

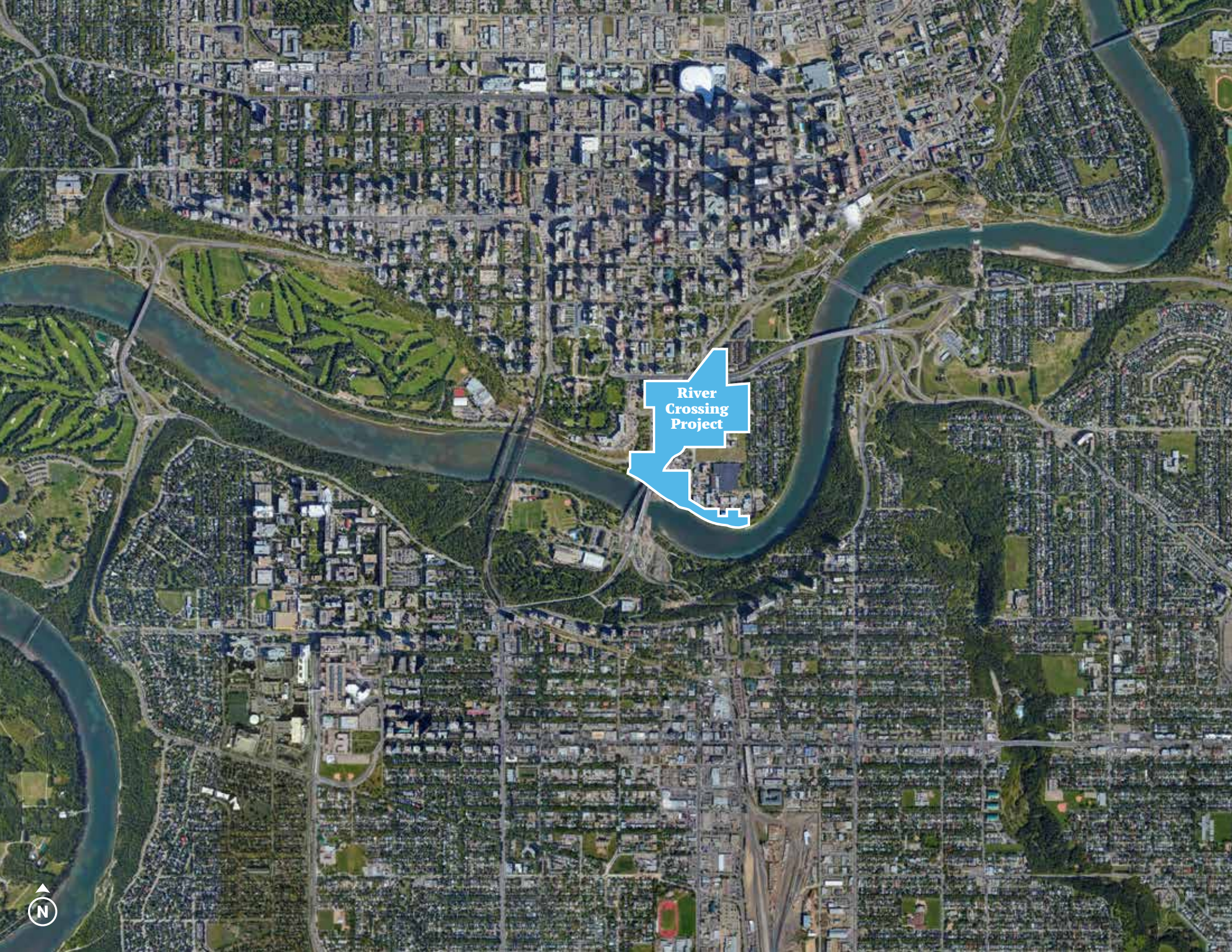


# River Crossing Business Plan

Received by Edmonton City Council September 10, 2019

Edmonton





River  
Crossing  
Project








Figure 1 - Context

## Territorial Acknowledgement

Edmonton is located within Treaty 6 Territory and within the traditional territories of the Nehiyaw (Cree), Denesuliné (Dene), Niitsitapi (Blackfoot), Anishinaabe (Ojibwe/Saulteaux), Nakota Sioux (Stoney) and Haudenosaunee (Iroquois). The city also lies within the Métis' homeland and Métis Nation of Alberta Region IV. The lands on which present-day Edmonton sits, and the mighty North Saskatchewan River that runs through them, have been the sites of natural abundance, ceremony and culture, travel and rest, relationship-building, making and trading for Indigenous peoples over millennia. The flats of the North Saskatchewan River, including those known today as Rosedale, have been a significant site of these activities.

The City of Edmonton owes its strength and vibrancy to these lands and the diverse Indigenous peoples whose ancestors' footsteps have marked this territory as well as the other Indigenous peoples and waves of Settlers from around the world who continue to be welcomed here and call Edmonton home.

The success of a new vision for River Crossing must recognize the honoured traditions and cultural importance of this area to First Nations and Métis peoples as well as the historical significance to Edmonton and our collective aspirations for this area and future generations.



# Acknowledgements

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With gratitude we also acknowledge the contributions of Indigenous communities, Edmontonians and other stakeholders who contributed to the River Crossing Business Plan.

And very special thanks to Rena Backstrom for her project support.





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*Conceptual View  
of Pumphouse #2*

# 1. What is River Crossing?

# 1. What is River Crossing?

River Crossing is a project to connect Edmonton to its river.

River Crossing is a place to celebrate the people, ideas and history of the city's birthplace.

River Crossing is the action of traversing riverbanks.

*Conceptual View  
of River Crossing*





# 1.1 Project Area

Figure 2 - Project Area



As shown in [Figure 2](#), River Crossing is located in the geographic heart of Edmonton between Edmonton's increasingly dynamic downtown and vibrant Old Strathcona area. It is in the Rossdale neighbourhood and borders the Provincial Legislature grounds. Located within the North Saskatchewan River Valley, River Crossing has easy access to riverside trails and valley amenities. While existing structures do not tell the full story of the heritage of the area, River Crossing is home to significant historical legacies such as Traditional Burial Grounds / Fort Edmonton Cemetery, the Rossdale Power Plant, Ortona Armoury, Ross Flats Apartment and RE/MAX Field ballpark.

The City and the municipally-owned EPCOR Utilities Inc. own a majority of the land in River Crossing but Edmonton Public Schools and a few private entities also own land..

## 1.2 Background

Indigenous peoples have used the North Saskatchewan River valley for thousands of years. The North Saskatchewan River served as an important travel route as well as a natural boundary between the territories of different Indigenous cultures. The shallow bend in the river and descending flat plateaus at this location, provided a natural river crossing and ideal site to camp and gather resources from the river and river valley.

In 1812, fur trading forts were built on flats next to this ancient river ford where First Nations groups gathered. Eventually these flats became the seed from which Edmonton grew. They were called Ross Flats and later Rossdale after Edmonton's first successful hotelier, Donald Ross. As the city grew around it, Rossdale became a neighbourhood of homes, schools, businesses, utilities, and sports facilities. After a major flood in 1915, Rossdale's fortunes waned. Investment diminished. Homes were demolished for open space.

The neighbourhood came under further pressure in the 1960s, when the City introduced the Metropolitan Edmonton Transportation System plan and started to build freeways through Rossdale and elsewhere through the river valley. People who lived in Rossdale did not want the neighbourhood to be extinguished. They campaigned to save it and, in 1983, won when City Council exempted existing river valley communities from parkland acquisition policies.

In 1986 the Rossdale Area Redevelopment Plan was prepared as a framework for new investment in the area. The City's planners recommended higher-density, mixed-use development for West Rossdale but the public was not ready for it. West Rossdale was therefore designated as special study area: something to be figured out later.

In the late 1990s, EPCOR proposed an expansion of the Rossdale Power Plant. A citizen's group (Concerned Citizens for Edmonton's River Valley), Indigenous activists and heritage advocates successfully opposed the expansion. Through their efforts, historic portions of the power plant were protected and a long-neglected cemetery established in the fur trade era received new attention. The City did historical research culminating in the Rossdale Historical Land Use Study and Oral Histories Report and in 2007 the cemetery was formally designated by the Province as a historic cemetery.

The following year, the City finally began work on the special study for West Rossdale called for in the 1986 ARP. With significant involvement from Rossdale community members and other stakeholders, the West Rossdale Urban Design Plan was created. The plan calls for significant roadway changes and investment in open space in support of higher-density urban village with mixed-use development.





Following the plan's approval in 2011, the City undertook technical studies to implement the plan. Questions arose, however, about the design of the area, engagement, governance and financing. A private proposal for development oriented around a canal challenged the existing plan and critiqued its financial feasibility. The Government of Alberta sought additional land for the Legislature grounds and opportunities to integrate with the River Crossing area. Community members also expressed an interest in the future of the newly decommissioned Rossdale Power Plant, which lay outside the West Rossdale Urban Design Plan.

In light of these issues, the need for a new, more comprehensive planning initiative became apparent. In 2015, City Administration and Council engaged in a series of discussions about the future of the area, including the power plant, ball park, and redevelopment overall. On April 14, 2015, as part of a day-long working session, City Council approved a new, high-level vision for West Rossdale. The vision expanded and shifted the scope of the original West Rossdale Urban Design Plan, incorporating a residential development with a repurposed power plant, riverfront promenade, and the highly anticipated signature Walterdale Bridge replacement.

On June 30, 2015, City Council's Executive Committee approved a refined vision for the area. The vision, called River Crossing, would draw its name from the Walterdale Bridge project and recognition of the site's location at a historic river ford. In identifying River Crossing as an identity-defining place within the river valley, Council made clear that the project must balance financial returns from development with City-building outcomes. The area with perhaps the richest history in Edmonton, in the physical heart of the city, with an architecturally dramatic bridge, needed a city-wide identity to match its local and regional significance. In addition to the vision, this meeting of Executive Committee helped set the direction for the River Crossing project. Most notably it:

- Directed Administration to prepare two things: a heritage interpretive plan to determine how to bring the area's history and cultural significance to life, and a business plan to guide change on the ground and balance public investment with place-making.
- Approved the creation of a Business Advisory Group (BAG) for the River Crossing project.
- Directed Administration to also consult community and technical experts as well as Indigenous communities.

## 1.3 Vision

The River Crossing vision reflects the area's importance to Edmontonians and its special significance to First Nations and Métis communities. Its preparation considered existing plans, studies, and projects. In addition to the bridge construction, these include the West Rossdale Urban Design Plan, the Views and Perspectives document on the future of the Rossdale Power Plant, power plant stabilization work, initial planning for the Touch the Water Promenade along the northern bank of the North Saskatchewan River, and submissions made by proponents of the Rossdale canal project. The vision was also informed by the Government of Alberta's plans for the Legislature Grounds.

Calling for River Crossing to become a cherished destination for Edmontonians and visitors alike, the vision imagines River Crossing as a:

- **Place of connection**, linking people between the destinations that surround it.
- **Place of convergence**, where unique people, cultures, and natural landscapes of Edmonton come together.
- **Place to cherish**, that has been at the heart of trade, travel, kinship, spirituality, community, and culture for thousands of years.

- **Place of community**, where diverse people live, interact, and enjoy a highly livable, sustainable, vibrant environment.
- **Place that communicates**, in which stories of our past, present, and future are told.





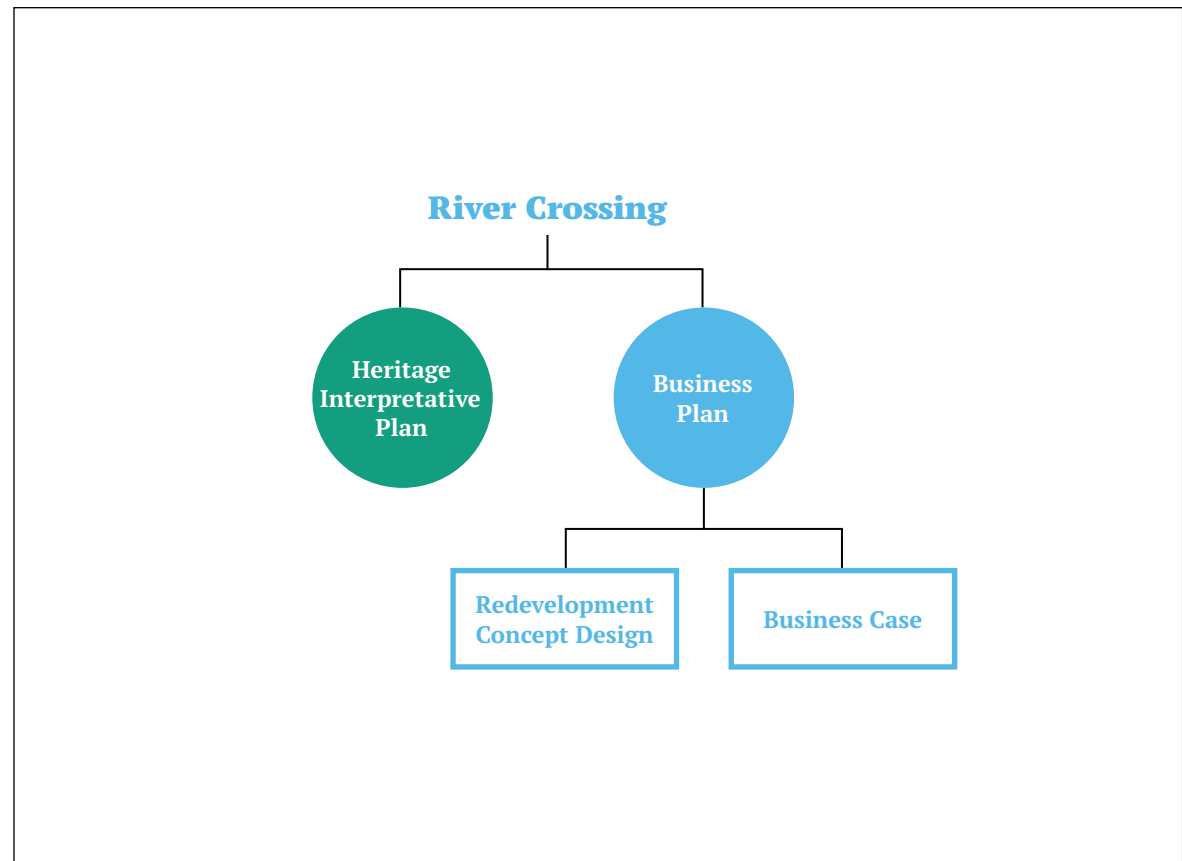
## 1.4 Heritage Interpretive Plan

The Heritage Interpretive Plan (HIP) was initiated in 2016 and approved by Edmonton City Council on July 11, 2017. It represents a new way for the City of Edmonton to consider heritage in the River Crossing area and is a unique interpretive project as it goes beyond acknowledging existing historical buildings and seeks to illuminate the area's layered tangible and intangible heritage. The overarching aim of this plan is to integrate heritage interpretation into the area through landscape and built environment (e.g. parks, infrastructure systems, urban design and buildings) as well as active and passive programming (e.g. formal and informal events and activities). The goal is also that interpretation is delivered in ways that are authentic, appropriate and compelling for people who will use the space. The plan builds on previous research, oral tradition, site analysis, and interpretive planning principles, as well as through comprehensive engagement with the public, Indigenous communities and related organizations, and stakeholders.

The Heritage Interpretive Plan seeks to:

- Understand why this place is important by focusing on the history and cultural heritage of the River Crossing area.
- Provide guidance and ideas on how to tell the story of the area on the ground as the area evolves over time.
- Lay out additional work required to support future interpretation.

Figure 3 - Heritage Interpretive Plan and Business Plan Relationship





The plan is comprised of two elements: a thematic framework is used as a conceptual tool for understanding the area's heritage, and a series of high-level considerations are proposed for implementing the plan over the short, medium and long term. Together, these tools provide a basis for more detailed interpretive planning efforts in the future.

The application of the Heritage Interpretive Plan through the redevelopment concept design and strategic business planning activities of this project works to embed heritage and weave the themes into the area's urban fabric and future functioning. The historic importance of this area has been established and ratified through the project objectives and outcomes. This effectively positions heritage as a foundational element in the development of the area's identity and character.

The Heritage Interpretive plan also sought opportunities through the concept design to:

- Leverage and identify key sites and areas for interpretation.
- Use interpretive goals to help guide the allocation of future public and private lands.
- Better understand interpretation-related governance and funding needs.

- Involve interested people, communities and members of the development industry in heritage interpretation at an early stage.

The Business Plan integrates the direction from the Heritage Interpretive Plan by:

- Identifying potential areas for interpretive programming and future visitor interaction.
- Carefully considering connections and compatibility between features of heritage interest (Traditional Burial Grounds / Fort Edmonton Cemetery, designated historic resources, vistas) and future development.
- Involving partners and stakeholders with an interest in and connection to the area's heritage (e.g. area residents, Edmontonians, heritage organizations, First Nations and Métis citizens) in ongoing engagement during implementation, programming, and the development of interpretive elements.





Figure 4 - HIP thematic framework

**TERRITORY AND LAND**

Cultures shape and are shaped by the territory they occupy and the land they live on. The River Crossing area has been inhabited by Indigenous peoples for millennia and by non-Indigenous peoples for centuries, and each has held their own understandings and relationships to the land. Here, we illuminate the complexities of how we understand land and territory to show the evolving and overlapping identities of this place.

**LIVED EXPERIENCE**

Through this theme we experience everyday life in the River Crossing area through the eyes of the individuals, families and communities who have inhabited, visited, and made their lives there, throughout history.

**CONNECTING AND UNDERSTANDING**

Here, everyone is invited to come together in the spirit of sharing and connecting to learn about the richness of the distinct cultures that have contributed to this place, the complex history of Indigenous and non-Indigenous relations, and the lasting impacts of colonization.

**MAKING AND TRADING**

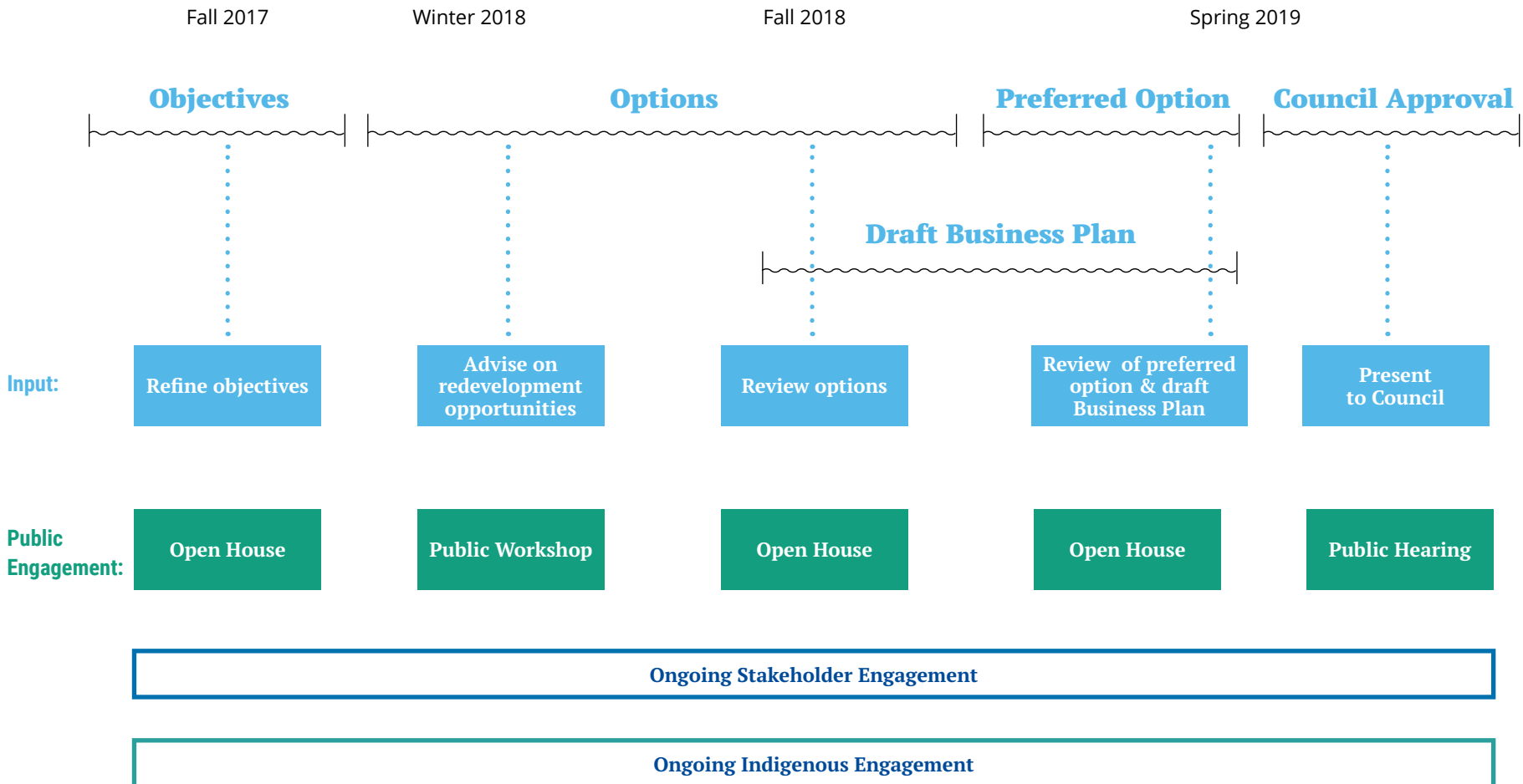
Making and trading activities have occurred in the River Crossing area for thousands of years in many different forms. Here we consider the ways people have used the area over hundreds and thousands of years for creation and exchange of all types and the cultural impacts of these activities.

## 1.5 Business Plan Process

The first step in preparing this business plan was to understand the extensive planning work carried out in Rosedale in previous decades. The project team then established objectives based on Council's vision for River Crossing and subsequent

work. Once the objectives were finalized, market analysis began and development concept options were created to assess the interplay of different redevelopment elements and test financial implications. These options were then

refined and reworked based on input and analysis. Eventually a preferred development concept was created along with a draft business case. The concept and business case were further refined and are detailed in this report.







As elaborated in Appendix A, the process was supported by ongoing stakeholder engagement and parallel processes of public engagement and Indigenous engagement. Engaging property owners, residents, and other stakeholders (including the Government of Alberta and school boards) throughout the process helped in preparing an implementable plan for this area.

Engagement sought to build a common understanding of the project purpose and direction and supplied participants with the tools to provide informed input at various stages in the development and refinement of the concept

design. This input was gathered through the three project phases as follows:

**Phase 1:** confirm vision and objectives, consider priorities

**Phase 2:** establish a framework for development, define how to achieve objectives, create concept options and draft preliminary technical analysis

**Phase 3:** refine preferred concept and alignment with objectives, complete technical studies, draft and complete business plan

### Business Advisory Group

The Business Advisory Group was originally comprised of canal advocates, other business people, and senior members of Administration. It held its first meeting in March 2016. Later two members of the Community Advisory Committee were added to provide a connection between the two groups. The Business Advisory Group provided advice to Administration and its consultants with a focus on business considerations such as what would create market demand and financial opportunity. The group was engaged in every phase of the preparation of this business plan, providing input on the project objectives, concept options, the preferred concept option and the business plan itself.

### Community Advisory Committee

Administration established this group in 2017 and began meeting in October of that year as work on the business plan began. The Community Advisory Committee was a forum for representatives from a range of stakeholder groups to provide advice to Administration and the consultants with a focus on the perspectives and issues of adjacent neighbourhoods and the broader community. This committee met with the project team regularly throughout each phase of the project including two working sessions in which the committee provided their input on the development of concept options and ideas.

## Indigenous Engagement

In recognition of historic Indigenous use of the Rosedale flats and the potential impact to Traditional Burial Grounds / Fort Edmonton Cemetery, Indigenous engagement was a critical part of the preparation of the business plan. Indigenous engagement activities for the business plan expanded on discussions initiated during the development of the Heritage Interpretive Plan in 2016. Because Treaty rights are communally held, engagement focused on meaningful conversations with rights-based groups representing Nations from Treaties No. 6, 7 and 8, as well as local zones of the Métis Nation of Alberta. Some 29 Indigenous Nations, communities and related organizations were invited to participate, with 15 Nations actively contributing input to the process.

Indigenous engagement for Phase 1 consisted of workshops aligning Indigenous shared knowledge with project objectives and a discussion of priorities and trade-offs. Workshops were held with individual communities in Edmonton as well as in participating communities on-reserve in April and May 2018. Phase 2 engagement shared the redevelopment concept options with Nations and collected feedback through regional and one-on-one workshops with Nations. Phase 3 engagement involved hearing feedback on the preferred development concept, key policy directions and implementation actions from Nations.

## Public Engagement

Public engagement in Phase 1 of the project consisted of a public workshop on November 29, 2017 and an online survey in November - December 2017, where feedback was collected regarding the draft objectives and defining outcomes. Phase 2 of the project included two public engagement events on April 25, 2018 and October 18, 2018, and online surveys in October - November 2018. Input from these sources supported the refinement of concept options and preparation of a preferred redevelopment concept and informed the business plan. Participant feedback helped identify resident preferences and provided insight into anticipated interactions between land uses in the proposed redevelopment. Phase 3 engagement included a public event on May 22, 2019 to share the draft report and gather any final input and answer questions on the preferred concept and associated business case.

## 1.6 This Business Plan

River Crossing has been a focus of planning for many years. This new plan is founded on an understanding of the area established through previous visioning, planning, infrastructure and urban design work. The following sections of this document:

- Provide an overview of the context in which River Crossing will grow and thrive.
- Outline how the development of River Crossing supports the City of Edmonton's goal of developing integrated and attractive urban places.
- Outline a redevelopment concept based on a series of objectives distilled from the previous planning studies.
- Establish a business case that outlines suggested methods for revenue and cost management.
- Lay out a phased implementation plan that maximizes the City's investment and supports the economically-sound development of the area.





*Conceptual Rendering of  
Interpretive Park*

# 2. Key Considerations

## 2 Key Considerations

Given River Crossing's significant history and ongoing role in how Edmonton functions and evolves, redevelopment of the area needs to consider a range of issues and opportunities.

### 2.1 Policy Direction

This River Crossing Business Plan aligns with the goals and policies of the Edmonton Metropolitan Region Board and the City of Edmonton. The redevelopment of River Crossing contributes to intensification, a thriving urban core, healthy lifestyles, efficient use of infrastructure, environmental stewardship and excellent quality of life envisioned in the Edmonton Metropolitan Region Growth Plan. It contributes to the achievement of ConnectEdmonton: Edmonton's Strategic Plan 2018-2019 and the goal of Urban Places. It supports the "Big City Moves" contemplated in The City Plan project and aligns with the policies in The Way We Grow, Edmonton's Municipal Development Plan. See Appendix B for more information. Finally, it delivers on the direction in the Corporate Business Plan to "Transform the western portion of the Rossdale Neighbourhood into a vibrant, mixed-use, high-density residential precinct through the River Crossing Plan".

### 2.2 Heritage

Within Edmonton, there are few places with a heritage as long, layered and complex as that of the River Crossing area in Rossdale. This heritage stretches back thousands of years and includes natural and cultural heritage that is both tangible (historic buildings, artifacts, documents) and intangible (stories, values and traditions). It is this mix that makes River Crossing important to Edmonton's history and to First Nations, Métis, Franco-Albertans, and everyone living in Edmonton and the surrounding region. The River Crossing area is located on one of the lower terraces of the North Saskatchewan River, which takes its name from the Cree *kisiskaciwani-sipiy*, meaning swift-flowing river.

Through the River Crossing Heritage Interpretive Plan (HIP), the history of River Crossing was illuminated and the story of this area was retold. The HIP provides a detailed overview of this history, in addition to approaches for integrating this history with future development. It considers history within the two categories introduced above: tangible and intangible.

Tangible history includes the buildings and spaces that are still visible and evident today. A range of such physical historic spaces within the plan area must be considered and

incorporated in future development where appropriate. These include:

- Traditional Burial Grounds / Fort Edmonton Cemetery
- Rossdale Power Plant
- Ortona Armoury
- Donald Ross School
- Little Flower School
- Ross Flats Apartments
- Pre-Second World War detached houses

Although RE/MAX Field itself is not a historic structure, the tangible history also includes the ballpark because this site has a long history of importance for baseball in Edmonton.

Intangible history consists of the more subtle and harder-to-define historic activities and roles that this space served but which are no longer present. It is essential to interpret and express these intangible historical aspects in any new development. This includes, but is not limited to, the area's ancient use by Indigenous peoples as a place of trade and travel, forts and operations from the fur trade era, Edmonton's early recreation grounds, and the ceremony in which Alberta was officially declared a province in 1905.



## 2.3 Rossdale Power Plant

Figure 5 - Rossdale Power Plant



The Rossdale Power Plant has been a landmark within the river valley for more than 80 years and stands on a site where power was first generated in 1902. The power plant is an excellent example of early 20th century industrial architecture and is unique in Alberta. The complex, built in stages between 1930 and 1958, is comprised of several buildings as indicated in the above figure, including:

- ① Low Pressure Plant (comprised of a Boiler Hall, Turbine Hall, and Switch House)
- ② Pumphouse No. 1
- ③ Pumphouse No. 2

- ④ Administration Building (still used by EPCOR and outside the scope of the River Crossing initiative)

The Low Pressure Plant, designed by Maxwell Dewar in the 1930s, retained a consistent character as it was expanded over time. The Low Pressure Plant, the adjacent Pumphouse No. 1, and the Administration Building, were designated as Provincial Historic Resources in 2001. The Low Pressure Plant, Pumphouse No. 1 and Pumphouse No. 2 are also listed on the Inventory of Historic Resources in Edmonton. The Low Pressure Plant and Pumphouse #1 were decommissioned in the late 1990's; Pumphouse #2 was decommissioned between



Boiler Hall

## 2.4 Archaeology & Cemetery

2010 and 2012. The adaptive reuse of these buildings and adjacent lands has been an ongoing topic of discussion and research ever since.

Additional investment is required to adapt the industrial space to accommodate any new activity. Initial stabilization work was done on the Low Pressure Plant in 2015, including replacement of the Boiler Hall roof. Replacement of the Turbine Hall roof is now required and additional renovations are needed just to allow people into the building on a regular basis.

Because it is connected to the river valley trail network, the power plant has excellent accessibility for people walking and cycling. Automobile access is limited to an access road off Rossdale Road that leads to a parking area that can accommodate approximately 50 cars immediately east of the Low Pressure Plant.



*1938 Smokestack install credit Poole Family Archives (EEP)*

As the location of Indigenous activity within the North Saskatchewan River valley for thousands of years followed by intense periods of activity tied to the fur trade, early industrial development, and residential settlement, the Rossdale flats have a rich and complex archaeological record. This record identifies six known sites that include a prehistoric campsite, fur trade era forts, the Fort Edmonton Cemetery/ Traditional Burial Ground, and waste piles as well as 20th century industrial infrastructure. The river's natural flood regime and different eras of development and disturbance have affected the lands and archaeology of the area unevenly, and those effects are still being understood.

A key feature of the area's archaeological and cultural significance is the Traditional Burial Grounds / Fort Edmonton Cemetery, where First Nation and Métis people and Europeans were buried during the fur trade era. During the 20th century, burials were subjected to disturbance and disrespect through infrastructure work carried out by the City.

In 2001, thanks to community efforts, the City began working with a group of people self-identifying as descendants of those buried in Rossdale, ultimately leading to reinternment

ceremonies and the dedication of a memorial in 2007. The memorial's unfinished circle symbolizes that additional burials are believed to be located outside the cemetery's existing boundaries under the transformer yard in EPCOR's Rossdale Substation. The burial grounds / cemetery are considered an active cultural site by Indigenous communities calling for respect. The site is designated as a Historic Cemetery by the Province of Alberta and under provincial regulations, there can be no new burials except for the reburial of historic human remains that may be found in Rossdale or on the Alberta Legislature grounds.

Alberta Culture, Multiculturalism and the Status of Women has identified that lands within Rossdale have a high degree of archaeological sensitivity, which intensifies with increasing proximity to the burial grounds / cemetery and fur trade posts. This cultural and archaeological context provides excellent opportunities for historical interpretation to support placemaking. It also establishes an imperative for appropriate engagement and sensitive land use planning, project design and construction management in concert with relevant regulatory requirements and approvals.



## 2.5 Urban Context

River Crossing is at the physical centre of Edmonton. Located between Downtown and Oliver to the north and Strathcona and the University of Alberta to the south, it is at the heart of the city's urban core. As the landing spot of the architecturally dramatic Waltherdale Bridge, River Crossing is in the minds of many people the doorstep to Downtown.

River Crossing connects with:

- South Rosedale, North Rosedale, and the McKay Avenue district of Downtown.
- The Legislature grounds, with its historic Legislature building, plazas, transit connections, lawns, lawn bowling, skating, and wading pools.
- The North Saskatchewan valley, the focus of Edmonton's park and trail systems.
- Kinsmen Park with its sports centre, outdoor pool, spray park, playground, par 3 golf course, football / soccer fields, tennis courts, and baseball diamond.
- John Walter Museum, which interprets the life of John Walter and the Strathcona community of Waltherdale from 1875 to 1920.
- Queen Elizabeth Park, home to the ᐃᓄᓄ (INIW) River Lot 11 Indigenous Art Park, a toboggan / viewing mound, trails, and picnic sites.



In other words, a tremendous number of recreational and cultural activities are located within a 10 minute walk of River Crossing. The area is also a central connection to a broader exploration of the river valley on foot, by bicycle or by car. When the existing and potential

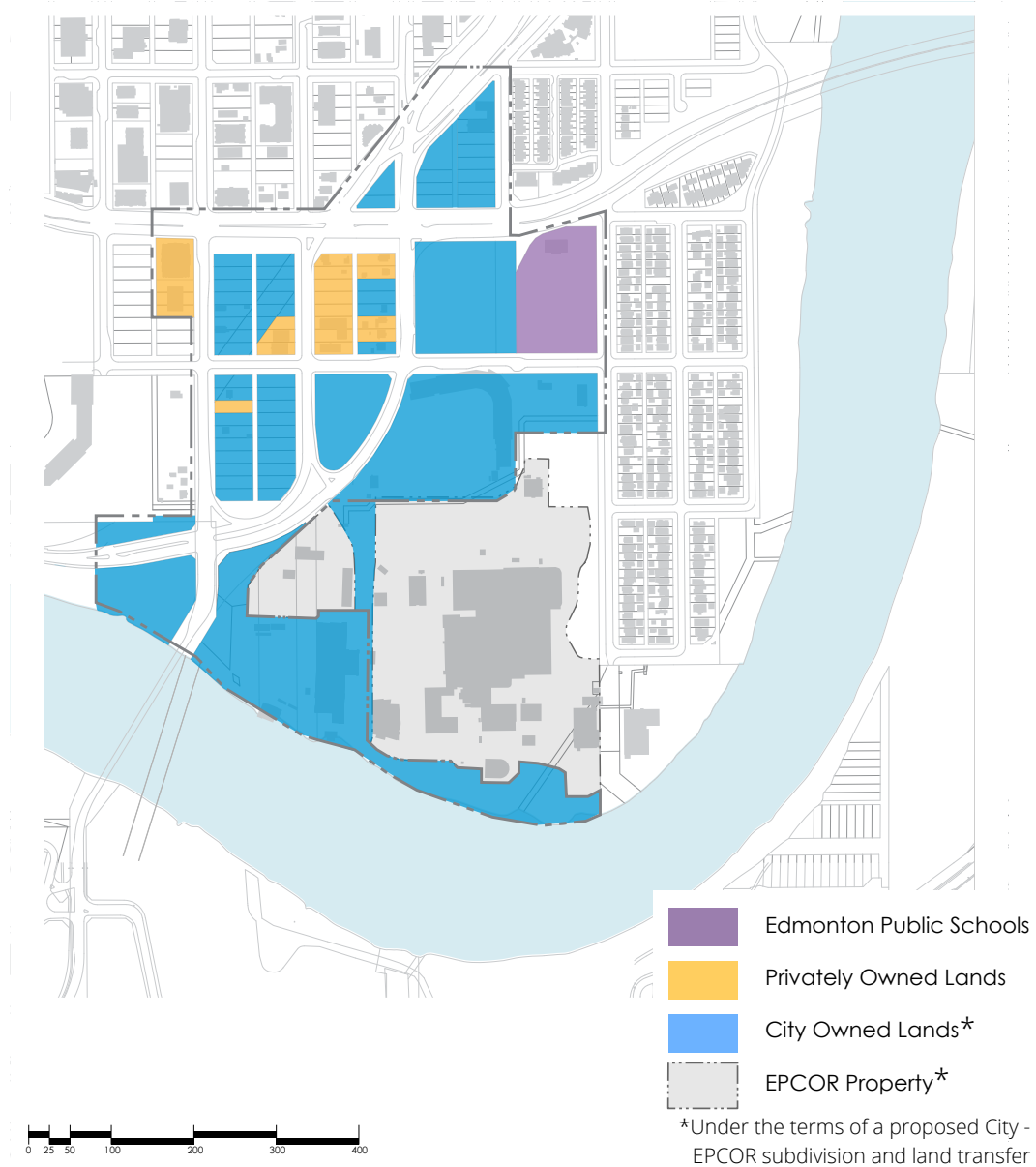
amenities in River Crossing are added to the above list, River Crossing and its interlinked people-focused activities can be understood to be a major destination at the centre of Edmonton.

