

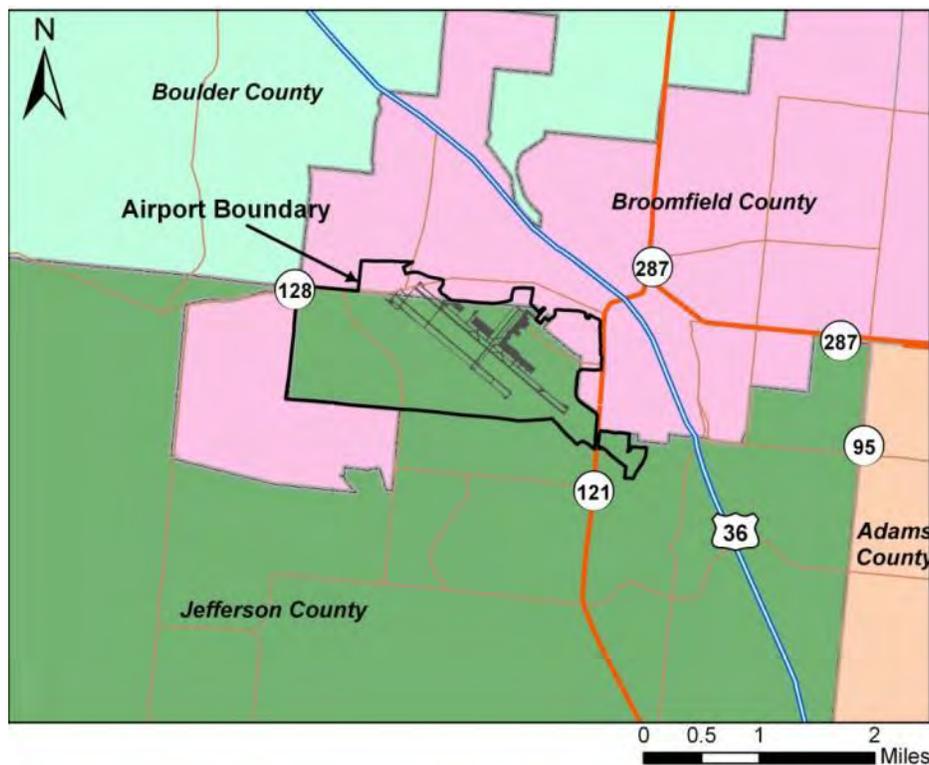
2 CHAPTER 2 PURPOSE AND NEED

This Chapter provides an overview of the existing airfield, the existing and future aviation activity summary, and an explanation of the purpose and need for the Proposed Action.

2.1 EXISTING AIRPORT FACILITIES AND ENVIRONS

The Rocky Mountain Metropolitan Airport (Airport) is located in the northeast corner of Jefferson County. Being located on the northwestern edge of Metropolitan Denver, Jefferson County offers a diversified setting with both urban and rural communities. Minutes from downtown Denver, Jefferson County has convenient roadway access to several major highways. The Airport is a County-owned, located partially in the City and County of Broomfield and partially in unincorporated Jefferson County. An Airport vicinity map showing the location relative to surrounding counties is provided in **Figure 2-1**.

Figure 2-1
AIRPORT VICINITY MAP



SOURCE: RS&H, 2010
PREPARED BY: RS&H, 2010

The Airport is approximately 13 miles northwest of downtown Denver, two miles southwest of the City and County of Broomfield government building, and 11 miles southeast of downtown Boulder. The Airport covers approximately 1,830 acres and supports a wide array of general

aviation services that are located on one of the three designated ramp areas. All of these support facilities, including the public use passenger terminal, are north of Runway 11L/29R. An air traffic control tower is located south of Runway 11R/29L.

The Airport's runways consist of:

- *Runway 11L/29R*: This runway is the northern parallel runway, and is the primary use runway. It is composed of grooved asphalt and is 9,000 feet long and 100 feet wide. Runway 11L/29R is equipped with medium intensity runway edge lights (MIRL), four-light precision approach path indicators (PAPI) at the 11L approach end, medium intensity approach lighting system with runway (MALSR) at the 29R approach end, and runway end identifier lights (REILs) at the 11L approach end. In addition, an instrument landing system (ILS) is installed and serves an ILS precision instrument approach to Runway 29R.
- *Runway 11R/29L*: This runway is the southern parallel runway, and is used primarily for repetitive aircraft training operations. It is composed of asphalt and is 7,002 feet long and 75 feet wide. Runway 11R/29L is equipped with MIRLs, PAPIs, and REILs. Runway 11R/29L is served by non-precision instrument approaches.
- *Runway 2/20*: This runway is the crosswind runway and is primarily used when wind conditions or aircraft operations demand the use. It is composed of asphalt and is 3,600 feet long and 75 feet wide. Runway 2/20 is equipped with MIRL and PAPI. Runway 2/20 is not served by any instrument approaches.

