Purpose

This is the first of three information sheets on critical pieces of work on the preliminary design and business plan for the proposed Third Crossing. The business plan is currently underway for the Third Crossing which describes the strategic case for the project. This information sheet provides a high level overview of the strategic planning and policy work that guide the transportation infrastructure requirements for the City of Kingston.

This also provides more information on why the Third Crossing is needed with a summary of previous studies and considerations that support the need for additional transportation capacity across the Cataraqui River.
Introduction

Smart cities build infrastructure that supports a high quality of life for everyone. These investments are used to support improvements in transportation, water, wastewater, recreation, social, and health services that residents rely on every day. This interconnected system fosters Kingston’s economic foundation and future growth. Transportation is an essential link that supports the city’s broader vision of sustainability and connectivity and helps residents be active participants both socially and economically in the community.

Transportation investments in Kingston provide choice, convenience and access for residents to get to their destinations and activities. This requires a multi-modal approach to how we view the transportation network and the methods people use to get around the city. Efforts are being focused on new and expanded transit services and support for pedestrian and cycling facilities that give greater access and alternatives to traditional commuter options. Transportation improvements are also being considered to support the city’s sustainability and environmental goals by providing attractive alternatives to single-occupant car travel and reducing the carbon footprint and greenhouse gas emissions of the city’s transportation system.

At the same time, the transportation system needs to be safe and efficient and built with consideration for how the city will grow and develop into the future. This information sheet looks at several community-wide policy documents to demonstrate how land-use planning and transportation planning are connected to support this broader community vision.
Smart investments in the city’s transportation infrastructure continue to be a necessity to ensure Kingston has a transportation system that meets both our current and future needs. The city’s transportation system needs to be safe, efficient, and adaptable. Smart investments will need to consider the effective management of existing assets and the ability to provide new and/or expanded transportation infrastructure to meet new and changing needs.

Investments in infrastructure continue to be a key priority for the City of Kingston. Invest in Infrastructure is one of the six strategic priorities City Council (2014 – 2018) established recognizing that strong and robust infrastructure ensures a high quality of life for Kingstonians. It also provides the city with the foundation to support a sustainable community. Within this strategic priority was the direction from City Council to advance work on the Third Crossing to make the project “shovel-ready.”

The Official Plan (OP) 2010 and Council adopted updated plan in 2017 is the main document that establishes the land-use planning goals and policies that guide the physical development and redevelopment, protection of natural and cultural heritage, resource management, and the infrastructure necessary to support the city over the next 20 years. The 2004 Urban Growth Strategy was an important part of shaping the OP. The Urban Growth Strategy evaluated planning and servicing issues associated with five different growth alternatives. The work was guided by four key initiatives that included: (1) limiting costly infrastructure improvements and expansions, (2) carefully tying land supply for development to Kingston’s projected growth rate, (3) accommodating growth without unnecessary outward expansion, and (4) establishing Princess Street as a new mixed-use corridor with higher density development that is transit-supportive. The result of this work was the adoption of a strategy that focused on development within the existing urban growth boundary, which is reflected in the city’s OP.

The OP, shaped by extensive input from the community, also lays out a policy statement for transportation infrastructure:

“To increase sustainable means of travel and reduce reliance on the automobile, the city will promote a compact form of development within the urban boundary having a mix of uses that reduce the need for travel, and will also promote increased densities that are supportive of public transit alternatives. Increasing opportunities for active transportation and improving the maintenance of pedestrian and cycling routes will increase usage, safety and access for all.”

The OP specifically identifies the Third Crossing as the construction of a two lane bridge extending from John Counter Boulevard to Gore Road as a major infrastructure project to support the city’s overall transportation network.
The Kingston Transportation Master Plan (KTMP) is the master planning document that aims to achieve this goal. The KTMP is a 20-year strategic direction to meet travel demand by making efficient use of the existing infrastructure and by providing the facilities and services to encourage walking, cycling and transit as priority modes, before building new or widened roads to accommodate vehicle traffic. The KTMP, developed in 2004 with updates in 2009 and 2015, addresses and recommends the inclusion of the Third Crossing into the overall transportation network. This was also reinforced in the Council-approved Environmental Assessment in 2012, which provided a focused consideration of the need for a Third Crossing and additional transportation capacity across the Cataraqui River.