## 2.6 Existing Land Use and Ownership

The River Crossing area encompasses open space, vacant land, grass parking lots, pre-Second World War single detached houses, small apartment buildings, two mid-rise apartments, historic buildings and landmarks, and the RE/ MAX Field ballpark.

The River Crossing plan area consists of approximately 17.6 hectares (ha). Of this, approximately 80 percent is owned by the City of Edmonton and of this approximately 15-20 percent is held by Land Enterprise. Majority ownership by the City of Edmonton facilitates street alignment changes and provides opportunities for property consolidation and land exchanges in support of redevelopment.

Figure 6 - Ownership





## 2.7 Open Space

Much of the River Crossing area is currently undeveloped open space although only certain portions of the area are currently zoned for open space uses. These areas are largely unprogrammed and have limited function as open space. Lands north and west of RE/MAX Field are predominantly used as parking for the ballpark and other events in the river valley.

The Donald Ross School site provides neighbourhood-level use and wellness functions. Soccer fields and a small baseball diamond are located on the site and are used informally by nearby residents and for some formal youth league games. The property is owned by Edmonton Public Schools, and long-term public use of the site as open space would require purchase of the property in whole or in part.

Lands along the North Saskatchewan River serve an ecological function as riparian habitat, with a well-used multi-use trail connection. Currently legally part of EPCOR's Rosssdale site, this area is to be subdivided and designed to become the Touch the Water Promenade.

Other open spaces surrounding the River Crossing area include the Legislature grounds and Kinsmen and Queen Elizabeth Parks south of the river.

The Rosssdale canal proposal was evaluated as a potential amenity for the area. While a



canal could have made an attractive feature for adjacent development, the concept lacked the historical and cultural authenticity warranted through the Heritage Interpretive Plan. Public

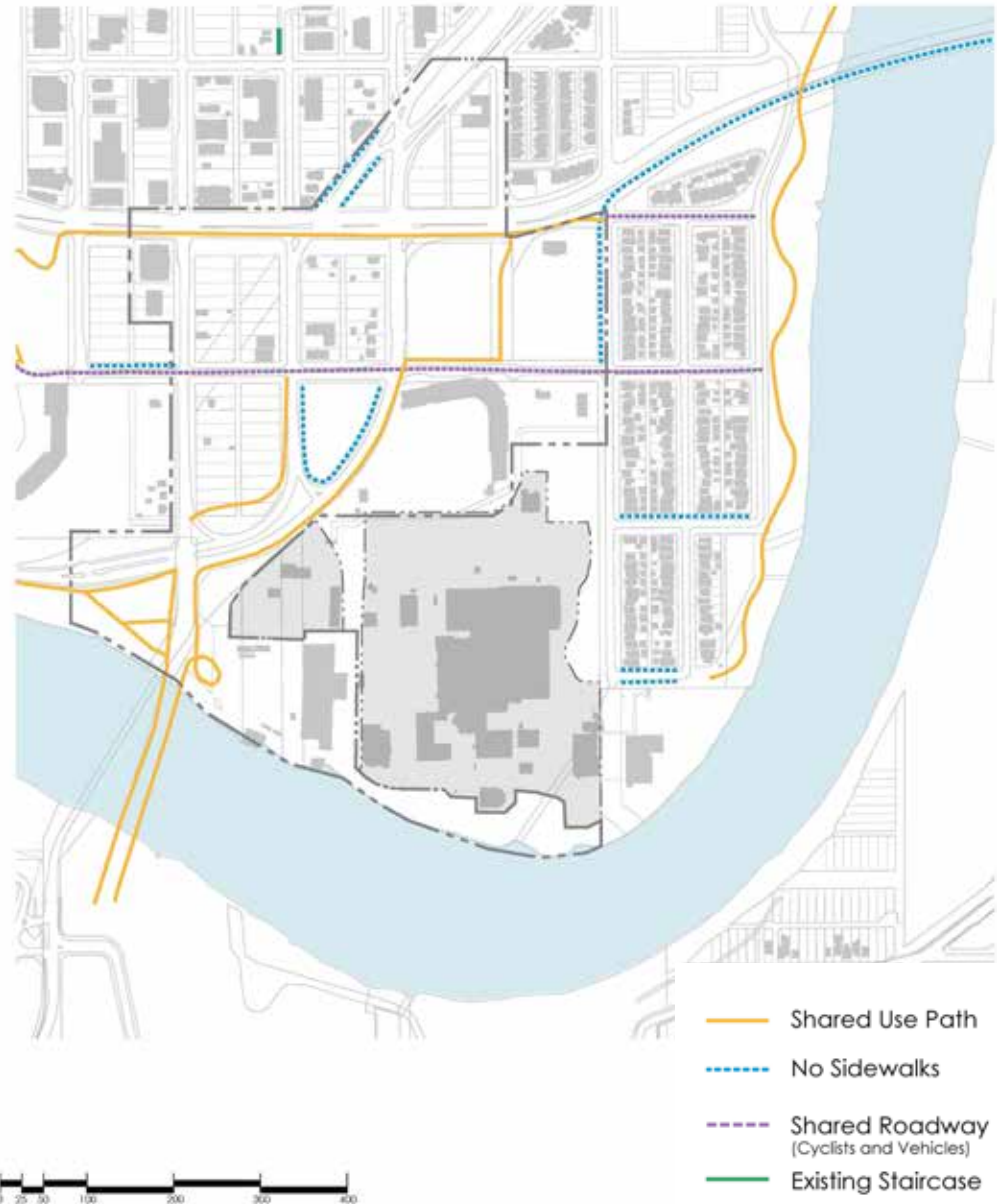
and Indigenous engagement strongly favoured connecting people to the river and activating the power plant over the creation of a non-riverfront water feature.

## 2.8 Transportation

The River Crossing area represents an important link in Edmonton's transportation system for drivers accessing Downtown from the south as well as traveling east-west across the City. The area is currently dominated and divided by a closely spaced network of arterial roads, some one-way (105 Street, 104 Street, Rossdale Road, 103 Street, and Bellamy Hill Road) and others two-way (97 Avenue and River Valley Road).

In addition to the arterial roads, the Rossdale neighbourhood is currently supported by a grid network of collector and local streets and alleys. The focus of the grid network is 96 Avenue, which provides two-way east-west access through the Rossdale neighbourhood and the Legislature grounds. There is also a road that provides access to the Rossdale Power Plant and Rossdale Water Treatment Plant.

Figure 7 - Existing Active Modes Network



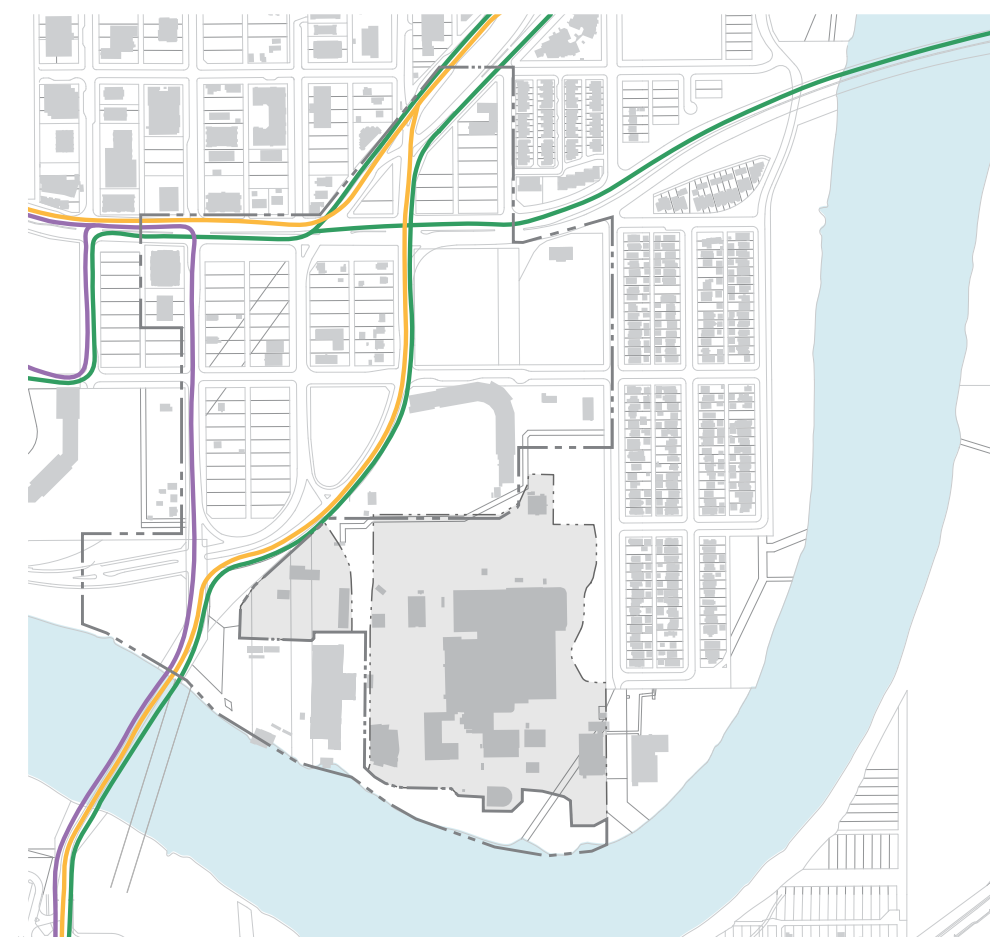


Currently, the arterial streets dividing the area and the fragmented pedestrian and bicycle networks create barriers, limit access, and discourage walking and cycling. The River Crossing redevelopment represents an important opportunity to enhance pedestrian and cycling connectivity within the area and between the river valley and Downtown, including the Walterdale Bridge trails and planned Touch the Water and North Shore promenades. Changing the function and intent of the streets currently operating within the area needs to be carefully considered in order to successfully achieve the River Crossing vision and goals.

In the Edmonton Transit Service Bus Network Redesign, anticipated to be implemented in 2020, River Crossing will be on a key frequent bus route between Southgate, Whyte Avenue, Downtown, Northgate, and Eau Claire. The route will use Walterdale Bridge and Rosssdale Road northbound and 97 Avenue and High Level Bridge southbound. A local bus route has been identified along 105 Street and 97 Avenue. River Crossing also benefits from Strathcona County Transit service west to Capilano and Sherwood Park. Finally, River Crossing is a short bike ride from the Grandin / Government Centre LRT station and the Muttart LRT stop currently under construction.

Increased population density, enhanced transit service and a redesigned street

Figure 8 - ETS Bus Network Redesign Proposed Routes



network accommodating strong pedestrian, cyclist, and transit connections would together ensure that all modes of transportation could viably be used to, from and within the River Crossing area.



- Frequent Bus Route
- Local Bus Route
- Strathcona County Bus Service

## 2.9 Housing Demand

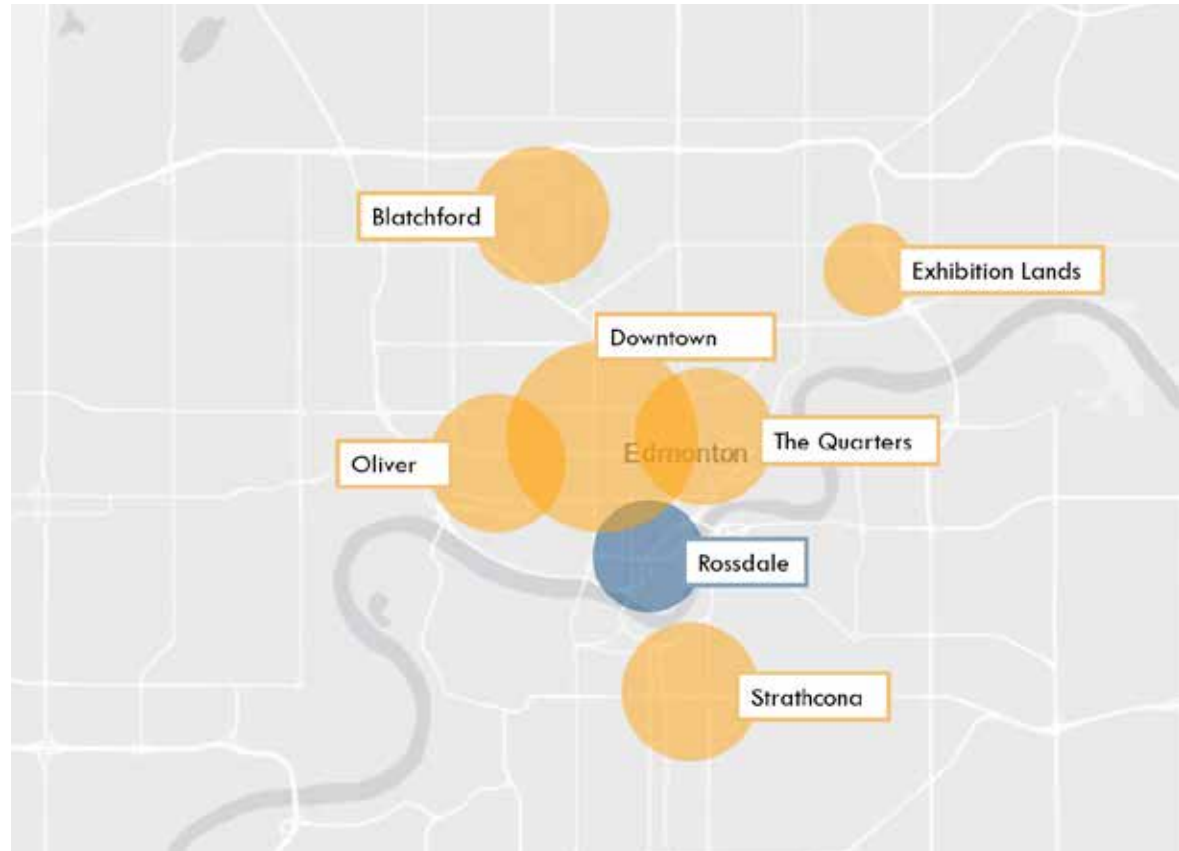
Within metropolitan Edmonton, the majority of growth has historically been accommodated in suburban neighbourhoods, though City policy has advocated increased levels of infill development in recent years. Rossdale is one of several core areas that have been the subject of growth planning and development initiatives given the potential to accommodate significant infill development.

Several private and City-led initiatives are underway to promote and deliver urban infill redevelopment. The primary City-led redevelopment projects include:

- Blatchford - 217 ha of land in central Edmonton in the initial stages of development. Anticipated to accommodate up to 30,000 residents.
- The Quarters - 43 ha of land adjacent to downtown Edmonton in early stages of development. Anticipated to accommodate 18,000 - 20,000 people.
- Exhibition Lands - 65 ha of City-owned land in northeast Edmonton, high level land use planning underway. Anticipated to accommodate 8,500 new residents.

Together, these projects have the potential to bring thousands of homes to market over the coming decades, depending on market conditions and growth management priorities. Viewing these projects in the wider development

Figure 9 - Key Infill Development Within and Near Downtown Edmonton



context - especially development in the Downtown, Oliver, Strathcona and a variety of transit-oriented development sites - suggests that there is an opportunity to balance an appropriate amount of development with investments in city-wide placemaking in the area.

Demand for residential units in the core is likely to remain consistent but modest, and

susceptible to fluctuation according to shifts in oil prices and other economic drivers. Given the substantial amount of development expected in the vicinity, River Crossing should distinguish itself by leveraging district assets including river access, open space, and a revitalized Rossdale Power Plant to better capture a share of downtown population growth.



## 2.10 Sustainability and Resiliency

With its prominent location within the river valley, the long-term sustainability of River Crossing is essential to its success as well as to community support for the project. Sustainability is not simply defined as reducing the environmental impacts of development, but more holistically considering the short and long-term economic, social, and environmental impacts within the city and region. For River Crossing, achieving sustainability means creating a project that mitigates potential impacts on the river valley ecosystem, while also creating the opportunity for viable development that supports a diverse socio-economic range of residents and visitors.

The City of Edmonton has committed to a long-term goal of carbon-neutrality. This plan recognizes the City's commitment to reducing community Greenhouse Gas (GHG) emissions by 35 percent from 2005 levels by 2035. As that target falls within the timeline of redeveloping the River Crossing area, actions and guidelines will seek ways to reduce the GHG footprint of redevelopment through effective transportation change, building efficiency, renewable energy sources and densification of the urban form.

### Economic

The economic resiliency of this project has been reviewed through a business case analysis that considers costs and revenue opportunities to efficiently develop this area in a way that supports the viability of the project for both the City of Edmonton and future developers. This is further considered in Sections 5 and 6.

### Social

Social resiliency must consider the diversity of residents within the city, as well as visitors, and provide opportunities for everyone to live and play in the planned area. This is achieved by providing housing for a range of household types, ages and physical abilities, incomes and demographics in accordance with appropriate City policy. It is also supported by providing engaging public open spaces and facilities. In light of River Crossing's Indigenous legacy, providing places that are welcoming to Indigenous peoples is particularly important.

### Environmental

The environmental resiliency of this project is driven by both the location within the river valley and through current best practices to mitigate the impacts of development. The plan should address this by supporting alternative modes of transportation to reduce vehicular dependency, efficient use of land, reuse of historical buildings, exploring the potential for a district energy system, and a diverse range of uses as well as promoting sustainability measures to be incorporated within individual buildings and in the public realm.



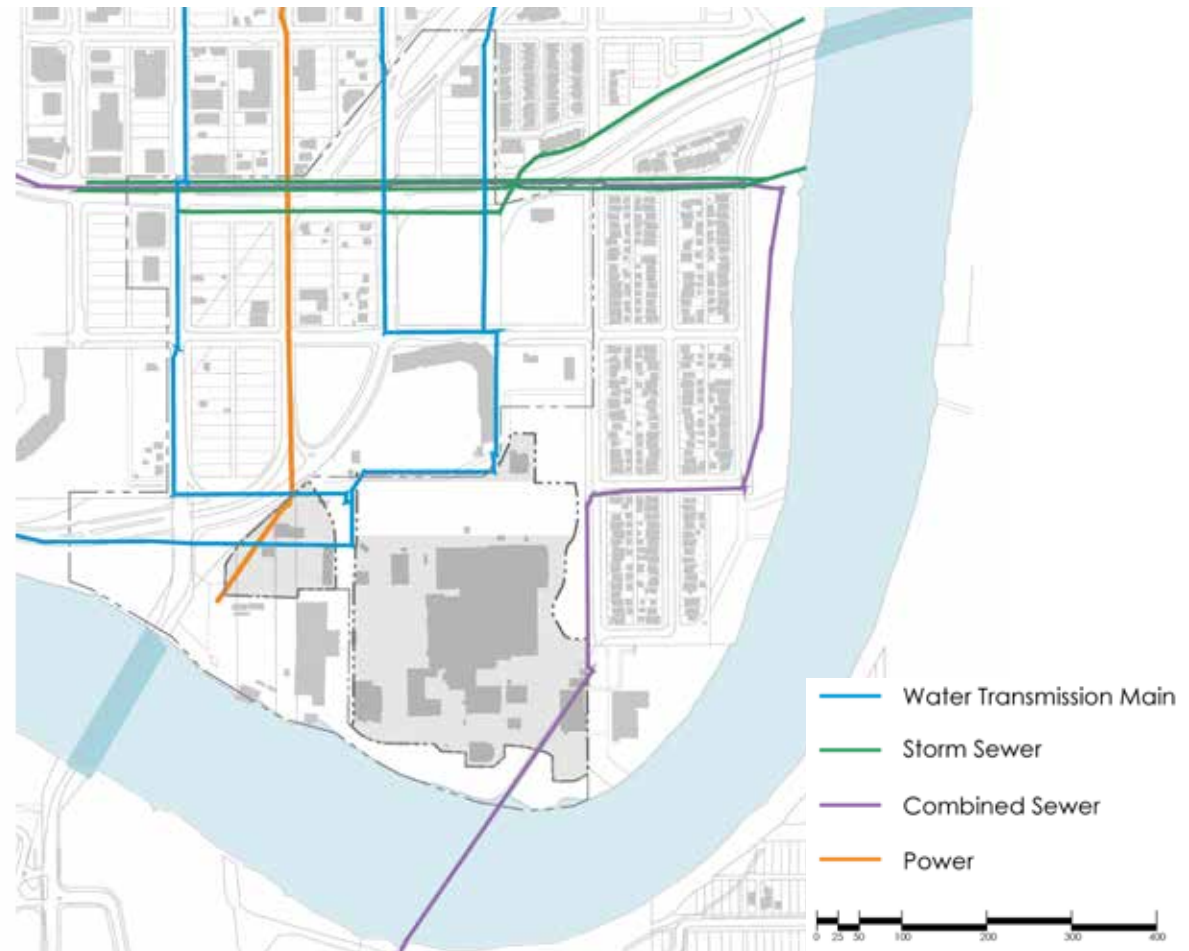
## 2.11 Utilities

There are many water lines in River Crossing because of the Rossdale Water Treatment Plant, and many power lines (both aerial lines and buried cables) because power used to be generated at the Rossdale Power Plant. EPCOR's Rossdale Substation, which lies between the power plant and the burial grounds/cemetery, is a major supply of electricity to the downtown core and has just been expanded.

Power is provided through a mix of aerial lines and buried cables. Properties between 105 Street and Rossdale Road are serviced by aerial lines running primarily along alleys. Some street lights and traffic signals in this area are fed by overhead lines while others are underground. River Crossing also features high voltage underground lines connecting north from the Rossdale Substation, which lies immediately east of the Traditional Burial Grounds / Fort Edmonton Cemetery.

Most of the sanitary sewers in the River Crossing area flow into combined/ sanitary sewer lines. While improvements to the sewer system in Rossdale have been made in recent decades, including a line built under the river in 1994, there continue to be combined sewer overflows into the river during extreme rainfall events.

The major overland storm drainage path for the area is toward the southeast. Minor storm flows are collected in the storm/combined sewer system and then discharged into the North Saskatchewan River. Major storm flows are conveyed overland to the river. A storm trunk along 97 Avenue



accommodates runoff from portions of Downtown and Oliver generally south of 100 Avenue.

Existing storm and combined sewer overflow outfalls must be manually closed during significant river flooding conditions to protect homes in the Rossdale neighbourhood. The lack of outlets during the river flooding situation will require special consideration when designing the servicing for River Crossing.



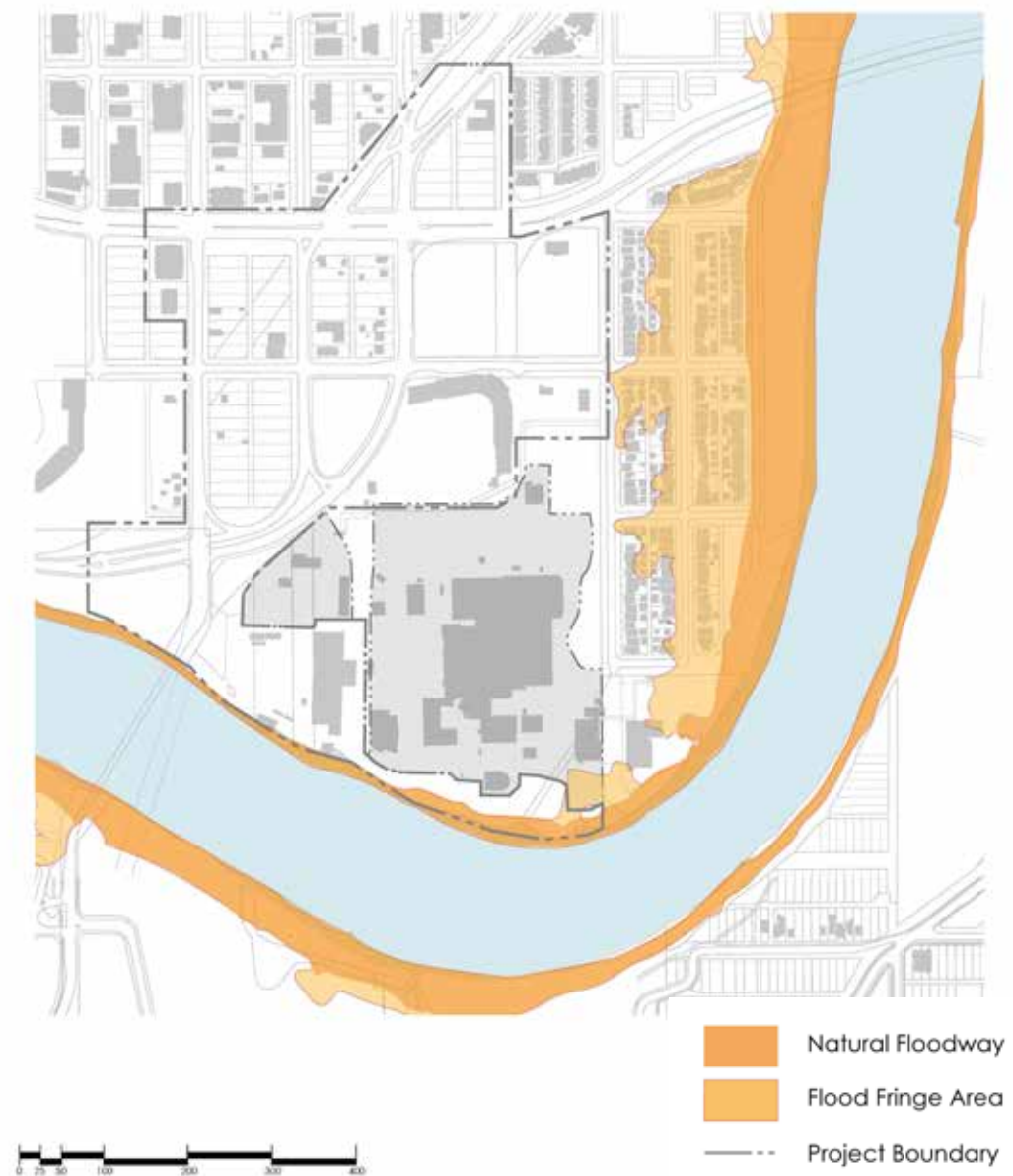
## 2.12 Flood Mitigation

Areas along the North Saskatchewan River are prone to occasional seasonal flooding. Flood risk mapping commissioned by the Government of Alberta in 1994, based on a 100-year flood event, showed that within River Crossing only the riverbank area was within the flood zone. Downstream, much of the South Rossdale area was in the flood fringe area (where flooding in a 100-year flood would be shallower than in the floodway). In 2018, Alberta Environment and Parks began a new North Saskatchewan River Hazard Study that is expected to be completed in 2020.

In 2015, the City of Edmonton's Drainage Services conducted a River Valley Neighbourhoods Flood Risk Study. It showed that the existing storm and combined sanitary/storm drainage system in Rossdale can be impacted by flood levels on the North Saskatchewan River. There are four combined sewer outfalls to the river in Rossdale. When river levels rise, these outfalls need to be manually closed to prevent river water backing up into combined sewer lines and flooding basements in Rossdale. Yet if there is an intense rainfall when the outfalls are closed, as occurred in both 2011 and 2013, runoff can fill sewers behind closed outfalls gates and then back up into basements.

EPCOR, which assumed responsibility for drainage and flood issues in Edmonton in 2017, has prepared a Stormwater Integrated Resource Plan. This plan identifies the Rossdale neighbourhood as one of the top priorities for

Figure 11 - Flood Risk Areas



Source: North Saskatchewan River at Edmonton Flood Risk Mapping Study (Phase I - Lower Reach), Alberta Environment and Parks (<http://maps.srd.alberta.ca/FloodHazard/>)



flood risk mitigation. It also places a priority on protecting critical infrastructure such as the Rosedale Water Treatment Plant from flooding. Any flood mitigation measures implemented by EPCOR will need to align with new urban development being planned for the River Crossing and consider River Crossing servicing requirements to ensure that all potential synergies with the flood mitigation measures are realized.

In March 2019, the federal government announced \$54 million in funding for “riverine

and urban buffer on flood mitigation” in Edmonton under the Disaster Mitigation and Adaptation Fund. With the help of this funding, EPCOR will construct dry ponds in various parts of the city to prevent sewers from being backed up with stormwater during periods of intense rainfall. It will also upgrade sewer outfalls.

As part of its Stormwater Integrated Resource Plan, EPCOR will be implementing Low Impact Development measures throughout the city. Low Impact Development is an approach

to stormwater management that seeks to retain stormwater on-site (through features such as bioswales, rain gardens, permeable pavements, and green roofs) rather than conveying it elsewhere in ever-larger storm pipes. These measures mitigate flooding by reducing the amount of stormwater flowing into combined sewer systems such as found in Rosedale.





*Conceptual Rendering of  
Urban Plaza*

## **3. Objectives and Outcomes**



### 3 Objectives and Outcomes

The project team identified seven objectives regarding the redevelopment of River Crossing. The objectives were distilled from City Council's 2015 vision for River Crossing, the River Crossing Heritage Interpretive Plan (2017), the West Rosedale Urban Design Plan (2011), and stakeholder input. The objectives were then workshopped with the public and stakeholders. Through that process the objectives were refined and outcome statements were written for each objective illustrating what success means for River Crossing.

*Illustrative Rendering of River Crossing Redevelopment*



## Objectives

## Outcomes

### Urbanity

Establish River Crossing as a mixed-use neighbourhood with high-quality design.

- Urban design that integrates with surrounding areas
- Appropriate scale and mix of land uses, including residential, commercial, open space and recreational
- Quality public realm (streets and spaces) that supports year-round use
- Increased densities with appropriate transitions

### Transportation

Change the road network to facilitate River Crossing's development while ensuring it remains a gateway to downtown.

- Network of livable and inviting streets
- Effective and varied transportation options
- Functional connections between the south side and downtown
- Public access to the river and recreation trails
- Infrastructure that ensures safety and accessibility for all

### Destination

Make River Crossing a special destination for Edmontonians and visitors to explore and cherish.

- Attractive, welcoming gathering spaces for active and passive use
- Facilities for events and celebrations
- Innovative experiences that reflect the area's uniqueness
- Shops and services to draw and support user experiences

### Heritage

Honour the area's significance for Indigenous peoples and settlers and connect to the present.

- Heritage interpretation that promotes learning and a sense of connection
- Spaces and supports for cultural activities, programming, reflection and interaction
- Cultural accessibility, meaning and authenticity
- Protection of historic and cultural sites and views
- Preservation and adaptive reuse of historic buildings

### Community

Make Rosssdale a more vibrant and diverse community.

- Strengthened sense of community
- Housing for different ages, abilities and income levels
- Proximity and access to open space, parks and trails

### Economics

Attract private development in River Crossing through public investment and partnerships in city-building

- Strategic City investments
- Viable private development that delivers public benefit
- Partnerships with organizations, institutions and other levels of government
- Economic development opportunities
- Responsible, staged financial approach

### Environmental Stewardship

Incorporate ecological practices into the area's design and contribute to sustainability across generations.

- Enhancement of habitat connectivity and biodiversity
- Cost-effective use of renewable energy
- Climate change adaptation and flood resilience





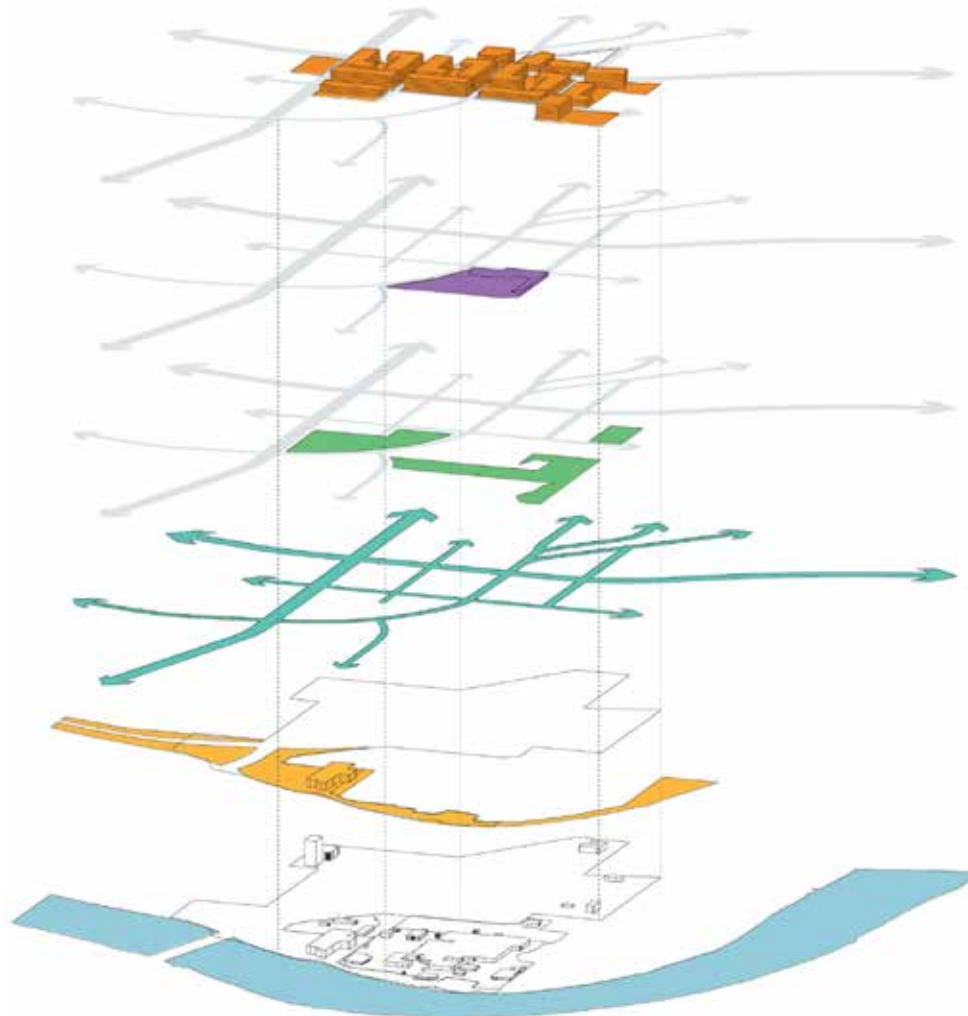
# 4. Development Concept

*Conceptual View of  
96 Avenue*

## 4 Development Concept

From the key considerations outlined in Section 2 and the objectives in Section 3, a set of big ideas emerged as the basis for the River Crossing development concept.

Figure 12 - Big Moves



### Connect and Grow the Community

Underutilized land within River Crossing can be developed to knit together neighbourhoods and add commercial services that are currently lacking.

