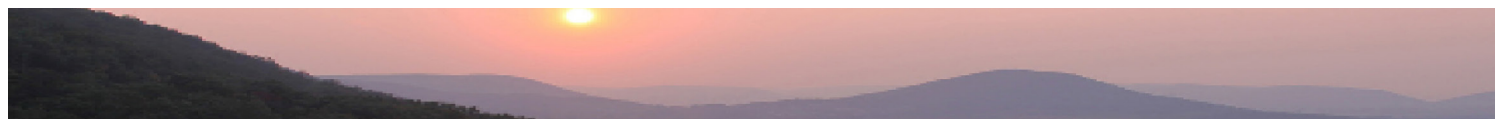


A photograph of an airport terminal with a blue tint. The image shows a mezzanine level with several large banners for airlines: AIRWAYS, UNITED, allegiant, AIR CANADA, and DELTA. Below the banners is a directional sign for 'Air Gates Security Check Point'. In the foreground, there are metal stanchions forming a queue line. The background shows a large window and a wall with many small framed pictures.

5 Alternatives Analysis



Alternative development plans were created as part of the Master Plan. The aim is to provide sufficient capacity for projected long-range activity and to address any previously identified operational or capacity-related deficiencies over the next 20 years. The alternatives were developed to a level of detail appropriate for conceptual planning of airfield, passenger terminal, landside access and parking, air cargo functions, fixed-base operator (FBO) facilities, and the Pennsylvania Air National Guard (PaANG).

Each set of alternatives included a preliminary evaluation. Some generalized evaluation criteria include:

- **Duration** – the length of time during which the alternative meets demands
- **Customer Service** – the level of service a customer experiences
- **Flexibility** – the amount of area remaining for (a) expansion beyond the planning period or (b) alternative uses
- **Cost** – the estimated construction cost of the alternative, including soft costs (e.g., project management, design, contingencies, etc.)
- **Implementation** – potential impacts on the implementation of an alternative, such as environmental impacts, contractual impacts, etc.
- **Other** – additional impacts that may not be categorically included in the previous criteria

Airfield

The existing airfield facilities provide ample capacity for projected aircraft operations. The following taxiway improvements should be undertaken to comply with existing design standards, that have FAA approved modifications-of-standards:

- Meet surface gradient standards for Aircraft Approach Category D for fillets between Taxiway A and Taxiways D and F.
- Widen shoulder widths on Taxiway A to 25 feet wide to meet Taxiway Design Group 5 criteria.

The airport would also like to provide airfield access to the Crawford Station site, near the threshold of Runway 31. Private developers have previously presented conceptual development ideas to the Airport and the Airport would like to ensure that the site will have airfield access.

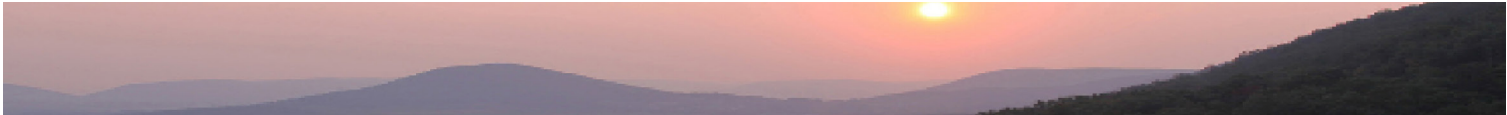
Passenger Terminal Alternatives

The existing terminal meets projected long-range demands for all but three functions: (1) the security screening checkpoint, (2) post-security concessions, and (3) post-security restrooms. The deficiencies for these three functions can be met with minor modifications to the existing building.

The Airport currently does not have a Federal Inspection Services (FIS) facility and can only support scheduled or chartered international services that are pre-cleared for U.S. entry. Alternatives for constructing a mini-FIS facility at the Airport are shown in Exhibit 5-3. These alternatives include space required for primary processing (immigration check), secondary processing (baggage claim and customs), and support and administrative spaces for the U.S. Customs and Border Protection Agency (CBP). The evaluation of the Alternatives is shown in Exhibit 5-2.



Exhibit 5-1 Passenger Terminal Departures Curbside



FIS Alternatives	Duration	Customer Service	Flexibility	Cost	Implementation	Other
1 Concourse A Remodel						
2 Concourse C Remodel						
3 Terminal Expansion						

