

A photograph of the Edmonton International Airport terminal building, featuring a large, curved, white facade with numerous windows. The building is partially obscured by a blue and yellow graphic overlay at the bottom.

Edmonton International Airport

Master Plan 2010–2035
Executive Summary



EIA

we'll move you.

EDMONTON INTERNATIONAL AIRPORT

This document summarizes the main features of the Edmonton International Airport Master Plan 2010-2035. The full report is available online at flyeia.com.

The Master Plan helps map out the next 25 years of EIA's development. EIA has prepared the Master Plan using the latest technical reports, studies and demographic information to project aviation activity at EIA and the need for new facilities and infrastructure to service that activity. Moreover, it was prepared with the input of numerous stakeholder groups, including municipalities in the Edmonton region and our business partners. We also sought input from the public to ensure the Master Plan fully reflects the needs of the community.

With the input gathered, EIA will finalize the Master Plan and submit it to Transport Canada. The Master Plan and the approved Master Plan will remain publicly available on flyeia.com. We always welcome feedback on our plans and activities.

The master plan is a long-term, guiding document. It's also adaptable. We have to carefully consider each development on its own merits and weigh the prevailing economic, social, environmental and regulatory conditions of the time.

We always welcome feedback on our plans and activities. Visit flyeia.com to view the Edmonton International Airport Master Plan 2010-2035, other planning documents or to contact us for more information.

1.0 Introduction

Since opening, Edmonton International Airport (EIA) has added many amenities, and significantly increased air service to support the needs of a rapidly expanding community. EIA is poised to continue growing as the primary air-service facility in the growing and vibrant Edmonton region. EIA is the air gateway to the vast resource development in northern Alberta and Canada's Far North.

EIA has served as the Capital Region's main airport since it opened to the public in 1960. Three other airports are managed by the Edmonton Regional Airports Authority (ERAA):

1. Edmonton City Centre Airport (Blatchford Field, formerly the Municipal Airport) is located in the City of Edmonton and serves mainly as a base for fixed and rotary-wing charter operations and aviation support services
2. Villeneuve Airport is approximately 18 kilometres northwest of Edmonton, and serves as a general aviation airport
3. Cooking Lake Airport is used primarily as a general aviation airport and is a regional seaplane base, located about 30 kilometres east of Edmonton

With Expansion 2012, the tremendous growth EIA has experienced over the past decade and a highly positive growth outlook for the Edmonton region, it's time to update the Master Plan. The last Master Plan was prepared in 1998 and EIA must submit a new plan to Transport Canada in 2013 as a condition of its ground lease. EIA will submit the 2010-2035 Master Plan in 2011.

The Master Plan has two key functions:

- To describe the long-term facilities development, consistent with EIA's Vision and its Strategic Plan. The master plan will allow the authority to update the land-use plan so that all future developments are consistent with the updated master plan.
- To involve and inform the airport's community and business partners. The plan provides clarity and a better understanding of the developments proposed at the airport so that surrounding municipalities have meaningful information to base their planning on and to engage us about their plans.



2.0 Economic and Demographic Profile

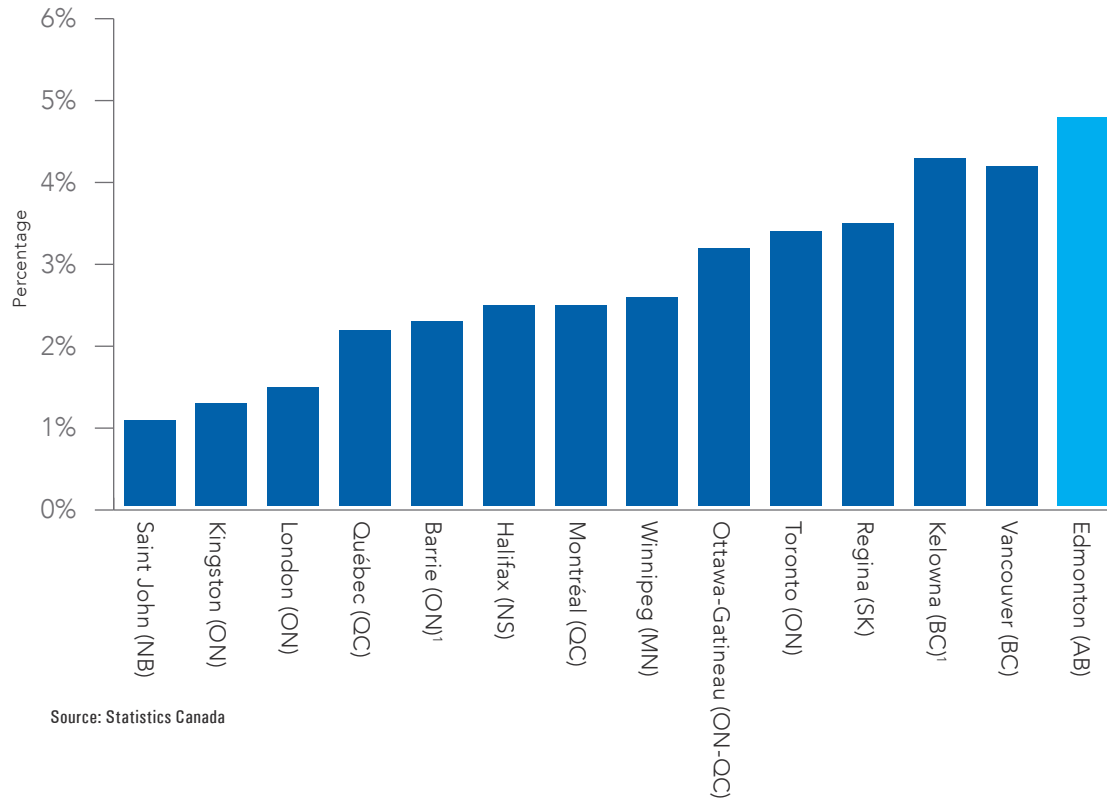
Edmonton International Airport is strategically located for air service in Western Canada. The airport is used for regular scheduled arrivals and departures, and is also a vital link to Canada's resource-rich north. EIA is also a critical part of chartered and air cargo operations in Canada.

The Greater Edmonton Area has been growing at an unprecedented rate, even through an economic downturn. With over 40,000 registered businesses in the area, Edmonton is one of Canada's most economically vibrant cities. EIA is committed to providing an efficient and aesthetic facility that can accommodate the efficient movement of people and goods.

The City of Edmonton comprises 70 per cent of the region's population. Thirty-five municipalities and settlements make up the Edmonton Census Metropolitan Area, and according to Canada's last census in 2006, the population of Edmonton was over 730,000.

Immigrants from Asia represent 16 per cent of the 2006 population, at over 110,000. Both permanent and temporary immigration affect airports positively, pushing demand for new air routes and promoting scheduled slots for airlines.

Exhibit 1 | Population Growth Rates (Statistics Canada) 2001-2006



Source: Statistics Canada

Exhibit 2 | GDP and PDI Growth Rates

	GDP (per cent) Growth Rate			Per Capita PDI (per cent) Growth Rate		
	Edmonton	Alberta	Canada	Edmonton	Alberta	Canada
2010-2014	4.0	4.3	3.4	2.9	3.7	3.4
2015-2019	3.2	3.4	2.6	3.1	3.4	3.1
2020-2024	2.8	2.9	2.2	3.0	3.3	3.1

Source: Conference Board of Canada, Consensus Economics and Edmonton Airports

Through several decades of economic expansions, the Greater Edmonton Area has grown to serve a robust metropolis exceeding one million inhabitants. Even through economic downturns, Edmonton's population has grown at a record rate with an increase of more than 30,000 in 2009 alone. Edmonton's population growth rate continues to be one of the leaders among all other Canadian cities.

Demand for aviation services is based on the health of the economy, both locally and globally. Key indicators are Gross Domestic Product (GDP) and Personal Disposable Income (PDI). These services are also affected by the population and the working conditions in and near to Alberta. Edmonton is expected to post strong GDP growth over the next 15 years.

