

## **Appendix C**

### **Port Alberta – Edmonton International Airport Multi-modal Transportation Gateway for the 21<sup>st</sup> Century**



## Multi-modal Transportation Gateway for the 21<sup>st</sup> Century

- It is a federal intention to strengthen transportation systems to 'ensure Canada's long-term economic competitiveness and prosperity' through a 'transportation infrastructure that supports international trade'. – *Hon. L. Cannon – Minister of Transport, Infrastructure and Communities.*
- 'Alberta has need for an integrated multi-modal plan to maximize system effectiveness.'

'While the prospects for the Alberta economy are positive, we must ensure that the transportation system does not become a limiting factor to future growth.' – *Sustaining the Alberta Advantage – Alberta's Strategic Multi-modal Infrastructure Plan. .2005*

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## Executive Summary

Greater Edmonton faces significant transportation challenges with the tremendous growth in the Alberta economy. Surface, air and rail environments have each suffered from pressures on existing infrastructure such as congestion and an ever increasing demand for efficiency. However, with this regional growth come additional opportunities that combine to greatly enhance the level of interest in dramatically improving the region's transportation capabilities and enabling access to global markets.

Capitalizing on all of these opportunities requires a collaborative and expeditious effort by industry, community and regulatory interests to change the existing environment. Creating the capability of managing the existing transportation demands, in addition to focusing on the establishment of an environment to facilitate long-term future growth, is an objective of municipal, provincial and federal governments.

Air, surface and rail infrastructure have long developed independently with little consideration for mutual affinity nor as significant elements in the region's long-term development planning. The resulting evolution of infrastructure systems has created competing applications for development that currently strain the resources of the region. Global growth in trade is rising significantly and projected to sustain this trend for the next few decades. Combine that with the increasing integration of transportation modes to maximize efficiency of globalizing markets, the need to create a 21<sup>st</sup> century transportation system is apparent

Port Alberta at the Edmonton International Airport provides the region with the infrastructure and development opportunity to establish a fully multi-modal transportation hub that would focus long-term planning while accommodating current and future growth opportunities. Incorporating features of Security and Intelligent Solutions for logistical needs as well as the inherent efficiency of providing freight forwarders and customers with access to all major transportation modes in one location, differentiates Port Alberta as a key link in the global supply chain. Strategically located, land for growth and centered in one of the most vibrant economies in the World, Port Alberta can establish the innovative environment necessary for current and future transportation growth.

The risk of failing to respond to the opportunities and allowing the current environment to evolve reactively will enable other communities to capitalize on the region's growth. Calgary, Winnipeg, Prince George, Grande Prairie and other communities are actively pursuing growth strategies to strengthen their transportation infrastructure and influence. As freight demands continue to rise, the pressure to offer lower cost environments and facilitate supply-chain efficiencies will determine successful transportation markets.

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## ***Problem***

The rate of growth currently experienced by the greater Edmonton region places significant challenges on all sectors of the transportation industry and the infrastructure that supports them. This has been demonstrated by the increasing volume of traffic on the roads and highways in the region as well as the capacity congestion experienced in the rail intermodal yards and the need for dedicated apron areas at the International Airport. Pressure on road and rail infrastructure in higher-density areas impact municipal and provincial resources to resolve conflicts, expand capacity, operate and maintain functionality for multiple interests.

Air Cargo growth in the Edmonton region has not kept pace with other economic indicators. Single digit increases in volumes reflects the continued pattern whereby air cargo traffic is trucked to other gateways for airlift to domestic, transborder and international markets. This is reflective of the use of established trade corridors and gateways by logistics providers and not necessarily by direct customers. While 70+% of Alberta's air cargo originate in the Greater Edmonton region, only a small percentage is actually flown. The shift to trucking increases road volume and diminishes value for customers through increased transit time.