LEGEND Fully Meets Factor Marginally Meets Factor Does Not Meet Factor

Exhibit 5-2 Evaluation of FIS Alternatives

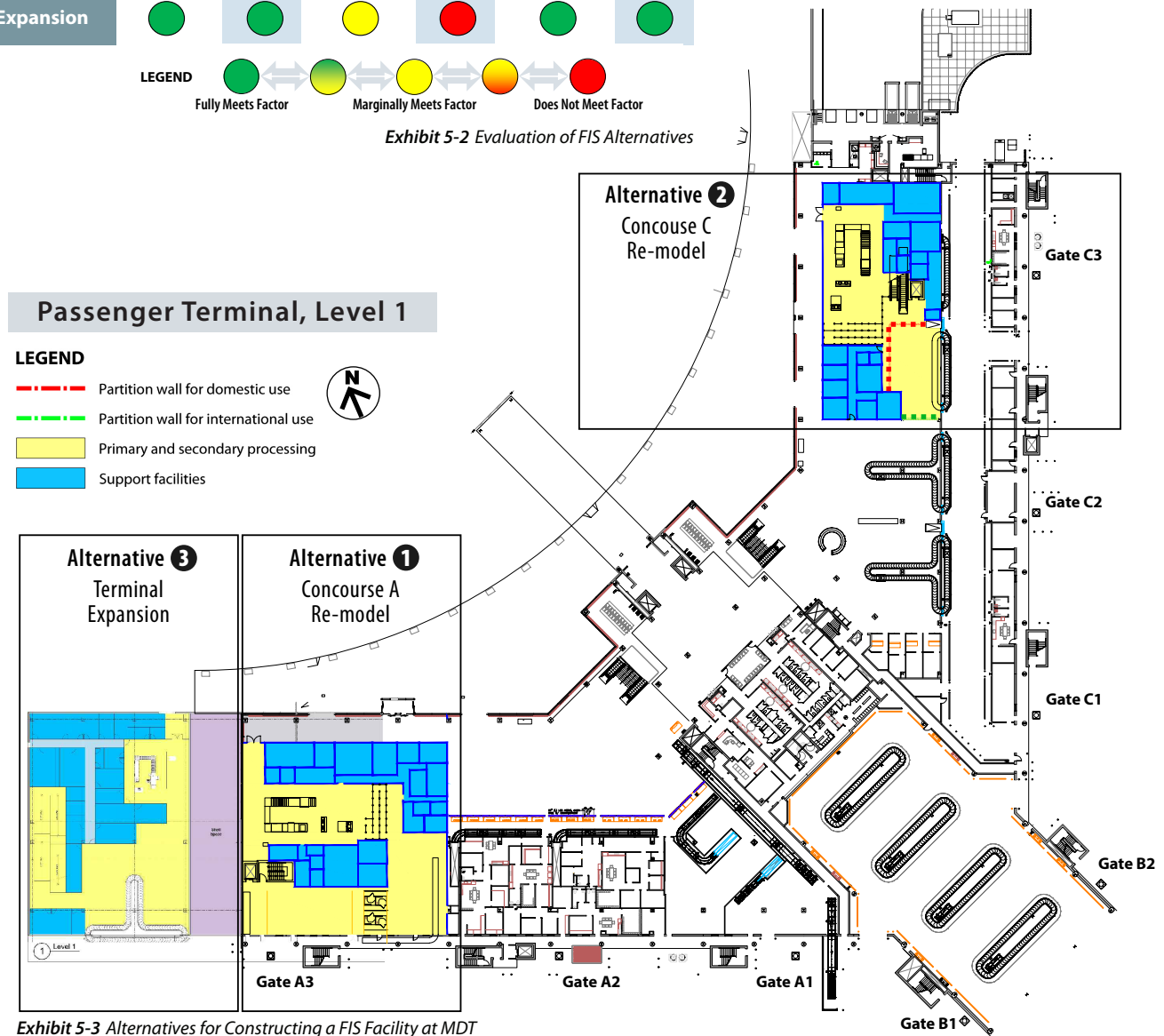
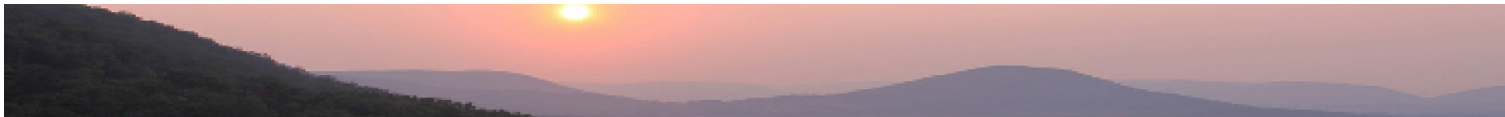


Exhibit 5-3 Alternatives for Constructing a FIS Facility at MDT



Ground Transportation and Parking Alternatives

The Airport roadways, curbsides, and rental car facilities are expected to provide the necessary capacity to meet long-term demand. It is contemplated that the Airport will provide a connection between the new Amtrak station in Middletown and the terminal. This connection is expected to be provided via a bus route.

Existing parking facilities provide approximately 6,920 spaces, which provide ample capacity for both employee and public parking demands through the planning period. Exhibit 2-4 (page 12) shows the existing parking facilities, both open and closed. There are various potential utilizations of the existing parking facilities

that might improve revenue, the customer experience, or operational costs:

- Alternative 1** – continue utilizing the existing garage for close-in and short-term parking and the existing long-term/economy parking lot.
- Option A** – Continue operations as-is, maintaining a busing operation.
- Option B** – Divide the existing garage into two parking products, charging less for parking on the uncovered Level 4 in an effort to attract parkers from the Economy Lot to the garage.
- Alternative 2** – move economy/long-term parking to the Old Terminal Lot. Prices would be adjusted to encourage a larger proportion of parkers to use the garage.

- Option A** – The garage remains as currently operated and the Old Terminal Lot is used as an independent long-term/economy parking facility. Busing to/from the Old Terminal Lot is not provided.
- Option B** – The same as Option A, but providing busing to/from the Old Terminal Lot.
- Option C** – The same as Option A, but split the garage into two parking products, as described in Alternative 1B.
- Option D** – All public parking is charged at a single price, with the Old Terminal Lot serving as overflow parking from the garage, only occupied during peak periods.

The evaluation of these alternatives is shown in Exhibit 5-4.

	Duration	Customer Service	Bus Costs	Capital Cost	4 th Level Snow Removal	Revenue Potential
1a Existing						
1b Split garage						
2a Long-term in Old Terminal Lot						
2b Old Terminal Lot with Busing						
2c Old Terminal Lot with Split Garage						
2d Old Terminal Lot as Overflow						

