

FACT SHEET 3

FALL 2014

What is the status of the Kent State University Airport Master Plan?

Kent State University is currently conducting an airport master plan to determine the extent, type, and schedule of development necessary to accommodate existing needs and future aviation demand at Kent State University Airport. The master plan process is based on FAA guidelines, which evaluates existing conditions, develops a forecast of anticipated operational activity and identifies the facilities needed to accommodate demand, assuming they can be provided (documented in the Draft Phase I Report and summarized in Fact Sheet 2 from summer 2014). After facility requirements have been identified, a series of alternative solutions must be identified and evaluated. Traditionally, airport master plans identify a series of alternatives that consider different development layouts to accommodate the demand within the existing airport property. However, this master plan also needs to consider the community and stakeholder feedback provided during the development of the draft 2006 Master Plan. This master plan uses scenario planning to develop and test a variety of plausible futures that may achieve the master plan objectives:

- Focus on the academic mission (accommodate expected growth in the Flight Training major)
- Remain a public use airport (comply with FAA grant assurances)
- Increase airport revenue (move toward financial independence)

In light of Kent State's commitment to sustainability, opportunities to incorporate relevant strategies into the various alternatives are also identified.

Alternatives Development

The following four scenarios or themes have been developed, each of which includes one or more alternatives:

1. No Build
2. Town Gown
3. Balance Beam
4. Soar

Each scenario and their associated alternative(s) are described below. The projects associated with each alternative are presented on figures included at the end of this fact sheet.

Alternative 1—No Build

A no-action scenario is used as a baseline to evaluate the advantages and disadvantages of various development alternatives. There would be no expansion or improvements to existing facilities, though ongoing maintenance would be continued and safety measures would be implemented.



Cessna 172

Alternative 2—Town Gown

This scenario focuses on enhancing the town-gown relationship between the Airport and surrounding communities—by balancing the academic mission with community programs and benefits. The Airport would remain open for public use but the focus would be on Flight Training and it would not be actively marketed to attract corporate aviation activity. The scenario minimizes off-airport impacts and maximizes opportunities for community benefits on airport property. Alternatives include:

Alternative 2-A: Improve facilities to meet FAA design standards for an Airport Reference Code (ARC) of A-I—Includes projects needed to meet design standards for the current ARC of A-I. Obstruction identification and proposed mitigation is based on surfaces for a non-utility runway (serving aircraft with a maximum takeoff weight [MTOW] more than 12,500 pounds) to reflect larger aircraft unrelated to Flight Training. This alternative includes construction of a new terminal/academic building.

Alternative 2-B: Modify to A-I Utility Standards, small aircraft—Similar to Alternative 2-A, but proposes that development and improvements be based on the small aircraft standards (serving aircraft with a MTOW less than 12,500 pounds). This acknowledges that 90% of the operations at the Airport are by small single-engine aircraft, with the most frequently operated aircraft being the Cessna 172 used by Flight Training. The utility (small aircraft) designation minimizes off-airport impacts associated with obstruction removal and land acquisition/aviation easements. By focusing on small aircraft, the runway length required is also reduced. This alternative includes construction of a new terminal/academic building.

Alternative 3—Balance Beam

This scenario balances the academic mission with the need to generate additional revenue to help offset the cost of airport operations and maintenance. This is accomplished through

marketing the Airport to attract additional aircraft, particularly corporate aviation. The ARC would be increased to B-I to accommodate small business jets. To represent this family of aircraft, the Swearingen Merlin III, a twin-engine turboprop, was selected as the critical aircraft under this scenario.

While this scenario minimizes off-airport impacts and maximizes opportunities to provide community benefits, the attraction of corporate aviation and the anticipated increase in operations, particularly by small business aircraft, may be perceived as a potential community impact. Two alternatives were identified:

Alternative 3-A: Balance Beam—Involves a number of necessary facility improvements, including construction of a new terminal/academic building.

Alternative 3-B: Balance Beam—In addition to the facility improvements, this alternative separates Flight Training from other general aviation activity. The latter would be relocated to the southwest side of the Airport with access provided via North River Road. Besides ensuring segregation from student activities, this could provide access to land to the west for a potential research facility or aviation-oriented businesses that would not require frontage.

