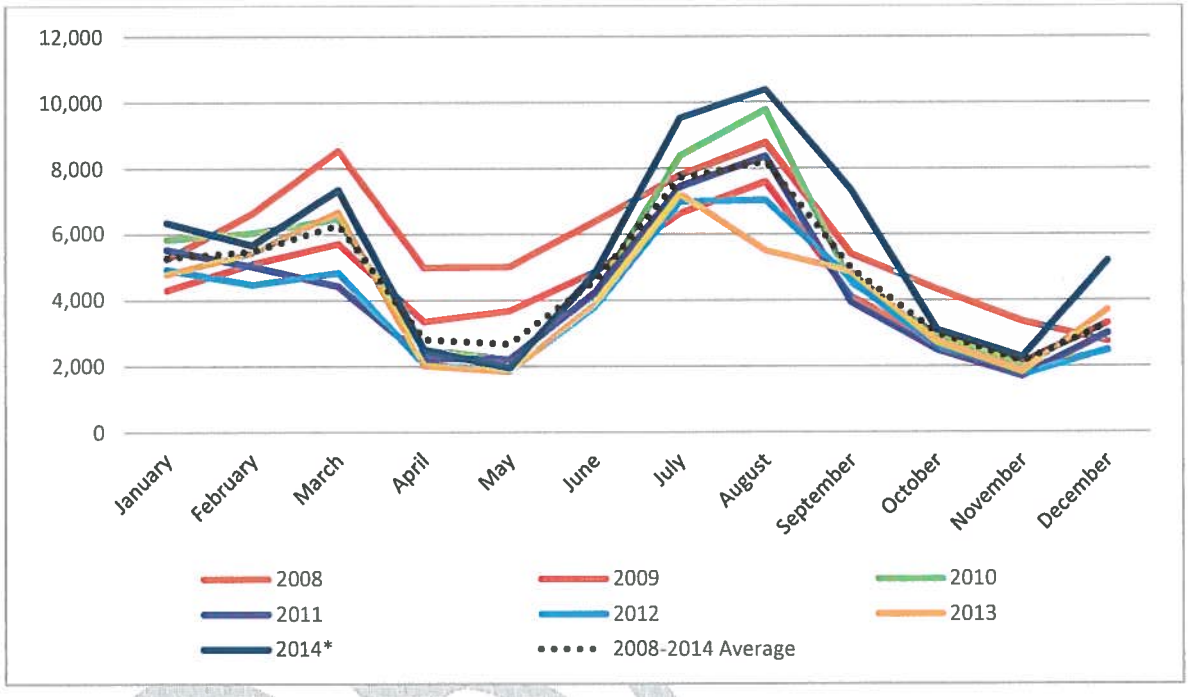


SOURCE: FAA Terminal Area Forecast, Mead & Hunt.
Note: 2013 TAF figure is a projection.
* Enplanements for January through August 2014 from Airport management records; enplanements for September through December 2014 estimated based on scheduled departures, historical load factors, and historical flight cancellations/diversions. The 2014 annual enplanement estimate was also adjusted to account for artificially reduced enplanements associated with Airport closure from April 29 to May 21, 2014.

Monthly Passenger Enplanements

Reduced service to SLC during off-peak months and seasonal service to other destinations results in fewer commercial destination options for travelers at SUN during the off-peak months. Monthly enplanements from 2008 to 2014 at SUN are presented in Chart B5, *MONTHLY ENPLANEMENTS AT SUN (2008-2014)*.

Chart B5 **MONTHLY ENPLANEMENTS AT SUN (2008-2014)**

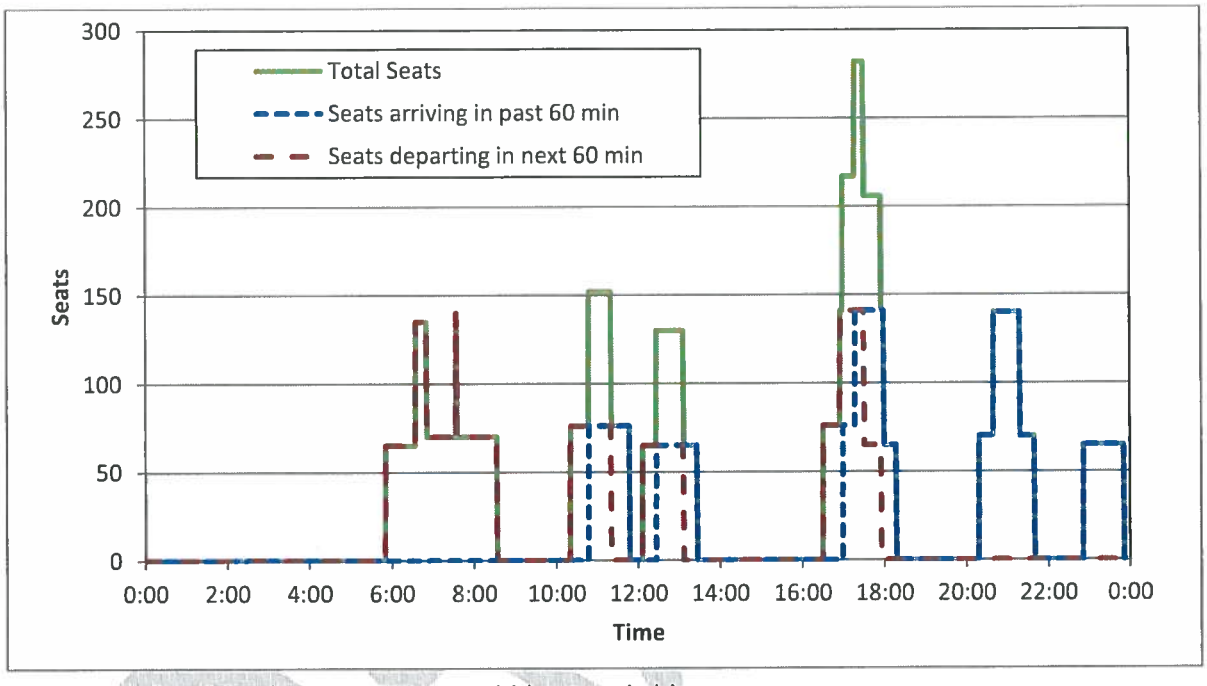


SOURCE: U.S. Department of Transportation T-100 Database, Mead & Hunt.
* Enplanements for January through August 2014 from Airport management records; enplanements estimated for September through December 2014 based on scheduled departures, historical load factors, and historical flight cancellations/diversions. May 2014 enplanements also adjusted to account for artificially reduced enplanements associated with Airport closure from April 29 to May 21, 2014.

Peak Passenger Enplanements

The typical approach to peak activity forecasting is to identify the "design hour" flows of passengers in the terminal building. The peak month for passenger enplanements in 2014 was August, which experienced an estimated 15.6% of total annual enplanements. The numbers of hourly arriving and departing seats during a typical weekday in August 2014 at SUN are summarized in Chart B6, *PEAK DAY AVAILABLE SEATS AT SUN (AUGUST 2014).*

Chart B6 **PEAK DAY AVAILABLE SEATS AT SUN (AUGUST 2014)**



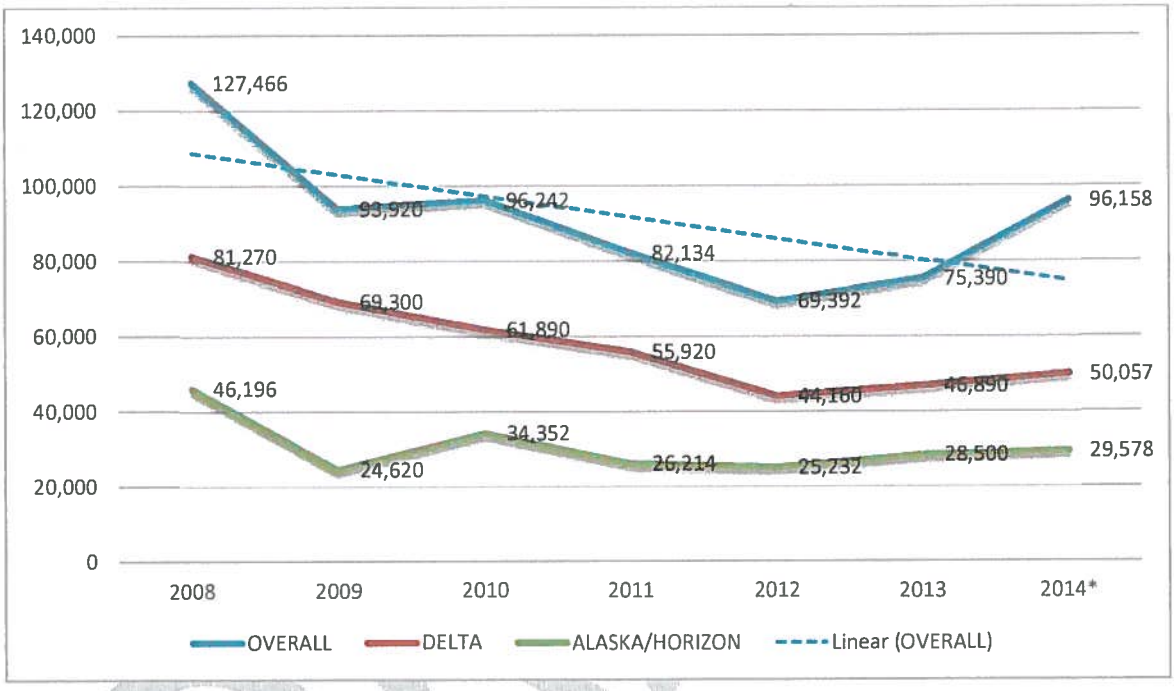
NOTE: **Peak Day shown is based on August 2014 commercial departure schedule.**

In 2014, the peak hour for seats departing in the next 60 minutes at SUN occurred between 4:30 pm and 5:30 pm; the peak hour for seats arriving in the past 60 minutes occurred between 5:00 pm and 6:00 pm; and the peak hour for total arriving and departing seats occurred between 5:00 pm and 6:00 pm. It is important to note that the current peak hour at SUN is largely due to Alaska Airlines operating to two markets (SEA and LAX) with a single aircraft turning at SUN. As new destinations and/or airlines are added at SUN, they will likely follow the traditional operational pattern for mountain resort areas, with departures packed into the morning hours. New 2014 United Airlines service to SFO and DEN both overnight at SUN and depart in the morning. As a result, it is likely that future SUN departures will exceed the number of gates, requiring towing. As morning departures grow, an outbound passenger peak in the morning may start to occur that will exceed peak hour estimates based on the August 2014 schedule shown above.

Actual Departing Seats

Since 2008, passenger airlines have been reducing overall capacity nationwide in response to the economic recession and rising fuel prices. This has particularly been the case in smaller markets at non-hub airports such as SUN. Annual actual departing seats by airline and overall departing seats from 2008 to 2014 at SUN are presented in Chart B7, *TOTAL ACTUAL DEPARTING SEATS AT SUN (2008-2014)*.

Chart B7 **TOTAL ACTUAL DEPARTING SEATS AT SUN (2008-2014)**



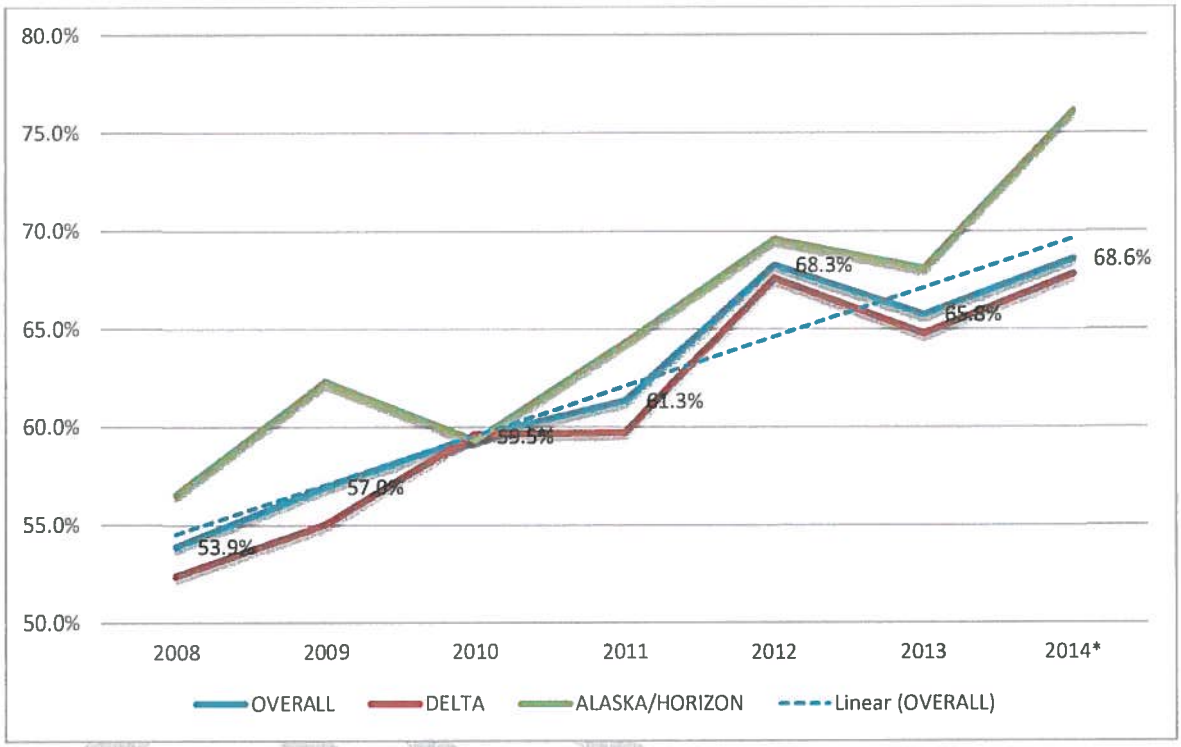
SOURCE: U.S. Department of Transportation T-100 Database, Mead & Hunt.
*** Departing seats estimated for September through December 2014 based on scheduled departures and historic flight cancellations/diversions. May 2014 departing seats also adjusted to account for artificially reduced departing seats associated with Airport closure from April 29 to May 21, 2014. Overall departing seats in 2014 includes additional seats associated with new United Airlines service to SFO and DEN.**

Departing seats for Delta Air Lines service to SLC steadily declined from 2008 to 2012, but recently stabilized and are currently exhibiting an upward trend. After a steep decline in 2009, departing seats on Alaska Airlines flights to SEA and LAX have stabilized. The addition of United Airlines DEN and SFO service in 2014, in combination with these other trends, resulted in a substantial increase in total available seats in 2014. (Note – 2008 capacity included Alaska Airlines service to Oakland International Airport (OAK)).

Passenger Load Factor

As seat capacity has been reduced in recent years, airlines have attempted to fill as many seats as possible to reduce operational costs, resulting in strong growth in passenger load factors across the industry. This has certainly been the case at SUN, as shown in Chart B8, *PASSENGER LOAD FACTORS AT SUN (2008-2014).*

Chart B8 **PASSENGER LOAD FACTORS AT SUN (2008-2014)**



SOURCE: U.S. Department of Transportation T-100 Database, Mead & Hunt.
*** Passenger load factor estimated for September through December 2014 based on historical trends. Overall passenger load factor in 2014 takes into account load factors associated with new United Airlines service to SFO and DEN.**

Load factors on all routes at SUN increased substantially from 2008 to 2014, resulting in an overall load factor increase from 53.9% in 2008 to 68.6% in 2014.

Recent Air Service Studies

In November 2014, results of air passenger surveys at Friedman Memorial Airport were published by Fly Sun Valley Alliance (FSVA). FSVA is a non-profit organization focused on improving commercial air service in the Wood River Valley. The surveys were conducted during January-April and June-October 2014. The survey revealed several noteworthy trends that have important implications for these forecasts. First, the majority of the SUN passenger base is made up of visitors and part-time residents such as second-homeowners. Approximately 59% of passengers were visitors, 18% were part-time local residents, and the remaining 23% were full-time local residents (full-time defined as living in the area more than three months out of the year).

The survey focused on assessing the visitor experience and gaining insight into how it may be improved. Top visitor markets as indicated by the survey included California, Washington, New York, and Idaho. The following is a list of the major trends identified by the survey:

- The median age of visitors is 50 years, and the median age for part-time residents is 58 years.
- 36% of visitors are part of a household with children, 21% are single with no children, 27% are empty-nesters, and the remainder are part of a couple with no children. The household status makeup of part-time residents is similar but with a higher proportion of empty-nesters.
- 63% of part-time residents come from households earning $250,000 or more per year, compared to 37% of visitors.
- Part-time residents tend to visit more often than visitors.
- Part-time residents were slightly more likely than visitors to consider other airports for their trip. Boise was the leading alternative, followed by Twin Falls.
- Most passengers chose SUN because of its convenience of location.
- Among the suggestions for improving the Airport experience were: adding more daily flights, providing direct flights to more cities, improving bad weather capabilities and reducing delays, and more options for restaurants and bars in the terminal.
- Unique aspects of SUN passengers compared with other mountain resort areas include: a strong Pacific coast focus, a large part-time resident segment, and an older affluent profile.

In August 2014, a Retention Analysis was conducted for Friedman Memorial Airport. There are several other airports in the region that have the potential to draw away passengers from SUN, primarily BOI and SLC, as well as TWF. The study analysis was divided into three seasonal periods: winter (December – March), summer (June – September), and off-peak (April, May, October, and November). The analysis utilized data from the Airline Reporting Corporation, which reports data on the customer zip code used to purchase the ticket, for the zip codes within the Airport's catchment area. The seasons that were analyzed included data from 2011 up to the time of the analysis, depending upon the season. States with 10% or more of SUN's total passengers purchasing a ticket with SUN as an origin or destination included Washington, California, Illinois, and Idaho. Texas and Arizona contributed 8% and 7%, respectively.

The overall findings of the retention analysis were that for all three seasons, improvements in passenger retention have been made at SUN since 2012. For the winter season, most recapture was gained from BOI with some gain from SLC as well. In the summer and off-peak seasons, it was shown that recent increases in the flights and seats available in the SUN market had resulted in retention improvements. Additionally, during the off-peak season, it was found that SUN had the highest passenger retention in Hailey, Ketchum, and Bellevue, out of all communities in the catchment area. The significance of the retention analysis from the perspective of this Master Plan is that it is important for SUN to continue to remain as competitive as possible in order to prevent and reverse passenger leakage to Boise, Salt Lake City, and other airports in the region by offering reasonably-priced air service and pursuing service improvements.

Commercial Service Activity Forecasts

Commercial air service and associated peak passenger demand will be the primary determinant of the Airport's growth and future facility needs. The "dual path" nature of this Master Plan necessitates that existing operational constraints are accounted for, while simultaneously planning for the potential relocation of the Airport in the future, as was considered under the Replacement Airport Environmental Impact Statement (EIS). To this end, two separate forecasts were developed for commercial passenger fleet mix and operations to identify planning needs for each possible scenario.

Since the termination of the EIS in 2013, the FAA approved six Modifications to Standards (MOS's) in November 2013 that stipulate specific airfield improvements while imposing restrictions on aircraft types and operating procedures. Therefore, the constrained and unconstrained scenarios to be used in these forecasts will be based upon the continuation and the discontinuation/lessening of those MOS's, respectively. There will be two fleet mix forecast scenarios, which will be used in tandem with the preferred annual enplanement forecast to develop two forecasts of commercial operations. The dual scenario analysis does not apply to passenger enplanements. Enplanements have not been considered either constrained or unconstrained, as they simply reflect demand and have been assumed to be unaffected by aircraft type, size, operations, and flight schedules.

The following sections describe commercial passenger service forecasts developed for the Master Plan, which include:

- Annual passenger enplanement forecasts;
- Peak passenger activity forecasts; and
- Commercial service aircraft fleet mix and operations forecasts.

Annual Passenger Enplanements Forecasts

Enplanements are defined as the activity of passengers boarding commercial service aircraft that depart an airport. Enplanements include passengers on scheduled commercial service aircraft or non-scheduled charter aircraft. Enplanements do not include the airline crew.
Passenger enplanement data is provided to Airport management by commercial passenger service carriers, who maintain data as they transport people to and from the facility. The FAA Terminal Area Forecast (TAF) presents annual data for a fiscal year, while Airport records are for the calendar year. This is one reason there is often a discrepancy between reported annual totals. For projections presented in this chapter, historical data provided by the Airport and by the TAF are used. The TAF is also shown for comparison purposes and for determining the forecasts' consistency with the TAF.
Though recorded, deplanements are not specifically evaluated in this document, except for peak passenger deplanements. Because the Sun Valley area is primarily a destination market, it is assumed that an arriving passenger will eventually return to the originating location and use the same airport. This means that enplanements are assumed to equal the number of deplanements for the purpose of this analysis.

Federal Aviation Administration Enplanements Forecast

The FAA monitors and projects activity levels for airports. This data is available in its TAF as shown in Table B2, *ENPLANEMENTS FORECAST – FAA TERMINAL AREA FORECAST (TAF)*. The FAA predicts a steady increase in passenger enplanements for the 20-year projection period; 50,377 in 2013, 59,770 in 2018, 90,913 in 2023, and 99,824 in 2033, a CAGR of 3.48%. It should be noted that the TAF presents annual data for a fiscal year, while Airport records are for the calendar year. This is one reason there is often a discrepancy between reported annual totals.

Table B2 **ENPLANEMENTS FORECAST – FAA TERMINAL AREA FORECAST (TAF)**

Year	Enplanements
Historical	
2004	71,128
2005	69,604
2006	69,003
2007	67,863
2008	66,564
2009	50,540
2010	52,861
2011	51,033
2012	47,882
2013*	50,377
2014*	**52,130**
CAGR 2004-2014	*-3.06%*
Projected	
2019	59,770
2024	70,913
2034	99,824
CAGR 2014-2034	*3.48%*

SOURCE: Historical and Projected: FAA Terminal Area Forecast (TAF) issued February 2014.
*** 2013 and 2014 figures are FAA projected estimates using 2012 as a base year.**

Forecasts that are developed for airport master plans and/or federal grants must be approved by the FAA. It is the FAA's policy, listed in AC 150/5070-6B, Airport Master Plans, that FAA approval of forecasts at non-hub airports with commercial service should be consistent with the TAF. The TAF is the annual report of historical aviation data and forecasts for all airports included in the FAA National Plan of Integrated Airport Systems (NPIAS). The TAF is prepared to assist the FAA in meeting its planning, budgeting, and staffing requirements, and to provide information for use by state and local authorities, the aviation industry, and the public. Master Plan forecasts for operations, based aircraft, and enplanements are considered to be consistent with the TAF if they meet the following criteria:

a) Forecasts differ by less than 10 percent in the five-year forecast period, and 15 percent in the 10-year forecast period.
b) Forecasts do not affect the timing or scale of an airport project, or
c) Forecasts do not affect the role of the airport as defined in the current version of FAA Order 5090.3, *Field Formulation of the National Plan of Integrated Airport Systems*.

Historical Enplanements

The number of passenger enplanements at the Airport has fluctuated somewhat over the past 10 years, experiencing an overall downward trend from 2004 to 2012. The Airport and the FAA both record a negative compound annual growth rate (CAGR) during that timeframe. Passenger enplanements at SUN declined sharply in 2009, largely due to the nationwide economic recession. Enplanements remained at approximately 2009 levels through 2013, and then rebounded strongly in 2014, aided by improved economic conditions and increased capacity from addition of new routes to DEN and SFO. In addition, because SUN is in a resort community and serves a high proportion of leisure travelers, its passenger demand was negatively impacted by the recession because the average would-be traveler had less disposable income to spend on vacationing. Table B3, *HISTORICAL PASSENGER ENPLANEMENTS – AIRPORT-REPORTED*, shows the historical enplanements at SUN as reported by Airport management.

Table B3 **HISTORICAL PASSENGER ENPLANEMENTS – AIRPORT-REPORTED**

Year	Enplanements
2004	73,281
2005	72,466
2006	72,282
2007	69,443
2008	66,145
2009	51,090
2010	54,319
2011	52,639
2012	50,692
2013	52,679
2014 (Base Year)*	**66,409**
CAGR 2004-2014	*-0.98%*

SOURCE: Airport Management Records.
*** 2014 enplanements figure projected by Mead & Hunt based on service schedule for remainder of CY 2014, number of aircraft seats in relevant aircraft, historical service route load factors, and historical flight cancellation/diversion rates; actual data was incorporated when available.**

Passenger enplanements for 2014 were estimated based on the following:

- The commercial service schedule for the remainder of calendar year 2014, as of this writing;
- The number of aircraft seats in each scheduled commercial service aircraft;
- Historical commercial service route passenger load factors; and
- Historical flight cancellation/diversion rates.

Actual data was also incorporated when available. The actual data included in the 2014 enplanements estimate constituted the months of January through August 2014.

Despite the overall downward trend in enplanements during the past ten years, the slight increase in enplanements seen in 2013 is indicative of a major departure from the previous declining trend. Enplanements are expected to increase dramatically in the coming years, and that expectation is reflected in the 2014 base year estimate. Regardless of whether the Airport is relocated in the future, enplanements are expected to increase at

the current site due to several factors. Increased passenger demand is expected to result from an increase in the average commercial service aircraft size in the future. The increase in average aircraft size will be due both to the 2012 FAA Finding of No Significant Impact (FONSI) that allowed for the initiation of regional jet service, as well as recent and expected up-gauging of aircraft by airlines operating at SUN. Base year 2014 is the first full year that exhibits the full effects of the commencement of regional jet operations.

Additionally, United Airlines added seasonal service from SUN to DEN and SFO in 2014. New routes will likely continue to be added in the future as conditions allow, as the Airport has made the expansion of air service a major priority in light of the introduction of regional jet service. Therefore, the large increase in enplanements that is seen from 2013 to 2014 and continuation of that trend projected in these forecasts are justifiable not only based on actual enplanements to-date in 2014, but also based on the trends created by the above factors that are already being observed.

The following is a summary of the number of enplanements through August and annually for 2013 and 2014. 2014 enplanements through August are 28% above 2013 levels, further indicating that total enplanements for 2014 will likely also exceed 2013's total.

Year	Enplanements Through August	Annual Enplanements
2013	39,053	50,377
2014	49,933	*TBD*

SOURCE: Airport Management Records.