The KTMP, completed and received by City Council in 2015, was developed to continue to focus on sustainable modes of transportation while supporting new additional investments in transit and active transportation infrastructure. The KTMP made recommendations to accept an increase in roadway congestion and traffic delay during the peak travel period and to promote transportation demand management measures to allow for the deferral of road expansion projects and to help achieve the vision of a sustainable transportation system for the city of Kingston.

As a result, the recommended 2015 KTMP transportation strategy established new aggressive targets to promote non-automobile modes of travel within the community as shown in Table 1.

<table>
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<th>System Component</th>
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<th>Old Target</th>
<th>New Target</th>
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<td>Auto Occupancy Rate</td>
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<td>Transportation Systems</td>
<td>Roadway Capacity Optimization</td>
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<td>5% improvement for TSM and transit priority measures</td>
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<tr>
<td>Management</td>
<td>Volume to Capacity Threshold</td>
<td>0.9 (LOS D)</td>
<td>1.0 (LOS E) increased congestion</td>
</tr>
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</table>

**TABLE 1 - TRANSPORTATION TARGETS FOR YEAR 2034**

The city is developing its first Active Transportation Master Plan this year – Walk ‘n’ Roll Kingston with emphasis on new facilities and programs that foster active transportation throughout the community. On-going engagement within the community continues to look for ways the City can make further progress towards shifting the modes of transportation within the community by encouraging more trips to be made by walking and cycling and fewer trips to be made by single occupant motor vehicles. New mode share targets over the next 20-year period were established as part of the 2015 Kingston Transportation Master Plan. An aggressive mode share target of 20 per
cent was established for active transportation, meaning that, by the mid-2030s, one in every five trips during the peak travel period will be by walking or cycling.

The City now has 130km of cycling facilities, over 450km of sidewalk and 60km of trails. In both 2012 and 2016, Kingston received the “Bike-Friendly Community Bronze” recognition from the Share the Road Cycling Coalition, and in 2017, the City received the “Bronze Walk Friendly Community” designation from Canada Walks and the Department of Green Communities. These accomplishments serve as catalyst for the City to continue develop and expand active transportation policies, programs and infrastructure that will enable the City to achieve the 20 per cent target.

A key public message heard is the need to increase opportunities for active transportation across the Cataraqui River. The Third Crossing is seen as an essential multi-modal facility for creating more opportunities for active travel and accessibility across the river with support for new connections on the west and east shore for walking and cycling. Increased walking and cycling has further benefit of encouraging the integration of these trips with transit along Gore Road to Highway 15 and along John Counter Boulevard and Montreal Street. The Third Crossing can be viewed as a critical piece of the road network to promote the use of non-automobile modes of transportation. Included in the proposed bridge project are: a 4.0m-wide multi-use pathway with rest and look-out areas on the bridge structure (see Figure 1); the inclusion of sidewalks and cycle lanes on the road approaches; and connections to future waterfront trails on either side of the Cataraqui River offers the opportunity to increase the number of walking and cycling trips.

The benefits for cyclists, in particular, may be significant with the provision of safe and attractive infrastructure to use. Figure 2 shows the portion of the transportation network that can be accessed by cyclists within a reasonable travel time from the centre of the Third Crossing assuming travel speed of 20 km/hr over a distance of 7 km. Within this area, the potential number of cyclists who could commute using the Third Crossing is estimated to be in excess of 850 cyclists during the peak hour in 2034. A similar analysis for pedestrians, assuming a commute time of 30 minutes, forecasts the potential for approximately 200 pedestrians to use the Third Crossing to commute during the peak travel period.
The Kingston Transportation Master Plan has established a mode share target of 15% for the use of transit. Even though this is an aggressive target, considerable progress has been made over the last 5+ years. Kingston Transit has experienced significant growth during this time with 5.2 million passenger trips in 2016 compared with 3.5 million passenger trips in 2011. This represents almost a 50% increase in transit use. The city recently approved a new five-year service plan for Kingston Transit that incorporates service expansion and improvements to continue progress towards achieving the 15% target. The Third Crossing supports this 15% target.

CONNECTING THE CITY

The Third Crossing creates opportunities to provide Kingston Transit service from east to west and west to east that connects our city. A Third Crossing provides an opportunity for enhanced Kingston Transit services including:

- A new express route to reduce the time it takes to reach popular destinations such as the King’s Crossing outlet mall, RIOCAN Centre, and Cataraqui Centre by avoiding the need to travel across the LaSalle Causeway and through downtown
- Expansion of existing transit routes that will provide more travel options for employees commuting to a growing St. Lawrence Business Park

INCREASED RELIABILITY

A reduction in traffic congestion as a result of the Third Crossing will result in improved transit service reliability. Reliable transit service supports increased transit ridership because the schedule will be more consistent.

