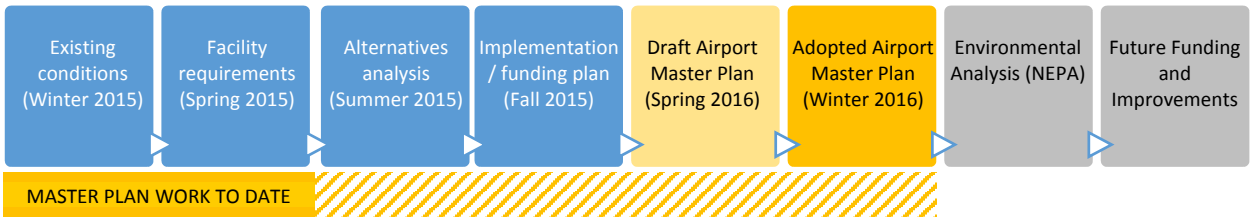
CHAPTER C

Executive Summary: Capacity Analysis and Facility Requirements

The Renton Airport Master Plan identifies long-term improvements to airport safety and operations

An airport master plan is a comprehensive, airport-wide study with the goal of developing a list of short-, medium- and long-term projects to meet future aviation demands. The Renton Airport Master Plan will identify needed improvements and facilities that maximize benefits to the airport and the local community over the next 20 years. A draft plan will be developed in early 2016, with a final plan expected later in the year. Future improvements following the plan will be decided upon and implemented as funding becomes available.



The Renton Airport Master Plan follows an incremental process to document needed improvements over the next 20 years.

Facility requirements set the stage for alternatives analysis

The development of the plan follows an incremental process: first, gathering information about existing conditions and future airport needs, then comparing different alternatives. Working Paper #3/Chapter C focuses on facility requirements, based on an existing conditions inventory and aviation forecasts. It will be the starting point for developing different airport alternatives to meet airport design standards and accommodate future development.

Once alternatives are developed, the alternatives analysis will explore the potential environmental and community effects of different options. When preferred alternatives are identified, an Airport Layout Plan (ALP), facilities implementation plan, and financial feasibility analysis will help shape a list of projects that could be completed in the future.

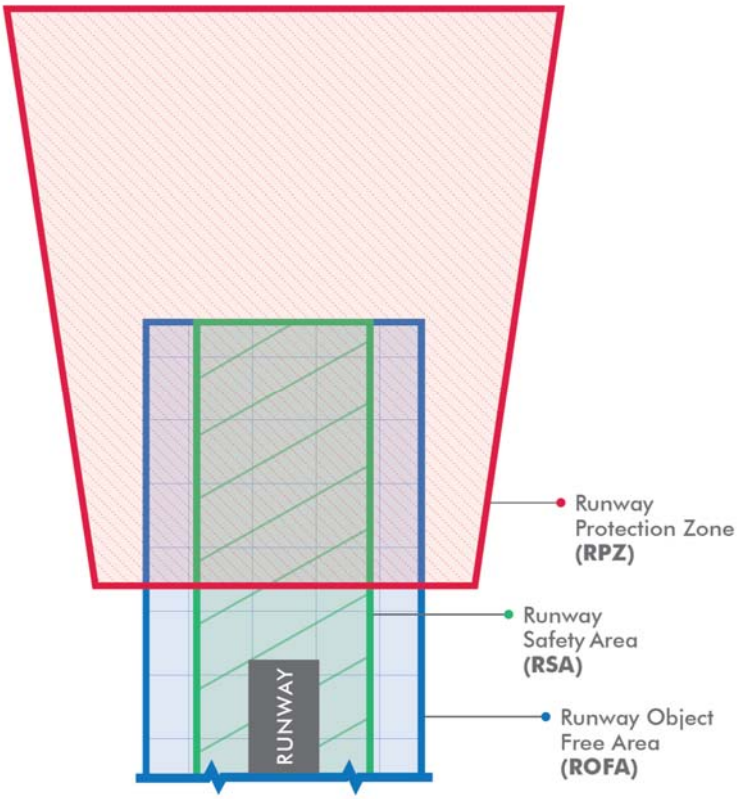
Aviation forecasts and aircraft types drive airport safety standards

The Federal Aviation Administration (FAA) sets national airport design standards. Applicable standards are based on largest aircraft types that regularly use an airport ("critical aircraft" or "design aircraft"), with "regular use" being defined as 500 or more flights per year. FAA regulations dictate a Runway Design Code (RDC) with minimum runway distances, and related areas and zones that enhance safety of aircraft operations. Safety areas also provide greater accessibility for fire-fighting and rescue equipment.