The Airport is one of three reliever airports in the Metropolitan Denver area. The primary function of a reliever airport is to relieve congestion at a primary use air carrier airport by accommodating general aviation traffic away from that airport. In this case, the primary use air carrier airport is Denver International Airport (DEN). The Federal Aviation Administration (FAA) has designated the Airport as a reliever airport as it relieves congestion from DEN by accommodating general aviation operations in the Metropolitan Denver region. For example, in 2008, the Airport had 430 based aircraft, and 63,687 itinerant general aviation operations. A total operations forecast depicting annual growth to increase between one and two percent is included in **Appendix J, Aviation Forecast**.

In addition, the Airport is certificated as a Class II airport under Chapter 14 CFR (Code of Federal Regulations) Part 139, *Certification of Airports*.¹ Class II airports are allowed to serve scheduled air carrier passenger operations in aircraft with 10 to 30 seats, and unscheduled passenger operations in aircraft with more than 30 seats. This certification requires the Airport to comply with certain FAA safety and emergency requirements, including runway safety area standards.

2.2 PROPOSED ACTION

The Airport is proposing to extend west the Runway Safety Area (RSA) for Runway 29R departure end by an additional 400 feet. This will require relocation of public utilities, acquisition of 25 acres, and the relocation of Interlocken Loop and State Highway 128. **Figure 2-2** shows the Proposed Action.

¹ 14 CFR Part 139, *Certification of Airports*.

2.3 PURPOSE OF THE PROPOSED ACTION

The purpose of the Proposed Action is to comply with Public Law 109-115, which requires that not later than December 31, 2015, the owner or operator of an airport certificated under 14 CFR Part 139 to comply with FAA RSA standards. As discussed above, the Airport is certificated under 14 CRR Part 139 to serve certain air carrier operations and must ensure it is in full compliance with FAA RSA standards by 2015. Federal Aviation Administration (FAA) RSA standards are contained in FAA Advisory Circular (AC) 150/5300-13, *Airport Design*.²

All but one of the Airport's RSAs complies with FAA RSA standards. The RSA for the departure end of Runway 29R must be expanded to comply with RSA dimensions specified in AC 150/5300-13.

Further, the Airport is obligated by the terms of Federal grant agreements to comply with FAA RSA standards. Under the current Federal airport aid program, the Airport Improvement Program (AIP), the Airport has entered into agreements with FAA for the acceptance of Federal funds for airport development projects and land acquisition, per 49 USC 47101 et seq. In accepting over \$57 million in AIP funds since 1982, the Airport has agreed to specific Federal obligations, including compliance FAA regulations and standards.³

2.4 NEED FOR THE PROPOSED ACTION

The RSAs are comprised of the runway and surrounding imaginary surfaces that are maintained in manner that reduces the risk of damage to aircraft and personal injury in the event of an undershoot, overshoot or excursion from a runway. Specifically, 14 CFR Part 139.309, *Safety Areas*, requires the airport operator to ensure surface conditions are:

- cleared, graded, and without potentially hazardous ruts, humps, depressions, or other surface variations;
- drained by grading or storm sewers to prevent water accumulation;
- capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and fire-fighting (ARFF) equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and,
- free of objects except for those objects that must be located in the RSA due to their function.

Runway Safety Areas (RSA) are a product of multiple factors that, when evaluated against a matrix of requirements from FAA, yields the length and width of the RSA for a particular runway. The Aircraft Reference Code (ARC), which is based on a "design aircraft" for Airport (as defined in the Master Plan Update⁴), establishes the design criteria for the Proposed Action. The existing ARC is D-II and, based on the Master Plan Update analysis, the future ARC would be D-III. Under either the existing or future ARC, the RSA for Runway 11L/29R does not meet FAA standards.

² Federal Aviation Administration, Advisory Circular 150/5300-13, *Airport Design*, current edition.

³ Federal Aviation Administration, Order 5100.38B, *Airport Improvement Program Handbook*, May 31, 2002.