### Revitalize the Ballpark

RE/MAX Field can be retained as a link to Edmonton's sports history and reimagined as an urban-facing facility used year-round for cultural activities and other events in addition to baseball.

### Create Signature Open Spaces

New open spaces can capture the imagination of the city and celebrate River Crossing's deeply layered history.

### Simplify Roads

Overbuilt roads can be simplified and redesigned to facilitate development, accommodate all modes of transportation and lend character to River Crossing.

### Activate the Riverfront

Through the Touch the Water project and adaptive reuse of the Rosedale Power Plant, the city can connect with the river.

Figure 13 - Street Hierarchy



## 4.1 Connectivity

Transportation to, from, and within River Crossing must change to facilitate development and to better meet the diverse needs of residents and visitors.



### Multi-modal Approach

The road network will be redesigned to create streets for people while accommodating regional travel connectivity. Existing arterial roadways bordering River Crossing will be maintained, and enhanced to prioritize transit, where appropriate. Interior arterial roadways will be redesigned as ‘people first’ places that safely and comfortably accommodate movement by a variety of modes. This will involve wide, accessible sidewalks; safe and convenient crossings; bike lanes, bike parking, and the possibility of bike share docking stations; and buildings oriented to the street.

In addition, the transit services described in Section 2.8 will need to be enhanced and/or supplemented during special events at RE/MAX Field, the Interpretive Park, and Rossdale Power Plant. Special transit services can be provided by Edmonton Transit or through private coaches or shuttles to ensure that people from across the city can access the amenities and activities in River Crossing.

All recommended transportation changes will be subject to subsequent engineering design, which will consider the necessary elements to create a highly walkable environment providing connectivity, promoting sense of place, and encouraging consideration of the community as a destination.

### Rossdale Road

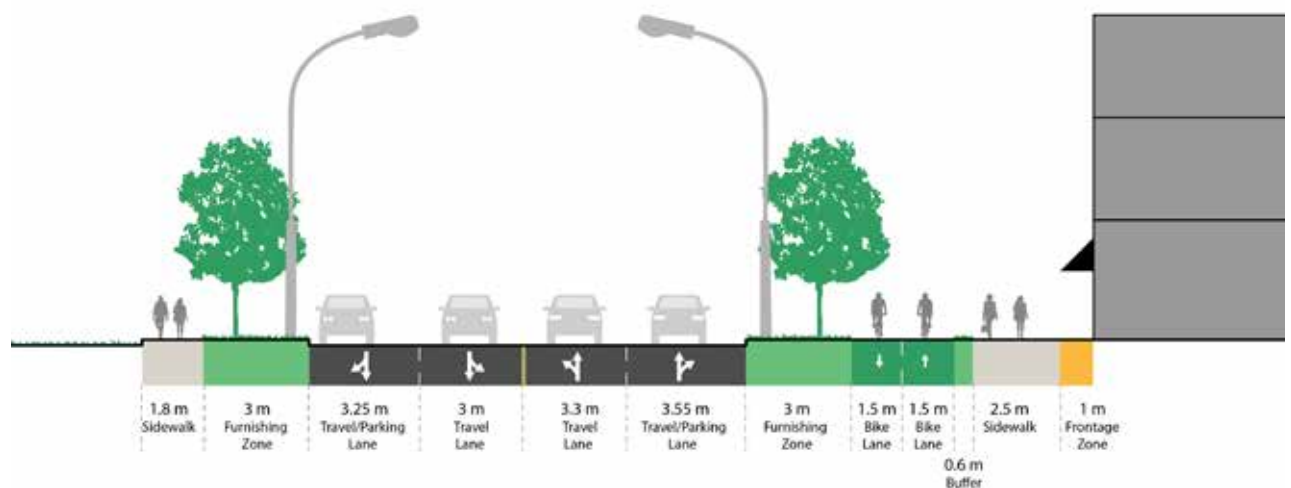
Rossdale Road is proposed to be converted to a two-way street with two northbound and two southbound lanes. During off-peak periods (e.g. 9:00 am - 3:00 pm and 6:00 pm - 6:00 am), parking should be permitted on both sides of Rossdale Road within the curb lane and the street will function with one vehicle lane in each direction. This street is proposed to include a separated bicycle path on the south/east side and sidewalks with boulevards to provide a comfortable biking and walking experience. The road could be closed for special events in the area.

As a two-way street, Rossdale Road would continue to provide northbound access from Walterdale Bridge to Downtown via Bellamy

Hill Road but would now also be the southbound / westbound access to River Valley Road. That is, the existing “couplet” system of Rossdale Road northbound and 104 Street southbound will be replaced by two-way traffic on Rossdale Road north and south of 97 Avenue. This would allow for the one-way portion of Bellamy Hill Road from 97 Avenue to 103 Avenue to be closed. The scope of work north of 97 Avenue required to accommodate this change will be confirmed with engineering design.

The design of Rossdale Road shall consider the turning movements of large vehicles entering the EPCOR site.

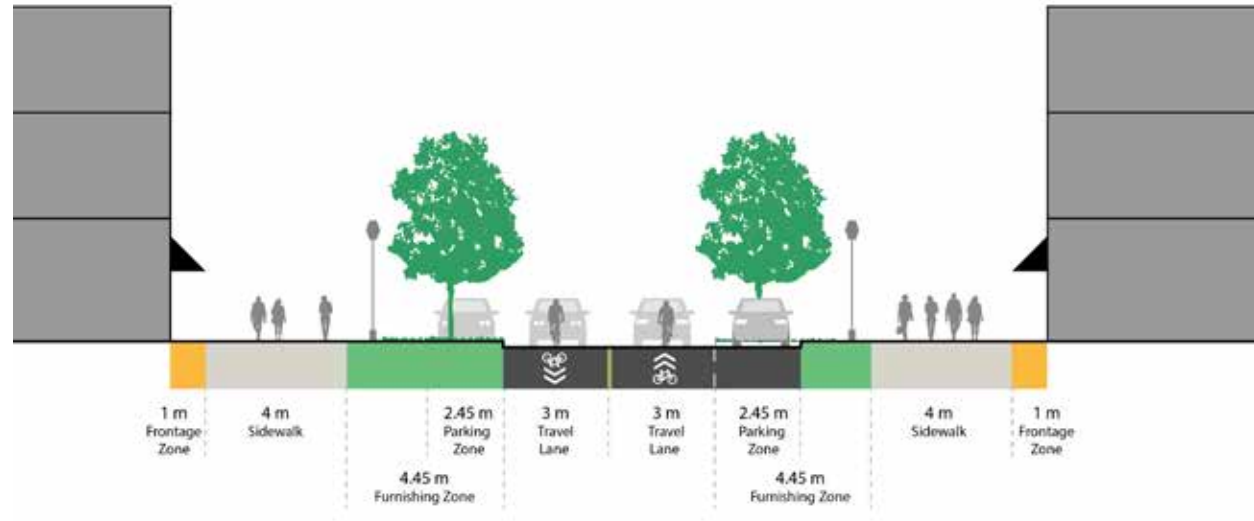
Figure 14 - Rossdale Road (looking North)



### 104 Street

With Rossdale Road accommodating north and southbound traffic within River Crossing, 104 Street will become a pedestrian-focused street with reduced vehicle access. With a single lane of traffic in each direction and on-street parking, the intent is a lively pedestrian commercial street accommodating local vehicular traffic. As well, 104 Street will terminate for cars south of 96 Avenue but will be an important pedestrian connection to the interpretive park, Traditional Burial Grounds/Fort Edmonton Cemetery, Rossdale Power Plant and Touch the Water Promenade. Through an upgrade to the stairs on 104 Street between 98 and 99 Avenues contemplated in the Downtown Public Places Plan, 104 Street will also be an important pedestrian connection to Downtown.

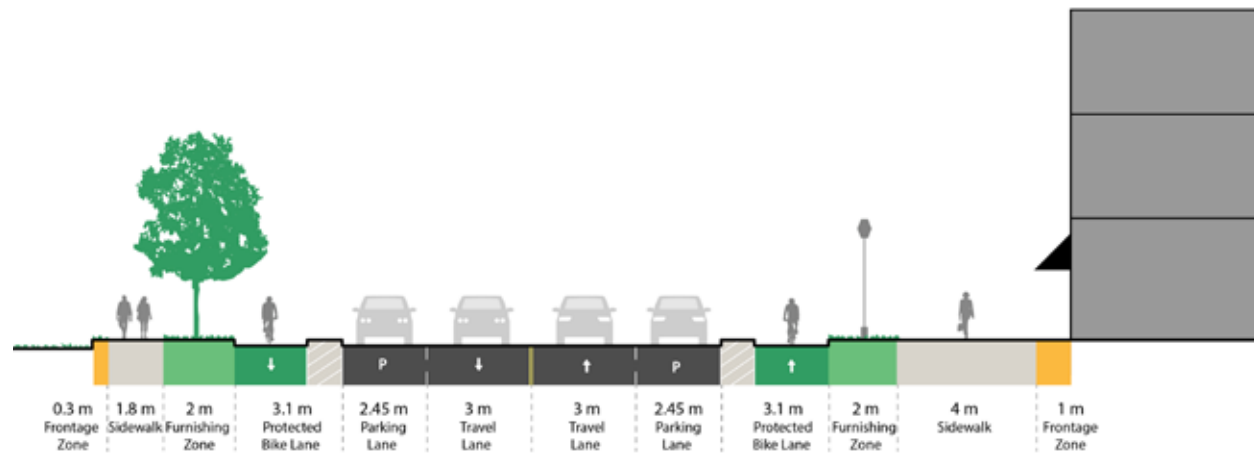
Figure 15 - 104 Street



### 96 Avenue

Changes to 96 Avenue will make it an attractive roadway connecting River Crossing to South Rossdale, the river, and the Legislature grounds. Wide sidewalks and separated bicycle facilities will prioritize non-motorized transportation and foster retail viability. There will be a single lane of vehicular traffic in each direction, on-street parking on both sides, and enhanced streetscaping including boulevard trees and street furniture.

Figure 16 - 96 Avenue



## Other Roadways

Traffic on 105 Street will remain one-way to accommodate much of the northbound traffic coming across Walterdale Bridge. Sidewalks and boulevards on the east side of the street will need to be improved as redevelopment occurs. The intersection of 105 Street and 96 Avenue will need to be improved to facilitate pedestrian and bicycle movement on 96 Avenue.

The primary change to 97 Avenue in the short to medium term will be to intersections. The intersection with Rosssdale Road will change as Rosssdale Road becomes two-way. The intersection with 104 Street will become right-angled as 104 Street becomes two-way and the portion of Bellamy Hill Road immediately north of 97 Avenue is closed. Through future renewal of 97 Avenue or redevelopment, the sidewalk and shared-use path that parallel each other on the south side of 97 Avenue can be replaced with a more urban-styled facility that consumes less developable land. In the long term a redesign of 97 Avenue, the widest road in central Edmonton, should be contemplated to reduce its barrier effect on walking and cycling between Rosssdale and Downtown.

In addition, 102 Street will be built between 96 and 97 Avenues to provide access to adjacent development. Construction will coordinate with the timing of development.

## Innovative Modes

A private group is exploring the feasibility of constructing a gondola system across the river valley with stops in Old Strathcona, Rosssdale and Downtown. If proven feasible and constructed, the gondola would support activity in River Crossing, including special events, without adding to roadway traffic and parking demand. The most logical location for a gondola stop seems to be the centre of the River Crossing area so maps in this business plan show two possible locations near the intersection of Rosssdale Road and 96 Avenue.

Depending on the design of Touch the Water Promenade, watercraft may be able to dock at River Crossing. While commercial conveyance on the river (e.g. water taxi) may not be feasible, there may be opportunities for river-based tourism activities, for example a canoe/kayak route from Fort Edmonton to River Crossing.



## 4.2 Open Space

Unique open spaces and other amenities will transform River Crossing into a special destination for Edmontonians and visitors alike.

### Open Space Network

River Crossing will create a critical mass of amenities accessible by foot and bicycle in this central portion of river valley. City-wide amenities will connect people to River Crossing's rich natural and cultural heritage. Other spaces will serve neighbourhood needs. Together, these spaces and facilities will provide a range of year-round ecological, wellness and celebration functions and establish River Crossing as a character-defining district in the Edmonton region.

### Touch The Water

The Touch the Water Promenade has been envisioned as an opportunity for people to engage with the river itself. Due to the geography of the river valley, most of Edmonton sits up above the top of bank with limited access to the water. Touch the Water will enhance the existing shared use path along the river into a series of spaces for enjoyment of the river and possible direct access to and from the river. The City has retained consultants to design Touch the Water, which will run east of Walterdale Bridge, as well as a North Shore Promenade between Walterdale Bridge and Government House Park. Concept design of Touch the Water is expected to be completed in 2020 and will necessarily include some interface with the grassed area west of the Rossdale Power Plant.

Figure 17 -Open Space







Figure 18 -Conceptual View of Pumphouse



## Interpretive Park

The interpretive park is intended to pay homage to Edmonton's Indigenous and settler past, present and future: to be a place dedicated to cultural connection and understanding. A key to building meaning and placemaking, the park will be a programmable space. It will provide a platform to share stories and learn about the people and cultures connected to this place and will interpret themes from the River Crossing Heritage Interpretive Plan. It will also serve as a venue for Indigenous communities to perform ceremony and host cultural events and a welcoming gathering place for Edmontonians and visitors of all ages.

The park will be co-designed with Indigenous communities and others to address programming needs and appropriately commemorate and celebrate the city's Indigenous and settler legacy and potential. The location of the park is itself significant as it includes a known prehistoric archaeological site. The size and siting of the park also provide a sensitive transition between the highly urban area north of the park and the burial grounds/ cemetery. A pedestrian link should be provided from the termination of 104 Street through to Rossdale Road to connect the interpretive park to key sites and destinations along the river.

While the interpretive park is envisioned as a city-wide public space, it could also be designed to accommodate neighbourhood uses and events.

*Figure 19 - Conceptual View of Interpretive Park.*









## Urban Plaza

An urban plaza will occupy the northeast portion of the interpretive park. Centrally located within River Crossing, the urban plaza will be a convenient and accessible location to provide space and programming for adjacent residents and businesses as well as spill-over activity from the interpretive park and RE/MAX Field. The plaza is one potential location for a gondola stop.

The urban plaza will provide community infrastructure to serve park users and event attendees. To support placemaking and heritage preservation while also offering these services, existing West Rossdale character homes could be relocated and repurposed into a park pavilion.



*Figure 20 - Conceptual View of Urban Plaza*





## RE/MAX Field

A revitalized RE/MAX Field has the potential to honour the long history of sports in Rosedale. The City is seeking an operator for a new 10-year lease for the facility. The operator will be encouraged to program a variety of sports, cultural, entertainment, and community events and to make better year-round use of the facility. Redevelopment in conjunction with RE/MAX Field that would better activate the area is encouraged, e.g. making year-round use of existing commercial space within RE/MAX Field; replacing temporary bleachers with housing or commercial space.

Areas that historically accommodated surface parking for RE/MAX Field are expected to be redeveloped gradually over the next 10 - 15 years. This will give time for alternative strategies to be prepared to get people to and from the facility and for facility users to adjust their travel modes.

If, through the 10-year lease opportunity RE/MAX Field does not prove viable and successful in activating the River Crossing area, the site can be redeveloped with housing that interfaces with the EPCOR water reservoir.



## Water Reservoir

The EPCOR water reservoir has the potential to become an outdoor amenity for Edmontonians. Currently, the land above the underground reservoir is an inaccessible grass field. In support of the River Crossing initiative, EPCOR is expected to provide public access to this space for activities that would not impact the continued function of the reservoir (no vehicles would be allowed). This space could be actively programmed with events, movable furniture, lightweight play structures and temporary installations. There could be synergies with RE/MAX Field provided that needed access on the intervening road is respected. Access to the reservoir will also knit the Rossdale neighbourhood together in an important new way by providing direct pedestrian access between South Rossdale and the interpretive park, power plant, and burial grounds / cemetery.

*Image: Existing Reservoir*



Figure 21 - Conceptual View of EPCOR Water Reservoir





## Neighbourhood Open Space

Through a land transfer with EPCOR, open space east of RE/MAX Field and the Rossdale Water Treatment Plant is expected to be retained as community park space. The eastern portion of the Donald Ross school field will also be preserved as open space if funding to acquire this land from Edmonton Public Schools can be obtained.

The use and programming of these lands will be determined in consultation with the community.



*Image: Donald Ross School*

## 4.3 Historic Buildings

In River Crossing the old will energize the new. Significant historic resources will be retained, honoured, and reused in ways that engage the public imagination, support placemaking, generate foot traffic, and contribute to economic development. To achieve this, public amenities and open space should be provided adjacent to historic buildings to preserve views of the buildings and allow for public enjoyment of these resources. Adaptive reuse is another way to ensure these historic resources are appreciated for years to come. To preserve the integrity of designated Municipal or Provincial Historic Resources, adaptive reuse strategies or programs must take into consideration appropriate conservation practices, as outlined in an applicable municipal historical designation bylaw and the Standards and Guidelines for the Conservation of Historic Places in Canada.

## Rossdale Power Plant

The Rossdale Power Plant buildings will be repurposed for a variety of cultural, institutional, commercial, and entertainment uses. Engagement regarding the power plant revealed a tremendous desire for public access.

Public access, however, does not preclude private enterprise and investment. The Low Pressure Plant has the space and character for unique stores, markets, restaurants, offices, galleries, etc. Pumphouse No. 2 has the potential to become Edmonton's only riverfront cafe or restaurant and, due to its smaller size, could be renovated and operated separately from the Low Pressure Plant.

The Low Pressure Plant is approximately 9,700 m<sup>2</sup> in size and contains a variety of interior spaces. Spaces which, due to the industrial character of the building, do not lend themselves to retail, office or assembly uses may be ideal for makers like potters, brewers, metalsmiths, fabric artists, designers, and painters or for performance or gallery space.

Repurposing these buildings will need to be staged over time as opportunities and funds allow. This business plan recommends that the City undertake initial, limited, strategic renovations within its 2019 - 2022 capital cycle to permit regular occupancy of the Low Pressure Plant or portions thereof. It also recommends a path towards sustainable on-going operations at the power plant. See the Section 6 Implementation for more details.

## Ortona Armoury

The Ortona Armoury, a City-owned Municipal Historic Resource built in 1914, is currently undergoing an extensive rehabilitation. Once rehabilitation work is completed, the Ortona Armoury will again serve as an active artistic hub. The facility will house artist studios and provide an enhanced space for community events. Under the management of Arts Habitat Edmonton, the facility will contribute to the early activation of River Crossing, while also providing much needed community meeting space. An adjoining lot to the south of the facility will provide service access to the building and will be designed to double as a programmable outdoor space. The balance of the Ortona Armoury site will be redeveloped as outlined in Section 4.5.2.

## Ross Flats Apartments/ Children's Shelter

Built in 1911, the Ross Flats Apartments is a designated Municipal Historic Resource. It is significant as the earliest surviving example of a children's shelter in the Edmonton area. It is now a residential apartment building, and is significant for being continuously owned by the City of Edmonton since its construction. The Ross Flats Apartments will be retained and sensitively integrated with new development.

## Little Flower School

The Rosssdale Community League occupies Little Flower School (opened 1929; closed 1971), a former Catholic school which was Edmonton's last one-room schoolhouse. In 1969 the school was relocated from its original location at 97 Avenue and 101 Street to make way for James MacDonald Bridge construction. Consideration should be given to development that would make more effective use of the site while protecting the building and providing improved community league space for a neighbourhood with a larger population. Such a development could also integrate with the Ross Flats Apartments.

## Donald Ross School

Donald Ross School (opened 1913; closed 1974) is on the City's heritage inventory. It is currently used as offices for Edmonton Public Schools administration staff. This distinctive building should be retained and sensitively integrated with new development. It could also be restored to educational use if student numbers ever warranted it.

## Rosssdale Houses

Located between Rosssdale Road and 105 Street are a number of detached dwellings that are original to the area. The buildings range in date of construction between 1910 and 1949, and are in a variety of states of repair. The reuse / relocation of existing houses in the area should be supported where economically feasible to maintain a link to the past history of Rosssdale. An opportunity may exist to relocate one of two of these houses to the urban plaza and repurpose them for public uses to serve the future community, and / or retain one of the older buildings in place.

*Image: recently demolished Empey house.*





## 4.4 Cultural Sites

The Traditional Burial Grounds / Fort Edmonton Cemetery will be maintained and honoured as the sacred resting ground of First Nation, Métis, French, and British people buried in this area prior to 1890. The site is designated as a Historic Cemetery by the Province of Alberta and under provincial regulations there can be no new burials except for the reburial of historic human remains that may be found in Rossdale or on the Alberta Legislature grounds. The River Crossing plan will ease some of the physical constraints on the cemetery. In the planned redesign of Rossdale Road, it may be possible to shift the road slightly to the north, which would provide a larger buffer on the north side of the burial grounds / cemetery. The design of the interpretive park and programming of events in the area will need to consider respect for and compatibility with the burial grounds / cemetery.

The area near the burial grounds / cemetery is archaeologically sensitive. All proposals for projects near the burial grounds / cemetery will be submitted to Alberta Culture, Multiculturalism

and Status of Women for review. Alberta Culture, Multiculturalism and Status of Women will issue specific regulatory requirements related to archaeological assessment and monitoring and Indigenous consultation. The City will work with partners to consult with Nations prior to any work commencing. As part of its own due diligence, and to honour its relationship with Indigenous Nations, the City will follow the archaeological protocol established as part of the Walterdale Bridge project to ensure that Nations are invited to participate in archaeological monitoring. If human remains are discovered and confirmed to be historic in nature, the City will inform the Province as well as Nations.

Additional burials are believed to be under the western portion of EPCOR's Rossdale Substation.



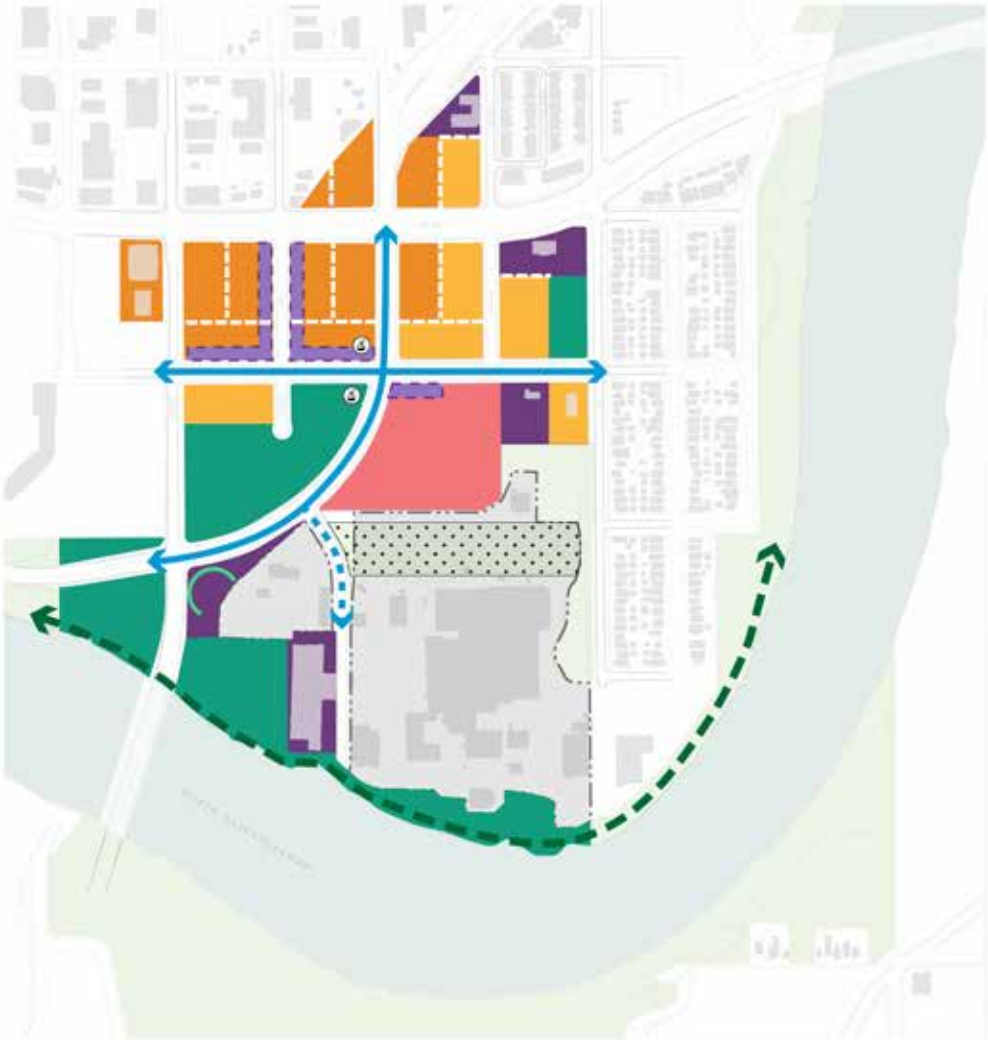
*Image: Burial Grounds  
/ Fort Edmonton  
Cemetery*

### 4.5 Development

New development in River Crossing will better connect downtown to the river and tie together long-separated parts of Rossdale. As the only substantial development area in the river valley, demand for development within River Crossing is expected to be strong.

Figure 22- Land use

-  Low-midrise Housing (4-6 storeys)
-  Mid-highrise Housing (8-15 storeys)
-  At-Grade Commercial
-  Institutional/Cultural
-  RE/MAX Field
-  Open Space
-  EPCOR Property
-  Public Access Easement
-  Complete Streets with Enhanced Landscaping
-  Connection from Park to Rossdale Rower Plant
-  Touch the Water Promenade
-  Traditional Burial Grounds / Fort Edmonton Cemetery
-  Potential opportunities for gondola station





## Development Opportunity

River Crossing will enhance the existing Rossdale neighbourhood by introducing a vibrant community centre with an urban feel. The new development will transition in scale and intensity to integrate with existing homes in South and North Rossdale as well as downtown development. Low to mid rise development (4-6 storeys) will provide an appropriate interface with existing homes in North and South Rossdale and with the burial grounds / cemetery. Building forms may include townhomes, stacked townhomes and small apartment-style blocks. Mid to high rise development (8-15 storeys) will be focused near 97 Avenue.

Densities of individual developments will vary. This business plan anticipates a range of 594 - 2,654 housing units with a potential population of 937 - 4,067.

Mid to high rise development that includes towers will feature lower podium structures to provide a human scale experience along the street. There will be outdoor amenity space within development blocks through features such as site landscaping, alleys designed as shared spaces, and rooftop patios.

Proposed development should align with the following:

Land Use	Maximum Height	Minimum Density	FAR	Area	Estimated housing units	Estimated Population
Low-mid rise residential	6 storeys	63 du/ha	1.5 – 2.0	2.15 ha	135 - 269	247 - 486
Mid-high rise residential	15 storeys	125 du/ha	2.5 – 7.0	3.67 ha	459 - 2,386	690 - 3,581
<b>Total</b>				5.76 ha	594 - 2,654	937 - 4,067

New development should not detract from the experience of open space, streets and neighbouring properties, and should enhance it wherever possible. As such special consideration will need to be given to the quality of design of development and its interaction at ground level. New development shall:

- Use setbacks to promote the transition of heights and minimize the impact of development on open spaces and existing development.
- Integrate weather protection such as canopies and arcades along building frontages wherever possible.
- Be oriented to protect key view corridors to the Legislature, Rossdale Power Plant and Walterdale Bridge. In the case of high rises, towers shall have a maximum floor plate of 750 m<sup>2</sup> and have human-scaled podiums.
- Minimize wind impact and be oriented to

maximize solar access for other buildings, open spaces and amenities.

- Align buildings to the streets and emphasize a strong relationship to the street, with lobbies and clearly articulated building entries oriented toward the sidewalks.

Ground-floor commercial space (up to about 6,000 m<sup>2</sup>) will provide a range of services that support the daily needs of residents as well as opportunities to support the destination character of River Crossing. New commercial development will generate an estimated 50 jobs once it is fully built out. Ground-floor commercial space will be concentrated along 104 Street as this roadway changes to become a pedestrian-friendly street, and on 96 Avenue taking advantage of proximity to the interpretive park and RE/MAX Field.

As described in Section 4.3, there are also opportunities to develop and repurpose heritage buildings in ways to support the overall development.



## Housing Variety

To help ensure a balanced community, River Crossing will feature a variety of housing types and sizes. To ensure that River Crossing is suitable for families, zoning should ensure that a minimum percentage of housing units on each block are family oriented.

## Affordable Housing

River Crossing will primarily feature market-based housing. In alignment with City policy C601, however, affordable housing will be integrated within the development area. New affordable housing will compensate for existing low rent units that will be lost during redevelopment and contribute to the goal of having an affordable housing neighbourhood ratio of 16 percent. Affordable housing may be stand-alone or incorporated into mixed-market projects.

Given the area's documented use as a traditional and historical campsite, its proximity to the river, burial grounds / cemetery, downtown services and post-secondary education, First Nations and Métis communities have identified River Crossing as an ideal location for affordable housing for Indigenous people.



Figure 23 - Conceptual Block Development 3D View



Figure 24 - Conceptual Block Development Site Plan





Figure 25 - Conceptual View of 96 Avenue



## Green Building

To help achieve the River Crossing objective of environmental stewardship, new development and rehabilitation of existing buildings should implement sustainable building techniques. Buildings should be designed to minimize use of energy and water and to accommodate solar energy systems in appropriate locations. New buildings should be designed to accommodate ecoroofs to provide habitat function, reduce non-permeable roof surfaces, reduce building energy consumption and provide attractive and useable green space for residents. The City should require the incorporation of green building techniques through zoning regulations and land sale conditions.

Landscaping and site features should include Low Impact Development and permeable surfaces to accommodate on-site stormwater infiltration. Features such as bioswales and rain gardens should be integrated into the design of both public amenity spaces and private site development.

Subject to determining its feasibility, a district energy system may be suitable to provide a more efficient delivery of heating, cooling and/or energy to new development.

## Parking, Access, and Loading

Development in River Crossing requires a new approach to parking in West Rosedale. Existing surface lots and open space currently used for parking for events at RE/MAX Field and elsewhere will be developed into high quality park space and vertical development. Enhancing the area's multi-modal network and integrating a mix of land uses will help to alleviate some demand for parking. Remaining parking demand can be addressed through the following:

- Residential parking should be accommodated underground and accessed from a rear lane where provided.
- Joint parking arrangements should be explored for residential development adjacent to community spaces and facilities.
- Non-residential and residential-related parking should be accommodated through on-street parking and limited surface parking where it is screened from street view.
- A parking management strategy should be developed to help manage parking requirements for events at RE/MAX Field and the interpretive park as the existing parking areas are redeveloped. This could feature shuttle buses between River Crossing and parkades and LRT stations downtown.
- The design of access to major facilities will accommodate access for users with limited mobility through measures such as drop-off areas and reserved, designated parking.
- Loading and waste management access shall be from a rear lane where available.

## Servicing

A detailed servicing plan has not been developed for this River Crossing Business Plan. Section 5 outlines an opinion of probable costs for stormwater servicing that includes sufficient funds to implement subsurface stormwater storage as well as alternative innovative servicing measures (i.e. Low Impact Development measures including biofiltered "Stormtrap" structures for storage). However, to capitalize on opportunities from implementation of the proposed flood mitigation measures by EPCOR, a detailed servicing strategy for River Crossing should be initiated immediately in coordination with EPCOR.

Redevelopment in River Crossing should consider and adopt advancements in technology and policy toward climate resilience and energy efficiency.





## 5. Business Case

## 5 Business Case

In this section costs and revenues are presented in both current dollars (2019\$) and net present value. Net present value estimates are based on reasonable estimates of inflation over time, project phasing as described below, and the City's projected cost of capital. Cost and revenue figures are presented in current dollars in the text, and in net present value in accompanying tables. Comparing costs and revenues in net present value terms allows us to project the financing capacity of both upfront and longer-term revenue streams.

### 5.1 Costs

Costs for River Crossing include:

- Capital costs for infrastructure and open space.
- Initial, strategic renovations of the Rossdale Power Plant.
- Operating costs for infrastructure and open space.
- Additional costs for the renovation of the power plant.

Capital costs attributed to the River Crossing project are shown in the following table below.

River Crossing Capital Costs		
	2019\$	NPV
<b>Sanitary / Storm</b>	\$18.2M	\$14.9M
Storm	\$11.5M	\$9.4M
Sanitary	\$4.3M	\$3.5M
Utility Relocations	\$2.4M	\$2M
<b>Roads</b>	\$38M	\$31M
Streets	\$32.3M	\$26.3M
Boulevard Landscaping	\$5.7M	\$4.7M
<b>Open Space</b>	\$17.4M	\$14.2M
<b>Initial Power Plant Renovations</b>	\$6M	\$5.7M
<b>Total</b>	<b>\$79.6M</b>	<b>\$65.8M</b>

### Capital Costs – Infrastructure and Open Space

Infrastructure costs include construction of roadways and utilities including storm and sanitary servicing, as well as roadway landscaping, and are estimated at \$56.2 million (2019 dollars), or approximately 80 percent of total horizontal costs. This amount factors in 20 percent for soft costs including planning and design work, and a 30 percent allowance for overall contingency costs.

To the extent possible, the construction of these infrastructure elements will be coordinated with

the construction of buildings they will serve, as will be further described in Section 5. All cost estimates are based on Stantec's database for Edmonton infrastructure projects, both existing and proposed.

- **Storm and Sanitary Servicing:** A high-level review of existing capacity of stormwater services revealed that existing infrastructure can sufficiently service the anticipated development with added storage capacity in order to reduce the risk of the proposed development causing combined sewer overflows into the river.

Costs related to storm and sanitary servicing are estimated to be \$18 million (2019 dollars), including fees and contingency costs. Individually, storm and sanitary servicing costs are estimated to be \$12 million and \$4 million respectively. Utility relocations are estimated to cost \$2 million; however, further assessment is required. Construction costs for utilities beneath roadways are included in the roadway construction costs below.

- **Roadway Construction:** Construction of roadways connecting the site to adjacent areas, including the utilities beneath roadways, will cost \$32 million (2019 dollars), including fees and contingencies. This comprises most of the costs related to infrastructure. This estimate assumes full reconstruction of the following roadways including any subgrade, gravel, or pavement structures:



- Rossdale Road / 103 Street from the west edge of the 105 Street intersection to Bellamy Hill Road.
- 104 Street from 97 Avenue to Rossdale Road (only to be rebuilt to just south of 96 Avenue).
- 96 Avenue between 101 Street and 105 Street.
- 102 Street from 96 Avenue to 97 Avenue.

The \$32 million estimate does not include the cost of alley construction or reconstruction. This cost will be attributed to adjacent development, which may result in changes to alley locations.

The \$32 million estimate also excludes any work on Rossdale Road and/or Bellamy Hill Road north of their intersection with 103 Street that may be required to support Rossdale Road being converted to two-way operation. The extent of this work will be confirmed at the engineering design stage.

- **Roadway Landscaping.** Landscaping costs for newly constructed boulevards are estimated to cost \$6 million (2019 dollars), including fees and contingencies.
- **Open space.** Open space capital costs are estimated to be \$17 million (2019 dollars)

and are limited to the cost of landscaping the interpretive park and urban plaza (\$12 million) and the cost of acquiring the retained portion of the Donald Ross School site from Edmonton Public Schools (\$5 million). Regarding the other open spaces identified in Section 4.2:

- Touch the Water Promenade will be funded separately.
- The water reservoir is already landscaped. EPCOR intends to relocate the fence, harden reservoir hatches and recontour the edges for flood prevention. This work may make the reservoir more useful to the public but would not include any decorative landscaping.
- The open spaces east of RE/MAX Field and the water treatment plant are already landscaped and do not require capital funding.

Below is a summary of infrastructure and open space costs for the preferred development scenario in 2019 dollars and net present value terms.