The Greater Edmonton area does not have a coherent, effective strategy for improving freight transportation logistics and efficiencies to support and enhance the scale of growth opportunity currently experienced in all sectors of the economy. Failing to sustain the economic strength of the region by leveraging current economic growth environment into an effective transportation system will jeopardize the viability of emerging industries and allow competitive markets to capitalize on the evident opportunities generated in the region. Inconsistent efforts at rectifying issues have put the region into a position whereby growth demands are reactive vs. proactive and have failed to alter industry perception that the region is not transportation friendly.

Alberta's Oil Sands development, Mineral mining in Northern Canada, diversified Edmonton manufacturing and the Pacific Gateway Initiative are all generating intensive economic activity in the Greater Edmonton region. While the region's growth is unparalleled in Canada, some Global markets such as Asia, continue to rise at a comparable rate and these markets create opportunities unique to the Greater Edmonton region. Without a significant change in the effectiveness of the region to facilitate transportation needs, these market opportunities will experience higher than necessary supply-chain costs and diminish the value of the region to accommodate the needs of local and international business.

## ***Current Environment***

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### **Rail**

The Edmonton region is unique in that it is the only major center that has direct rail access to the Ports of Vancouver and Prince Rupert via CNR and to CPR's extensive North American Network. Competition between these railways in the Region is significant due to the fact that both organizations recognize Edmonton's strategic location and the significant value-add profile of the region's economy. The existing infrastructure and location of the facilities servicing the railways is widespread and diverse. Intermodal, break-bulk and bulk operations demonstrate the range of commodities carried via rail but each create handling characteristics that drive surface transportation issues. A recent study illustrated some key issues around rail transportation in the Edmonton area in addition to the congestion and location concerns. For example, Rail operational efficiency is generally not considered in provincial or municipal planning, customers are concerned about the railway capability to satisfy growth requirements and there is no strategy for cross-modal conflicts or opportunities.

Exacerbating the situation, the expansion of the Port of Prince Rupert and the significant imbalance of commodities and products that transit east on CNR's mainline will increase the amount of containers through the region by approximately 2000000 by 2010. Currently, CPR is currently operating at over-capacity at their south Edmonton intermodal yard. CPR's identified location for future operations does not yet have access to QEH and will not for a period of time.

### **Truck**

Surface transportation in the region has been a significant challenge with the economic growth of the region. Alberta Economic Development estimates that an additional 5000 trucks are introduced into the province for every one billion dollars of growth. With over \$100 billion invested in projects that are under construction or announced for development, the pressures on the supply-chain and the infrastructure of the Greater Edmonton Region will rise. A recent survey/study of Freight Logistics identified serious issues that affected surface transportation opportunities. Congestion on city routes, less-than-load (LTL) imbalance, the need to transfer load from long-haul to smaller vehicles and lack of free-flow traffic corridors are some of the elements that discourage efficiencies in supply-chain logistics.

The recent completion of the south-west quadrant of the Anthony Henday ring road, and the south-east extension in the fall of 2007 will dramatically improve the flow of goods around the city and effectively link the QEH (north-south) and the Yellowhead Hwy 16 (east-west). It will not alter the traffic conditions within the City itself, but will reduce equivalent volumes of through traffic.

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## **Air**

Edmonton International Airport was established at its present location in the early 1960's to facilitate passenger and cargo growth. While considered a lengthy distance from the city (6.5km) for passenger traffic, the extraordinarily long runways and configuration are superior for Cargo traffic growth. For a multiple of reasons, including economic pressures, air cargo volumes have remained essentially unchanged over the years, but are growing. The majority of exported air cargo from Alberta (est. 70%) originates from the Greater Edmonton region and is surface trucked to other gateways for consolidation and airlift to other markets. Federal policy on International Air transportation have not permitted some activity and therefore air carriers have maintained operations in larger gateways, forcing the supply-chains to sustain these markets artificially. This has aided the gradual deterioration of infrastructure at the airport and facilitated a perception of poor air service to the Greater Edmonton region.

The tremendous growth in the passenger volumes has brought new markets to the airport, including additional European service with wide-body aircraft, but the growing global phenomenon of the Air Cargo Growth Gap has meant an increase in dedicated freighter traffic via all-cargo charters.