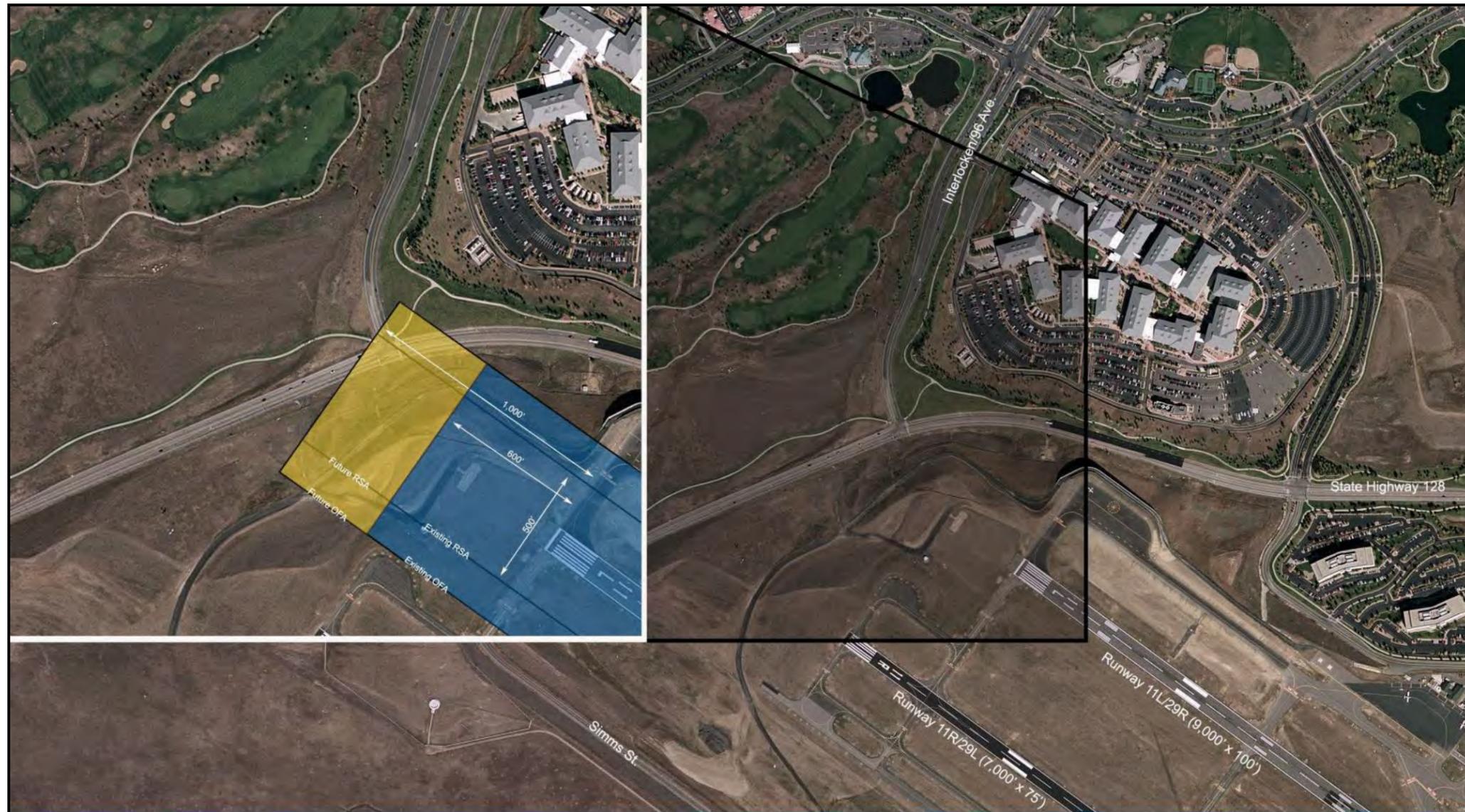
⁴ Rocky Mountain Metropolitan Airport, *Master Plan Update*, March 2011

Federal Aviation Administration (FAA) AC 150/5300-13 provides dimensional requirements for RSAs based on the physical and operating characteristics of the design aircraft operating at an airport. Based on the ARC D-III design characteristics of aircraft operating on Runway 11L/29R at the Airport, the FAA requirements for a RSA for Runway 11L/29R are:

- 500 feet wide and centered on the runway centerline;
- 1,000 feet beyond the Runway 29R departure end;
- 1,000 feet beyond the Runway 11L departure end; and
- 600 feet prior to the runway landing threshold.

The current RSA for the Runway 29R departure end extends 600 feet beyond the runway end, which does not meet the FAA design requirement of 1,000 feet.⁵ An additional 400 feet in length is needed to comply with the FAA RSA requirements. All other RSA dimensions for Runway 11L/29R meet the FAA RSA requirements. Additionally, Runway 11R/29L and Runway 2/20 already comply with the FAA RSA standards. Thus, the Proposed Action would only address the need to construct an additional 400 feet of RSA length to achieve the FAA design requirements of 1,000 feet beyond the Runway 29R departure end.

⁵ Federal Aviation Administration, Advisory Circular 150/5300-13, *Airport Design, Paragraph 305, Table 3-3*, current edition.



MAP NOT TO SCALE

SOURCE: Rocky Mountain Metropolitan Airport, 2010
PREPARED BY: RS&H, 2010

Figure 2-2
FUTURE/EXISTING RSA
UNDER PROPOSED ACTION