Enplanements Forecast

Four different forecasting methodologies were applied for passenger enplanements to create forecast scenarios, including an adjusted FAA Terminal Area Forecast (TAF), a 25-year trend forecast, a market share forecast, and two socioeconomic variable forecasts (based upon gross regional product (GRP) and per capita income). From the passenger enplanement forecast scenarios, a preferred forecast was then chosen. It is important to note that enplanements were forecasted based on anticipated air service at the current Airport site. Future chapters of the Master Plan will identify levels of commercial aviation activity representing demand, which the current Airport site may not be able to accommodate in its current configuration.

- **Adjusted TAF Forecast** – This forecast adjusts the baseline 2014 enplanement figure to correspond with expected actual enplanements, but utilizes the same projected growth rate for enplanements as the most recent version of the TAF published in February 2014.

- **25-Year Trend Forecast** – This forecast uses trend analysis to create a basic linear regression trend line from historic enplanements data reported by the FAA TAF for 1990-2003 and data reported by Airport management for 2004-2014.

- **Market Share Forecast** – Market share, ratio, or top-down models compare local levels of activity with a larger entity. Historical data was examined to determine the ratio of local airport traffic to total national traffic. This forecast assumes that the 2014 ratio of SUN enplanements to national enplanements will remain consistent throughout the planning period.

- **Socioeconomic Variable Forecasts** – Historic and projected socioeconomic data provided by the economic forecasting firm Woods & Poole, Inc., was used to create two additional enplanement forecast scenarios.

Historic and projected compound annual growth rates (CAGR) for gross regional product (GRP) and per capital income in the Hailey Micropolitan Statistical Area (MSA) were used to project passenger enplanements.

The forecasting scenarios for passenger enplanements are summarized in Table B4, *PASSENGER ENPLANEMENTS FORECAST COMPARISON* and Chart B9, *PASSENGER ENPLANEMENTS FORECASTS*. For comparison purposes, the FAA's Terminal Area Forecast (TAF) has also been included. The Adjusted TAF is recommended as the preferred enplanement forecast, as 2014 enplanements are expected to be well above the TAF estimate, and future growth forecasted by the TAF is reasonable when considering recent enplanement growth as well historic and projected economic variables such as GRP and per capita income. The other forecasts were ruled out for the following reasons:

- The FAA TAF does not reach estimated 2014 enplanements until the mid-2020s.
- The 25-year trend, market share and GRP variable forecasts do not adequately take into account underlying reasons for strong 2014 growth in SUN enplanements, and the potential for additional routes to other large passenger markets.
- The income variable forecast is not appropriate to use for the SUN market, as a small segment of high-income earners skew the overall per capita income figures.

The preferred enplanement forecast has been reviewed by local Fly Sun Valley Alliance representatives and is within five percent of their own short-term projections. However they have noted that potential service to new destinations and additional service to existing destinations may result in stronger enplanement growth than this forecast reflects, which may lead to greater variance beyond the five year period. Other variables not accounted for by this forecast include:

- Possible future improvements to instrument approach procedures currently being studied by the Airport, which may reduce the frequency of flight cancellations/diversions;
- Planned future addition of hotels and other tourist accommodations in the Wood River Valley, which may increase demand for commercial aircraft seats; and
- Potential recapture of passenger leakage to Boise.

Table B4 **PASSENGER ENPLANEMENTS FORECAST COMPARISON**

Year	FAA Terminal Area Forecast[1]	Adjusted Terminal Area Forecast[2]	25-Year Trend Forecast	Market Share Analysis	Gross Regional Product Variable 2.51%[3]	Per Capita Income Variable 3.73%[4]
2014*	52,130	66,409	66,409	66,409	66,409	66,409
2019	61,847	78,797	66,705	72,962	75,172	79,753
2024	73,378	93,496	68,480	80,162	85,092	95,779
2029	87,063	110,936	70,255	88,072	96,321	115,025
2034	103,297	131,630	72,031	96,763	109,031	138,138
CAGR 2014-2034	*3.48%*	*3.48%*	*0.41%*	*1.90%*	*2.51%*	*3.73%*

*** 2014 enplanements figures projected by Mead & Hunt based on service schedule for remainder of CY 2014, number of aircraft seats in relevant aircraft, historical service route load factors, and historical flight cancellation/diversion rates; actual data was incorporated when available.**

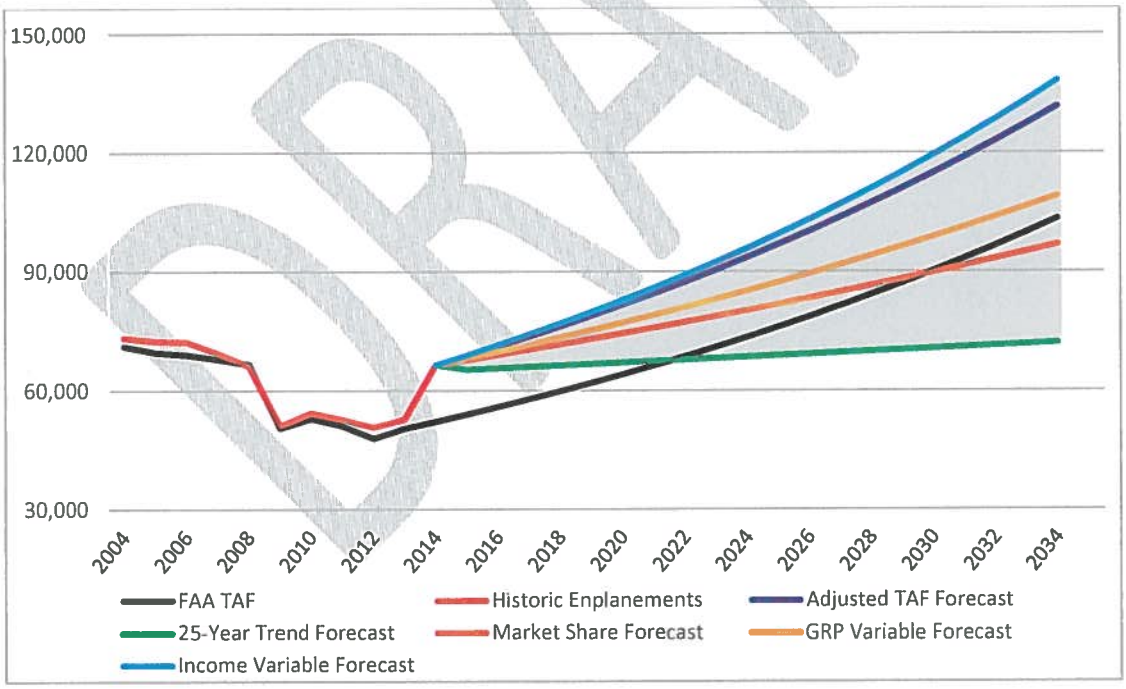
1. FAA Terminal Area Forecast (TAF), issued February 2014.

2. Adjusted TAF calculated using 2014 annual enplanement estimate and 2013 TAF projected growth rate.

3. Gross Regional Product growth rate compiled from Woods and Poole data for Gross Regional Product projected compound average annual growth rate for Hailey MSA, 2014-2035.

4. Per Capita Income Variable growth rate compiled from Woods and Poole data for Total Personal Income Per Capita (in current dollars) historical compound average annual growth rate for Hailey MSA, 1995-2013.

Chart B9 **PASSENGER ENPLANEMENTS FORECASTS**



SOURCE: Mead & Hunt analysis.

*** Enplanements for January through August 2014 from Airport management records; enplanements estimated for September through December 2014 based on scheduled departures, historical load factors, and historical flight cancellations/diversions. The 2014 annual enplanement estimate was also adjusted to account for artificially reduced enplanements associated with Airport closure from April 29 to May 21, 2014.**

Peak Passenger Activity Forecasts

Forecasts of annual passenger activity may not adequately describe the complex needs of airport facilities. Annual metrics are only useful when activity tends to be evenly distributed over the hours, days, and months of the year. However, with its seasonal schedule, SUN experiences peak periods during tourist seasons where commercial aviation activity far surpasses annual averages. For this reason, it is important to identify existing peak period activity levels and to forecast future peak period activity levels.

It should be noted that planning for facility and equipment requirements is based on the probable demand that may occur over time. If planning is contingent on the absolute busiest periods of activity, it can lead to overestimation, overspending, and inefficiencies. As a result, these peak activity forecasts focus on the average day during the peak months for passenger activity rather than the peak day of the peak months. It is also important to note that future airline route schedules are unpredictable, and that peak hourly passengers are highly dependent on these schedules.

Monthly, daily, and hourly peak passenger activity forecasts were developed from the preferred enplanement forecast recommended in the previous section. Assumptions implicit in the peak passenger forecasts include the following:

- Peak month passengers in 2014 were 15.6% of total estimated annual passengers (August). This ratio is held constant throughout the 20-year forecast period to determine peak month passengers for each forecast year.
- Peak month average day passengers were derived by dividing peak month enplanements by 31 (days in the peak month).
- Peak hour average day passengers are estimated at 29.0% of total daily enplanements, based on August 2014 commercial service schedule (see the previous section entitled *Monthly Passenger Enplanements*).

The resulting peak passenger activity forecasts for SUN are presented in Table B5, *PEAK PASSENGER ACTIVITY FORECASTS*. These forecasts indicate strong future growth in peak hourly passengers, nearly doubling from 204 in 2014 to 384 in 2034. These forecasts are based on the August 2014 passenger airline schedule. However, as noted in the previous section entitled *Peak Passenger Enplanements*, destinations and/or airlines added at SUN in the future will likely follow the traditional operational pattern for mountain resort areas, with departures packed into the morning hours. This may result in a more demanding peak hour than indicated by this peak passenger activity forecast.

Table B5 **PEAK PASSENGER ACTIVITY FORECASTS**

Year	Peak Factor	Enplanements	Deplanements	Total Passengers
2014	***Estimated***			
	Annual	66,409	66,409	132,818
	Peak Month	10,928	10,928	21,856
	Peak Month Avg. Weekday	353	353	705
	Peak Hour Avg. Weekday	**102**	**102**	**204**
2019	***Projected***			
	Annual	78,797	78,797	157,594
	Peak Month	12,292	12,292	24,585
	Peak Month Avg. Weekday	397	397	793
	Peak Hour Avg. Weekday	**115**	**115**	**230**
2024	***Projected***			
	Annual	93,496	93,496	186,992
	Peak Month	14,585	14,585	29,171
	Peak Month Avg. Weekday	470	470	941
	Peak Hour Avg. Weekday	**136**	**136**	**272**
2029	***Projected***			
	Annual	110,936	110,936	221,872
	Peak Month	17,306	17,306	34,612
	Peak Month Avg. Weekday	558	558	1,117
	Peak Hour Avg. Weekday	**162**	**162**	**324**
2034	***Projected***			
	Annual	131,630	131,630	263,260
	Peak Month	20,534	20,534	41,069
	Peak Month Avg. Weekday	662	662	1,325
	Peak Hour Avg. Weekday	**192**	**192**	**384**

SOURCE: US DOT T-100 Database, Mead & Hunt.

Commercial Passenger Fleet Mix and Operations Forecasts

Two forecasts have been developed for commercial passenger fleet mix and operations (takeoffs and landings). These forecasts are representative of the following two potential conditions:

1) A "**constrained**" forecast that takes into consideration the physical constraints associated with the existing Airport site and related aircraft use restrictions. This forecast represents the continuation of existing conditions and constraints should the Airport continue to operate at its current site throughout the 20-year planning period without changes to current operating restrictions. Possible future aircraft activity levels and commercial service aircraft types that would indicate the practicality or necessity of reconfiguring, expanding, or relocating the Airport due to the constraints of the current site are identified in chapter C of the Master Plan.

2) A "**less constrained**" forecast that represents a future scenario in which the Airport could be reconfigured, expanded, or relocated. This forecast presumes that a new site with more advantageous terrain and a larger footprint could better accommodate projected commercial aviation activity, up to a reasonable point of lowered restriction over the next 20 years.

As mentioned previously, commercial passenger service at SUN is currently provided with a combination of CRJ-700 regional jet aircraft and Q-400 turboprop aircraft. However, industry analysts expect that airlines will phase out the CRJ-700 over the next 10 years in favor of larger aircraft, such as the Embraer E-175 and the CRJ-900. Despite these expected fleet changes, it is likely that SUN will be one of the last destinations for the CRJ-700 such that operations by this aircraft will not be eliminated entirely from the SUN commercial fleet during the 20-year planning period. However, as passenger load factors continue to increase, airlines will either need to add more flights or transition to larger aircraft at SUN such as the CRJ-900, E-175, E-175-E2, and MRJ-90.

Characteristics of potential future regional aircraft at SUN are compared to the current regional aircraft in Table B6, *EXISTING AND POTENTIAL FUTURE COMMERCIAL AIRCRAFT FLEET TECHNICAL SPECIFICATIONS*. This table also summarizes characteristics of larger, narrow-body, non-regional aircraft that serve similar tourist markets – however, these aircraft are shown for comparison purposes only and are not expected to be considered at the current site.

Table B6 **EXISTING AND POTENTIAL FUTURE COMMERCIAL AIRCRAFT FLEET TECHNICAL SPECIFICATIONS**

Aircraft Type	Wingspan	Maximum Takeoff Weight (lbs)	Typical Number of Seats	Meets Current Operational Restrictions?	Expected First Delivery
Current Regional Aircraft at SUN					
Bombardier CRJ-700	76' 3"	72,750	70	**Yes**	Currently in Service
Bombardier Q-400	93' 3"	64,500	76	**Yes**	Currently in Service
Potential Future Regional Aircraft (Existing Airline Fleet)					
Bombardier CRJ-900	81' 7"	80,500	88*	**Yes**	Currently in Service
Embraer E-170	85' 4"	79,340	70	**Yes**	Currently in Service
Embraer E-175	85' 4"	82,700	78	**Yes**	Currently in Service
Embraer E-190	94' 3"	105,360	98	**No**	Currently in Service
Embraer E-195	94' 3"	107,560	108	**No**	Currently in Service
* Although operationally capable of an 88-seat configuration, the CRJ-900 is not currently flown by regional airlines with a greater than 76-seat configuration due to pilot contract scope clauses.					
Potential Future Regional Aircraft (Future Airline Fleet)					
Embraer E175-E2***	101' 8"	97,730	88	**TBD****	2020
Embraer E190-E2	110' 7"	125,400	106	**No**	2018
Embraer E195-E2	110' 7"	131,000	132	**No**	2019
Mitsubishi MRJ-70	95' 9"	81,240	78	**Yes**	2017
Mitsubishi MRJ-90***	95' 9"	87,303	92	**Yes**	2017
Bombardier CS100	115' 1"	130,000	110	**No**	2015
Bombardier CS300	115' 1"	143,999	135	**No**	2016
** Currently published performance and dimensional specifications for the E175-E2 are slightly above current SUN operational restrictions; however, it is possible that future variants may meet restrictions. If future variants do not meet restrictions, there is potential that the E175-E2 may receive a manufacturer's operational certification, or "placard", for operations below 95,000 pounds at SUN, as well as a special control tower operational procedure to mitigate for the aircraft wingspan. However, an operational certification for the E175-E2 would require cooperation of both the airline and the aircraft manufacturer, while a special operational procedure would require approval from the FAA.					
*** SkyWest Airlines currently has 100 orders each of the E175-E2 and MRJ-90.					
Comparison Non-Regional Aircraft					
Airbus A319	111' 11"	166,000	134	**No**	Currently in Service
Airbus A320	111' 11"	172,000	164	**No**	Currently in Service
Boeing 737-800	117' 5"	174,200	175	**No**	Currently in Service
Boeing 757-200	124' 10"	250,000	200	**No**	Currently in Service

SOURCE: **Aircraft Manufacturers, Mead & Hunt.**

Given current operational restrictions, airlines have an effective maximum capacity of 88 seats at SUN, as the CRJ-900 is largest aircraft currently in the regional airline fleet (in terms of seats) that meets SUN operational weight requirements of below 95,000 pounds. Furthermore, many new regional passenger aircraft expected to join the regional fleet within the next five to ten years – including the Embraer E190-E2, E-195-E2, and the Bombardier C-Series – will be unable to operate at the SUN under the current operational weight restrictions.

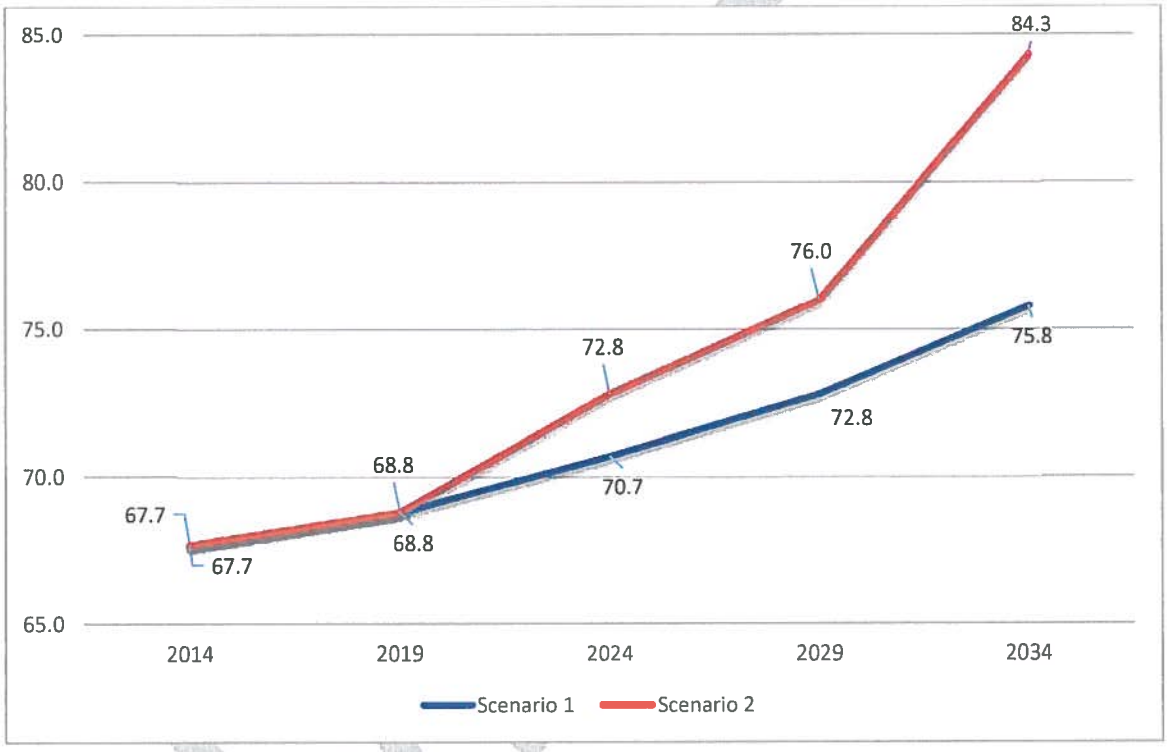
It is important to note that the following fleet mix forecast scenarios assume that all potential future commercial aircraft identified in Table 3 can operate at the current site without increases in runway length, improvements in approach procedures, or expansions to commercial parking aprons; these assumptions may or may not be valid. The only constraints considered in development of the fleet mix forecasts are current operating restrictions at SUN in terms of aircraft weight and wingspan.

The "constrained" fleet mix scenario for SUN (Scenario 1) assumes that the Airport will continue to be limited to aircraft with a capacity of 88 seats or less throughout the 20-year planning period. This scenario considers the potential of the 92-seat MRJ-90 entering SUN's commercial fleet mix at some point in the future. This scenario further assumes that aircraft in the 78-88 seat range will grow in importance at SUN as the CRJ-700 is phased out by the airlines.

The "less constrained" fleet mix scenario (Scenario 2) assumes that the Airport will be reconfigured, expanded, or relocated at some point during the 20-year planning period when commercial passenger service trends dictate. **It is important to note that the likelihood of this scenario is dependent on future community consensus that service by aircraft with greater than 92 seats and/or longer range is necessary for the Airport to function successfully.** This scenario allows for future service by existing regional aircraft with a capacity of greater than 92 seats. This scenario considers the potential of the 106-seat E190-E2, the 132-seat E195-E2, and the 135-seat CS300 entering SUN's commercial fleet at some point in the future – however it assumes that these aircraft will not play a major role at SUN within the 20-year planning due to uncertainties regarding their likely routes. This scenario further assumes that aircraft in the 78-88 and greater than 92 seat ranges will grow in importance at SUN as the CRJ-700 is phased out by the airlines; however, it also assumes that SUN will be one of the last destinations for the CRJ-700 so that operations by this aircraft will not be eliminated entirely from the SUN commercial fleet during the 20-year planning period.

Under Scenario 1, departing seats per flight would increase from 67.7 in 2014 to 75.8 in 2034, after which this figure would likely stabilize due to the effective maximum seat capacity imposed by the operational restrictions at SUN. Under Scenario 2, departing seats per flight would track closely with Scenario 1 through the first 5 years, then diverge from Scenario 1 as operational restrictions at SUN are modified at some point beyond the 5-year planning period, allowing for aircraft types with greater than 92 seats to join the fleet. Because all future scheduled passenger airline operations are expected to occur on aircraft with greater than 60 seats, all of these operations are considered "air carrier" operations per FAA definitions. Projections of departing seats per flight for both scenarios are summarized in Chart B10, *PROJECTED DEPARTING SEATS PER FLIGHT (2014-2034)*.

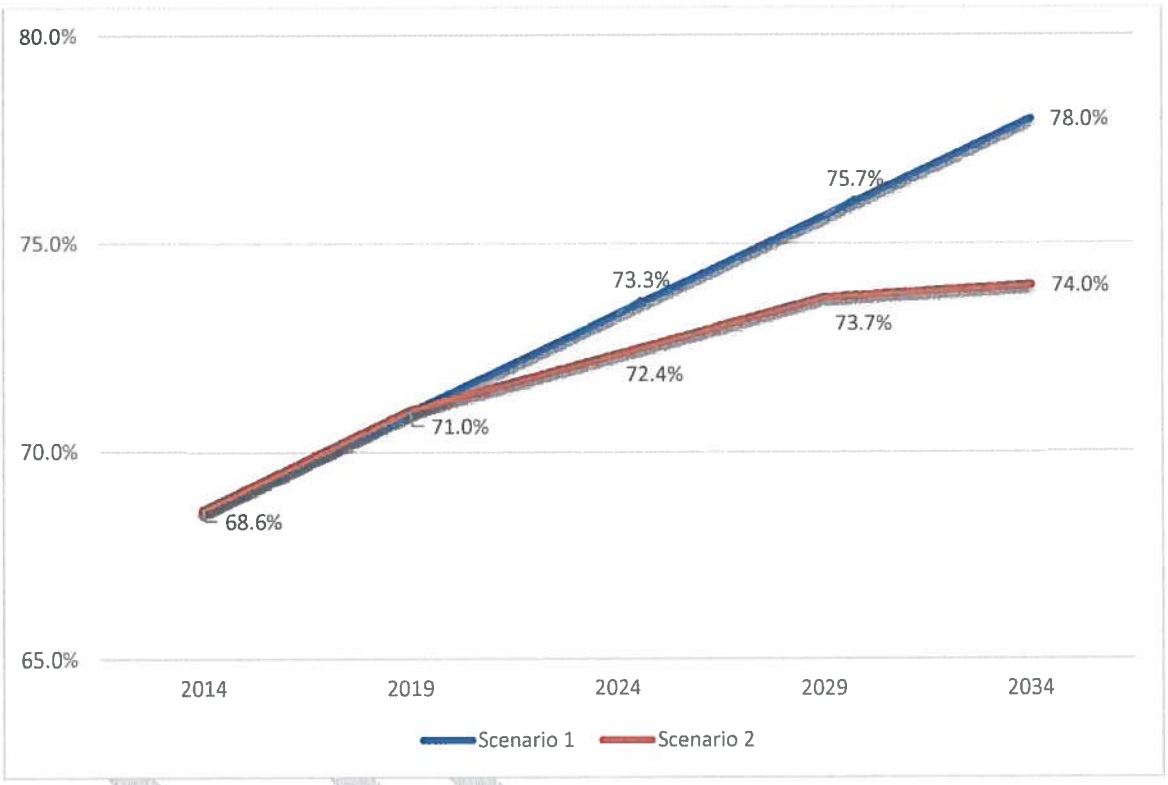
Chart B10 **PROJECTED DEPARTING SEATS PER FLIGHT (2014-2034)**



SOURCE: US DOT T-100 Database, Mead & Hunt.

Because Scenario 1 involves continued service by smaller regional jet aircraft due to the effective maximum seat capacity imposed by current operating restrictions, passenger load factors are forecasted to rise faster for this scenario than for Scenario 2. As shown in Chart B11, *PROJECTED OVERALL PASSENGER LOAD FACTOR (2014-2034)*, the overall passenger load factor is expected to increase from an estimated 68.6% in 2014 to 78.0% in 2034 under Scenario 1, while the overall load factor is expected to increase to 74.0% under Scenario 2.

Chart B11 **PROJECTED OVERALL PASSENGER LOAD FACTOR (2014-2034)**



SOURCE: US DOT T-100 Database, Mead & Hunt.

Forecasts of commercial passenger operations (takeoffs and landings) for both scenarios are presented in Table B7, *PASSENGER AIRLINE OPERATIONS FORECASTS*. These forecasts were calculated based on the preferred passenger enplanement forecast presented in the previous section entitled *Annual Passenger Enplanements Forecasts*, and the fleet mix scenarios, projected available seats, and projected load factors presented above.

Table B7 **PASSENGER AIRLINE OPERATIONS FORECASTS**

Year	Enplanements	Passenger Airline Departures	Average Seats per Departure	Passenger Load Factor	Passenger Airline Operations
Historical					
2008	66,564	3,335	38.5	53.9%	**6,670**
2009	50,540	2,634	35.7	57.0%	**5,268**
2010	52,861	2,515	38.3	59.5%	**5,030**
2011	51,033	2,214	37.3	61.3%	**4,428**
2012	47,882	1,805	38.5	68.3%	**3,610**
2013	50,377	1,959	39.2	65.8%	**3,918**
2014*	66,409	1,420	67.7	68.6%	**2,840**
Scenario 1 Forecast					
2019	78,797	1,614	68.8	71.0%	**3,228**
2024	93,496	1,804	70.7	73.3%	**3,608**
2029	110,936	2,014	72.8	75.7%	**4,029**
2034	131,630	2,226	75.8	78.0%	**4,453**
CAGR (2014-2034)	*3.48%*	*2.27%*			***2.27%***
Scenario 2 Forecast					
2019	78,797	1,613	68.8	71.0%	**3,226**
2024	93,496	1,774	72.8	72.4%	**3,548**
2029	110,936	1,981	76.0	73.7%	**3,961**
2034	131,630	2,110	84.3	74.0%	**4,220**
CAGR (2014-2034)	*3.48%*	*2.00%*			***2.00%***

SOURCE: US DOT T-100 Database, Mead & Hunt.
Note: Because all future scheduled passenger airline operations are expected to occur on aircraft with greater than 60 seats, all of these operations are considered "air carrier" operations per FAA definitions.

