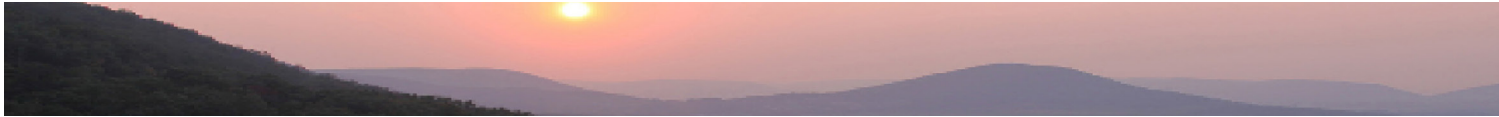


The background image is a wide-angle shot of an airfield under a cloudy sky. On the left, there is a large white ground support structure, possibly a mobile staircases or belt loader, with a set of stairs leading up to it. In the foreground, the tail fin of an aircraft is visible, bearing the number '55'. To the right, several white ground support vehicles or containers are parked. In the distance, airport buildings and a line of trees are visible on the horizon.

4 Capacity Assessment and Future Requirements



As part of the Master Planning process, future demands and requirements for Airport facilities are identified. The existing demand for individual facility components was calculated using data collected during the inventory process. The demand was grown in accordance with the aviation demand forecasts approved by the FAA.

Facility requirements are identified for four planning periods – identified as Planning Activity Levels (PAL) – that correspond to 2018, 2023, 2028, and 2033 in the forecast. PALs represent aviation activity measured in annual passengers in anticipation that actual activity may differ slightly from the forecasted years. As a result, facility requirements do not change if forecast activity does not match given years, but instead are accelerated or decelerated in accordance with actual activity. A summary

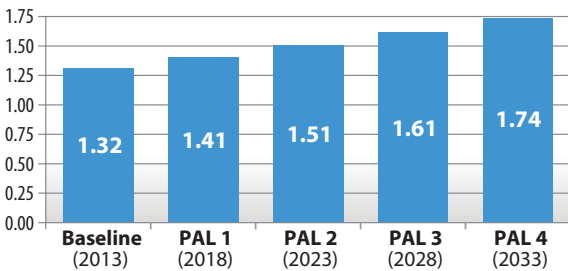
of the PALs and corresponding annual passenger activity is provided in Exhibit 4-1.

Airfield Facilities

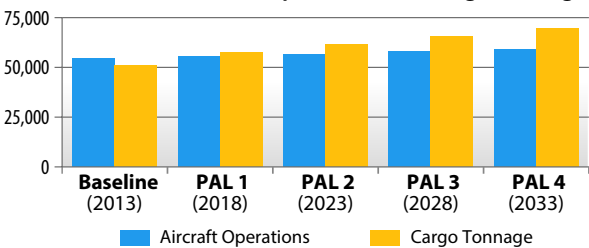
The airfield facilities are shown in Exhibit 4-2. The capacity of the Airport’s airfield system is calculated to be 161,000 annual aircraft operations, which decreases slightly to 155,000 by PAL 4. Compared to the forecast aircraft operations, the Airport’s existing airfield system is expected to provide sufficient capacity beyond PAL 4.

- **Runway** – Runway capacity will exceed forecast demand through PAL 4, even under

