Environmental Assessment
Lake Elmo Airport

Presentation at 6:30 in Auditorium. Questions & Answers to Follow.

Open House in Cafeteria
Anticipated Environmental Assessment Timeline

For more detail, see the Stakeholder Engagement Plan on the project website. Schedule is subject to change. Any significant schedule updates will be published on the project website and distributed to e-news subscribers, as appropriate.
Purpose & Need Goals

The **PURPOSE** of the proposed improvements:

1. Address and attend to the airport’s failing, end-of-life infrastructure;
2. Enhance safety for airport users and neighbors; and
3. Improve facilities for the types of aircraft using, and expected to use, the airport.

The **NEED** for the proposed improvements:

1. Existing runway pavements are deteriorating and, for safety’s sake, need to be replaced.
2. The primary runway has several incompatible land uses within its runway protection zones (RPZs), including a railroad and two public roads.
3. The existing runway lengths do not meet the needs of current aircraft operators and their aircraft.
4. The airport lacks the most current navigational technology for landing aircraft.

Lake Elmo Airport Project History 1966 to 2017

1965

1975

1985

1995

2005

2015

2025

1966 first Plan (planned to extend the existing primary and crosswind runways to 3,200 and 3,500 feet, respectively, and construct two new runways—a 3,900-foot and 2,750-foot—making it a four-runway airport)

1976 Plan update (preserved the 1966 four-runway airport concept)

1992 Plan update (recommended a relocated and extended primary runway initially to 3,300 feet, then ultimately to 3,900 feet; removed future parallel primary and crosswind runways)

2008 Plan Update (planned to extend the primary runway to 3,900 feet and extend the crosswind runway to 3,200 feet)

2015 Plan Update (planned to extend the primary runway to 3,600 feet, then reduced it to 3,500 feet based on community input)

2017 EA/EAWE (for the extension of the primary runway to 3,500 feet and the crosswind runway to 2,750 feet)*ongoing
Minimize Incompatible Land Uses in the Runway Protection Zones (RPZs)
Environmental Assessment
Lake Elmo Airport

Runway Length Needs

**EXISTING RUNWAY 14/32 LENGTH: 2,849’**

**PROPOSED RUNWAY 14/32 LENGTH: 3,500’**

NOTE: Propeller-driven aircraft runway lengths are based on accelerate-stop distances and jet-driven aircraft runway lengths are based on balanced field length takeoff distances, as identified in the respective aircraft performance manuals. Accelerate-stop distance is the length required to accelerate from a full stop to near lift off speed and then decelerate to a full stop. Balanced field length considers the accelerate-stop distance along with other safety factors as required for federal certification of these larger aircraft types. Lengths are calculated for a temperature of 82.3° Fahrenheit, a field elevation of 933 feet above mean sea level, and typical takeoff flap settings.

### Aircraft Types and Runway Lengths

- **Cessna 340**
  - 60% Useful Load: 3,300’
  - 90% Useful Load: 3,500’

- **Beech Baron 58**
  - 60% Useful Load: 3,300’
  - 90% Useful Load: 3,500’

- **Pilatus PC-12**
  - 60% Useful Load: 2,800’
  - 90% Useful Load: 3,500’

- **Beech King Air 200**
  - 60% Useful Load: 3,500’
  - 90% Useful Load: 3,750’

- **Socata TBM 700**
  - 60% Useful Load: 3,650’
  - 90% Useful Load: 4,300’

- **Citation Mustang**
  - 60% Useful Load: 3,490’
  - 90% Useful Load: 4,150’

- **Citation Excel**
  - 60% Useful Load: 2,650’
  - 90% Useful Load: 3,490’

- **Citation X**
  - 60% Useful Load: 3,200’
  - 90% Useful Load: 5,000’

- **Gulfstream IV**
  - 60% Useful Load: 4,700’
  - 90% Useful Load: 6,800’