The Scenario 1 commercial operations forecast predicts steady growth in operations that accelerates over the planning period as airlines reach the effective allowable maximum seat capacity at SUN and must increase capacity by increasing flight frequencies to accommodate demand. The Scenario 2 commercial operations forecast predicts slower growth in commercial operations as airlines are free to transition to aircraft better suited to increasing passenger loads without increasing flight frequencies.

In accordance with the "dual path" approach, the Master Plan will not recommend one commercial passenger operations forecast as the preferred forecast. Rather, the Scenario 1 forecast will be used to determine facility needs in the event operational restrictions at the Airport remain the same, while the Scenario 2 forecast will determine facility needs in the event the decision is made to reconfigure, expand, or relocate the Airport in order to increase the size of the regional commercial fleet.

General Aviation Forecasts

General aviation is defined as the portion of civil aviation that encompasses all facets of aviation except commercial and military operations. These forecasts do not include air taxi operations under general aviation; rather, air taxi is considered separately in a subsequent section of this chapter. The following sections describe the general aviation forecasts developed for the Master Plan, which include:

- Based aircraft forecasts;
- Based aircraft fleet mix forecasts; and
- General aviation operations forecasts.

Based Aircraft Forecast

In 2013, there were 157 aircraft based at the Airport. This number was determined by the Airport, in coordination with the Fixed Base Operator, based on the number of aircraft that are present at the Airport more than 90 days out of the year. This based aircraft definition was used because it represents peak demand for aircraft storage hangars and tie-downs at the Airport, which varies seasonally to a much greater extent than airports in non-resort markets. Although demand for hangar and apron space does not currently exceed the existing supply, there are nonetheless only a few available hangars at the present time. Given the affluent community, high real estate values, and large amount of business jet traffic at the Airport, the demand for hangar space for business jets is high at the Airport. However, physical features, availability of land, and community desires and expectations are likely to limit hangar development and therefore based aircraft. These based aircraft projections serve an analysis function within the context of this Master Plan Update, but are not solely indicative of the total demand for the number of aircraft storage facilities that may be attainable or desirable on the part of the Airport and the community. The ability of the current site to accommodate construction of additional based aircraft storage is further described in the subsequent *Facility Requirements* chapter.

These based aircraft forecasts were prepared using many of the same methods used to project commercial passenger enplanements. A market share forecast, an FAA TAF projected growth rate forecast, and three socioeconomic variable forecasts (based on Gross Regional Product (GRP), Per Capita Income, and Population) have been compared with the TAF, and a preferred forecast was selected. The 2014 base year figure was obtained from the FAA Office of Aviation Policy and Plans (APO) TAF. Because the 2013 edition of this source was the most recent available, the 2014 figure represents a projection.

The socioeconomic variable methodology was applied to based aircraft because, like enplanements, based aircraft levels tend to be closely related to the tourist economy. The growth rate and linear trend methodologies were not used to forecast based aircraft because a) there is no reliable historical based aircraft records with which to project future growth, and b) the number of based aircraft at any given airport does not typically display a historical relationship with time. The based aircraft forecasts are shown in Table B8 and Chart B12, both entitled *BASED AIRCRAFT FORECASTS*.

The multipliers used for the market share and socioeconomic forecasts are described below:

- **Market Share Forecast** – This forecast assumes that the ratio of 2014 SUN based aircraft to the projected 2014 national total active general aviation fleet will remain consistent throughout the planning period.

- **FAA Terminal Area Forecast (TAF) Growth Rate Forecast** – projects an annual growth rate of 1.54% in accordance with the FAA TAF projected based aircraft for 2014-2034.

- **Socioeconomic Variable Forecasts** – Compound annual growth rates (CAGR) for the Hailey Micropolitan Statistical Area (MSA) socioeconomic variables were used to project the number aircraft based at SUN as follows:
    - **Gross Regional Product (GRP) Variable Forecast** – projects an annual growth rate of 2.51% in accordance with projected GRP growth.
    - **Per Capita Income Variable Forecast** – projects an annual growth rate of 3.73% in accordance with historical per capita income growth.
    - **Population Variable Forecast** – projected an annual growth rate of 1.44% in accordance with historical population growth. It should be noted that a recent amendment to the Blaine County Comprehensive Plan projects a slower rate of population growth than is used in this forecast.

Table B8 **BASED AIRCRAFT FORECASTS**

Year	FAA APO Terminal Area Forecast	Market Share Analysis[1]	TAF Growth Rate 1.54%[2]	Gross Regional Product Variable 2.51%[3]	Per Capita Income Variable 3.73%[4]	Population Variable 1.44%[5]
2014*	**154**	**157**	**157**	**157**	**157**	**157**
2019	166	158	169	178	189	169
2024	179	162	183	201	226	181
2029	194	166	197	228	272	195
2034	209	170	213	258	326	209
CAGR 2014-2034	*1.54%*	*0.40%*	*1.54%*	*2.51%*	*3.73%*	*1.44%*

SOURCE: Mead & Hunt analysis.

*** 2014 base year data compiled from Airport Management Records.**

1. Market Share Analysis growth rate calculated based on application of the ratio of 2013 SUN based aircraft to 2014 projected national active general aviation fleet throughout the planning period; national figures were obtained from the *FAA Aerospace Forecast*.

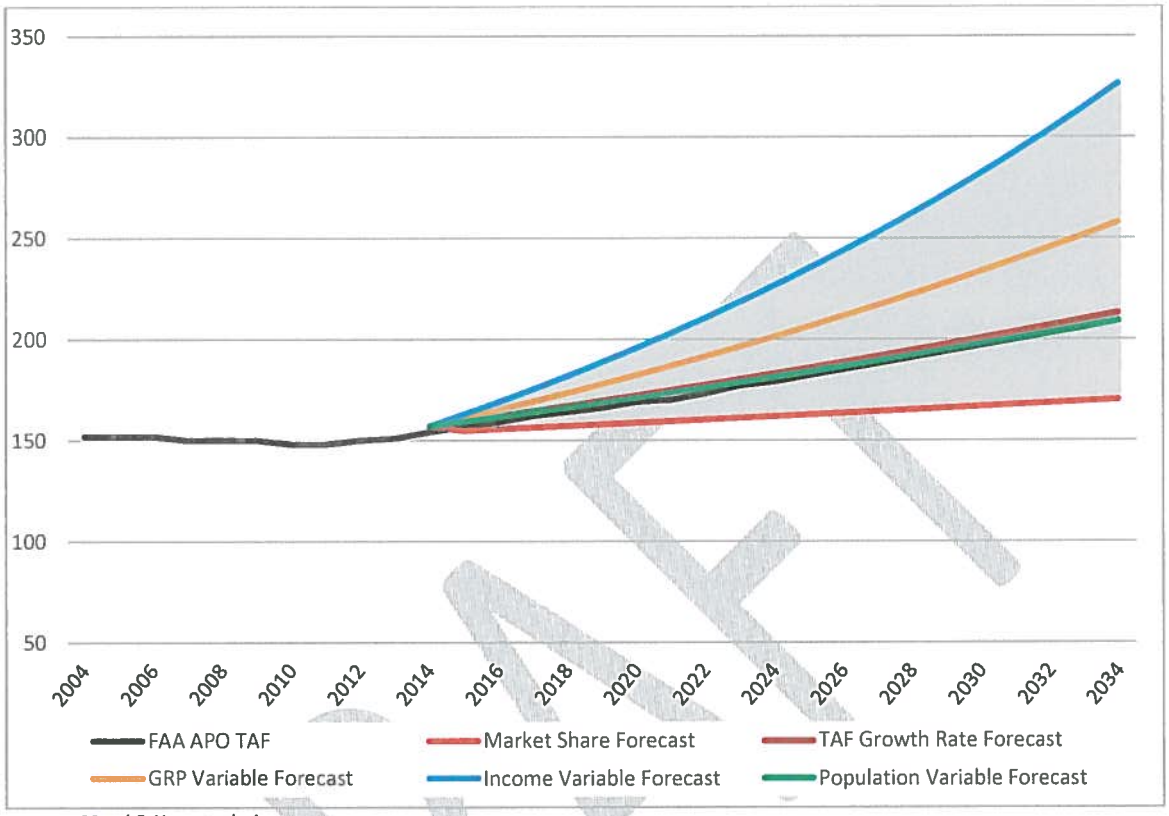
2. TAF Growth Rate forecast growth rate compiled from the Compound Annual Growth Rate (CAGR) for the 2014-2034 Terminal Area Forecast (TAF) projected data for based aircraft.

3. Projected Gross Regional Product growth rate compiled from Woods and Poole data for Hailey MSA, 2014-2035.

4. Historical Per Capita Income Variable growth rate compiled from Woods and Poole data (in current dollars) for Hailey MSA, 1995-2013.

5. Historical Population Variable growth rate compiled from Woods and Poole data for Hailey MSA, 1995-2013.

Chart B12 **BASED AIRCRAFT FORECASTS**



SOURCE: **Mead & Hunt analysis.**
*** 2014 base year data compiled from Airport Management records.**

The preferred based aircraft forecast is the TAF Growth Rate forecast. It was selected as the preferred forecast because it reflects the steady, conservative growth scenario presented by the TAF, which is in a mid-range when compared with the other scenarios presented above. The TAF Growth Rate forecast reflects the rate of growth projected in the TAF, but uses an accurate base year 2014 figure of 157 aircraft, which was verified by the Airport. The mid-range forecast offered by the FAA APO TAF forecast also supports the need to be conservative in translating anticipated based aircraft demand into estimated future hangar and apron space facility requirements with regards to the limited space for such expansion at the current site. The other forecasts were ruled out for the following reasons:

- The FAA APO TAF forecast was ruled out because the 2014 base year aircraft count is incorrect.
- The Per Capita Income Variable forecast was ruled out because high-income earners skew the per capita figure on the high end.
- The Market Share forecast was ruled out because based aircraft demand is higher at SUN than at the average U.S. airport.
- The GRP Variable forecast growth rate presents a lower growth rate than the Income Variable Forecast, but it is still representative of fairly aggressive growth in based aircraft that is unjustified based on foreseeable conditions.

Based Aircraft Fleet Mix Forecast

The FAA has reported that a strong market for business jets will drive general aviation in upcoming years. In the near-term, high fuel prices and economic concerns are dampening the general aviation industry, but the long-term outlook remains favorable as SUN continues to grow and the resort-based community economy remains stable throughout the planning period. Based on these factors, the percentages of based aircraft type are expected to remain constant throughout the planning period. Jet aircraft for general aviation purposes nation-wide are gaining ground compared with single- and multi-engine aircraft, and at SUN, this will likely be a trend, as the resort-based economy would tend to attract those operators looking for the higher-end experience of jet ownership. Single-engine aircraft are projected to remain a strong presence at SUN, however, due to their use to access the rugged natural areas in the airport vicinity. Data from Airport records was used as the baseline data, and historical data was not considered. A summary of the base year and projected based aircraft fleet mix is presented in Table B9, *BASED AIRCRAFT FLEET MIX FORECAST*.

Table B9 **BASED AIRCRAFT FLEET MIX FORECAST**

Year	Single-Engine	%	Multi-Engine	%	Jet	%	Heli-copter	%	Other	%	Total
2014*	**92**	**58.60%**	**17**	**10.83%**	**47**	**29.94%**	**1**	**0.64%**	**0**	**0.00%**	**157**
2019	99	58.60%	18	10.83%	51	29.94%	1	0.64%	0	0.00%	169
2024	107	58.60%	20	10.83%	55	29.94%	1	0.64%	0	0.00%	183
2029	115	58.60%	21	10.83%	59	29.94%	1	0.64%	0	0.00%	197
2034	125	58.60%	23	10.83%	64	29.94%	1	0.64%	0	0.00%	213
CAGR 2014-2034	*1.54%*		*1.54%*		*1.54%*		*0.00%*		*0.00%*		*1.54%*

SOURCE: Mead & Hunt analysis.
* 2014 base year data compiled from Airport Management records.

General Aviation Operations Forecast

It is important to note that this general aviation operations forecast does not include air taxi or commuter operations. Air taxi and commuter operations have instead been forecasted separately in the subsequent section, *Air Taxi and Commuter Operations Forecast*; these operations were forecasted separately from general aviation and passenger airline operations to facilitate ease and accuracy of calculation and comparison to the TAF. In addition, the air taxi market represents a different user base with its own characteristics and trends distinct from those of general aviation.

General aviation operations have generally declined throughout recent years, from 30,801 in 2004 to 20,310 in 2014, according to the FAA TAF. This decline reflects other trends of travel behavior both locally and nationally with respect to general aviation. The cost of operation and ownership of aircraft has increased, which has impacted operations and hours flown nationally, though general aviation operations at Friedman Memorial Airport are also somewhat limited by airspace capacity given the surrounding terrain and resulting weather conditions as well as limited available aircraft storage space.

A full calendar year of 2014 data was not available when the forecasts were developed, so the estimated 2014 TAF was used as the baseline, as it provides the best approximation because it reflects a continuation of operational levels from 2008-2013 (in the 17,500 to 20,500 operations range). Year-to-date 2014 data underestimates overall general aviation operational demand due to Airport closure from April 29th to May 21st of 2014, so was therefore not suitable for use as baseline data.

Although general aviation operations have declined historically, this forecast projects an increase of 1.54% in accordance with the preferred based aircraft growth rate identified above. This forecasting method was used because general aviation operations levels tend to be closely tied to based aircraft levels. Although the overall condition of the general aviation industry in the U.S. has been in a state of decline for several years, the ratio of operations per based aircraft at SUN increased during 2013 and 2014, which may indicate a trend towards returning to pre-recession levels. Consequently, a general aviation operations forecast that maintains the 2014 ratio of operations per based aircraft is considered appropriate for future planning purposes. The forecast for general aviation operations is shown in Table B10 and Chart B13, both entitled *GENERAL AVIATION OPERATIONS FORECAST*.

Table B10 **GENERAL AVIATION OPERATIONS FORECAST**

Year	FAA TAF [1]	FAA ATADS[2]	Operations per Based Aircraft Forecast[4]	Preferred Based Aircraft Forecast	Ratio of GA Operations to Based Aircraft[5]
Historical					
2004	30,801	30,103	-	-	-
2005	28,727	28,125	-	-	-
2006	26,036	27,516	-	-	-
2007	33,940	32,922	-	-	-
2008	22,780	20,319	-	-	-
2009	18,180	18,886	-	-	-
2010	20,150	19,242	-	-	-
2011	17,917	18,055	-	-	-
2012	17,377	17,369	-	-	-
2013	20,320	20,446	-	-	-
2014	**20,310**	**11,356[3]**	**20,310***	**157**	**129**
Projected					
2019	21,327	-	21,921	**169**	**129**
2024	22,402	-	23,660	**183**	**129**
2029	23,539	-	25,538	**197**	**129**
2034	24,738	-	27,564	**213**	**129**
CAGR 2014-2034	*0.99%*	*N/A*	*1.54%*	*1.54%*	*N/A*

SOURCE: Mead & Hunt analysis.

*** FAA Terminal Area Forecast (TAF) figure was used as the base year data.**

1. FAA TAF data for the categories of Itinerant GA and Local Civil.

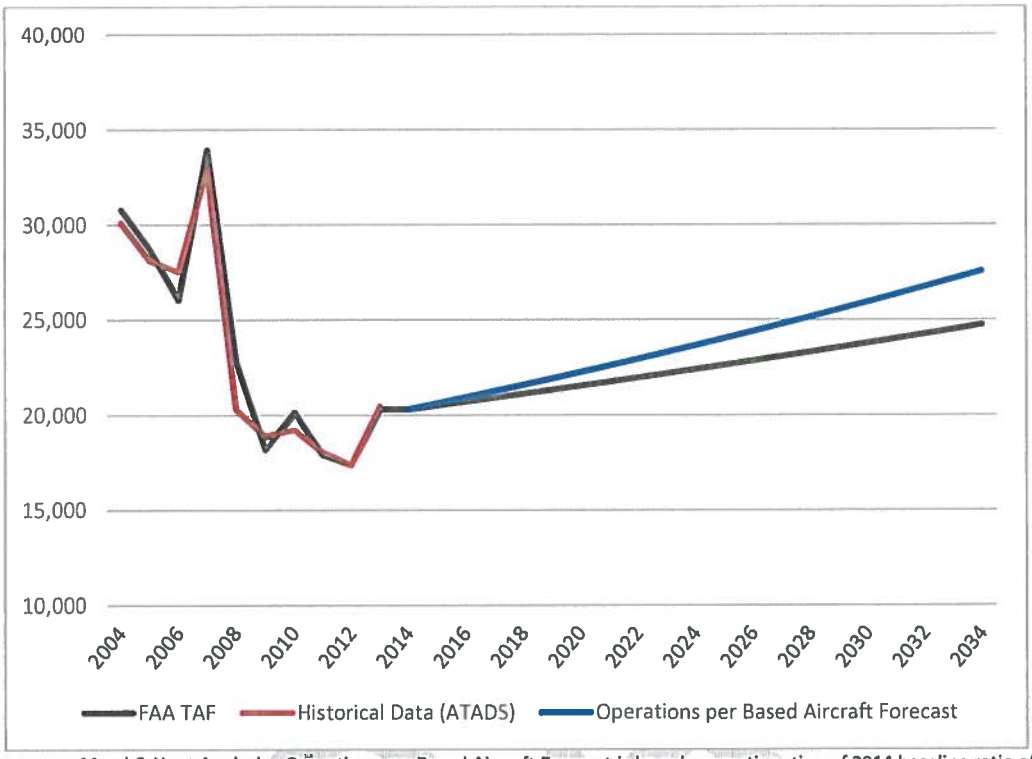
2. FAA Air Traffic Activity System (ATADS) Airport Operations data for the categories of Itinerant General Aviation and Local Civil.

3. Data through September 2014.

4. Estimated based on continuation of 2014 baseline ratio of operations to based aircraft throughout the study period.

5. General aviation operations divided by preferred based aircraft forecast.

Chart B13 **GENERAL AVIATION OPERATIONS FORECAST**



SOURCE: Mead & Hunt Analysis. Operations per Based Aircraft Forecast is based on continuation of 2014 baseline ratio of operations to based aircraft throughout the study period.

Air Taxi and Commuter Operations Forecast

As discussed above, air taxi and commuter operations have been forecasted separately from general aviation and commercial service operations to facilitate ease and accuracy of calculation and comparison to the TAF, and because the air taxi market represents a different user base with its own characteristics and trends. The 2014 TAF was again used for the baseline data for air taxi and commuter operations because the actual 2014 data was not suitable for use due a lack of full calendar year data as well as due to the Airport closure from April 29th to May 21st of 2014. Air taxi/commuter operations declined significantly in 2014 due to Delta's transition from the Brasilia to the CRJ700 in January 2014, which resulted in a decrease in commuter operations and an increase in air carrier operations over previous years. Therefore, the TAF was used as the 2014 baseline number, but 2013 Delta operations to SLC were subtracted from that figure to account for this loss of Delta operations in the commuter category. Air taxi and commuter operations have been forecasted based on the growth in air taxi and commuter operations at airports with control towers forecasted in the *FAA Aerospace Forecast Fiscal Years 2014-2034*. Air taxi and commuter operations have been forecasted to grow 0.6% per year from 2014-2024 and fall 0.1% per year from 2024-2034 as regional jets with fewer than 50 seats exit the industry. The forecast for air taxi and commuter operations is shown in Table B11, *AIR TAXI AND COMMUTER OPERATIONS FORECAST*.

Table B11 **AIR TAXI AND COMMUTER OPERATIONS FORECAST**

Year	FAA TAF [1]	FAA ATADS[2]	Air Taxi and Commuter Operations Forecast (0.60% for 2014-2024; -0.10% for 2024-2034)[3]
Historical			
2004	13,276	13,688	7,562
2005	14,025	14,335	8,097
2006	14,224	14,258	8,130
2007	13,162	12,741	6,542
2008	12,119	11,310	5,749
2009	10,120	10,226	5,550
2010	10,138	9,902	5,761
2011	9,489	9,522	5,785
2012	8,760	8,485	5,535
2013	8,349	8,402	5,261
2014	**8,507**	**4,021****	**5,185***
Projected			
2019	9,334	-	5,342
2024	10,242	-	5,505
2029	11,240	-	5,477
2034	12,336	-	5,450
CAGR 2014-2034	*1.88%*	*N/A*	*0.25%*

SOURCE: Mead & Hunt analysis.

* 2014 base year data compiled from 2014 FAA Terminal Area Forecast (TAF), subtracting 2013 Delta SLC operations obtained from U.S. Department of Transportation T-100 data to account for Delta's transition from the Embraer 120 Brasilia to the CRJ700 on its SLC routes.

** Data through September 2014.

1. FAA TAF data for the category of Air Taxi & Commuter.

2. FAA Air Traffic Activity System (ATADS) Airport Operations data for the category of Air Taxi (category includes both air taxi and commuter operations).

3. Projected air taxi and commuter operations were estimated by applying the *FAA Aerospace Forecast Fiscal Years 2014-2034* forecast growth in air taxi/commuter operations at airports with FAA and contract traffic control service of 0.60% for 2014-2024 and -0.10% for 2024-2034 (Table 32).

Military Operations Forecast

Local military operations consist mostly of training and reconnaissance flights, while itinerant operations consist mostly of those required for special events and emergencies. Military operations are driven more by Federal policy decisions that by economic conditions. As a percentage of total annual aircraft operations, the number of military operations at SUN has historically fluctuated, and has been generally increasing over the past ten years, from 30 operations in 2004 to 145 operations in 2014, according to the FAA TAF. Given that the Department of Defense does not publicly share information about projected military operations, these operations are expected to remain constant at the 2014 level of 145 operations throughout the planning period as projected by the FAA TAF.

Air Cargo Forecast

Historically, air cargo activity has been closely associated with United States Gross Domestic Product (GDP). National factors and trends that potentially stimulate demand for air cargo include increased market opportunities through open skies agreements, decreased costs from global airline alliances, and increased business volumes attributable to e-commerce. Other factors and trends potentially limiting growth of air cargo include increased use of e-mail and instant messaging applications which allow for document attachments, decreased costs of sending documents via facsimile, and the increased cost to airlines in meeting environmental and security restrictions.

Perhaps the strongest recent influences on the air cargo industry are the security directives emanating from the terrorists attacks of September 2001. Directives since that time have strengthened security standards for transporting cargo on passenger flights (i.e., no USPS package weighing more than 13 ounces can be shipped on a passenger aircraft), and required air cargo carriers to conduct random inspections of cargo. These restrictions are anticipated to remain in place for the near future and, in fact, may become more stringent.

Air cargo activity at Friedman Memorial Airport is generally conducted by both scheduled operators such as FedEx, and unscheduled, on-demand operators such as AmeriFlight. Freight data used for this forecast represents scheduled cargo activity only, as on-demand operators are not required to report freight data to the Department of Transportation. In 2013, there was approximately 421,111 pounds of freight and no mail (enplaned and deplaned) which passed through the Airport. It is anticipated that projected freight will represent SUN's average share of the national market for the years 2006 through 2014, or .002%. Based on this share and on FAA-projected growth, it is projected that total pounds of scheduled air freight passing through the Airport will reach 516,307 pounds in 2034. Historic and projected freight are illustrated in Table B12, *AIR CARGO FORECAST*.

Table B12 **AIR CARGO FORECAST**

Calendar Year	U.S. Freight (lbs.)	SUN Freight (lbs.)
Historical [1]		
2004	26,171,663,049	962,106
2005	25,566,749,899	839,132
2006	25,429,504,459	499,158
2007	25,164,302,259	434,383
2008	22,690,222,371	472,976
2009	19,795,581,146	417,584
2010	20,844,808,193	402,663
2011	20,316,687,231	388,862
2012	20,156,390,762	387,398
2013	20,418,395,079	421,111
2014 (estimate)	**19,862,904,086**[2]	**397,683**[3]
CAGR 2004-2014	*-2.72%*	*-8.46%*
Projected – Market Share Forecast (.0020% of National)[4]		
2019	21,292,787,528[5]	419,120[6]
2024	22,825,604,894[5]	449,292[6]
2029	24,468,766,153[5]	481,635[6]
2034	26,230,214,701[5]	516,307[6]
CAGR 2014-2034	*1.40%*	*1.31%*

SOURCE: Mead & Hunt Analysis.

1. U.S. Department of Transportation T-100 Database. SUN Freight represents scheduled cargo activity only.
2. 2014 national freight was estimated by applying the national compound annual growth rate for historical years 2004-2013, a rate of -2.72%.
3. 2014 SUN freight was estimated by combining the U.S. DOT T-100 Database 2014 actual data through July 2014 with 2013 historical data for the months of August through December.
4. The projected market share forecast is based on SUN's average share of the national market for the years 2006-2014 forecasted to remain consistent throughout the planning period.
5. Projected national freight was estimated by applying the projected 2013-2034 average annual growth rate for U.S. commercial all-cargo carrier revenue ton miles (RTMs) of 1.4% described in the *FAA Aerospace Forecast Fiscal Years 2014-2034*.
6. Projected SUN freight was estimated by applying the 2006-2014 average SUN share of the national market, which amounted to 0.0020%.

Local and Itinerant General Aviation Operations Forecast

A summary of the general aviation operations forecast, broken down by local and itinerant operations, is shown in Table B13, *LOCAL AND ITINERANT GENERAL AVIATION OPERATIONS FORECAST*. Local operations are conducted by aircraft operating in the traffic pattern within sight of the air traffic control tower; aircraft departing or arriving from flight in local practice areas; or aircraft executing practice instrument operations at the Airport. All operations other than local operations are defined as itinerant. Local operations are typically conducted by users based at the Airport, while itinerant operations are conducted by both based and transient users. As a result, the two types of operations have different implications for required airport facilities.

For this local and itinerant forecast, the local versus itinerant proportions were only determined for general aviation operations. All air carrier, air taxi, and commuter operations can be assumed to be itinerant. It is not possible to make predictions about the local/itinerant split for military operations, so military operations must be assumed to remain at 2014 levels. General aviation operations are therefore the only category in which change in the local and itinerant proportions is significant.