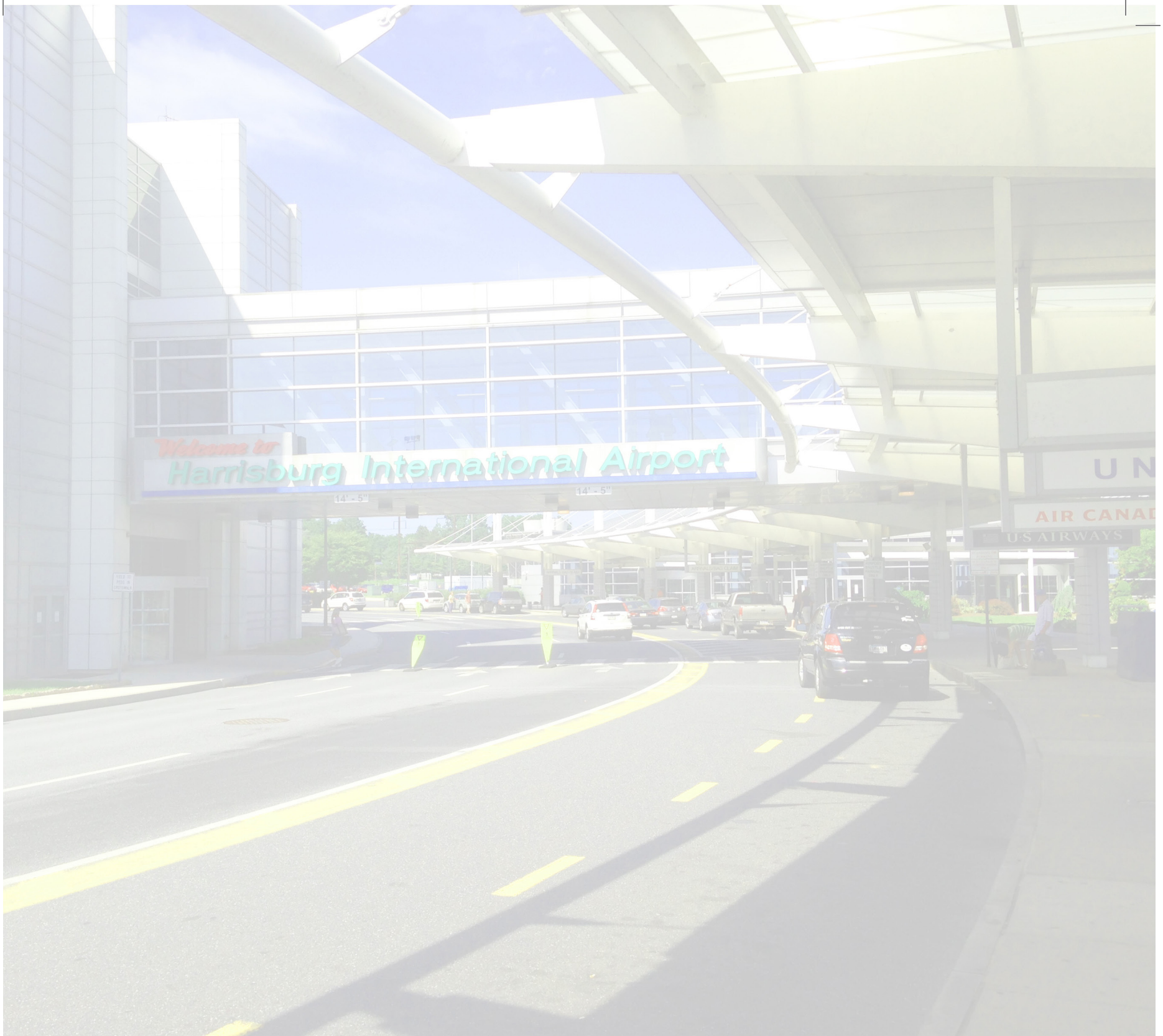
LEGEND

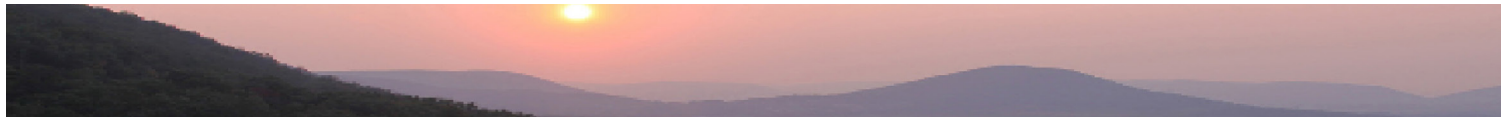
Fully Meets Factor

Marginally Meets Factor

Does Not Meet Factor

Exhibit 5-4 Evaluation of Ground Transportation and Parking Alternatives

