

# T Transportation Committee

Meeting date: October 13, 2008

Council meeting October 22, 2008

<b>Date:</b>	October 8, 2008
<b>Subject:</b>	Lake Elmo Airport 2025 Long-term Comprehensive Plan Review
<b>District(s), Member(s):</b>	Districts 11 - Hilker, 12 - Broecker, 13 - Aguilar
<b>Policy/Legal Reference:</b>	MS 473.145, 473.165, 473.621 Sd. 6&7
<b>Staff Prepared/Presented:</b>	Arlene McCarthy, Director MTS (651-602-1754) Amy Vennewitz, Dep. Dir. Fin. & Planning (651-602-1058) Connie Kozlak, Mgr. Transportation Planning (651-602-1720) Chauncey Case, Sr. Planner - MTS/Aviation (651-602-1724) Jim Larsen, Senior Planner - LPA (651-602-1159)
<b>Division/Department:</b>	Metropolitan Transportation Services

**Proposed Action** That the Metropolitan Council:

- Determine that the Metropolitan Airport Commission’s (MAC) Lake Elmo Airport 2025 Long-term Comprehensive Plan (LTCP) is consistent with the Metropolitan Council’s development guide (TPP).
- Recommend MAC establish a joint airport zoning board with Washington County and affected communities of Lake Elmo, Baytown and West Lakeland to prepare an airport zoning ordinance as defined under state requirements and airport’s system role.
- Recommend MAC continue coordination with communities of Lake Elmo and Baytown to provide sanitary sewer and water service for the airport.
- Recommend MAC continue efforts with City of Lake Elmo in land use planning to coordinate city development plans in the Old Village area with airport safety zoning and aircraft noise considerations resulting from the LTCP 2025 preferred development alternative.
- Recommend amendment of the LTCP and review by the Council when parcels on airport property are developed for non-aviation uses.

**Background** Under MS 473.611 and 473.165 the Council reviews the individual LTCP’s for each airport owned and operated by the Metropolitan Airports Commission (MAC). LTCP’s are periodically updated, and must be consistent with the Council’s metropolitan development guide. LTCP’s are used as basic input to the Council’s update of the regional aviation system plan.

**Rationale** The 2008 Update of the LTCP replaces the 1992 LTCP and moves the planning horizon to 2025. The MAC has adopted a preferred development alternative for the Lake Elmo Airport that retains its system role as a *Minor* general aviation facility and is consistent with the TPP.

**Funding** This action has no funding implications for the Council.

**Known Support / Opposition** The LTCP development process included public involvement. Airport users would prefer an extended main-wind runway but recognize cost and need do not justified this project in the short term. The MAC has responded to concerns of Washington County, affected communities and general public prior to adopting the LTCP.

## LAKE ELMO AIRPORT 2025 LTCP REVIEW

**Authority:** MS 473.611 indicates that any LTCP adopted by the Commission shall be consistent with the development guide of the Council; also, MS 473.165 states that if a plan or any part thereof is inconsistent with the guide the Council may direct the operation of the plan or such part thereof be indefinitely suspended.

**Background:** The Lake Elmo Airport is located in central Washington County. The MAC purchased the land in 1949 and the airport opened in 1951. The airport has two paved runways, 228 based aircraft, and had 74,000 aircraft operations in 2007. It is classified as a *Minor* airport serving general aviation. The previous LTCP update was approved by the Council in 1994; only parts of that plan have been implemented.

**Public Involvement:** The development of the Lake Elmo 2025 LTCP Update included two meetings with the Lake Elmo, Baytown, and West Lakeland community representatives, coordination with Washington County, two meetings with airport users, and one public informational meeting for residents living around the airport. A full draft LTCP, defining the preferred alternative, was made available for a 30-day public comment period. Responses were prepared and reviewed by the MAC prior to their adoption of the LTCP.

**Lake Elmo Airport 2025 LTCP Proposal:** The LTCP update is a 20-year planning document, extending from 2005 to 2025. The LTCP serves as the basis for identifying needed projects, maintaining funding eligibility to meet state and federal financial and plan consistency requirements, and to ensure that projects are responsive to system needs and conditions. Several development alternatives were evaluated as part of the update process:

- No Build Alternative (only rehabilitate existing runways and no new hangar area)
- Extend Cross-wind Runway 4-22 to 3,200 feet in length (Preferred Alternative)
- Extend Cross-wind Runway 4-22 to 3,900 feet in length
- New Relocated Primary Runway 14-32 to 3,900 feet in length

The preferred development plan would keep the existing runways. The cross-wind runway and its parallel taxiway would be extended, and a new “East” hangar building area provided. The plan would also keep, for the long term, a potential relocation and extension of the main-wind runway as defined in the previously-approved LTCP. The preferred development proposal is depicted in Figure ES-1.