MORE EFFICIENT SERVICE – OPTIMIZING CAPITAL AND OPERATING DOLLARS

A Third Crossing will make the existing Kingston Transit routes more efficient by reducing the amount of time it takes to travel across the Causeway. The time saved can be used elsewhere to create new transit routes or provide expanded service without the need to increase operating and capital budgets. Increased congestion on the La Salle Causeway without a Third Crossing, will require Kingston Transit to increase capital and operating budgets just to maintain the existing levels of service in Kingston East.

HOW DOES THE THIRD CROSSING RELATE TO THE CITY’S ROAD NETWORK REQUIREMENTS?

The use of Highway 401, even when expanded to six lanes, as an alternative was extensively considered in the 2012 completed and approved Environmental Assessment (EA) for the Third Crossing. The EA determined that ‘doing nothing’ or relying on the available capacity of the 401 and the LaSalle Causeway would not address the transportation deficiencies across the Cataraqui River even with increased capacity and enhancements to public transit.

The 401 is six km north of the LaSalle Causeway. The primary function of the Highway is to accommodate regional distance travel. Public concerns include accidents, high traffic volumes,
safety, rerouting of trips up and around the 401 and no opportunities for active transportation.

Highway 401 is not an acceptable route connecting the city even with the expansion to six lanes.

Model results that include the proposed Third Crossing and other road network improvements identified in the KTMP show the LaSalle Causeway experiences some relief by attracting a portion of these trips to use the Third Crossing instead. The Third Crossing also attracts a significant number of trips that use Highway 401 by providing a preferred route that matches trip origins and destinations for city-wide travel. In other words, the Third Crossing provides a more direct route for many trips across the Cataraqui River by providing both travel distance and travel time savings. Model results indicate that travelers using the Third Crossing will spend 40 per cent less time on the road and travel 35 per cent less distance than previous routes used without the Third Crossing. The maps in Figure 3 show the routes used for vehicles that cross the Cataraqui River in both the westbound and eastbound directions from their origin to destination without the Third Crossing in place. By comparison, the maps in Figure 4 shows the Third Crossing in place.
FIGURE 3

City Of Kingston Flow Bundle Overlay-Year 2034
Westbound No Third Crossing

FIGURE 4

City Of Kingston Flow Bundle Overlay-Year 2034
Westbound With Third Crossing
Images that illustrate travel patterns without the Third Crossing in place show that traffic with origins and destinations that connect between the north-west and north-central parts of the city and the east side of the city use Highway 401 to cross the Cataraqui River. Traffic with origins and destinations that connect between the west, south-west, and south-central parts of the city and the east side of the city use routes including Princess Street, Bath Road, King Street, and the LaSalle Causeway to cross the river. These images also show there are not significant differences in the travel routes being used in either the westbound or eastbound directions.

Images that illustrate travel patterns with the Third Crossing in place show that:

- 20 per cent of vehicles (total west and east-bound traffic) with origins and destinations that connect between the north-west and north-central parts of the city and the east side of the city shift from using Highway 401 to use the Third Crossing instead to cross the Cataraqui River.
- 20 per cent of vehicles (total west and east-bound traffic) with origins and destinations that connect between the west, south-west, and south-central parts of the city and the east side of city shift from use of the LaSalle Causeway to use the Third Crossing in order to cross the river.

As a result, the proposed Third Crossing would be a well utilized transportation link drawing 70 per cent of its use from traffic that would have otherwise used Highway 401 and the remaining 30 per cent of its use from traffic that would have otherwise used the Causeway. The LaSalle Causeway users benefit as a result of the shift in travel volume during the peak commuting period. The shift of 20 per cent of the traffic volumes to use the Third Crossing reduces the level of congestion and delay on the LaSalle Causeway. Model results indicate that travelers using the LaSalle Causeway will spend 35 per cent less time on the road with the Third Crossing in place.
HOW DOES THE THIRD CROSSING RELATE TO PROVISION OF EMERGENCY SERVICES?