The local-itinerant split for general aviation operations from 2004-2014 averaged 10.86% local and 89.14% itinerant. The local and itinerant operations projections were developed by multiplying these average percentages by the projected general aviation operations compiled from the forecast presented in the earlier section.

Table B13 **LOCAL AND ITINERANT GENERAL AVIATION OPERATIONS FORECAST**

Year	General Aviation Operations	% Local	Local Operations	% Itinerant	Itinerant Operations
Historical					
2004	30,103	15.24%	4,588	84.76%	25,515
2005	28,125	11.61%	3,264	88.39%	24,861
2006	27,516	13.93%	3,834	86.07%	23,682
2007	32,922	18.32%	6,030	81.68%	26,892
2008	20,319	6.43%	1,306	93.57%	19,013
2009	18,886	7.87%	1,486	92.13%	17,400
2010	19,242	8.34%	1,604	91.66%	17,638
2011	18,055	6.10%	1,102	93.90%	16,953
2012	17,369	7.54%	1,310	92.46%	16,059
2013	20,446	14.67%	2,999	85.33%	17,447
2014 YTD*	11,356	9.37%	1,064	90.63%	10,292
Ave. % 2004-2014	-	*10.86%*	-	*89.14%*	-
Estimated					
2014	20,310	*10.86%*	2,205	*89.14%*	18,105
Projected					
2019	21,921	*10.86%*	2,380	*89.14%*	19,541
2024	23,660	*10.86%*	2,568	*89.14%*	21,092
2029	25,538	*10.86%*	2,772	*89.14%*	22,766
2034	27,564	*10.86%*	2,992	*89.14%*	24,572
CAGR 2014-2034	*1.54%*	-	*1.54%*	-	*1.54%*

SOURCE: Mead & Hunt analysis; historical data compiled from FAA Air Traffic Activity System (ATADS).
*** Percentage breakdown of local vs. itinerant compiled from FAA ATADS for January through September 2014.**

Instrument Operations Forecast

A specific element of this Master Plan Update is to develop instrument operations projections. Instrument Flight Rules (IFR) apply in the airspace surrounding the Airport when visibility is less than 3 miles and/or the cloud ceiling is less than 1,000 feet. Pilots conducting operations during IFR conditions must have an instrument rating and file an IFR flight plan. Instrument operations can be conducted in any type of aircraft equipped with appropriate instruments, whether commercial, general aviation, or military. Commercial operators typically require that flight crews file IFR flight plans for operations in all weather conditions. Any operations conducted under an IFR flight plan are considered instrument operations. Forecasting instrument operations will help the Airport ensure that future airport facilities comply with equipment needs and standards associated with instrument approach and departure procedures.

The instrument operations projections were developed by multiplying the average percentage of instrument operations from 2004 through 2014 by the total projected operations (compiled from the forecasts presented in the earlier sections, and including projected operations for passenger airline operations [this has been broken down according to the two scenarios], air taxi/commuter operations, general aviation operations, and military operations). Historical and projected instrument operations are presented in Table B14, *INSTRUMENT OPERATIONS FORECAST*.

Table B14 **INSTRUMENT OPERATIONS FORECAST**

Year	All Operations	% IFR	IFR Operations	% VFR	VFR Operations
Historical					
2004	44,950	47.16%	21,197	52.84%	23,753
2005	43,618	52.06%	22,706	47.94%	20,912
2006	42,975	51.34%	22,065	48.66%	20,910
2007	46,809	43.13%	20,191	56.87%	26,618
2008	32,960	61.46%	20,257	38.54%	12,703
2009	29,966	60.77%	19,426	39.23%	12,540
2010	30,247	56.06%	16,957	43.94%	13,290
2011	28,513	57.29%	16,334	42.71%	12,179
2012	26,683	56.48%	15,070	43.52%	11,613
2013	29,809	50.39%	15,022	49.61%	14,787
2014*	**28,480**	**60.29%**	**17,170**	**39.71%**	**11,310**
Ave. % 2004-2014	-	*54.22%*	-	*45.78%*	-
Projected [1]- using Scenario 1 Passenger Airline Operations Forecast					
2019	30,636	*54.22%*	16,611	*45.78%*	14,025
2024	32,918	*54.22%*	17,848	*45.78%*	15,070
2029	35,189	*54.22%*	19,080	*45.78%*	16,109
2034	37,612	*54.22%*	20,394	*45.78%*	17,218
CAGR 2014-2034	*1.40%*	-	0.86%	-	2.12%
Projected [2]- using Scenario 2 Passenger Airline Operations Forecast					
2019	30,634	*54.22%*	16,610	*45.78%*	14,024
2024	32,858	*54.22%*	17,816	*45.78%*	15,042
2029	35,121	*54.22%*	19,043	*45.78%*	16,078
2034	37,379	*54.22%*	20,267	*45.78%*	17,112
CAGR 2014-2034	*1.37%*	-	0.83%	-	2.09%

SOURCE: Mead & Hunt analysis; historical data compiled from FAA Air Traffic Activity System (ATADS).

* Percentage breakdown of IFR vs. VFR compiled from FAA ATADS for 2014; these percentages were then applied to the 2014 baseline total operations compiled from base year estimations for passenger airline operations, general aviation operations, military operations, and air taxi/commuter operations detailed in previous sections of this chapter.

1. Projections estimated based on 2004-2014 average percentages for IFR and VFR operations, applied to projected total operations (compiled from Scenario 1 passenger airline operations forecast, preferred forecasts general aviation operations, military operations, and air taxi/commuter operations detailed in previous sections of this chapter).

2. Projections estimated based on 2004-2014 average percentages for IFR and VFR operations, applied to projected total operations (compiled from Scenario 2 passenger airline operations forecast, preferred forecasts general aviation operations, military operations, and air taxi/commuter operations detailed in previous sections of this chapter).

Peak Period Operations Forecast

An additional element in assessing airport use and determining capacity and demand considerations is to ascertain peak period activities. The peak period at SUN for airport activity overall as well as for general aviation hangar/apron space is the annual Allen & Company Sun Valley conference, a week-long media finance conference, which is held in Sun Valley during the second week of July. During this peak event, many general aviation aircraft of conference attendees must be accommodated at SUN. The aircraft must be parked on the aprons, which typically overflow and create congestion. Other periods during the year that tend to have high levels of activity are during the other months of the summer (June and August), and to a lesser degree during the winter months (December through March). These other peak periods correspond to high activity levels during holidays and tourist events in the area.

The assumptions for the peak period forecast were drawn from daily 2014 operations data reported by the Air Traffic Control Tower (ATCT). The assumptions include: 16% percent of annual operations occur in the peak month (July) based on control tower records, peak day operations are 7.0% percent of peak month operations, and peak hour operations are 10.0% percent of the peak day of the peak month. The peak period operational forecast is illustrated in Table B16, *PEAK PERIOD AIRCRAFT OPERATIONS FORECAST*.

Table B16 **PEAK PERIOD AIRCRAFT OPERATIONS FORECAST**

Year	Total Annual Operations[1]	Peak Month Operations	Peak Day of Peak Month Operations	Peak Hour/Peak Day Ratio	Peak Hour Operations
2014	28,480	4,557	319	10%	32
2019	30,636	4,902	343	10%	34
2024	32,918	5,267	369	10%	37
2029	35,189	5,630	394	10%	39
2034	37,612	6,018	421	10%	42

SOURCE: Mead & Hunt.

1. Compiled from existing and projected preferred forecasts for military, general aviation, air taxi/commuter, and commercial airline operations identified in previous sections.

General Aviation and Air Taxi Peak Period Operations Fleet Mix Forecasts

This section contains generalized forecasts for projected general aviation and air taxi operations fleet mix during peak periods. The identification of potential fleet mix trends for general aviation and air taxi operations assists in determining future needs for airport facilities in general as well as during peak times. The specific implications of the fleet mix forecasts for future facility requirements, including apron space and the operation of the ATCT, are discussed in chapter C of the Master Plan.

The fleet mix forecasts below were created by applying approximate fleet mix percentages to the Peak Period Aircraft Operations Forecast presented in the previous section. The generalized fleet mix percentages were compiled based on historical data from the Traffic Flow Management System Counts (TFMSC), from which a generalized historical average was created from approximately the previous ten years. The percentages based on the TFMSC were applied to IFR operations only. The VFR operations fleet mix breakdown was estimated using basic ratios typical of airports such as SUN. The IFR/VFR breakdown was determined by assuming that the TFMSC operations represented all IFR operations. The VFR totals were then determined based on the 2014 base year figures presented in the previous sections entitled *General Aviation Operations Forecast* and *Air Taxi and Commuter Operations Forecast*. The generalized fleet mix ratios are illustrated in Table B17, *GENERALIZED GENERAL AVIATION AND AIR TAXI OPERATIONS FLEET MIX PERCENTAGES.*

Table B17 **GENERALIZED GENERAL AVIATION AND AIR TAXI OPERATIONS FLEET MIX PERCENTAGES**

General Aviation						
Flightplan Type	% of Total GA Operations	% Jet	% Multi-Engine	% Single-Engine	% Heli-copter	% Other
IFR	25%	70%	15%	15%	0%	0%
VFR	75%	0%	45%	45%	5%	5%
Air Taxi						
Flightplan Type	% of Total AT Operations	% Jet	% Multi-Engine	% Single-Engine	% Heli-copter	% Other
IFR	45%	75%	25%	0%	0%	0%
VFR	55%	0	100%	0%	0%	0%

SOURCE: FAA Traffic Flow Management System Counts (TFMSC); Mead & Hunt analysis.
Note: Generalized fleet mix percentages for IFR operations were compiled based on TFMSC data averages for its General Aviation (2004-2013) and Air Taxi (2007-2013) categories.

Based on the percentages above, generalized peak day and peak hour fleet mix forecasts were created for general aviation and air taxi operations. The percentages were applied to the Peak Period Aircraft Operations forecast presented in the previous section entitled *Peak Period Operations Forecast*. The general aviation fleet mix peak period proportions were adjusted in the peak day/hour forecasts to reflect a 90% jet operations proportion, at the recommendation of the Airport. The Airport has historically observed that jet operations represent a large portion of total general aviation operations during the peak day and hour in particular (i.e., during the annual peak event), as compared to the peak month overall. The peak period fleet mix forecasts are presented in Table B18, *GENERALIZED GENERAL AVIATION AND AIR TAXI PEAK PERIOD OPERATIONS FLEET MIX FORECASTS*.

It is important to note that the TFMSC data used in these forecasts only includes flights that fly under IFR and are captured by FAA's enroute computers; therefore, it does not include some non-enroute IFR traffic. However, since the percentage of IFR operations not captured in the TFMSC data would be very small, TFMSC data were used to represent all IFR operations for purposes of the peak period fleet mix forecasts above. These forecasts were created to inform planning and decision-making rather than to represent specific projected fleet mix proportions. They have been used to help identify future needs for airport facilities in chapter C of this Master Plan.

Table B18 GENERALIZED GENERAL AVIATION AND AIR TAXI PEAK PERIOD OPERATIONS FLEET MIX FORECASTS

Year	Total Operations	Jet	Multi-Engine	Single-Engine	Heli-copter	Other
Peak Day Forecast						
2014						
GA	227	203	11	11	1	1
Air Taxi	58	20	38	0	0	0
TOTAL	285	223	49	11	1	1
2019						
GA	245	221	11	11	1	1
Air Taxi	62	21	41	0	0	0
TOTAL	307	242	52	11	1	1
2024						
GA	263	236	12	12	1	1
Air Taxi	67	23	45	0	0	0
TOTAL	330	259	57	12	1	1
2029						
GA	281	253	13	13	1	1
Air Taxi	72	24	48	0	0	0
TOTAL	353	277	61	13	1	1
2034						
GA	300	270	14	14	1	1
Air Taxi	77	26	51	0	0	0
TOTAL	377	296	65	14	1	1
Peak Hour Forecast						
2014						
GA	23	21	1	1	0	0
Air Taxi	6	2	4	0	0	0
TOTAL	29	23	5	1	0	0
2019						
GA	24	22	1	1	0	0
Air Taxi	6	2	4	0	0	0
TOTAL	30	24	5	1	0	0
2024						
GA	26	23	1	1	0	0
Air Taxi	7	2	5	0	0	0
TOTAL	33	25	6	1	0	0
2029						
GA	28	25	1	1	0	0
Air Taxi	7	2	5	0	0	0
TOTAL	35	27	6	1	0	0
2034						
GA	30	27	1	1	0	0
Air Taxi	8	3	5	0	0	0
TOTAL	38	30	6	1	0	0

SOURCE: Operations were forecasted based on the generalized fleet mix percentages from Table 2-17 applied to the peak period aircraft operations forecast presented in the previous section, with the exception of GA jet operations, which were forecasted at 90% of GA operations, based on information from the Airport. The 2014 proportion of general aviation and air taxi operations to total operations is projected to remain constant throughout the planning period. Numbers may not add due to rounding.

Summary

Based upon the analysis described above, the Consultant recommends that the following be used as the preferred forecasts for use in the Master Plan Update:

- The preferred forecast for passenger enplanements projects an increase from 66,409 enplanements in 2014 to 131,630 enplanements in 2034;
- The preferred forecast for peak passenger activity projects an increase from 204 peak hour enplaning/deplaning passengers in 2014 to 384 peak hour enplaning/deplaning passengers in 2034;
- Departing seats per flight are projected to increase from 67.7 in 2014 to 75.8 under the "constrained" fleet mix scenario (Scenario 1), and to 84.3 under the "less constrained" fleet mix scenario (Scenario 2);
- Overall passenger load factor is projected to increase from 68.6% in 2014 to 78.0% under the "constrained" fleet mix scenario (Scenario 1), and to 74.0% under the "less constrained" fleet mix scenario (Scenario 2)
- The preferred commercial passenger operations forecast (Scenario 1) projects an increase from 2,840 air carrier operations in 2014 to 4,453 air carrier operations in 2034.
- The preferred forecast for based aircraft projects an increase from 157 based aircraft in 2014 to 213 in 2034.
- Based aircraft fleet mix proportions are projected to remain constant at 2014 levels, with 58.6% single-engine, 10.83% multi-engine, 29.94% jet, 0.64% helicopter, and 0.0% other aircraft.
- General aviation operations are projected to increase from 20,310 in 2014 to 27.564 in 2034.
- Air taxi and commuter operations are projected to increase from 5,185 in 2014 to 5,450 in 2034.
- Military operations are projected to remain constant at the 2014 level throughout the planning period, at 145 annual operations.
- Scheduled air cargo landed weight is projected to increase from 397,683 lbs. in 2014 to 516,307 lbs. in 2034.
- Peak month operations (estimated to be 16% of the annual total based on control tower records) are projected to increase from 4,557 in 2014 to 6,018 in 2034. Peak day of the peak month operations (estimated to be 7.0% of the peak month total) are projected to increase from 319 in 2014 to 421 in 2034. Peak hour of the peak day operations (estimated to be 10% of the peak day total) are projected to increase from 32 in 2014 to 42 in 2034.

The forecasts presented in this chapter are compared with the TAF limits in Table B19, *COMPARISON OF AVIATION ACTIVITY FORECASTS AND TAF FORECASTS, 2014-2029 (FAA FORMAT)*. For purposes of comparison with the TAF, passenger airline operations forecast Scenario 1 was used because it represents the more conservative future growth scenario.

Table B19 **COMPARISON OF AVIATION ACTIVITY FORECASTS AND TAF FORECASTS, 2014-2029 (FAA FORMAT)**

Year	Airport Forecasts	TAF	AF/TAF % Difference
PASSENGER ENPLANEMENTS			
Base Year (2014)	66,409[1]	52,130	27.4%
2019	78,797	61,847	27.4%
2024	93,496	73,378	27.4%
2029	110,936	87,063	27.4%
2034	131,630	99,824	31.9%
COMMERCIAL OPERATIONS			
Base Year (2014)	8,025	9,283	-13.6%
2019	8,570	10,110	-15.2%
2024	9,113	11,018	-17.3%
2029	9,506	12,016	-20.9%
2034	9,903	13,112	-24.5%
TOTAL OPERATIONS			
Base Year (2014)	28,480[1]	29,738	-4.2%
2019	30,636	31,582	-3.0%
2024	32,918	33,565	-1.9%
2029	35,189	35,700	-1.4%
2034	37,612	37,995	-1.0%

SOURCE: Mead & Hunt analysis.
1. Actual/estimated.

As shown in the table, the Total Operations forecast is within the TAF limits. However, the Commercial Operations and Passenger Enplanements forecasts are outside of the TAF limits throughout the 20-year forecast period.

Although the Passenger Enplanements forecast is outside of the TAF limits, the reasoning behind this is that the forecast adjusted the baseline 2014 figure to reflect expected enplanements for 2014, which is a higher and more accurate baseline number than that shown in the TAF. The higher baseline number is based on the addition of new service routes in 2014, as well as on an expected increase in average commercial service aircraft size operating at SUN in the future. The Passenger Enplanements forecast uses the same growth rate projected in the TAF, but with an adjusted base figure.

The Commercial Operations forecast presented above is also outside of the TAF. The projected Commercial Operations levels can be justified, however, because average commercial service aircraft size increased in 2014 as Delta Airlines transitioned from the 34-seat Embraer Brasilia 120 to the 65-seat CRJ-700 and reduced the frequency of their operations at SUN. The average commercial service aircraft size is expected to continue to increase throughout the 20-year forecast period. This increase in average air carrier size is causing a corresponding temporary decrease in operations, due to the increase in available seats. For that reason, commercial operations are projected to be below the TAF limits throughout the forecast period.

CHAPTER C

Capacity Analysis & Facility Requirements

Introduction

This chapter considers the ability of the facilities at Friedman Memorial Airport (SUN) to accommodate existing and projected activity. Facility requirements are used to determine future improvements needed to meet projected demand for airside and landside facilities. Current and forecasted activity levels have been compared to the Airport's operational capacity, using established FAA criteria and the findings from previous chapters. Evaluation procedures focus on runway length, dimensional criteria, aircraft storage and parking aprons, navigational aids, and fuel storage, as well as the passenger terminal building, vehicle parking and ground access. The *Facility Requirements* title of this chapter is drawn from FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, and is an industry standard master planning component. Although this chapter covers required facilities for accommodating specific types and levels of activity, the Airport is not obligated to plan for these facilities if they do not find them necessary.

As of this writing, the Airport is in the process of implementing Alternative 6 of the 2013 *Airport Alternatives Technical Analysis* in order to comply with Congressionally-mandated runway safety area criteria by December 31, 2015. Alternative 6 involves a combination of airfield improvements and FAA Modifications to Standards (MOSs). In addition, some of the airfield improvements have impacts on landside facilities due to the need to relocate those facilities to accommodate the airside improvements. Improvements related to implementation of Alternative 6 are ongoing. Thus, it is important to distinguish between pre- and post-Alternative 6 conditions to prevent confusion about the status of existing facilities at SUN. The following information has been identified for each type of facility:

1) The existing conditions prior to the implementation of Alternative 6 of the 2013 *Airport Alternatives Technical Analysis*;
2) The existing conditions after full implementation of Alternative 6; and
3) Projected facility needs beyond implementation of Alternative 6.

It is important to note that the future facility needs identified in this Master Plan are those needs that will be present after the Alternative 6 improvements have been completed. Following a summary discussion of local government Airport policies and recent Airport planning efforts, the capacity and facility requirements discussion is presented in the following sections:

- Airfield Capacity
- Airside Facility Requirements
- Landside Facility Requirements
- Support Facility Requirements
- Previous Justification for Relocation of the Airport
- Facility Requirements Summary: Dual Path Planning Thresholds

FMAA Joint Powers Agreement and City/County Guiding Principles

Three local government documents that are relevant to Airport development include the *Amended and Restated Joint Powers Agreement, Friedman Memorial Airport,* between Blaine County and the City of Hailey; the *Blaine County Airport Strategic Plan* Guiding Principles; and the City of Hailey's *Guiding Principles for the Operation and Relocation and Discontinuation of the Friedman Memorial Airport*. The key points of these documents are described below.

The *Amended and Restated Joint Powers Agreement* states that "there shall be no expansion of the land base of the Existing Airport beyond what has been established by the Master Plan," (Article VI, Section 6.1 A.). "Master Plan" as it is used means the Friedman Memorial Airport Master Plan Update, 1991, or its successor. The ability of the Airport to expand its boundaries is crucial to the consideration of projected facility requirements, especially since the current boundaries leave very little room for the construction of additional facilities. This restriction set out in the Agreement places significant constraints on development at the existing site. Non-Airport-related development has also closely encroached on the existing boundaries, further complicating land acquisition.

Blaine County Commissioners approved the *Blaine County Airport Strategic Plan* in February 2012. The *Plan* lists "six guiding principles determined by the Board of County Commissioners to be essential to the success of the airport project." They are reproduced below:

- Guiding Principle 1 – Robust commercial and general aviation transportation service are vital to the economy of Blaine County.
- Guiding Principle 2 – Meeting federal design and safety standards in air and ground operations is paramount in planning for air service and related infrastructure.
- Guiding Principle 3 – Air service and infrastructure improvements are affordable and achievable.
- Guiding Principle 4 – Minimizing environmental impacts is a high priority in planning for and implementing air service and infrastructure improvements.
- Guiding Principle 5 – Air Service is an important and interconnected mode of transportation for Blaine County and the region.
- Guiding Principle 6 – A replacement airport south of Bellevue along State Highway 75 is the long term solution and objective.

These County guiding principles support the needs of the current Airport while also supporting Airport replacement in the long term.

In March 2012, the Hailey City Council approved Resolution No. 2012 adopting guiding principles for the operation and relocation and discontinuation of the Friedman Memorial Airport. These guiding principles express support for relocating the Airport as well as minimizing the effects of the existing airport activities on urban areas. The Principles state that the City supports the existing airport site as long as airport activity does not jeopardize the health, safety or quality of life for Hailey's citizens. However, the City emphasizes that it will request that the EIS process be restarted to keep the relocation process moving, and recommends "developing concrete steps for a dual path approach" that incorporates both "short term safety improvements and long term relocation."

This Master Plan pursues the dual path approach described in the City/County guiding principles by developing a plan that best meets the needs of the current Airport site while also conducting preliminary planning for a relocated Airport. Preliminary planning for the dual path forward consists of identification of planning thresholds at the conclusion of this chapter. Alternatives will be developed in a subsequent chapter of this Master Plan that accommodate threshold needs at both the existing site and a replacement site, in accordance with the dual path approach.

Alternative 6 Runway Safety Area Improvements

Following suspension of the replacement airport EIS process in 2011, the Friedman Memorial Airport Authority (FMAA) led an 18-month public process to determine the appropriate path forward for the airport. The 2013 *Airport Alternatives Technical Analysis* presented a set of alternatives for improving the Airport to meet standards and to identify required MOSs where standards could not be met. After reviewing the alternatives, the community and FAA selected Alternative 6, *Less Than Full Compliance, No Land Acquisition* as the path forward for achieving temporary compliance with FAA standards at the existing site. This chapter considers the implications of those improvements for Airport facility needs in the coming years. This section provides a more detailed overview of the Alternative 6 improvements.

The *Airport Alternatives Technical Analysis* detailed the existing RSA's noncompliance as follows: "Standard RSA dimension for total width centered on runway centerline is 400 feet for RDC [Runway Design Code] C-II and 500 feet for RDC C-III (200 and 250 feet from centerline respectively). Standard RSA dimension beyond the runway end is 1,000 feet for both RDC C-II and C-III. Currently, SUN does not meet C-II or C-III RSA design standards for width. On the east side of the runway, current RSA width is only 150 feet and on the west side it is 200 feet. RSA width is nonstandard due to the location of taxiways or portions of taxiways within the RSA on both sides of the runway. RSA length (beyond runway end) requirements are currently met with the use of a displaced threshold on the Runway 13 end and declared distances. As currently configured, the RSA at SUN only meets RDC B-I standards... Further, the RSA does not meet transverse grade standards along many portions of the runway being either too steep or too flat a grade."

The Alternative 6 improvements will bring the RSA dimensions into compliance with FAA C-III standards. A MOS was approved to allow the existing RSA transverse grades of 0% to 1% to remain. The process of constructing a compliant RSA and relocating Taxiway B is due to be complete in September 2015. Those Alternative 6 improvements necessary to meet RSA dimensional standards will be completed by December 31, 2015, in order to comply with the Congressional mandate requiring that RSAs meet dimensional standards by that date. The related relocation and removal of other facilities planned as part of Alternative 6 will be completed as funding and timing allow. The Alternative 6 improvements and current MOSs are described below.

Airside Improvements. Several changes to the airfield are planned and are in various stages of completion at the time of this writing. The airfield developments associated with Alternative 6 are discussed in detail in the following *Airfield Facility Requirements* section as they apply to the existing and potential future airfield requirements at SUN. The Alternative 6 airfield improvements include:

- Removal of Taxiway A;
- Relocation of Taxiway B at 320 feet from the runway centerline;
- Extension of Taxiway B as a full-length parallel taxiway; and
- Relocation of the Automated Weather Observing System (AWOS) to a location adjacent to the FBO apron west of its existing location.

Landside Improvements. Several changes to landside facilities will also result from the RSA improvements, as a number of landside facilities must be removed or relocated to accommodate the airfield development. The landside developments associated with Alternative 6 are discussed in detail in the following *Landside Facility Requirements* section of this chapter. The Alternative 6 landside improvements include:

- Relocation/removal of aircraft parking as well as a number of hangars in several locations, resulting in a net loss of aircraft parking and hangars;
- Constructing a new taxilane to access T-hangars south of the terminal area;
- Relocating the terminal commercial aircraft parking apron and bypass taxiway;
- Relocating the Airport Traffic Control Tower (ATCT);
- Relocating and consolidating the airport office, maintenance, and firefighting buildings;

- Relocating the existing FBO fence and a portion of parking lot outside of Taxiway Object Free Area (TOFA); and
- Reconstruction of the bus route access road and closure of the winter bus route.