3.0 Aviation Activity and Forecasts

EIA serves the dynamic, growing Edmonton region and is the key air gateway to the vast resource developments in Northern Alberta and Canada's Far North.

EIA has grown tremendously over the past decade, with more flights to more national, U.S. and international destinations. EIA was Canada's fastest-growing airport from 2006 to 2008.

EIA now serves more than six million passengers each year, which exceeds the 5.5-million design capacity of the current terminal. By 2020, EIA is anticipating serving nine million passengers – the design capacity of the new terminal currently under construction and slated to open late 2012.

Scheduled passenger and cargo air carrier movements represent approximately 80 per cent of aircraft movements, and the remaining 20 per cent are represented by business aviation movements.

Edmonton International Airport is beginning to attract more business aviation to its modern facilities and is expected to increase its share at the airport over the next few years.

Cargo

Air cargo traffic has historically grown year-over year. With the advent of large, high capacity air cargo aircraft, cargo activities are expected to remain an important factor at EIA in the years to come. Approximately 34 million kilograms of cargo is processed annually in Edmonton.

Exhibit 3

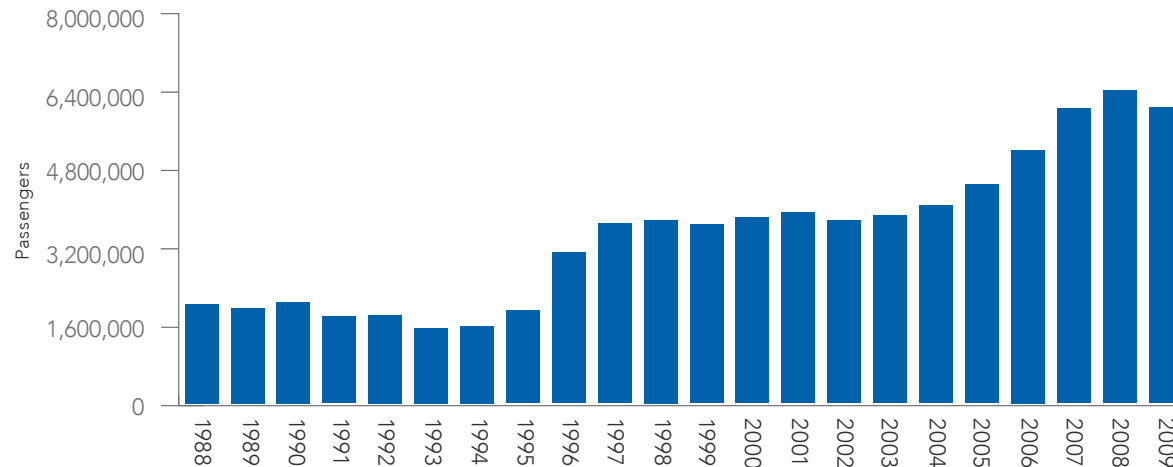
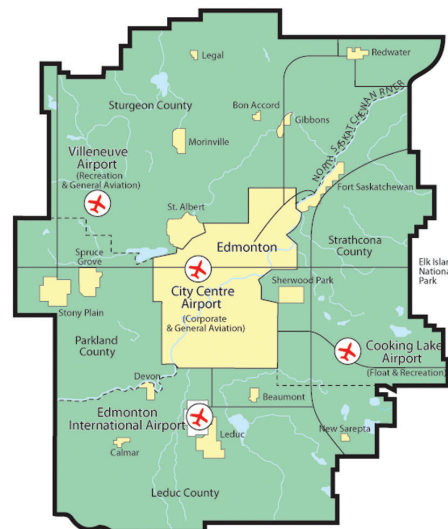


Exhibit 4



Forecasts

EIA is expecting significant passenger traffic growth for 2011 through 2014, offsetting a minor reduction in 2009 caused by the global economic recession. EIA served 6.1 million passengers in 2009 and 2010.

A rebounding economy, new routes and increased flights should stimulate demand for air service. Over the longer term, traffic is estimated to grow to:

- 9 million in 2020
- 12 million in 2031
- 13 million passengers by 2035 at an average annual growth rate of 3 per cent ([Exhibit 5](#))

Growth in movements, while directly tied to the growth in passenger traffic, is also affected by aircraft mix and air carrier strategies. The introduction of regional jets has allowed air carriers to serve some long and thin routes with increased frequency while reducing average aircraft size at the airport.

As Canada's jobless rates recover from the 2008-2009 global economic downturn, passenger aircraft movements are expected to grow from 93,300 in 2009, to 187,000 in 2035, a growth of approximately two per cent per year ([Exhibit 6](#)). The growth in transborder and international sectors is expected to be higher than the dominant domestic sector traffic ([Exhibit 7](#)).

The air cargo volume at EIA is forecast to grow at 4.6 per cent per year in the long term ([Exhibit 8](#)). The cargo activities at the airport are expected to get a strong boost with the development of Port Alberta, a new gateway for cargo combining rail, air and road infrastructure at a single point.

Exhibit 5 | Baseline Passenger Forecast

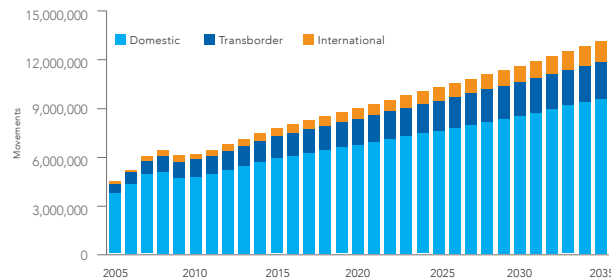


Exhibit 6 | Aircraft Movements by Year

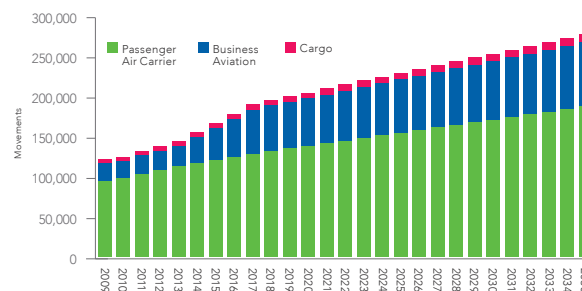


Exhibit 8 | Air Cargo Volumes

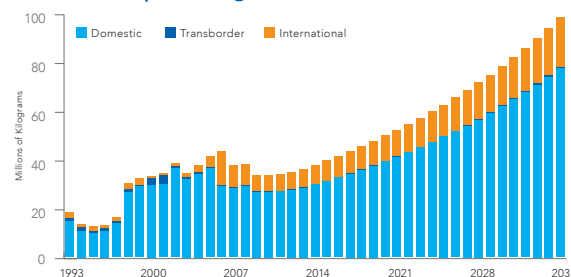


Exhibit 7 | Aircraft Movements by Type – Based on 2009 movements

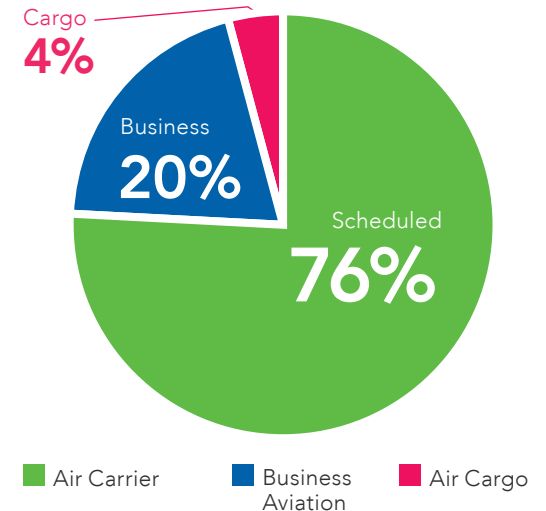


Exhibit 9



Terminal Expansion Under Construction.

Exhibit 10



Artist rendering of COT.