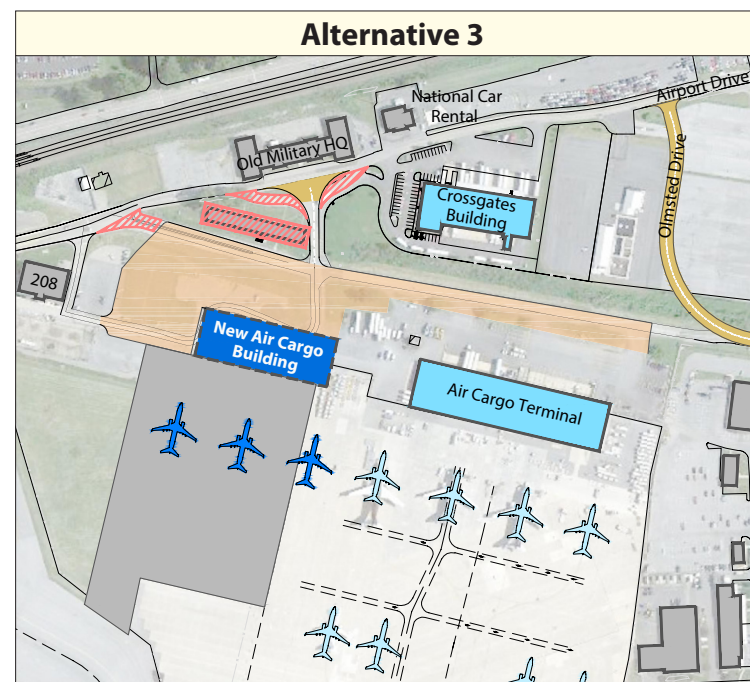
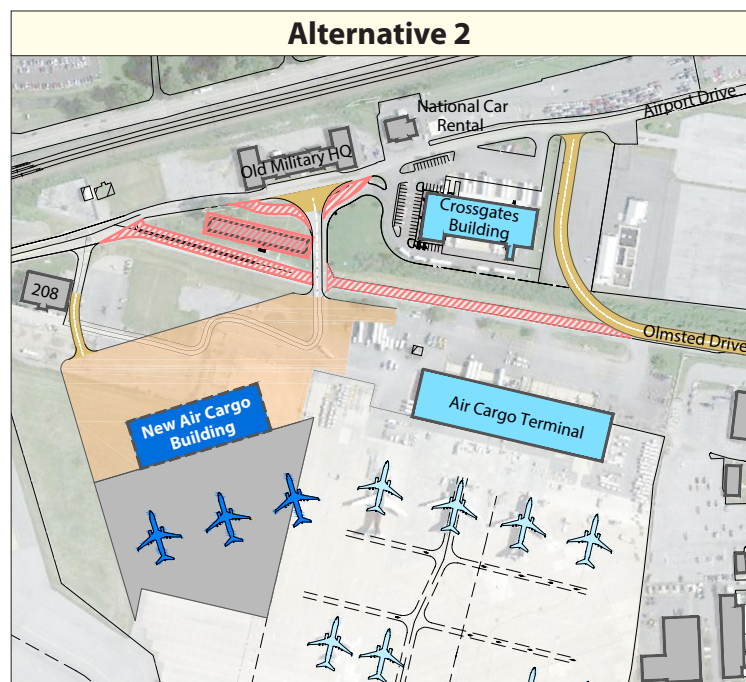
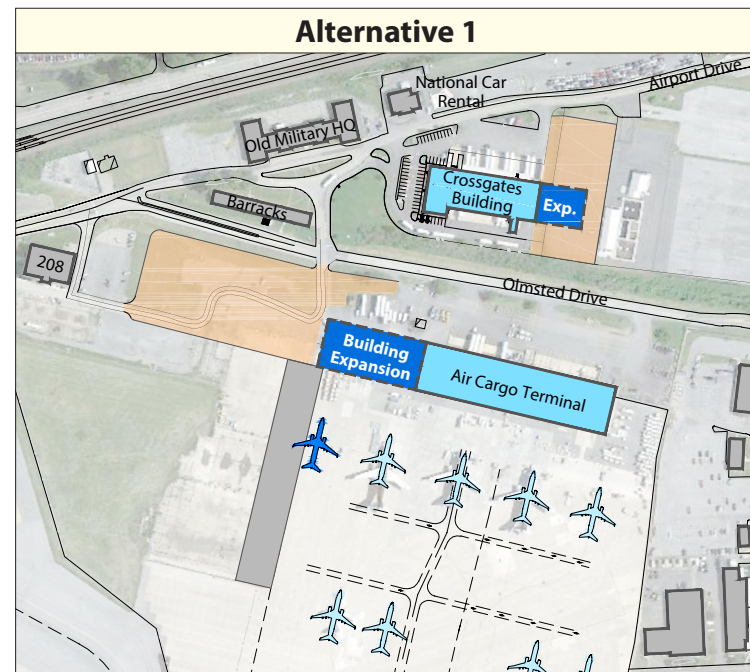


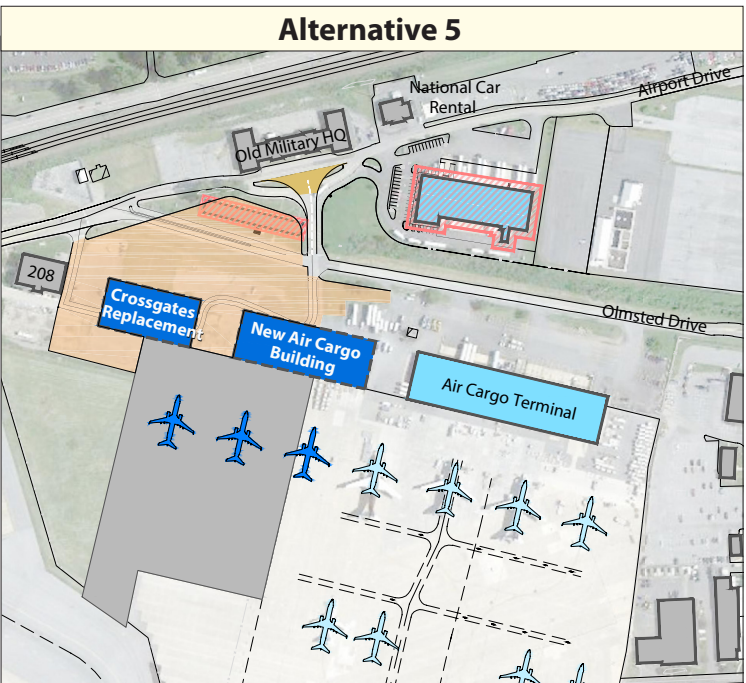
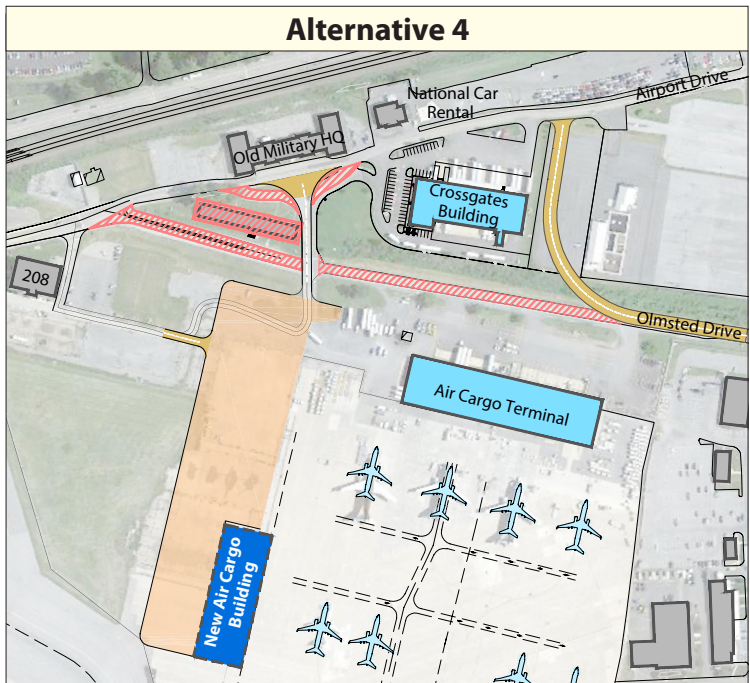
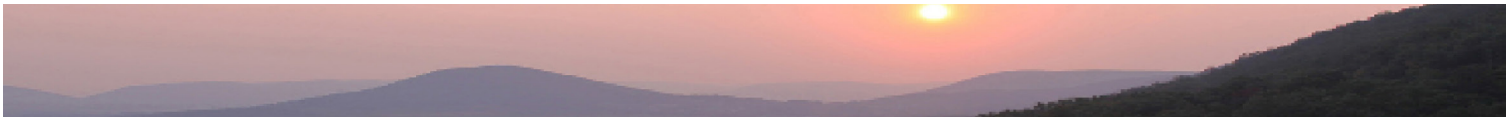