While the Renton Municipal Airport has historically served as the initial flight location for the majority of the Boeing Company's narrow body aircraft, the number of aircraft produced annually (and associated number of annual aircraft operations) has always been less than 500. Consequently, the current Airport Master Plan designates the design aircraft as the Beechcraft King Air 200 which has a RDC of B-II. However, given the current and published production rates of 737 aircraft as well as the number of existing business jet operations at the airport, an upgrade of the RDC to D-III must be considered.

Alternatives will reflect changing safety requirements

The Airport Master Plan will consider the D-III Runway Design Code standards, including Runway Safety Area (length beyond departure and prior to landing), "object free areas" and "obstacle free zones" adjacent to runways and taxiways, and "protection zones" that extend beyond the runways. D-III RDC standards will require a larger safety area, compared to the currently-used "B-II" RDC, which assume predominant use by smaller, lighter aircraft.



Primary FAA design standards

- Runway Safety Area (RSA)
  The RSA is the primary safety area around the runway. It enhances the safety of aircraft which undershoot, overrun, or veer off the runway, and it provides greater accessibility for fire-fighting and rescue equipment during such incidents. The RSA standard is the least flexible.
- Runway Object Free Area (ROFA)
  The ROFA standard requires clearing the area of objects protruding above the RSA that are non-essential for air navigation or aircraft ground maneuvering purposes.
- Runway Protection Zone (RPZ)
  The RPZ's function is to enhance the protection of people and property on the ground.

The planning process will carefully consider alternatives before proceeding

Several alternatives will be considered, providing options to both meet the new D-III standards and minimize community and environmental impacts. The planning team, along with the Renton Airport Advisory Committee and broader community will have the opportunity to compare the benefits and challenges presented with each alternative, and be part of the conversation as alternatives are narrowed. Chapter D/Working Paper 4 will present alternatives, expected in August 2015. Preferred alternatives will be selected and used to further develop the draft Master Plan document.

Frequently asked questions about Chapter C and Facility Requirements

The Master Plan Chapter C indicates that an FAA design code upgrade from B-II to D-III standards is necessary. Does this mean the airport is unsafe?

The Renton Airport is safe – our operations are continually monitored by the FAA to ensure the safety of pilots, travelers, ground personnel, and the surrounding area. National FAA standards for airport design are intended to provide a safe, efficient and uniform system of airports. The FAA works with airport sponsors (such as the City of Renton) when design standard deficiencies are identified to enhance the level of safety provided to all users and the surrounding community.

Will Renton Municipal Airport be required to meet all new D-III standards?

In the case of Renton Municipal Airport, the Master Plan process has identified that the number of aircraft in the higher design category (D-III) now exceeds the level defined as regular operations, and that where possible, D-III standards should be met. However, in some cases, geographical or community restraints are such that meeting full standards is not feasible. This is true for Renton because of the physical constraints surrounding the airport including the lake to the north and the urban development to the south. The FAA offers modifications to standards if it can be shown that an acceptable level of safety is provided. These modifications can include use of technology or specialized materials that allow for safety standards to be met in ways that address the physical constraints of a facility. The Master Plan process will develop alternatives to help to determine where standards for the RSA, ROFA and RPZ can be met and where environmental and community impacts can be avoided or minimized.

Figures C6, C7, C8 and C10 in the Master Plan Chapter C show Runway Safety Area (RSA), Runway Object Free Area (ROFA), and Runway Protection Zone (RPZ) extending off airport property to the north and south. What are the implications for adjacent land uses?

As stated on the disclaimer, the illustrations are for study purposes only, based on national FAA standards, and are not necessarily intended for implementation. While efforts should be made to bring an airport up to current FAA design standards, it may not be feasible to meet all current standards at an existing airport. Because the Master Plan is considering a design code upgrade, this requires alternatives be developed for meeting design standards including RSA, ROFA and RPZ.

The alternatives analysis will present options to determine where standards for the RSA, ROFA and RPZ can be met and where environmental and community impacts can be avoided or minimized. One example of an alternative that reduces the amount of physical land required off the ends of runway to meet RSA standards is Engineered Materials Arresting Systems (EMAS). EMAS is essentially crushable concreate placed at the runway ends. This is an alternative that will be considered in the Renton Airport Master Plan.