



Benefits of the River Road Overpass

FINAL MEMO

—

April 2025

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Background & context



The City of Delta (“the City”), located in the Lower Mainland region of British Columbia, is a diverse municipality comprising three distinct urban communities: Ladner, Tsawwassen, and North Delta. The City has experienced substantial growth since the mid-20th century, particularly following the completion of major infrastructure projects such as the George Massey Tunnel in 1959 and the Alex Fraser Bridge in 1986, which improved connectivity to surrounding areas.

Community profile

The City of Delta is growing. After a period of slower growth between 2021 and 2016, the population grew by 6,400 people between 2016 and 2021 (when the last census was completed).¹ This growth represents a 6% increase, the highest growth in recent decades. To address the critical housing shortage across the BC province, the City was one of the Cohort 1 cities issued a Housing Target Order by the Government of British Columbia in 2023, mandating the addition of 3,607 net new housing units within five years.² The City must also provide an additional 14,000 units over the next 20 years to match projected population growth.

Ladner, one of the City’s primary communities, serves as the City’s administrative center and has a population of approximately 23,016, as per the 2021 census.³ Ladner is recognized as a Municipal Town Centre in Metro Vancouver’s Regional Growth Strategy. According to the City of Delta’s Official Community Plan (“OCP”), by 2051, Ladner is anticipated to see a population increase of close to 10,400 in 4,100 new homes. Of this growth, approximately 4,300 people and 2,050 new homes are anticipated within the Ladner Corridor / Municipal Town Centre. In total, Ladner’s 2051 population is estimated at 34,400 people. By 2051, employment forecasts suggest there could be nearly 3,700 more jobs in Ladner, with 2,400 of these concentrated within the Ladner Corridor / Municipal Town Centre. Total jobs in Ladner are forecasted to reach approximately 15,000 by 2051.⁴

Source: (1): City of Delta Census Profile 2021: [Profile table, Census Profile, 2021 Census of Population - Delta, City \(CY\) \[Census subdivision\], British Columbia](#)
(2): City of Delta’s housing initiatives 2023: [Housing Our Future | City of Delta](#)
(3): Ladner Census Profile 2021: [Profile table, Census Profile, 2021 Census of Population - Ladner \[Population centre\], British Columbia](#)
(4): City of Delta Official Community Plan 2024: [Delta - Document Center](#)

Background & context

What is the River Road Overpass?

As part of the continued effort to support long-term growth of its communities, the City has been strongly advocating for the construction of the River Road Overpass (“RRO”) as a component of the upcoming Fraser River Tunnel Project (“FRTTP”) to replace the existing George Massey Tunnel (“GM Tunnel”) on Highway 99. The FRTTP represents an important opportunity to address the current traffic congestions and reliability challenges in the area.

With the construction of FRTTP, there is an opportunity to re-connect River Road by providing an overpass structure over Highway 99 (see Figure 1 for illustrative representations). The RRO allows for a second exit out of Ladner to get onto Highway 99 and allows for continuity between the developed and agricultural areas on either side of Highway 99.



The RRO is proposed to include a travel lane in each direction and a dedicated multi-use path for cyclists and pedestrians. The RRO would also serve as an active transportation link between the residential developments, industrial parks, and recreational destinations. The preliminary cost for the RRO is estimated to be around 2.5% of the overall \$4.15 billion budget for the FRTTP.¹

This proposed RRO could be a critical infrastructure project that aligns with the City’s future development goals and enhances the resilience of Delta / Ladner’s transportation network.