4.0 Expansion 2012

EIA's Expansion 2012 program consists of five major projects. Expansion 2012 includes the development of a newly expanded apron, an expanded air terminal building, a combined office tower and air traffic control tower, a new power substation (located in the southeast section of the property) and a major expansion of the existing Central Utilities Plant.

The apron for Expansion 2012 encompasses approximately 150,000 square metres of new apron, in addition to the 65,000 square metre expansion in 2008.

The terminal expansion toward the south end of the airport accommodates nine new aircraft bridges, including an enlarged and an enhanced passenger boarding lounge. An innovative new concourse will link the existing terminal to the new one, using intuitive wayfinding for seamless connections and boarding experiences.

The look and feel of the new terminal building will showcase the region's cultural vibrancy while providing an enjoyable, relaxing environment. The entire development project is scheduled for completion in 2012 ([Exhibit 9](#)).

The Combined Office Tower (COT) includes the office administration building combined with a new NAV CANADA control tower. The building invokes the sweeping, rolling lines of the Prairies. This unique and innovative, LEED certified design will give visitors and Edmontonians a striking, immediate sense of place.

5.0 The Airside System

EIA's long, heavy-lift runways can handle all aircraft in the air today without any weight or load factor restrictions. The current runway and taxiway system at Edmonton International Airport consists of two runways in "V" configuration and parallel taxiways along the entire length of each of the two runways.

Aircraft movements at EIA experienced 24 per cent growth between 2005 and 2008. Annual itinerant and business aviation movements increased from 104,612 to 124,068. In 2009, traffic declined by 3.5 per cent as a result of the global economic downturn.

However, traffic has started a slow recovery in 2010, and is expected to grow between seven to ten per cent per year over the next five years, followed by another two to 2.5 per cent per year of growth for the next 20 years. Aircraft movements are forecast to increase to between 247,000 and 356,000 by 2035.

A detailed simulation study undertaken in 2008 concluded that the existing two-runway system can process 87 operations per hour, based on an anticipated fleet mix. Annual capacity of the runway was calculated based on various inputs including aircraft mix, maximum hourly capacity and daily traffic distribution profile. It was estimated that the maximum annual capacity of 317,000 movements is achievable where significant levels of congestion and delay (up to ten minutes) could occur.

Assuming that a practical annual capacity is 85 per cent of the maximum capacity, the two-runway system would be able to process 270,000 movements where average aircraft delay is below the industry-accepted level of four minutes. The resulting annual runway capacity band for the two-runway system is shown in [Exhibit 11](#) for comparison with forecast annual aircraft movements.

Facilities Plan Current Developments

As shown in [Exhibit 11](#), based on the capacity range of 270,000 and 317,000 per year, a third runway would be required at EIA in the 2026 to 2033 time period. For planning purposes, it has been assumed that the third runway would be required by 2030.

Exhibit 11 | Aircraft Movements and Runway Capacity

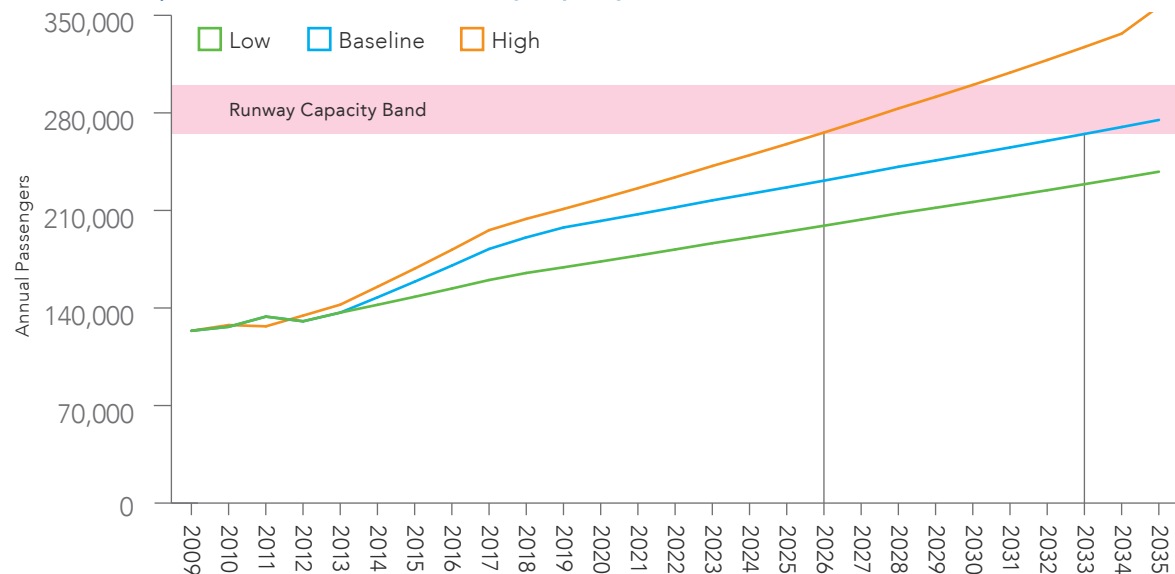
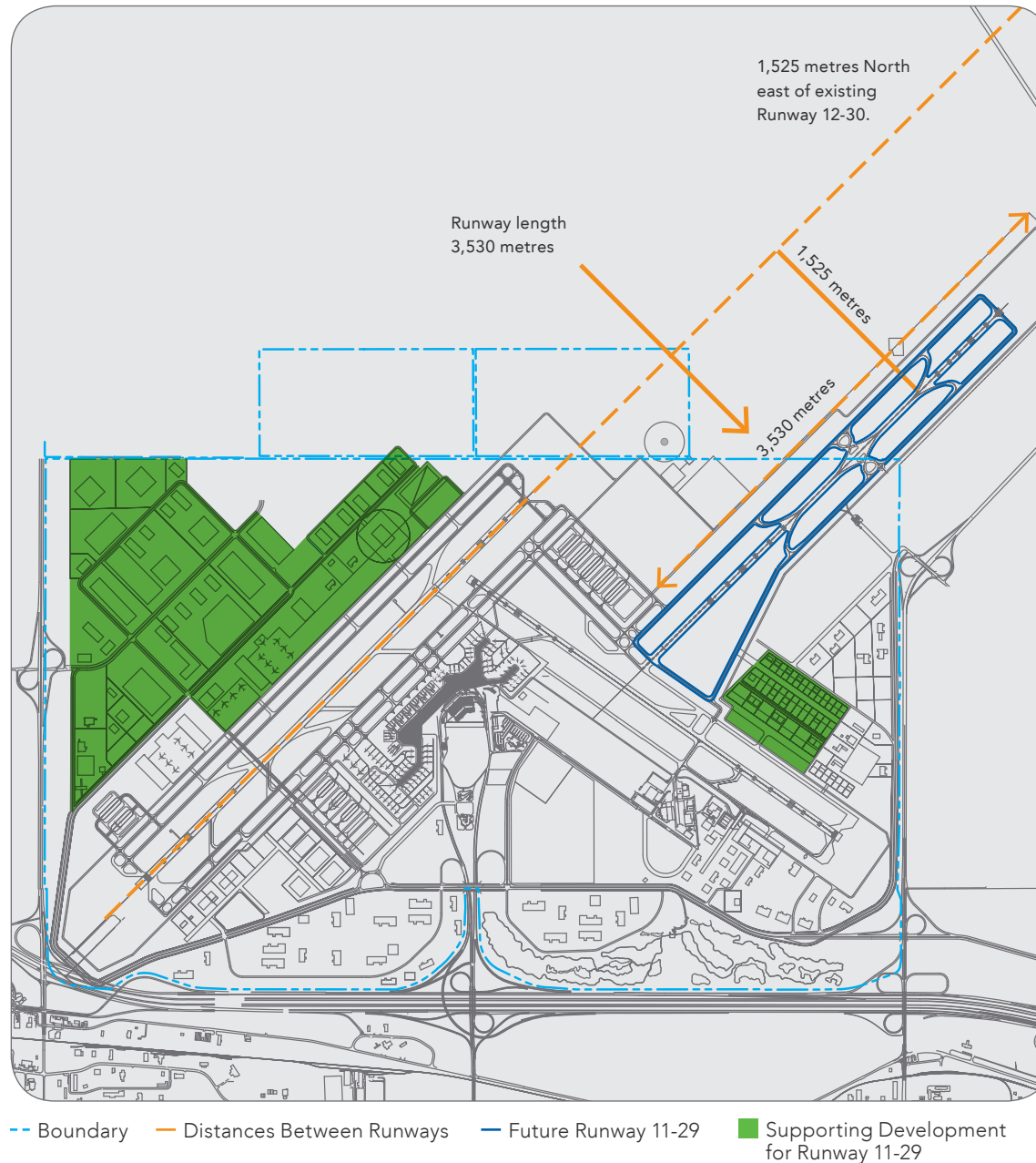


Exhibit 12 | Third Runway Location



Given that there are a number of options for possible runway location(s), a short list of options for the third runway parallel to Runway 12-30 was developed, based on the need to:

- minimize taxiing distances,
- minimize runway crossings
- maximize airside capacity
- minimize noise and other environmental impacts.