	2019 Dollars	Net Present Value
<b>Infrastructure Costs</b>	\$56.2M	\$45.9M
<b>Open Space Costs</b>	\$17.4M	\$14.2M
<b>Total</b>	<b>\$73.6M</b>	<b>\$60.1M</b>

## Operating Costs – Streets and Open Space

Redevelopment of River Crossing will have operating cost implications. Operating costs are expected to be a minimum of \$38,400 annually:

- \$22,000 (2.2 ha at \$10,000/ha) to provide an enhanced level of maintenance in the interpretive park.
- \$8,500 (1.24 ha at \$6,807/ha) to maintain open space east of RE/MAX Field and the water treatment plant expected to come to the City from EPCOR through subdivision and land transfer.
- \$5,300 to maintain the power plant access road (approximately 300 m long), the responsibility for which is also expected to be transferred from EPCOR.
- \$2,600 to maintain the new segment of 102 Street (approximately 145 m long).

Removal of existing portions of 104 Street and Bellamy Hill Road plus other access roads will reduce operating costs but this business plan assumes that the addition of sidewalks and bike facilities within River Crossing will offset these savings.

The interpretive park operating cost noted above does not include programming, marketing, event management, and other costs associated with signature park projects in other North American

cities. Costs of \$1 million/ha are not unusual in such parks, which generally have developed revenue streams to help cover operating costs.

As indicated in section 5.4, the City of Edmonton is not expected to be the long-term operator of the interpretive park, water reservoir, and Rossdale Power Plant. Another entity, possibly a not-for-profit organization, is recommended to operate these riverfront amenities.

## Power Plant Costs

In a 2013 report by DIALOG, the cost estimate to rehabilitate the Rossdale Power Plant and to complete other site improvements was calculated to be \$87 million. Inflated to 2019 dollars, this would amount to nearly \$100 million, a figure unlikely to be funded by any level of government in its entirety.

Reuse of historic industrial complexes in other cities, however, has often been done incrementally and this is how the power plant is now being approached. Following completion of an updated building assessment, limited, strategic renovations -- e.g. roof repairs, structural upgrades, life safety provisions, accessibility improvements, washrooms -- are planned as a first stage to allow the public into the Low Pressure Plant on an ongoing basis and allow events to occur within this building. This work is expected to be scoped according to how much of the funding already provided (\$9.7 million) through the City's 2019 - 2022 capital budget can be allocated to the power plant.

Following these renovations, the entity operating the power plant can make additional renovations to the power plant as it obtains funding, activating portions of the building in logical staging (If, on the other hand, the power plant remained a City building, there would be obligations under the Sustainable Building Policy to renovate the complex more immediately). Funding is expected to come from business investment, orders of government, corporate sponsorship, and private philanthropy. Crowd-funding is also a possibility.

Pumphouse No. 2 can be renovated independently from the Low Pressure Plant at a relatively low cost.

Operating and maintenance costs at the Rossdale Power Plant will vary according to the level of use of the complex. The City currently has an operating budget of \$540,000 allocated to power plant operations and maintenance. In establishing an operator for the power plant, the City will decide how long to continue this funding.



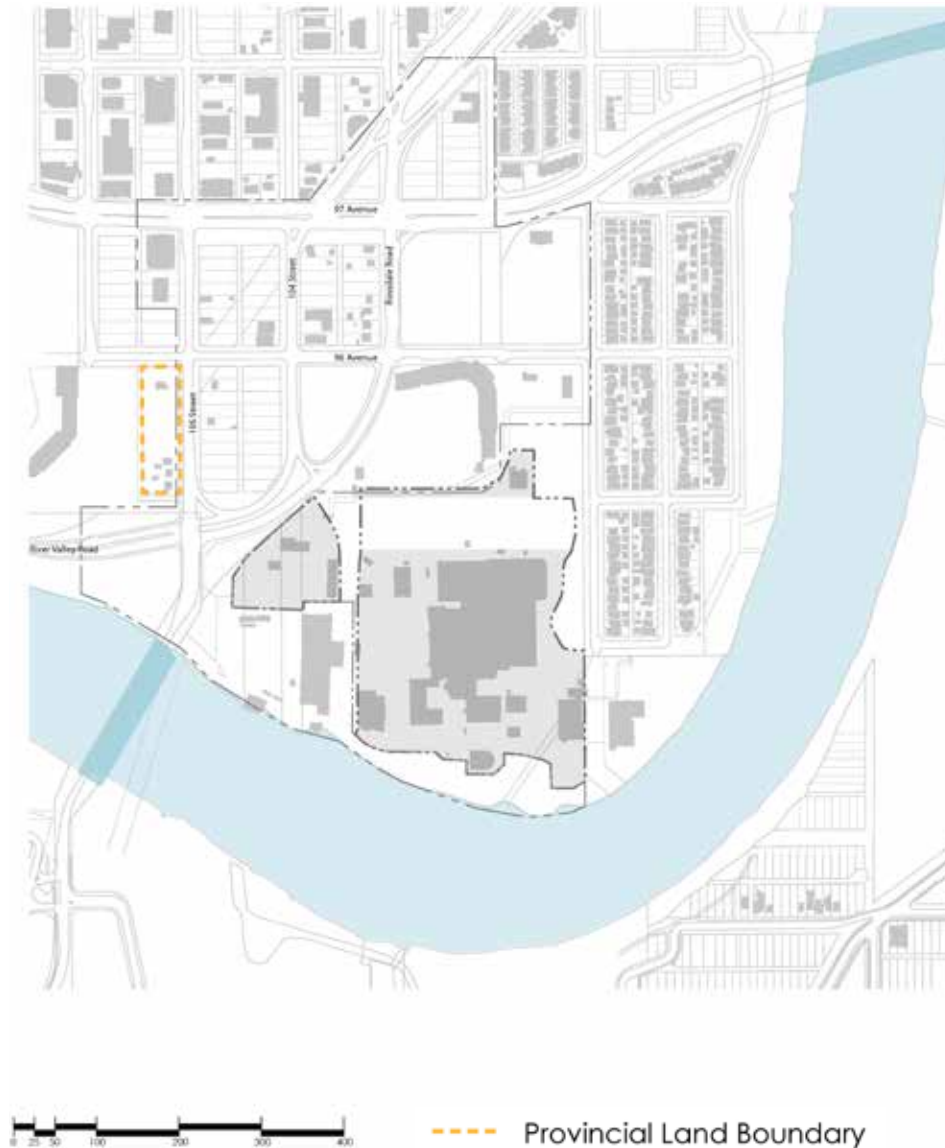
## 5.2 Revenues

A thoughtful mix of public and private funding sources should be considered in order to provide a steady stream of funding throughout the redevelopment horizon. Several sources of revenues have been identified to cover the project capital costs outlined in the previous section.

### Retained Earnings

In 2017, the City of Edmonton sold 0.92 ha of land west of 105 Street and south of 96 Avenue to the Province of Alberta for expansion of the Legislature grounds. Seventy-five percent of the proceeds of this sale (\$9.7 million) were retained for future needs in West Rossdale as previously directed by Executive Committee on September 27, 2016. Through capital profile 19-17-0601, approved as part of the 2019-22 budget, this money has now been committed to River Crossing.

Figure 26 - Provincial Lands Boundary



## Renewal Funding

The City's Neighbourhood Renewal program is a strategic approach to renew and rebuild roads, sidewalks, and streetlights in existing neighbourhoods. Rossdale is currently scheduled for renewal in 2024. Neighbourhood Renewal is limited to local and collector roadways. The only existing local/collector roadway within River Crossing eligible for renewal is 96 Avenue. As 96 Avenue between 105 and 106 Streets was repaved in 2015, the portion between 101 Street and 105 Street is expected to be included in Neighbourhood Renewal.

The City also has an Arterial Renewal capital program that provides for ongoing maintenance of arterial roadways across the city. As Rossdale Road and 104 Street are arterial roadways that would require renewal in the absence of the River Crossing redevelopment, a portion of the money for their renewal could be provided through the Arterial Renewal Program, provided the timing of the redevelopment coincides with the planned renewal schedule of the roadways affected.

This business plan assumes \$3 million (2019 dollars) in renewal funding associated with the reconstruction of 96 Avenue, Rossdale Road, and 104 Street in the 2023-2026 capital cycle.

## Land Sale Proceeds

This business plan assumes that the City of Edmonton will sell City-owned property within the project area to real estate developers to generate revenue to support needed infrastructure upgrades. For the City-owned property that is held by Land Enterprise, an amendment to City Policy C516B, the Land Enterprise Dividend Policy, may be required, depending on the future governance of the River Crossing development project. This business plan assumes a land disposition sales price of up to \$380 per buildable square metre subject to inflation as the area builds out. This figure is based on the higher end of the range of recent nearby transactions as well as conceptual residual land value analysis for multifamily and retail uses. After a deduction of approximately 10 percent to account for affordable housing, land proceeds are estimated to total \$33 million (2019 dollars), to be incurred over 10-15 years of site build-out.

## Property Tax Options

When added together, revenues from retained earnings, renewal funding, and proceeds from the sale of City land will not be sufficient to cover the cost of infrastructure investment required in River Crossing. Property tax revenues can be used to make up the difference.

The most straightforward, easy-to-administer method of applying property tax revenue (potentially supplemented with provincial grants such as the Municipal Sustainability Initiative) is through capital budget allocations of Pay As You Go funds. This would require City Council to prioritize the River Crossing project in relation to other city-wide capital priorities. In order to ensure the project's success, City Council would need to commit ongoing funding during the period of construction. Changes in funding level could slow the project's implementation and reduce investor confidence.

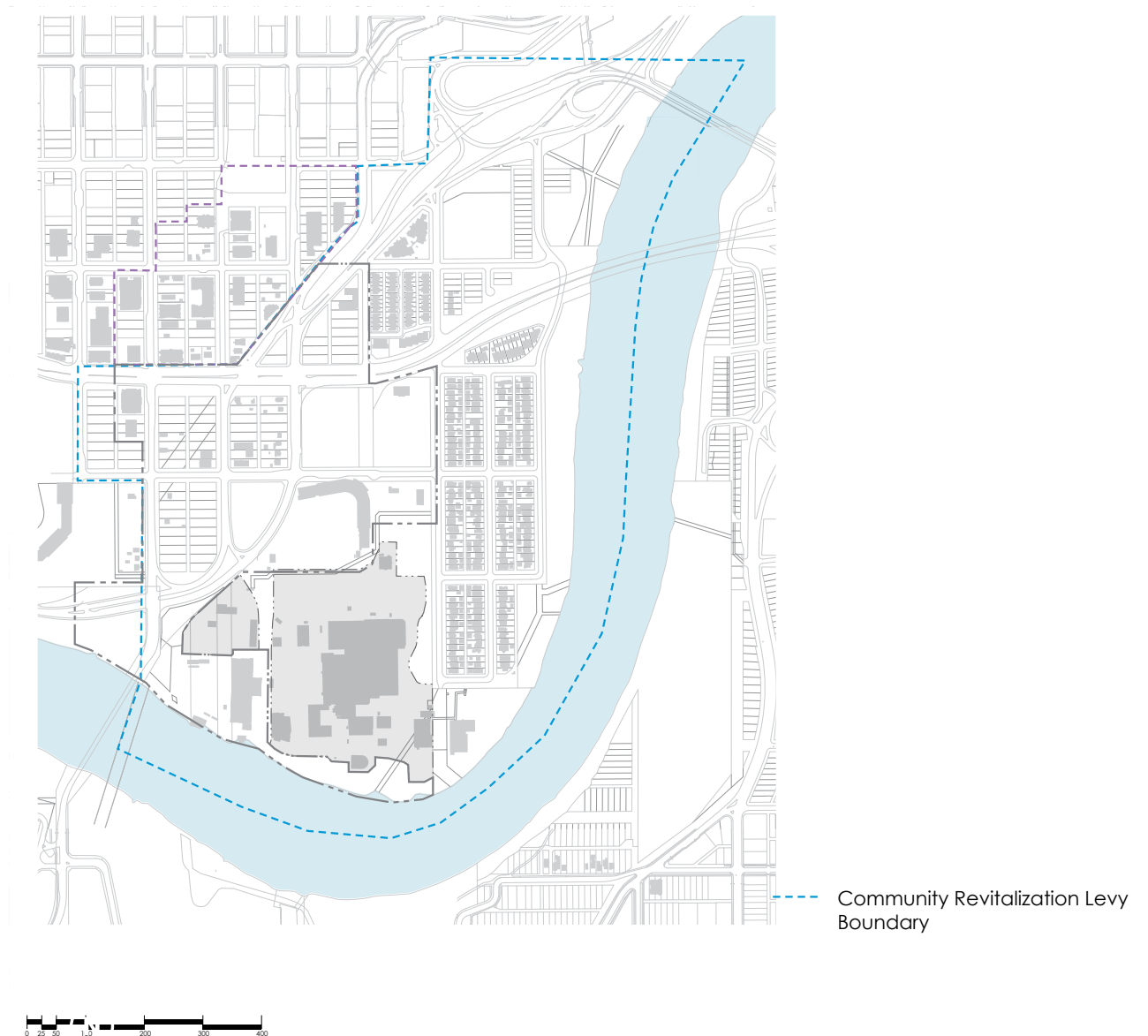
A Community Revitalization Levy (CRL) would be another method of allocating property tax revenues to River Crossing. CRLs were introduced by the Government of Alberta to fund projects, like River Crossing, that require infrastructure upgrades to spur economic revitalization. In a CRL, the increase in municipal property tax revenue and provincial education tax within a predefined boundary is dedicated to fund the project. Such an approach is essentially the same as a capital budget allocation, but borrows funds against future revenues.

Since a significant amount of River Crossing land is owned by the City and not paying property tax, the tax increment resulting from redevelopment would be that much more than if the property were privately owned and currently paying property tax. It should be noted that the sale of City-owned land to private developers would increase the tax levy regardless of whether a CRL is put in place.

For this business plan, the tax increment associated with (1) new development, and (2) the growth of assessed value in existing buildings and the larger neighbourhood has been analyzed. Drawing a thoughtful boundary around the River Crossing area would enable a River Crossing CRL to capture a substantial amount of spin-off appreciation. The boundary shown in Figure 26 would capture the following:

- Tax increment from new development within the Rossdale neighbourhood assumed to be available for CRL funding. This area, shown in blue, would include not only River Crossing but also lands in North Rossdale already zoned for redevelopment.
- Future increment from an area of Downtown, shown in white, below the top-of-bank that (1) is geographically oriented to benefit from redevelopment of River Crossing, and (2) outside the boundaries of the Downtown CRL.

Figure 27 - Potential Community Revitalization Levy boundary





Additionally, the following assumptions were used:

- Current single family, multifamily and commercial property tax rates assumed to remain constant over the 20-year calculation period.
- The assessed values for residential and commercial uses are \$3,120 per square meter (PSM) and \$3,015 PSM respectively, based on comparable development typologies.
- For properties within the CRL boundary that are adjacent to the River Crossing redevelopment (shaded in white above), real estate appreciation occurs at a slightly higher rate, considering that the area's proximity to the River Crossing redevelopment will enhance its desirability and potentially the pace of development.

CRL revenue for the redevelopment concept in this business plan is estimated to be \$77 million (2019 dollars).

The table below provides a comparison of the revenues available by category:

	Modeled Timeframe	2019 Dollars	Net Present Value
<b>Retained Earnings</b>	Available during 1 <sup>st</sup> Year	\$3M	\$3M
<b>Renewal Funding</b>	Received over 1 <sup>st</sup> 5 years	\$3M	\$3M
<b>Land Sale Proceeds</b>	Received in line with build-out, over 10-15 years	\$33M	\$26M
<b>CRL or similar sources</b>	1 <sup>st</sup> 20 years of development	\$77M	\$46M
<b>Total</b>		<b>\$116M</b>	<b>\$78M</b>

Given the above model, CRL revenues are project to exceed the capital costs outlined in section 5.1. In other words, construction of attractive new streets and a high quality open space would, in addition to enriching visitors' experience and establishing the area as a destination, positively affect real estate values within and near the area and support River Crossing's financial feasibility. The long-term nature of CRL funding would provide the certainty required for significant private-sector investment. And through the CRL there could be additional revenue to help pay for the Touch the Water Promenade and potentially for additional renovations to the Rossdale Power Plant.

A CRL, however, is not a source of new money. All tax revenue captured within the CRL boundary for River Crossing infrastructure is revenue that

would not be available for city-wide operating or capital needs. Dedicated the tax uplift through such a process would remove it from the general levy and put pressure on the remaining tax base to cover operating costs. Taxes would need to be raised city-wide to compensate. A CRL is also more complicated for the City to administer and would require the support of the Government of Alberta since the CRL would also capture the provincial education amount. Prior to the provincial election, the Province was reviewing the CRL program and not accepting new CRL applications from municipalities at that time.

The financial effects of funding such a project through the regular capital budget process or a CRL are essentially the same, with CRLs reducing Council flexibility, but increasing developer confidence in the area.

## Other Revenues

Over time, funding from the identified sources is projected to more than offset infrastructure and open space capital costs. However, additional sources will be required to support ongoing operations and programming of the open space and further rehabilitation of the power plant. Both will be critical to establishing an active, appealing, and unique character in River Crossing.

Joint ventures or cost-sharing with private landowners in the area could help pay for some of the infrastructure costs.

The City could allocate a portion of the budget currently used for parks operations or, depending on the types of programming planned on the open space, revenue could be generated from food and beverage vendors, hosting events, and parking fees (e.g. dedication of EPark revenues obtained within River Crossing). Philanthropy, including corporate sponsorships, and membership programs could also help cover the cost of operations. Additionally, where projects involve partnerships with Indigenous Nations and organizations there may be opportunities to access federal and provincial funding programs.

## 5.3 Funding Case Studies

Successfully redeveloped districts in Canada have relied on a range of sophisticated funding partnerships to realize district construction

and operation. Three case studies were considered to inform the funding strategy for River Crossing:

Funding and governance strategies for each district relied on cooperation not only between the public and private sectors, but also between different orders of government.



Project	River District	Granville Island	The Forks
Location	Vancouver, BC	Vancouver, BC	Winnipeg, MB
Site area	130 acres	41 acres	56 acres
Uses	Residential, retail, and community amenities	Academic, retail, hotel, entertainment	Commercial, entertainment, museums and waterfront amenities
Public funds	City funds for parks, childcare, community centre, library	Federal funds for horizontal infrastructure	Upfront tri-level government funds for capital investment to support historic assets
Private funds	Developer funds for environmental remediation, roads, land for public amenities, public art	Private sector actors bid to enter into ground leases; lessees are responsible for capital and tenant improvements	Private funds for construction repaid through ground leases
Governing Entity	Private	Public	Public, with financing support from private organizations



## 5.4 Governance and Partnerships

The governance structure for River Crossing will be key to the success of this initiative over time. What would be the best governance structure in light of the significant investment of public funds likely to be required?

There may be more than one answer to this question. The land development aspect of River Crossing may need a different governance solution than what happens along the riverfront.

Land development is the transactional component of the initiative. The City of Edmonton is in the midst of a review of its land development activities. This review, expected to be presented to City Council in November 2019, may help point a way forward about the role that the City should play in land development in River Crossing. Options include:

- The City selling its land as is.
- The City servicing the land then selling.
- The City entering into cost-sharing agreements with private land owners.
- A City/private joint venture.
- The City establishing a public benefit corporation, akin to the Calgary Municipal Land Corporation, to oversee development.

The riverfront, on the other hand, is not transactional. It is about long-term identity, image, and experience. In many other North American cities, signature waterfront attractions are operated not by the municipality but by another entity that can have dedicated focus on the area. Examples include:

- The Forks (Winnipeg) -- The Forks Renewal Corporation
- Granville Island (Vancouver) -- Canada Mortgage and Housing Corporation
- Old Port (Montreal) -- Canada Lands Company
- Central Park (New York) -- Central Park Conservancy
- Navy Pier (Chicago) -- Metropolitan Pier and Exposition Authority

Waterfront operating entities are often not-for-profit organizations which in addition to handling day-to-day operations are responsible for maintenance, programming and fund-raising. Because of the high cost of a full renovation of the Rosedale Power Plant, the fund-raising role will be very important. As was done for the Art Galley of Alberta, the Winspear Centre expansion, and the Indigenous Peoples Experience at Fort Edmonton, there will need to be a concerted effort to obtain municipal, provincial, federal and philanthropic funding for the power plant. The structure in effect at Fort

Edmonton, where a not-for-profit operator (Fort Edmonton Management Company) works with a fund-raising partner (Fort Edmonton Foundation) is one possible model.

There are also cities where one entity is responsible for both the waterfront amenities and adjacent land development. Brooklyn Bridge Park Corporation (New York City) and Waterfront Toronto are two such examples.

Whatever governance model is ultimately selected, partnerships will be required to bring River Crossing to life. Partnerships with Indigenous nations and related organization will be essential to interpret history and culture. Partnerships with arts and culture organizations can help animate the power plant and potentially outdoor spaces. The power plant and Touch the Water promenade have the potential to become an important river valley tourism hub, so partnerships with tourism operators will likely be required. Conferences, festivals, and other major events could spur additional partnerships. Private businesses locating in River Crossing (e.g. restaurants and shops) represent another kind of partnership, and partnerships with the three levels of governments, post-secondary institutions and school boards yet another.



*River Crossing context area*

# 6. Implementation

## 6 Implementation

While River Crossing holds great promise as a site of celebration and commemoration, a river valley development opportunity, and a marquee gateway to downtown, the area has sat effectively unchanged since the 1980s. This is largely due to the complexities of the site such as mixed land ownership, cultural sensitivities, access issues, and the presence of regionally important infrastructure. Ensuring the vision for the area moves forward in the future will require a major effort that is both focused and purposeful. This effort will involve many players, not least the City.

This implementation strategy aims to set expectations about the work and decisions that will need to be made to advance the overall vision and to give a sense of the logical phasing sequence for actions and investments.

### 6.1 Phasing Considerations

A careful phasing strategy is key to the success of River Crossing. The neighbourhood's phasing strategy must consider a number of related factors, including:

- **Pace of real estate development and associated funding source generation:**

Because a substantial share of project revenues will either directly or indirectly be drawn from real estate development, the

pace of development and associated revenue generation will partially drive the pace of infrastructure and park construction.

The pace of absorption of residential units that can be supported by the market will be the most critical driver of phasing. In the overall downtown area, an annual absorption rate of 400 multifamily units could be achievable going forward. This is slightly higher than the average annual absorption over the past decade of 300 units, but lower than the average absorption over the past three years, during which 550 units of rental or condo units were absorbed annually. Over time, River Crossing could capture up to a quarter of overall annual downtown development, or about 100 units annually. This would result in a development time frame for River Crossing of about 12 - 20 years. Competition from other downtown-adjacent areas of planned infill development could potentially result in a more modest absorption schedule. The growth in near- and long-term demand for ancillary uses, including retail, office and cultural, will also influence the pace of district redevelopment, but to a lesser extent.

- **Availability of other funding sources:**

The availability of funding from the 2017 land sale to the Province, renewal funding, and additional capital budget allocations can allow for the construction of critical project components in advance of real estate development and associated revenue streams

from public land sales and a potential CRL district. Initial phases of development should tap into funds already available to kick-start redevelopment, including the \$9.7 million (2019 dollars) from the land sale to the Province that has been allocated for River Crossing redevelopment.

- **Timing of regulatory approvals and planning processes:**

Securing regulatory approvals for planning and design strategies will be critical milestones and will define and inform this phasing strategy. Project management and delivery processes internal to the City also have a strong influence on the timing and sequencing of activities.

- **Development infrastructure requirements:**

A certain share of infrastructure costs must be incurred in advance of real estate development to allow access, increase water and sewer capacity, etc.

- **Placemaking:**

Strategic upfront investments in open space and programming can help spark excitement about the future of River Crossing, increasing interest from visitors and developers in the early years of the area's redevelopment. Such early placemaking investments can also support the feasibility of eventual real estate development and drive higher land sale revenues to the City.



## 6.2 Phasing

### Phase 1: Strategy and Planning Approvals, Design and Initial Placemaking (Years 1-3)

#### Planning & Strategy

- Project Office:** The City will establish a project office to oversee implementation of the River Crossing redevelopment. This project office will be a transitional entity that would be replaced by a permanent implementation organization once governance decisions are finalized and actioned.
- Amendment to the Rossdale ARP:** To give statutory authority to the development concept in this business plan, the project office will incorporate the development concept into the existing Rossdale Area Redevelopment Plan through plan amendment.
- Planning Approvals:** In conjunction with the Rossdale ARP amendment, the project office will rezone key sites within River Crossing and complete any road closures that may be necessary to facilitate timely implementation of actions planned in subsequent phases. It will also seek approval and registration of the Rossdale subdivision that has been initiated to allow a land transfer between the City and EPCOR.
- Land Acquisition:** Through the land transfer mentioned above, the City will obtain ownership of the Rossdale Power Plant, RE/MAX Field and other lands. Through separate transactions, the City will also acquire any additional land it may require to effectively implement River Crossing.
- Governance Planning:** The City must take steps to establish the entities that will oversee River Crossing construction and operations as well as the succeeding phases, either directly under City administration or in partnership with the City as described in Section 5.4.
- Ballpark Lease Planning:** Through the Request for Submissions process initiated in May 2019, the City will seek an operator for RE/MAX Field that can increase the number and quality of activities taking place at the ballpark and ensure that ballpark usage is considered in light of the broader neighborhood redevelopment plan.
- Affordable Housing Planning:** The City will commence the initial steps for creating affordable housing within River Crossing. Necessary steps in Phase 1 include identifying a site, determining an affordable housing provider, confirming City funding, engaging the public and interested stakeholders, planning and development activities and commencing architectural design.
- District Energy Investigation:** The City will conduct a feasibility study to determine whether a district energy system would be warranted in the River Crossing area.
- Lining Up Funding Sources:** The project office may prepare a Supplemental Operating Budget Adjustment request to fund its operations in the short term. Additionally, the project office will coordinate with teams working on street and infrastructure upgrades from renewal funding and other sources. It may seek approval for a dedicated River Crossing reserve fund. If there is a decision to establish a CRL, the project office would prepare the required CRL plan and seek approvals for establishment of the CRL district from City Council and the Province. If the City does not pursue a CRL, the project office would identify equivalent funding from alternative sources.

## Concept Design and Preliminary Engineering

- **Transportation:** The City will undertake concept design and preliminary engineering of the arterial and local street network in River Crossing. This work will include determining how to stage the conversion of Rossdale Road and 104 Street to two-way street operations and how this conversion would be best coordinated with adjacent open space construction and land development.

Other transportation network components requiring further assessment and consideration relate to:

- Coordination with Neighbourhood Renewal planned for Rossdale in 2024.
- Development of a grand staircase on 104 Street between 98 and 99 Avenues as contemplated in the Downtown Public Places Plan to better connect River Crossing and Downtown.
- Implementation of the Bus Network Redesign in light of coming changes to the road network in River Crossing and redevelopment.

- Integration of other future transportation systems including a potential gondola within the river valley and a potential station within River Crossing.
- A review of the potential realignment and simplification of Rossdale Road and Bellamy Hill Road north of River Crossing.
- **Infrastructure:** More detailed analysis of servicing requirements and implementation will be required prior to development plans proceeding. This study will help establish logical development staging, and will seek to implement Low Impact Development in River Crossing in a significant way. It will explore alternative options for servicing, such as constructing a new storm outfall rather than storm storage. Additionally, this work will integrate other planned activities such as utility replacements due to age or condition, and flood mitigation work that EPCOR is planning for Rossdale. This study could be integrated with the transportation concept design / preliminary engineering.

EPCOR requires separate storm and sanitary servicing for redevelopment of areas within combined service areas such that the system

could be completely separated in the future. Should a separation and/or utilities renewal plan be developed in advance of the proposed area development, the River Crossing servicing assessment should be reviewed and updated to incorporate this work.

- **Public Open Space Design:** The City will establish a co-design process for the interpretive park and urban plaza involving Indigenous Nations and other stakeholders. The project office will also play an important role in the design of Touch the Water Promenade.
- **Power Plant Reuse:** The City will prepare a building assessment and heritage conservation plan for the Rossdale Power Plant. This work will identify priority, strategic renovations to the power plant complex that could be undertaken within River Crossing's existing capital budget allocation to allow regular use of the power plant or at least portions of it.
- **Ballpark Urban Integration:** If the group that obtains the 10-year lease of RE/MAX Field has any architectural or development aspirations, the City will work with them to ensure that their plans for the facility and/or surrounding areas best align with overall plans for River Crossing.



(C) Jeff Wallace



## Place-Making and Activation

- **Open Space Activation:** Within its available operating budget, the project office will start to activate River Crossing's existing open space, or in other words to plan cultural, recreational, and commercial activities that will help attract people to the area. This will involve partnerships with other groups and could help raise real estate values in support of project costs. This activation should align with the Heritage Interpretive Plan.

A potentially appealing location for initial open space activation investments is the water reservoir. As with Boston's Lawn on D and similar projects, initial investments can focus on creating temporary lightweight structures and funding diverse and frequent programming. These interventions could be coordinated with engagement related to the design of Touch the Water and the North Shore Promenade. The decommissioned trolley substation on Rossdale Road southwest of RE/MAX Field can be used as the operations centre for activation events.

Initial activation investments can reinforce and strengthen the public outreach processes associated with future phases of open space planning and construction, including heritage planning and Indigenous outreach processes.

- **Heritage Interpretation:** In the short-term, the project office will coordinate with other groups working on heritage interpretation in River Crossing, including efforts being made to establish a Commonwealth Walkway in the area.
- **Infrastructure Investments:** In Phase 1, the City could implement initial, low-cost infrastructure changes such as power plant access improvements and the provision of additional on-street parking. More expensive infrastructure investments would be funded in future phases when additional funding is available.



*Conceptual View of EPCOR  
Water Reservoir*



## Phase 2: Initial real estate and infrastructure development (Years 2-5)

- **Governance Finalization:** During Phase 2, the City will finalize governance roles and responsibilities.
- **Initial Real Estate Development:** A first development site could be sold to vertical developers for residential and ancillary commercial development.
- **Infrastructure and Open Space Investment:** The proceeds of land disposition could then be used to fund the detailed engineering and construction of infrastructure improvements that would be required to service the first development site and to construct additional open space assets, potentially including the urban plaza. More detailed scheduling will be informed by the availability of additional revenues including renewal funding.
- **Affordable Housing Construction:** After completion of the affordable housing planning and engagement process, permitting and construction will occur.
- **Ballpark Leasing:** The riverfront operator should leverage the activation of this critical site within the project area.
- **Securing Funding:** In Phase 2, additional City-owned parcels could be sold to vertical developers for residential and ancillary commercial development. These sales will generate revenue for subsequent phases and increase property tax revenue.

Once it is established, River Crossing's riverfront operator can assume responsibility for activating and programming existing open space in the area and explore additional activation strategies for remaining open space assets as they are developed. It can organize programming for the interpretive park as the park moves from design to construction.

### Phase 3: Power plant rehabilitation (Year 2 -15)

- **Governance Roles:** Repositioning the power plant as a public destination will require continuous involvement from the City and the entity operating the facility to oversee phased rehabilitation and associated public sector funding support, and to oversee tenanting and fundraising with overall City oversight.
- **Sequencing:** Phase 3 will be a gradual process of activating the power plant through:
  - Establishing a sustainable operating model including funding, staffing, maintenance, security and leasing.
  - Constructing Initial, strategic renovations to the power plant identified through Phase 1.
  - Establishing office space for power plant operations.
  - Undertaking initial lighter interventions, such as special events, tours of power plant complex, evening light shows on the exterior walls, and improvements to pedestrian access to the power plant.
- Doing additional renovations over time as public and philanthropic funds become available, transforming portions of the complex into such things as food and beverage establishments, museum/gallery space, arts / crafts studios, event space, and/or new creative office space that leverages the historic character of the building.
- **Funding:** During the first two years, the City should actively identify Provincial, Federal and philanthropic funds that may be directed to the power plant renovation, including funds available for historic resource preservation. Once the governance structure described above is formed, the power plant operator would assume responsibility for fundraising.

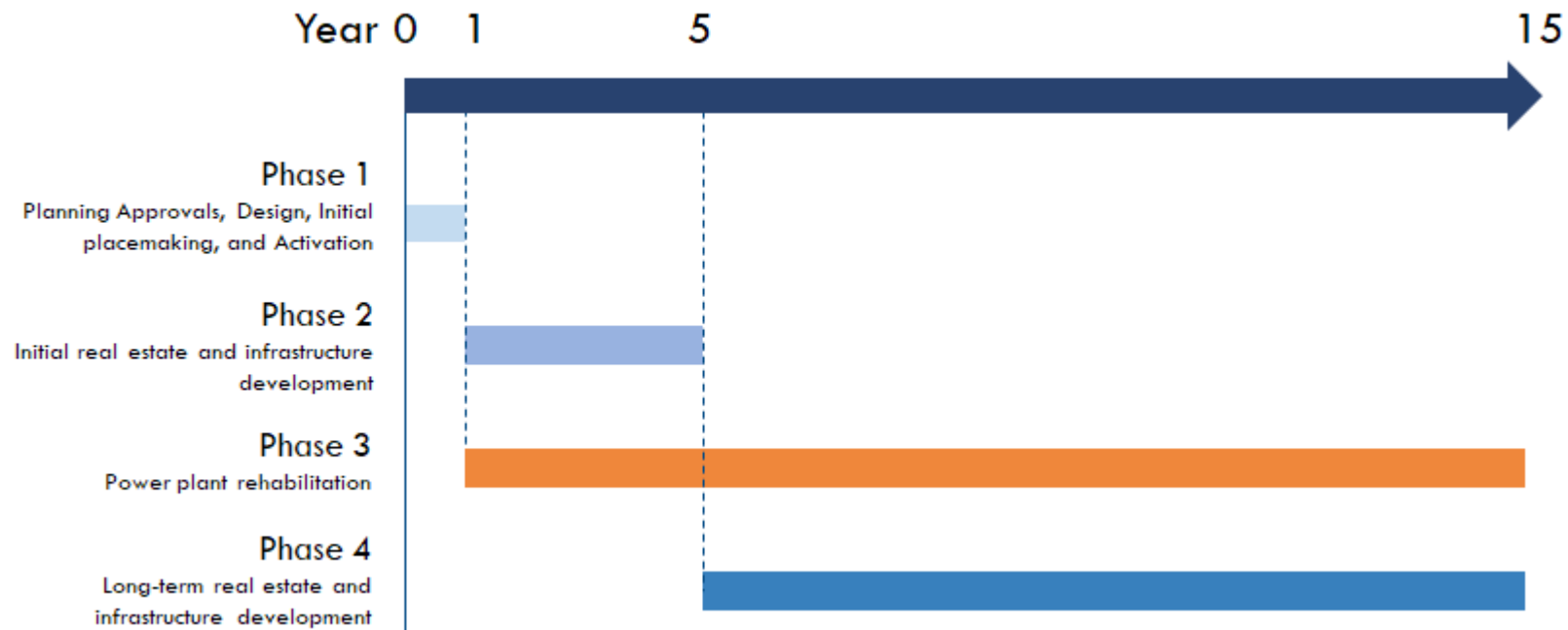




1938 Power Plant construction credit Poole Family Archives (EEP)

## Phase 4: Long-term real estate and infrastructure development (Year 6-15)

- Real Estate Development:** This last phase will build on the increased market demand for retail and residential triggered by phases 1 through 3. Sale of remaining City-owned parcels could be made conditional on public benefits, e.g. high green building standards, the creation of a certain share of affordable housing.
- Infrastructure and Open Space:** As development and land sales proceed, and potential property tax revenues accrue, outstanding infrastructure and open space investments can be completed. Coordination with local partners and community groups will be required to develop heritage interpretation through events, public art, landscaping and public realm improvements.



## 6.3 Timeline Risks

The most influential and unpredictable element in determining development timelines remains market conditions, on which the success of initial open space activation in Phase 1 and development in Phase 2 depend. Unfavorable market conditions, or competition from other infill development districts in or near Downtown, may slow the pace and value of development, and thus the pace of receipt of land disposition revenues and revenues of the potential Community Revitalization Levy.

