WELCOME

MASTER PLAN

STUDY

May 29, 2019

Northern Colorado Regional Airport
The Airport is undertaking a Master Plan Study to:

- Address airport growth, aviation industry changes, and FAA standards for the next 20 years
- Develop a plan and funding roadmap to ensure that the Airport can accommodate future activity levels
- Address the dynamics of the remote tower and the anticipated return of commercial air service
- Balance the needs of the community and the Airport

What is an Airport Master Plan Study?

- Decision-Making Tool to Guide Orderly Development of Future Airport Facilities
- FAA Tool for Planning and Programming Purposes
- Provides Input Related to NEPA
- Includes community outreach throughout the study
- Provides Input to City/County Land Use Planning and Regional Transportation Planning
- Serves as a flexible, living document
- A Master Plan is NOT a business plan or noise study
Project Schedule

Project Elements

- Master Plan PDSC Meetings
- Public Open Houses
- Draft Working Papers
- Scoping
- Public Outreach & Communication
- Existing Conditions Inventory/Environmental
- Aviation Activity Forecasts
- Facility Requirements
- Alternatives Development & Evaluation
- Airport Influence Area
- Airport Layout Plan (ALP)
- Facilities Implementation Plan
- Financial Feasibility Analysis
- Master Plan Complete (Draft Final Report)
- ALP Approved by FAA (Final Report)
- City Council Approval (Fort Collins & Loveland)

Timeline:
- 2018: SEP, OCT, NOV, DEC, JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC, JAN, FEB
- 2019: JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG
- 2020: JAN, FEB

- Event Deadline
- Public Open House
- Planning & Development Sub Committee (PDSC)
**Key Planning Considerations**

- Incorporate Strategic Plan Statements/Goals
- Appropriate Public/Stakeholder Coordination
- Updated Airfield Safety & Setback Criteria
- Remote Tower Coordination
- Forecasts/Air Service Analysis
- Data Collection/AGIS
- On-Airport Land Use, Development and Redevelopment
- Terminal Space Programming/Replacement Alternatives
- Airport Influence Area (AIA) Analysis and Recommendations
- Financial Implementation Analysis

**2018 Strategic Plan**

**MISSION:** To provide a fiscally sustainable airport to the region with facilities that meet the highest FAA standards for safety and efficiency while ensuring the long-term ability of the Airport to serve Northern Colorado as a transportation hub and global gateway for commerce.

**Initiatives**

- Innovation/Technology
- Governance/Organizational Excellence
- Fiscal Sustainability
- Economic Development
- Regional Collaboration
Inventory of Existing Conditions

- Existing Airport Layout
  - Airside
  - Landside
- Existing Terminal
- Support Facilities & Equipment
- Airport Access
- Airspace
- Emergency Response
- Utilities
- Airport Environs
- Land Use & Zoning
- Environmental Condition Baseline
Aviation Activity Forecasts

Enplanement Forecast Scenarios

- Historic (TAF)
- Scenario 1
- Scenario 2
- Scenario 3 (Preferred)
- Scenario 4
- TAF

Year:

- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027
- 2028
- 2029
- 2030
- 2031
- 2032
- 2033
- 2034
- 2035
- 2036
- 2037
- 2038

Enplanements:

- 0
- 20,000
- 40,000
- 60,000
- 80,000
- 100,000
- 120,000
- 140,000
- 160,000

Northern Colorado Regional Airport
### Commercial Operations Forecasts

<table>
<thead>
<tr>
<th>Year</th>
<th>Air Carrier Enplanements Forecast</th>
<th>Average # of Seats/Departure</th>
<th>BLF</th>
<th>Departures</th>
<th>Air Carrier Operations&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018&lt;sup&gt;1,1&lt;/sup&gt;</td>
<td>3,388</td>
<td>177</td>
<td>77%</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>2023</td>
<td>48,431</td>
<td>177</td>
<td>93%</td>
<td>295</td>
<td>590</td>
</tr>
<tr>
<td>2028</td>
<td>56,829</td>
<td>177</td>
<td>93%</td>
<td>346</td>
<td>692</td>
</tr>
<tr>
<td>2033</td>
<td>66,684</td>
<td>177</td>
<td>93%</td>
<td>406</td>
<td>812</td>
</tr>
<tr>
<td>2038</td>
<td>78,248</td>
<td>177</td>
<td>93%</td>
<td>477</td>
<td>954</td>
</tr>
</tbody>
</table>

**Source:** Mead & Hunt.

**Notes:**
1. 2018 enplanements and operational data sourced from the 2018 FAA TAF.
2. Operations = Departures x 2.
3. 2018 air carrier operations data sourced from the 2018 FAA TAF.