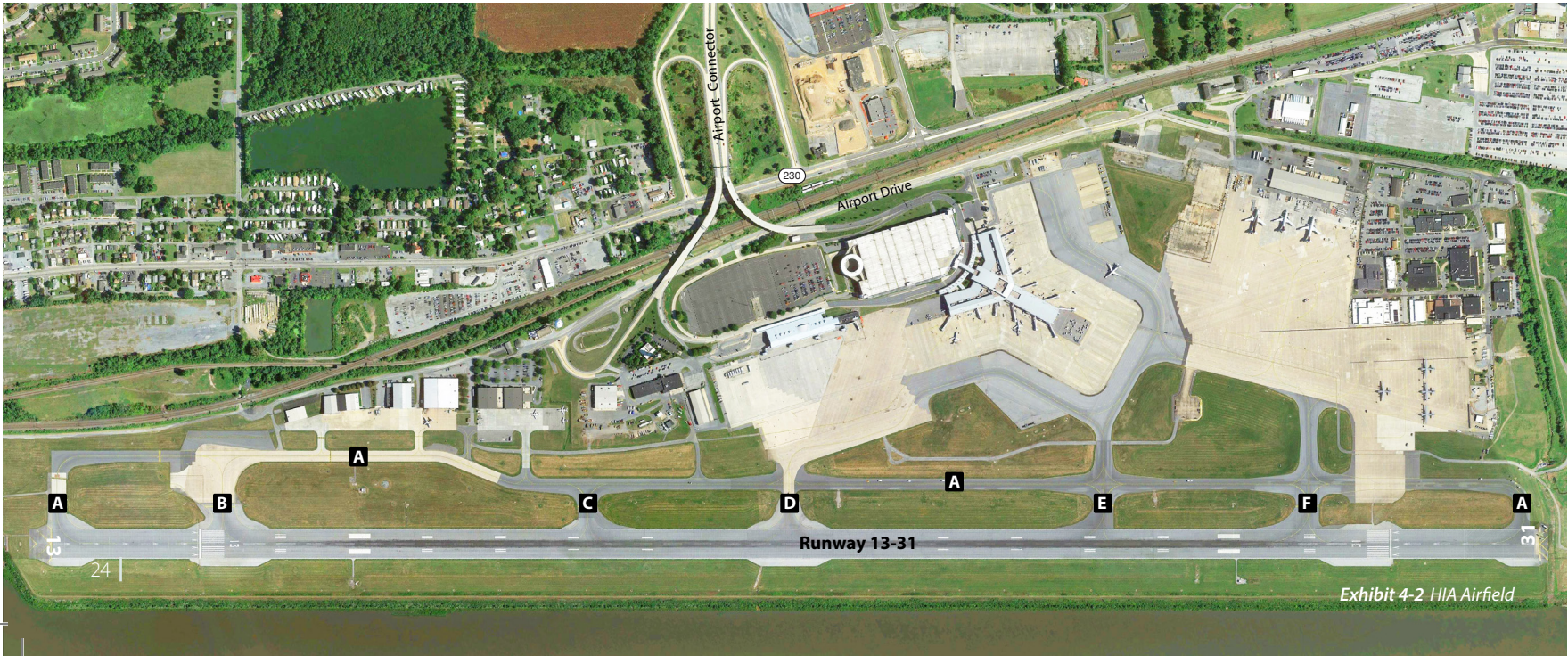
FORECAST Million Annual Passengers

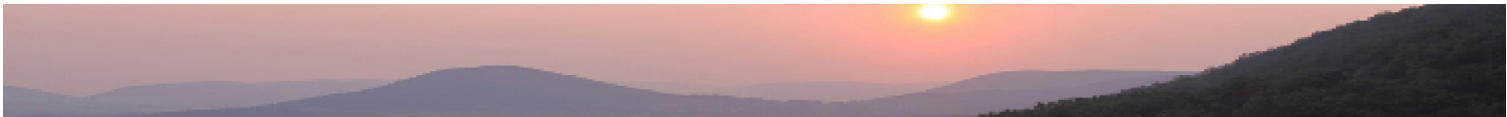


FORECAST Aircraft Operations and Cargo Tonnage



poor weather conditions. No additional runways are needed.





- **Taxiways** – Capacity is adequate to meet forecast demand. Surface gradients for fillets between Taxiway A and Taxiways D and F are operating effectively under an FAA modification of standards.
- **Airspace** – There are numerous airspace obstructions ranging from 1 to 2 miles from the Runway 31 threshold, in and around the Sunset Golf Course.

In the previous master plan, a category II Instrument Landing System (ILS) for Runway 31 was recommended. Runway 31 currently has a Category I ILS. A category II ILS would only marginally improve coverage and does not justify the project. As a result, the previous recommendation was discarded.

The design aircraft was identified as the Boeing 767-300ER (W). This is an aircraft that has been used regularly by air cargo carriers at the Airport. This aircraft falls in the Aircraft Approach Category (AAC) C, Airplane Design Group (ADG) IV, and Taxiway Design Group (TDG) 5. As such, the airfield requirements for this aircraft are shown in Exhibit 4-3.

ITEM	Requirement (ft)
Runway Width	150
Runway Shoulder Width	25
Runway Centerline to Parallel Taxiway	400
Taxiway Width	75
Taxiway Shoulder Width	25

