

MEMORANDUM

TO: Town Board of Supervisors, Town of Middleton, WI

FROM: Daniel P. Bartholomew, AICP, ACE, A.A.E., Airport Solutions, LLC

CC: Attorney Michael J. Lawton, Boardman Clark, LLP

DATE: June 13, 2021

SUBJECT: City of Middleton Common Council Meeting, 6/15/21, Miscellaneous Agenda Item 1) Airport Master Plan - Next Steps

This analysis offers items for consideration, based on the June 7, 2021 memo from Mr. John Hallick titled "Report and Recommendations from June 3 Airport Commission Meeting", which has been included into the June 15, 2021 City of Middleton Common Council Agenda Packet.

Runway 10/28

The June 7, 2021 memo stresses the need to lengthen Runway 10/28 at C29 by 440' to a total length of 4,440'. It states that the reason for the required lengthening is to address safety and that using a reduction in safety should not be a means to control aircraft volumes. Safety and aircraft volumes are mutually exclusive in the airport design world (unless volume is what is driving the safety concern).

The C29 primary runway has been designed to FAA ADG B-II standards for the safety of a specific classification of aircraft. In fact, in some areas, the airport has been designed in excess of that aircraft classification (i.e., runway width is wider than ADG B-II requirements). Runway length, on the other hand, is aircraft specific rather than ADG specific. This means that specific aircraft, that require a longer runway, should operate from facilities that meet their specific needs. Case in point, most airports are designed to a specific aircraft within the ADG classification (E.g., Boeing 737-800 which is in the ADG C-III classification). For example, an airport may be designed to accommodate a C-III aircraft, specifically the Bombardier Regional Jet 700 (CRJ-700) series while not able to accommodate a Boeing 737-800 series aircraft. Both are ADG C-III aircraft but, the airport facility wouldn't be able to accommodate the 737 aircraft and is specifically designed to CRJ-700 standards (E.g., runway length, etc.) (The specific aircraft is often noted on the airport's ALP).

In addition, numerous other factors can impact whether an aircraft can operate at a facility, including but not limited to, the location's density altitude (Facility elevation plus outside air temperature). An aircraft may operate fine during winter months while being greatly limited during hotter summer months. Aircraft will operate at a facility when and where it is safe to do so. If they cannot operate within specific parameters, they will do so out of a facility designed to accommodate their specifications. It's not about limiting aircraft operations based on safety limitations, it's about aircraft operating at a facility that meets their specific limitations and operational parameters. This leads to the conclusion that a longer runway will offer a gateway to more and larger aircraft operating at C29. The purpose of C29 as a reliever airport to Madison is so that it can "relieve" the Madison airport of smaller GA aircraft when volume becomes an issue at the Madison facility, rather than act as a surrogate to the Madison facility.

The memo also points out that the ultimate length increase of 440' was chosen because it is the greatest length that can be accommodated on the existing airport property footprint, rather than simply due to a safety concern. This sends a message of mixed intentions. (i.e., Is the lengthening due to safety or because it is financially more feasible since it wouldn't require the acquisition of additional property to accommodate the relocated RPZ?) It is important to note that a desire to remain within the existing airport property boundary does not seem to be a factor when discussing the extension of Runway 01/19 to the north.

Runway 01/19

As mentioned in the memo, the paving and lengthening of Runway 01/19 may reduce the number of aircraft operations over noise sensitive land uses in the vicinity of the airport. However, the memo fails to mention the excessive cost of this option due to the re-alignment of Schneider Road, along with the limited inclement weather utility value of this runway due to obstructions located south of the airport.

Neither the memo nor the Master Plan addresses how the airport will accommodate the additional water management required due to the addition of approximately 8 acres of non-pervious runway and taxiway surfaces.

These runway alterations also extend into land currently not within the limits of the City of Middleton, and currently being used as prime farmland. This seems counter to both the City Master Plan objectives (protection of prime farm land) and the "Good Neighbor City" slogan.

Turf Runway

While the elongated and paved Runway 01/19 may alleviate traffic pattern conflicts at the airport, since the traffic pattern would be dictated by wind conditions rather than by aircraft type (tail dragger aircraft's preference for the turf runway), the introduction of a new turf runway would re-introduce the current conflicts since the same tail dragger aircraft would migrate to the turf operational surface (over and above wind conditions, as they do now).

The cost of a turf runway, which would be ineligible for federal funding, would be significantly more expensive than the memo insinuates (approximately \$5,000). The new runway would likely require a drainage plan and drainage alterations (due to cut and fill required within/near a floodplain), an environmental evaluation (since it would be constructed on federally obligated property), in addition to construction and maintenance costs. Estimated cost would greatly exceed (by many orders of magnitude) the figure stated in the memo. The costs would likely exceed that which could be accommodated through airport revenue alone, requiring the use of City general funds or general bond funds (airport revenue bonds could not be used unless a landing fee or some other connected revenue generating component is applied).

Glare may also be an issue given the angle and close proximity to the solar farm. This proposed turf runway was not addressed in the original solar glare analysis.

Hangers

First, the memo doesn't take into account the close proximity of the east side hanger proposal to an existing residential subdivision. Noise and emissions associated with aircraft starting and/or runup procedures would certainly impact close-in residential uses.

Second, the argument is that larger hanger units would offer a greater financial return to the airport, by commanding a greater lease rate per square foot. The memo states "*Larger land leases enjoy a higher per square foot lease rate. Also, larger hangars have more flexibility. Those needing less space can go together in a large hangar.*" This is counter to standard airport economics. Individuals pay a higher premium to have their own hanger rather than a shared unit, therefore, rent for a private hanger is charged at a premium to a shared unit. This comment also dismisses the suggestion (Page 324 of the June 15, 2021 Common Council Agenda Packet) that only smaller hangers (rather than 100' x 100' units) should be constructed. The purpose of this suggestion is likely to limit the numbers of larger aircraft based at C29 by limiting the number of hangers that can accommodate these larger aircraft.

The memo also does not mention costs associated with the construction and maintenance of the access road required for the east side hanger development (Since the road would not be exclusively for airport use, the construction and maintenance could not utilize airport or federal funds). The cost of this road would have to be funded through the City General Fund, or some other non-airport related financing source. This would be an asset for the benefit of airport users at the expense of non-airport users.