Under both alternatives, the critical aircraft would require additional runway length (approximately 4,380 feet). However, given the property constraints, including adjacent roadways, the alternatives depict



Swearingen Merlin III. Source: phlairline.com

a runway extension for a total length of 4,219 feet, meaning that no land adjacent to the airport would be acquired for this runway. Given the reduced length, some aircraft within the family of small business aircraft may need to operate with limitations on take-off weight or divert operations during poor weather conditions.

Alternative 4—Soar

Under this scenario Flight Training would be relocated to a nearby airport while the existing Kent State University Airport would remain open for public use. Since Kent State would be reallocating its personnel resources and financial support to another nearby airport, they would look to transfer sponsorship to a public operator or hire a management firm to maintain and operate the Airport. In order to make the Airport marketable and offset the loss of Flight Training, the existing airfield would need to be upgraded. Due to the anticipated increases in the national and state jet aircraft fleet, the Cessna Citation II was selected as the critical aircraft, which represents an ARC of B-II.

Under this scenario, the projected 20,000 non-Kent State operations would remain at the Airport. Ideally, the facility improvements, presence of a Fixed Base Operator (FBO), and implementation of a strong marketing strategy would continue to grow general aviation.



Cessna Citation II. Source: Cessna.com

Alternative 4-A: Soar—FAA guidelines for determining runway length indicate the critical aircraft would require approximately 4,980 feet for dry-pavement conditions. However, based on feedback from the Steering Team it was decided that the relocation of Flight Training should be evaluated without a significant runway extension that would have major impacts on the surrounding community. Therefore, Alternative 4-A shows the maximum extension possible given the property constraints at the Airport. This enabled an extension for a total length of 4,219 feet without any land acquisition. This runway length would not accommodate the family of aircraft (B-I or B-II) without some limitations on operations, Landside improvements would include the replacement of the existing aging hangars and terminal facility.

Alternative 4-B: Soar—This alternative involves an extension of the runway to 5,000 feet to accommodate the scenario's critical aircraft, requiring over 11 acres of land acquisition and 31 acres of easements. This would also improve the Airport's role in the aviation system and meet most insurance requirements for corporate aircraft. The extension would require land acquisition and the relocation or tunneling of North River Road. Landside improvements would include the replacement of the existing aging hangars and terminal facility.

Under both Alternatives 4-A and 4-B, Flight Training would be relocated. Ten nearby airports were evaluated based on their ability to meet the following needs of Flight Training. Due to its distance from campus, existing facilities and services, and current level of activity, Portage County Airport was selected as an example for planning purposes for relocation of Flight Training activities. Should Alternative 4 be progressed as a preferred alternative, a detailed site selection study would be required.

Alternatives Evaluation Criteria

The first criterion of the alternatives evaluation asks if the alternative meets the purpose and need of the particular scenario. Consistent with the integration of sustainability into this master planning process, the alternatives were then evaluated according to criteria that define airport sustainability—Economic viability, Operational efficiency, Natural resource conservation and Social responsibility (EONS).

Based on a qualitative and quantitative assessment of the alternatives, each evaluation criterion was assigned a comparative rating. Similar to the *Consumer Reports*' system, the rating system uses a modified circle to visually communicate the qualitative assessment. The ratings correlate to a simplified non-weighted score as shown on the Alternatives Matrix. Alternatives with a higher summary score have an overall positive impact based on the EONS evaluation criteria. The alternatives' evaluation scoring is shown on the Alternatives Matrix on the following page. A summary of the rankings is provided below.



Alternatives Ranking

Ranking	Alternative	Summary Score
1	2-B: Town Gown Airport Reference Code A-I Utility	30
2	2-A: Town Gown Airport Reference Code A-I	25
3	3-A: Balance Beam	21
4	3-B: Balance Beam	18
5	1: No Build	12
6	4-B: Soar	6
7	4-A: Soar	5

Source: C&S Companies

Attachments

The following pages include details on the various alternatives proposed in the master plan.

- Alternatives Matrix
- Alternative 1: No Build
- Alternative 2-A: Town Gown
- Alternative 2-B: Town Gown
- 3-A: Balance Beam
- 3-B: Balance Beam
- 4-A: Soar
- 4-B: Soar

Questions or Comments?