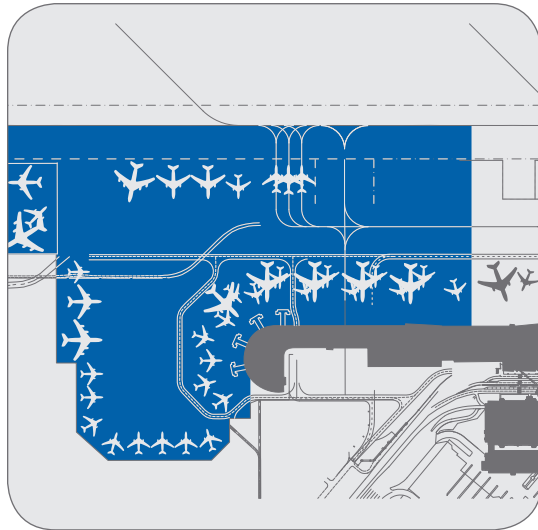
Based on this detailed evaluation, Runway 11-29 would be constructed 1,525 metres northwest of existing Runway 12-30 ([Exhibit 12](#)).

Apron Expansion and De-icing

The apron expansion as part of Expansion 2012 has been completed. To address safety and environmental concerns, it is desirable to have a de-icing facility close to departure runways and to have the ability to manage used de-icing fluids left on apron surfaces. Such a facility would reduce the time between de-icing and take-off and maximize de-icing capacity. It is intended that the future development of de-icing facilities will include consolidation as shown in [Exhibit 14](#).

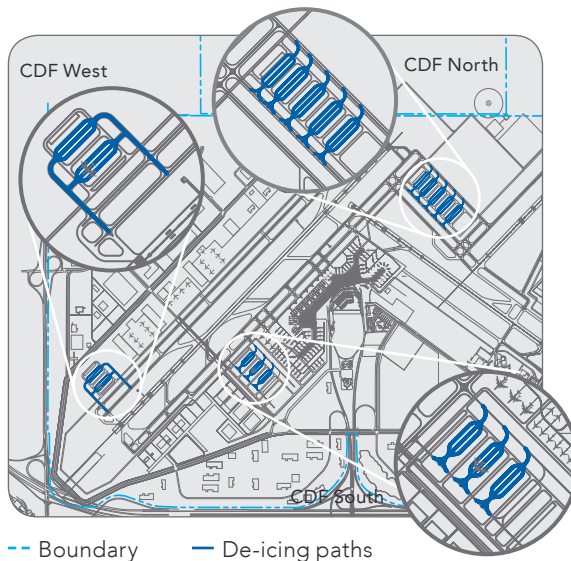
The location and sizing of the Centralized De-icing Facilities (CDF) will be determined by the peak period demand and phasing of the third runway and Port Alberta developments. CDF North is the preferred site for when the third runway is constructed at EIA.

Exhibit 13 | Apron Expansion



■ Apron Expansion

Exhibit 14 | Future De-icing Facilities



-- Boundary — De-icing paths

6.0 Passenger Terminal

The strategy in developing the terminal design concept was to allow for practical and efficient expansion of the existing linear passenger terminal building from 6 million annual passengers (MAP) capacity to 9 MAP capacity. This expansion is currently underway as part of Expansion 2012.

The next two phases for development of terminal facilities relate to 12 MAP capacity in 2030 and 16 MAP capacity in 2035 and beyond. The short term terminal expansion is integrated with the vision for the long term plan. The terminal development phases were developed to ensure:

- Incremental phased development is warranted
- Growth in each traffic sector is addressed
- Disruption to existing operational areas during construction is minimized

- Terminal sub-system capacities and aircraft gate positions are in balance
- Limited impact on airlines by traffic demand ([Exhibit 15](#))

The functionality of the terminal building will be adjusted during the three development phases to maintain the most efficient flows:

9 MAP (2020) Terminal Expansion – The new terminal building is a linear southerly extension of the existing passenger terminal building ending at the southern concourse. Processing for domestic and international passengers remains in the same location in the existing facility, with departing and arriving transborder and international passengers processing functions relocated in the expanded terminal facility.

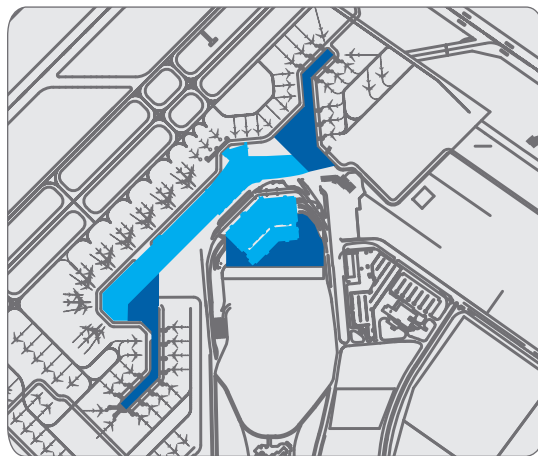
Exhibit 15 | Terminal Capacity - Number of Stands

Stands	6.0 MAP 2010	6.7 MAP 2012	9 MAP 2020	12 MAP 2031	16 MAP 2035+
Domestic Contact Gates	10	11	18	36	42
Transborder Contact Gates	6	12	11	14	20
International Contact Gates	1	3	1	1	2
Subtotal	17	26	30	51	64
Ground Loaded Stands	13	13	13	0	0
Remote Parking Stands	16	30	30	30	30
Total	46	69	73	81	94

12 MAP (2030) Terminal Expansion – This phase of the terminal expansion is planned at two ends of the terminal building. The first part of this expansion phase will accommodate growth in transborder traffic at the southeast end of the terminal building, with a new linear pier connected to the new southern concourse. The second part of this expansion phase is at the north end of the building and will see a new pier constructed, along with the expansion of the existing concourse. This will accommodate increased demand in domestic and international traffic as total demand grows to 12 million annual passengers ([Exhibit 16](#)).

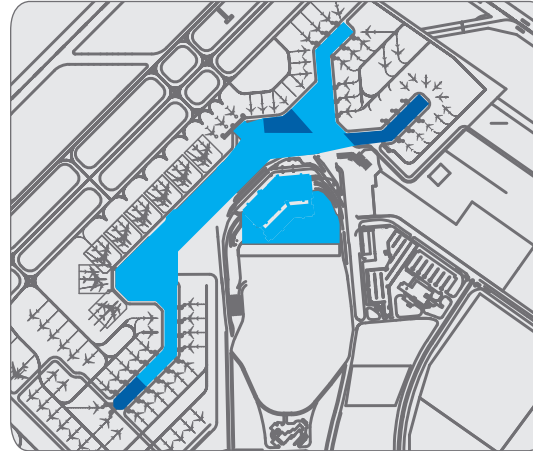
16 MAP (2035 and beyond) Terminal Expansion – This phase of the terminal expansion will focus on extending the passenger terminal building envelope in the northern and southern directions. The terminal functionality with respect to three traffic sectors is unchanged except that the central area provides flexibility in processing domestic and/or international traffic sectors ([Exhibit 17](#)).