Air Cargo

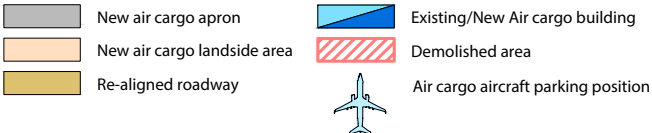
The demand/capacity and facility requirements analysis identified six items in the air cargo complex that should be considered in the alternatives analysis. These include:

- The number of aircraft parking positions adjacent to the cargo building is inadequate within 15 years.
- The existing warehouse area will not meet estimated demand within 5 years.
- The current landside area corresponding to the cargo facilities is inadequate for semi-truck maneuvering and parking.
- The cargo tug route to/from the Crossgates Building crosses Olmsted Drive, which creates conflicts between cargo tugs and vehicular traffic on Olmsted Drive. Vehicular traffic on Olmsted Drive includes semi-trailer trucks and high peak period traffic volumes at the Air National Guard Base.





LEGEND



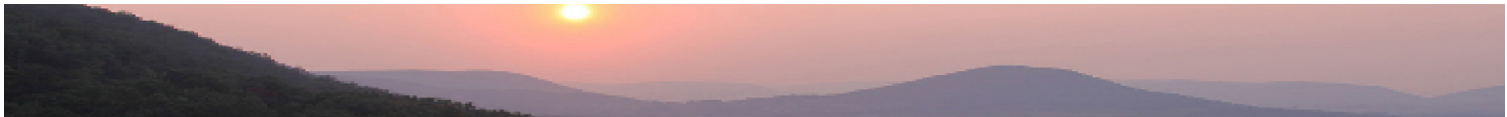
- The military barracks building is deteriorating and should be demolished.
- The intersection between Olmsted Drive and Airport Drive, located in front of the Old Military Headquarters, is complex and creates unnecessary conflicts and confusion. Replacing it with a simple t-intersection is preferred.

The short-listed alternatives shown address these issues. The evaluation of the alternatives is shown in Exhibit 5-5.

Air Cargo Complex Alternatives	Duration	Carrier Operations	Flexibility	Cost	Apron/Road Design	Other
1 Expansion						
2 Parallel to Airport Dr.						
3 Parallel to Olmsted Dr.						
4 Building West of Apron						
5 Relocate Crossgates						



Exhibit 5-5 Evaluation of Air Cargo Alternatives



General Aviation

An analysis of the FBO facilities indicates AvFlight requires more apron and hangar space than it has today. The alternatives below and on the right address these deficiencies.

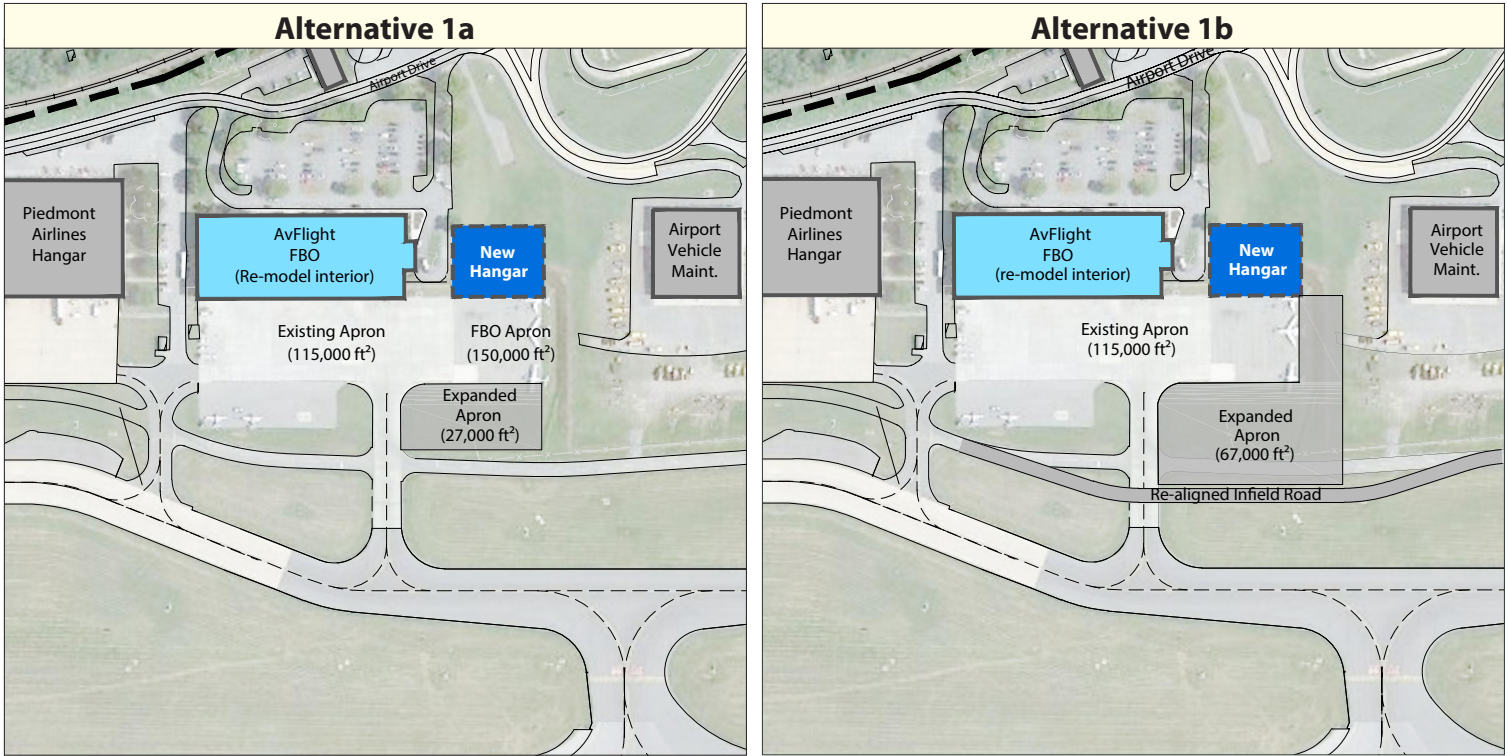
- **Alternative 1** – constructs a new hangar facility and expand the existing FBO apron.
- **Alternative 2** – constructs a new FBO complex on the site of the old terminal.
- **Alternative 3** – constructs a new FBO complex on the Crawford Station site.