Modifications to Standards. In addition to the airside and landside improvements, FAA protection and separation standards are also being met through six FAA Modifications to Standards (MOSs) approved through the Alternative 6 process (MOSs 1-5 and 8). The MOSs stipulated specific airfield improvements while imposing restrictions on aircraft types and operating procedures. The stipulations included a limit of airport use to aircraft less than 95,000 pounds gross weight, and with wingspans less than 100 feet (unless an FAA-approved operational procedure is put into place to mitigate impacts related to wingspans greater than 100 feet). The MOSs are listed in Table C1, *MODIFICATIONS TO STANDARDS.*

Table C1 **MODIFICATIONS TO STANDARDS**

	Title	Description	FAA Approval Date
MOS 1	Runway Centerline to Parallel Taxiway Centerline	Allows a Runway Centerline to Parallel Taxiway Centerline of 320 feet, while the standard is 400 feet, for a proposed full length parallel taxiway, due to man-made constraints including hangars, the Terminal Building, and airplane parking.	November 2013
MOS 2	Parallel Taxiway Object Free Area (TOFA) Width	Allows a TOFA width of 160 feet, while the standard is 186 feet, due to man-made constraints including hangars, the Terminal Building, and airplane parking.	November 2013
MOS 3	Runway Object Free Area (ROFA) Width	Allows the following structures to remain in the ROFA: State Highway 75, Perimeter Fence, and Off Airport Buildings.	November 2013
MOS 4	Runway Safety Area (RSA) Grading	Allows the existing RSA transverse grades of 0% to 1%, while the standard is 1.5% to 3%.	November 2013
MOS 5	Runway Centerline to Aircraft Parking Area	Allows a Runway Centerline to Aircraft Parking Area separation of 400 feet, while the standard is 500 feet.	November 2013
MOS 8	Taxiway Width	Allows a parallel taxiway width of 50 feet plus 10 foot paved shoulders, while the standard for width is 75 feet with taxiway edge safety margin of 15 feet. Intersections and fillets will be designed to accommodate Taxiway Design Group (TDG) 5 aircraft so that the required taxiway edge safety margin is provided for all aircraft operating at SUN.	November 2013

SOURCE: Federal Aviation Administration (FAA).
NOTE: MOS 6 and MOS 7 were proposed but ultimately abandoned without approval, as the Airport will achieve compliance with applicable standards through the Alternative 6 improvements.

Airfield Capacity

Capacity refers to the number of aircraft operations that a facility can accommodate on either an hourly or yearly basis. An airfield capacity analysis was conducted for SUN. This analysis aids in the identification of possible deficiencies in the present and future airport physical plan. The primary reason for this airfield capacity analysis was to develop a clearer picture of the capacity of the existing airfield layout, taking into account the unique circumstances at SUN in which operations are conducted almost exclusively in a head-to-head pattern. Capacity at the Airport is limited by terrain and visibility issues which necessitate that operations are conducted head-to-head (takeoffs and landings in opposite directions) rather than in a normal pattern. This pattern impacts the efficiency of Runway 13/31 because additional delay and coordination between operations is needed. In the head-to-head pattern, aircraft arrive to the north and depart to the south, whereas a standard arrangement would direct both arrivals and departures in the same direction. These unique issues have been accounted for in the capacity analysis.

Capacity Definitions

The FAA provides Advisory Circular (AC) 150/5060-5, *Airport Capacity and Delay* for use in airport capacity analysis. Airfield capacity is the maximum number of aircraft operations that a specific airfield configuration can accommodate during a specified time interval of continuous demand (i.e. an aircraft is always waiting to depart or land). This theoretical level of capacity is influenced by weather conditions, number and configuration of exit taxiways, types of aircraft that use a facility, when and how that use occurs, and air traffic control/airspace handling procedures. The following measurements of airfield capacity are calculated and evaluated as part of this study:

- **Peak hour capacity** – The maximum number of aircraft operations that can occur in one hour under specific operating conditions assuming a continuous demand for service.
- **Annual Service Volume (ASV)** – Used by the FAA as an indicator of relative operating capacity, ASV is an estimate of an airport's annual capacity that accounts for differences in runway use, aircraft mix, weather conditions, etc. that would be encountered over a year's time. ASV assumes an acceptable level of aircraft delay as described in FAA AC 150/5060-5. This level of delay was held constant throughout this analysis.

AC 150/5060-5 is dated and in the process of being re-written. The Airport Cooperative Research Program (ACRP) has published capacity analysis guidelines in ACRP Report 79, *Evaluating Airfield Capacity*. Portions of the ACRP guidelines are expected to form the basis for the updated Advisory Circular. Until publication of the new AC, AC 150/5060-5 is the only approved guidance for doing the type of capacity analysis appropriate for SUN. A brief overview of the ACRP Report 79 methodology has been included at the end of this analysis for informational and comparative purposes.

Factors Affecting Runway Capacity at SUN

As mentioned above, most aircraft operating at SUN do so in a head-to-head pattern in which aircraft arrive to the north and depart to the south. The Airport was designed to facilitate head-to-head operations because it is the safest pattern based on the mountainous surrounding terrain. The canyons north of the Airport sometimes contribute to dangerous crosswinds at low altitudes. The runway also slopes uphill to the north, favoring takeoffs to the south and landings to the north. Furthermore, there is a longer declared landing distance available on Runway 31, and longer declared takeoff distance available on Runway 13. Thus, operations to and from the north can only take place under certain conditions. The head-to-head pattern represents the general policy of the Airport. It is necessitated by safety needs regarding neighboring terrain and by the fact that IFR arrival and departure is only possible to and from the south.

Arrivals generally take place from the south because that is the preferred direction from a safety perspective. However unusually strong southerly tailwinds sometimes make takeoffs to and landings from the north desirable. IFR departures are only possible to the south; departures to the north must follow VFR. Smaller aircraft may operate to and from the north under VFR conditions. Although it is not necessary to obtain permission from the Airport to depart to the north, departures to the north must be requested of the tower, as the tower cannot solicit VFR climbs to the north. The first operator to request reversed procedures when the tailwind is high will usually cause all other operations to follow suit. The head-to-head pattern also supports noise abatement over the City of Hailey, although the Noise Abatement Procedures are not the primary reason for the pattern. Although the head-to-head pattern limits runway capacity, the safety benefits of the pattern generally take precedence over any congestion concerns. A large increase in IFR operations in the future would be the biggest threat to the site's efficiency as IFR operations are currently restricted to the head-to-head pattern.

Several factors have an impact on the calculation of hourly runway capacity according to AC 150/5060-5, including the following:

- Ceiling and Visibility (VFR, IFR, or PVC)
- Runway Use Configuration
- Aircraft Mix Index
- Percent Arrivals
- Percent Touch-and-Go Operations
- Exit Taxiway Locations

Guidance contained in AC 150/5060-5 is typically used to calculate the hourly runway capacities for various operating configurations and conditions, taking into account the factors listed above. The hourly capacity of an airfield is defined as the measure of the maximum number of aircraft operations that can be accomplished on the airport or runway system in an hour under a given set of operating conditions. However, as mentioned above, Friedman Memorial Airport is unique in that the majority of the time, operations are conducted "head-to-head" with arrivals from the south and departures to the south. The FAA's airport capacity methodologies do not include guidance regarding single runway "head-to-head" operating environments. The FAA methodologies assume that arrival and departure operations are conducted in the same direction on a given runway. In order to ensure that the head-to-head pattern is properly accounted for in the analysis, the hourly capacity of the airfield and its operating conditions were determined through conversations with Airport personnel rather than through FAA prescribed methodologies.

Annual Service Volume

Annual Service Volume (ASV) is an estimate of an airport's annual practical capacity that accounts for differences in runway use, aircraft mix index, weather conditions, and pattern of operational demand. The formula for calculating ASV contains three variables: weighted hourly capacity (C_w); the ratio of annual demand to average daily demand in the peak month (D); and the ratio of average daily demand to average peak hour demand during the peak month (H).

Weighted hourly capacity, C_w, was calculated in accordance with AC 150/5060-5. In calculating C_w, ceiling and visibility (VFR/IFR) data is needed. Weather conditions can impact an airport's capacity by causing conditions that require the facility to close or greatly stagger aircraft operations. There are two categories for weather conditions related to operating aircraft, instrument flight rules (IFR) and visual flight rules (VFR). VFR weather conditions exist when the cloud ceiling is greater than or equal to 1,000 feet above ground level (AGL), and visibility is greater than or equal to three miles. IFR conditions are those below the stated VFR minimums.

It is important to differentiate IFR and VFR conditions because greater separation distances (which reduce capacity) are required under IFR conditions. According to the most recent weather data available through the National Climatic Data Center (NCDC) that is compatible with existing FAA wind analysis software, the Automated

Weather Observation System (AWOS) unit located on the Airport observed the following weather conditions for the period from 2005 to 2014:

- 94.1% of the total hourly observations reported VFR weather conditions, of which 90.8% occurred during calm wind conditions (<10.5 knots).
- 5.9% of the total hourly observations reported IFR weather conditions, of which 97.2% occurred during calm wind conditions (<10.5 knots). (Note: this is all IFR weather, or anything observed with the visibility below 3 SM)
- Airport Closed, weather below Category A, B, or C visibility requirements:
    - Category A – 2.3% of the total hourly observations reported, weather conditions below SUN's existing instrument approach minimums (below 1 ¼ mile visibility), of which 97.8% occurred during calm wind conditions (<10.5 knots)
    - Category B – 2.8% of the total hourly observations reported, weather conditions below SUN's existing instrument approach minimums (below 1 ½ mile visibility), of which 97.7% occurred during calm wind conditions (<10.5 knots)
    - Category C – 5.9% of the total hourly observation reported, weather conditions below SUN's existing instrument approach minimums (below 3 miles visibility), of which 97.2% occurred during calm wind conditions (<10.5 knots)

Based on capacity charts contained in AC 150/5060-5 for single runway airport configurations with bi-directional (i.e. not head-to-head) operational patterns, the theoretical VFR hourly capacity for Runway 13/31 is 73 operations, and the IFR hourly capacity is 54 operations. There are not capacity charts in the AC for opposite direction operational patterns, as this type of pattern is generally undesirable according to FAA procedure. The head-to-head procedures at SUN significantly reduce the runway's operational capacity. Airport and Tower personnel estimate that the head-to-head pattern reduces VFR capacity by 25% and reduces IFR capacity by 50% when compared to a typical bi-directional pattern. This results in an estimated VFR hourly capacity of 55 operations and an IFR hourly capacity of 27 operations for opposite direction operations. Because the head-to-head pattern is the predominant operational procedure at SUN, these estimates of hourly capacity were used for this analysis. However, it is important to recognize that this analysis does not take into account required air traffic control procedures and clearances needed at SUN given the challenging terrain. The ATCT must obtain clearances for arrival and departures from Salt Lake Center, which further lowers capacity. Thus, the actual runway capacity is likely more limited than the standard FAA capacity analysis method indicates.

Table C2, *WEIGHTED HOURLY CAPACITY (C_W)* summarizes the hourly capacity for the airfield's operating configuration. Based on formulas contained in AC 150/5060-5, weighted hourly capacity of the airfield at SUN is 48.0 operations.

Table C2 **WEIGHTED HOURLY CAPACITY (C_W)**

Configuration	Description	Occurrence Rate	Hourly Capacity	Weighting Factor
VFR 1	VFR Conditions	95.1%	55	1
IFR 1	IFR Conditions	2.6%	27	4
IFR 2	Below IFR Minimums	2.3%	0	4
Weighted Hourly Capacity (C_W)				**48.0**

SOURCE: FAA Advisory Circular 150/5060-5, Mead & Hunt.

The Daily Demand Ratio (D) is the ratio of annual demand to average daily demand in the peak month. Annual demand for the year 2014 was drawn from the estimate presented in Chapter B of 28,480 operations. Average daily demand in the peak month was determined by dividing the estimated peak month (July) 2014 operations of 4,557 that was also presented in Chapter B by 31 days, which is equivalent to 147 average daily operations. The Daily Demand Ratio (D) for 2014 was calculated as follows:

D = Annual Demand / Peak Month Average Daily Demand
D = 28,480 / 147
D = 193.7

The Hourly Demand Ratio (H) is the ratio of average daily demand to average peak hour demand during the peak month. In the Peak Period Operations Forecast presented in Chapter B, it was estimated that peak hour operations are 10.0% percent of the peak day of the peak month. Therefore, average peak hour demand during the peak month was calculated by multiplying the average daily demand (147) times 0.1, which is equivalent to 14.7 operations. The Hourly Demand Ration (H) ratio was calculated as follows:

H = **Peak Month Average Day Demand / Peak Hour Demand**
H = **147 / 14.7**
H = 10.0

Finally, the theoretical Annual Service Volume (ASV) for 2014 is calculated as follows:

ASV = C_w* D * H

ASV = 48.0 * 193.7 * 10.0

ASV = 93,092 operations

The percentage of ASV reached may be calculated by dividing the ASV by the total annual demand. The theoretical percentage of ASV reached in 2014 is calculated as follows:

ASV = 93,092 operations

Annual demand = 28,480

% of ASV reached = 28,480 / 93,092

% of ASV reached = 31%

The AC does not provide any direct guidance on how the ASV may change over time. Therefore, a typical airfield capacity analysis fixes the ASV at a given number (in this case 93,092 operations) throughout the planning period. Aircraft operations growth forecasts are then compared to the static ASV to determine when and if the airport will need additional airfield capacity. Forecasted annual operations are compared to this capacity estimate in Table C3, *PROJECTED ANNUAL SERVICE VOLUME (ASV) AND DEMAND/CAPACITY.*

Table C3 **PROJECTED ANNUAL SERVICE VOLUME (ASV) AND DEMAND/CAPACITY**

Year	Projected Annual Operations	Percentage of ASV Reached
2019	30,636	32.9%
2024	32,918	35.4%
2029	35,189	37.8%
2034	37,612	40.4%

SOURCE: Mead & Hunt analysis.

Relationship of ASV to Airfield Improvements

Current FAA guidelines in the National Plan of Integrated Airport Systems (NPIAS) call for beginning to plan capacity improvements when actual operations reach 60% to 75% of the ASV. This conservative percentage was chosen to give airports adequate time to plan for improvements, complete environmental review, and purchase land prior to construction, which should occur before 80% of ASV is reached.

Any airfield capacity improvements at SUN would likely involve construction of a second runway. However, a second runway is not possible at the existing site given land use and airspace constraints. Therefore, this analysis identifies operational thresholds at which detailed planning for the replacement airport should be considered based on the inability of the existing single-runway site to meet demand. As shown in Table C3, aircraft operations are not forecasted to exceed the 60% of ASV threshold within the 20-year planning period; therefore, the single runway at SUN will accommodate expected operations on an annual basis throughout this period, based on FAA demand/capacity criteria.

Comparison with ACRP Report 79 Methodology

As part of Airports Cooperative Research Program (ACRP) Report 79, *Evaluating Airfield Capacity*, published in 2012, a Prototype Airfield Capacity Spreadsheet Model was developed. The ACRP guidelines are expected to form the basis for an update of the Advisory Circular. The Prototype Airfield Capacity Spreadsheet Model is an Excel spreadsheet model that builds upon the base calculations and theory in the FAA's Airfield Capacity Model. It offers a more user-friendly and potentially a more detailed and accurate analysis than the analysis options in AC 150/5060-5. The Prototype Airfield Capacity Spreadsheet Model is meant to be used for a basic level of analysis for simply to moderately complex airfield configurations, and it calculates hourly capacity levels and ASV for three airfield configurations: single runway, dual parallel runways, and dual intersecting runways. Through a variety of inputs and adjustments, the model can be customized to fit the conditions at the airport in question. The inputs include:

- Airfield Conditions
  - Meteorological conditions
  - Runway exits and parallel taxiway availability
  - Control tower availability
  - Runway crossing demand and touch-and-go operations

- Fleet Mix Characteristics
  - Distribution of operating aircraft fleet
  - Average arrival runway occupancy times (AROTs) of aircraft classes
  - Average approach speeds of aircraft classes
- Adjustment of Separation Rules and Operational Buffers
  - Arrival to arrival separation minima
  - Departure to arrival separation minima
  - Standard deviations in actual arrival and departure spacing
  - ATC safety buffers for arrival and departure spacing

Similar to the methodology presented in AC 150/5060-5, the Prototype Airfield Capacity Spreadsheet Model does not offer an explicit way to account for the type of head-to-head operational procedures in place at an airport such as SUN. Thus, it does not present a significantly better analysis for SUN than the AC in terms of accounting for the head-to-head operational conditions, which is the most significant factor for SUN's potential airfield capacity. For that reason, a comparative capacity analysis using the ACRP Report 79 methodology was not conducted.

Airfield Capacity Recommendations

Within the 20-year planning period, none of the scenarios presented above indicate a need for a second runway at SUN. Extending the timeline beyond 20 years, assuming constant rates of growth projected in Chapter B, the Airport is estimated to reach 60% ASV at approximately 55,000 annual operations in about 50 years. Based on these projections, this Master Plan Update concludes that there is no capacity-related need for the Airport to plan on runway capacity improvements within the 20-year planning period.

Airside Facility Requirements

In order to identify the facilities required to adequately serve future needs, it is necessary to translate the forecast aviation activity into specific types and quantities. This chapter addresses the actual physical facilities and/or improvements to existing facilities needed to safely and efficiently accommodate projected demand that will be placed on the Airport. This section consists of an analysis of those requirements dealing with *airside* facilities. Those requirements dealing with *landside* facilities are addressed in a subsequent section. The analysis of airfield requirements focuses on the determination of needed facilities and spatial considerations related to the operation of aircraft on the Airport. The airside facilities examined in the sections below include:

- Dimensional Criteria
  - Runway Length
  - Airfield Design Standards
  - Taxiway System
- Runway Pavement Condition/Strength
- Instrument Approaches, Navigational Aids, and Airfield Lighting
- FAR Part 77 and Threshold Siting Surfaces

Dimensional Criteria

The types of aircraft that operate at Friedman Memorial Airport and those that are projected to utilize the facility in the future have an impact on the planning and design of airport facilities. This knowledge assists in the selection of FAA-specified design standards for the Airport. These standards are based on the "Design Aircraft" that currently utilize the Airport, or that are projected to utilize the Airport in the future. The design aircraft at SUN is based not on a single specific aircraft, but on a composite of aircraft that together comprise the current and planned service level for the runway. The current design aircraft is a composite of the Bombardier Q400 and several models of large general aviation aircraft including the Gulfstream G-V and Bombardier Global Express, as identified in the 2013 *Airport Alternatives Technical Analysis*.

According to FAA Advisory Circular 150/5300-13, *Airport Design*, the first step in defining an airport's design geometry is to determine its Airport Reference Code (ARC).

The ARC is used for planning and design purposes only and does not limit the aircraft that may be able to operate safely on the airport. The ARC signifies the airport's highest Runway Design Code (RDC), minus the third (visibility) component of the RDC. The RDC signifies the design standards to which a runway is to be built. The RDC is comprised of three components: 1) the Aircraft Approach Category (AAC) depicted by a letter and indicative of approach speed; 2) the Airplane Design Group (ADG) depicted by a Roman numeral, which relates to either the aircraft wingspan or tail height, whichever is most restrictive, of the largest aircraft expected to operate on the runway and taxiways adjacent to the runway; and 3) the existing or planned visibility minimums expressed by Runway Visible Range (RVR) values in feet.

The ARC of the Airport is C-III, but the existing site does not meet many C-III standards, including the standards that Alternative 6 was undertaken in order to meet. When the Alternative 6 improvements are finished, the C-III standards will be met through a combination of airfield improvements and FAA Modifications to Standards (MOSs). Representative aircraft within the most demanding AAC and ADG categories operating on Runway 13/31 are summarized in Table C4, *REPRESENTATIVE RUNWAY 13/31 DESIGN AIRCRAFT BY AAC & ADG.*

Table C4 **REPRESENTATIVE RUNWAY 13/31 DESIGN AIRCRAFT BY AAC & ADG**

Aircraft Type	Gross Weight (lbs)	Approach Speed (knots)	Aircraft Approach Category (AAC)	Wingspan (feet)	Tail Height (feet)	Aircraft Design Group (ADG)
Commercial						
Bombardier Q400	64,500	129	C	93.3	27.4	III
Bombardier CRJ700	72,750	137	C	76.3	24.8	II
Bombardier CRJ900	80,500	139	C	81.5	24.6	III
Embraer E170	79,340	124	C	85.3	32.3	III
Embraer E175	82,700	124	C	85.3	31.9	III
Embraer E175-E2	97,730	Unknown	Unknown	101.7	32.7	III
Mitsubishi MRJ90	87,303	Unknown	Unknown	95.9	34.4	III
General Aviation / Air Taxi						
Cessna Citation X	36,100	129	C	63.9	19.3	II
Gulfstream IV	73,200	145	D	77.8	24.5	II
Gulfstream V	85,500	140	C	93.5	25.8	III
Bombardier Global Express	92,750	122	C	94.0	25.5	III

SOURCE: AC 150/5300-13A, *Airport Design*; Aircraft Manufacturer Specifications; Mead & Hunt analysis.
NOTE: Performance characteristics for the Embraer E175-E2 and Mitsubishi MRJ90 are unknown at this time because these aircraft have not entered the commercial fleet as of 2015. These aircraft are listed in the table for comparison purposes only.

The RDC RVR value for Runway 13/31 is 5000, as this value applies to all runways with visibility minimums of one statute mile or greater. Due to airspace constraints surrounding the Airport and given existing instrument approach technologies, Runway 13/31 minimums are unlikely to be reduced below one statute mile in the foreseeable future. Based on the preceding information and analysis, the existing and planned ultimate RDC for Runway 13/31 is C-III-5000. Aircraft that fall under AAC D do operate at SUN in the form of heavy business jets, including the Gulfstream IV as shown in Table C4 above. However, it is important to note that the RDC parameters represent the aircraft that are intended to be accommodated by the airport, regardless of substantial use. AAC D aircraft are not the design aircraft for planning purposes or the basis for the RDC determination because they only operate at SUN occasionally and are not the Airport's target user group.

Runway Length

Alternative 6 will not involve significant changes to Runway 13/31. Thus, the condition of the runway will remain the same after the Alternative 6 improvements are finished. Runway 13/31 is the only runway at SUN, and it accommodates small aircraft traffic at the Airport as well as large aircraft traffic that requires more runway length to take off and land.

An airport's recommended runway length is determined by the performance characteristics of the most demanding (current or projected) aircraft in its operational fleet. Runway 13/31 is 7,550 feet long. According to FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, when the maximum takeoff weight of a critical design aircraft exceeds 60,000 pounds or is considered a regional commercial service passenger aircraft, the recommended runway length is determined based on individual airplanes. The FAA states that the design objective for the primary runway is to provide a runway length for all airplanes that will regularly use it without causing operational weight restrictions.

Unrestricted runway length is determined by applying the Airport's mean high temperature (85.3 degrees Fahrenheit) for the hottest month (July), elevation (5,320 feet), and the aircraft's maximum certificated takeoff weight (MTOW). Airport Planning Manuals (APMs) are utilized from aircraft manufacturers, where available, to determine required runway lengths under these specific operating scenarios. For this analysis, less than unrestricted runway length was used. The site constraints and airport elevation at SUN typically dictate that larger aircraft cannot take off at MTOW. Furthermore, this analysis is limited to commercial passenger aircraft, as operations by these aircraft are most critical to the local economy. Typical airline procedures also do not include taking off at the MTOW. AC 150/5325-4B requires that "Long-haul routes should set the operating takeoff weight equal to the MTOW while short-haul routes should apply the actual operating takeoff weight" (Paragraph 403 c.(2)). Based on the guidance and the operating conditions at SUN, operating weights of 70%, 80%, and 90% of maximum useful load were used to analyze all existing and potential future commercial aircraft to represent various possibilities for actual operating takeoff weight.

Potential commercial service routes to destinations for which there is likely to be demand during the planning period are illustrated in Table C5, *EXISTING AND POTENTIAL FUTURE COMMERCIAL AIRCRAFT AND DESTINATIONS*. As airlines consider establishing additional scheduled air service the Airport, a wide variety of aircraft could ultimately end up serving the community. Some of these aircraft, as a result, could benefit from a longer runway than what is currently provided in order to conduct operations at the Airport. Seat capacities, airlines, and potential destinations for future commercial service aircraft are summarized in Table C5. It is important to note that although some aircraft have more than one model or engine type, the model having the largest maximum take-off weight and the engine requiring the longest runway length was used for analysis. If multiple models or engine types were available to choose from, the model/engine type used in the analysis has been noted in the table. Where more than one model and/or engine type is listed, it indicates that there was no significant difference between them for purposes of runway length analysis.

Table C5 **EXISTING AND POTENTIAL FUTURE COMMERCIAL AIRCRAFT AND DESTINATIONS**

Aircraft	Model/Engine Type	Seats (range)	Airline	Existing/Potential Destinations
Bombardier Q400	402/PWC 150 A	76	Alaska	SEA, LAX, PDX
Bombardier CRJ700	CL-600-2C10/GE CF34-8C1	65-70	Alaska, United, American	SLC, SEA, LAX, SFO, DEN, ORD, PDX, DFW, IAH
Bombardier CRJ900	CL-600-2D24, CL-600-2D15/GE CF 34-8C5	76-88	Delta, American	SLC, SEA, LAX, DFW
Embraer E170	LR, SU or SE/CF 34-8E5	70-78	Delta, United, American	SLC, SEA, LAX, SFO, DEN, ORD, DFW, IAH
Embraer E175	LR/CF 34-8E5	70-88	United, American	LAX, SFO, DEN, ORD, DFW, IAH
Embraer E175-E2	PW1700G	80-88	SkyWest	Unknown
Mitsubishi MRJ90	PW1217G	70-92	SkyWest	Unknown

SOURCE: Aircraft manufacturer web pages, Friedman Memorial Airport flight schedule, Mead & Hunt.
NOTE: Existing/potential destinations for the Embraer E175-E2 and Mitsubishi MRJ90 are unknown at this time because these aircraft have not entered the commercial fleet as of 2015. These aircraft are listed in the table for comparison purposes only.