### Existing Aviation Activity and Future Demand

Forecasts were completed for both aircraft operations and number of aircraft based at the airport. A baseline forecast (using 2005 as the base-year) assumed reasonable growth in the economy, fuel costs, fractional ownership, new very light jets (VLJs) just coming on the market, and general aviation taxes and fees. In addition to the baseline forecast, high and low range forecasts were prepared. In the high forecasts, it is assumed that the economy thrives, VLJs are very successful and fractional ownership increases; the opposite assumptions were used for the low forecasts. Development concepts for Lake Elmo include an extended runway; therefore, a forecast assuming a runway extension was also prepared.

Aircraft operations for 2005 are estimated at 57,667. Baseline aircraft activity by 2025 is projected to be 91,119 annual operations, and 115,896 for the high forecast. The maximum

number of operations the airport can handle annually is 230,000 operations. Therefore, from an airside standpoint, the airport is currently at 25% capacity. Even under the high scenario, the forecasted number of operations in 2025 does not trigger the need for additional runways at Lake Elmo. The historical high for operations at Lake Elmo occurred in the late 1970's, with approximately 115,000 annual operations.

#### Existing Conditions and Future Airside Facility Needs

The existing runways at Lake Elmo are very short in comparison to the other reliever airports in the regional system. The primary runway at Lake Elmo (14 -32) is by far the shortest in the system. At 2,850 feet, Runway 14 -32 is more than 400 feet shorter than runways at the Crystal Airport, and more than 1,000 feet shorter than any other primary runway in the system. The crosswind runway at Lake Elmo is 2,497 feet long. This is extremely short when compared to primary runways, and shorter than all other crosswind runways within the system.

The FAA-recommended runway length needed to accommodate 95% of the aircraft using this *Minor* category (BII) airport is 3,280 feet. The existing runway lengths only accommodate approximately 75% of the aircraft types expected to use a *Minor*. The forecasts assume no VLJ operations will occur unless more runway length is provided. The same is assumed for jet aircraft operations. The runway extension would provide greater utility and safety for these aircraft. The airport would also benefit from the installation of an automated weather monitoring system. Mn/DOT currently has a program in which they install, own and maintain automated weather observation stations (AWOS), so there is no cost to MAC for this option.

#### Existing Conditions and Future Landside Facility Needs

The existing hangar space at the airport is 92% full, and there are no vacant spaces in the existing building areas to construct new hangar facilities. Therefore, there is a lack of landside capacity. Based aircraft currently number 236; the historical high number of based aircraft was in 1995 with 250 aircraft. Total capacity within existing hangars is estimated at 256 spaces. By 2025 some 56 new spaces are forecast to be needed for a total of 312. The proposed location for a new hangar area is on the airport's east side. In order to access the airfield from this area, construction of a taxiway east of and parallel to Runway 4-22 will be required. All additional hangar space is to be provided by private funding.

#### **Conformity with Aviation System Plan:**

The MAC used the Council's regional socio-economic data in preparing the aviation forecasts. Based upon the aviation demand forecasts there is no need for additional runways at the airport. It will retain its *Minor* airport system role as a reliever serving general aviation in the east portion of the region. The proposed extension of the cross-wind Runway 4-22 from 2,497 feet to 3,200 feet can be accommodated on airport property without land acquisition or road relocation. The cost for this alternative is less than relocating the primary runway. With an extension to 3,200 feet the airport could accommodate 95 percent of the aircraft under 12,500 pounds, coming much closer to meeting demands of the critical aircraft types. An extension would be lighted and also provide safer operations by the aircraft already using the airport.

An extended parallel aircraft taxiway will provide access and opportunity for private development of a new hangar building area. The proposed on-site weather monitoring/reporting system will improve airport user safety. Retaining a potential relocated/extended primary [main-wind] runway in the airport layout plan preserves opportunity for long-term development and use of existing resources within the airport's *Minor* system role. The preferred alternative will

enhance the non-precision runway approach capability and improve airport utilization. The preferred development alternative is in conformance with the regional aviation system plan.