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### Forecasts Summary

<table>
<thead>
<tr>
<th>Aviation Activity</th>
<th>2018</th>
<th>2023</th>
<th>2028</th>
<th>2033</th>
<th>2038</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Service</td>
<td>50</td>
<td>590</td>
<td>692</td>
<td>812</td>
<td>954</td>
</tr>
<tr>
<td>General Aviation</td>
<td>94,650</td>
<td>108,504</td>
<td>118,452</td>
<td>129,313</td>
<td>141,170</td>
</tr>
<tr>
<td>Single Engine Piston</td>
<td>63,298</td>
<td>72,372</td>
<td>79,008</td>
<td>86,252</td>
<td>94,160</td>
</tr>
<tr>
<td>Multi-Engine Piston</td>
<td>28,470</td>
<td>32,009</td>
<td>34,351</td>
<td>36,854</td>
<td>39,528</td>
</tr>
<tr>
<td>Turboprop</td>
<td>285</td>
<td>597</td>
<td>948</td>
<td>1,358</td>
<td>1,835</td>
</tr>
<tr>
<td>Business Jet</td>
<td>2,847</td>
<td>3,526</td>
<td>4,146</td>
<td>4,849</td>
<td>5,647</td>
</tr>
<tr>
<td>Military</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td><strong>TOTAL OPERATIONS</strong></td>
<td>94,900</td>
<td>109,294</td>
<td>119,344</td>
<td>130,325</td>
<td>142,324</td>
</tr>
<tr>
<td>Local Operations</td>
<td>35,208</td>
<td>43,280</td>
<td>50,244</td>
<td>58,125</td>
<td>67,034</td>
</tr>
<tr>
<td>Itinerant Operations</td>
<td>59,692</td>
<td>66,013</td>
<td>69,100</td>
<td>72,200</td>
<td>75,289</td>
</tr>
</tbody>
</table>

| Enplanements | 3,388 | 48,431 | 56,829 | 66,684 | 78,248 |

<table>
<thead>
<tr>
<th><strong>BASED AIRCRAFT BY TYPE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Engine Piston</td>
</tr>
<tr>
<td>Multi-Engine Piston</td>
</tr>
<tr>
<td>Glider/Ultra-Light</td>
</tr>
<tr>
<td>Business Jet</td>
</tr>
<tr>
<td>Helicopter</td>
</tr>
<tr>
<td><strong>TOTAL BASED AIRCRAFT</strong></td>
</tr>
</tbody>
</table>
Airfield Capacity Analysis

- **Annual Service Volume (ASV)** = 205,000 Operations
  - Forecasts indicate the NOCO will reach:
    - 46% of ASV in 2018
    - 69% of ASV in 2038
  - FAA recommends planning for a parallel runway when ASV reaches 60%
- **Parallel Runway ASV** = 260,000 Operations

Wind Analysis

- **FAA 95% Coverage Requirement for Crosswind Runways**

  **SOURCE:** Wind analysis tabulation provided by Mead & Hunt utilizing the FAA Airport Design Tools, Wind Analysis. Wind data obtained from AWOS Station 724769, Fort Collins Loveland. Period of Record: 2008-2017.

  **NOTES:** Runway 15/33 true bearing is 160 degrees. Runway 6/24 true bearing is 71 degrees. Wind data period of record is 2008 to 2017. All Weather observations – 233,128. A 60-knot tailwind component was used for bidirectional runway wind analysis.

### All Weather Wind Coverage Summary

<table>
<thead>
<tr>
<th>Runway</th>
<th>10.5 knots</th>
<th>13 knots</th>
<th>16 knots</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All Weather</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runway 15/33</td>
<td>95.24%</td>
<td>97.26%</td>
<td>98.93%</td>
</tr>
<tr>
<td>Runway 6/24</td>
<td>91.57%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Combined</td>
<td>98.95%</td>
<td>99.68%</td>
<td>99.93%</td>
</tr>
</tbody>
</table>
Airfield Requirements

- Meet FAA Runway/Taxiway Design Standards
  - Additional 50 feet of width for Runway 15/33
- Plan for Additional Runway Length
- Maintain Crosswind Runway
Landside Facility Requirements

- **General Aviation**
  - Hangar space to accommodate 70 based aircraft
  - Additional apron space for transient aircraft tie-downs

- **Non-aeronautical Development**
  - Demand for up to 100 acres of non-aeronautical development

- **Remote Tower Control Building**
  - Plan for future permanent building

- **Circulation and Access**
  - Widen Earhart Rd. from Lindbergh Drive to commercial terminal parking lot. Consider future loop road around terminal parking.