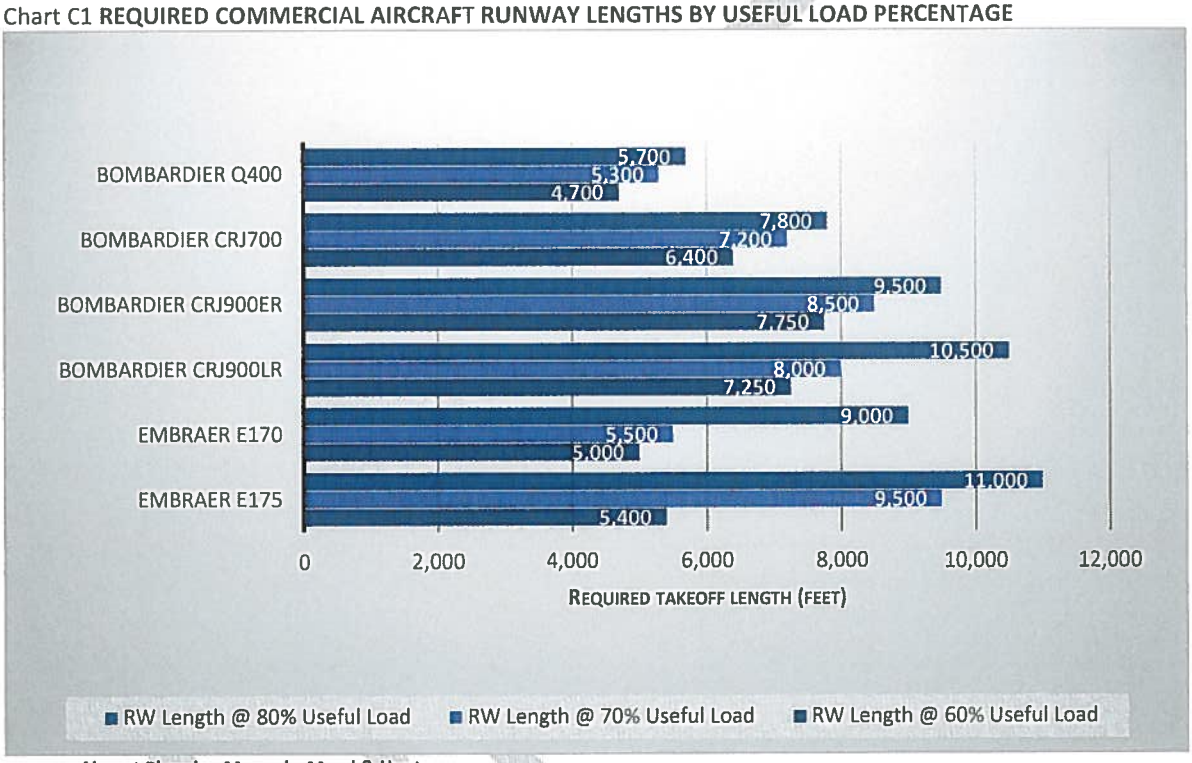
The Embraer E175-E2 and the Mitsubishi MRJ90 have also been identified as aircraft that could potentially operate at SUN in the future. However, because their detailed specifications have not been published at the time of this writing, they were not included in the runway length analysis.

Currently, Alaska Airlines operates scheduled service at SUN with the turboprop Bombardier Q400, while Delta Airlines and United Airlines operates with the regional jet CRJ700. Delta Airlines transitioned from the EMB120 Brasilia to the CRJ700, a larger regional jet aircraft, in January 2014. All of these operators currently operate with weight restrictions on Runway 13/31 in various weather conditions, which require that the airlines operate with less than a full useful load. AC 150/5325-4B states that an aircraft's useful load is "the difference between the maximum allowable structural gross weight and the operating empty weight. A typical operating empty weight includes the airplane's empty weight, crew, crew baggage and other supplies, removable passenger service equipment, removable emergency equipment, engine oil, and unusable fuel. In other words, useful load consists of passengers, cargo, and usable fuel."

Current destinations include Seattle, San Francisco, Denver, Salt Lake City, and Los Angeles. The farthest haul length of these destinations is Los Angeles at approximately 605 nautical miles. Although these destinations do not necessitate a significant fuel load, longer haul lengths for potential destinations such as Chicago, Houston, and Dallas/Fort Worth may necessitate the use of larger aircraft in order to accommodate those destinations at SUN.

This runway length analysis is based on take-off distance, not landing distance, because the take-off distances required by the projected commercial aircraft are generally longer than landing distances. The runway lengths presented in Chart C1, *REQUIRED COMMERCIAL AIRCRAFT RUNWAY LENGTHS BY USEFUL LOAD PERCENTAGE*, were interpolated from the APMs and are therefore estimates and are meant for airport planning purposes only. Actual airline runway length needs may vary from these runway lengths at the specific useful loads identified. Chart C1 presents a range of lengths to demonstrate the impact of aircraft size and type, haul length, and useful load on runway length requirements at SUN. Extension of Runway 13/31 beyond its existing length would be required to accommodate these aircraft in some hypothetical operational scenarios.

Chart C1 **REQUIRED COMMERCIAL AIRCRAFT RUNWAY LENGTHS BY USEFUL LOAD PERCENTAGE**



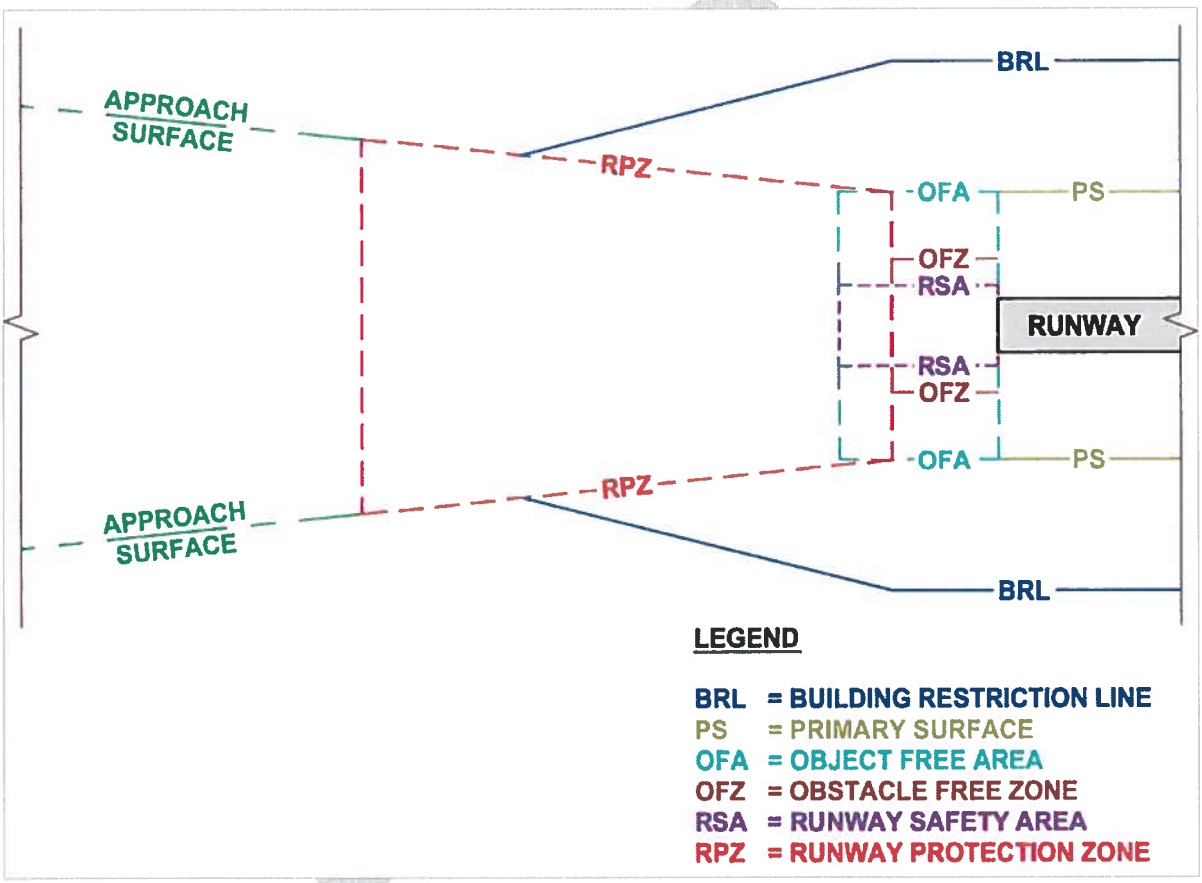
SOURCE: Airport Planning Manuals, Mead & Hunt.
NOTE: Requirements shown are approximate and may not reflect actual airline needs. Assumptions include: dry runway conditions, zero effective runway gradient, zero effective wind, airport elevation of 5,320 feet above mean sea level (AMSL).

Based on the existing runway length and the figures presented in Chart C1, any significant change in commercial service resulting in the use of larger aircraft may result in the need for additional runway length. One example of such a change would be a transition away from use of CRJ700s by airlines operating at SUN, which is already beginning to take place at other airports. The CRJ900 would ordinarily be considered a likely replacement, but it typically performs poorly at airports in mountainous environments; furthermore, the CRJ900 is expected to require approval from the FAA to operate at SUN based on its performance characteristics. Other potential replacement aircraft such as the E170 or E175 are expected to incur weight penalties at SUN that may be unacceptable to airlines serving the Airport. This issue is discussed in the section on potential thresholds indicating the need for a replacement airport at the end of this chapter.

Airfield Design Standards

This section presents FAA design standards for various airfield dimensions as they relate to Friedman Memorial Airport. A generalized visual depiction of various safety areas is shown in Figure C1, *AIRFIELD SAFETY AREAS*. The dimensional criteria illustrated in Table C6, *RDC C-III-5000 RUNWAY DIMENSIONAL STANDARDS (IN FEET)*, are those required for the specified RDC for Runway 13/31, in conjunction with specified approach visibility minimums, and include the existing dimension for the corresponding facility. As indicated in the table, under the Post-Alternative 6 condition, Runway 13/31 either meets or exceeds the identified requirements, or has a Modification of Standards in place for that specific design standard.

Figure C1 **AIRFIELD SAFETY AREAS**



SOURCE: AC 150/5300-13A, *Airport Design*; Mead & Hunt

Table C6 **RDC C-III-5000 RUNWAY DIMENSIONAL STANDARDS (IN FEET)**

Design Standard	Meets Standards?	Pre-Alternative 6 Dimension	Post-Alternative 6 Dimension	Runway Design Code C-III-5000 Standard
Runway Width	Yes	100	100	100[1]
Blast Pad Width	N/A[2]	N/A	N/A	140[1]
Blast Pad Length	N/A[2]	N/A	N/A	200
Runway Centerline to Parallel Taxiway Centerline	No – MOS 1	185/250[3]	320	400
Runway Centerline to A/C Parking	No – MOS 5	260	400	500
Runway Centerline to Holdline	Yes	150/200[3]	252	252
Runway Safety Area (RSA)				
Length Beyond Departure End	Yes	1,000	1,000	1,000
Length Prior to Landing Threshold	Yes	600	600	600
Width	Yes	350	500	500
Runway Object Free Area (ROFA)				
Length Beyond RW End	Yes	1,000	1,000	1,000
Length Prior to Landing Threshold	Yes	600	600	600
Width	No – MOS 3	539	675	800
Runway Obstacle Free Zone (ROFZ)				
Length Beyond Runway End	Yes	200	200	200
Width	Yes	275	400	400
Precision Obstacle Free Zone (POFZ)				
Length	N/A[4]	N/A	N/A	N/A
Width	N/A[4]	N/A	N/A	N/A

SOURCES: AC 150/5300-13A, *Airport Design*; January 2013 Airport Alternatives Technical Analysis; SUN Airport Layout Plan.

1. Although the runway width standard for C-III is 150 feet, Footnote 12 on Table 3-5 in AC 150/5300-13A states that for airplanes with maximum certificated takeoff weight of 150,000 lbs or less and approach visibility minimums of not less than ¾ mile, the standard runway width is 100 feet, the shoulder width is 20 feet, and the runway blast pad width is 140 feet.

2. Runway 13/31 does not currently have blast pads on either end of the runway. Although not required, blast pads at runway ends should extend across the full width of the runway plus the shoulders to prevent erosion.

3. The first distance is the minimum separation that applied to the east side of the runway before Alternative 6, and the second distance is the minimum separation that applied to the west side of the runway before Alternative 6.

4. POFZ standards apply to runway ends with vertically-guided approaches and approach minima below 250 feet cloud ceiling or ¾ statute mile. Neither end of Runway 13/31 meets both of these criteria; therefore, the POFZ does not apply to Runway 13/31.

Existing and ultimate airfield dimensions shown in Table C6 are described below.

Runway Width. The runway is 100 feet wide. Although the runway width standard for C-III-5000 is 150 feet, AC 150/5300-13A states that for airplanes with maximum certificated takeoff weight of 150,000 pounds or less and approach visibility minimums of not less than ¾ mile, the standard runway width is 100 feet. Because the Modifications to Standard (MOS) at SUN limit use of the Airport to aircraft less than 95,000 pounds gross weight, the required runway width is 100 feet and Runway 13/31 currently meets the width standard.

Runway Centerline to Parallel Taxiway Centerline Separation. Prior to implementation of Alternative 6, the Runway 13/31 centerline to parallel taxiway centerline separation did not meet the C-III standard on either side of the runway. Implementation of Alternative 6 will result in further separation of parallel Taxiway B from the runway and removal of parallel Taxiway A. However, MOS 1 will allow the new Taxiway B separation to remain below the FAA standard.

Runway Centerline to Aircraft Parking Separation. Prior to implementation of Alternative 6, the Runway 13/31 centerline to aircraft parking separation did not meet the C-III standard on the west side of the runway. Implementation of Alternative 6 will relocate the commercial and air cargo aprons, and reduce the size of the general aviation aprons, to meet the C-III standard separation.

Runway Centerline to Holdline Separation. Prior to implementation of Alternative 6, the Runway 13/31 centerline to holdline separation did not meet the C-III standard on either side of the runway. Implementation of Alternative will result in all holdlines complying with the FAA runway separation standard.

Runway Safety Areas (RSA). Prior to implementation of Alternative 6, the Runway 13/31 RSA did not meet the RSA width standard due to parallel taxiways within the RSA on both sides of the runway. Implementation of Alternative 6 will result in the RSA meeting FAA width and length standards; however, MOS 4 will allow existing RSA transverse grades below the FAA standard to remain in place.

Runway Object Free Areas (ROFA). Prior to implementation of Alternative 6, the Runway 13/31 ROFA did not meet the ROFA width standard due to parallel taxiways, commercial aircraft parking, east perimeter fence, air traffic control tower, and State Highway 75 within the ROFA, among other objects. Implementation of Alternative 6 will result in an increase of ROFA width by removing many of these objects from the ROFA; however, MOS 3 will allow the existing east perimeter fence and State Highway 75 to remain within the ROFA.

Runway Obstacle Free Zones (ROFZ). Prior to implementation of Alternative 6, the Runway 13/31 ROFZ did not meet the ROFZ width standard due to parallel taxiways within the ROFZ on both sides of the runway. Implementation of Alternative 6 will result in the ROFZ meeting FAA width and length standards.

Precision OFZ (POFZ). The POFZ standard does not apply to Runway 13/31 based on existing and potential future instrument approach procedures to the runway.

Runway Protection Zones (RPZ). Prior to implementation of Alternative 6, only portions of the approach and departure RPZs beyond either end of the runway were within the current airport property boundary and/or existing airspace easement limits. Implementation of Alternative 6 will not result in increased compliance with the RPZ standard. However, based on current FAA policy and discussions with the FAA, the existing RPZ conditions and encroachments will be allowed to remain in place. It should be noted that there are several potential future events identified by FAA guidance that would require detailed review of alternatives, which may represent a threshold for further consideration and planning for a replacement airport. These potential future events include the following, if an incompatible land use would enter the limits of the RPZ as a result:

- An airfield project;
- A change in the critical design aircraft that increases the RPZ dimensions;
- A new or revised instrument approach procedure that increases the RPZ dimensions; or
- A local development proposal in the RPZ.

Taxiway System

This section presents FAA standards for taxiway design as they relate to Friedman Memorial Airport. Taxiway design standards are based on both the Aircraft Design Group (ADG) and Taxiway Design Group (TDG) for the most demanding aircraft expected to use the taxiway in question. As mentioned previously, the ADG is based on aircraft wingspan and tail height. The TDG, a new concept introduced by recent revisions to FAA AC 150/5300-13A, is based on aircraft cockpit-to-main-gear distance (comparable to aircraft wheelbase) and main gear width. The ADG and TDG for the most demanding commercial and GA aircraft operating at SUN are summarized in Table C7, *REPRESENTATIVE TAXIWAY DESIGN AIRCRAFT BY ADG & TDG.*

Table C7 **REPRESENTATIVE TAXIWAY DESIGN AIRCRAFT BY ADG & TDG**

Aircraft Type	Wingspan (feet)	Tail Height (feet)	Aircraft Design Group (ADG)	Wheelbase (feet)	Main Gear Width (feet)	Taxiway Design Group (TDG)
Commercial						
Bombardier Q400	93.3	27.4	III	45.8	33.2	5
Bombardier CRJ700	76.3	24.8	II	49.2	13.5	2
Bombardier CRJ900	81.5	24.6	III	56.8	13.4	4
Embraer E170	85.3	32.3	III	34.8	17.0	2
Embraer E175	85.3	32.3	III	37.4	17.0	2
Embraer E175-E2	101.7	32.7	III	Unknown	Unknown	Unknown
Mitsubishi MRJ90	95.9	34.4	III	Unknown	Unknown	Unknown
General Aviation / Air Taxi						
Cessna Citation X	63.9	19.3	II	29.9	13.0	1B
Gulfstream IV	77.8	24.5	II	38.1	13.7	1B
Gulfstream V	93.5	25.8	III	45.0	14.4	2

SOURCE: Mead & Hunt analysis.
NOTE: Taxiway Design Groups for the Embraer E175-E2 and Mitsubishi MRJ90 are unknown at this time because these aircraft have not entered the commercial fleet as of 2015. These aircraft are listed in the table for comparison purposes only.

As shown in Table C7, the most demanding ADG at SUN is III (various aircraft) and the most demanding TDG is 5 (the Bombardier Q400). The dimensional criteria illustrated in Table C8, *ADG III AND TDG 5 DIMENSIONAL STANDARDS (IN FEET)*, are those required for the most demanding commercial aircraft at the Airport. As indicated in the table, under the Post-Alternative 6 condition, Runway 13/31 either meets or exceeds the identified requirements, or has a Modification of Standards in place for that specific design standard. The parallel taxiway and all terminal area taxiways should meet these design requirements; other taxiways can be designed to less demanding standards if they are not expected to be used by commercial aircraft.

Table C8 **ADG III AND TDG 5 TAXIWAY DIMENSIONAL STANDARDS (IN FEET)**

Design Standard	Meets Standards?	Post-Alternative 6 Dimension	Runway Design Code C-III-5000 Standard
Taxiway B Width	No – MOS 8	50	75
Taxiway B Shoulder Width	No – MOS 8	10	30
Taxiway Safety Area Width	Yes	118	118
Taxiway Object Free Area Width	No – MOS 2	160	186
Taxilane Object Free Area Width	Yes	162	162

SOURCE: **Mead & Hunt analysis.**

Prior to implementation of Alternative 6, sterilization procedures were in place that required clearing the parallel taxiways of aircraft during commercial aircraft operations. These procedures will be eliminated following relocation of parallel Taxiway B.

Prior to implementation of Alternative 6, parallel Taxiway A acted as a capacity "release valve" for small aircraft during peak periods to allow for takeoffs and landings by larger aircraft. Removal of the taxiway under Alternative 6 will therefore have a negative effect on the runway's operational capacity. To mitigate for this capacity loss, Alternative 6 includes relocation of some of the runway's exit taxiways, as well as addition of a new exit taxiway and extension of Taxiway B for the full length of the runway, to better manage aircraft entrance and exit flow from Runway 13/31 while meeting FAA design standards. Alternative 6 will also result in relocation of the Airport's bypass taxiways located adjacent to and west of Taxiway B.

Runway Pavement Strength/Condition

The pavement strength of Runway 13/31 is rated for aircraft weighing up to 65,000 pounds with single wheel main landing gear configurations, 95,000 pounds for aircraft with dual wheel main landing gear configurations, and 150,000 pounds for aircraft with dual tandem wheel main landing gear configurations. A review of the maximum gross weight and main landing gear configuration of the recommended critical aircraft types, the Q400, Gulfstream G-V, and Bombardier Global Express (MTOW of 64,500 pounds; 90,500 pounds; and 92,750 pounds, respectively), indicates the strength of the runway is sufficient to meet demand throughout the planning period. According to the most recent pavement evaluation completed in 2015, all Runway 13/31 pavements are in good condition. Though no changes are necessary to increase the strength of the runway, it is recommended that pavement for any future runway reconstruction or rehabilitation projects are capable of retaining these existing weight bearing capacities.

Instrument Approaches, Navigational Aids, and Airfield Lighting

Instrument approach procedures, navigational aids, and airfield lighting at SUN are currently limited due to natural terrain obstructing approach obstacle clearance surfaces and surrounding land uses constraining effective equipment siting. In 2013, the Airport Authority commissioned a feasibility study for improving approach procedures and navigational aids at the Airport to better support users. This study identified several potential improvements to approach procedures and navigational aids that are currently undergoing more in-depth review independently of this Master Plan Update. The results from this in-depth study are expected to be available in 2015 prior to publication of the final Master Plan. These results will be incorporated into the final version of the Master Plan report. At the time of this writing, potential improvements to instrument approaches are not expected to increase the design standards described in this Chapter.

FAR Part 77 and Threshold Siting Surfaces

Safe and efficient landing and takeoff operations at an airport require that certain areas on and near the airport are clear of objects or restricted to objects with certain function, composition, and/or height. Obstruction clearing standards and criteria are established to create a safer environment for aircraft operations on or near the airport. These standards and criteria take the form of imaginary sloping surfaces that are trapezoidal in shape. The criteria contained in Federal Aviation Regulations (FAR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*, apply to existing and proposed manmade objects and/or objects of natural growth and terrain (i.e. obstructions). The Airport should also ensure that, to the extent practicable, threshold siting surfaces identified by AC 150/5300-13A are protected from proposed development and natural vegetation growth.

The specific size, slope, and starting point of the imaginary surfaces depend upon the approach and departure procedures in place for a specific runway end (or lack thereof), and the type of aircraft expected to approach and depart the runway. Procedures and aircraft use are different for each end of Runway 13/31; therefore, different imaginary surfaces apply to either end of the runway. The dimensions of these surfaces are presented in Table C9, *RUNWAY 31 AIRSPACE SURFACES*, and Table C10, *RUNWAY 13 AIRSPACE SURFACES*.

Table C9 **RUNWAY 31 AIRSPACE SURFACES**

Airspace Surface Dimensions	Standard Dimension
Part 77 Approach Surface (NPI > 3/4 statute mile)	
Surface Beginning Point Beyond Runway End	200
Inner Width	500
Length	10,000
Outer Width	3,500
Slope	34:1
Approach Threshold Siting Surface (Type 5)	
Surface Beginning Point Beyond Runway End	200
Inner Width	800
Length	10,000
Outer Width	3,800
Slope	20:1
Departure Threshold Siting Surface (Type 9)	
Surface Beginning Point Beyond Runway End	0
Inner Width	1,000
Length	10,200
Outer Width	6,466
Slope	40:1

NOTE: Type 5 approach threshold siting surface applies to the "approach end of runways expected to support instrument night operations serving greater than Category B aircraft."

Table C10 **RUNWAY 13 AIRSPACE SURFACES**

Airspace Surface Dimensions	Standard Dimension
Part 77 Approach Surface (Other than utility, visual)	
Surface Beginning Point Beyond Runway End	200
Inner Width	500
Length	5,000
Outer Width	1,500
Slope	20:1
Approach Threshold Siting Surface (Type 3)	
Surface Beginning Point Beyond Runway End	0
Inner Width	400
Length	1,500
Outer Width	1,000
Slope	20:1

NOTE: **Type 3 approach threshold siting surface applies to the "approach end of runways expected to serve large airplanes (visual day/night); or instrument minimums >= 1 statute mile (day only)." Type 9 departure threshold siting surface does not apply to Runway 13 as IFR departures are not authorized on this runway.**

There are currently numerous penetrations to the various surfaces described in the tables above at SUN. Some of these penetrations have been mitigated by displacing the Runway 13 threshold, installing obstruction lighting, and/or removing man-made and natural objects. However, given physical constraints surrounding the Airport, it is not realistic to remove all obstructions to these surfaces; therefore the Airport has approach and departure minimums that are significantly higher than standard minimums. Potential future improvements to approach and departure procedures at SUN may result in more demanding airspace surfaces.

Landside Facility Requirements

Landside facilities are those facilities that support the airside facilities, but are not actually a part of the aircraft movement area. These consist of such facilities as terminal buildings, hangars, aprons, access roads, and support facilities. Following a detailed summary of existing conditions, deficiencies have been noted in terms of accommodating current and future needs at the Airport. The landside facilities examined in the sections below include:

- Airport Traffic Control Tower (ATCT)
- Commercial Passenger Terminal Area Facilities
  - Passenger Terminal Building
  - Automobile Parking Facilities
  - Air Carrier Apron Space
  - Terminal Area Roadway System
- General Aviation Facilities
  - General Aviation Hangar Facilities
  - General Aviation Apron Space
  - FBO and Corporate Facilities
  - Air Cargo Areas

Airport Traffic Control Tower

The Airport Traffic Control Tower (ATCT) is currently located on the east side of the airfield. The ATCT is within the Runway Object Free Area (ROFA). The ATCT is also a 14 CFR Part 77 transitional surface penetration. Because it is a Part 77 penetration, the tower also does not meet FAA ATCT siting criteria guidance contained in FAA Order 6480.4, *Airport Traffic Control Tower Siting Process.* Chapter 2, paragraph 203b. of Order 6480.4 cites the ROFA as an area of particular concern when siting an ATCT in compliance with Part 77. Thus, the ATCT does not meet FAA standards. Its facilities are also dated and cramped, and do not meet building code requirements.

An *ATCT Concept and Budget Report* completed in 2004 found that the tower has several deficiencies, including its location within the Runway Object Free Area, and its dated facilities. The report recommended relocating and upgrading the ATCT, and identified eight alternative sites throughout the Airport property. The report's ATCT Alternative Site 8 is the closest approximation to the planned relocation site under the *Airport Alternatives Technical Analysis* Alternative 6, as ATCT Alternative Site 8 involved rebuilding the ATCT on its existing site. ATCT Alternative Site 8 was noted as being one among three of the alternative sites with the clearest line-of-sight to existing and anticipated airport surfaces under tower control. Three construction concepts were also studied in detail and cost estimates were prepared for each.