Edmonton region has a significant oversize freight profile for Air Cargo. The Oil and Gas industry frequently generates demand for specialty aircraft that can accommodate unique loads. Leopard tanks for the Canadian Forces, cokers and cracking towers for the oil and gas processors in the region are some of the commodities that have been shipped via air.

## **Logistics**

Most of the major global freight forwarder organizations are represented in the Greater Edmonton Region. A large number of local entities exist but it is estimated that approximately 85% of the freight traffic is managed by third party logistic (3PL's) providers. Despite the high representation, none of the major organizations consider the Edmonton region as a hub for global market trade. As an origin or destination, their influence and interest of the Edmonton area has been at either end of the supply-chain and not as a key link within the system.

Some of this perception is changing due the vast economic growth and there is increasing interest in Edmonton as a supply and staging area for other markets as well as a strategic site for connecting global markets, given the historic lower-cost environment of Greater Edmonton.

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## **OPTIONS**

### **Status Quo**

Without significant shifts in the transportation focus and infrastructure of the Greater Edmonton region, economic growth will continue to evolve reactively vs. proactively. Growth will come, but it will be relegated to areas that provide specific advantages to specific businesses. As a business establishes its market reach, the necessary supply chain will manifest requirements for specific improvements resulting in many competing interests for limited capital investment.

Freight forwarders will continue to view the Region as secondary and avoid utilizing the region as a component in the Global supply-chain due to the lack of synergy between modes. Though the region's economic strength will continue to create opportunities, overall costs will not diminish with this growth due to the silos of development created.

For Air Cargo, the product will continue to be fragmented and trucked to other gateways with growth occurring at these locations. The Edmonton region will continue to be served primarily by surface trucking with Industry continuing to accept next-day service for inbound air cargo products and earlier cut-off times to meet export demands. Despite the liberalization of International Air Policy reform, a lack of transportation focus will continue to diffuse the market and maintain Edmonton's small-market status. Rail activity will continue to face growth constraints from urban pressure with Pacific Gateway Initiative (PGI) growth increasing frequency and volume of traffic through the center of the region with limited inter-modal attraction. While the majority of eastbound traffic is full, westbound opportunity for reload of empty containers will be limited to the local market. For trucking, demand will be significant and more efficient as elements of the Ring Road are completed, however, costs will remain uncompetitive with other centers due to the complications with cross-city traffic congestion.

Regions that do develop transportation systems that efficiently allow transportation modes to operate with modern infrastructure and changing regulatory requirements will emerge as successful multi-modal environments. A lack of strategic focus in the Greater Edmonton region will diminish global market opportunities for emerging business.

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## Port Alberta

Port Alberta is a multi-modal transportation hub serving the greater Edmonton region. It is an inland port that takes advantage of the strategic geographical location of the Edmonton International Airport, the economic strength of Northern Alberta, and the emerging access to the global markets.

As a gateway, Port Alberta can capitalize on both import and export logistic opportunities; establish modern, efficient infrastructure; focus transportation planning for the region; and offer freight forwarders a cost-effective environment in the global supply-chain.

- It is strategically located:
  - On the Great Circle Air Routes - closest airport to Global markets (Europe, Asia, Middle East) than all other Western North American airports.
  - On the QEH (CANAMEX) with proximity to the Yellowhead, & Alaska Highway, Hwy 63 and Hwy 2 North.
  - Direct Rail Access to Ports of Prince Rupert, Vancouver (served by both CN and CPR), and short-line operations to Northern Alberta. Immediate rail access with CPR's Leduc sub.
  - In the center of Alberta and the northernmost major urban center in Canada.
  
- Port Alberta Assets:
  - Two (2) long runways capable of all-aircraft operations
  - No operating restrictions/ curfews
  - Developable Land – 3000+ acres. Largest Canadian Airport in total area.
  - A federally designated Transshipment zone
  - Existing USBP and CBSA services.