- **Parking**
  - Plan to double current terminal parking lot size
Passenger Terminal Facility Requirements

Terminal Program Design Aircraft:
- Airbus A320, 177 seats

Departure & Arrival Demand Profiles
- 85% design load factor (industry standard)
- 150 peak hour passengers

Terminal Square Footage Recommendation
- 30,500 square feet
- Accommodate 2 gates/2 air carriers

<table>
<thead>
<tr>
<th>Terminal Demand Profiles and Program Summary</th>
<th>Future Terminal (2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Departure &amp; Arrivals Demand Profiles</strong></td>
<td></td>
</tr>
<tr>
<td>Design Aircraft</td>
<td>A320</td>
</tr>
<tr>
<td>Design Aircraft Seats</td>
<td>177</td>
</tr>
<tr>
<td>Peak Hour Design Load Factor</td>
<td>85%</td>
</tr>
<tr>
<td>Peak Hour Originating Passengers (PHOP)</td>
<td>150</td>
</tr>
<tr>
<td>Peak Ten-Minute Percent of Originating Passengers</td>
<td>20%</td>
</tr>
<tr>
<td>Peak Ten-Minute Originating Passengers</td>
<td>30</td>
</tr>
<tr>
<td>Peak Hour Terminating Passengers (PHTP)</td>
<td>150</td>
</tr>
<tr>
<td>Peak Hour Terminating Passengers w/Bags Percent</td>
<td>78%</td>
</tr>
<tr>
<td>Peak Hour Terminating Passengers w/Bags</td>
<td>117</td>
</tr>
<tr>
<td>Peak Twenty Minute Terminating Passengers w/Bags</td>
<td>117</td>
</tr>
<tr>
<td>Peak Twenty Minute Terminating Passengers w/Bags Percent</td>
<td>100%</td>
</tr>
</tbody>
</table>
AIA Existing Conditions

 Existing Land Use and Development

- Developed land uses (off-airport): About 2,500 acres or 27%
- Private property: +10,000,000 square feet of physical building space (much was built within the past 20 years)
- Housing units: Approximately 2,100 (mostly detached single-family units)
- Undeveloped land: 2,900 acres outside of Airport (approximately 2,300 acres outside of Airport Critical Zones)
- About 80% of undeveloped off-airport land is within the City of Loveland’s Growth Management Area
AIA Land Use/Real Estate Market Findings

- Near-term market is likely to be stronger for industrial/flex uses than for traditional private office uses
- Prevailing asking rents for existing space is important distinction between office and industrial/flex uses in the market area
  - Industrial space rents are typically high enough to encourage new development
- Current market for all types of housing within and near the AIA is strong (likely to continue)
- Appeals to residential and nonresidential uses
  - Centrality in the region and accessibility to I-25
- Recent hotel development activity has been strong.
  - Primary generators of hotel demand in AIA are related to business travel & interstate travel
  - Some hotels being built ahead of market

Off-Airport Building Space (Square Feet by Year Built)¹

<table>
<thead>
<tr>
<th>Use</th>
<th>Pre-2000</th>
<th>2000-2018</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>2,184,000</td>
<td>848,000</td>
<td>3,032,000</td>
</tr>
<tr>
<td>Office</td>
<td>226,000</td>
<td>1,189,000</td>
<td>1,415,000</td>
</tr>
<tr>
<td>Retail²</td>
<td>361,000</td>
<td>1,051,000</td>
<td>1,412,000</td>
</tr>
<tr>
<td>Hotel</td>
<td>127,000</td>
<td>319,000</td>
<td>446,000</td>
</tr>
<tr>
<td>Residential</td>
<td>1,096,000</td>
<td>3,555,000</td>
<td>4,651,000</td>
</tr>
</tbody>
</table>

NOTES:
¹ Figures are rounded. Estimates do not contain building spaces on public/exempt parcels (such as the Larimer County Fairgrounds property).
² Includes restaurants and auto dealers.