The consideration of a Third Crossing has been largely based on the need for additional transportation capacity to meet travel demand across the Cataraqui River as the city continues to grow over the next 20 years. However, the proposed Third Crossing also provides opportunities to improve access to emergency services.

AMBULANCES

Kingston General Hospital (KGH) is the leading hospital in Southeastern Ontario for acute and specialty care. KGH is also the lead trauma hospital for the region with the responsibility of providing high-level care including initial assessment and treatment on a 24-hour basis. For residents located in Kingston East, the LaSalle Causeway is the primary route for access to the hospital. Traffic congestion and/or closures on the LaSalle Causeway can impact emergency response times.

As outlined above, the Third Crossing provides reduced congestion on the LaSalle Causeway thus increasing efficiency on this primary route as well as providing an alternate route along the crossing for access to emergency services and the potential to decrease response times for paramedic services.

FIRE & RESCUE SERVICES

A Master Fire Plan was developed for the city in 2010 and provided specific recommendation in support of the Third Crossing. Kingston Fire & Rescue Services identified the LaSalle Causeway as a limitation to emergency response agencies gaining access to resources located in the core area of the city when required to support the east side of the city in a timely way.

Currently, there are two fire stations on the east side of the Cataraqui River (Joyceville Road and Gore Road) staffed with volunteer firefighters. The Third Crossing was viewed as an opportunity to further evaluate and optimize the location and requirement for fire stations within the city and the anticipated need and timing for changes to staffing levels including the use of volunteer and career staff.

HOW DOES THE THIRD CROSSING RELATE TO INDUCED DEMAND?

There are two elements of induced demand that need to be considered: local and global.

LOCAL DEMAND

Local induced demand is the re-routing of travelers already making trips within the city’s transportation network. New transportation infrastructure such as the Third Crossing does not cause the traveler to switch from walking, cycling or taking the bus to instead use their car. Nor does the Third Crossing create or promote more trips to be made within the transportation network. Instead, local induced demand is simply a result of travelers changing their route. As the model results indicate, the Third Crossing would be a well utilized transportation link attracting trips that would otherwise use either Highway 401 or the LaSalle Causeway for travel across the Cataraqui River.

GLOBAL DEMAND

Global induced demand is the shift of travel mode and/or the creation of new trips that would not have otherwise occurred within the transportation network. In this sense the Third Crossing, which would be an improvement to the overall transportation network, may result in travelers shifting from their current mode of transportation such as transit or walking to another mode of transportation like automobile or cycling with the potential for increasing their number of trips. In other words, there is a concern that more automobile travel will be induced with the Third Crossing which could impact the city reaching their mode sharing targets. However, the City’s Transportation Demand Management strategy is intended to address this concern through...
Additional consideration has been given to changes to Kingston’s population and demographic profile. Forecasts for population, housing and employment are important components to the development of the city’s transportation model and our investments in infrastructure now and into the future. The last forecast study in 2013 (using Census data provided in 2011), indicated the Kingston area will grow for two decades followed by a gradual population decline shortly after 2031.

More recent data from the 2016 Census indicates that population growth over the past five-year period was lower than forecasted. Forecasts for population growth is one of several parameters to assist the City in developing various long-range plans and infrastructure requirements. However, this doesn’t take into consideration the City’s plans for investment and growth into the community. The City’s Official Plan aims to manage future growth within the Urban Boundary and in rural areas in a strategic and efficient way that optimizes infrastructure and public investment, promotes diverse economic activity and prosperity, supports an attractive, accessible, safe and sustainable City, protects cultural and natural resources, and provides a variety of housing options for all residents, and helps achieve Council’s strategic priority for “smart” growth.

The Population, Housing and Employment study completed in 2013 also revealed changes in the demographic profile for the Kingston area. As expected, an aging Baby Boom generation will result in a significant growth in the percentage of the population over the age of 75 by the mid-2030s. The study also revealed that the employed share of the population between the ages of 20 to 75 will increase over the next two decades reflecting the fact that many baby boomers will be working past the age of 65.

The current population projection forecasts a peak population in mid-2030s followed by a decline, which is an important consideration given that the service life of the proposed Third Crossing would be designed to be over 100 years. If there is a continued decline in population after the mid-2030s, there is a risk that the transportation benefits of the Third Crossing would start to diminish with the potential over-supply of transportation capacity. However, this is considered to be a low risk as the City is developing strategies aimed at continuing to grow the local population and to attract more people into the city.