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- **Benefit of Air**
    - Port Alberta will facilitate the traffic of high value-to-weight commodities.
    - It provides non-stop access to/from major markets without need for technical fuel stops.
    - It utilizes existing commercial schedule traffic capacity.
    - It provides supply-chain access to ALL Global markets
    - It reduces cycle time from next-day to same-day service
  
  - **Benefit to Air**
    - Port Alberta will concentrate air-cargo volume from the Edmonton Region
    - It will minimize the trade imbalance.
    - It will stabilize route volatility.
    - It will increase surface trucking networks.
    - It will provide improved Aircraft handling Infrastructure and support facilities.
  
  - **Benefit of Rail**
    - Port Alberta will facilitate the traffic of low value-to-weight commodities.
    - It will provide direct-to-port access for consolidated commodities
    - It will minimize surface traffic in high-density areas.
    - It brings ocean shipping interests to inland customers/suppliers.
  
  - **Benefit to Rail**
    - Port Alberta provides room to grow intermodal facilities.
    - It consolidates commodities for export to ports as a reload facility.
    - It provides transshipment/EDC opportunities for customers.
    - It extends the marketing reach of railways to global markets via runways (value-add).
    - It reduces cycle time of ISO container return to port (head haul demand).
    - It offers long-term lease vs. Capital expenditure for land.
    - It hosts direct import-export manufacturing and production of raw material to finished goods.
    - It does not diminish existing business demand (intermodal).
    - It provides purpose-built access
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- **Benefit of Surface Trucking**

- Port Alberta provides strategic access to all markets to expedite distribution at lowest unit cost efficiency.
- It enables ease of access to superior surface links.
- It enables application of truck size to match product/commodity profile.

- **Benefit to Surface Trucking**

- Port Alberta provides immediate access to rail and air mode markets in one location.
- It has facilities designed to ease truck transfer.
- It provides focus on consolidation/distribution to minimize LTL.
- It avoids high density traffic areas
- It provides purpose-built access
- It accommodates long combination trailers
- It reduces traffic stops.

### **Market Support/Opportunity**

- Pacific Gateway traffic to/from Ports of PR and Vancouver.
- Resource development in Northern Canada.
- Resource Development in Northern Alberta
- Agri-food production
- O&G manufacturing and production
- Pipeline development
- Information/Technology
- World Air Cargo Growth rates
- Open Skies transportation policy reform
- EDC reform

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## **Supply Chain Economics**

Globalization demands new forms of efficiency in trade. Sourcing from foreign markets may appeal due to lower labour costs that are reflected in the unit cost; however, lengthy supply-chains and cycle times from manufacturing to sale can negate the labour advantage. The need to establish environments that minimize the cycle time and mitigate lengthy supply chain variation will be the competitive advantage sought by businesses. These businesses depend on having product available when necessary and not having the product when not required. For retail, it means the difference between having inventory just in time and on-time. For manufacturing it means maximizing elements of *pull vs. push* production or lean manufacturing.

Increasingly, businesses are diversifying their supply chains to optimize all modes of transportation. Air, sea and surface transport are integrating for organizations that require components and raw materials under more stringent timelines. The traditional reliance on a single source of transport diminished with the efficiencies introduced with the intermodal ISO container. This utility has grown globally and transformed the ocean and surface transportation sectors forever; however, the need to incorporate air transport to the same supply chain is growing as organizations continue to seek competitive advantages.

Port Alberta capitalizes on this shift by hosting all modes in one location. The inherent efficiency of accommodating air, truck and rail (ocean) modes into a single environment offers freight forwarders options that span the entire transportation spectrum. As supply chains become more complex and competitive, freight forwarders are looking for environments that can simplify the process of moving goods. Port Alberta is purpose-built to facilitate this movement. Integrating modes is physical efficiency; the integration of information is equally valuable. An integrated supply chain allows each step (manufacturing, shipping, distribution, retail) to view customer demand and therefore can adjust more effectively. Port Alberta will offer integrated supply chain solutions.