Exhibit 16



■ 9 MAP Infrastructure
■ Planned Expansion

Exhibit 17



■ 12 MAP Infrastructure
■ Planned Expansion

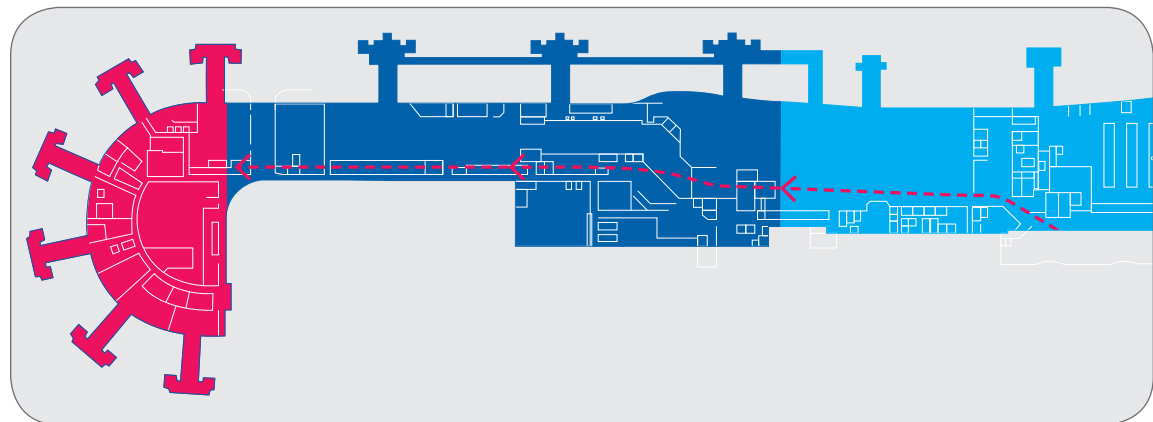
As part of Expansion 2012, the EIA passenger terminal building project adds nine new permanent bridges serving domestic, transborder and international passengers.

South Concourse

Located at the end of the terminal are the outboard transborder gates, as shown in red in [Exhibit 18](#), while outbound domestic and international gates are found along its length. The South Concourse is located at the southern end of the 2012 Terminal Expansion.

The concourse is designed to be the last impression of Edmonton International Airport for departing passengers. Further to the 'gate expression' above, each gate around the South Concourse is represented with a curving laminated wood structure and alder wood ceiling.

Exhibit 18 | South Concourse



■ Existing Terminal ■ Terminal Expansion ■ South Concourse - - - Path to South Concourse

Intuitive wayfinding make the EIA terminal experience incredible.

Passengers will move through the terminal using moving walkways leading to comfortable departure lounges that provide natural light, soft seating areas, play areas for children, and business travel amenities, including outlets for laptops and free Wi-Fi access.

Living Wall Exhibit

The Living Wall is designed to stimulate passengers in the departure lounges and to create an energetic ambience bringing natural greenery into the terminal building ([Exhibit 19](#)).

Hotel Accommodation

EIA has an agreement for a “Courtyard by Marriott” hotel, slated to open at the airport in the fall of 2012.

The new hotel will provide business, northern and connecting travellers with high-quality accommodations to complement the new array of shopping, dining and entertainment choices they will experience with Expansion 2012.

Exhibit 19



Artist rendering of the Living Wall.

7.0 Air Cargo

As the air gateway to northern resource development, EIA is poised to expand its cargo business. Presently, the airport handles approximately 34 million kilograms of cargo of which 80 per cent is domestic and 20 per cent is transborder and international. Cargo carried in the hold of passenger aircraft accounts for 95 per cent of the total volume. The remaining five per cent is carried by dedicated freighter aircraft.

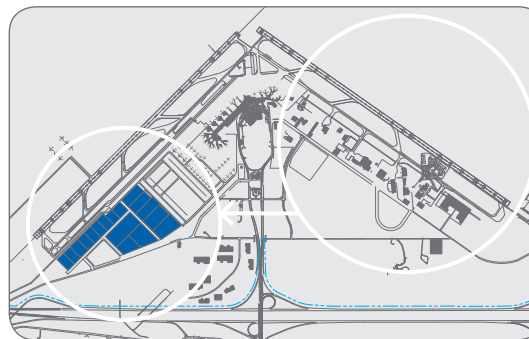
Current Cargo Facilities

The area east of Runway 02-20, dedicated to airside development, is currently occupied by a number of hangars, maintenance buildings, cargo handling facilities and FBOs.

EIA Business Park (i.e. cargo/business aviation) at Edmonton International Airport, located in the Airport Northeast area, east of Runway 02-20, is a prime location for air cargo or related businesses.

Upon completion in 2011, this area will encompass 15.4 hectares, with up to seven development lots surrounding the apron for cargo terminal facilities and freighter aircraft parking ([Exhibit 20](#)).

Exhibit 20 | Airport North and South – Cargo Facilities

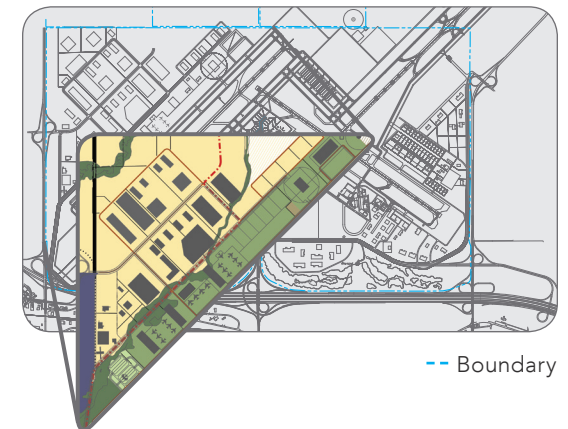


-- Boundary ■ Future Cargo Area

The medium-term plan is to create a certain order among cargo development facilities by designating Air Cargo South, an area to the southeast of the main apron (Apron I, II, and III) and north of Runway 12-30. This will allow for future development of cargo facilities in a more efficient manner. The existing cargo areas already developed at Airport Northeast will remain where they are; however, new cargo developments will be encouraged to operate out of Airport Southeast.

Building on the core airport infrastructure and available land mass, an extensive logistics park development termed ‘Port Alberta’ is planned to provide access to aviation, road and supporting/complementary services. This cargo development would meet the needs of regional growth by providing high-level logistics and transportation services ([Exhibit 21](#)). In the longer term, the Port Alberta development would see the gradual transition of current cargo and logistics services from the existing locations in favour of new developments in the Airport Southeast area.

Exhibit 21 | Proposed Port Alberta Development Plan



-- Boundary

8.0 Business Aviation

Business aviation is an important part of EIA's business and serving northern resource development. In the mid 1990s, Edmonton International Airport processed approximately 20,000-22,000 business aviation movements. The majority of these were in the corporate operations category. Since 2005, business aviation activity has increased, with 2006 being the first full year of activity related to northern resource crew changes.

Despite the fluctuations in level of operations at EIA in the intermediate period, the latest data for 2009 shows EIA had 25,000 business aviation movements. Of these, 28 per cent were jet operations and the remaining 72 per cent were in the propeller category. EIA handles the highest number of Instrument Flight Rules (IFR) training operations among the ERAA airports.

A significant portion of EIA's business aviation is related to resource development north of the City of Edmonton. Future growth is anticipated due to robust opportunities in the oil sands areas of Peace River, Buffalo and Fort McMurray. Northeast of Fort McMurray is Uranium City, Saskatchewan, one of the few uranium production locations in the world. Directly north is the trunk route to Yellowknife and diamond mines. There is great potential for charter and corporate aircraft to/from these resource rich areas using EIA as a base airport.