## **Compatibility of Airport/Community Plans**

### Environmental Considerations

1. Runway Development – a runway extension project requires the completion of an Environmental Assessment (EA) or an Environmental Assessment Worksheet (EAW), depending on whether federal funds are involved.
2. Hangar Area Development - typically involves the preparation of an EAW, unless federal funds are proposed to be used, then a federal EA could be required.
3. Aircraft Noise - a 2005 noise contour was prepared for Lake Elmo Airport, as well as a 2025 noise contour for the preferred alternative. Most of the future noise area is on the airport property or within areas that need to be controlled by the airport for safety reasons. The Council's land use compatibility guidelines for aircraft noise apply to community areas within the noise contours. The communities and the MAC should continue to coordinate their planning efforts concerning future land use and noise effects.
4. Sanitary Sewer and Water – the Lake Elmo airport currently lies outside of the MUSA boundary. However, the Metropolitan Council has requested that the MAC provide sanitary sewer and water services to all reliever airports. At present there are no central sewer or water services available at the airport. The City of Lake Elmo is conducting an AUAR for the Old Village area just west of the airport as shown in Figure 2. The Old Village area will soon be served by central sewer and water; the service line is potentially close to the airport and the MAC is encouraged to pursue an agreement with the city of Lake Elmo and Baytown Twp. for the provision of service to the airport.
5. Wetlands - there are wetlands in existence at the Lake Elmo Airport. Any of the concepts implemented at the airport will be studied closely to prevent wetland impacts. If wetlands are unavoidable, designs will be adjusted as much as possible to minimize impacts.

### Land Use Considerations

1. Ground Access – capacity of the roadways adjacent to the airport are adequate to handle projected traffic needs of the airport.
2. Parks – the preferred development alternative does not affect any regional parks or open space.
3. Airport Safety Zoning – there are several areas off-airport where runway safety zoning and airspace protection need to occur. The MAC, working with Washington County and affected communities, should implement a joint zoning board and ordinance as allowed in state law. Application of the state airport safety zoning requirements should reflect the system role of the airport.
4. Non-Aviation Development – non-aviation development of airport parcels were identified in the LTCP process; when this program is implemented the LTCP should be amended and reviewed by the Council.

**Consistency with Council Policy:**

Operations are expected to grow at the Lake Elmo Airport, with or without any improvements. Although use of the airport by small jets is forecasted to increase with a runway extension, the aircraft types operating at the airport will not change due to the proposed runway extension.

Regarding the other alternatives reviewed, the no-build alternative clearly does not meet the needs of the airport. Hangar development only addresses the landside capacity issue, but does not provide a runway length that meets the FAA recommendation for this type of airport. An extension to 3,900 feet on either runway is not justified at this time. While having an extension to the primary runway would be preferred, the costs preclude this as an option when compared to the crosswind runway extension. However, it is recommended that relocation of the primary runway remain as a future consideration for this airport, and that airport layout plans continue to show this ultimate configuration. Since it is not recommended that the primary runway be relocated within the planning period, it must be reconstructed in the short term to maintain its usability and to prevent the potential for debris damage to aircraft.