Modification to Standard (MOS) 3 allowed several structures to remain in the ROFA; however, the MOS is conditioned on removal of several other structures from the ROFA including the ATCT and its supporting facilities. MOS 3 states that the ATCT in its current location is seen as a safety risk and must be relocated as soon as possible, no more than 10 years from the MOS date of approval. Under Alternative 6, the ATCT is planned to be relocated to a new site outside of the ROFA, a short distance from its current location.

An ATCT siting analysis will be included as part of the subsequent Alternatives chapter of this Master Plan. The siting analysis will include a location analysis in which potential sites will be identified with a discussion of the opportunities and constraints of each site. A final site will be recommended that best meets required criteria and other considerations such as topography, access, and construction cost.

The ATCT at Friedman Memorial Airport provides a number of critical safety benefits given the significant airspace constraints at the site. Due to the mountainous surrounding terrain and frequent low-visibility conditions, operations at SUN are extremely technical and pilots communicate heavily with the tower. The presence of the tower at the Airport significantly decreases the risk of runway incursions and other accidents and provides on-site monitoring of weather conditions that is invaluable to pilots negotiating take-offs and landings. In addition, the Airport's head-to-head operational pattern and single taxiway necessitate significant coordination on the part of the tower to properly accommodate take-offs and landings and maintain efficiency, especially considering the Airport's complex capacity issues. The tower provides critical notices to aircraft on the ground and on approach to prevent incursions. The FAA has also stated that the SUN must have an ATCT in order to maintain commercial passenger service in the future. The ATCT therefore benefits the regional economy and tourism industry by ensuring that residents and visitors can access the Sun Valley region in a consistently safe and timely manner. SUN has a much higher number of based aircraft than other similar airports tend to have, which contributes to high activity levels at crucial times during the year. In summary, the ATCT greatly enhances safety of operations under SUN's challenging circumstances.

Commercial Passenger Terminal Area Facilities

The passenger terminal area is located on the west side of the runway, between the general aviation hangar areas. The Alternative 6 improvements to Taxiway B have necessitated moving the commercial aircraft parking apron from the east side of the building to the north side to remove the parked aircraft from the Taxiway B TOFA. In addition, the Terminal Building is undergoing an expansion and reconfiguration in order to have the building continue to function properly and efficiently given the relocated commercial aircraft parking apron. These developments are planned to be completed by December 31, 2015. The estimated overall terminal size post-renovation/expansion is 34,150 square feet.

The following sections detail existing conditions and identify future facility requirements for the Passenger Terminal Building, automobile parking, air carrier apron space, and terminal area roadway system. Conditions that will be completed as part of the Alternative 6 improvements have been clearly identified. Again, it is important to note that the future facility needs identified in this Master Plan are those needs that will be present after the Alternative 6 improvements have been completed.

Passenger Terminal Building

The existing terminal building houses a public waiting/queuing area, ticketing, airline ticket offices (ATOs), outbound baggage area, secure holdroom, Transportation Security Administration (TSA) security area, baggage claim, rental car counters (Hertz, Avis, and Enterprise), and three public restrooms, including a restroom within the secure holdroom. Prior to implementation of Alternative 6, the total footprint of the passenger terminal building was 14,320 square feet (SF).

The terminal building reconfiguration and expansion is underway (as of late 2014). Reconfiguration will ensure that passengers can travel safely to and from the new terminal aircraft parking locations and will also ensure the continued efficient operation of related activity such as aircraft ground service and baggage handling. The Terminal Reconfiguration and Expansion Project will include the following elements:

- Outbound baggage make-up will be housed in a new addition to the east of existing building.
- Reconfiguration to the north and west will house waiting areas, security screening, secure hold room, concessions, baggage claim and rental car counters.
- Security Screening Checkpoint (SSCP) layout will be designed in accordance to the TSA Checkpoint Design Guide Rev. 5.1.

- Existing concessions will be relocated to the secure hold room.
- Existing terminal architectural finishes will be updated to match the new facility.
- Ramp apron grading and paving, lighting, and GSE parking north and west of the terminal building.
- Minimal reconfiguration of the terminal parking lot to accommodate the new building space.

The capacity of the terminal building is discussed and analyzed in the following sections:

- Terminal Capacity & Passenger Demand
- Existing Terminal Capacity – Design Peak Hour Prior to 2015 Terminal Expansion
- New Terminal Capacity – Design Peak Hour After 2015 Terminal Expansion
- New Terminal Capacity – Constrained Peak Hour After 2015 Terminal Expansion
- New Terminal Capacity – Restricted Peak Hour After 2015 Terminal Expansion

TERMINAL CAPACITY & PASSENGER DEMAND

Terminal capacity a function of space and time, a measure of a terminal's cumulative space dedicated to accommodating passengers for a certain period of time, predicated on flight departures and arrivals, a specific area assigned per passenger for individual component functions, from ticketing to baggage claim, and time required for passengers to process through these components. Since these variables change from the time a passenger enters a terminal, demand is dynamic, constantly changing in the various spaces that make up a terminal. Demand on a facility is driven by flight schedule, aircraft size, and load factor, as well as earliness distributions, the time passengers arrive at the terminal before a flight's departure. The more compressed an arrivals curve, i.e., the closer passengers arrive together in any period prior to departure, the greater the demand on the facility, its functional components, and its staff.

For the purposes of this master plan update, capacity is expressed in terms of passenger enplanements. For reference, the passenger activity forecasts presented in Chapter B are summarized in Table C11 below.

Table C11. **SUMMARY OF PASSENGER ACTIVITY FORECASTS.**

Activity Measure	2014 (Actual/ Estimated)	2019 (Projected)	2024 (Projected)	2034 (Projected)
Annual Passenger Enplanements	66,409	78,797	93,496	131,630
Annual Air Carrier Departures	1,420	1,614	1,804	2,227
Average Enplanements Per Departure	47	49	52	59
Average Passenger Load Factor	69%	71%	73%	76%
Average Seats Per Departure	68	69	71	76
Peak Hour Enplanements[1]	102	115	136	192
Average Daily Departures	7	8	9	11

SOURCE: **Mead & Hunt analysis.**

[1] "Peak hour enplanements" represents the peak hour of the average weekday of the peak month.

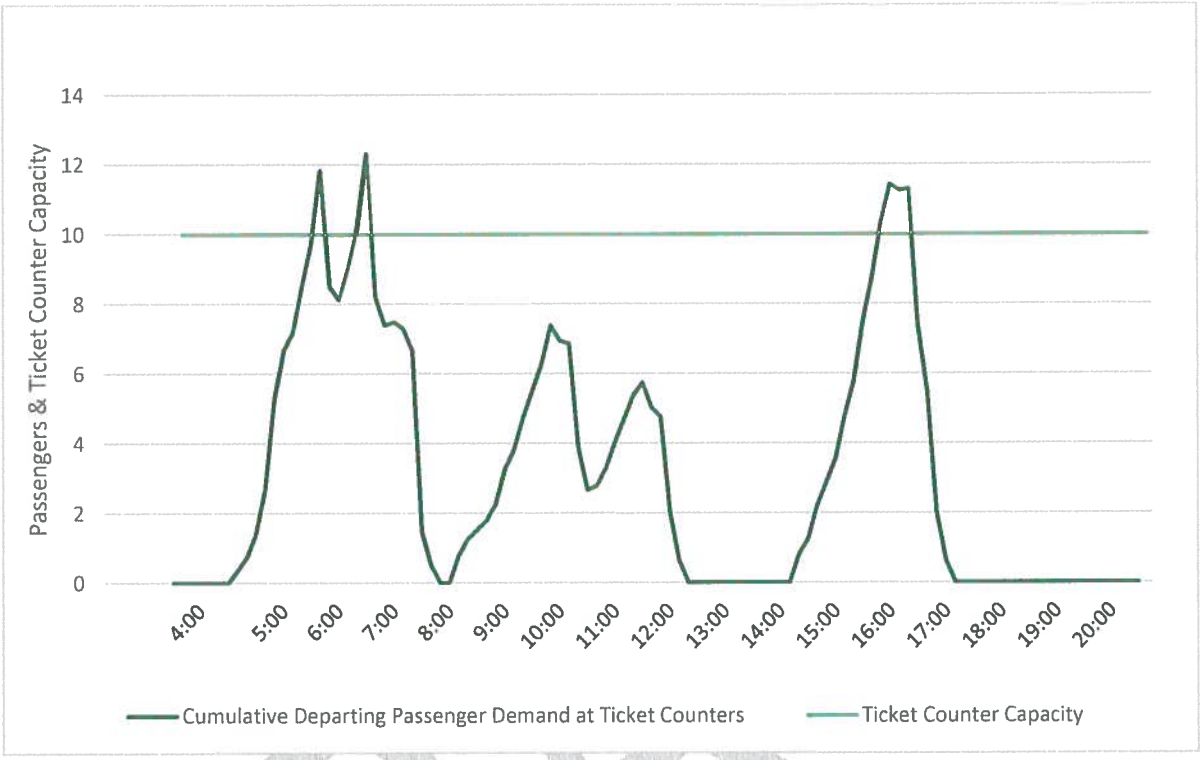
EXISTING TERMINAL CAPACITY – DESIGN PEAK HOUR PRIOR TO 2015 TERMINAL EXPANSION

The existing terminal was built in 1985 and expanded in 1991 and 2005 to its pre-Alternative 6 configuration. The facility accommodated passenger demand limited by aircraft size and schedule, one without closely scheduled arrivals or departures. The 2013 flight schedule was largely operated by Delta Airlines with Embraer 120 Brasilia turboprop aircraft. With a total capacity of thirty passengers, terminal components were sufficient to handle passenger demand for this aircraft size. With the introduction of the Q-400 in the early 2000s and the CRJ-700 regional jet in 2014, passengers began to experience a lower level of service as measured by greater congestion in terms of space per passenger and processing capability measured in time, but would contained sufficient space to handle passenger demand even if at an upper limit of capacity. This was possible because flights continued to be scheduled apart from one another.

Methods of operating terminal component elements served to manage congestion and constraints on the terminal. The TSA is able to limit passenger access to the secure holdroom to the next scheduled departure while holding the following flight's passengers within the non-secure waiting area until the first flight has boarded or departed. TSA personnel are able to open passenger security screening in order to reduce congestion in the non-secure holdroom as well. An arriving flight's passengers and visitors will fill the baggage claim hall but the time they occupy this area is limited to twenty to thirty minutes, allowing the next arriving flight's passengers to disembark to a largely empty claim hall. While the time passengers spend in the claim hall may be perceived as congested, more so if the airline uses only one baggage drop door, the time they experience this congestion is relatively short and they are able to make their way to the front of the claim device to retrieve their bags. Under the present layout, all arriving passengers enter the terminal at the claim hall, increasing congestion in the hall for a short time as those passengers with carry-on luggage make their way to the exit around those who are queued throughout the space.

The chart below demonstrates passenger demand at ticket counters over a typical operating day in August 2014. Passengers arriving at the terminal do so at various times prior to a flight's departure and are summed in ten minute increments. This distribution of passengers allows the airlines to process passengers over time with fewer ticket agents and counters. Ticketing capacity is shown at ten passengers at any given time. Even though there are eight ticket counter positions a maximum of two to three positions is utilized by each air carrier in processing passengers. Processing time is an average, allowing a simple model to demonstrate limits on ticketing capacity. As flights move into the peak hour additional demand will be place on ticketing, a major component that will become constrained earlier in the planning period than the other major terminal components.

Chart C2. **DEPARTING PASSENGER DEMAND AT TICKETING/CHECK-IN – 2014 FLIGHT SCHEDULE.**



SOURCE: Mead & Hunt analysis.

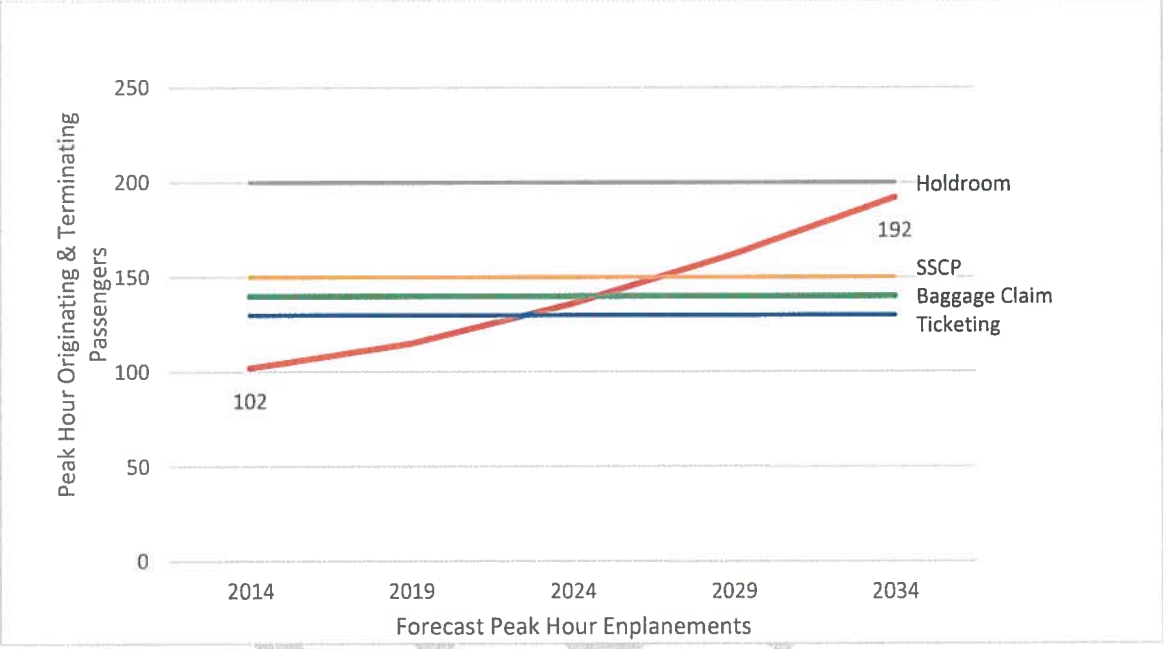
NEW TERMINAL CAPACITY – DESIGN PEAK HOUR AFTER 2015 TERMINAL EXPANSION

The primary goal of relocating terminal components to the north side of the building is to accommodate flight operations at the north side of the terminal in the near-term while also providing some additional capacity for future operations. The terminal reconfiguration and expansion project will provide equal or greater component passenger handling capacity and greater overall terminal passenger capacity through an increase in secure holdroom, arrivals lobby, and baggage claim hall areas. Reconfigured building areas such as the existing baggage claim will become a new passenger security checkpoint and non-secure waiting area. The result will be a more efficient building layout with greater operational flexibility, allowing the airport to handle three peak hour departing aircraft within the secure holdroom and two peak hour arriving aircraft within the bag claim hall at a higher level of service as measured by space per passenger and time required to process through the various terminal components. The layout of the reconfigured terminal building is presented in Chapter A, Figure A6.

Airline ticketing will be expanded by two counters under the ATO finish-out project and supported by larger ATOs, a dedicated TSA checked bag screening room and outbound baggage make-up room, the last allowing airlines to load baggage carts for more than one flight at a time. Continuous improvements in airline on-line ticketing, check-in, and boarding pass printing has allowed more passengers to be processed with the same or fewer traditional ticket counters. Passengers often use standalone kiosks to check-in for their flights and these are available at the ticket hall. Ticket counter services have taken on a greater proportion of baggage check-in versus passenger check-in, requiring substantially less time than traditional check-in and boarding pass printing. There will be a limit to these savings as more departing passengers enter the terminal during a higher peak departures period, at which time expansion of the ticket counter area may be necessary. For the foreseeable future, with ticketing process

improvements, limited peak hour flight scheduling and passenger earliness distributions spreading demand out over a longer period, the ticketing component will serve with a good level of service as measured by passenger wait times and queues.

Chart C3. **SUMMARY FORECAST DEMAND VS. MAJOR TERMINAL COMPONENT CAPACITY POST-2015 EXPANSION**



SOURCE: Mead & Hunt analysis.

The design peak hour capacity for the four main terminal components is shown in Chart C3. This is predicated on the amount of available space, and chairs in the case of the secure holdroom, to accommodate passengers prior to their departures; demonstrated capacity for passenger security screening; number of ticket counters and passenger processing times; and linear feet of claim device display for baggage claim.

The capacity figure is affected by quantitative and qualitative factors, such as departing passenger arrival curves, a distribution of departing passengers arriving prior to their departure, which affects demand on terminal component processing capacity. There may be lower performance in passenger check-in processing at ticket counters but a higher performance at security screening and in the holdroom, depending on how many passengers bypass ticketing services altogether, thereby balancing average passenger time in the processing system. An acceptable level of service governs terminal capacity for the 2015 expansion. The airport will be able to monitor demand to capacity and level of service in order to determine when future expansion of specific components is required.

While holdroom capacity appears to be sufficient through the planning period, it is wholly dependent upon airline scheduling into the peak hour. As with other major components, managing demand to capacity will continue to be necessary although holdroom capacity should be the least taxed through the planning period with the new building configuration.

NEW TERMINAL CAPACITY – CONSTRAINED PEAK HOUR AFTER 2015 TERMINAL EXPANSION

As noted in the forecasts in Chapter B, for a more traditional resort airport departing flights will likely be scheduled into the early morning bank. Additional flights during the peak hour will begin to place pressure on the components – passengers will experience congestion, queuing and increased wait times at certain but not all components. As is the case today, the airport, working with the TSA, will have the option of managing which flight's passengers are allowed into the secure holdroom while maintaining a hold on those passengers whose flights depart later in the hour until other flights have boarded or departed. A design element supporting this scenario is the airport's inclusion of a second waiting area in the existing terminal. A portion of the existing holdroom will become a pre-departure waiting area, or lounge, that will serve as an overflow waiting area for passengers who arrive early for their departures and may find the security screening waiting area or arrivals lobby full. This multi-purpose space will have flight information displays and public address speakers that will keep passengers apprised of their departures and provide an additional level of comfort in seating options similar to the arrivals lobby. Maintaining a balance in demand to available capacity will become an option for the airport if the airlines do constrain the facility by scheduling into the peak hour.

The ability for ticketing to meet its limit in processing capacity will become more acute as the gains from on-line check-in are overcome by the volume of passengers checking in at the ticket counters for baggage check-in. The possibility of remote self-tagging of baggage remains an option although self-checking of baggage may still require that bag tags are printed at the airport so that certain bags and tags can be correlated with the passenger. The latter holds greater promise of reducing congestion at the ticket counter as self-checked bags can be input into the system at a separate take-away belt, removing these passengers from the ticket counter queues. Space for a self-check, self-tagging position, one contained within the ticketing area just north of the existing counters, is potentially available if reserved in the ATO finish-out project. Additional space for self-check-in kiosks is available along the west wall of the ticket hall. These kiosks will provide necessary capacity to carry a higher number of departures during the peak period, although at a lower level of service as the space is very limited and congestion will be higher than what would normally be considered acceptable. However, the terminal would still be able to operate under this schedule.

The effect of compressed or additional flights scheduled into the peak hour is shown in Chart C2 approximately at the mid-range of the planning period. Ticketing, baggage claim, and security screening will be affected by an increase in passenger demand with more closely spaced departures. While three departures can be accommodated in the terminal during the peak hour, scheduling onto the peak hour shoulders would place additional demand on the facility as passengers begin arriving for these departures at least 90 to 120 minutes prior to departure. The resulting demand on terminal components will increase incrementally, given passenger arrivals distributions and aircraft boarding times prior to departure. As these processes are dynamic and as aircraft parking positions are limited, increases in passenger demand will continue to be measured and terminal capacity constrained but will not affect aircraft departures nor will passengers have to adjust their arrival times to the airport.

Checked baggage screening will require upgrade to an in-line system. Although limited, this will provide additional screening capability as transportation security officers (TSO's) would be able to manage secondary screening and other tasks without having to load the bags into the screening device. Installing a take-away belt leading directly to the screening device behind the ticket counters would provide in-line screening capability. TSO's would be able to work the screening device output belt, moving bags to either the airlines' baggage make-up area or to additional screening using explosive trace detection (ETD) devices.

NEW TERMINAL CAPACITY – RESTRICTED PEAK HOUR AFTER 2015 TERMINAL EXPANSION

Terminal capacity in the future will be measured more by available terminal space than processing capacity although processing capacity will be affected and will directly affect available space within the terminal. All components will experience congestion during the peak hour toward the latter part of the planning period, if forecasted passenger levels materialize. While this may not cause departure delays, it may cause some passengers to miss their flights if they do not allow additional time for departure processing. Terminal space will remain the main issue, though, as the ticket hall becomes congested and passengers queue out of the designated queuing areas into circulation and waiting areas for extended periods during the peak hour. Passengers who have completed check-in will be maneuvering around queues to get to security screening. Security screening queuing will begin to back into ticketing and the arrivals lobby. Once the peak hour has passed, the terminal will resume what will be a normal operation as flights are spaced further apart, one which the terminal can manage as it does today.

Under the circumstances of a new terminal disposition, limited building expansion designed to reduce congestion will be possible and can be managed separately for ticketing and security screening. The current design allows for ticketing expansion into the public lounge and security screening east under the original baggage drop-off roof. A smaller expansion of the holdroom is also designated to the east along the same building line as security screening and would be appropriate to include with the security screening project. A larger expansion of the holdroom would necessarily move into the 2015 baggage claim hall with the latter moving west into rental car parking. As this would be a larger capital expense, its justification would be dependent on a new airport timeline in order to realize the benefit of the expense. However, it may be possible that the airport experiences growth beyond that projected earlier in the period which in turn may require such an investment. In any event, planning for expansion in order to reduce congestion and increase passenger level of service has been included in the 2015 terminal expansion. These capacity-enhancing measures will be described in more detail as part of the alternatives analysis in Chapter D.

Automobile Parking Facilities

Automobile parking at SUN is located west of the terminal building. SUN offers both short- and long-term parking at hourly/monthly rates. Long-term parking is located in the lower parking lot farthest to the west of the terminal building, and short-term parking is located in the upper lot adjacent to the terminal building. The pre-Alternative 6 parking facilities included 338/308 spaces (summer/winter spaces). There are fewer available spaces in winter due to space required for snow storage. The post-Alternative 6 parking facilities include 360/349 spaces. Based on these figures, an analysis of potential future parking needs was prepared based on the ratio of current (post-renovation) parking spaces to current enplanements. Enplanements can be considered a good indicator of parking needs, as enplanements are representative of the Airport's customer base. Projected parking were determined based on the peak enplanements forecast during the 20-year planning period.

In 2014, there were 10,285 enplanements during the peak month of July. Peak month enplanements are projected to increase to 21,061 in 2034. Based on the ratio of 2014 enplanements to current parking spots, parking requirements in 2034 are projected to be approximately 737 summer spaces and approximately 714 winter spaces. These estimations indicate that the Airport is projected to require approximately a 104% increase in parking over current levels by the end of the planning period, i.e., approximately double the current number of parking spaces.

Air Carrier Apron Space

Prior to implementation of Alternative 6, the air carrier apron was located to the east of and immediately adjacent to the passenger terminal building. However, the majority of the apron was located within the Runway 13/31 ROFA and therefore was relocated to the north of the terminal building as part of Alternative 6. Prior to Alternative 6, the amount of apron space dedicated solely to air carrier parking was 65,619 square feet (SF). Following Alternative 6, the new air carrier apron has an area of 63,785 SF, representing a reduction of approximately 2,000 SF.

It is important to note that these apron space numbers may not capture the true loss in air carrier aircraft parking associated with Alternative 6. Although the new air carrier apron located north of the terminal building was formerly designated for air cargo use, it was also used for commercial aircraft parking overflow during peak periods when the former air carrier apron east of the terminal was at capacity. In addition, the airlines formerly used the south end of Taxiway B south of the FBO for parking during peak times as well. Although this overflow parking area cannot technically be considered an aircraft parking apron, it is nevertheless no longer available because Taxiway B will now extend all the way to the south end of the runway. The post-Alternative 6 air carrier apron is capable of accommodating simultaneous parking by three regional commercial aircraft. During peak seasons, all three of these parking positions are occupied during remain overnight (RON) operations by the airlines.

Future service by new airlines and/or to new destinations are likely to result in a more demanding peak commercial aircraft parking scenario than the current air carrier apron can handle. Several potential future commercial aircraft parking scenarios were identified corresponding to near-term (5 year), mid-term (10 year), and long-term (20 year) commercial operations forecasts presented in Chapter B. These scenarios are identified with estimated air carrier apron space requirements in Table C12, *COMMERCIAL AIRCRAFT PARKING SCENARIOS.*

Table C12 **COMMERCIAL AIRCRAFT PARKING SCENARIOS**

Design Standard	Peak Aircraft Parking	Required Apron Space Estimate	EMB120	Q400	CRJ700	CRJ900	E170/ E175	E175-E2	MRJ90
Pre-Alternative 6	2	40,000	1	1					
Current Peak Scenario – 3 RONs	3	60,000			3				
Near-term Peak Scenario #1	4	82,000			4				
Near-term Peak Scenario #2	5	108,000		1	4				
Near-term Peak Scenario #3	6	134,000		1	4	1			
Mid-term Peak Scenario #1	6	136,000		1	3	2			
Mid-term Peak Scenario #2	6	138,000		1	2	2	1		
Mid-term Peak Scenario #3	6	140,000		1	1	2	2		
Long-term Peak Scenario #1	6	144,000				2	2	1	1
Long-term Peak Scenario #2	7	170,000				2	2	2	1

SOURCE: Mead & Hunt analysis.

As shown in Table C12, any increase over three simultaneous commercial service aircraft will require either an apron expansion, aircraft towing to the FBO apron, or passenger bussing. These alternatives will be explored in the next chapter of the Master Plan.

Terminal Area Roadway System

Ground access to the Airport is provided from the north via Airport Way, which runs north-south along the west side of the Airport and connects to State Highway 75 at its north end. State Highway 75 runs along the eastern side of the Airport. Aviation Drive continues south along the length of the Airport, providing access to commercial/industrial development west of the Airport and the Atlantic Aviation facilities at the south end of the Airport. No changes to the terminal road system are planned as part of Alternative 6, nor are there any known major changes planned during the 20-year planning period that would impact access to the Airport. There are no known issues or problems with the current terminal area roadway system or its signage, nor any known traffic delays occurring on a regular basis. The roadway system is expected to be adequate for handling increased traffic levels that could be associated with increased activity at the Airport during the planning period. Therefore, no recommendations are made as to improvements in this area.