The BA area of EIA is located at Airport Northeast, off the east side of the end of Runway 02. The BA facilities are typically dedicated to corporate users and small charter operators, and include aircraft refuelling facilities, maintenance, repair and hangar areas.

Business aviation activity is expected to grow at a modest rate of approximately two per cent per year. However, with the anticipated closure of ECCA in the longer term, it is estimated that approximately 22,000 to 50,000 movements will be added to EIA during the 2014 – 2018 period.

Facilities Plan Current Developments

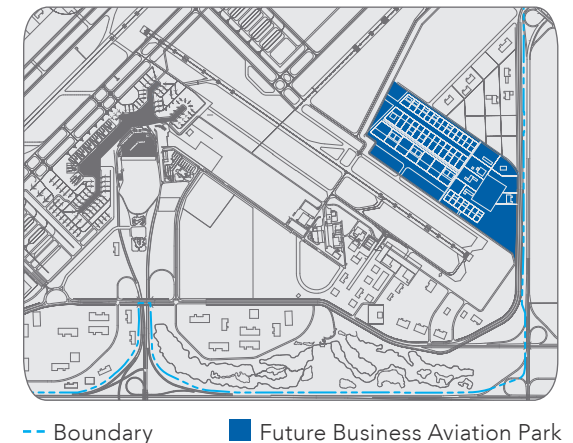
Plans defined in October 2010 call for a new world-class business aviation (BA) facility to be developed at EIA. Edmonton based Airside Properties Ltd. will build a custom designed aviation complex, which will be approximately 27,900 square metres when complete. The massive new facility, which will incorporate hangar and office pods connected to an upscale FBO, will deliver a new standard in corporate aviation and air carrier facilities.

Long-Term BA Development Concept

After extensive consultative studies, it was determined that the area to the west of the existing BA area, north of the existing Runway 02-20 location, was the most suitable for the expansion of business aviation ([Exhibit 22](#)).

The BA development consists of three general areas – one core BA location and two smaller satellite locations. This site provides adequate land area for commercial development and phased expansion without hindering existing operations. The BA operations at this site will also integrate with the planned three-runway airside infrastructure.

Exhibit 22 | Future Business Aviation Park



9.0 Parking and Ground Transportation

Edmonton International Airport is easily accessible from the City of Edmonton and other major urban centres in the region.

The Airport Road interchange on the QE II highway is the main point of access to the passenger terminal building and parking facilities. The Highway 19 interchange provides a more direct access to the business activities and north-end air cargo facilities via Airport Service Road.

The passenger terminal building parkade is conveniently accessible from the inbound roadway and provides covered parking for passengers, greeters, well wishers and rental cars in a four-level structure with a capacity for 1,800 vehicles. The parkade structure is accessible from the terminal building via a covered bridge at Level 3 and also from the arrival and departure curbs.

In addition, the surface parking facilities are available for reduced rate short-and long-term parking and for oversized vehicles at the Value Park lot and the recently completed jetSet parking lot. These two lots are located north of the parkade structure. The employee parking lot is currently located northeast of the passenger terminal building.

The proposed airside, terminal, air cargo and business aviation developments as outlined in the master plan, along with the commercial developments, are expected to generate significant vehicular traffic to/from the airport, and additional demand for passenger, employee and commercial business parking (Exhibit 23).

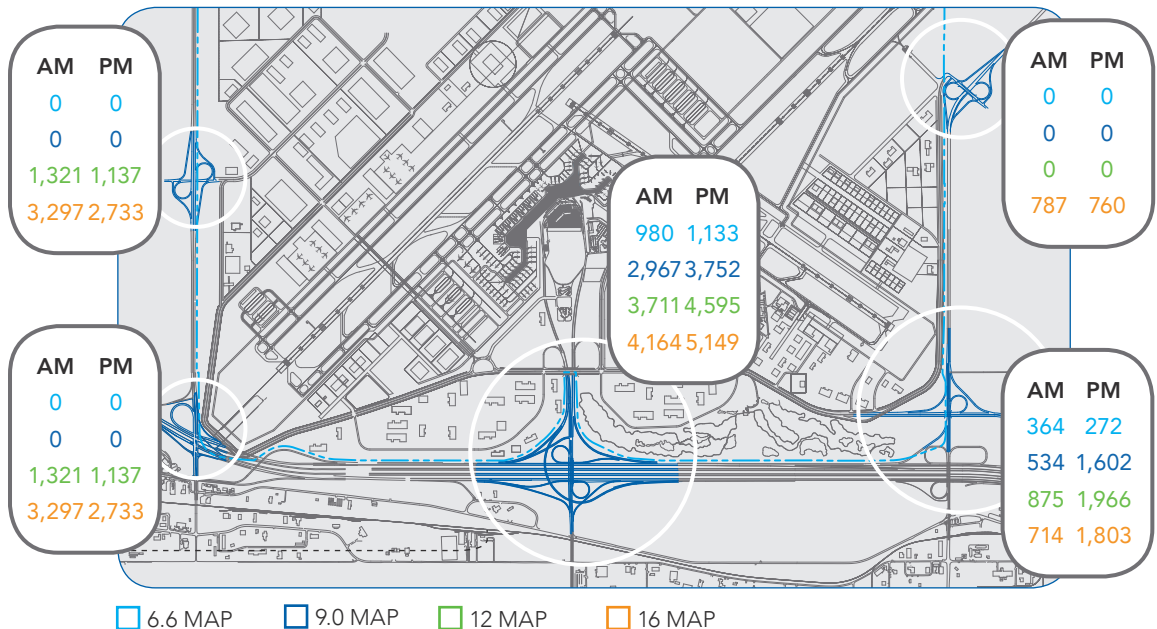
Exhibit 23 | Non-Aeronautical Development at 16 MAP (2035+)



Groundside Plan Highway Network Upgrades

Over the longer term the five interchanges on Highway QE II, Highway 19 and the 65th Avenue roadway surrounding EIA will need to be upgraded to provide access to the airport at an acceptable level of service. Upgrades to two interchanges are likely required to accommodate the growth in passenger traffic from 6 MAP to 12 MAP, and by the commercial developments north of the passenger terminal area. In addition, two interchange upgrades south of the airport are expected as a result of the planned Port Alberta developments to foster multimodal cargo developments. The fifth interchange on Highway 19 would likely be required with the development of a Business Aviation Park on the lands north of the new runway 11-29 (Exhibit 24).

Exhibit 24 | Projected Traffic Impact on the Regional Road Network



Edmonton International Airport's strategy is to provide sufficient parking in stages as passenger traffic grows to 9, 12 and 16 MAP. [Exhibit 25](#) summarizes the public and employee parking requirements plan to 2035.

Transit

At present, the automobile is the preferred mode of travel by employees, passengers and visitors to get to the airport. However, public transportation options are likely to increase over the next several years as the greater Edmonton area grows with suburban areas closer to the airport, and the regional transit systems are expanded. The alignments for transit will be protected, and will be sufficient to allow for a variety of technologies. However, provisions have been made in the master plan to protect an alignment within the airport property for public transit which will likely follow the progression of Scheduled Bus Service, Bus Rapid Transit (BRT), and then Light Rail Transit (LRT):

- Scheduled Bus services, which will likely use Highway 11 and Airport Road as the main roadways to access the airport from surrounding areas
- BRT, which will use the TUC for travel around the airport and likely use Highway 19's interchange and Highway 11's interchange to connect to neighbouring communities
- Light Rail Transit which will provide a viable option to allow an extension of the South LRT line in the City of Edmonton network to the EIA lands, with provisions to extend on into the City of Leduc
- If a High Speed Rail (HSR) link between Edmonton and Calgary proceeds, this alignment protects the opportunity to connect to EIA

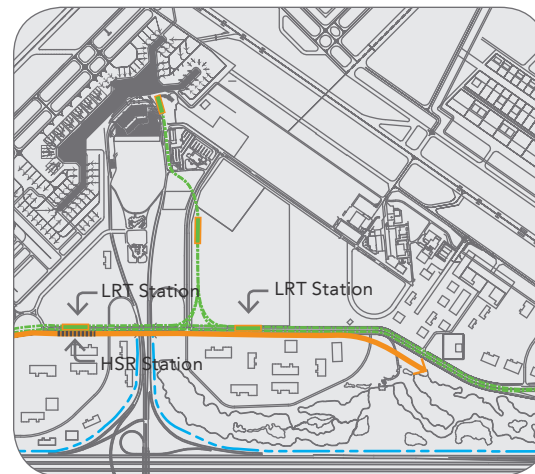
The proposed LRT alignments also allow for the opportunity to generate ridership from the proposed commercial and industrial developments on EIA lands.