The most significant advantage of Port Alberta is the ability to host manufacturing, production, supply, distribution and storage in the same environment as the transportation modes. With 3000 acres of land available for development, the logistic advantage becomes strategic.

Increasingly, products are shipped for sale that have components created by separate businesses and rely on multiple transportation modes to gather these elements for final assembly or to distribute components/finished products to market. Access to efficient transportation is crucial to reduce cycle time and avoid hidden costs in the supply chain. Port Alberta generates that advantage through mode efficiency and strategic access to global markets.

Another advantage is the proximity to the Port of Prince Rupert and the ability to consolidate shipments from Western North America and reload (stuff) empty containers for export. As westbound containers are one-third the cost of eastbound containers, shippers can consolidate goods in Port Alberta and capitalize on the lower rate. Additionally, Ocean shippers will benefit from the reduced cycle time of containers given the proximity (39 hrs from shipside) of Port Alberta. This is extremely valuable to meet 'head haul' demand from Asian ports.

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There are multiple permutations of cycle time advantages given the various configurations of activities possible in a multi-modal environment. Estimates of cost benefits will depend on many variables and would be unique to the applicable business.

## **Risk**

There are many risks with the Port Alberta initiative but these risks are in NOT incorporating key components and strategies to fulfill the vision.

### Security

Port Alberta must meet and exceed the increasing regulatory requirements for the safe transport of goods. Incorporating the existing disciplines and environment inherent with Air transport and applying to all modes will diffuse the cost and impact to customers.

### Intelligent Solutions

Port Alberta must host the latest technological advancements and innovations such as e-freight, virtual manufacturing, and internet efficiencies to minimize breaks in the supply chain and be value-added to customers.

### Automation

Port Alberta must develop the processes, infrastructure and environments that rely on automation to minimize the labour demand and related costs to customers.

### Integration

Port Alberta must integrate modes efficiently to accommodate the diverse supply chain needs of forwarders and customers. Fragmentation or breaks in the processes drive hidden costs to customers.

### Investment

Port Alberta must leverage capital investment from stakeholders to enable access and expansion capability in the region. Private and Industry investment anchors the supply chain and ensures collaborative efforts for success.

### Differentiation

Port Alberta must differentiate Greater Edmonton from competitive transportation hubs, to alter the entrenched patterns of goods movement, by managing costs and providing innovative supply chain solutions.

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## **Conclusion**

Transportation issues in the Greater Edmonton area have created an industry perception that the region is not 'transportation friendly'. Existing pressures will continue to grow on the system based on the strength and durability of the economic outlook for Alberta. Therefore fundamental change is needed to positively impact the efficiency and effectiveness of goods transportation in and out of the region.

Greater Edmonton faces a 'perfect storm' of opportunity to determine the future of its transportation capacity and capability. Oil sands, Northern development, Pacific Gateway and liberalized trade policies, coupled with strategic location, available land and diversified industry, identify the region as the place to strengthen transportation infrastructure and establish a new, significant trade gateway.

Global trade is growing. The need for new trade corridors and gateways to accommodate this growth has regional, national and international imperatives. This new environment requires integrated systems and infrastructure to satisfy the evolving nature of multimodal goods transportation.

Port Alberta is the opportunity to compliment existing transportation developments in the region and transform the existing systems from traditional methods to processes and an environment suitable for the needs of the future.

Port Alberta at the Edmonton International Airport.

The place is here – the time is now.

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## **Economic Impact**

Estimation to the Region of the Economic Impact from the accessibility generated by the 65<sup>th</sup> Avenue overpass is supported by two views of 'unlocked' land value for Edmonton Airports and the City of Leduc.

Edmonton Airports considers approximately 2455 acres identified as immediately accessible through the development of the 65<sup>th</sup> Avenue Overpass.

At approximately \$240k per acre, this represents almost \$590 million in land value.

For the City of Leduc, utilizing the same application of 'unlocked' land value, the estimation is approximately \$1480 million.

These number do not reflect the value of development or the economic multiplier to the Region.

