Two Separate Noise Evaluations are Proposed

- **EA Noise Analysis**
  - Required as part of the Environmental Assessment

- **Existing Noise Curfew Evaluation**
  - The Airport proposes to remove the existing noise curfew
  - Separate action not required by the Environmental Assessment

Aircraft Noise Modeling
EA Noise Analysis

- The following conditions will be evaluated:
  - Noise modeling years: 2018, 2023, 2038
  - For each modeling year:
    - Noise modeling with and without the runway extension for comparison of impacts
    - Existing noise curfew in place
    - FAA noise compatibility guidelines will be reviewed to determine noise and land use compatibility impacts
Evaluation of Existing Noise Curfew

- **Existing Noise Curfew**
  - Implemented over 40 years ago (1970s)
  - Predates the Airport Noise and Capacity Act (ANCA) of 1990 and would not be possible today
  - Based on retired aircraft no longer in operation today
    - Modern aircraft are much quieter given the same weight class and operating conditions
  - Existing noise curfew limits aircraft operations between 11:00 PM to 6:30 AM on Runway 17/35 for:
    - Aircraft over 75,000 pounds
    - Any aircraft not certified or meeting current FAR Part 36 Standards.
Lifting of Noise Curfew Analysis

- The following conditions will be evaluated:
  - Modeling will include the “no noise curfew” scenario
  - Noise modeling years: 2018, 2023, 2038
  - For each modeling year:
    - Noise modeling with and without the runway extension with curfew removed
    - Noise contours will be generated and compared to the existing and future conditions
    - FAA noise compatibility guidelines will be used to determine noise and land use compatibility impacts
## Aviation Activity Forecasts

<table>
<thead>
<tr>
<th>Category</th>
<th>2018 Operations</th>
<th>2023 Operations</th>
<th>2038 Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Carrier</td>
<td>1,032</td>
<td>4,118</td>
<td>5,067</td>
</tr>
<tr>
<td>Air Taxi</td>
<td>7,309</td>
<td>2,909</td>
<td>213</td>
</tr>
<tr>
<td>General Aviation</td>
<td>33,579</td>
<td>34,489</td>
<td>36,072</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>41,920</strong></td>
<td><strong>41,516</strong></td>
<td><strong>41,352</strong></td>
</tr>
</tbody>
</table>

*Source: Forecasts by Mead & Hunt (Pending FAA Approval)*
DNL Noise Metric

- Required by the FAA and all Federal agencies to describe aircraft noise
- 24-hour summation of aircraft noise, then annualized
- Ten dB added to every aircraft operation between 10pm and 7am to make up for lower ambient noise
- Average over the year-typically 12 calendar months
- Accounts for: Loudness of Events, Number of Events, Duration of Events, and Time of Day
- Contour lines connect points of equal noise energy
DNL Threshold of Compatibility

- The 65 DNL is the threshold contour to define land use compatibility and “significance”
- Noise sensitive uses within the 65 DNL contour are considered non-compatible
- A 1.5 dB DNL increase over a noise sensitive use exceeds the threshold of significance for identifying environmental impacts
- Does **NOT** indicate that people are not affected by aircraft noise outside the 65 DNL noise contour
Noise Model Inputs

- Total Annual Operations
- Aircraft Run-ups
- Aircraft Fleet Mix
- Time of Day/Night
- Runway Use
- Flight Tracks
- Flight Procedures
Example of Noise Modeling Map

Not Kalamazoo / Battle Creek International Airport

Figure 1
Taxiway Contours