Exhibit 4-3 Airfield Requirements for a Boeing 767-300ER

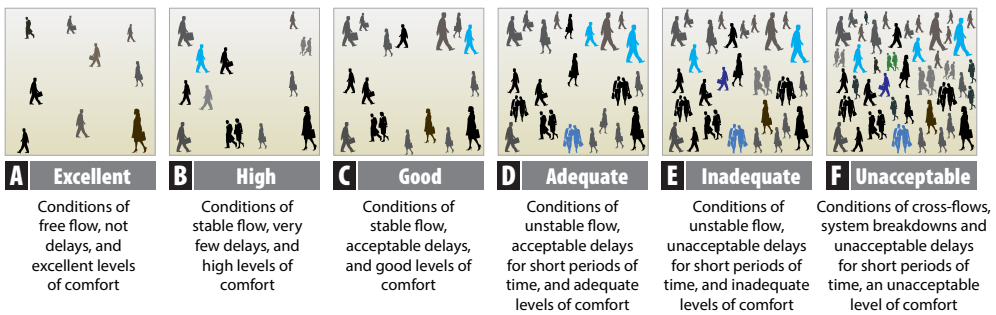


Exhibit 4-4 Level of Service (LoS) Definition

Terminal Building

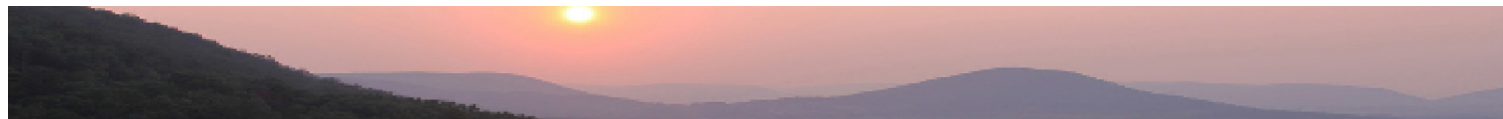
Requirements for the passenger terminal building and aircraft parking stands are based on the assumption that future terminal facilities will be developed to meet Level of Service (LoS) C standards. As shown in Exhibit 4-4, LoS C corresponds to a situation where flows are stable, delays are acceptable and a good level of comfort is provided. Overall, the existing terminal meets the expected demands through PAL 4.

- **Aircraft parking stands** – There are 12 existing contact stands, 5 remote stands, and 7 temporary-stands. These are expected to provide sufficient capacity beyond PAL 4.
- **Primary departures functions** – Most departures functions meet requirements through PAL 4. The passenger security screening checkpoint is expected to require minor expansion by PAL 4.

- **Primary arrivals functions** – All arrivals functions are expected to meet demands through PAL 4.
- **Additional areas** – Restrooms, mechanical, and administrative areas are expected to meet demand through PAL 4. Post-secure concessions are inadequate. Roughly an additional 8,000 square feet is required by PAL 4. The Susquehanna Club may require minor expansion by PAL 3.



Exhibit 4-5 Passenger Terminal



- **Federal Inspection Services (FIS)** – The airport currently does not have an FIS facility and as such has only limited international passenger service. The minimum requirements for a “mini-FIS” facility result in a total of approximately 16,000 square feet. The Customs and Border Protection Agency requires that the Airport provide all equipment and furnishings for an FIS facility.

Ground Transportation

The majority of ground transportation/ landside facilities, including public parking, employee parking, curbsides, and airport roadways are expected to meet demand throughout the planning period.

- **Public Parking** – The demand of on-Airport parking can almost be met within the capacity of the existing parking garage through PAL 2.
- **Rental Cars** – The on-Airport companies’ service areas are expected to require minor expansion by PAL 4. The customer service area is expected to approach capacity at PAL 4 and may also require minor expansion.

Air Cargo Complex

The air cargo complex is currently under-sized. The configuration of certain facilities also creates constraints. In particular, airfield tugs are currently required to cross Olmstead Drive, which creates a hazardous



Exhibit 4-6 Existing Parking Garage

conflict between tugs, cargo trucks, and PaANG base traffic.

- **Air Cargo Apron** – is currently over-sized, but the configuration may require apron frontage to the terminal building to be expanded in PAL 3.
- **Air Cargo Warehouse** – is right-sized today, but future demand indicates the facility will need to be expanded by 28% by PAL 4.

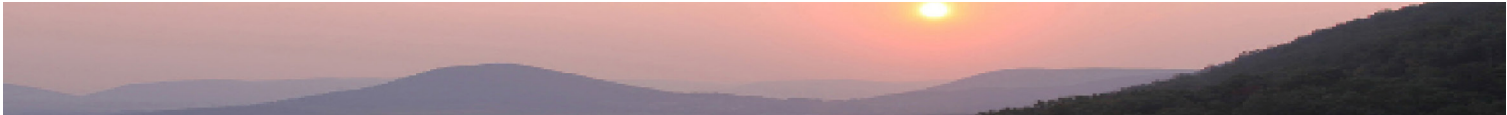
- **Air Cargo Landside** – is currently under-sized and the PAL 4 requirement postulates expanding from 6.8 acres to 11.0 acres.