Existing Off-Airport Land Use in AIA

- Residential
- Public/Institutional
- Industrial
- Commercial
- Office
- Water Bodies/Lakes
- Natural Areas/Open Space
- Agricultural and/or Vacant
- Right of Way

IN ACRES

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural and/or Vacant</td>
<td>1,385</td>
</tr>
<tr>
<td>Natural Areas/Open Space</td>
<td>375</td>
</tr>
<tr>
<td>Commercial</td>
<td>330</td>
</tr>
<tr>
<td>Industrial</td>
<td>235</td>
</tr>
<tr>
<td>Office</td>
<td>1,400</td>
</tr>
<tr>
<td>Residential</td>
<td>800</td>
</tr>
<tr>
<td>Public/Institutional</td>
<td>1,254</td>
</tr>
<tr>
<td>Right of Way</td>
<td>3,057</td>
</tr>
</tbody>
</table>
AIA Potential for Research/Technology

- Successful Research/Technology Parks or “Innovation Districts”
  - Excellent accessibility to transportation links
  - High quality technology infrastructure
  - Participating academic institutions (with a strong reputation for encouraging technology transfer)
  - Other “bell cow” educational, government, other institutional, and industry anchor occupants
  - On-site amenities such as child care, restaurant, health club, hotel, and business support uses as well as housing uses
  - An existing technology labor pool base and technology cluster
AIA Residential Compatibility and Land Use

- Current volume/type of aviation activity has not deterred residential development in the AIA.
- Opposition to long-term commercial air service could arise if residential uses of any significant scale allowed to develop closer to Airport Critical Zones and the 65 DNL.

Future Land Use Demand

<table>
<thead>
<tr>
<th>Land Use</th>
<th>20-Year Demand</th>
<th>Estimated Land Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-Family Residential</td>
<td>2,000-2,800 units</td>
<td>331-464 acres</td>
</tr>
<tr>
<td>Industrial/Flex</td>
<td>2,254,000-3,006,000 (sq. ft.)</td>
<td>172-230 acres</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>1,400-1,800 units</td>
<td>58-73 acres</td>
</tr>
<tr>
<td>Office</td>
<td>869,000-1,216,000 (sq. ft.)</td>
<td>57-80 acres</td>
</tr>
<tr>
<td>Hotel</td>
<td>460 rooms</td>
<td>9-11 acres</td>
</tr>
</tbody>
</table>
Airport Influence Area Recommendations

- Develop implementation plan to lay the groundwork for a successful research and technology park or innovation district within the AIA
  - Secure participation from academic institutions and clearly define roles and contributions required by participants/stakeholders

- Encourage a long-term competitive functioning land market in the AIA
  - Allocate more land for office and industrial/flex uses than the 230 to 310 acres of demand forecast over the next 20 years
  - Identify sites, including portions of Airport property, on which to encourage long-term industrial/flex development

- Proactively plan for a thriving mixed-use environment compatible with Airport operations
  - Further establish user-friendly environment with appropriate design/use standards
  - Allow/encourage additional residential development where it will not conflict with Airport
  - Anticipate long term expansion of the existing medical activity center centered around the UCHealth Medical Center of the Rockies

- Maintain vigilance in protecting Airport from encroachment/incompatible land uses
  - Encourage Larimer County and City of Fort Collins to establish requirements similar to City of Loveland’s overlay zoning ordinance (via zoning or similar measure)
  - Adopt additional land use compatibility measures to avoid problems with commercial air service development in the future (Aviation Activity Notices, requirements for new/amended plats)
  - Establish uniform procedures (across jurisdictions) for Airport Director/Commissioners to provide review of all development proposals, land use applications, and proposed zoning changes in the AIA
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Timeline:

- Timeline: Timelines
- Event Deadline: Green
- Planning & Development Sub Committee (PDSC): Orange

Northern Colorado Regional Airport

NOCO
Public Outreach Meetings

1. Master Plan Introduction (May 2019)
   1. Master Plan process overview & goals
   2. How to participate
   3. Existing conditions, forecast, and airport facility needs
   4. AIA recommendations

2. Master Plan Recommendations (September 2019)
   1. Alternatives analysis
   2. Recommended development plan

3. Master Plan Draft (February 2020)
   1. Implementation plan & financial analysis
   2. Draft Final Report

We want to hear from you!

❖ Attend Master Plan Public Open House Meetings
❖ Master Plan Website: https://www.flynoco.com/mpu/
  ▪ FAQ
  ▪ Draft working papers
  ▪ Project updates
  ▪ Open House presentation materials
  ▪ Submit comments
❖ Follow the Airport on Social Media for Updates
  ❖ Facebook
  ❖ Twitter
  ❖ Instagram
  ❖ YouTube
  ❖ LinkedIn
❖ Contact the Airport Directly
  ▪ airportmasterplan@cityofloveland.org

We want to hear from you!