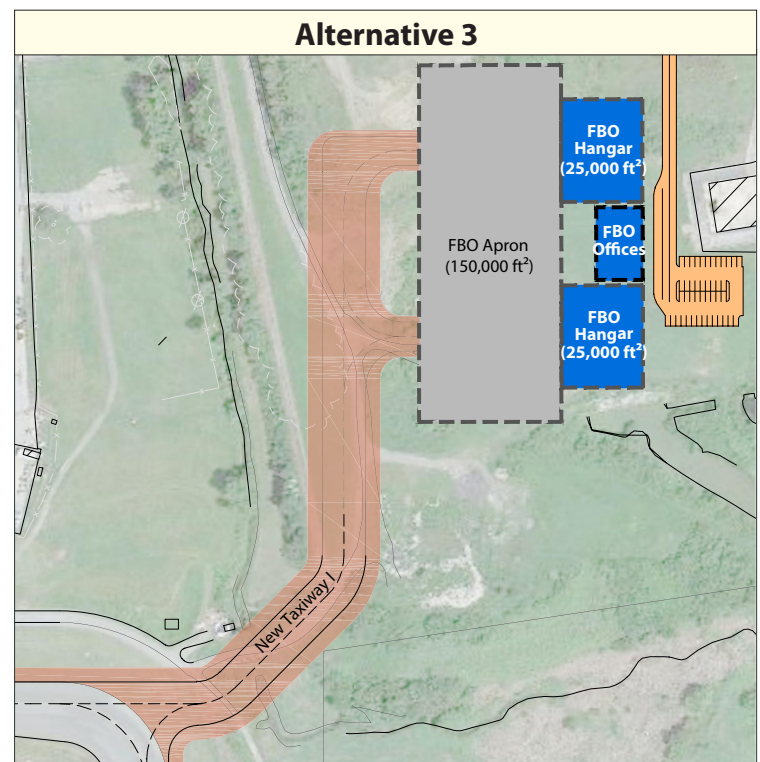
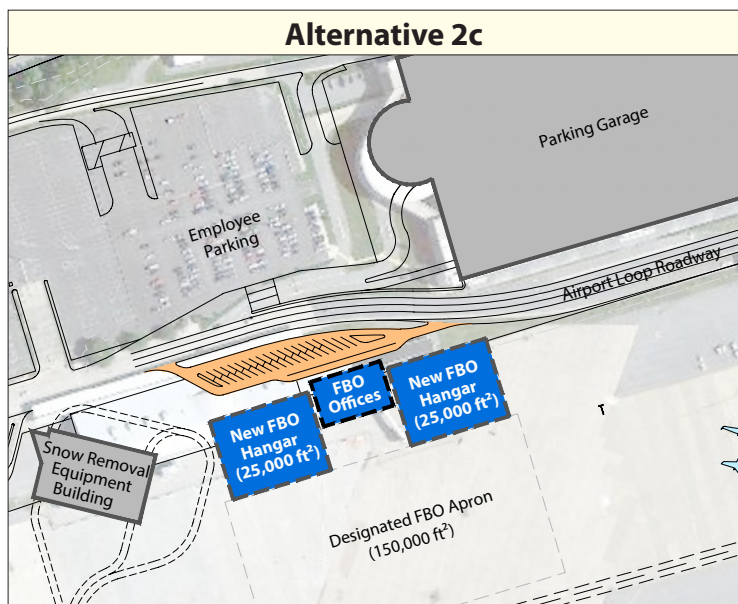
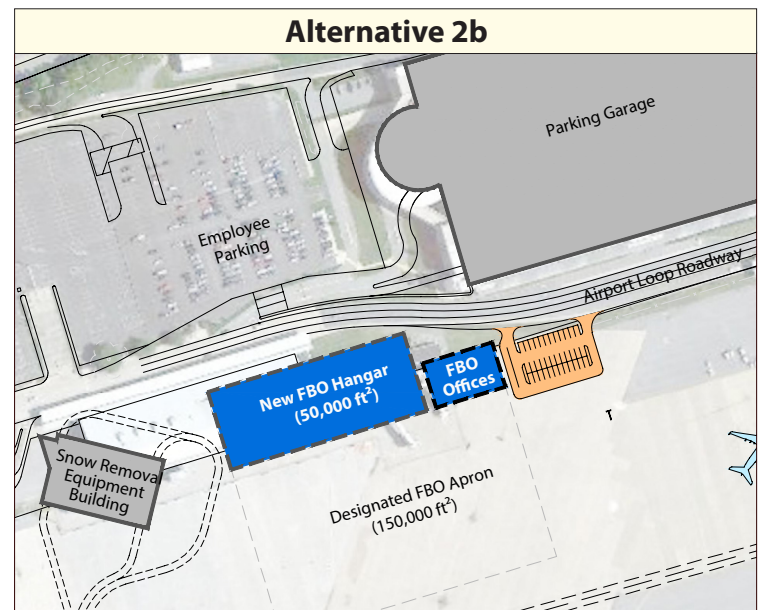
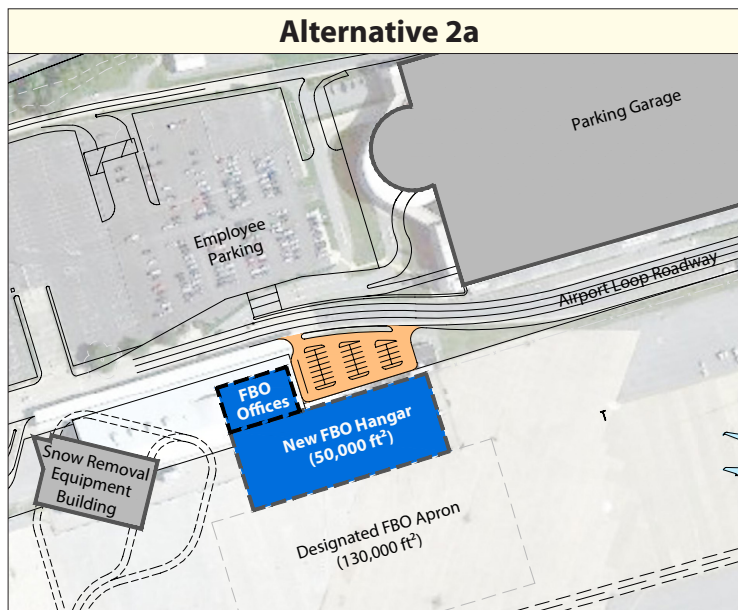
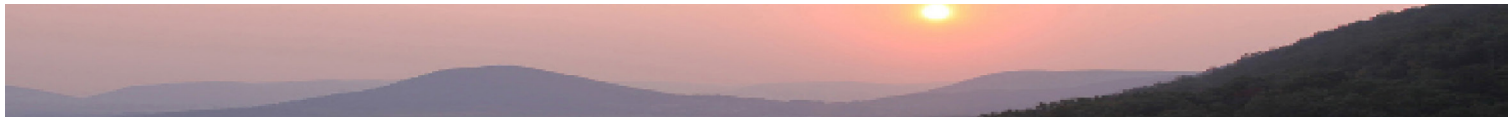
The evaluation of these alternatives is shown in Exhibit 5-6.