If you have questions or comments about the Kent State University Airport master plan, please visit the project website at www.KSUAirportPlan.com or contact Aileen Maguire Meyer of the C&S Companies at (216) 619-5449 or toll-free at (877) 277-6583 or by email at amaguire@cscos.com.

- 2—Positive
- ◐ 1—Neutral
- 0—Negative

Alternatives Matrix

		1: No Build	2-A: Town Gown Airport Reference Code A-I	2-B: Town Gown Airport Reference Code A-I Utility	3-A: Balance Beam	3-B: Balance Beam	4-A: Soar	4-B: Soar
Alternative Strategy		Continue on-going maintenance and implementation of safety measures. Does not provide for expansion or improvement to facilities and services.	Focus on academic mission and maximizing community benefits. Meet design standards for Airport Reference Code A-I.	Focus on academic mission and maximizing community benefits. Meet design standards for Airport Reference Code A-I Utility (small aircraft only) to minimize off-airport impacts.	Attract non-University airport users. The increase in revenue will offset the cost of airport operations and maintenance.	Attract non-University airport users and separate GA activities from Flight Training. The increase in revenue will offset the cost of airport operations and maintenance.	Relocate the Flight Training. Improve airport to attract sufficient non-University activity to cover the cost of airport operations and maintenance. Extend runway to 4,219 feet.	Relocate the Flight Training. Improve airport to attract sufficient non-University activity to cover the cost of airport operations and maintenance. Extend runway to 5,000 feet.
EONS—Evaluation Criteria								
Purpose And Need								
Ability to Meet Purpose and Need	Depicted development meets the purpose and need of the scenario.	●	●	●	●	●	○	●
Economic Vitality								
Economic Impact to Community	Considers economic development impact associated with drawing students to the area for Flight Training and employees, faculty and staff at the Airport and in the Flight Training program.	◐	●	◐	●	●	○	○
Development Cost	Considers order-of-magnitude and life cycle costs, potential to leverage other resources, consideration of immediacy of benefit.	●	◐	●	◐	◐	◐	○
Operation & Maintenance Cost	Annual cost to operate and maintain the airport. Also considers the additional costs to operate Flight Training at a new facility.	○	◐	●	◐	○	○	○
Revenue Generation	Considers the potential revenue generation from an increase in airport users (Flight Training and non-University).	○	●	◐	●	●	◐	◐
Operational Efficiency								
Airport Design Standards	Ability to meet FAA design standards—emphasizes the importance of improving safety.	○	◐	●	◐	◐	○*	○
Constructability	Considers timeframe, availability of technology, support/partners for implementation.	◐	●	●	○	○	○**	○
Ownership/Management	Considers the impact on operations of having the Airport operated by or its sponsorship transferred to another entity. Also considers the operational efficiency of any configuration changes.	◐	●	●	●	◐	○	○
Impact on Flight Training	Considers the operational impacts on Flight Training associated with the alternatives including its relocation to a non-Kent State-owned facility.	○	●	●	●	●	○	○
Natural Resource Conservation								
Air Quality and GHG Emissions	Change in GHG emissions associated with airport activity.	○	●	●	◐	◐	○	○
Energy	Change in energy consumption or generation.	○	●	●	●	●	●	●
Sustainable Materials Management	Considers the change in materials management at the Airport.	◐	●	●	●	●	◐	◐
Fish, Wildlife & Plants	Considers the project alternative's potential effect on fish, wildlife and plants, particularly changes to habitat.	◐	○	◐	◐	○	○	○
Water Quality/Management	Change in the impervious surface area for both Kent State University Airport and the facility if Flight Training were to be relocated.	○	○	◐	○	○	○	○
Social Responsibility								
Operations/Noise	Change in operations and associated change in aircraft noise.	◐	◐	●	○	○	○	○
Land Use Compatibility	Considers the project alternatives potential effect on land use compatibility (safety and noise) for both Kent State University Airport and the facility if Flight Training were to be relocated.	◐	◐	●	○	○	○	○
Community Benefits/Amenities	Considers the project alternatives potential effect on current and future community benefits/amenities.	◐	●	●	●	●	○	○
Summary Score		12	25	30	21	18	5	6
Ranking		5	2	1	3	4	7	6

*Soar would require significant costs to meet design standards.

**Balance Beam and Soar 4-A would require retaining wall. Soar would require significant investment and coordination with surrounding community including relocations of homes.