Exhibit 25 | EIA Parking Plan 2035 and beyond (16 MAP)



- Boundary
- Surface Parking Requirement
- Parking Requirement

Exhibit 26 | Preferred LRT/High Speed Rail Corridor



- LRT Alignment
- HSR Alignment

10.0 Airline Support Facilities

Airline support facilities include catering, fuel, de-icing and support services such as snow removal and rescue and firefighting.

Fuel

Located north of the terminal, the fuel farm consists of four large cylinders containing Jet A-1 fuel. In response to the tremendous growth at EIA, storage has recently expanded by nearly 200 per cent. The facility currently handles approximately 235 million litres of fuel annually. The airport is also expanding its underground fuel distribution system in response to the terminal expansion. The current lease area is 23,033 square metres.

De-icing Long-Term Requirements

It is recommended that one central de-icing pad be constructed which will serve all departing aircraft at the west end of the airfield at the base of Runway 02. This central location will be adequate for aircraft departing Runway 02 and in the event that a third runway is constructed, its location will be proximal to that of departures Runway 29.

Snow Removal

As part of the site servicing plan, a snow storage site is proposed that will accommodate EIA's ultimate development. It has been recommended that two snow storage sites be constructed to service EIA. One will be located on the airside and another on the groundside to avoid any truck movement between the airside and the groundside. This will also allow for efficiency in treatment and reduced haul lengths.

Solid Waste Removal

When dealing with waste at the airport, there are two categories to consider:

1. Airline waste
2. Airport waste

Within the airline waste parameter, waste management is dependent on the origin of the waste, as to whether it is domestic or international.

- Terminal waste collection facilities consist of:
- Cardboard compactor, accessible from the loading dock covered area (20.6 cubic metres)
- Separate dumpsters for recyclable glass and plastic, located under the loading dock (2.3 cubic metres)
- Main garbage compactor (19.1 cubic metres)
- Bin for used cooking oil
- Underground recycling room for special recycling such as computer monitors, scrap metal, used batteries, empty ink cartridges

In the future, placing waste and recycling facilities in a safe and centralized location will reduce the time and effort associated with waste management. Organic collection for composting shall be implemented at EIA under accordance with provincial and federal government guidelines.



11.0 Utilities

EIA's current and anticipated growth increases its demand for utilities such as power, gas, water and telecommunications. A Site Servicing Study conducted in 2009 examined the future utility requirements of EIA. A fully developed EIA would exceed 3,000 hectares, including aviation and non-aviation commercial developments, and would serve 25 million passengers annually.

The number of passenger being moved affects utilities requirements to some degree; however, the development of EIA lands has a much greater impact. This section is focused on utility requirements over the next 20 years while considering longer term needs.

Key to ensuring EIA can meet its future utility needs is the development of a Transportation Utilities Corridor (TUC). This corridor would provide the main routing for utilities to the EIA site. This TUC concept is bound to and informed by the layout of the road network.

Roads and utilities are to be planned in a co-ordinated manner, similar to the TUC concepts used in Edmonton and other municipalities. Utilities provided for in the next 20 years should follow the TUC alignment whenever possible.

Exhibit 27

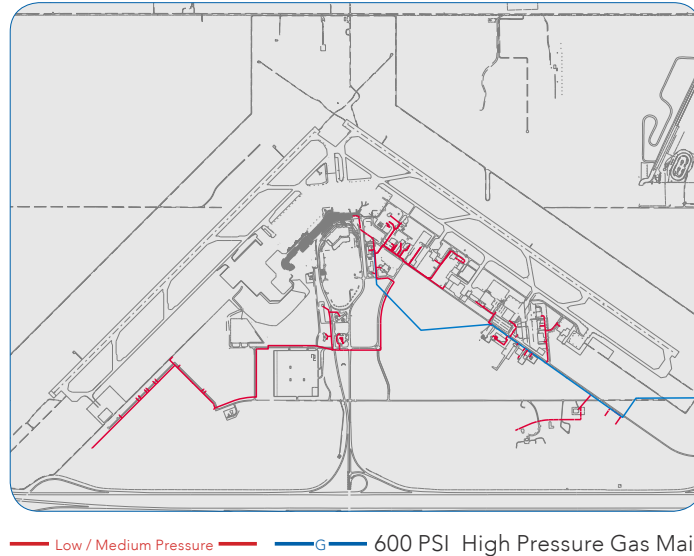
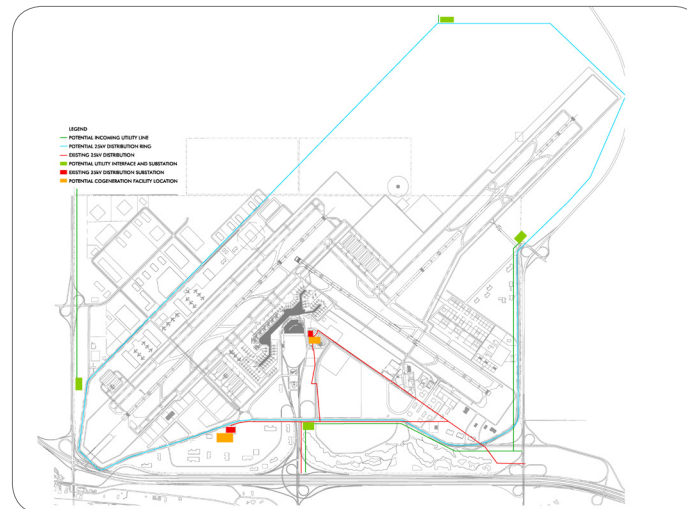


Exhibit 28 | Electrical Site Plan 2010 – 2035



12.0 Environment and Sustainability

EIA's View of Sustainability

Edmonton International Airport's commitment to sustainability is characterized in a corporate core value – "We are committed to responsibly managing all of our assets to advance our region's environmental stewardship, social well-being and economic prosperity".

EIA recognizes that effective planning will enable and drive development to occur on the airport lands that will provide for a sustainable, environmentally balanced airport. The use of sustainable development principles will ensure the success of the facility in the long term.

Airport operations and developments are resource intensive, requiring the use of facilities, fuels, chemicals, and other natural resources.

To responsibly manage these operations and activities, EIA has an established Environmental Management System (EMS) to ensure that operations and activities at the airport are conducted in an environmentally responsible manner, and to ensure that EIA's environmental policies are satisfied.

Environmental Management Plan (EMP)

The Environmental Management Plan is the guidance document that forms the foundation for the system. The EMP documents and articulates the factors that must be considered to adequately address environmental risks specific to Edmonton International Airport.

EIA strives to maintain a good working relationship with nearby communities while balancing demands for a safe, convenient, and 24-hour service airport. EIA is involved in many noise management initiatives to mitigate noise impacts in communities and to educate the airport's stakeholders on airport activities.

The provincial Airport Vicinity Protection Area Regulation (AVPA) ensures that only compatible land uses are located around the airport so that the use, enjoyment and security of the surrounding developments are not jeopardized by current and future airport operations. The current provincial Airport Vicinity Protection Area Regulation (AVPA) was established in 2006, and is required to be reviewed every ten years. The regulation is due for review in 2016, at which time EIA and the municipalities will have the opportunity to table best practices and identify future planning issues.

Air Quality

While air quality doesn't have the same profile in the Edmonton Region as in some other regions with major airports, the development of provincial regulations must be monitored and considered as development proceeds under the master plan.