General Aviation

AvFlight has indicated a need for up to 40,000 square feet of hangars and 100,000 square feet of apron dedicated to general aviation.



Exhibit 4-7 Air Cargo Complex



Airport Support

Airport support facilities, such as Airport operations offices, Airport maintenance, ground support equipment storage and maintenance, Aircraft Rescue and Fire Fighting, and the FAA's facilities are adequately sized to accommodate demands through the planning period. The fuel farm currently meets demands for a three-day storage supply and contains pads for two additional tanks. Many peer airports have at least a five-day storage supply policy, which if adopted by the Airport, would require fuel farm expansion.

Pennsylvania Air National Guard (PaANG)

The PaANG's master plan indicates that the current base configuration does not meet anti-terrorism / force protection perimeter requirements. As a result, the base requires a 400-800 space parking lot outside the existing base perimeter.

Key Findings

The Airport's primary facilities are generally large enough to meet demand through the

planning period. As indicated in the Exhibit 4-8, the following items will require expansion by PAL 4:

- **Terminal** – A deficiency occurs in post-security concessions, the passenger security screening area, and potentially in the Susquehanna Club.
- **Rental Cars** – Deficiencies are expected to occur in the on-Airport rental car service areas. The customer service area will also near capacity by PAL 4.
- **Air Cargo** – Deficiencies occur in the near-term for both warehouse processing space and landside processing area. The layout of the

aircraft parking stands may also require expansion of the air cargo apron.

- **General Aviation** – The AvFlight parking apron is currently too small to meet demands.
- **Fuel Farm** – The existing facility meets current demand and there is space for expansion. Additional tanks will be required to meet storage demands. Current policy requires three days of fuel storage on-hand. If policy changes to a five-day storage requirement, similar to peer airports, the fuel farm will require expansion.

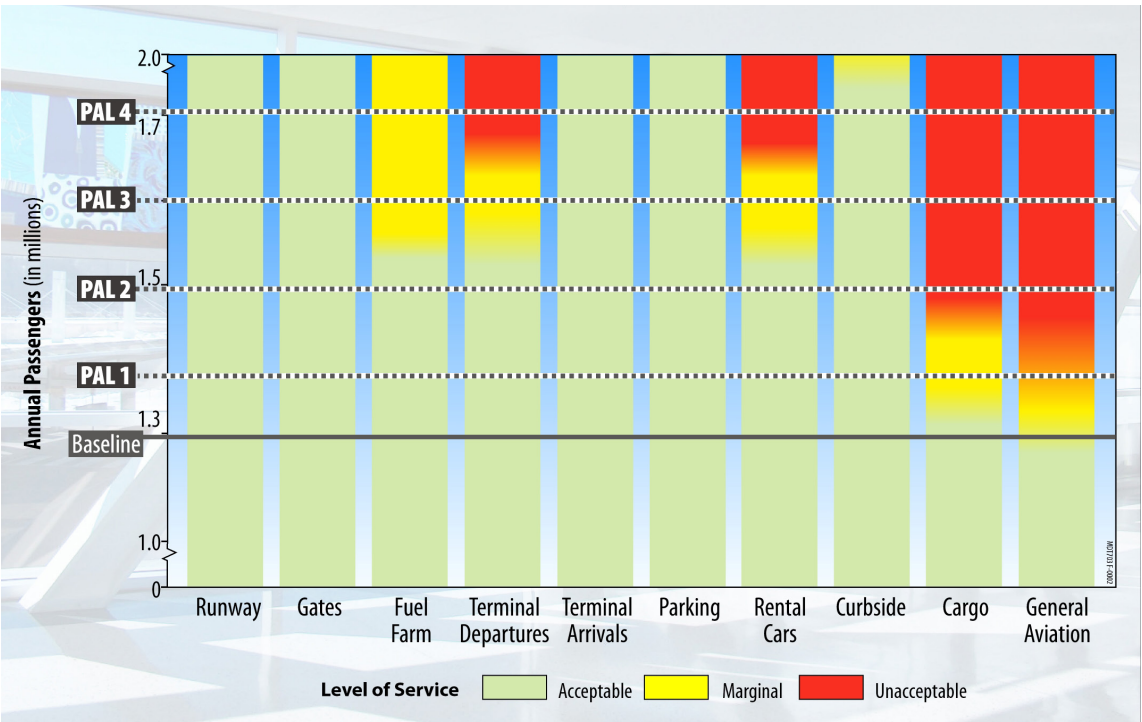


Exhibit 4-8 Key Findings