**DESIGN AIRCRAFT**

**JET AIRCRAFT**
Runway Alternatives Evaluation Process

Criteria for Identifying Range of Alternatives
- Maintain runway orientations
- Avoid or minimize land acquisition
- Avoid or minimize changes to airport use and aircraft flight patterns

Criteria for Screening Range of Alternatives
- Meet the Purpose and Need
- Conform to FAA policies
- Compatible with a viable 30th Street N. realignment alternative

Criteria for Identifying Preferred Alternative
- Practicability factors
- Environmental factors

Preferred Alternative

No Action Alternative

For Evaluation Purposes Only
Range of Alternatives

- Primary Runway "No Action" Alternative
- Primary Runway Alternative "A"
- Primary Runway Alternative "B"
- Primary Runway Alternative "B1"
- Primary Runway Alternative "C"
- Primary Runway Alternative "B2"
- Primary Runway Alternative "D"
- Primary Runway Alternative "E"
## Evaluating the Range of Alternatives

### TIER B: Criteria for Screening the Range of Alternatives

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Purpose &amp; Need Objective 1</th>
<th>Purpose &amp; Need Objective 2</th>
<th>Purpose &amp; Need Objective 3</th>
<th>Purpose &amp; Need Objective 4</th>
<th>Conform to FAA Policy</th>
<th>Viable 30th Street Realignment Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-Action</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
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<tr>
<td>Alternative A</td>
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<td>NO</td>
<td>NO</td>
<td>YES</td>
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<td>Alternative B</td>
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<td>YES</td>
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<td>Alternative B1</td>
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<td>YES</td>
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<td>Alternative B2</td>
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<tr>
<td>Alternative C</td>
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<td>Alternative D</td>
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<td>NO</td>
<td>NO</td>
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<tr>
<td>Alternative E</td>
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<td>NO</td>
<td>YES</td>
<td>YES</td>
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<td>NO</td>
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</table>

**Purpose & Need**

- **Objective 1**: Improve the Runway Pavement Condition
- **Objective 2**: Minimize Incompatible Land Uses in RPZs
- **Objective 3**: Meet Runway Length Needs for Existing Users
- **Objective 4**: Upgrade the Instrument Approach Procedures

**Conform to FAA Policy**

- Yes
- No

**Viable 30th Street Realignment Alternative**

- Yes
- No
Finalist Runway Alternatives “B” & “B1”
**Public Event**

**Evaluating the Finalist Alternatives**

### TIER C: Criteria for Identifying the Preferred Alternative

<table>
<thead>
<tr>
<th>Criterion</th>
<th>No Action Alternative</th>
<th>Alternative B Relocate 700' and Extend to 3,600'</th>
<th>Alternative B1 Relocate 616' and Extend to 3,500'</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Practicability Factors</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Construction Cost</td>
<td>$5.4 Million</td>
<td>$8.6 Million</td>
<td>$8.3 Million</td>
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<tr>
<td>Logistical Factors</td>
<td>Future Manning Avenue Widening will Trigger FAA RPZ review</td>
<td>30th Street N Realignment Options are Limited</td>
<td>None</td>
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<td><strong>Environmental Factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Fill Area (Approx.)</td>
<td>NA</td>
<td>2.32 Acres</td>
<td>1.85 Acres</td>
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<tr>
<td>Wildlife Considerations: RW 32 Threshold to Nearest Wetland (Approx.)</td>
<td>400 Feet</td>
<td>700 Feet</td>
<td>700 feet</td>
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<td>Tree Clearing Area (Approx.)</td>
<td>NA</td>
<td>22 Acres</td>
<td>20 Acres</td>
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<tr>
<td>Residential Parcels with Structures in Model Safety Zone A</td>
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<td>Residential Parcels with Structures in Model Safety Zone B</td>
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<td>10</td>
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<td>Sensitive Land Uses (i.e., Residential) within 65 DNL (2015)</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</table>