General Aviation Alternatives	Duration	Customer Service	Flexibility	Cost	Implementation
1a Existing, Minor Apron					
1b Existing, Major Apron					
2a Old Terminal, Single Building					
2b Old Terminal, Two Buildings					
2c Old Terminal, Three Buildings					
3 Crawford Station Site					



Exhibit 5-6 Evaluation of General Aviation Alternatives

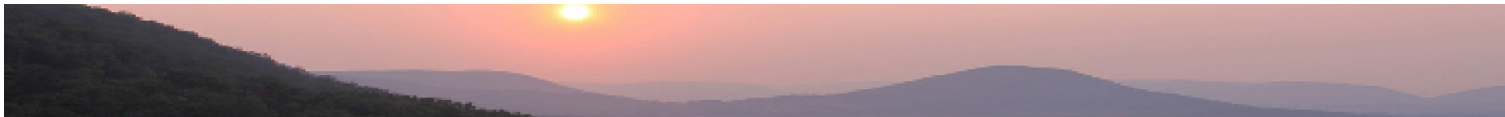




LEGEND

- New apron
- New parking and roads
- Proposed taxiway
- Existing/New FBO buildings
- Passenger aircraft parking position





PaANG Base Parking

Current employee auto parking on the base does not meet anti-terrorism and force-protection perimeter and standoff standards. The base is not permitted to modify an existing building unless it meets the standards. As a result, the base would prefer to relocate base parking to outside the existing base perimeter. Alternative plans to meet these needs are shown on the facing page.