NEW JOBS AND GROWTH

The city’s strategic vision for growth and investment can already been seen with the recent announcement of Frulact - a Portuguese food processor. Frulact is opening a new North American plant and research and development facility in Kingston. The company is known for their fruit based preparations for application in the dairy, ice-cream, beverages, and industrial pastry markets. The Kingston facility marks Frulact’s first presence in Canada. They have acquired 15 acres of development land in the Cataract Estates Business Park in the city’s west end with an option for additional expansion space. Construction is underway on the 75,000 square foot plant and it is slated to open in 2017. Approximately 50 employees will be hired when the facility opens with more jobs to be added.

Another significant recent announcement was with Fiehe International selecting Kingston as the home
for a new Canadian infant formula manufacturing operation. Kingston will be home to this world-class intelligent manufacturing plant that utilizes industry 4.0 integrated information technology, cloud computing, big data and emerging technologies to manage the production process.

Feihe has secured 40 acres of development land in the Cataraqui Estates Business Park in the city’s west end. The project represents a $225M investment, with the approximately 300,000 square foot processing plant slated to break ground in 2017. Approximately 200 new full time employees will be hired when the plant begins operations.

HOW DOES THE THIRD CROSSING RELATE TO CHANGES IN TRANSPORTATION TECHNOLOGIES?

The rapid pace of technological advancement will continue to have the potential to significantly affect transportation systems. The City is monitoring the development of future transportation technologies that are focused on improving road safety and transportation capacity. Recent advancements in both autonomous and connected vehicles may provide a safer environment for all roadway users and the ability to significantly increase the capacity of the transportation network.

How municipal infrastructure will need to change and/or how the technology will develop to utilize existing infrastructure will continue to be monitored. In the context of the Third Crossing project, the preliminary design of the bridge crossing meets or exceeds the current best practice for design established by the Ontario Ministry of Transportation as well as guidelines provided by the Transportation Association of Canada.

HOW DOES THE THIRD CROSSING RELATE TO THE CITY’S EFFORTS TO PROTECT THE ENVIRONMENT?

The EA for the Third Crossing identified the opportunity for travel time and distance savings and the associated reduction of greenhouse gas emissions (commonly referred to as ‘carbon’) with the implementation of the proposed new crossing. The work now underway to complete the preliminary design for the Third Crossing is examining the carbon footprint of the project. This work will help to quantify the amount of carbon generated as a result of the project and various carbon mitigation measures that can be employed during the construction phase.

The cost-benefit analysis underway as part of the business plan will also quantify the reduction in the amount of carbon that can be achieved by providing shorter trips and travel time savings with the Third Crossing included in the city’s transportation network.

WORKFORCE AND IN-MIGRATION STUDY

Work is currently underway by the city to develop a Workforce and In-Migration Strategy. This strategy is aimed at helping to ensure that the predicted labour shortages in Kingston are filled with a skilled labour force. This strategy will contribute to an increase in the population as a number of individuals relocate from other areas within Canada and from other countries. A number of other initiatives are also part of the strategy and will help to contribute to an increased population through both in-migration and immigration.
Conclusion

The policy and planning work done following the amalgamation of the former City of Kingston, Pittsburgh Township and Kingston Township has had a significant impact on shaping the City of Kingston since 1998. Many of the significant infrastructure investments made throughout the community since amalgamation have been based on these policy directives.

Major projects like the expansion of the Ravensview Wastewater Treatment Plant and the transportation improvements and road-widening along John Counter Boulevard are significant projects completed, or in progress, based on this strategic vision and the City’s long-term plans for growth. The Third Crossing is also part of this strategic vision and another important link within the overall transportation network that serves the current and future needs of the city and maximizes the value of infrastructure investments already made and future investments in the City’s long-term plan.

Several factors have been considered in the need for the Third Crossing including population projections, transportation demand, and the use of alternatives like the expansion of the 401. These and other considerations have formed the strategic case for this project.

The business plan, currently being developed, aims to build on the strategic case for the proposed Third Crossing. The business plan brings together information on the public need and considerations of both the technical and economic feasibility of the project. The business plan will be a useful tool for City Council as it considers whether the project represents a good investment for both the funding partners and the community, and to decide on and provide direction on the appropriate next steps for the project.

For more information, please visit the Third Crossing website: CityofKingston.ca/ThirdCrossing

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