The availability of predicted levels of funding is another critical risk. While \$9.7 million funding is available to initiate capital projects to support the transformation, additional operational and capital funding will be required. If renewal funding is less than expected, or if a new River Crossing CRL district is not achievable, then alternative sources of funding will be required.

## 6.4 Future Engagement

As River Crossing moves to implementation there will be further opportunities and imperatives for engagement with the public and local community as well as with Indigenous communities and related organizations. This business plan has benefited from extensive engagement with residents, landowners, social and business representatives, and other stakeholders so the area's ongoing transformation is also expected to benefit from such engagement.

Through the planning phase of the River Crossing project, the City has heard about the need to continue to consult with Indigenous communities on this project because of the potential impacts to the cultural site at Rossdale. Maintaining the relationships forged with Nations through continued dialogue and collaboration on key projects within the River Crossing area will also show the City's commitment to the Truth and Reconciliation Commission Calls to Action and the United Nations Declaration on the Rights of Indigenous Peoples.

A proper engagement and communication plan to support ongoing relationship building and dialogue will be key to the success of the developments. All activities requiring Indigenous engagement will need to be properly funded to support the participation of Nations and will need to build adequate time into project timelines to ensure engagement is meaningful. Beyond engagement, many Nations expressed a desire to be involved in the area's redevelopment in different capacities including providing goods and services during the design, construction and operation of the site. These interests are rooted in cultural, environmental, economic and social concerns concerning the protection of burial grounds / cemetery cultural site and natural environment, as well as the desire to be partners in the creation of heritage interpretation and spaces that are welcoming for Indigenous people and securing economic development opportunities for Indigenous people.





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# Appendices





# Appendix A

## Engagement Strategy

### Previous Engagement

#### West Rosedale Urban Design Plan Engagement

Engagement for this project was divided into four phases and was conducted between summer 2008 and summer 2011. These phases focused on:

- Inventory and Analysis
- Preliminary Urban Design Plan
- Draft Urban Design Plan
- Final Urban Design Plan

The process for this engagement included key person interviews, vision building workshops, meetings with individual stakeholder groups, and presenting to the Edmonton Design Committee.

#### Heritage Interpretive Plan Public and Indigenous Engagement

Two parallel engagement processes were followed for the River Crossing Heritage Interpretive Plan: a public engagement and Indigenous engagement process. These processes were vital given the historical and contemporary connections of many Edmontonians and Indigenous communities to the River Crossing (West Rosedale) area. The objectives of engagement were to:

- Discuss perspectives and stories that have been addressed in previous documents, research and interpretation and encourage people to share stories and perspectives that

have been missed previously.

- Gauge what stories and topics are most important for future visitors and users of the River Crossing area to understand.
- Present and test draft interpretive themes.
- Gather ideas for future interpretation.
- Collect feedback on the draft Heritage Interpretive Plan for the purpose of refining the plan.
- Begin to identify and develop relationships with potential partners for future interpretation.

#### Public Engagement

The public engagement process occurred over 5 stages between spring 2016 and spring 2017. Approximately 2,200 people took part in engagement activities.

#### Indigenous Engagement

Engagement with Indigenous communities and related organizations began early in the project and reached out to 29 Indigenous communities with connections to Edmonton, including First Nations communities in Treaty 6, 7, 8, territories the Métis Nation of Alberta, Indigenous communities with traditional territories in the Edmonton region and Indigenous organizations.

The Indigenous Engagement process included several stages. At all stages, Indigenous communities and related organizations were invited to participate in upcoming engagement opportunities. Engagement activities were also supported by communication through emails

and phone calls. Indigenous engagement was organized into five phases between fall 2015 and 2017.

Input shared during public and Indigenous engagement was instrumental in understanding the heritage of the River Crossing area, what people value about this heritage and how they want the stories of this place to be told. This input was used at every stage of the development of the Heritage Interpretive Plan.

#### River Crossing Business Plan Engagement

The River Crossing Business Plan was informed by three phases of public engagement as well as ongoing stakeholder engagement with two committees and 11 Indigenous groups. Engaging stakeholders and the community throughout the process helped drive the innovative and effective delivery of the vision for this area.

Stakeholder and public engagement sought to build a common understanding of the project purpose and direction and gave participants the tools to provide informed input at various stages in the development and refinement of the Concept Design. This input was gathered through the three phases as follows:

**Phase 1:** confirm vision and objectives, consider priorities

**Phase 2:** establish a framework for development, how to achieve objectives, review

concept options and preliminary technical analysis

**Phase 3:** review preferred concept and alignment with objectives, technical studies

### **Business Advisory Group**

The Business Advisory Group (BAG) had already formed a year prior to the initiation of this project. The role of this group was to provide advice to the consultants and City Administration, with a focus on the substance and content of the redevelopment concepts and the business case.

BAG met with the project team throughout all phases of the project, as summarized below.

#### **Phase 1**

In Phase 1 of the project, BAG provided input through three meetings on the development and refinement of the project objectives.

#### **Phase 2**

Throughout Phase 2 of the project, BAG was engaged through five meetings to provide input on the development and refined of the concept options.

#### **Phase 3**

In Phase 3 of the project, BAG provided their diverse input through seven meetings on the refinement of the preferred concept and business case outcomes.

### **Community Advisory Committee**

The Community Advisory Committee (CAC) was a community group formed to facilitate engagement from the Rosedale community groups at large who have an interest in this area. CAC provided a forum for different stakeholder groups to provide advice to the consultants and the City Administration with a focus on the perspectives and issues of the adjacent and broader community.

CAC met with the project team throughout all phases of the project, as summarized below.

#### **Phase 1**

At a workshop in December 2017, CAC discussed the proposed project objectives with the team and provided their input by prioritizing the objectives and identifying gaps and opportunities to refine them.

#### **Phase 2**

At a second workshop in May 2018, CAC used an interactive mapping exercise to provide their input on how the concept options could be refined. This included consideration for multiple street network configurations, and focused on determining their preferred locations for density, open space, and activity nodes.

The CAC met three times to provide feedback on different iterations of development concept options towards selecting and refining three options for further analysis and public engagement.

#### **Phase 3**

The CAC held three meetings with City administration to provide feedback on the preferred concept and the draft business plan. Feedback from these meetings was used to refine the concept and policy direction in the plan.

### **Public Engagement**

The following is an overview of public engagement throughout each phase of this project. Full What We Heard Reports for each event are located in Appendix I.

#### **Phase 1**

On November 29, 2017 a public workshop was held at the Old Timer's Cabin to provide the public with an opportunity to review and provide input into the draft themes and objectives. Attendees were provided background information on the overall project and the draft themes and objectives through display boards and a five minute presentation provided every hour. Participants were then invited to provide their input through two activities detailed below. This event was also used to launch the public online survey, which could be filled out at the workshop.

Feedback was collected through an online survey, with over 650 respondents, and a public drop-in workshop with 70 participants. Environmental stewardship and heritage were identified by workshop participants as the most important, while economics was identified

the least. In the online survey, connectivity, environmental stewardship, and urbanity were emphasized.

The feedback received was used to evaluate how concept options align with the objectives and community values, as well as determine how the objectives can be achieved through the concept design.

Workshop feedback was gathered through two activities. The first asked attendees to select the three themes that were most important to them. From this information, clear priorities for the attendees emerged, as well as confirmation that all of the objectives identified held some importance to the public. The second activity was an opportunity for attendees to take a deeper look at each objective and help define success. This input was utilized to identify each objective's outcomes.

## Phase 2

Phase 2 of the project included two public engagement events in April and October 2018.

The second public workshop was held in April 2018 and asked the following questions:

- How do we draw people to River Crossing?
- How do we move to and through River Crossing?
- How do we make River Crossing a complete community?
- How do we steward River Crossing sustainably?

This formalized workshop provided attendees the opportunity to engage directly with the project team related to the special considerations of this project area and how the objectives can be achieved through this concept. Feedback regarding these questions informed the creation of design options.

In October, a third public workshop was held to present three redevelopment concepts for the River Crossing area. An online survey was also launched on this date, active through to November. During this round of public engagement, the City's project team invited members of the public to provide feedback on three alternative redevelopment concepts, potential road network changes, and the re-use of the Rossdale Power Plant. Approximately 70 people attended the public workshop. Project staff provided a brief presentation to give an update on work undertaken since the last workshop held in April 2018, then outline the process for the night's workshop. Participants were provided an opportunity to learn about the project and give their input to help guide the preparation of redevelopment concepts for the River Crossing area.

Input from the workshop supported the preparation of a preferred redevelopment concept and informed the business plan. Participant feedback helped identify the preferences of residents and provided insight into anticipated interactions between land uses in the redevelopment.

## Phase 3

The final phase of public engagement was an opportunity for Edmontonians to comment on the preferred concept and draft Business Plan. A public open house was held on May 22, 2019 to share the draft document and key elements around land use, open spaces and public realm improvements, transportation changes and implementation. Feedback provided by participants was used to refine the final document.

## Indigenous Engagement

Indigenous engagement for the Business Plan expanded on the engagement approach developed for the Heritage Interpretive Plan, which began in 2016. As previously, engagement was focused on conversations with rights-based organizations, owing to the potential impact of the future redevelopment on existing heritage and cultural sites and water, which constitute Treaty rights.

In all, 29 Indigenous communities and related organizations-- representing First Nations from Treaty No. 6, 7 and 8 as well as local zones of the Métis Nation of Alberta-- were invited to join the Project Team in conversations about the future of the River Crossing area. Of the 29 Indigenous communities and related organizations, 15 participated in all or part of the engagement process.

As with the Heritage Interpretive Plan, project information and invitations to participate in



engagement were sent to all 29 Indigenous communities and related organizations. Though more condensed in terms of phases, the Indigenous engagement process was designed to align with public engagement. This process was supported by regular project bulletins providing project status updates and summarizing input received. These bulletins were distributed to all 29 Indigenous communities and related organizations.

### **Phase 1**

Phase 1 involved discussion of the project objectives and trade-offs, combining phases 1 and 2 of the public engagement process in terms of content. Engagement activities for the Business Plan were launched through a workshop hosted by the Confederacy of Treaty 6 First Nations with consultation staff from member Nations. At this gathering, an Indigenous Knowledge Matrix was presented. This matrix identified traditional knowledge and community concerns that had been previously shared by Nations during engagement for the Heritage Interpretive Plan and showed how this knowledge aligned to the draft objectives for the Business Plan. At this workshop, community representatives were asked to provide feedback on the draft objectives and identify tangible ways to align Indigenous knowledge with the objectives.

From April to May 2018, the City held one-on-one engagement sessions with interested communities. Workshops with consultation staff

and Elders were offered either in Edmonton or within the Nation's community, depending on the community's preference. Similar to the December workshop, participants reviewed the Indigenous Knowledge Matrix and Business Plan objectives and provided input on how these could align. Additionally, participants were asked to consider potential trade-offs between four key project objectives: destination, connectivity, community, and sustainability.

### **Phase 2**

Phase 2 engagement focused on collecting feedback to refine the three redevelopment concept options. In October 2018, the City held regional workshops in Calgary, Wetaskiwin and Enoch. Indigenous communities were invited to share a meal, learn about the project work and share their thoughts on each redevelopment concept option through a map-based activity. These regional workshops were organized so that Nations could choose to work individually with facilitators from the project team or participate in joint discussions with other Nations. This was done to honour the direct relationship between each Nation and the City of Edmonton as well as to promote opportunities for sharing, learning and transparency.

In November 2018, additional workshops covering the same material were held upon request with Indigenous communities and related organizations that had not participated in the regional workshops.

### **Phase 3**

The purpose of the final phase of Indigenous engagement was to share the final land use concept and key components of the business case and implementation strategy with communities, explain how Indigenous input had been incorporated, and seek feedback on the plan. Nations were invited to attend a joint workshop in Edmonton in June 2019. At this session, the project team presented the content of the plan and facilitated a discussion with representatives from Nations in attendance. Following the session, the presentation, workshop summary and a questionnaire were circulated to help collect further feedback.

# Appendix B

## Policy Context

### Edmonton Metropolitan Region Growth Plan

The Edmonton Metropolitan Region Board prepared the Growth Plan in 2017, to guide growth and development for all municipalities in the region. A thriving urban core, healthy lifestyles, efficient use of infrastructure, environmental stewardship and excellent quality of life are objectives of the Edmonton Metropolitan Region Growth Plan. Located immediately adjacent to downtown, the proposed concept for River Crossing aligns with this intent.

### The City Plan

The City Plan – under development at this time of writing – will be the City's new overall planning policy document, replacing the existing The Ways documents, including the Municipal Development Plan and Transportation Master Plan.

The City Plan project team has outlined five “Big City Moves”: bold, transformative priorities that will outline opportunities for Edmonton to advance the direction set by ConnectEdmonton: Edmonton's Strategic Plan 2019-2028.

### A Community of Communities

This is about increasing the variety of land uses and improving connections within and between neighbourhoods and sections of the city. River Crossing, by virtue of its design, location, and amenities, is a distinct, open, and welcoming

neighbourhood. Multiple transportation modes allow a diversity of movement to, through, and within the area.

### A Rebuildable City

This is about enabling beneficial redevelopment; adapting and re-imagining our built environment to meet the needs of the future while preserving our heritage assets. River Crossing epitomizes the idea of a rebuildable city by updating infrastructure and adding density, while preserving and celebrating the tangible and intangible history of the area.

### Catalyze and Converge

This is about developing new physical and economic opportunities for ideas, talent and investment to come together. River Crossing enables new economic and cultural opportunities by activating the riverfront, reusing of the Rosedale Power Plant, catalyzing the RE/MAX Field ballpark, creating new open spaces, and providing new commercial opportunities.

### Greener as We Grow

This is about creating a city that is dedicated to preserving and protecting the environment through good design and conscious development decisions. River Crossing does this by intensifying an underused area, increasing the city's connection to its river valley, promoting energy transition and adapting infrastructure to a changing climate.

### Inclusive and Compassionate

This relates to city-making that supports human-centred design where people of all ages, backgrounds and abilities can not only survive, but thrive. River Crossing responds to this theme by creating an important new destination for all Edmontonians and visitors, celebrating the area's Indigenous legacy, and incorporating affordable housing.

### The Way We Grow

The Municipal Development Plan (MDP) (Bylaw #15100), The Way We Grow, is the City's strategic growth and development plan. The MDP shapes the city's urban form and directs the development and implementation of more detailed plans. Pertinent to the River Crossing project, the MDP reinforces the City's commitment to preserving the river valley as an environmental, cultural and recreational asset, directs an increased share of the city's population growth to core and mature areas, and coordinates land use and transportation planning, promoting development to take advantage of existing infrastructure or near existing or planned transit centres and corridors.

### The Way We Move

The Way We Move, the City's Transportation Master Plan (TMP) sets the framework for how the City will address its current and future transportation needs. The Way We Move is about building a sustainable, 21st century city that will meet the needs of our diverse and growing urban and regional population. The TMP

is based on seven Strategic Goals that contribute to creating the kind of safe, vibrant, economically robust, culturally active and environmentally sustainable city.

### **North Saskatchewan River Valley Area Redevelopment Plan**

In 1985, Council approved the North Saskatchewan River Valley Area Redevelopment Plan (ARP) (Bylaw #7188). The purpose of this Plan is to protect the North Saskatchewan River Valley and Ravine System as part of Edmonton's valuable open space heritage and to establish the principles for future implementation plans and programs for parks development and the retention of the designated residential areas of Rosssdale and Cloverdale. The ARP established a public metropolitan recreation area within the river valley, allowed for the retention of the existing residential neighbourhoods in the river flats and directed City Planning to prepare an ARP for Rosssdale.

### **Rosssdale Area Redevelopment Plan**

The Rosssdale Area Redevelopment Plan (ARP) was adopted by Council in 1986 (Bylaw #8139). The plan has been amended over the years for various editorial reasons and also to reflect changing land use designations, for instance, the recognition of the Traditional Burial Grounds / Fort Edmonton Cemetery, the boundaries of the new West Rosssdale Urban Design Plan, and updates to roadway reconfigurations and streetscape improvements.

The Rosssdale ARP sets out the objectives for the plan area and the policies and programs required to implement these objectives. Included in the ARP are descriptions of the community context, public participation activities as well as questions and issues that arose during plan preparation. An overall development concept for the community is outlined, as well as policies which provide direction for development activity in the area. Plan policies deal with the topics of residential, commercial, institutional and mixed uses, transportation and pedestrian circulation, recreation, open space and community facilities, utility services, and disposal/acquisition of City-owned property.

### **West Rosssdale Urban Design Plan**

Following direction provided by Council in 2004, the West Rosssdale Urban Design Plan was approved in 2011. The intent of the plan was to determine the best future land uses for a 22.5-hectare area in West Rosssdale, to provide guidelines for development and to enhance the area as a gateway to Downtown. The Plan makes a series of recommendations including:

- Respect and emphasize the history and archaeological significance of the area including official recognition and interpretive development
- Touch the Water on the north bank is recommended to be a multimodal promenade with a restored riverbank, and access to the river and docks

- Connect and integrate Downtown, the river, the Legislature and adjacent neighbourhoods
- Implement public realm improvements to animate the area through urban design and programming
- Improve mobility and sustainable transportation options
- Create sustainable and complete neighbourhoods which include a wide variety of housing forms and densities as well as amenities and retail services
- Create and enhance gateways, integrating the new Walterdale Bridge, riverbank promenades and creating a framed view of the Legislature
- Preserve and enhance view corridors to the Legislature, the river and Downtown
- Enhance parks and open spaces
- Edmonton takes a lead role to implement plans for West Rosssdale, the Legislature Grounds, River's Edge and Downtown.

In addition to these plans, many studies, assessments, reports, guidelines and visioning documents have been undertaken over the years. These have all informed the River Crossing project and attention has been paid to not duplicate previous efforts.



## Appendix C

# Socioeconomic Assessment and Market Analysis

### I. Key Findings

This following analysis focuses on evaluating the socioeconomic characteristics and current market conditions that define potential demand for retail, residential, office demand. Key findings include:

- Residential:** Based on unit delivery data from the last several years, there is consistent demand for residential housing in downtown and downtown-adjacent neighbourhoods. While the share of downtown multifamily units among all residential development citywide is growing, demand remains far stronger for housing in outlying neighbourhoods. Barring a change in the fundamental dynamics of Edmonton's housing market, the pace of new development in downtown is expected to remain steady but modest.
- Retail:** Given the high volume of retail already provided or planned in and around downtown, as well as the relative isolation of West Rosedale from the rest of downtown, the success of any retail development in the district is likely to be dependent on two primary factors:
  - Demand generated by residents and workers occupying new structures within the district, as well as current residents
  - The neighbourhood's success as a regional draw, contingent upon increased access and amenities along the district's waterfront, the creation of well-programmed destination park spaces and the eventual repurposing of the power plant as an activated public attraction.
- Office:** Given currently high office vacancy rates, the market for new office space will be weak in the immediate term. Over the longer term, West Rosedale may be able to capture some of the potential growth in office demand created by growth in key office employment sectors.
- Culture:** Cultural uses such as museum and gallery space and more can take advantage of the unique architecture of the power plant, serve as a means of attracting the public to the district and potentially draw public sector and philanthropic capital funding support.

### II. Socioeconomic Conditions

#### A. Demographic Overview

River Crossing is located within downtown Edmonton, which had over 100,000 residents in 2016<sup>1</sup>, comprising 8 percent of the total city population.

While the city as a whole saw a significant increase in population of 14.8 percent during 2011-2016, most of the growth occurred in the suburbs – the downtown population has only increased by 3.6 percent, less than the national growth rate of 5 percent during the same period.

Downtown Edmonton has attracted a population that is younger with below median household incomes than the city as a whole - 31 percent of downtown residents are 20 to 34 years old compared to 25 percent citywide. As well, median household incomes are 23 percent lower than the city median. The downtown area also contains more single-person households and fewer families than the city as a whole.

#### Comparison of Key Demographic Indicators

Population	110,000	935,000	
Population Change (2011-2016)	3.6%	14.8%	(11.2%)
Population Aged 20-34	31%	25%	+6%

<sup>1</sup> "downtown Edmonton" is defined here as the area within the Edmonton Centre (48014) Federal Electoral District.

### B. Income and Educational Attainment

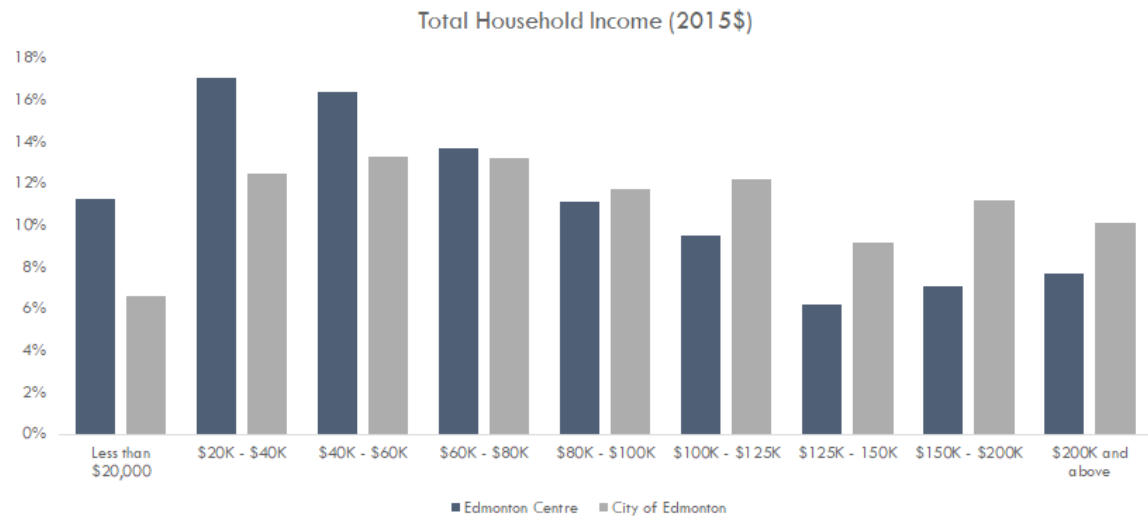
Downtown residents have diverse incomes with an overall lower median income than the city as a whole.

- Overall median household income for downtown residents was less than 80 percent of the citywide median, at \$67K and \$87K respectively.
- Downtown has more households within lower and moderate-income bands relative to citywide, particularly for households earning under \$40,000 per year.
- Downtown also has fewer households in upper income brackets, particularly for households earning over \$100,000 per year.

Downtown residents have relatively high educational attainment - 38 percent have a bachelor's degree or above, compared to 32 percent citywide.

### Income and Educational Attainment

Median Household Income	\$67K	\$87K	(\$20K)
Population with a bachelor's degree or greater	38%	32%	+6%



### C. Residential Building Ownership and Age

Downtown's existing residential building stock is more weighted toward older multifamily buildings occupied by renters:

- Approximately 40 percent of downtown residences are owner-occupied and 60 percent are rented; the inverse is true citywide.

- More than half of the occupied dwelling units downtown are multi-family rental units.
- 68 percent of downtown buildings were built before 1980, compared to 46 percent citywide.

#### Comparison of Downtown and Citywide Housing Stock

Share owner-occupied	41%	64%	(23%)
Share rented	59%	36%	+23%
Share of buildings built before 1980	68%	46%	+22%

#### Comparison of Residential Migration Patterns

Share of movers within 5 Years	26%	20%	+6%
Share born outside Canada	40%	41%	(1%)

### D. In-Migration

Downtown's residential population is somewhat more mobile and more likely to be Canadian-born than the city as a whole:

- According to the 2016 Census estimates, 26 percent of downtown Edmonton residents moved into the City within the previous five years, compared to 20 percent of citywide residents.
- 40 percent of new Downtown residents immigrated from outside Canada, approximately the same share as for the city as a whole.
- Downtown Edmonton has a smaller percentage of individuals born outside of Canada and non-permanent residents compared to the city as a whole.



### E. Employment

In Edmonton as a whole, the fastest growing jobs are in the medical field (including physicians, dentists, veterinarians and pharmacists), office administrative assistants, and human resources and business services. According to Emsi data, employment in these occupations grew by over 30 per cent between 2013-2017. Downtown Edmonton accommodates a larger share of certain employment categories compared to the rest of the city, according to the 2016 Census, including:

- Professional services
- Accommodation and food services
- Educational services
- Public administration services

Promising overall job growth could reduce currently high office vacancy in Downtown Edmonton in the coming years, which could ultimately result in demand for new office space in West Rosedale.

### F. Commuting Patterns

One of the key appeals of living in Downtown Edmonton is the reduced reliance on automobile commuting and overall shorter commute times for residents. Current downtown commuters tend to drive less and either bike, walk, or use public transit more. One in four downtown commuters takes less than 15 minutes to commute, compared to 19 percent of citywide

commuters.

River Crossing's potential density and proximity to existing downtown density should allow the neighbourhood to benefit from similar commuting patterns, particularly if transit connections to the rest of downtown are improved.

#### Comparison of Downtown and Citywide Commuting Patterns

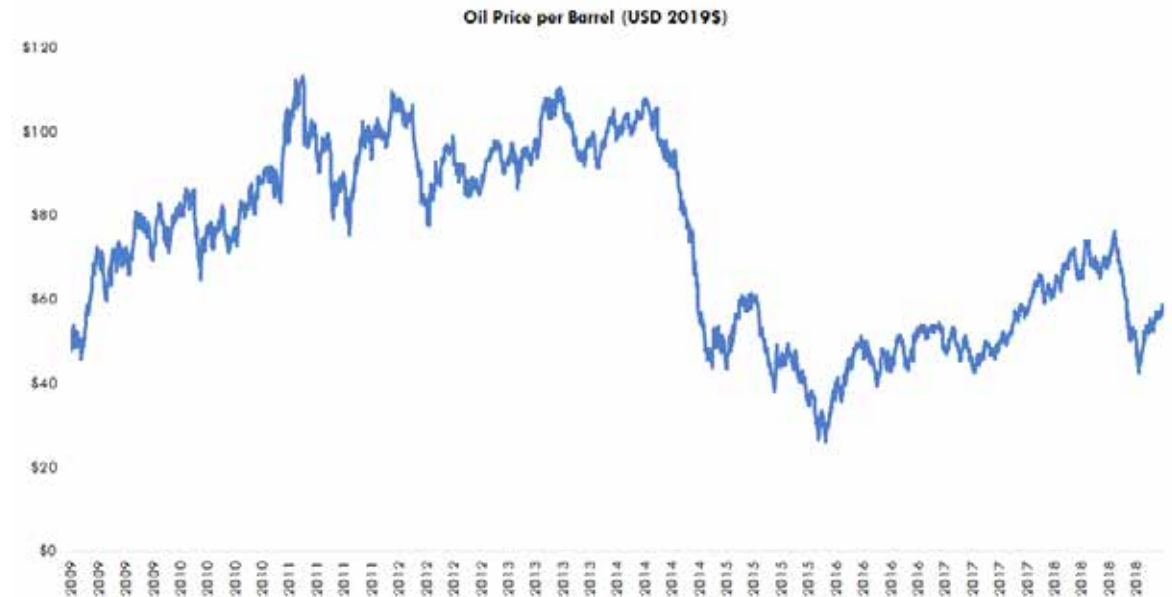
Share commuting by transit	19%	15%	+4%
Share commuting on foot	12%	4%	+8%
Share commuting by bicycle	3%	1%	+2%
Share commuting by automobile	65%	78%	(13%)

### III. Market Analysis

#### A. Market Overview

Historically, the Alberta economy has been heavily reliant upon the oil and gas industry. Fluctuations in the Edmonton market are often reflective of the changes in commodity pricing. Prices for oil and gas have partially recovered in recent years with some fluctuation after a deep decline from 2014 to 2016. Given the presence of the provincial government, Edmonton's economy has been somewhat more stable than that of Calgary, even as oil prices have declined by as much as 80 percent from peak prices in 2011-2014.

While the real estate market in Edmonton has been weaker in recent years in part as a result of oil price weakness, a long-term redevelopment plan such as the plan proposed for West Rosssdale is likely to span periods of both higher and lower oil prices, and slower and faster economic growth. Even if certain sectors are weaker at the moment, they are likely to see periods of growth in the coming decades that can drive diverse types of development within the city.



#### B. Residential Development Opportunities

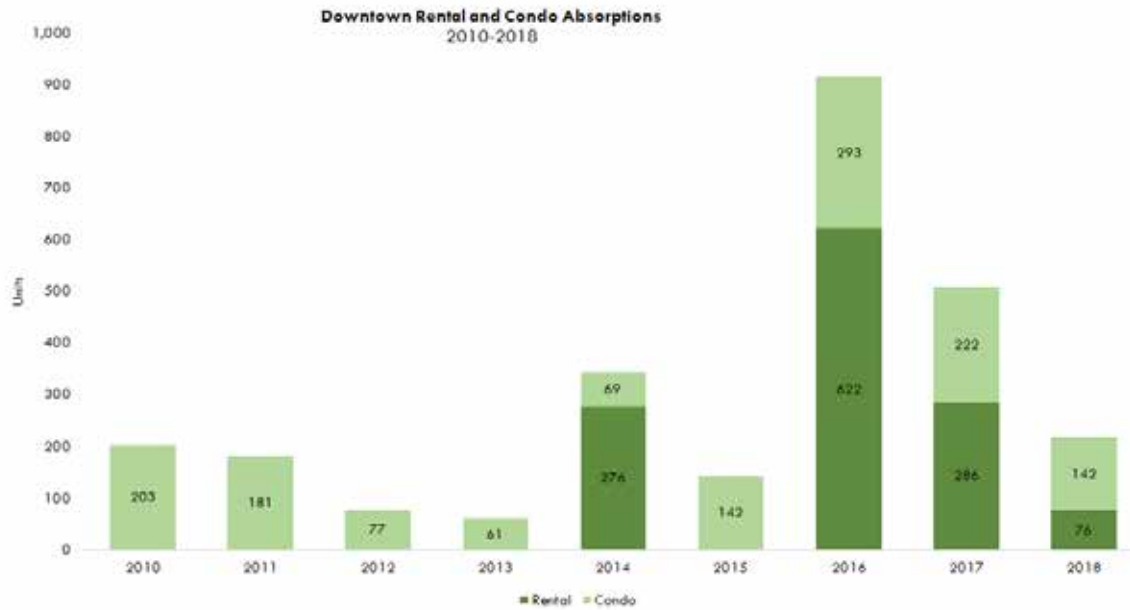
As noted above, Downtown Edmonton neighbourhoods have grown at only one-quarter of the pace of the city as a whole, gaining 3.6 percent more population from 2011 to 2016, compared to a nearly 15 percent increase in the city as a whole. As one of several possible locations for this modest population growth, West Rosssdale will need to distinguish itself by highlighting district assets—including river access, open space, and a revitalized power plant – in order to attract a share of downtown population growth.

#### Absorption

Since 2010, an average of 11,300 units have been absorbed citywide each year. Of these, 27 percent have been multifamily units, and only 3 percent of all absorbed units citywide have been downtown multifamily units, a slight uptick from the 1 percent downtown multifamily absorption share from 2010-2013<sup>[1]</sup>.

This translates into approximately 300 units of annual downtown apartment/condo absorption (2010-2017), compared to 3,100 per year citywide. Downtown absorption has been approximately evenly split between rental and condo units since 2010.

[1] Downtown defined as Downtown core, Oliver, Boyle Street, and Rosssdale



Absorption reached a peak of nearly 900 downtown units in 2016 before falling back to 220 units in 2018.

Many of the neighbourhoods in and around downtown are expecting substantial development in the coming years and decades:

- In Blatchford, the former municipal airport site is to be redeveloped to house 30,000 people in 250 townhomes, low- to mid-rise condos and apartments.
- In Oliver, a planned 23-storey tower will accommodate 178 suites (one- and two-bedroom) and 12 three- and four- bedroom apartments.
- In the Quarters, a mixed-use transit-oriented development is ultimately expected to house 18,000 – 20,000 residents, along a new Valley Line LRT expected to be completed in 2020.
- Across the river in Strathcona, a recent proposal for three residential towers will add over 400 units.



**Blatchford**



**The Quarters**



**Oliver**



**Strathcona**



### Rents and Vacancy

Although absorption has ticked up in recent years, rents have remained relatively flat across the city, and vacancy rates have more than tripled since 2013-2014. This corresponds to the dip in oil prices between 2014 and 2016 – vacancy rates rose as oil prices decreased, and average rents stopped increasing and began to fall.

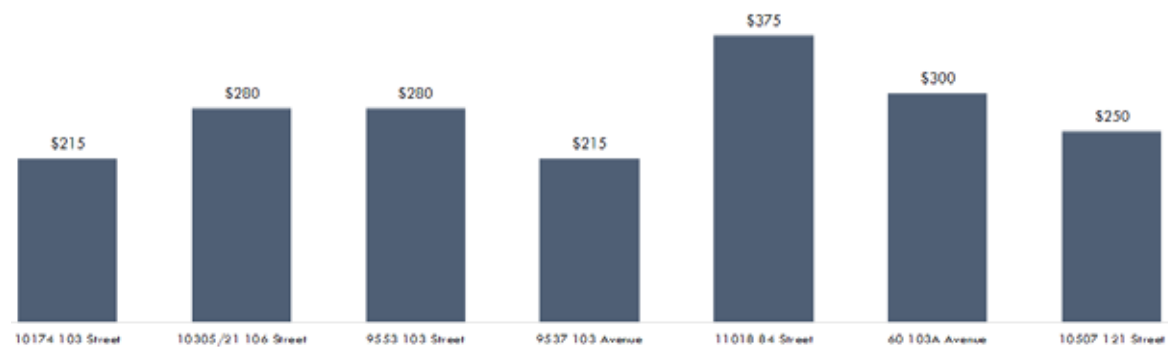


### Downtown Land Prices

Recent development parcels selling in and around Downtown Edmonton have been priced at between \$215 and \$375 per buildable square metre, after adjusting for inflation.

Given West Rosedale’s unique river valley location and proximity to appealing new parks and amenities, it is likely that sites within the district could command land prices toward the higher end of this range, particularly if most development follows the creation of an initial set of parks and amenities.

Comparable Downtown Land Sales  
\$ / Buildable Square Meters (2018\$)



### Activation

Residential densification is a key element of bringing activity and commercial uses to district redevelopment.