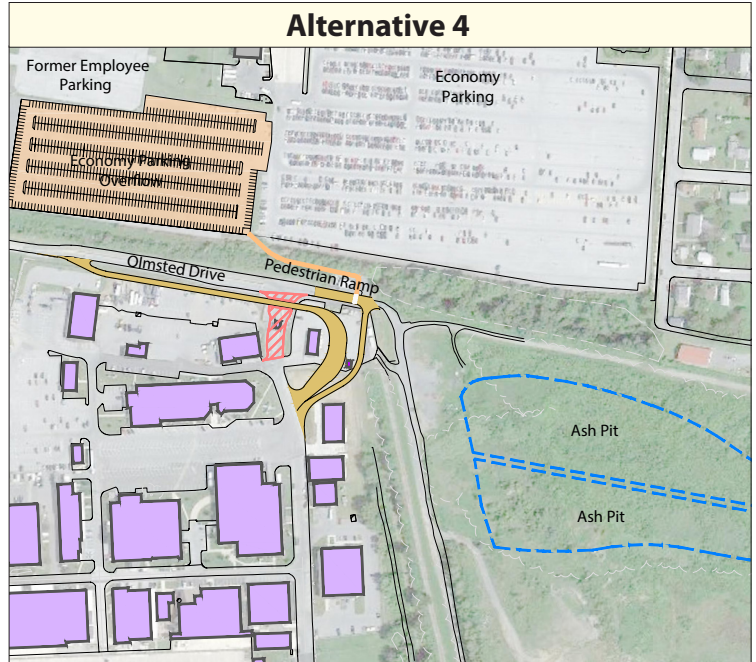
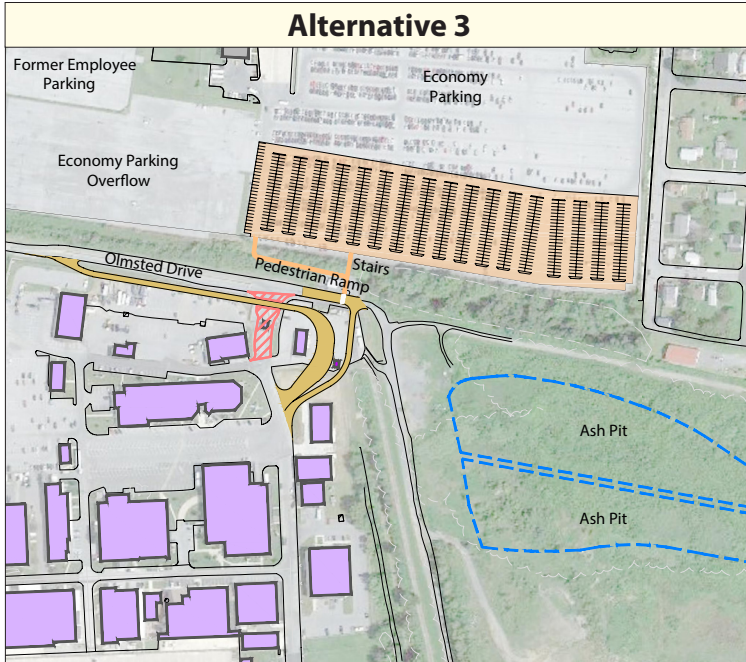
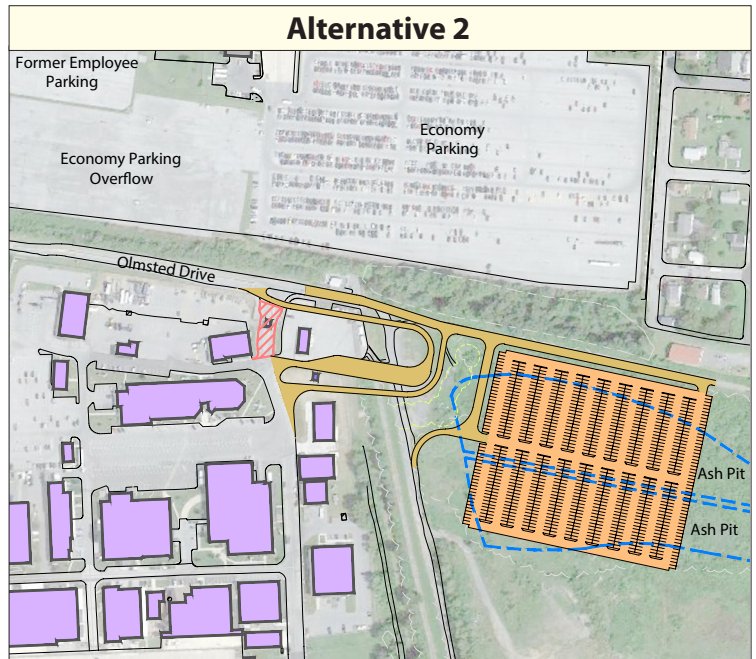
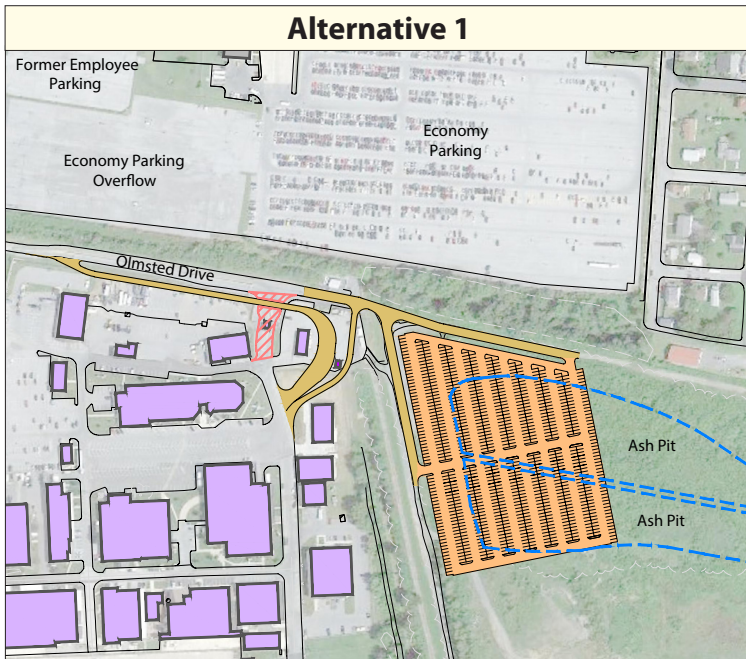
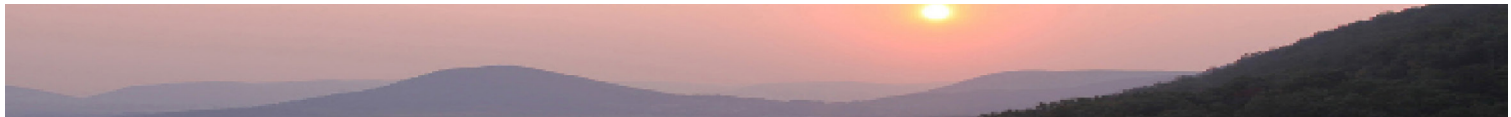
- **Alternative 1** – construct a new serpentine road within the current base perimeter and construct a new parking lot on Crawford Station, which would address the environmental treatment requirements for environmentally hazardous ash pits.
- **Alternative 2** – construct a new serpentine road stretching east into Crawford Station and constructing a new parking lot further east on Crawford Station, further addressing the ash pit environmental requirements.
- **Alternative 3** – convert a portion of the existing long-term/economy parking lot into base parking.
- **Alternative 4** – convert the long-term/economy parking lot overflow into base parking.

The evaluation of these alternatives is shown in Exhibit 5-7.

PaANG Base Parking Alternatives		Duration	Customer Service	Flexibility	Cost	Implementation	Ash Pit Treatment
1	Crawford Station	●	●	●	●	●	●
2	Crawford Station East	●	●	●	●	●	●
3	Economy Parking Lot	●	●	●	●	●	●
4	Economy Parking Overflow Lot	●	●	●	●	●	●



Exhibit 5-7 General Aviation Alternatives



- LEGEND**
- | | | | | | |
|--|----------------------------|--|---|--|---------------------|
| | PaANG guard base building | | Existing parking proposed for conversion to PaANG | | Demolished roadways |
| | Proposed parking for PaANG | | Proposed roadways | | |