Water (Glycol and Storm water)

There is always a risk that substances commonly associated with airport operations can enter the storm water system, sanitary system or ground water as pollutants. To ensure compliance with water quality regulations, licenses and guidelines and to

provide background information on developing water quality issues, airport water systems are sampled and monitored on a regular basis.

As the property develops, EIA will be faced with new challenges in managing water quality from storm water, and especially relating to the handling of glycol-contaminated storm water. The environmental management plan has assisted in identifying those challenges (capacity, flow control quality expectations, regional planning issues), and some activities are already underway to address those issues.

Wildlife

EIA uses a variety of strategies and tools to ensure a balance between airport operations and wildlife. As development progresses, the amount of natural land will be impacted, in turn reducing the airport's attractiveness to wildlife and bird species.



13.0 Land Use and Protection of Lands

Land use in the vicinity of the airport includes commercial, industrial and residential development. Commercial and industrial land uses surrounding the airport should be compatible with airport operations.

Adjacent Land Use

The integration of a major international airport within the surrounding urbanized environment is a major consideration in the development of a long-term land-use plan. The municipal statutory plans and regulations for compatible land use around airports form the basis of ensuring harmonious growth of both the airport and its neighbors. The adherence to these policies, guidelines and regulations ensures airport operations do not adversely impact adjacent land uses and the adjacent area land uses do not unduly restrict airport operations.

Airport Regulations

The airport and the surrounding communities are subject to airport zoning that are included in the Edmonton International Airport Zoning Regulations. The federal government is responsible for enacting federal Airport Zoning Regulations that establish height restrictions and buffer zones both on and off airport property. These regulations provide protection and clearance for aircraft flight paths, navigational and telecommunication equipment and air traffic control visibility.

Land Use in the Vicinity of Airport

In addition to these regulations, guidelines for land use in the vicinity of airports are published by Transport Canada (TP 1247E). These guidelines are only enforceable through cooperative planning between airport authorities and surrounding communities.

The zoning regulations and land-use planning guidelines together provide:

- Height restrictions for safe operations of aircraft, radar and telecommunications signals and protection of line of sight from the Air Traffic Control Tower
- Buffer zones around airport facilities to minimize aircraft noise impacts
- Restrictions for buildings and structures, to prevent interference with navigational aids
- Land-use restrictions for non-compatible land uses related to bird strike hazards

Airport Vicinity Protection Area

As indicated, if land uses adjacent to the airport are properly planned, constraints to airport operations and the loss of economic benefits to the region can be reduced or eliminated. For ease of implementation of the land-use guidelines, EIA has defined an Airport Vicinity Protection Area (AVPA) based on the 30 NEF line of the composite contour. The AVPA follows natural and man-made boundaries to approximate the location of the 30 NEF contour line. The objective of this AVPA is to provide a static and predictable long-term protection for the benefit of air carriers, communities and developers

Factors Affecting Airport Development Operational Influences

Developments proposed must conform to Aerodrome certification standards. The constraints on facilities siting and height, and the materials to be used for building construction are governed by:

- runway zoning surfaces,
- control tower line of sight, and electronic zoning associated with navigational and telecommunication equipment.
- These restrictions provide an envelope for airport facility siting and development.

MOU with Leduc County

The ERAA entered into a Memorandum of Understanding (MOU) with Leduc County in 1992. The MOU has been subsequently amended. To incorporate the Transport Canada Land Use Plan amendment #5 of January 2008, the amendment to the MOU is under discussion between Leduc County and EIA.

This MOU ensures that the developments on the airport lands are consistent with the County Statutory Plan and other planning instruments. Compliance with this MOU ensures the health, safety and welfare of the local residents and building structures.

The revisions to the land-use plan to incorporate developments proposed in this master plan will require consultation with Leduc County.

City of Leduc

City of Leduc and Leduc County periodically undertake an Inter- municipal Development Plan (IDP) to reflect mutual and individual interests of the two municipalities. EIA is a key stakeholder in this policy planning study. The IDP focuses on the impacts of infrastructure developments including airport developments, highway improvements and public transit.

The preparation of a new IDP to deal with future land uses will require close coordination with future development plans and the resultant land-use plan at EIA.

Leduc City is also preparing in consultation with EIA an Integrated Airport Land Use Plan.

Capital Region Board

In 2008 the Government of Alberta established the Capital Region Board (CRB) to develop a Capital Region Growth Plan. The Capital Region Growth Plan consists of four key areas:

- A comprehensive, integrated regional land-use plan
- A regional intermunicipal network transit plan
- A plan to coordinate geographic information services
- A plan for social and affordable housing.

EIA is included as one of the priority growth areas in the Capital Region Growth Plan. EIA will continue to collaborate with the Capital Region Board ([Exhibit 29](#)).

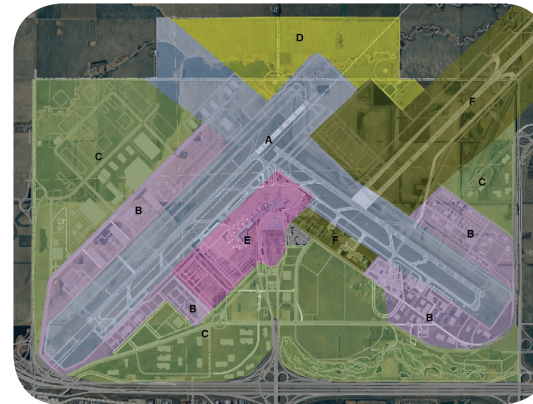
Proposed Future Land-Use Categories

The land use for proposed 16 MAP development by 2035+ is shown with the land-use categories described above.

Development Staging:

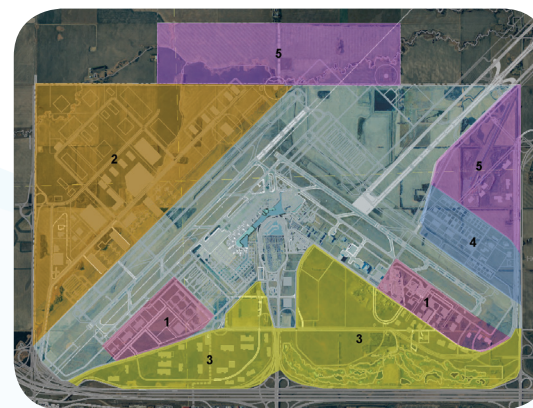
With the growth in passenger demand, it's anticipated the terminal will need to be expanded to serve 12 million passengers annually in 2030 and 16 million passengers annually in 2035 and beyond. To handle the anticipated increase in aircraft movements, a new runway is planned for 2030. Based on the development proposed in the master plan, the following development stages are anticipated over the next 25 years period.

Exhibit 29 | Future Land Use Plan



- | | |
|---------------------------|---------------------------------|
| ■ A: Airport Reserve | ■ B: Airside Redevelopment |
| ■ C: Development | ■ D: Low Intensity |
| ■ E: Air Terminal Reserve | ■ F: Airport Reserve Protection |

Exhibit 30 | Development Stages



- | | | |
|-----------|-----------|-----------|
| ■ Stage 1 | ■ Stage 2 | ■ Stage 3 |
| ■ Stage 4 | ■ Stage 5 | |

Stage 1 – Development of airside infrastructure that will support air cargo, airport support buildings and business aviation facilities in the Airport Northwest and Airport Southwest areas.

Stage 2 – Initial Port Alberta developments in Airport Southwest to support multi-modal cargo handling and distribution facilities

Stage 3 – Commercial developments to support airport business and amenities in the area will be undertaken to generate additional non-aeronautical revenues for EIA

Stage 4 – Business aviation developments north of Runway 02 -20 will be undertaken as BA traffic grows at EIA

Stage 5 – Areas identified under this stage are anticipated to be developed when the airport infrastructure is fully developed to meet its long term demand for passengers, cargo and aircraft movements ([Exhibit 30](#)).

EIA 31 Million Annual Passengers Horizon 2035+