In projects across Canada, residential has been an important use that supports the feasibility of other uses, district activation and infrastructure funding:

- In Docksider Green, a neighbourhood in Victoria, residential uses are co-located with commercial uses, interim uses including urban agriculture, art installations, public markets, and First Nations' artwork. The site is planned to accommodate additional residential units creating a total of over 1,300 units, retail, office, brewery, an urban plaza and parks, among others, by 2027.
- In District Griffin, a former industrial neighborhood in Montreal abutting the Lachine Canal is being transformed to include a mix of residential (1,800-2,000 condo units), retail, and other commercial uses, taking advantage of the neighborhood's existing and proposed light manufacturing, art and exhibition space, academic use, and retail uses



**Docksider Green**  
Victoria, BC



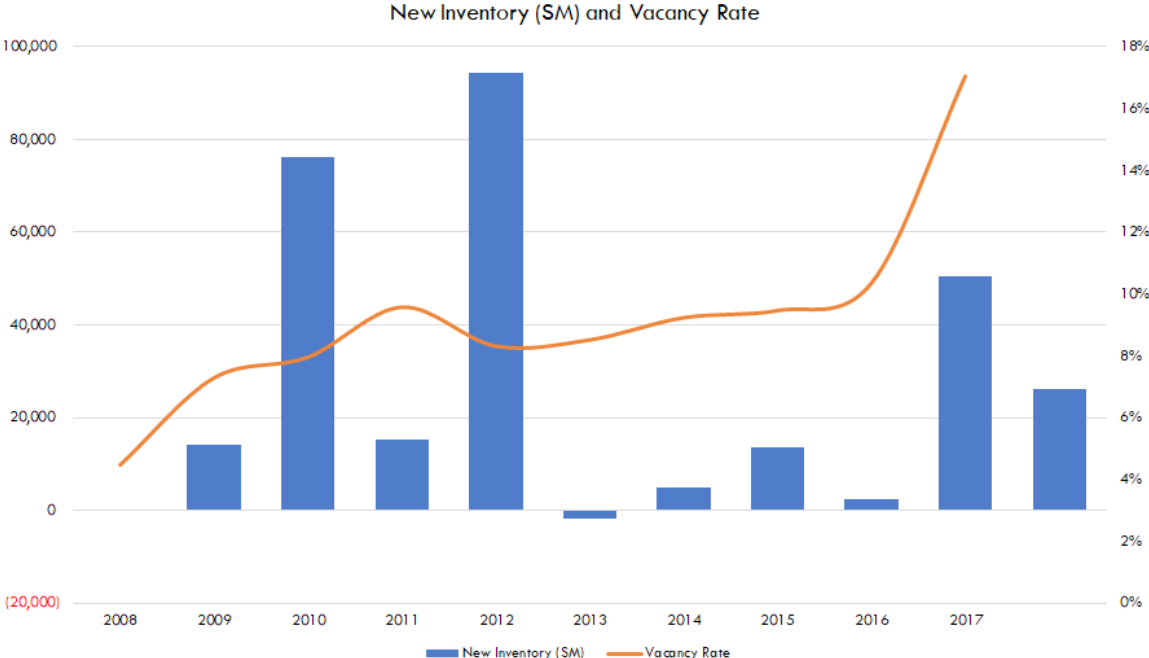
**District Griffin**  
Montreal, QC

**C. Office Development Opportunities**

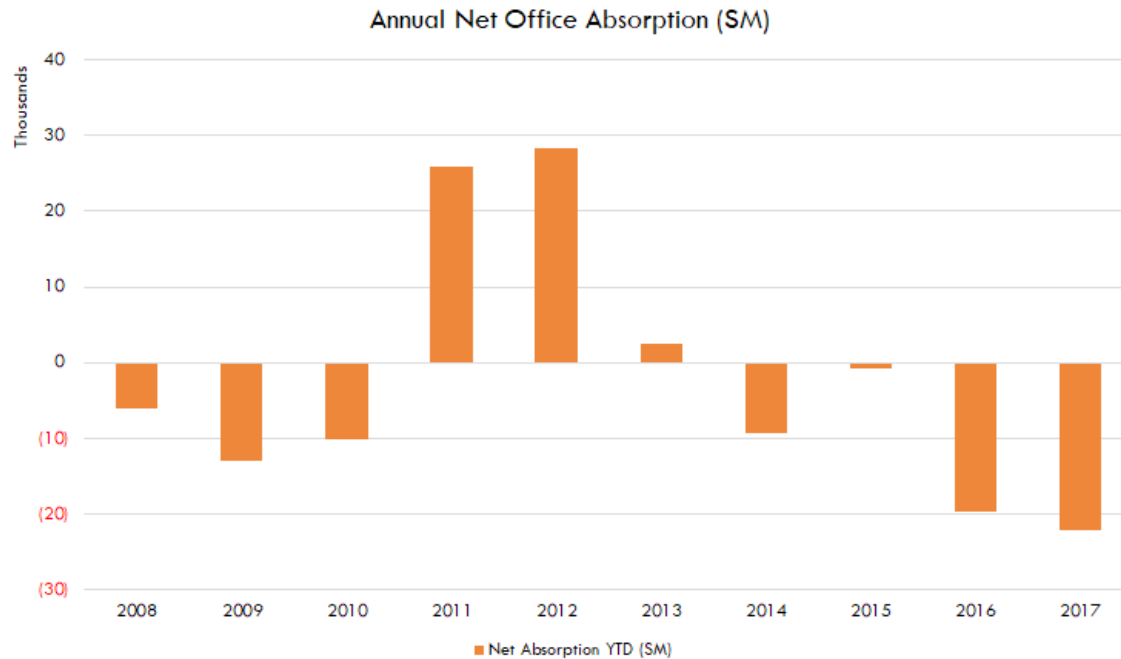
Although Edmonton’s office market is currently under stress, eventual office development can play a key role in the activation of West Rossdale by bringing daytime and weekday activity to complement activity from residents and visitors.

**Deliveries and Vacancy**

After a period of reduced construction, and stable vacancy, new deliveries in 2016 and 2017, combined with negative office tenant absorption, doubled citywide office vacancy rates to 17 percent.







To return to the pre-2016 vacancy rate of 10 percent, nearly 130K square meters of office space would need to be absorbed by new or expanding tenants. This level of market weakness suggests that there will be minimal opportunity for new office construction for the next several years, barring a rapid reversal of economic conditions.

**Potential Users and Locations**

Given limited citywide near-term office demand, it is important for any new office product in West Rosssdale to be able to distinguish itself from competing space elsewhere in downtown by leveraging the strengths of the district. In particular, West Rosssdale's decommissioned power plant, if redeveloped, could provide a different kind of office experience for creative sector users seeking non-traditional office spaces, in line with numerous potentially relevant precedents:

- West Elm built a headquarters by redeveloping the former Empire Stores building, facing Brooklyn Bridge Park in New York City
- Urban Outfitters built a headquarters within a former Philadelphia Navy Yard industrial building.



**West Elm Headquarters**  
Former Empire Stores | Brooklyn Bridge Park, NY



**Urban Outfitters Headquarters**  
Navy Yard | Philadelphia, PA

It is not difficult to imagine that a company or companies with a desire for a similar aesthetic could be interested in redeveloping a portion of the power plant, though the expense of such a rehabilitation would likely be greater than individual tenants could afford, suggesting the need for public funding support.

#### D. Retail Development Opportunities

While retail spending patterns in Alberta are especially sensitive to fluctuations in oil prices, near-term trends look promising. A 2017 report by Cushman and Wakefield suggests that new retail developments have been quickly absorbed and asking rents are likely to increase. Furthermore, consumer activity indicators show there is demand for retail which has seen a 1.5 percent year over year growth between 2017-2018.

Edmontonians are increasingly interested in a vibrant Downtown retail experience, supporting new name-brand and big-box retail destinations in the core.

In West Rosedale, retail opportunities are likely to be tied to demand generated by the neighbourhood's new residents and workers as well as demand from visitors to the district's open space and other attractions.

- There is a limited amount of retail that meets the needs of existing and potential residents of West Rosedale. West Rosedale can complement new Downtown offerings with smaller-scale convenience and experience-oriented retail.
- West Rosedale's relative disconnection from the Downtown core suggests the need for a unique set of destination retail uses that can leverage assets, such as the river and historic structures, to draw people to the community.

Unique destination-oriented retail experiences such as public markets and one-of-a-kind food and

beverage venues play a critical role in attracting residents and visitors to many other districts.

- St. Lawrence Market in Toronto houses specialty vendors for fresh produce, rentable showroom space for meetings and exhibitions, and event spaces within historic structures that have undergone renovation since the market's construction in 1845.
- Located within The Forks, a redevelopment site on a former railyard in Winnipeg, The Forks Market includes a market and food hall in a structure that formerly housed horse stables and haylofts.
- Oliver Square and Brewery District, directly west of downtown Edmonton, house a mix of commercial and retail establishments including big-box retail, financial institutions, and breweries.
- The Kitsilano neighbourhood in Vancouver is home to fashion, lifestyle and outdoor stores, and restaurants, with an annual music and arts festival hosted by a local business association.
- A 25-acre site in downtown Edmonton, ICE District, will be a mixed-use development with retail, office, residential, sports, and entertainment facilities
- A 130-acre development in south Vancouver, the River District will create five new neighborhoods and include retail and commercial space, green space, and weekly farmers' markets.



**St. Lawrence Market** | Toronto, ON



**Oliver** | Edmonton, AB



**Ice District** | Edmonton, BC



**The Forks** | Winnipeg, MB



**Kitsilano** | Vancouver, BC



**River District** | Vancouver, BC

### E. Potential Cultural Uses

West Rosedale is an important site in the history of Edmonton and its communities. It already celebrates this history through important landmarks and features such as the First Nations burial grounds and memorial and the pedestrian trail adjacent to the North Saskatchewan River. The redevelopment plan for West Rosedale must build on and respect the neighbourhood's history and legacy and environmental sensitivity.

In addition to improving and expanding existing heritage-related features, a number of opportunities exist to bring new cultural uses to the neighbourhood that can attract Edmonton's diverse communities to the historic centre of their city. The historic power plant, in particular, could accommodate a wide variety of permanent or temporary museum, gallery and event uses that celebrate and preserve the structure, while potentially supporting spin-off, small-scale art galleries and maker-spaces throughout the neighbourhood.

There are numerous examples of historic structures whose original use is no longer required and have been repositioned as community cultural destinations, usually with the support of substantial public sector and philanthropic capital contributions:

- A former complex of 19th century factory buildings in western Massachusetts that shuttered industrial operations in the mid-1980s, MASS MoCA was rehabilitated to

become one of the leading institutions dedicated to the production and exhibition of contemporary art in the U.S. The presence of a broad-based coalition that advocated for the renovation, as well as existing strong partnerships among the region's cultural anchors supported this transformation. Of the \$31.4M renovation costs, nearly a third was paid for by philanthropic contributions, with the rest funded by the State of Massachusetts.

- After terminating operations as a naval base in 1996, the former Philadelphia Naval Shipyard was transformed into a major business district with 150 companies housed in a 1,200-acre site with over 70M square meters of office, industrial, manufacturing, and R&D space within both new and renovated structures. The \$150M public infrastructure investment is said to have leveraged \$750M in private investment. The project is managed by an independent non-profit that serves as the City's public-private economic development corporation.



**MASS MoCA** | North Adams, MA



## Appendix D

# Transportation Existing Conditions Assessment

### Existing Street Network

The following summarizes the existing street network within the River Crossing area:

- **97 Avenue** is generally a six-lane, two-way arterial street running east-west in the north portion of the plan area. The avenue extends west from James MacDonald Bridge to 109 Street providing access to Downtown, the High Level Bridge, and the Alberta Legislature parking areas. Based on a review of the City of Edmonton's traffic volumes, the average annual weekday traffic (AAWDT) along 97 Avenue was measured at approximately 36,100 vehicles per day (vpd) west of Rossdale Road and 29,500 vpd west of 105 Street in 2016. Parking is not permitted along 97 Avenue.
- **105 Street** is a one-way arterial street running north-south in the west portion of the plan area. The street extends north from the Walterdale Bridge into Downtown and accommodates four northbound lanes between River Valley Road and 96 Avenue. North of 97 Avenue, 105 Street accommodates three northbound lanes. The city's AAWDT along 105 Street was measured in 2016 to be in the order of 14,200 vpd north of River Valley Road, 16,600 vpd north of 96 Avenue, and 15,900 vpd north of 97 Avenue. Parking is permitted along the west side of 105 Street for approximately 80 metres north of 97 Avenue.
- **River Valley Road** is a two-way, undivided two-lane arterial street running east-west along the north side of the North Saskatchewan River valley

west of the plan area providing access between the Groat Road and 105 Street. East of 105 Street, River Valley Road transitions to Rossdale Road. The City's AAWDT was measured in 2016 to be in the order of 21,000 vpd west of 105 Street. Parking is not currently permitted along River Valley Road.

- **Rossdale Road** is currently a three-lane arterial street accommodating northbound traffic as part of an arterial couplet system between 97 Avenue and 105 Street. Rossdale Road extends east from River Valley Road at 105 Street and bends north through the River Crossing plan area east of 104 Street before crossing 97 Avenue connecting to Bellamy Hill Road and to the east portion of Downtown. The City's AAWDT was measured in 2016 to be in the order of 17,100 vpd north of 96 Avenue and 10,600 vpd north of 97 Avenue. Parking is not permitted along Rossdale Road.
- **104 Street** is currently a two-lane arterial street accommodating the one-way southbound traffic portion of the arterial couplet system between 97 Avenue and 105 Street. The street extends south from 97 Avenue and Bellamy Hill Road through the plan area before bending west to connect to River Valley Road. Parking is permitted along the west side of 104 Street within the plan area. The City's AAWDT along 104 Street was measured in 2016 to be approximately 6,400 vpd north of 96 Avenue. North of 97 Avenue, 104 Street becomes a two-way, two-lane local street with parking on the

west side terminating for vehicle traffic north of 98 Avenue.

- **Bellamy Hill Road** is generally a north-south arterial street located in the northern portion of the plan area providing access between Downtown and the River Crossing area. Bellamy Hill Road extends south from Downtown as a four-lane, two-way street before splitting into two, one-way streets each accommodating two travel lanes north of 97 Avenue. The northbound portion of Bellamy Hill Road forms the north leg of the 97 Avenue/Rossdale Road intersection, while the southbound portion of the Bellamy Hill Road combines with the southbound lanes of Rossdale Road to form four southbound travel lanes on the north leg of the 97 Avenue/Bellamy Hill Road intersection.

### Intersection Traffic Control

The following intersections are currently signalized within the River Crossing plan area:

- River Valley Road and 105 Street
- 97 Avenue and 105 Street
- 97 Avenue and 104 Street/Bellamy Hill Road
- 97 Avenue and Rossdale Road

In addition to the signalized intersections, the following intersections currently include full pedestrian activated signals:

- 97 Avenue and 102 Street (east approach)
- 96 Avenue and Rossdale Road (north approach)

The remainder of the intersections within the River Crossing study area are unsignalized and stop sign controlled.

### Existing Active Modes Accommodation

Limited pedestrian and cycling facilities are currently provided within the Rossdale neighbourhood and therefore currently create an inconsistent and disconnected network for walking and cycling trips through the River Crossing area.

A combination of monowalk and boulevard sidewalks are constructed on both sides of 97 Avenue west of 101 Street. East of 101 Street, a monowalk is constructed on the north side across the James MacDonald Bridge; however, no pedestrian facilities are provided on the south side. A shared use path is also constructed beginning west of 106 Street and extending east to 101 Street in addition to the monowalk sidewalk on the south side of 97 Avenue.

A combination of monowalk and boulevard sidewalks are constructed along both sides of 96 Avenue east of 105 Street while a monowalk is only provided on the south side of 96 Avenue west of 105 Street.

Pedestrians are accommodated along both sides of 105 Street through the plan area through a combination of monowalk and boulevard sidewalks. South of Rossdale Road, 105 Street includes shared use paths on both sides of

street constructed as part of the Walterdale Bridge replacement project.

Boulevard sidewalks on both sides of 104 Street north of 97 Avenue transition to monowalks on both sides of 104 Street between 97 Avenue and 96 Avenue. South of 96 Avenue, a shared use path runs parallel to 104 Street on the west side, while no pedestrian facilities are provided on the east side of 104 Street.

A boulevard sidewalk is included on the east side of 101 Street with no pedestrian facilities on the west side between 97 Avenue and 96 Avenue. South of 96 Avenue, a shared use path is provided on the west side of 101 Street in addition to the boulevard sidewalk on the east side to 94 Avenue.

Boulevard sidewalks are included on both sides of 100A Street and 100 Streets with the exception of the east side of 100 Street where a shared use path is constructed along the river as part of the river valley trail system.

Rossdale Road currently accommodates a shared use path along the south/east side of the street with no pedestrian accommodation on the north/west side between 105 Street and 96 Avenue. The shared use path terminates at 96 Avenue and Rossdale Road transitions to accommodating monowalks on both sides of the street between 96 Avenue and 97 Avenue. North of 97 Avenue, a monowalk is provided on the east side of Rossdale Road.

Immediately north of 97 Avenue, Bellamy Hill Road does not currently include any pedestrian facilities until the intersection with Rossdale Road where a monowalk is provided on the north/west side of the street.

River Valley Road west of the River Crossing area includes a shared use path on the south side of the street as part of the river valley trail system with no pedestrian facilities along the north side of the street.

It is noted that no pedestrian facilities are currently constructed on either side of 95 Avenue and 94 Avenue between 101 Street and 100 Street.

In addition to the above, 96 Avenue between the river and the Legislature Grounds as well as 97 Avenue between 100 Street and 101 Street are designated as shared roadways on the City's Bike Map. Shared roadways are identified as streets where cyclists and drivers share the travel lanes.

The existing condition assessment identifies gaps in the pedestrian and cycling networks and the following opportunities required to improve pedestrian and cyclist accommodations within the River Crossing area:

#### Pedestrians

- Increase separation from traffic and widen pedestrian through zones
- Develop pedestrian-oriented lighting
- Improve intersection crossing markings and

develop universal design considerations at intersections

- Correct skewed intersections and provide mid-crossing refuge or narrower crossing distances
- General need to improve crossings at the intersection of Bellamy Hill Road/103 Street and Rossdale Road
- Find opportunities to separate street users along Rossdale Road
- Relocate utilities and other street furniture including light poles outside of pedestrian through zones
- Improve connection from 104 Street downtown to 104 Street in the River Crossing area
- Connect the shared use path along 104 Street that currently ends at 96 Avenue to 97 Avenue and the rest of the cycling network.

### Cycling

- Provide a high-quality cycling facility along Rossdale Road to connect facilities along River Valley Road and the Walterdale Bridge to the overall cycling network
- Widen shared-use paths where widths are insufficient to accommodate pedestrians and cyclists
- Provide further separation from traffic along 97 Avenue
- Provide cyclist crossings that maximize convenience at intersections
- Consider separate walking and cycling paths as per the West Rossdale Urban Design Plan
- Reimagine 96 Street with redevelopment to provide improved east-west cyclist connections.

### Existing Transit Operations

Edmonton Transit Service (ETS) provides bus service with routes operating along 105 Street, 97 Avenue, and Rossdale Road. Bus stops are currently provided along 97 Avenue and Rossdale Road. The nearest transit centre to the River Crossing plan area is located at the Government Centre Transit Centre, northwest of the site at 107 Street south of 100 Avenue.

The Rossdale neighbourhood is not currently generating significant transit ridership, except during events at RE/MAX Field. The existing transit service in the area is shown below.

Higher-density development and land use intensification in close proximity to the city's core and employment centres with strong access to transit and active modes connections can influence travel patterns away from private automobiles. Access to improved transit, and an enhanced pedestrian and cyclist experience throughout the River Crossing area, will not only encourage multi-modal transportation to and from the area, it could also assist in achieving the River Crossing development goals.

The City of Edmonton is currently completing a network redesign of the existing ETS route network and it is anticipated that the renewed network will be implemented in 2020. Based on a review of the draft network, 2nd revision, frequent bus routes have been identified along Rossdale Road and 97 Avenue connecting Bellamy Hill Road with the Walterdale Bridge and

the High Level Bridge. A local bus route has also been identified along 105 Street.

Frequent bus routes are anticipated to operate seven days a week and run every 15 minutes or better on weekdays and Saturdays, and every 20 minutes or better during late nights and Sundays. Local routes are intended to provide connections between LRT, frequent bus routes, and local activity centres. Local routes are anticipated to operate on days of the week and times when there is sufficient demand; therefore, the exact headways for the proposed transit route along 105 Street has not been confirmed.

It is anticipated that the frequent bus routes will enhance current transit access to the River Crossing area. In addition, development and area intensification coupled with the proposed street network and strong pedestrian and cyclist connections within the River Crossing area could assist in supporting demand for local bus routes along 105 Street.

The quality of the bus stops is high within the study area, but there are a limited number of stops within River Crossing except along 97 Avenue, and current service is not frequent.





# Appendix E Transportation Analysis

## Introduction

The River Crossing area is rich in history, opportunity, and challenges. Previous transportation assessments completed for the River Crossing area tended towards vehicle-centric analysis and was completed prior to relevant new policy work that impacts the area. The recent River Crossing Vision, River Crossing Heritage Interpretive Plan, as well as new projects like the Downtown and Strathcona bike lanes, Complete Streets Design and Construction Standards, Winter Design Guidelines, and Transit Strategy

need to be accounted for in future evaluation, as do other considerations for changes to transportation behaviour and services.

In support of the River Crossing Business Plan, Stantec was retained to complete a Mobility Assessment of the proposed River Crossing Redevelopment Concept, including a review of existing conditions and the evaluation of the proposed street network considering the revised land use concept and accommodating users of all modes.

## River Crossing Project Objectives

Building upon the themes developed through past work in the River Crossing Area, and supported by the vision, objectives, and desired outcomes outlined in the Heritage Interpretive Plan, the West Rosedale Urban Design Plan, and the City Council Vision for River Crossing, the River Crossing Redevelopment Plan team has identified eight objectives for the project. The River Crossing objectives and how they impact considerations for the multimodal transportation network, are summarized in **Table 1**.

**Table 1: River Crossing Project Objectives**

Project Objectives	Development Elements	Transportation Impacts
<p><b>Urbanity</b> Establish River Crossing as a mixed-use neighbourhood with high-quality design.</p>	<ul style="list-style-type: none"> <li>• Urban design that integrates with surrounding areas</li> <li>• Appropriate scale and mix of land uses, including residential, commercial, open space and recreational</li> <li>• Quality public realm (streets and spaces) that supports year-round use</li> <li>• Increased densities with appropriate transitions</li> </ul>	<ul style="list-style-type: none"> <li>• Identify both the link and place functions of all streets.</li> <li>• Create priority modes for each street in design concepts.</li> <li>• Implement context sensitive street design that integrates with adjacent land use.</li> </ul>
<p><b>Transportation</b> Change the road network to facilitate River Crossing’s development while ensuring it remains a gateway to downtown.</p>	<ul style="list-style-type: none"> <li>• Network of livable and inviting streets</li> <li>• Effective and varied transportation options</li> <li>• Functional connections between the south side and downtown</li> <li>• Public access to the river and recreation trails</li> <li>• Infrastructure that ensures safety and accessibility for all</li> </ul>	<ul style="list-style-type: none"> <li>• Identify connections to Downtown, Old Strathcona, the river valley, and the Legislature for people walking, cycling, taking transit, and driving.</li> <li>• Include Universal Design as a basic requirement of street and public space design.</li> <li>• Require lighting to be appropriate for all users, including pedestrian scaled lighting.</li> <li>• Develop wayfinding that integrates into the community while provide clear routing to the rest of the City.</li> </ul>

Table 1 Cont'd

Project Objectives	Development Elements	Transportation Impacts
<p><b>Destination</b> Make River Crossing a special destination for Edmontonians and visitors to explore and cherish.</p>	<ul style="list-style-type: none"> <li>• Attractive, welcoming gathering spaces for active and passive use</li> <li>• Facilities for events and celebrations</li> <li>• Innovative experiences that reflect the area's uniqueness</li> <li>• Shops and services to draw and support user experiences</li> </ul>	<ul style="list-style-type: none"> <li>• Require wider pedestrian through zones on mixed use and commercial streets to support high numbers of users.</li> <li>• Design transit stops, pathways and streets for winter.</li> <li>• Create an integrated access strategy that includes bicycle parking, vehicle parking, and transportation network connections.</li> </ul>
<p><b>Heritage</b> Honour the area's significance for Indigenous peoples and settlers and connect to the present.</p>	<ul style="list-style-type: none"> <li>• Heritage interpretation that promotes learning and a sense of connection</li> <li>• Spaces and supports for cultural activities, programming, reflection and interaction</li> <li>• Cultural accessibility, meaning and authenticity</li> <li>• Protection of historic and cultural sites and views</li> <li>• Preservation and adaptive reuse of historic buildings</li> </ul>	<ul style="list-style-type: none"> <li>• Consider transportation connections and innovation for access and use of the North Saskatchewan River.</li> <li>• Incorporate First Nations and Metis perspectives in the planning and design of the transportation network, including mitigating further encroachment and disturbance to historic and cultural sites.</li> </ul>
<p><b>Community</b> Make Rosedale a more vibrant and diverse community.</p>	<ul style="list-style-type: none"> <li>• Strengthened sense of community</li> <li>• Housing for different ages, abilities and income levels</li> <li>• Proximity and access to open space, parks and trails</li> </ul>	<ul style="list-style-type: none"> <li>• Include Vision Zero principles as a requirement.</li> <li>• Include planning for all ages and abilities as a requirement.</li> <li>• Incorporate broad-based community input in the creation and assessment of the transportation network.</li> </ul>
<p><b>Economics</b> Attract private development in River Crossing through public investment and partnerships in city-building.</p>	<ul style="list-style-type: none"> <li>• Strategic City investments</li> <li>• Viable private development that delivers public benefit</li> <li>• Partnerships with organizations, institutions and other levels of government</li> <li>• Economic development opportunities</li> <li>• Responsible, staged financial approach</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporate right-sized infrastructure and resilient network structure for River Crossings transportation system.</li> </ul>
<p><b>Environmental Stewardship</b> Incorporate ecological practices into the area's design and contribute to sustainability across generations.</p>	<ul style="list-style-type: none"> <li>• Enhancement of habitat connectivity and biodiversity</li> <li>• Cost-effective use of renewable energy</li> <li>• Climate change adaptation and flood resilience</li> </ul>	<ul style="list-style-type: none"> <li>• Plan and design the network to support walking, cycling, and transit as convenient and attractive options.</li> <li>• Use streets and public spaces to manage stormwater through low-impact drainage techniques.</li> </ul>



## Previous Transportation Assessments

A review of previous transportation assessments completed for the River Crossing area is summarized in a memo submitted to the City of Edmonton in November 2017.

The land use and transportation network for the River Crossing area has been an issue of debate and progress for as long as Edmonton has been a City. Previous studies have identified potential issues and opportunities within the area and should be considered moving forward.

However, the recent Vision, Heritage Interpretive Plan, and ongoing work at the City through elements like the Complete Streets Design and Construction Standards, Downtown Bike Grid, Winter Design Guidelines, and Transit Strategy, should be considered in current recommendations for the transportation network. The evaluation criteria used, particularly as part of the West Rosedale Roads and Public Realm Improvement Concept Planning Report, did not necessarily align with current and recently revised priorities. Mobility and access, particularly while considering a revised land use plan, need to be the focus for the forthcoming Redevelopment Concept Design, with special consideration for how local users and pass-through users can all be accommodated, while still aligning with the Visions and Principles.

## Existing Transportation Infrastructure

### Existing Street Network

The following summarizes the existing street network within the River Crossing area:

- 97 Avenue is generally a six-lane, two-way arterial street running east-west in the north portion of the plan area. The avenue extends west from James MacDonald Bridge to 109 Street providing access to Downtown, the High Level Bridge, and the Alberta Legislature parking areas. Based on a review of the City of Edmonton's traffic volumes, the average annual weekday traffic (AAWDT) along 97 Avenue was measured at approximately 36,100 vehicles per day (vpd) west of Rosedale Road and 29,500 vpd west of 105 Street in 2016. Parking is not permitted along 97 Avenue.
- 105 Street is a one-way arterial street running north-south in the west portion of the plan area. The street extends north from the Walterdale Bridge into Downtown and accommodates four northbound lanes between River Valley Road and 96 Avenue. North of 97 Avenue, 105 Street accommodates three northbound lanes. The City's AAWDT along 105 Street was measured in 2016 to be in the order of 14,200 vpd north of River Valley Road, 16,600 vpd north of 96 Avenue, and 15,900 vpd north of 97 Avenue. Parking is permitted along the west side of 105 Street for approximately 80 m north of 97 Avenue.
- River Valley Road is a two-way, undivided two-lane arterial street running east-west along the north side of the North Saskatchewan River valley west of the plan area providing access between the Groat Road and 105 Street. East of 105 Street, River Valley Road transitions to Rosedale Road. The City's AAWDT was measured in 2016 to be in the order of 21,000 vpd west of 105 Street. Parking is not currently permitted along River Valley Road.
- Rosedale Road is currently a three-lane arterial street accommodating northbound traffic as part of an arterial couplet system between 97 Avenue and 105 Street. Rosedale Road extends east from River Valley Road at 105 Street and bends north through the River Crossing plan area east of 104 Street before crossing 97 Avenue connecting to Bellamy Hill Road and to the east portion of Downtown. The City's AAWDT was measured in 2016 to be in the order of 17,100 vpd north of 96 Avenue and 10,600 vpd north of 97 Avenue. Parking is not permitted along Rosedale Road.
- 104 Street is currently a two-lane arterial street accommodating the one-way southbound traffic portion of the arterial couplet system between 97 Avenue and 105 Street. The street extends south from 97 Avenue and Bellamy Hill Road through the plan area before bending west to connect to River Valley Road. Parking is permitted along the west side of 104 Street within the plan area.

The City's AAWDT along 104 Street was measured in 2016 to be approximately 6,400 vpd north of 96 Avenue. North of 97 Avenue, 104 Street becomes a two-way, two-lane local street with parking on the west side terminating for vehicle traffic north of 98 Avenue.

- Bellamy Hill Road is generally a north-south arterial street located in the north portion of the plan area providing access between Downtown and the River Crossing area. Bellamy Hill Road extends south from Downtown as a four-lane, two-way street before splitting into two, one-way streets each accommodating two travel lanes north of 97 Avenue. The northbound portion of Bellamy Hill Road forms the north leg of the 97 Avenue/Rossdale Road intersection, while the southbound portion of the Bellamy Hill Road combines with the southbound lanes of Rossdale Road to form four southbound travel lanes on the north leg of the 97 Avenue/Bellamy Hill Road intersection.

### Intersection Traffic Control

The following intersections are currently signalized within the River Crossing plan area:

- River Valley Road and 105 Street
- 97 Avenue and 105 Street
- 97 Avenue and 104 Street/Bellamy Hill Road
- 97 Avenue and Rossdale Road

In addition to the signalized intersections, the following intersections currently include full pedestrian activated signals:

- 97 Avenue and 102 Street (along east approach)
- 96 Avenue and Rossdale Road (along

north and south approaches)

The remainder of the intersections within the River Crossing study area are unsignalized and stop sign controlled.

### Existing Active Modes Accommodation

Limited pedestrian and cycling facilities are currently provided within the Rossdale neighbourhood and therefore currently create an inconsistent and disconnected network for walking and cycling trips through the River Crossing area.

A combination of monowalk and boulevard sidewalks are constructed on both sides of 97 Avenue west of 101 Street. East of 101 Street, a monowalk is constructed on the north side across the James MacDonald Bridge; however, no pedestrian facilities are provided on the south side. A shared use path is also constructed beginning west of 106 Street and extending east to 101 Street in addition to the monowalk sidewalk on the south side of 97 Avenue.

A combination of monowalk and boulevard sidewalks are constructed along both sides of 96 Avenue east of 105 Street while a monowalk is only provided on the south side of 96 Avenue west of 105 Street.

Pedestrians are accommodated along both sides of 105 Street through the plan area through a combination of monowalk and boulevard sidewalks. South of Rossdale Road, 105 Street includes shared use paths on both sides of street constructed as part of the Walterdale Bridge replacement project.

Boulevard sidewalks on both sides of 104 Street north of 97 Avenue transition to monowalks on both sides of 104 Street between 97 Avenue and 96 Avenue. South of 96 Avenue, a shared use path runs parallel to 104 Street on the west side, while no pedestrian facilities are provided on the east side of 104 Street.

A boulevard sidewalk is included on the east side of 101 Street with no pedestrian facilities on the west side between 97 Avenue and 96 Avenue. South of 96 Avenue, a shared use path is provided on the west side of 101 Street in addition to the boulevard sidewalk on the east side to 94 Avenue.

Boulevard sidewalks are included on both sides of 100A Street and 100 Streets with the exception of the east side of 100 Street where a shared use path is constructed along the river as part of the river valley trail system.

Rossdale Road currently accommodates a shared use path along the south/east side of the street with no pedestrian accommodation on the north/west side between 105 Street and 96 Avenue. The shared use path terminates at 96 Avenue and Rossdale Road transitions to accommodating monowalks on both sides of the street between 96 Avenue and 97 Avenue. North of 97 Avenue, a monowalk is provided on the east side of Rossdale Road.

Immediately north of 97 Avenue, Bellamy Hill Road does not currently include any pedestrian facilities until the intersection with Rossdale Road where a monowalk is provided on the north/west side of the street.

River Valley Road west of the River Crossing area includes a shared use path on the south side of the street as part of the river valley trail system with no pedestrian facilities along the north side of the street.

It is noted that no pedestrian facilities are currently constructed on either side of 95 Avenue and 94 Avenue between 101 Street and 100 Street.

In addition to the above, 96 Avenue between the river and the Legislature Grounds as well as 97 Avenue between 100 Street and 101 Street are designated as shared roadways on the City's Bike Map. Shared roadways are identified as streets where cyclists and drivers share the travel lanes.

### Existing Transit Operations

Edmonton Transit Service (ETS) provides bus service with routes operating along 105 Street, 97 Avenue, and Rossdale Road. Bus stops are currently provided along 97 Avenue and Rossdale Road. The nearest transit centre to the River Crossing plan area is located at the Government Centre Transit Centre, northwest of the site at 107 Street south of 100 Avenue.

The Rossdale neighbourhood is not currently generating significant transit ridership, except during events at RE/MAX Telus Field. Higher-density development and land intensification in close proximity to the City's core and employment centres with strong access to transit and active modes connections can influence travel patterns away from private automobiles.

Access to improved transit, and an enhanced pedestrian and cyclist experience throughout the River Crossing area, will not only encourage multi-modal transportation to and from the area but could also assist in achieving the River Crossing development goals.

The City of Edmonton is currently completing a network redesign of the existing ETS route network, and it is anticipated that the renewed network will be implemented in 2020. Based on a review of the draft network, 2nd revision, frequent bus routes have been identified along Rossdale Road and 97 Avenue connecting Bellamy Hill Road with the Walterdale Bridge and the High Level Bridge. A local bus route has also been identified along 105 Street.

Frequent bus routes are anticipated to operate seven days a week and run every 15 minutes or better on weekdays and Saturdays, and every 20 minutes or better during late nights and Sundays. Local routes are intended to provide connections between LRT, frequent bus routes, and local activity centres. Local routes are anticipated to operate on days of the week and times when there is sufficient demand; therefore, the exact headways for the proposed transit route along 105 Street has not been confirmed.

It is anticipated that the frequent bus routes will enhance current transit access to the River Crossing area. In addition, development and area intensification coupled with the proposed street network and strong pedestrian and cyclist connections within the River Crossing area could assist in supporting demand local bus routes along 105 Street.

The quality of the bus stops is high within the study area, but there are a limited number of stops within River Crossing except along 97 Avenue, and current service is not frequent.

### Mobility Assessment Evaluation Approach

Stantec has identified multimodal assessment criteria which provide the tools to complete an evaluation on the quality of service for each identified mode: walking, cycling, riding transit, delivering goods, and driving/parking. These criteria may not apply universally to all streets in River Crossing. In the design concept evaluation, priority modes will be determined for each street based on the River Crossing land use concepts and the network connections to the neighbourhoods and networks surrounding River Crossing. Higher priority modes will be held to a higher quality of service standards. All modes should be accommodated in some form in River Crossing.

Users passing through the area and those accessing River Crossing directly should have choices about how they interact with the streets in River Crossing.

Quality of service evaluation is based on the consideration of a combination of factors that contribute to mobility, accessibility, safety, and comfort: factors that will directly contribute to achieving the objectives of River Crossing.



The assessment criteria applies a Good-Fair-Poor-Gap scale system to determine the quality of service for each criterion for each mode. In general, the scoring can be defined as follows:

- **Good** represents fully meeting the requirements for the evaluated mode;
- **Fair** represents meeting the elements for each mode but typically only at minimum levels;
- **Poor** represents an environment that is deficient in meeting one or more of the elements for the evaluated mode; and
- **Gap/Barrier** represents a significant deficiency or lack of elements to create a safe environment.

The assessment criteria are discussed in detail in the following sections.

## Walking

Providing a walkable community directly relates to the objectives identified for River Crossing. An area that is acceptable for walking and using mobility aids is typically one that is overall attractive for people visiting. High quality walking environments provide a high level of connectivity, promote a sense of place, and encourages consideration of the community as a destination. Typical elements of a walkable environment and how those relate to the River Crossing objectives are summarized in **Table 2**.