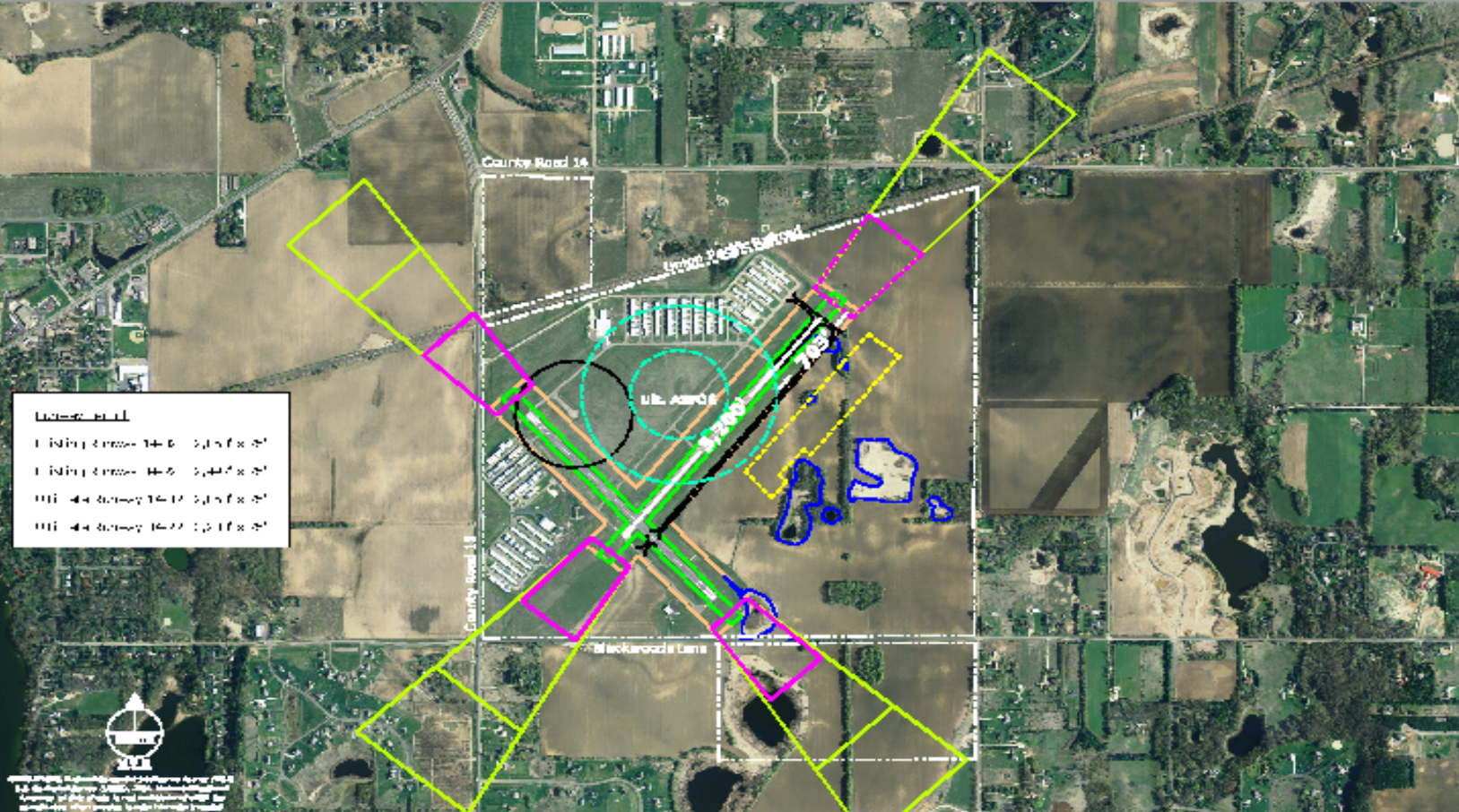
The preferred alternative recognizes the need to keep the airport viable, but within the area’s ability to support the investments over time. The alternative also enhances the safety and usability of the facility within its assigned system role. Environmental and land use considerations have been identified and processes for implementation addressed. The proposal appears to be consistent with metropolitan systems in general and specifically with the council’s aviation policies.

**Development Costs and Implementation of Preferred Alternative**

Recommendation	Timeline	Estimated Cost (2006 \$)
Pursue Installation of AWOS/ ASOS through Mn/DOT	Immediately	MnDOT funds \$0
Construct new hangar area to accommodate the 2025 needs	0 – 5 Years first phase 5 – 15 Years final phase	Private funds \$2,600,000
Construct a Full Parallel Taxiway in conjunction with new hangar area	In conjunction with new hangar area	FAA funds \$900,000
Pursue agreements with the communities to provide limited S&W services to the airport	0 – 5 Years	Local funds \$0
Review alternatives and feasibility of serving hangar area(s) with a public or private systems	0 – 5 Years	Local funds \$900,000 - \$1,700,000
Reconstruct the Existing Primary Runway 14 -32 Pavement	0 – 5 Years	FAA funds \$1,500,000
Extend Crosswind Runway 4-22 and Taxiway to 3,200 Feet, including Runway Lighting and PAPI systems	0 – 5 Years	FAA funds \$1,200,000
Reconstruct the Existing Crosswind Runway 4-22 Length	10 – 15 Years	FAA funds \$1,300,000
Continue to show the need for a relocated Primary Runway 14-32 in plan, and include the future approach areas in the upcoming zoning effort	Beyond 20-year planning period	FAA funds \$0

**Figure ES-1**

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|---|--|--|--|
|  Existing Airport Property Line  |  Fm/DOE State Safety Zone |  Building Area Expansion |  Ultimate AWD Critical Area                               |
|  Existing Runway Protection Zone |  Runway Safety Area       |  Ultimate Pavement       |  Ultimate Compass Calibration Critical Area (500' Radius) |
|  Ultimate Runway Protection Zone |  Runway Object Free Area  |  Wetlands                |  |



**Lake Elmo Airport (21D)**  
**Preferred Alternative - Crosswind Runway Extension to 3,200' with Building Area Development**

# Lake Elmo AUAR