General Aviation Facilities

General aviation (GA) facilities at Friedman Memorial Airport include hangar facilities and apron tie-down space. Alternative 6 will result in a net loss of GA hangar and aircraft parking space resulting from the shift of Taxiway B and associated relocation of the commercial service apron to the north side of the terminal building as well as construction of a new bypass taxiway. The capacity of general aviation facilities will be a major focus of the facilities analysis in Master Plan. General aviation facilities are a crucial topic for determining whether and how the Airport can continue to operate efficiently at its current site, as peak events for general aviation activity tend to strain existing resources.

General Aviation Hangar Facilities

Under Alternative 6, several existing GA hangars north of the new commercial service apron on the north side of the terminal building will need to be removed/relocated as a result of the apron construction. Relocation options for the hangars will be limited due to constraints on land acquisition. Alternative 6 will result in a slight net loss of GA hangar space. Five hangars were removed through the Alternative 6 improvements; of these, one belonged to the FBO and was used for transient aircraft storage, while the remaining four were used for based aircraft storage. Two of the based aircraft hangars will be rebuilt in new locations. Projected growth in based aircraft presented in Chapter B indicates that there will likely be continued strong demand for hangar space in the future. In Chapter B, it was projected that the number of aircraft based at SUN will grow from 157 in 2014 to 213 in 2034, which is equivalent to an increase of 56 based aircraft over the 20-year period. However, there is little available land for construction of new hangars or relocation of hangars within the current airport boundary, and the ability of the Airport to acquire land for hangar construction or relocation is uncertain.

General Aviation Apron Space

General aviation apron space capacity is an important concern at SUN. During the Airport's peak annual event in July, an annual conference held in Sun Valley every year, many general aviation aircraft of conference attendees must be accommodated. The aircraft must be parked on the aprons, which tend to overflow and create congestion. Ideally, the Airport should comfortably accommodate that level of GA parked aircraft to decrease the risk of congestion and potential safety issues. In addition, although the July conference tends to be the peak event of the year in terms of GA apron/hangar space demand, demand approaches peak levels during other key times of the year, such as at Christmas and over Presidents Day weekend.

There are two main GA aprons at SUN, the first of which is located south of the T-hangar area but north of the FBO building, and the second of which is located immediately south of the FBO building. Prior to implementation of Alternative 6, the combined area of these two aprons was approximately 600,000 square feet (SF).

Similar to the general aviation hangar facilities, there will be a net loss in GA apron space after completion of the Alternative 6 improvements, with an overall reduction of approximately 40,000 SF attributable to the relocated parallel Taxiway B and associated Taxiway Object Free Area (TOFA), as well as the need to construct new taxilanes to access small aircraft parking located west of the T-hangar area. In addition, land constraints pose a challenge to creation of significant additional apron space.

Because peak general aviation operations as well as peak air taxi operations represent the time of highest demand on general aviation facilities, projected GA apron space needs can be related to the General Aviation and Air Taxi Peak Period Operations Fleet Mix Forecasts presented in Chapter B. In identifying future needs, it is beneficial to consider not only the number of operations but also the fleet mix of those peak operations. Peak operations levels indicate the required apron space in the larger scheme, but the size and type of aircraft to be parked on the apron are also important because aircraft will require different amounts of apron space depending on their size.

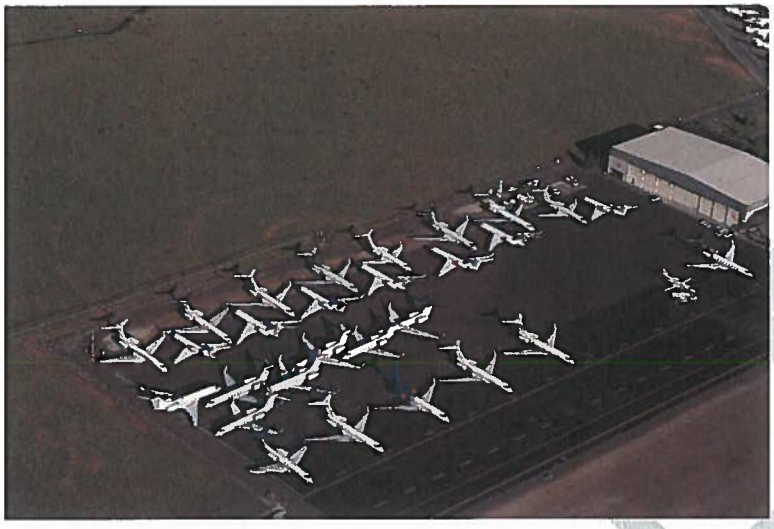
The peak day and peak hour general aviation and air taxi fleet mix forecasts project increases in general aviation and air taxi operations through 2034 for all types of aircraft, with the fleet mix proportions remaining constant through the planning period. By 2034 on the peak day of the year, it is projected that there will be: 300 total GA operations, with 270 jet, 14 multi-engine, 14 single-engine, 1 helicopter, and 1 other operations; and 77 air taxi operations, with 26 jet, 51 multi-engine, and 0 single-engine, helicopter, and other operations.

For GA and air taxi fleet mix during the peak day/hour, the generalized percentages amount to the following fleet mix proportions to be assumed constant through the planning period: for GA operations, approximately 90.0% jet, 5.0% for both multi-engine and single-engine, and 0.0% helicopter and other operations; for air taxi operations, approximately 33.8% jet, 66.2% multi-engine, and 0.0% in the categories of single-engine, helicopter, and other operations.

There are no industry-standard guidelines for determining general aviation apron space requirements. Appendix 5 of FAA AC 150/5300-13A, states that "the total amount of apron area required is based on local conditions," and that the apron area per aircraft should be based on the design aircraft or fleet mix selected for the design. Airport Cooperative Research Program (ACRP) Report 96, *Apron Planning and Design Guidebook*, recommends determining GA apron size requirements based on the number and size of aircraft anticipated to use the apron during peak periods. The report also recommends that as much flexibility in apron size and configuration as possible should be incorporated in light of the significant fleet diversity within general aviation activity at an airport.

SUN has a demonstrated need for additional GA apron space during peak times based on the congestion that occurs during the annual peak event, the Allen & Company Sun Valley conference held during the second week of July. The operations and fleet mix projections described above represent the peak day of this peak event. The Airport experiences similar activity levels during major holidays. The peak event lasts about one week. There is insufficient apron space to accommodate all of the operators looking to store/park their aircraft during that peak time, but options for adding apron space are limited. The current GA area has been expanded to the maximum extent possible within the existing Airport footprint considering the constraints of the airfield, airport property line, and surrounding landside facilities. Figure C2, *PEAK PERIOD APRON PARKING – AREA 1*, and Figure C3, *PEAK PERIOD APRON PARKING – AREA 2*, illustrate typical general aviation apron parking patterns during peak times.

Figure C2 **PEAK PERIOD APRON PARKING – AREA 1**



SOURCE: Airport Management.

Figure C3 **PEAK PERIOD APRON PARKING – AREA 2**

SOURCE: Airport Management.

Air Cargo Areas

Prior to implementation of Alternative 6, the apron immediately north of the passenger terminal building was designated for air cargo use Federal Express (FedEx) and the United Parcel Service (UPS). This apron had a total area of 106,084 SF prior to implementation of Alternative 6. The air cargo apron was relocated to the northwest corner of the airfield as part of Alternative 6. This new apron has an area of 52,800 SF and is designed to accommodate two large twin turboprop cargo aircraft and associated ground support vehicles. It can also be used for additional large aircraft overflow parking during peak periods. However, it is important to note that cargo operations were relocated to the GA apron south the T-hangar area during construction of the new cargo apron. This arrangement worked well for cargo operators, and as a result, is likely to continue with the new air cargo apron being used for GA aircraft parking.

Support Facility Requirements

Maintenance Facilities

Prior to implementation of Alternative 6, storage and maintenance of airport equipment was limited to a 3,185 square foot (SF) facility located south of the passenger terminal. This facility did not meet the Airport's needs. In order to accommodate the construction of a new bypass taxiway, the maintenance facility is being relocated to a multi-purpose Airport operations building located to the west. This multi-purpose facility will be approximately 14,000 SF in size, with approximately 50 percent of that total dedicated to equipment storage and maintenance. This facility is expected to meet Airport needs for maintaining facilities within the existing Airport footprint throughout the 20-year planning period.

ARFF Facilities

Prior to implementation of Alternative 6, ARFF equipment and staff were housed in a 4,435 square foot stand-alone facility located next to the equipment storage and maintenance building. ARFF functions will also be relocated to the multi-purpose Airport operations facility currently under construction. Approximately 20 percent of the new facility will be dedicated to ARFF functions. This facility is expected to meet Airport needs for emergency response within the existing Airport footprint throughout the 20-year planning period, assuming that the Airport's ARFF Index does not change.

Fuel Storage

The Airport's fuel storage facility is located west of the GA T-hangars. The Fixed Base Operator (FBO), Atlantic Aviation, recently added a fourth 20,000-gallon Jet A fuel tank to the fuel facility. This is expected to meet aircraft fueling needs within the existing Airport footprint throughout the planning period.

Snow Storage

Existing snow storage capacity is limited and any future increases in overall airside or landside pavements (e.g., runway, aprons, and parking lots) will result in a corresponding increase in snow storage needs that further constrain development options at the existing Airport site.

Previous Justification for Relocation of the Airport

In 2007, the preparation of an Environmental Impact Statement (EIS) for the Friedman Memorial Replacement Airport was initiated. The FAA suspended any further work on the EIS in 2011. This section briefly summarizes the purpose and need for a replacement airport to serve the Wood River Region as described in the *Purpose and Need/Alternatives Working Paper* prepared for the EIS in 2008.

The purpose and need identified three considerations related to the operation and viability of an aviation facility:

- Provide an airport that conforms to FAA airport design standards, criteria, and orders;
- Ensure the reliability of an airport serving the Wood River Region by providing approach capability that will allow operations during periods of reduced visibility and cloud ceiling. At a minimum, provide an approach capability allowing for operations down to a ceiling of 200 feet above airport elevation and one-half mile visibility; and
- Ensure the ability of the Airport to accommodate growth in operational demand and in demand for new and expanded facilities.

For several reasons, the current facility at SUN does not fully meet these considerations. The long-term viability of the existing site to continue serving in its current role is hindered by the physical limitations of the site and its near-exhausted ability to accommodate additional facilities within the current boundary. An increase over time of the air carrier fleet size, as well as increasing demand by Airport users and physical constraints on the current site, led to an inability to conform to airfield and airport design standards. Although significant efforts have been made to maximize conformity with design standards, the current site is simply not sufficient in size to do so, and a number of modifications to design standards have been implemented in combination with the Alternative 6 improvements discussed throughout this chapter.

Two types of physical constraints are present at the existing site. First, the terrain of the area around the Airport is such that visibility issues are created, especially during the winter. Based on safety and operational concerns, operations take place in a head-to-head operational pattern the majority of the time. Second, development has encroached closely upon the Airport during recent years. This severely limits the flexibility of the Airport and limits expansion of the current boundary. Overall, it was concluded that the above issues not only call into question the long-term viability of the existing airport site, but also establish a clear rationale for a replacement airport.

Facility Requirements Summary: Dual Path Planning Thresholds

The Airport's current site presents several operational challenges and limitations. In accordance with the "dual path" approach of this Master Plan, this facility requirements summary identifies planning thresholds indicating the practicality or necessity of either significantly reconfiguring the existing site or relocating the Airport within the next 20 years, based on the analysis presented in this chapter. Dual path planning thresholds are generally related to facilities that will be severely constrained in the future at the current site, and are defined in terms of potential future aviation activity levels, regulatory changes, changes in community needs, and land use considerations. The overarching theme of the identified thresholds is the issue of limited space for future Airport development both within and adjacent to the existing Airport property boundary. The planning thresholds identified below indicate the potential need to not only improve facilities to meet increasing demand, but also to replace facility capacity that was recently lost. Alternatives will be developed for accommodating threshold needs at both the existing site and the replacement site, in accordance with the dual path approach.

Dual path planning thresholds, where they apply, are identified below for each major type of facility discussed in this chapter. Specific thresholds were not identified for those facilities that are expected to meet needs throughout the 20-year planning period. To make this distinction clear, the facilities have been grouped below based on whether they are expected to reach a critical threshold during the 20-year period.

Dual Path Planning Thresholds

Runway Length. This chapter identifies a likely range of runway length requirements for each commercial aircraft that may potentially serve the Airport in the future. It is important to recognize that actual length requirements will be dependent on airline operating needs. The following threshold was identified pertaining to runway length:

- A significant change in airline fleet mix that cannot be accommodated by the existing runway length in accordance with airline needs may hinder the Airport's ability to adapt to changing market conditions and airline trends. The most likely such scenario at SUN would be the airlines' eventual retirement of CRJ700 regional jets. It is not known exactly when this may occur, nor what type of aircraft airlines would prefer to replace the CRJ700 with at SUN. The CRJ900 would ordinarily be considered a likely replacement, but it typically performs poorly at airports in mountainous environments; furthermore, the CRJ900 is expected to require approval from the FAA to operate at SUN based on its performance characteristics. Other potential replacement aircraft such as the E170 or E175 are expected to incur weight penalties at SUN that may be unacceptable to airlines serving the Airport. If the community determines it is necessary to serve destinations further afield from those currently served, such as Chicago, Dallas, or Houston, additional runway length may be required.

Runway/Taxiway Design Standards. The current C-III design aircraft for Runway 13/31 is not expected to change during the 20-year planning period. However, the following thresholds were identified pertaining to runway/taxiway design standards, should current conditions change during the planning period:

- The CRJ900 must be certificated as an Aircraft Approach Category (AAC) D aircraft, which means that FAA approval may be required for CRJ900 operations at SUN. Therefore future air service options are limited if Runway 13/31 remains a C-III runway.
- The Airport currently operates under several Modifications to Standards (MOSs). The recently approved MOSs essentially limit use of the Airport to aircraft less than 95,000 pounds gross weight with wingspans less than 100 feet. The MOSs support the safety of operations at the Airport. However, they may limit the Airport's future air service options if regulatory conditions change. FAA reviews MOSs every five to ten years; if one or more of the MOSs were to be invalidated by the FAA in the future, the current site will likely be unable to achieve full compliance with C-III standards without significant reconfiguration or expansion beyond its current footprint, as was determined by the 2013 *Airport Alternatives Technical*

Analysis. If MOS invalidation were to occur, the community may have the option to accept additional operational limitations rather than pursue reconfiguration, expansion, or relocation of the Airport.

Passenger Terminal Area Facilities. The Airport's ability to expand its air carrier apron, terminal building, and automobile parking lots is constrained by surrounding facilities and lack of available undeveloped space. The ability of terminal area facilities to accommodate future demand will be primarily dependent on peak passenger enplanements and the commercial air service schedule. Renovation of the terminal building, relocation of the air carrier apron, and expansion of the parking lots, to be completed in 2015, will be designed to accommodate existing and immediately foreseeable passenger demand. However, significant increases in passenger enplanements or changes in the airline departure schedule (such as an increase in the number of flights or multiple flights having similar arrival or departure times) may create congestion and necessitate further improvements to these facilities at some point within the 20-year planning period to more comfortably meet demand. Thus, significant increases in peak enplanements and commercial operations represent thresholds indicating that a relocated airport site may accommodate the activity more efficiently. The following thresholds were identified for passenger terminal area facilities:

- A commercial passenger service schedule in which there are four or more near-simultaneous commercial flights is expected to require more air carrier apron space adjacent to the terminal building, and/or revisions to the airline schedule, to allow for passenger loading and unloading during peak periods. Four or more commercial remain overnight (RON) operations would require some form of tug-in/tug-out aircraft maneuvering and management, and may be more efficiently addressed with additional air carrier apron near the terminal.
- A peak hour consisting of 200 or more passenger enplanements may require further expansion of certain functional areas within the terminal building to alleviate congestion.
- Additional automobile parking is expected to be needed, with approximately 100 additional parking spaces required every five years to meet peak month forecast demand.

General Aviation Facilities. Continued strain on general aviation (GA) aircraft storage facilities during peak periods is expected throughout the 20-year planning period. The following thresholds were identified for GA facilities:

- The based aircraft forecast indicates a future need for additional hangars. An increase of greater than 10 percent over current based aircraft numbers will likely require some new hangar facilities.
- The two GA aprons are currently undersized for peak events. If small non-jet aircraft parking is not needed during the peak period, jet aircraft parking capacity could be as high as 80 aircraft given existing aprons located north and south of the FBO building. However apron capacity may be reduced below this level if the specific GA fleet mix present at the time has a higher proportion of large jet aircraft. Existing peak demand for GA and air taxi aircraft parking currently exceeds this capacity estimate, based on the GA and air taxi peak operations forecast presented in Chapter B. Aircraft parking capacity issues are expected to worsen over time, as the number of aircraft looking to park during peak events increases along with peak event operations.

Other Findings

Runway Capacity. The 20-year operations forecast does not exceed the FAA-recommended capacity planning threshold for a second runway at the Airport. Runway 13/31 provides sufficient capacity to accommodate projected operations throughout the 20-year planning period and for some years beyond, based on FAA criteria. However, the capacity of the runway is likely more limited than the analysis indicates due to required air traffic control procedures and clearances for both arrivals and departures, given the challenging terrain and head-to-head operating procedures at the Airport.

Airport Traffic Control Tower. The tower at SUN provides critical safety and efficiency benefits given the surrounding terrain and typical weather patterns, and the FAA has indicated that a tower must remain at SUN in order for commercial air service to continue into the future. A new location for the tower will be identified in a subsequent chapter of this Master Plan. Assuming a viable tower location is identified within the existing Airport property boundary, the relocated tower is expected to resolve issues with the existing facility and to serve the Airport well throughout the 20-year planning period.

Instrument Approaches and Airspace Surfaces. Identification of potential planning thresholds related to instrument approaches and airspace surfaces is dependent on the outcome of the standalone instrument approach study currently underway as of this writing. Potential thresholds will be identified by the Master Plan following publication of this study.

Other Facilities. Recent air cargo, SRE/maintenance, and ARFF facility projects are expected to provide adequate capacity throughout the 20-year planning period. Existing snow storage capacity is limited and any future increases in overall airside or landside pavements (e.g., runway, aprons, and parking lots) will result in a corresponding increase in snow storage needs that further constrain development options at the existing Airport site.

Other Threshold Considerations

Two other considerations that should be included in the threshold discussion relate to external factors and do not fit neatly into the facility groupings above. The implications of these considerations for the identification of airport relocation thresholds are currently undefined. However, it is likely that these considerations will become critical at some point in the future, possibly within the 20-year planning period, and may prove to be a deciding factor in the dual path planning process:

Commercial Passenger Service. Expansion and growth in the commercial passenger service market at SUN could be hampered in the future by site constraints on facility improvements. Lack of flexibility to meet airline needs may result in a negative impact on the local economy over time.

Land Use/Noise/Safety. Non-airport development has encroached closely upon the Airport boundary in recent years. This type of development increases the potential for noise issues and compromises the Airport's ability to meet future needs. The Airport should work cooperatively with the communities it serves to prevent the creation of new incompatible land uses in the Airport vicinity and avoid increases in average aircraft noise levels. Encroachment of development around the Airport will continue to create tension between the Airport and its neighbors, and it will be much easier to prevent incompatible uses than to address them after they have been built.

FACILITY REQUIREMENTS SUMMARY:

Dual Path Planning Thresholds

The Airport's current site presents several operational challenges and limitations. In accordance with the "dual path" approach of this Master Plan, this facility requirements summary identifies planning thresholds indicating the practicality or necessity of either significantly reconfiguring the existing site or relocating the Airport within the next 20 years, based on the analysis presented in Master Plan Chapter C, *Capacity Analysis & Facility Requirements*. Dual path planning thresholds are generally related to facilities that will be severely constrained in the future at the current site, and are defined in terms of potential future aviation activity levels, regulatory changes, changes in community needs, and land use considerations. The overarching theme of the identified thresholds is the issue of limited space for future Airport development both within and adjacent to the existing Airport property boundary. The planning thresholds identified below indicate the potential need to not only improve facilities to meet increasing demand, but also to replace facility capacity that was recently lost. Alternatives will be developed for accommodating threshold needs at both the existing site and a replacement site, in accordance with the dual path approach.

Dual path planning thresholds, where they apply, are identified below for each major type of facility discussed in Chapter C. Specific thresholds were not identified for those facilities that are expected to meet needs throughout the 20-year planning period. To make this distinction clear, the facilities have been grouped below based on whether they are expected to reach a critical threshold during the 20-year period.

Dual Path Planning Thresholds

Runway Length. Chapter C of the Master Plan identifies a likely range of runway length requirements for each commercial aircraft that may potentially serve the Airport in the future. It is important to recognize that actual length requirements will be dependent on airline operating needs. The following threshold was identified pertaining to runway length:

- A significant change in airline fleet mix that cannot be accommodated by the existing runway length in accordance with airline needs may hinder the Airport's ability to adapt to changing market conditions and airline trends. The most likely such scenario at SUN would be the airlines' eventual retirement of CRJ700 regional jets. It is not known exactly when this may occur, nor what type of aircraft airlines would prefer to replace the CRJ700 with at SUN. The CRJ900 would ordinarily be considered a likely replacement, but it typically performs poorly at airports in mountainous environments; furthermore, the CRJ900 is expected to require approval from the FAA to operate at SUN based on its performance characteristics. Other potential replacement aircraft such as the E170 or E175 are expected to incur significant weight penalties at SUN that may be unacceptable to airlines serving the Airport. If the community determines it is necessary to serve destinations further afield from those currently served, such as Chicago, Dallas, or Houston, additional runway length may be required.

Runway/Taxiway Design Standards. The current C-III design aircraft for Runway 13/31 is not expected to change during the 20-year planning period. However, the following thresholds were identified pertaining to runway/taxiway design standards, should current conditions change during the planning period:

- The CRJ900 must be certificated as an Aircraft Approach Category (AAC) D aircraft, which means that FAA approval may be required for CRJ900 operations at SUN. Therefore future air service options are limited if Runway 13/31 remains a C-III runway.

- The Airport currently operates under several Modifications to Standards (MOSs). The recently approved MOSs essentially limit use of the Airport to aircraft less than 95,000 pounds gross weight with wingspans less than 100 feet. The MOSs support the safety of operations at the Airport. However, they may limit the Airport's future air service options if regulatory conditions change. FAA reviews MOSs every five to ten years; if one or more of the MOSs were to be invalidated by the FAA in the future, the current site will likely be unable to achieve full compliance with C-III standards without significant reconfiguration or expansion beyond its current footprint, as was determined by the 2013 *Airport Alternatives Technical Analysis*. If MOS invalidation were to occur, the community may have the option to accept additional operational limitations rather than pursue reconfiguration, expansion, or relocation of the Airport.

Passenger Terminal Area Facilities. The Airport's ability to expand its air carrier apron, terminal building, and automobile parking lots is constrained by surrounding facilities and lack of available undeveloped space. The ability of terminal area facilities to accommodate future demand will be primarily dependent on peak passenger enplanements and the commercial air service schedule. Renovation of the terminal building, relocation of the air carrier apron, and expansion of the parking lots, to be completed in 2015, will be designed to accommodate existing and immediately foreseeable passenger demand. However, significant increases in passenger enplanements or changes in the airline departure schedule (such as an increase in the number of flights or multiple flights having similar arrival or departure times) may create congestion and necessitate further improvements to these facilities at some point within the 20-year planning period to more comfortably meet demand. Thus, significant increases in peak enplanements and commercial operations represent thresholds indicating that a relocated airport site may accommodate the activity more efficiently. The following thresholds were identified for passenger terminal area facilities:

- A commercial passenger service schedule in which there are four or more near-simultaneous commercial flights is expected to require more air carrier apron space adjacent to the terminal building, and/or revisions to the airline schedule, to allow for passenger loading and unloading during peak periods. Four or more commercial remain overnight (RON) operations would require some form of tug-in/tug-out aircraft maneuvering and management, and may be more efficiently addressed with additional air carrier apron near the terminal.
- A peak hour consisting of 200 or more passenger enplanements may require further expansion of certain functional areas within the terminal building to alleviate congestion.
- Additional automobile parking is expected to be needed, with approximately 100 additional parking spaces required every five years to meet peak month forecast demand.

General Aviation Facilities. Continued strain on general aviation (GA) aircraft storage facilities during peak periods is expected throughout the 20-year planning period. The following thresholds were identified for GA facilities:

- The based aircraft forecast indicates a future need for additional hangars. An increase of greater than 10 percent over current based aircraft numbers will likely require some new hangar facilities.
- The two GA aprons are currently undersized for peak events. If small non-jet aircraft parking is not needed during the peak period, jet aircraft parking capacity could be as high as 80 aircraft given existing aprons located north and south of the FBO building. However apron capacity may be reduced below this level if the specific GA fleet mix present at the time has a higher proportion of large jet aircraft. Existing peak demand for GA and air taxi aircraft parking currently exceeds this capacity estimate, based on the GA and air taxi peak operations forecast presented in Chapter B. Aircraft parking capacity issues are expected to worsen over time, as the number of aircraft looking to park during peak events increases along with peak event operations.

Other Findings

Runway Capacity. The 20-year operations forecast does not exceed the FAA-recommended capacity planning threshold for a second runway at the Airport. Runway 13/31 provides sufficient capacity to accommodate projected operations throughout the 20-year planning period and for some years beyond, based on FAA criteria. However, the capacity of the runway is likely more limited than the analysis indicates due to required air traffic control procedures and clearances for both arrivals and departures, given the challenging terrain and head-to-head operating procedures at the Airport.

Airport Traffic Control Tower. The tower at SUN provides critical safety and efficiency benefits given the surrounding terrain and typical weather patterns, and the FAA has indicated that a tower must remain at SUN in order for commercial air service to continue into the future. A new location for the tower will be identified in a subsequent chapter of this Master Plan. Assuming a viable tower location is identified within the existing Airport property boundary, the relocated tower is expected to resolve issues with the existing facility and to serve the Airport well throughout the 20-year planning period.

Instrument Approaches and Airspace Surfaces. Identification of potential planning thresholds related to instrument approaches and airspace surfaces is dependent on the outcome of the standalone instrument approach study currently underway as of this writing. Potential thresholds will be identified by the Master Plan following publication of this study.

Other Facilities. Recent air cargo, SRE/maintenance, and ARFF facility projects are expected to provide adequate capacity throughout the 20-year planning period. Existing snow storage capacity is limited and any future increases in overall airside or landside pavements (e.g., runway, aprons, and parking lots) will result in a corresponding increase in snow storage needs that further constrain development options at the existing Airport site.

Other Threshold Considerations

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