**Table 2: Walking-Friendly Elements**

Criteria	Description of Criteria	Objectives
Space	There is appropriate space provided along a street for people walking. Sidewalks should provide a comfortable buffer from adjacent vehicles.	<ul style="list-style-type: none"> <li>• Multimodal network</li> <li>• Nodes and Corridors</li> <li>• Health</li> <li>• Public Realm</li> </ul>
Place	The street should be a destination in its own right with buildings that are oriented towards the street and provide an interesting environment for people.	<ul style="list-style-type: none"> <li>• Nodes/Corridors</li> <li>• Mixed Uses</li> <li>• Urban Design</li> <li>• Gathering Spaces</li> <li>• Mix of Uses</li> </ul>
Crossings	Pedestrian crossings are conveniently located along desired travel paths and are comfortable and safe. Devices are provided to support crossing by people of all ages and abilities.	<ul style="list-style-type: none"> <li>• Safety</li> <li>• Health</li> <li>• Accessibility</li> </ul>
Security	People feel comfortable walking alone at all times of the day and areas are overlooked by people in surrounding buildings and those interacting with the street.	<ul style="list-style-type: none"> <li>• Maximizing public investment</li> <li>• Viable for City</li> <li>• Safety</li> </ul>
Connectivity	Direct walking routes with minimal deviation exist between destinations, reducing travel times.	<ul style="list-style-type: none"> <li>• Multimodal network</li> <li>• Nodes/corridors</li> </ul>

**Evaluation Criteria**

The evaluation criteria that will be used to evaluate the River Crossing transportation network is summarized in **Table 3** for both mid-block locations and intersections.

**Table 3: Walking Evaluation Criteria**

	Good	Fair	Poor	Gap/Barrier
Mid-block	Pedestrian through zone width $\geq 3m$ AND Buffer from moving traffic all day (e.g., parking) or furnishing zone of $\geq 1.7m$ AND Pedestrian-oriented lighting	Pedestrian through zone width $<3m$ and $>2m$ AND Buffer from moving traffic but may be narrow or not all day (e.g., off-peak parking only) AND Street lighting	Pedestrian through zone width $<2m$ OR No buffer OR No lighting	No sidewalk
Intersection	All FAIR elements are present AND Universal Design elements (e.g., tactile walking surface indicators) AND Curb Radii $> 4.5m$ and $< 6.0m$	For Speed Limits of 50km/hr & 2 lanes: RRFB* & marked crosswalk Curb ramps aligned with crosswalk For Speed Limits of 50km/hr & $> 2$ lanes: RRFB for ADT $< 15,000$ and up to 4 lanes Traffic signal where $> 4$ lanes or at schools Marked crosswalk Curb ramps aligned with crosswalk AND Curb Radii $>6.0m$ and $\leq 10.0m$	Does not meet FAIR elements OR Unmarked crossings where ADT $>1500$ OR Crosswalk is skewed OR Curb ramp is not oriented to crosswalk OR Curb Radii $> 10m$	No marked crossing or traffic controls for: Streets with operating speeds $>50km/hr$ Crossings near schools OR No curb ramps

While not all streets require a “good” evaluation for successful pedestrian accommodation, these criteria should be applied uniformly to the network. Areas that are “fair” or “poor” should be justified based on context and volumes.

## Cycling

While grades are challenging for cycling into Downtown, River Crossing already represents an important part of the Edmonton's cycling network, with major crossings of the North Saskatchewan River located at the New Walterdale Bridge and nearby at the LRT Bridge and High Level Bridge. An existing shared-use path network surrounds River Crossing. Redevelopment in the area must consider how those paths and unpaved trails can be integrated into River Crossing and improve connections into and through the community for people on bicycles.

Criteria to consider for cycling, and how they relate to River Crossing Objectives, are summarized in **Table 4**.

**Table 4: Cycling-Friendly Elements**

Criteria	Description of Criteria	Objectives
Space	Comfortable and safe cycling infrastructure that separates people cycling from high volumes and speeds of motor vehicle traffic, improving safety and encouraging less experienced people to ride a bicycle.	<ul style="list-style-type: none"> <li>• Multimodal network</li> <li>• User comfort</li> <li>• Health</li> <li>• Interaction with spaces</li> </ul>
Facilities	End-of-trip facilities, including secure bicycle parking, lockers, and showers, are provided.	<ul style="list-style-type: none"> <li>• Mixed uses</li> <li>• Viable for City</li> <li>• Environmental stewardship</li> </ul>
Connectivity	Direct cycling routes with minimal deviation exist between destinations, reducing travel times.	<ul style="list-style-type: none"> <li>• Multimodal network</li> <li>• Mixed uses</li> <li>• Accessibility</li> <li>• Safety</li> <li>• Health</li> </ul>



**Evaluation Criteria**

Cycling within the River Crossing area will be evaluated by considering infrastructure at mid-block and intersection locations. The assessment criteria for Good-Fair-Poor-Gap/Barrier are shown in **Table 5**. Provision of end of trip facilities is omitted from these criteria; however, should be considered in the supporting redevelopment concept.

**Table 5: Cycling Evaluation Criteria**

	Good	Fair	Poor	Gap/Barrier
Mid-block	Protected bike lane OR Shared-use path (SUP) if < 33 persons per hour per metre of path width OR For Speed Limits ≤ 30km/hr: Shared lane with traffic calming to reinforce posted speed and limit ADT to < 1,000 vpd For Speed Limits > 30km/hr and ≤ 50km/hr: Painted or buffered bike lane if ADT < 4,000 vpd AND Sufficient width for snow clearing	Shared-use path (SUP) if > 33 persons per hour per metre of path width OR For Speed Limits ≤ 30km/hr: Shared Lane Operation and ADT < 2,500 vpd For Speed Limits > 30km/hr and ≤ 50 km/hr: Shared lane operation if ADT < 1,000 vpd Bike lane if ADT < 4,000 vpd AND Sufficient width for snow clearing	Speed Limits ≤ 50km/hr: Infrastructure provided as per FAIR but ADT exceeds thresholds For Speed Limits > 30km/hr and ≤ 50km/hr: Bike lane if ADT ≥ 4,000 vpd and < 8,000 vpd OR Infrastructure as per GOOD or FAIR elements but insufficient width based on demand or insufficient width to allow snow clearing	Shared lane operation if Speed Limit > 50km/hr For Speed Limits > 30 km/hr and ≤ 50km/hr: Bike lane if ADT ≥ 8,000 vpd For Speed Limits > 50km/hr: Any facility other than protected bike lane OR SUP
Intersection	Traffic signals and/or controls specific for people cycling (e.g., bike signals) OR Controls that prioritize people cycling	Traffic controls exist to manage conflicts and specify right-of-way	Unmarked crossings at minor intersections OR Traffic controls require out-of-direction travel	Unmarked crossings at major intersections OR Traffic controls do not clearly define right-of-way and/or create safety concerns

## Riding Transit

There are seven user expectations<sup>1</sup> that characterize successful transit service. Some of these user expectations are related to the overall network while some can be locally considered. These user expectations and how they may relate to the Objectives of River Crossing are summarized in **Table 6**.

**Table 6: Transit-Friendly Elements**

User Expectation	Description of User Expectation	Objective
It takes me where I want to go.	Service is available between different origins and destinations and stops are conveniently accessible. The transfer from either walking or cycling is convenient.	<ul style="list-style-type: none"> <li>• Viable for City</li> <li>• Public realm</li> <li>• Multimodal network</li> </ul>
It takes me when I want to go.	Service is available during the right times (morning, midday, evening, etc.) and frequent enough to be convenient.	<ul style="list-style-type: none"> <li>• Safety</li> <li>• Multimodal network</li> </ul>
It is a good use of my time.	Travel time, including time for walking to stops and waiting for transfers, is reasonable. It has been shown that most users find time spent walking or waiting to be significantly more onerous than time spent in a transit vehicle.	<ul style="list-style-type: none"> <li>• Multimodal network</li> </ul>
It is a good use of my money.	Cost of travel is reasonable.	<ul style="list-style-type: none"> <li>• Viable for City</li> <li>• Accessibility</li> </ul>
It respects me in the level of safety, comfort, and amenity it provides.	Transit stops and vehicles are secure, clean, and comfortable. The system operates with an acceptable level of civility.	<ul style="list-style-type: none"> <li>• Accessibility</li> <li>• Urban Design</li> <li>• Safety</li> <li>• Interaction with spaces</li> </ul>
I can trust it.	Transit service is reliable with actual travel times matching schedules.	<ul style="list-style-type: none"> <li>• Multimodal network</li> <li>• Services</li> </ul>
It gives me freedom to change my plans.	Service is flexible enough to allow for spontaneous unscheduled trips.	<ul style="list-style-type: none"> <li>• Multimodal network</li> </ul>

<sup>1</sup> Walker J. Human Transit. Island Press. Washington DC. 2012.

**Evaluation Criteria**

Transit in River Crossing will be evaluated against the identified transit plans through the Transit Strategy. Successful transit in River Crossing will consider both those passing through and those boarding and alighting within the community. Transit evaluation criteria are summarized in **Table 7** for transit service and transit stops. Not all streets within River Crossing will be held to the same standard for transit, but access for the area overall will be evaluated and the quality of the transportation network for active transportation modes directly contributes to the quality of transit.

**Table 7: Transit Evaluation Criteria**

	Good	Fair	Poor	Gap/Barrier
Transit Service	4 or more buses per hour all day	GOOD elements met but with one or more time periods with 2 to 3 buses per hour	GOOD or FAIR elements met but with one or more time periods with <2 buses per hour	Major street or destination without transit service
Transit Stop	Shelters and seating provided Bicycle parking provided.	Only seating provided	No seating or shelter provided	No sidewalk access to the stop



## Goods Movement

The delivery of goods to local business and access for service vehicles will be important for the success of businesses within River Crossing. The movement of large vehicles and designing streets for these vehicles should consider the frequency of these vehicles on the street. This is considered in the Complete Streets Design and Construction Standards with the design vehicle vs. control vehicle concept. Where deliveries occur is another important consideration. Deliveries via an alley allow on-street curb space to be used for other purposes such as parking or activating the space for use by people. The consideration for Goods Movement are identified in **Table 8**.

**Table 8: Goods Movement-Friendly Elements**

Criteria	Description of Criteria	Objectives
Movement	Lane widths and major intersections are designed to accommodate movement of delivery vehicles with acknowledgement that larger vehicles may encroach into adjacent lanes (non-opposing lanes for arterial streets) when making right turns.	<ul style="list-style-type: none"> <li>• Viable for City</li> <li>• Profitable for Developers</li> <li>• Safety</li> <li>• Public Realm</li> </ul>
Access	Alleys exist to accommodate delivery of larger amounts of goods, while loading on-street can be accommodated for private transportation providers and smaller deliveries (e.g., mail).	<ul style="list-style-type: none"> <li>• Multimodal network</li> <li>• Accessibility</li> <li>• Mix of Uses</li> </ul>

**Evaluation Criteria**

The evaluation criteria for goods movement are summarized in **Table 9** related to street design and deliveries. As with transit, not all streets within River Crossing may require the same level of access for goods movement.

**Table 9: Goods Movement Evaluation Criteria\***

	Good	Fair	Poor	Gap/Barrier
Street Design (Truck Routes Only)	Lane width of 3.5m AND Corner radii prevent encroachment into adjacent lanes for right turns	Lanes are wide enough for goods movement vehicles (3.3m) AND Corner radii require encroachment into adjacent (non-opposing) lanes for right turns and possibly requiring advanced stop lines to accommodate large vehicles	Lane width < 3.3m and > 3m OR Right turns not possible without use of flag person	Lane width < 3m OR Right turns not possible due to geometry
Deliveries	All deliveries occur in the alley AND On-street curb-side area available along the block for mail delivery all day	Deliveries mainly done via alley AND On-street curb-side area available along the block for mail delivery during off-peak hours	Deliveries occur only in front of buildings AND On-street curb-side area available along the block for mail delivery during off-peak hours	No stopping zone on-street restricts deliveries AND No alleys

\*As per the CSDS, dimensions are for through and turning lanes. Dimensions are measured to face of curb for curbside and parking lanes. For local streets, the minimum Travelled Way width shall be 8.0 m to accommodate required offsets for underground utilities and emergency response access.

## Driving & Parking

### Driving/Parking

Previous analysis of the River Crossing area tended towards prioritizing the level of service for people driving above other modes. While the River Crossing area includes important commuter routes for people driving, the future of the area must balance those needs against the viability of the area for residential and commercial success and the ability to provide networks for other transportation modes that are currently underserved or missing.

The Vision and Objectives for River Crossing focus on improving the area for livability and viability, with a focus on multimodal connections. Achieving a successful multimodal outcome may require that some intersections operate in a congested condition for people driving during peak hours which equates to a high volume to capacity ratio.

The evaluation criteria used for this analysis for driving is a volume to capacity ratio (v/c). It is a metric that compares the theoretical road capacity to the current traffic volumes (usage). The v/c ratio is generally measured at intersections, because this is where the capacity is the most constrained. For each individual movement at the intersection, the number of lanes, traffic volumes, and traffic signal times serve as inputs into the v/c calculation.

Traffic analysis will review all intersections in the study area for future scenarios based on River Crossing land use concepts whereas the existing conditions assessment only summarizes the traffic analysis at major intersections along 97 Avenue and River Valley Road. Driving will be evaluated in future scenarios based on the modal priority identified for a given corridor.

The criteria used to establish the evaluation criteria for driving are summarized in **Table 10** for movement and parking.

**Table 10: Driving-Friendly Elements**

Criteria	Description of Criteria	Objectives
Movement	Driving level of service is anticipated to be congested along certain streets. Assessment of the volume-to-capacity ratio (v/c ratio) of individual movements at intersections will be evaluated. A v/c ratio of 1.0 is acceptable at an arterial-arterial intersection.	<ul style="list-style-type: none"> <li>• Nodes/corridors</li> <li>• Multimodal network</li> <li>• Accessibility</li> <li>• Safety</li> </ul>
Parking	On-street parking is available for use by customers of businesses and off-street parking, located at the rear of buildings, is provided for staff and customers.	<ul style="list-style-type: none"> <li>• Profitable for developers</li> <li>• Viable for city</li> <li>• Public realm</li> <li>• Urban design</li> </ul>

**Evaluation Criteria**

The evaluation criteria for driving are summarized in **Table 11** for movement and parking.

**Table 11: Driving/Parking Evaluation Criteria**

	Good	Fair	Poor	Gap/Barrier
Movement	v/c ratio < 0.85 (i.e., under capacity)	$0.85 \leq v/c \text{ ratio} \leq 1.0$ (i.e., approaching capacity)	v/c ratio > 1.0 (i.e., over capacity)	No vehicle access provided
Parking	Off-street parking provided at buildings OR On-street parking available all day	Off-street parking available every block OR On-street parking available off-peak	Off-street parking located more than a block away OR On-street parking is a block or further away	No off-street parking available AND No on-street parking provided






## Existing Conditions Evaluation

Travel for people walking, cycling, taking transit, and driving were evaluated for the existing corridor through a review of data obtained from the City of Edmonton and a site assessment. The evaluation considers elements identified in the assessment criteria; however, is not a detailed Good-Fair-Poor-Gap/Barrier assessment. The intent is to provide an overview of the existing conditions with an understanding for where opportunities and challenges exist in preparation for the development and evaluation of future scenarios.

### Walking

A summary of the existing conditions for people walking is included in **Table 12**.

**Table 12: Walking Existing Conditions Assessment**

Street	Mid-block	Crossings	Gap/Opportunities
<p><b>97 Avenue</b></p> 	<ul style="list-style-type: none"> <li>• Facilities are a mixture of narrow monowalk, separate walk and narrow shared-use path.</li> <li>• The pedestrian through zone is consistently less than 3 m, and narrower than 2 m in many places.</li> <li>• There is no or little buffer between moving traffic on a high volume, high speed street.</li> <li>• Lighting is not pedestrian-oriented.</li> </ul>	<ul style="list-style-type: none"> <li>• There are wide crossings at all locations.</li> <li>• No tactile walking surface indicators are provided at any location.</li> <li>• Most curb radii are wide and contribute to high turning speeds.</li> <li>• All pedestrian crossings are signalized.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase separation from traffic and widen pedestrian through zone.</li> <li>• Provide pedestrian oriented lighting.</li> <li>• Correct skewed intersections and provide mid-crossing refuge or narrower crossing distances.</li> </ul>
<p><b>Bellamy Hill Road</b></p> 	<ul style="list-style-type: none"> <li>• There is no sidewalk provided; access across street requires diversion through alley and driveway.</li> </ul>	<ul style="list-style-type: none"> <li>• The intersection of Bellamy Hill Road/ 103 Street and Rossdale Road is difficult to navigate and not intuitive.</li> <li>• The mid-intersection pedestrian island has no access to light pedestrian crossing signals.</li> <li>• The curb radius is large at 97 Street and Bellamy Hill.</li> </ul>	<ul style="list-style-type: none"> <li>• There is a need to simplify and improve crossings at this location. Options for this may include closing legs of the intersection, reducing curb radii, and improving sight lines.</li> </ul>
<p><b>96 Avenue</b></p> 	<ul style="list-style-type: none"> <li>• Most of 96 Avenue has a narrow (&lt; 2 m) monowalk; some segments have a small boulevard.</li> <li>• Lighting is not pedestrian oriented.</li> <li>• On-street parking does buffer people walking from traffic, and the street is lower volume.</li> </ul>	<ul style="list-style-type: none"> <li>• Some crossings are marked, some are not.</li> <li>• Pedestrian need to activate signal to cross Rossdale Road.</li> <li>• Through mid-block locations there are a number of driveways.</li> <li>• There are few Universal Design considerations at crossings and the corridor would be challenging for people with mobility aids.</li> </ul>	<ul style="list-style-type: none"> <li>• While the existing sidewalk is narrow, the street is low volume and traffic is separated for pedestrians by on-street parking.</li> <li>• Intersection crossings need better markings and lighting.</li> </ul>

## Street

## Rossdale Road



## Mid-block

- West side of street has narrow separated separate walk; east side has monowalk directly next to high speed, high volume traffic street.
- East side monowalk has restricted pedestrian through zone due to light standards located in the middle of the sidewalk.
- Between 105 Street and 96 Avenue, shared use path on south side of street with no separation from street.
- No pedestrian-oriented lighting.

## Crossings

- There are signalized crossings at 97 Avenue, 96 Avenue (pedestrian actuated), and 105 Street.
- Crossing 97 Avenue at Rossdale Road is through a channelized right turn lane posted as a yield. Posted speed limit is 50 km/h.
- There is a curb bulb out in the northwest corner of 105 Street and 97 Avenue

## Gap/Opportunities

- The shared use path is not wide enough to accommodate both people walking and cycling.
- Need to improve pedestrian lighting and find opportunities to separate users.
- Utilities like light poles need to be outside of the pedestrian through zone so that people using mobility aids or in wheelchairs can use the facility.

## 104 Street



- 104 Street has a monowalk on both sides of street between 97 Avenue and 96 Avenue.
- A shared-use path is provided from 96 Avenue south to 105 Street provides connection to Walterdale Bridge.
- Segments of 104 Street include on-street parking which separates people walking from people driving.
- Lighting is not pedestrian oriented.

- There is no direct crossing at 97 Avenue from 104 Street to the north, which could be a strong connection into downtown.
- There are few universal design considerations at intersections.

- Improve connection from 104 Street downtown to 104 Street in River Crossing.
- Consider how to connect the shared-use path that ends at 96 Avenue to 97 Avenue and the rest of the cycling network.
- Develop pedestrian oriented lighting along the corridor and universal design considerations at intersections.

## 105 Street



- The wide (> 3 m) shared-use path across Walterdale bridge narrows to boulevard or monowalk (<2 m) directly adjacent to north of River Valley Road.
- There is no pedestrian-oriented lighting.

- The intersection of 96 Avenue and 105 Street is unmarked and unsignalized with little universal design.
- The crossing at River Valley Road is across a merge lane and four lanes of traffic, though refuges are provided.
- Curb ramps are oriented to middle of intersections.

- Improve universal design at intersections.
- Provide wider pedestrian through zones and pedestrian lighting.

### Analysis Summary

The gaps in the pedestrian network and the possible opportunities required to improve pedestrian accommodation within the River Crossing area are as follows:

- Increase separation from traffic and widen pedestrian through zones.
- Develop pedestrian-oriented lighting.
- Improve intersection crossing markings and develop universal design considerations at intersections.
- Correct skewed intersections and provide mid-crossing refuge or narrower crossing distances.
- General need to improve crossings at the intersection of Bellamy Hill Road/ 103 Street and Rossdale Road.
- Find opportunities to separate street users along Rossdale Road.
- Relocate utilities and other street furniture including light poles outside of pedestrian through zones.
- Improve connection from 104 Street downtown to 104 Street in the River Crossing area.
- Connect the shared use path along 104 Street that currently ends at 96 Avenue to 97 Avenue and the rest of the cycling network.

### Cycling

There are limited cycling facilities provide through River Crossing, which can create a gap, particularly for users between the busy River Valley Trails and the shared-use paths and protected bike lanes in Edmonton's Downtown. Facilities identified by the City of Edmonton are shown in **Figure 1**. Estimated volumes, where available, are shown.

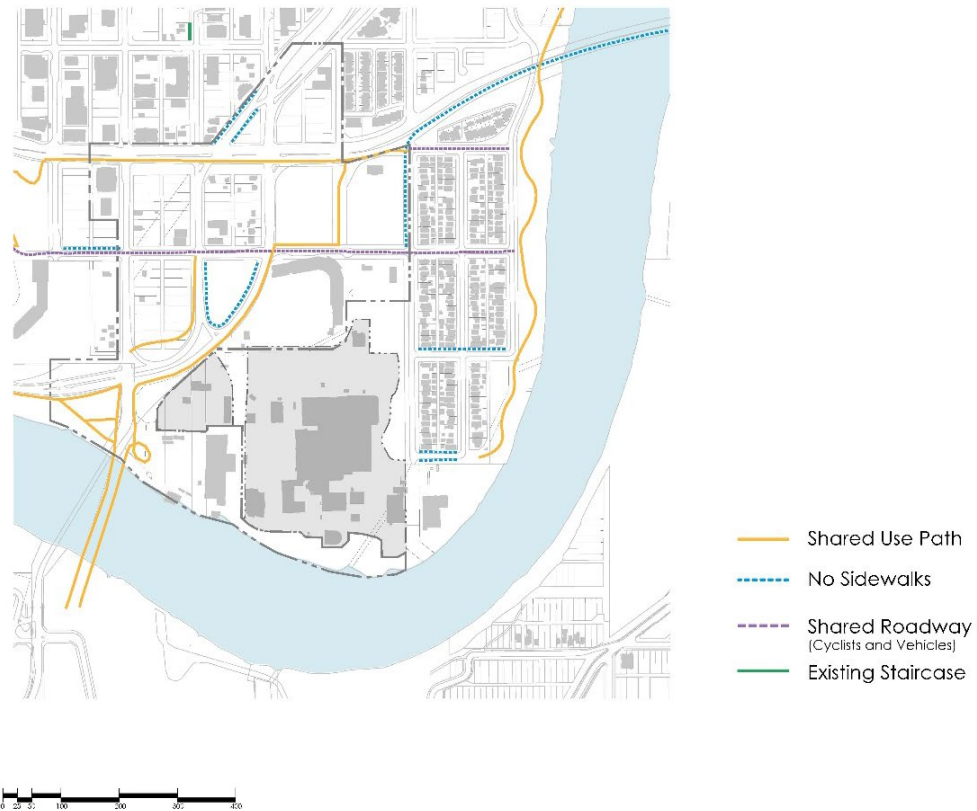





Figure 1: Existing Cycling Facilities and Volumes



The quality of the facilities marked on the above map vary. A summary of the quality of the cycling facilities is included in **Table 13**.

**Table 13: Cycling Existing Conditions Assessment**

Street	Mid-block	Intersections	Gap/Opportunities
<p><b>Rossdale Road</b></p> 	<ul style="list-style-type: none"> <li>• Shared-use path is &lt; 3 m.</li> <li>• There is either a barrier wall or no separation from traffic; Rossdale Road is a high speed, high volume street.</li> </ul>	<ul style="list-style-type: none"> <li>• There is no marked crossing at Rossdale Road and the access to EPCOR's site.</li> </ul>	<ul style="list-style-type: none"> <li>• With connection to shared-use path on River Valley Road and the Walterdale Bridge, there needs to be a high-quality cycling facility on this or a parallel location.</li> </ul>
<p><b>Bellamy Hill Road</b></p> 	<ul style="list-style-type: none"> <li>• Though provided on the south side of 97 Avenue along the length of the study area, this shared-use path is &lt; 3 m in all locations, and extremely narrow in certain locations (as shown in the adjacent photo).</li> </ul>	<ul style="list-style-type: none"> <li>• Cyclists do not have right-of-way at intersections without dismounting.</li> </ul>	<ul style="list-style-type: none"> <li>• Widen shared-use path and provide more separation from traffic.</li> <li>• Provide crossings that maximize cycling convenience at intersections.</li> <li>• Widening options may be restricted, but also consider separate walking and cycling path as per the West Rossdale Urban Design Plan.</li> </ul>
<p><b>96 Avenue</b></p> 	<ul style="list-style-type: none"> <li>• There are no facilities on 96 Street; the cycling facility is just marked by roadside signage.</li> <li>• ADT is likely low enough for shared facility to be acceptable (&lt; 1,000), but no traffic calming is present to reinforce low speeds.</li> </ul>	<ul style="list-style-type: none"> <li>• There are no traffic controls to prioritize cyclists and those on bikes need to cross a busy street (105 Street) with only a stop sign.</li> <li>• Crossing Rossdale Road requires pushing a pedestrian actuated signal that is positioned for people walking, not cycling.</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunity to completely reimagine street with redevelopment and look at better connections to the east and west.</li> </ul>

### Analysis Summary

The gaps in the cycling network and the possible opportunities required to improve cycling accommodation within the River Crossing area are as follows:

- Provide a high-quality cycling facility along Rossdale Road to connect facilities along River Valley Road and the Walterdale Bridge to the overall cycling network.
- Widen shared-use paths where widths are insufficient to accommodate pedestrians and Cyclists.
- Provide further separation from traffic along 97 Avenue.
- Provide cyclist crossings that maximize convenience at intersections.
- Consider separate walking and cycling paths as per the West Rossdale Urban Design Plan.
- Reimagine 96 Street with redevelopment to provide improved east-west cyclist connections.

### Riding Transit

ETS provides bus service with routes operating along 105 Street, 97 Avenue, and Rossdale Road. Bus stops are provided along 97 Avenue and Rossdale Road. The nearest transit centre is located at the Government Centre Transit Centre, north of the side at 107 Street south of 100 Avenue.

The area is not currently generating significant transit ridership, with the potential exception of during events at RE/MAX Field. The existing transit service in the area is shown in **Figure 2**.

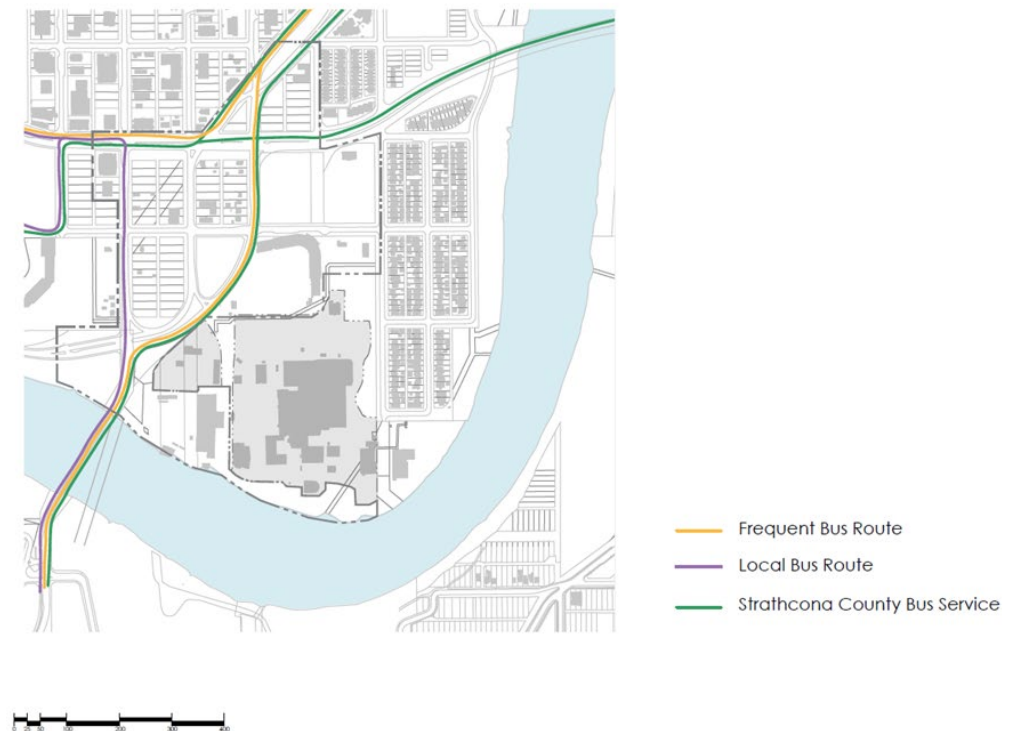


Figure 2: ETS Transit Routes

The quality of the bus stops is high in the study area, but there are a limited number of stops within River Crossing except along 97 Avenue, and service is not frequent. A summary of key transit stops is included in Table 14.

**Table 14: Transit Existing Conditions Assessment**

Stop	Transit Service	Transit Stop	Gap/Opportunities
<b>Rossdale Road and 96 Avenue</b>	There are approximately 4 buses per hour all day at this location.	This stop includes a shelter and bench.	This stop provides a high quality of service.
<b>97 Avenue between Rossdale Road and 101 Street</b>	There are only buses during peak hours, and only approximately 2 buses per hour.	This stop includes a shelter and a bench.	There is adequate stop infrastructure at this location, but the service by transit routes is low.
<b>97 Avenue and 102 Street and 97 Avenue and 104 Street (north side of street)</b>	There are only buses during peak hours, and only approximately 2 per hour.	This stop includes a shelter and a bench.	There is adequate stop infrastructure at this location, but the service by transit routes is low.
<b>97 Avenue and 106 Street (south side of Street)</b>	There are more than 4 buses per hour at this location.	This stop includes only a bench and is located in the shared-use path.	There are insufficient amenities and the stop creates an obstacle for the shared-use path.



### Analysis Summary

The gaps in the transit network and the possible opportunities required to improve transit accommodation within the River Crossing are focused at the bus stop at 97 Avenue and 106 Street, where insufficient amenities were found to be in place at the stop. The future possible revisions to the transit network should be considered when prioritizing any short-term investment in transit amenities.

### Goods Movement

Because there are limited destinations within River Crossing at this time, a goods movement assessment will be completed only on future conditions. The design of the arterial streets is currently very wide and support goods movement through River Crossing to other destinations in Edmonton.

It is noted that 105 Street, Rossdale Road, Bellamy Hill Road, 97 Avenue through the study area are currently designated as 24hr truck routes. James Macdonald Bridge east of River Crossing is designated as a permitted dangerous goods carrier river crossing.

## Driving & Parking

### Driving

The evaluation criteria for driving reviews volume to capacity ratios at intersections.

The existing conditions for driving are summarized in **Figure 3** and **Figure 4**. These results are based on data available from City of Edmonton Synchro Files from 2012 and 2016.

In the AM Peak, the following movements are considered Fair ( $0.85 \leq v/c \text{ ratio} \leq 1.0$ ):

- Northbound left on 106 Street and 97 Avenue
- Westbound left at 97 Avenue and 104 Street
- Northbound through at 97 Avenue and Rossdale Road



**Figure 3:** AM V/C Ratios (City of Edmonton Synchro 2012/2016)



In the PM peak, the following movements are considered Fair ( $0.85 \leq v/c \text{ ratio} \leq 1.0$ ):

- Westbound through at 97 Avenue and 104 Street
- Southbound through and left at 106 Street and 97 Avenue

In the PM Peak, the following movements are considered Poor ( $v/c > 1.0$ ):

- Westbound left at 104 Street and 97 Avenue
- Northbound through and right at Rossdale Road and 97 Avenue

The existing conditions assessment identifies that there are already locations with capacity challenges within the study area along 97 Avenue.

The City of Edmonton 2012 and 2016 Synchro files were used to establish the existing traffic conditions. In general, the most recent count data showed similar turning movement volume to those in the City's Synchro files. Some movements now have higher volumes, while other movements have lower volumes. Based on this comparison, the volumes obtained from the City of Edmonton represent a fair overview of the existing operating conditions for the purpose of the existing conditions overview.



**Figure 4:** PM Peak V/C Ratio (City of Edmonton Synchro 2012/2016)

### **Parking**

The evaluation criteria for parking considers on-street parking and off-street parking.

On-street parking is currently provided along 96 Avenue and parts of 104 Street (on one side). Most of the area currently acts as off-street parking lots for RE/MAX Field events. There are no commercial off-street parking sites within the study area.

### **Existing Conditions Conclusions**

River Crossing currently contains a mixture of higher volume streets that prioritize commuter motor vehicle movements, and low volume streets that currently do not offer a high quality of service to any mode.

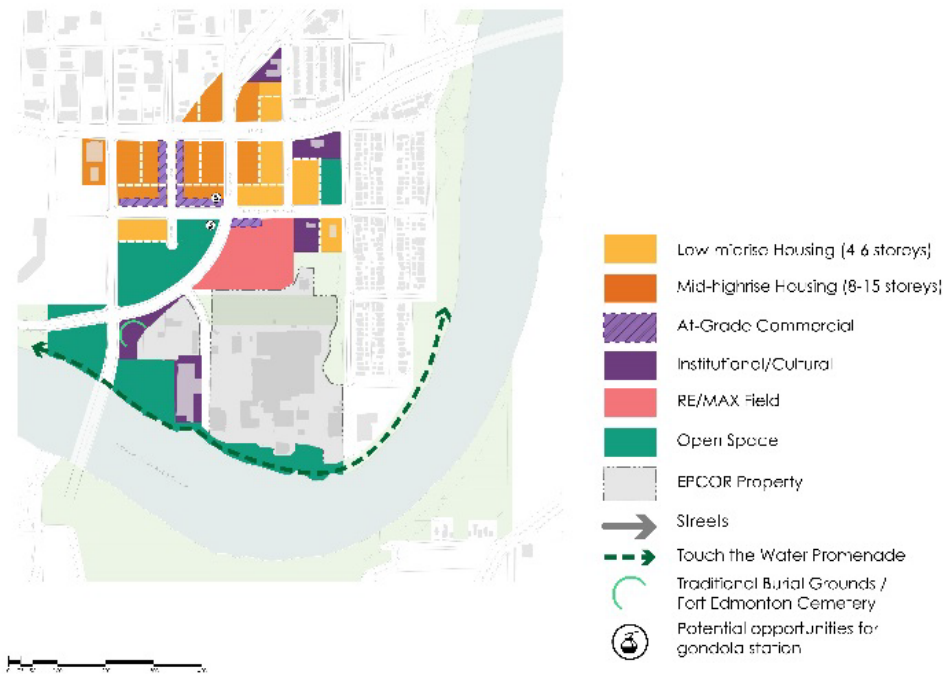
97 Avenue, 105 Street, and Rossdale Road are high volume motor vehicle traffic streets which do not provide high quality infrastructure for people walking and cycling. Cycling infrastructure in the form of shared-use paths is of high quality at the boundaries of the study area, but connections through River Crossing are poor or absent. Transit is primarily a through service in the study area, but existing transit stops are generally equipped with benches and shelters. There are motor vehicle traffic movements at existing intersection along 97 Avenue that already exceed capacity during peak hours, and those intersections tend to be designed with vehicle movements prioritized; accommodation for people walking is present but of low quality.

These considerations, the developed evaluation criteria, and the existing conditions evaluation were used to guide the development of the preferred concept.

## Proposed Development Concept Evaluation

The proposed River Crossing redevelopment concept proposes a mix of residential, commercial, and institutional/cultural land uses, public amenities, and open space accommodating approximately 1,350 residences and 2,150 people at full build-out.

**Figure 5** illustrates the proposed River Crossing redevelopment concept included in the Business Plan.



**Figure 5:** River Crossing Land Use Concept

The following sections outline the mobility assessment methodology, the modal priorities used to establish the proposed network and street cross-sections, the proposed transportation network for the River Crossing redevelopment concept, and the evaluation of the proposed network.

## Mobility Assessment Methodology

The multi-modal assessments completed for the preferred land use concept were based on the evaluation criteria outlined earlier in this report.

Walking and cycling evaluations for the River Crossing Redevelopment Concept were completed for the proposed cross-sections (mid-block). As detailed intersection design has not been completed at this stage, recommendations of elements that should be considered as part of future intersection design was included in place of the walking and cycling intersection evaluation.

Transit evaluation was completed based on the criteria outlined earlier; however, due to the City of Edmonton Bus Network Redesign, some details regarding frequency and potential stop relocations and redesign were not available.

## City 2030 Modelling

The driving assessment was completed using turning movement volume projections provided by the City derived through the City's 2030 model. Updating the 2030 model was completed using an iterative process by modelling multiple roadway network scenarios in order to find the most effective network in River Crossing while considering impacts to the City-wide network. In addition, the 2030 model was updated to include the increased population and employment statistics for the River Crossing area.

## E.27 River Crossing Business Plan

Ultimately, the following roadway network changes were chosen for the final modelling determined based on discussions with the City of Edmonton project team and the modelling group:

- Rossdale Road becomes a two-way street with two northbound lanes and one southbound lane;
- Bellamy Hill Road between 97 Avenue and 103 Street removed;
- 104 Street becomes a two-way, two-lane, local street between 97 Avenue and 96 Avenue; and
- 102 Street is a two-way, two-lane, local street between 97 Avenue and 96 Avenue.

The intersection geometry assumed in the City's 2030 modelling is available upon request.

High-level intersection assessments were completed using Synchro 10 in order to understand the intersection operations during the AM and PM peak hours, confirm the roadway cross-sections assumed in the City's 2030 modelling, and identify any intersection geometry improvement considerations. The City's 2030 total River Crossing AM and PM peak hour intersection turning movement and estimated daily link volumes are available upon request.

The City's 2030 model estimated the vehicle travel times between suburban Edmonton communities and Downtown during the morning and afternoon commute periods.

**Figure 6** illustrates the approximate change in travel time between West Edmonton Mall, Terwillegar, Gold Bar, and Mill Woods to Downtown based on the base 2030 model (no changes to the roadway network or River Crossing development) and the updated 2030 model with the changes to the roadway

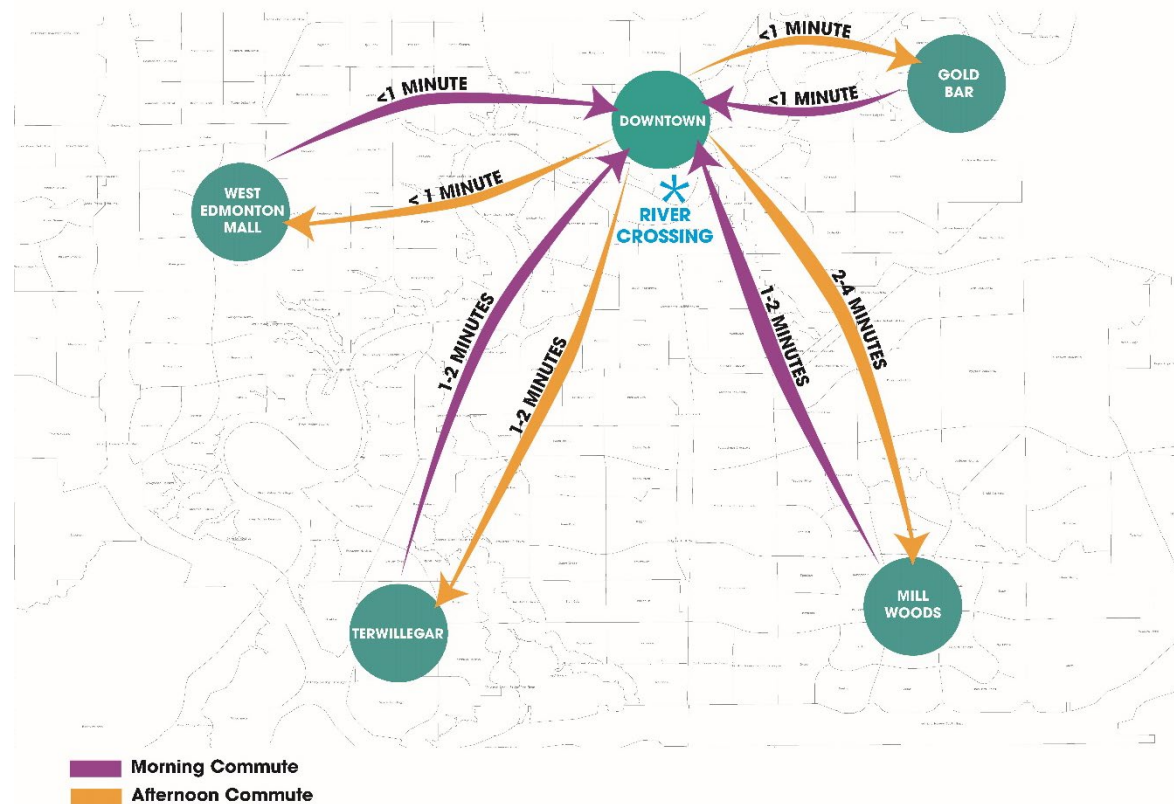
network as outlined and the increased development in River Crossing. Based on the City's modelling, it is anticipated that the proposed changes to the roadway network may result in less than a minute to 2 minutes additional travel time in the AM period and less than a minute to 4 minutes in the PM period between suburban Edmonton communities and Downtown.

It is noted that congestion and increase in travel times in this area are anticipated to occur regardless of changes to the roadway network or redevelopment of the River Crossing area.

## Modal Priority & Guidelines

### Modal Priority

Modal priority identifies the desired hierarchy of transportation modes including walking, cycling, transit, goods movement, and vehicles based on the function and intended goal of a specific street. Identifying modal priority within each street in River Crossing assists with the design process and determining trade-offs if required. While all modes should be



**Figure 6:** Change in Vehicle Travel Time



accommodated in River Crossing, higher priority modes are held to higher quality of service standards and lower priority modes are reviewed when considering potential trade-offs.

Within River Crossing, existing high-speed arterials including Rossdale Road and 104 Street are physical barriers for pedestrians and cyclists moving throughout and impact the overall viability of the River Crossing area. These streets were originally designed to prioritize vehicle commuter traffic and goods movement through the area. The River Crossing Redevelopment Concept proposes changes to the way these streets interact with the area and generally shift modal priority away from vehicles and goods movement to pedestrians, cyclists and transit, while balancing connectivity in the overall arterial roadway network. The modal priority hierarchy generally used for the development of the Rossdale Road, 104 Street, and 96 Avenue cross-sections within the study area is as follows:

1. Walking
2. Cycling
3. Transit (if applicable)
4. Goods Movement (if applicable)
5. Vehicles

Driving through the River Crossing area is generally identified as the lowest priority; however, maintaining some level of arterial connectivity and capacity for vehicle traffic moving through the area was identified to be considered. The trade-offs balancing vehicle capacity and meeting the multi-modal goals of the River Crossing area were identified through the intersection analysis where possible.

### Guidelines

The following outlines the guidelines identified for the streets within River Crossing that were considered while establishing the proposed multi-modal network and that should be considered during future design phases within River Crossing.

#### General Street Design

- Streets should be designed as ‘people first’ places that prioritize the safe and efficient movement of people.
- Curb extensions should be utilized, where appropriate, at intersections to provide shorter crossing distances for pedestrians and natural traffic calming.
- Universal design should be a basic requirement of street and public space design within River Crossing.
- Amenities such as seating, planting, bicycle racks, and street furniture including transit shelters should be provided in a manner that enhances the pedestrian experience of River Crossing.
- Existing arterial roadways bordering River Crossing should be maintained to continue to accommodate commuter connections to and from Downtown.
- Existing arterial roadways within River Crossing should be consolidated and constructed to a Complete Streets standard to achieve a balance between providing vehicle capacity and enhancing the public realm.
- Improved multimodal infrastructure shall be provided on all streets to create an efficient multi-modal network throughout the plan area.

#### Rossdale Road

- Rossdale Road shall provide connectivity for pedestrians and cyclists through River Crossing with safe crossings while accommodating transit and vehicle connections.
- A separated bicycle path shall be provided along the south side of Rossdale Road to provide a bicycle connection from the Walterdale Bridge to 97 Avenue.
- On-street parking should be provided wherever possible.

#### 96 Avenue

- 96 Avenue shall prioritize pedestrian and cyclist connectivity through River Crossing between the Legislature Grounds and the North Saskatchewan River, while allowing for vehicle access.
- Wide sidewalks shall be provided on both sides of 96 Avenue adjacent to at-grade commercial.
- Separated bicycle facilities should be provided for both directions of travel.
- On-street parking shall be accommodated on both sides of the street.

#### 104 Street

- 104 Street shall prioritize pedestrian and cyclist connectivity, while providing vehicle travel lanes designed to consider local access only and slower travel speeds.
- Sidewalks should be designed to accommodate pedestrian travel as well as opportunities for interaction with the commercial building frontages and public amenities.

## Proposed Transportation Network

### Street Network

Stantec worked with the City of Edmonton to evaluate the potential impacts of a number of street network options within the River Crossing area with consideration for network wide impacts, corridor travel times, and local impacts of the development proposed within River Crossing using the City's 2030 model. Based on these efforts, the following street network was identified as the preferred option to carry forward through the remainder of the development concept process and mobility assessment.

The existing Rossdale Road and 104 Street arterial couplet system is proposed to be consolidated by converting Rossdale Road into a two-way street-oriented arterial and 104 Street into a street-oriented collector terminating north of the interpretive park with no access to Rossdale Road or 105 Street. An additional north-south local street connection at 102 Street between 96 Avenue and 97 Avenue is proposed while 96 Avenue is anticipated to become the east-west street-oriented collector spine of the network between 105 Street and the proposed 102 Street transitioning to the existing local street cross-section east of the proposed 102 Street.



**Figure 7:** Proposed Street Network

In addition, the two-way conversion of Rossdale Road allows for the removal of the portion of Bellamy Hill Road between Rossdale Road and 97 Avenue as southbound vehicle traffic on Bellamy Hill Road will be accommodated on the north approach of the existing Rossdale Road/97 Avenue intersection. The scope of work north of 97 Avenue required to accommodate this change should be confirmed as part of future design stages.

With the exception of the Bellamy Hill Road closure, all existing street configurations west of 105 Street, east of 102 Street, north of 97 Avenue, and south of Rossdale Road are anticipated to be maintained. The intersections along the 97 Avenue and 105 Street corridors were included within the mobility assessment.

### Vehicle Access

In order to model the 2030 traffic volumes, vehicle access to the River Crossing area was assumed to be accommodated through the following:

- Maintain all-directional access at 96 Avenue/105 Street
- Maintain all-directional access at 96 Avenue/104 Street
- Maintain all-directional access at 96 Avenue/Rossdale Road
- All-directional access at 96 Avenue/102 Street
- All-directional access at 97 Avenue/104 Street
- Right-in/right-out access at 97 Avenue/102 Street (north and south of 97 Avenue)
- Maintain right-in/right-out access at 97 Avenue/101 Street

### Walking and Bike Network

Pedestrians are proposed to be accommodated along both sides of every street within River Crossing, and the bike network is proposed to include a mix of shared use paths, protected bike lanes, and shared on-street areas along low volume and low speed streets. The proposed bike network is illustrated in **Figure 8**.



**Figure 8:** Proposed Bike Network

As shown in **Figure 7**, the bike network builds upon the existing network of shared use paths along the North Saskatchewan River and 97 Avenue to accommodate and allow for cyclists to move through and access the River Crossing area. The proposed additions to the bike network in the River Crossing area include:

- A shared use path on the east side of 105 Street connecting Walterdale Bridge/River Valley Road to 97 Avenue;
- A separated bidirectional bike path on the south side of Rossdale Road connecting Walterdale Bridge/River Valley Road to 97 Avenue;
- Protected bike lanes along 96 Avenue between 105 Street and 102 Street transitioning to a local shared street east of 102 Street connecting the Legislature Grounds to the North Saskatchewan River; and
- Shared use paths through the interpretive park connecting 96 Avenue and 104 Street to the Rossdale Road/105 Street intersection and the existing local Rossdale Power Plant/EPCOR access.

It is noted that pedestrian and cyclist crossing accommodation at the Rossdale Road/Rossdale Power Plant access will be an important consideration at the intersection design phase.

Overall, it is anticipated that the proposed bike network will allow for improved connectivity within the River Crossing area through providing a grid of bicycle connections through the plan area. While the River Crossing Redevelopment Concept identifies opportunities for improved access within the study area, it was identified that connections between River Crossing and Downtown are needed to allow for pedestrian and cyclists to move between the two activity nodes. While providing three opportunities for north-south bicycle routes within the River Crossing area, consideration should be given to exploring opportunities to improve existing cycling accommodation along those connections north into Downtown via 103 Street, 104 Street, and 105 Street.



### Proposed Cross-Sections and Multi-Modal Evaluation

In line with the proposed street and active modes networks illustrated above, the following section outlines the proposed cross-sections along Rossdale Road, 96 Avenue, 104 Street, and 102 Street. **Table 15** summarizes the proposed River Crossing streets. It is noted that the potential Average Daily Traffic (ADT) was determined based on the City's AM and PM peak hour modelling and calculated using the sum of the AM and PM peak hour volumes multiplied by a factor of six.

As detailed intersection design has not yet been completed within the study area, it is recommended that elements to merit a “good” rating for walking and cycling be considered through the design process. These elements are summarized in the evaluation tables below for each proposed cross-section.

**Table 15: Proposed River Crossing Streets**

Street	Type	Proposed ROW	Proposed Speed Limit	Estimated ADT (vpd)	Transit?
Rossdale Road	Street-Oriented Arterial	28.0 m	50 km/h	18,180 to 19,980	✓
104 Street	Street-Oriented Collector	24.9 m	30 km/h or less	660	X
96 Avenue	Street-Oriented Collector	28.2 m	30 km/h	3,060 to 4,200	X
102 Street	Street-Oriented Local	17.0 m	30 km/h	840	X

### Rossdale Road

Land uses adjacent to Rossdale Road south of 96 Avenue include the interpretive park on the north/west side and the Traditional Burial Grounds/ Fort Edmonton Cemetery, the Rossdale Power Plant, Touch the Water Promenade, and RE/MAX field on the south/east side. It is anticipated that the potential revitalization of the land uses south/east of Rossdale Road will likely generate high pedestrian activity along the south/east side of the corridor. North of 96 Avenue, Rossdale Road is proposed to be framed by street-oriented low to midrise and mid to high rise housing on both sides of the street. Due to the existing bicycle facilities along the Walterdale Bridge and the existing shared use paths along the south sides of 97 Avenue and River Valley Road, a cycling link between these facilities along the south/east side of Rossdale Road is anticipated to assist with completing the bicycle network and generate cycling demand in this area.

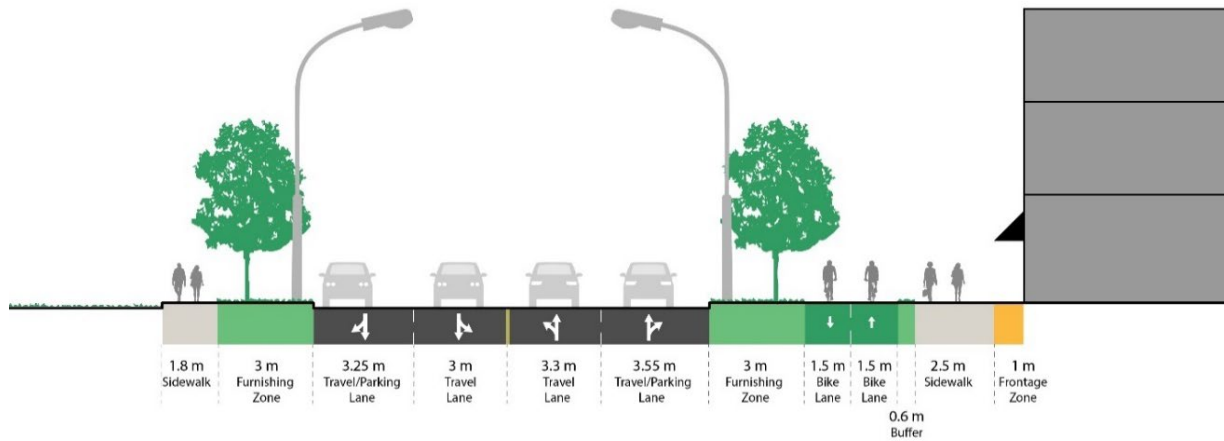


Figure 9: Proposed Rossdale Road Cross-Section

As shown in Figure 9, Rossdale Road is proposed to be converted to a two-way street-oriented arterial accommodating northbound and southbound mobility between 105 Street and 97 Avenue. Generally, the Rossdale Road cross-section is proposed to include a maximum of two northbound and two southbound vehicle travel lanes; however, the curb lanes could accommodate permanent or off-peak parking dependent on intersection geometry requirements at 105 Street and 97 Avenue in the AM and PM peak hours.

Table 16 summarizes the Rossdale Road cross-section details.

It is noted that if two travel lanes are not deemed required throughout any portion of Rossdale Road, a permanent parking lane should be provided at 2.45 m wide.

Table 16: Proposed Rossdale Road Cross-Section

Zone	Facilities/Widths
Travelled Way	<ul style="list-style-type: none"> <li>Travel Lanes:                             <ul style="list-style-type: none"> <li>Northbound 3.3 m centre lane and 3.55 m curb side lane</li> <li>Southbound: 3.0 m centre lane and 3.25m curb side lane*</li> </ul> </li> <li>Exclusive turning lanes at 97 Avenue</li> </ul>
Ancillary Zone	<ul style="list-style-type: none"> <li>Parking within curb lane off-peak or permanently at 2.45 m</li> </ul>
Furnishing Zone	<ul style="list-style-type: none"> <li>Streetlights/boulevard trees – 3.0 m</li> </ul>
Person Through Zone	<ul style="list-style-type: none"> <li>South/east side: 2-way separated bidirectional bike lanes (3.0 m) with 0.6m buffer</li> <li>Separate sidewalk – 1.8 m (north/west side)</li> <li>Separate sidewalk – 2.5 m (south/east side)</li> </ul>
Frontage Zone	<ul style="list-style-type: none"> <li>1.0 m along south/east side</li> </ul>

\*The northbound and southbound lane widths differ as a result of the northbound lanes currently designated as transit and truck routes.

### Walking Evaluation

Pedestrian accommodation is proposed to include with a 1.8 m boulevard sidewalk on the north/west side and a 2.5 m separated sidewalk along the south/east side of Rossdale Road. **Table 17** summarizes the walking evaluation for Rossdale Road.

It is noted that the pedestrian accommodation along the north/west side of Rossdale Road merited a “poor” rating based on the evaluation criteria; however, it is anticipated that the 1.8 m sidewalk is sufficient considering other north-south pedestrian accommodation through the interpretive park and lack of active frontages along the park.

Consideration could be given to increasing the pedestrian through zone to 2.5 m north of 96 Avenue along the mid-high rise fronting residential uses by reallocating space from the furnishing zone.

**Table 17: Walking Evaluation for Rossdale Road**

Mode	Element	Rating	Description
Walking	Mid-block	Fair/Poor	<ul style="list-style-type: none"> <li>The separated 2.5 m sidewalk from the bicycle facilities is anticipated to significantly to reduce conflicts between cyclists and pedestrians.</li> <li>The 1.8 m boulevard sidewalk is anticipated to be sufficient considering the additional north-south pedestrian accommodation through the interpretive park.</li> <li>Buffer from moving traffic &gt;1.7m provided.</li> <li>Pedestrian-oriented lighting</li> </ul>
	Intersection	-	<p>The following elements should be provided where possible to merit a “good” rating at all intersections along Rossdale Road:</p> <ul style="list-style-type: none"> <li>Traffic signals provided to assist with controlled pedestrian crossings.</li> <li>Marked crosswalks</li> <li>Curb ramps aligned with crosswalks</li> <li>Universal design elements (e.g. tactile walking surface indicators)</li> <li>Curb radii between 4.5 m and 6.0 m</li> </ul>

**Cycling Evaluation**

In recognition of the potential increased pedestrian and cycling activity along the south/east side of Rossdale Road, separated bidirectional bicycle lanes are proposed with a 0.6 m buffer between the bicycle lanes and the sidewalk. **Table 18** summarizes the cycling evaluation for Rossdale Road.

The separated bidirectional bicycle facilities along the south/east side of Rossdale Road may add another layer of complexity to the operations of the intersection; therefore, accommodation of these facilities at the intersections along Rossdale Road should be carefully considered in addition to the elements outlined in **Table 18**, in order to provide adequate and safe crossings for cyclists.

**Table 18: Cycling Evaluation for Rossdale Road**

Mode	Element	Rating	Description
Cycling	Mid-block	Good	<ul style="list-style-type: none"> <li>The separated bidirectional bicycle facilities are protected from vehicle traffic and separated from pedestrians.</li> </ul>
	Intersection	-	<p>The following elements should be provided where possible to merit a “good” rating at all intersections along Rossdale Road:</p> <ul style="list-style-type: none"> <li>Traffic signals and/or controls specific for people cycling (e.g. bike signals)</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>Controls that prioritize cycling</li> </ul>



### Transit Evaluation

The City of Edmonton's Bus Network Redesign identifies a frequent bus route along Rossdale Road in the northbound direction; therefore, transit was considered in the determination of the 3.55 m travel lane width in the northbound direction. Based on the proposed Bus Network Redesign, buses are anticipated to arrive every 15 minutes or better at all times of the day, seven days per week along frequent bus routes. **Table 19** outlines the transit evaluation for Rossdale Road. Although details regarding changes to the existing transit stops are not available at this time, it is proposed that transit stops along Rossdale Road include the elements outlined in **Table 19**.

**Table 19: Transit Evaluation for Rossdale Road**

Mode	Element	Rating	Description
Transit	Transit Service	Good	<ul style="list-style-type: none"> <li>Buses every 15 minutes or better results in 4 or more buses per hour</li> </ul>
	Transit Stop	-	<p>The following transit stop elements should be provided where possible to merit a "good" rating along Rossdale Road:</p> <ul style="list-style-type: none"> <li>Shelters and seating provided</li> <li>Bicycle parking provided</li> </ul>

**Goods Movement Evaluation**

As previously mentioned, Rossdale Road is currently designated as a 24-hour truck route in the northbound direction. It is recommended that the 24-hour truck route designation be removed from Rossdale Road if possible; however, the proposed travel lane widths in the northbound direction can accommodate goods movement if required.

**Table 20** summarizes the goods movement evaluation along Rossdale Road.

**Table 20: Goods Movement Evaluation for Rossdale Road**

Mode	Element	Rating	Description
Goods Movement	Street Design (Truck Routes Only)	Fair	<ul style="list-style-type: none"> <li>Lanes are wide enough for goods movement vehicles (3.3 m)</li> </ul>
	Deliveries	Good/Fair	<ul style="list-style-type: none"> <li>All deliveries should be encouraged to occur in the alley</li> <li>On-street curb side area may be available along the block for mail delivery during off-peak hours; however, collector and local roadways within River Crossing may provide better opportunities for deliveries than Rossdale Road.</li> </ul>

If the truck route along Rossdale Road is maintained, intersection curb radii should be designed such that the pedestrian and cycling accommodation at the intersections along Rossdale Road are not impacted. Curb radii could be designed such that truck require encroachment into adjacent (non-opposing) lanes for right turns and possibly requiring advanced stop lines to accommodate large vehicles.

**Driving Evaluation**

Intersection analysis was completed at the Rossdale Road/105 Street, Rossdale Road/96 Avenue, Rossdale Road/97 Avenue, and Rossdale Road/Bellamy Hill Road intersections using the assumed intersection geometry and the City's 2030 projected intersection turning movement estimates and area available upon request. Detailed intersection analysis summaries for the intersections along Rossdale Road are also available upon request.

Based on the City's 2030 modelling exercise, one southbound lane and two northbound lanes along Rossdale Road was sufficient to satisfy the roadway network in the AM and PM peak hours. However, through the intersection analysis, it was identified that westbound double left turn lanes would be required at the 97 Avenue/Rossdale Road intersection to accommodate the westbound to southbound traffic; therefore, two southbound receiving lanes on Rossdale Road are required between at least 97 Avenue and 96 Avenue where the curb lane could potentially be dropped as a right turn lane. Furthermore, intersection analysis at the Rossdale Road/105 Street

intersection identified potentially requiring two

westbound through lanes to provide additional westbound capacity while maintaining sufficient northbound green time to avoid additional northbound queues and delays. In recognition of minimizing the vehicle travelled way and providing permanent parking along the interpretive park providing may benefits to residents and River Crossing visitors, the City may decide to ultimately not provide an additional southbound/westbound lane on Rossdale Road south of 96 Avenue and accept the additional northbound or westbound delays at the Rossdale Road/105 Street intersection.

In addition to the westbound double left turn requirement at the 97 Avenue/Rossdale Road intersection, the northbound right turn movement was projected to be over capacity as a single right turn lane. Comparatively, the movement was also projected to be over capacity as a double right turn as right turns on red are not permitted at these locations. With significant northbound right queues and delays at 97 Avenue, vehicles may tend to shortcut on 96 Avenue and 102 Street to access 97 Avenue. In order to mitigate shortcutting, one improvement that could be considered is the addition of a northbound free-flow right turn lane with an auxiliary lane constructed on the south side of 97 Avenue; however, this option introduces a weaving concern on 97 Avenue created by the auxiliary lane and eastbound vehicles turning right onto 102 Street. Consideration could be given to designating the right-in/right-out intersection at 97 Avenue/102 Street as a right-out only to mitigate the weaving concern. Mitigating the northbound right capacity constraints will likely require additional analysis and should be

considered in conjunction with a future 97 Avenue corridor study to potentially minimize increasing the number of lanes on 97 Avenue.

### 104 Street

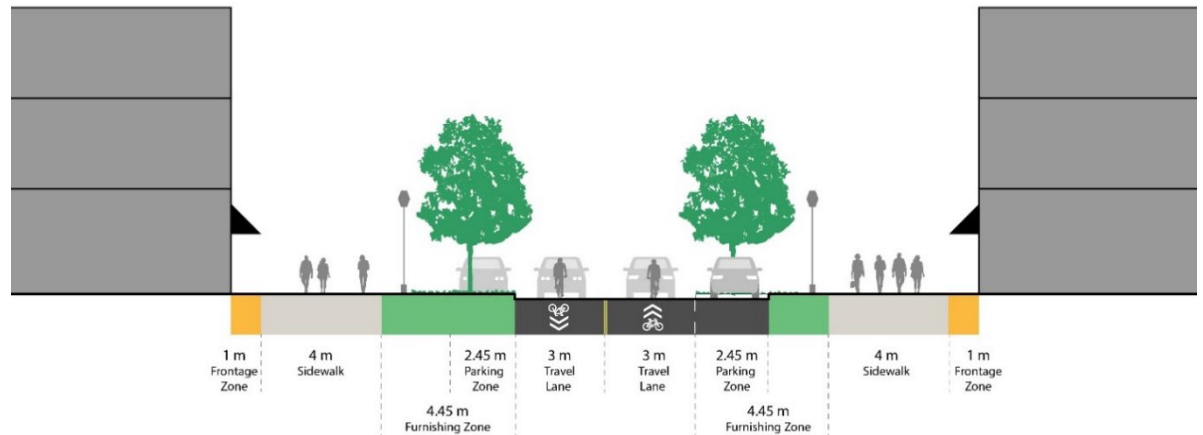
With Rossdale Road accommodating northbound and southbound arterial traffic within River Crossing, 104 Street is proposed to accommodate low volume and low speed mobility for pedestrians, cyclists, and local vehicles between 97 Avenue and 96 Avenue. 104 Street is proposed to terminate just south of 96 Avenue at the interpretive park; however, this corridor will be an important pedestrian connection to the interpretive park, Traditional Burial Grounds/ Fort Edmonton Cemetery, Rossdale Power Plant, and Touch the Water Promenade. 104 Street has also been identified as the potential connection between River Crossing and Downtown. Mid to high rise residential buildings with at-grade commercial are proposed to front 104 Street. Delivery vehicles are anticipated to access the buildings along 104 Street via rear alleys and transit is not planned along 104 Street.

crossing, and wide sidewalks accommodating

high pedestrian activity are proposed along 104 Street. **Table 21** summarizes the proposed 104 Street cross-section in detail.

**Table 21: 104 Street Proposed Cross-Section**

Zone	Facilities/Widths
Travelled Way	• Travel Lanes – 3.0 m
Ancillary Zone	• Parking (or curb extensions/parklets) - 2.45 m
Furnishing Zone	• Streetlights/boulevard trees – 2.0 m
Person Through Zone	• Separate sidewalk – 4.0 m
Frontage Zone	• 1.0 m



**Figure 10:** 104 Street Proposed Cross-Section

**Figure 10** illustrates the proposed 104 Street cross-section. Two travel lanes with shared on-street bicycles, alternating parking lanes and curb extensions with a potential mid-block

The frontage zones, wide pedestrian sidewalks, and curb extensions or parklets provide opportunities for at-grade commercial uses to spill out into the public realm of 104 Street. By alternating curb extensions and parking along the 104 Street corridor, the street will generally feel like a two-lane street with occasional parking areas and may encourage slower travel speeds. Curb extensions at mid-block crossings means pedestrians will only cross two lanes of traffic.

roadway network.

### 96 Avenue

96 Avenue has been identified as an important east-west corridor through the River Crossing area linking the Legislature Grounds and the North Saskatchewan River. The land uses proposed along 96 Avenue, west of Rossdale Road, include mid to high rise residential with at-grade commercial on the north side and low to mid rise residential on the south side along with the interpretive park. East of Rossdale Road, revitalization of RE/MAX field is anticipated to provide an active frontage along the south side of 96 avenue with low to mid rise residential on the north side.

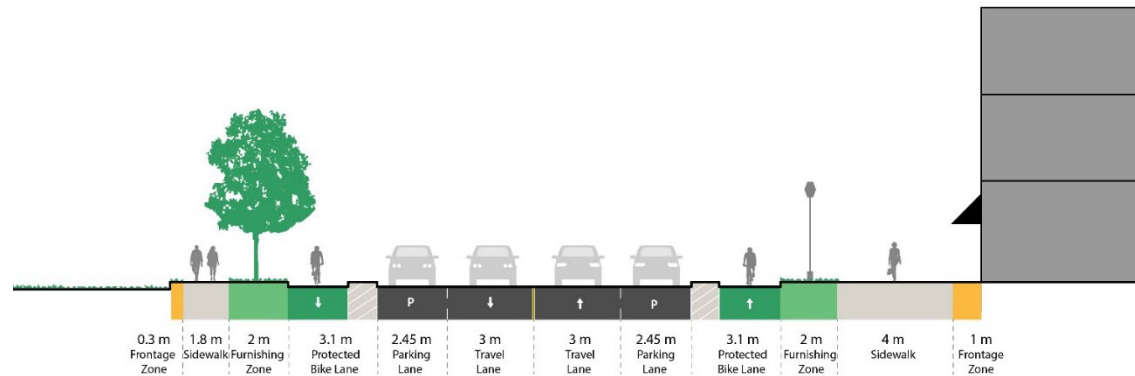


Figure 11: Proposed 96 Avenue Cross-Section

Figure 11 illustrates the proposed 96 Avenue cross-section between 105 Street and 102 Street. The cross-section generally includes two travel lanes, parking both sides, protected bike lanes in each direction, and wide sidewalks along at-grade commercial land uses or active frontages. Transit is not anticipated to be accommodated along 96 Avenue. Table 22 summarizes the proposed 96 Avenue cross-section. East of 102 Street, 96 Avenue is anticipated to tie into the existing local



It is noted that with changes to the motor vehicle network in the area, the activity on 96 Avenue to the west will increase. Further study of this street and the design opportunities present to ensure that this is not a barrier to other modes of transportation will need to be completed.

**Table 22: Proposed 96 Avenue Cross-Section**

Zone	Facilities/Widths
Travelled Way	<ul style="list-style-type: none"> <li>• Travel Lanes – 3.0 m</li> </ul>
Ancillary Zone	<ul style="list-style-type: none"> <li>• Parking - 2.45 m</li> <li>• Protected Bicycle Lanes (2.1 m) with 1.0 m curb buffer</li> </ul>
Furnishing Zone	<ul style="list-style-type: none"> <li>• Streetlights/boulevard trees – 2.0 m</li> </ul>
Person Through Zone	<ul style="list-style-type: none"> <li>• Separate sidewalk – 4.0 m (adjacent to at-grade commercial)</li> <li>• Separate sidewalk – 1.8m (non-active frontage)</li> </ul>
Frontage Zone	<ul style="list-style-type: none"> <li>• 1.0 m (adjacent to at-grade commercial)</li> <li>• 0.3 m (non-active frontage)</li> </ul>

### 102 Street

The proposed addition of the 102 Street link between 96 Avenue and 97 Avenue is anticipated to accommodate all-directional access at 96 Avenue and right-in/right-out access at 97 Avenue. The street is proposed to be designed as a 9.0 m street-oriented residential local street with parking both sides within a 17.0 m right-of-way. **Table 23** summarizes the proposed 102 Street cross-section.

**Table 23: Proposed 102 Street Cross-Section**

Zone	Facilities/Widths
Travelled Way	<ul style="list-style-type: none"> <li>• 4.1 m</li> </ul>
Ancillary Zone	<ul style="list-style-type: none"> <li>• Parking - 2.45 m</li> </ul>
Furnishing Zone	<ul style="list-style-type: none"> <li>• Streetlights/boulevard trees – 1.9 m</li> </ul>
Person Through Zone	<ul style="list-style-type: none"> <li>• 1.8 m</li> </ul>
Frontage Zone	<ul style="list-style-type: none"> <li>• 0.3 m</li> </ul>

### Other Roadways

105 Street will remain one-way to accommodate much of the northbound traffic coming across Walterdale Bridge. Sidewalks and boulevards on the east side of the street will need to be improved as redevelopment occurs. The intersection of 105 Street and 96 Avenue will need to be improved to facilitate pedestrian and bicycle movement on 96 Avenue.

It is noted that while technically 97 Avenue is considered within the geographical study area, it was identified through the mobility assessment process that a separate corridor study of 97 Avenue would be beneficial in identifying opportunities for the consolidation of the vehicle travelled way and improved mobility for transit users, pedestrians, and cyclists. Similar to the 97 Avenue corridor, a future study focusing on the network of streets including Bellamy Hill Road and Rosssdale Road north of 97 Avenue into Downtown reviewing potential consolidation and improved efficiency of access for all modes should be considered. In addition, while major changes to the vehicle travelled way along 105 Street was not included in the mobility assessment, some improvements to the public realm on the east side of 105 Street along the redevelopment area were considered.

The primary change to 97 Avenue in the short to medium term will be to intersections. The intersection with Rosssdale Road will change as Rosssdale Road becomes two-way. The intersection with 104 Street will become right-angled as 104 Street becomes two-way and the portion of Bellamy Hill Road immediately north of 97 Avenue is closed. Through future renewal of 97 Avenue or redevelopment, the sidewalk and shared-use path that parallel each other on the south side of 97 Avenue can be replaced with a more urban-styled facility that consumes less developable land. In the long term a redesign of 97 Avenue, the widest road in central Edmonton, should be contemplated to reduce its barrier effect on walking and cycling between Rosssdale and Downtown.

102 Street will be built between 96 and 97 Avenues to coordinate with the timing of abutting development.