Source:(1): client-provided document: *Second Exit out of Ladner – River Road Overpass*

Project scope and methodology

KPMG's scope of work

To support the City of Delta with communicating the potential impact of the RRO and the rationale of integrating the RRO with the broader FRTP, KPMG was engaged to support the City in identifying, describing, and developing the narrative of the potential benefits to be unlocked as a result of RRO ("the Project"). For the purpose of this Project, the area outlined in red is the prioritized study area:



Source: Google Maps

Methodology

The methodology of this Project consists of key steps:

- Document review: a review of client-provided documents relating to RRO, and previous engagement materials with governments. (See Appendix A for relevant document reviewed). This activity was used to establish a base-level understanding of documented details regarding RRO.
- Internal stakeholder interviews: KPMG conducted approximately 3 hours of one-on-one and small focus group interviews with key stakeholders identified by the City's project team, including engineering team, development team, and emergency response team. A list of interview questions that was reviewed and approved by the City was used to frame the context and themes of each discussion. Stakeholder engagement was used to feed back and insights into the current transportation challenges and potential opportunities that RRO could help unlock.
- Desktop research: researched case studies on comparable overpasses and bridges in developed countries to understand how such infrastructure could impact population growth. Other benchmarking researches were conducted to support the quantitative analysis of this Project.
- Work sessions: drawing on feedback from key stakeholders and research, KPMG facilitated a number of work sessions with the project team and identified stakeholders to discuss and prioritize approaches to estimate the potential impact of infrastructure upgrade (includes RRO).
- Preliminary quantitative estimation of impact: as directed by the project team and base on a number of assumptions, KPMG conducted a preliminary estimation of the potential impact of a comprehensive infrastructure upgrade package (includes RRO).

02

How RRO can help address the identified challenges

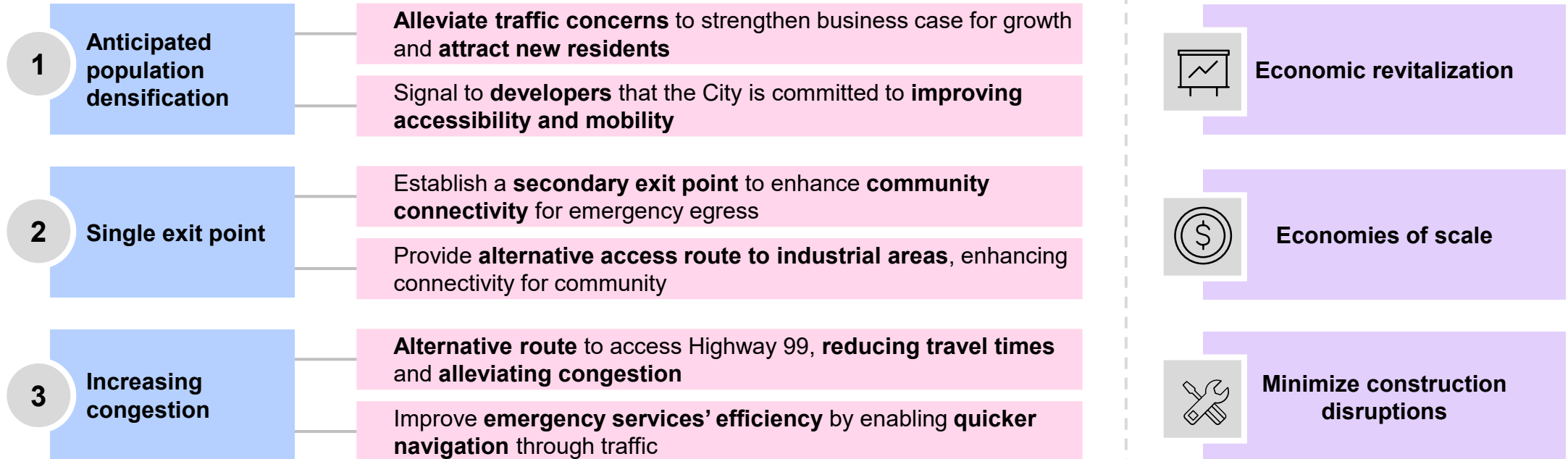
As identified by engaged stakeholders

The RRO is essential to support the expected growth in the City

Current challenges

How RRO can help

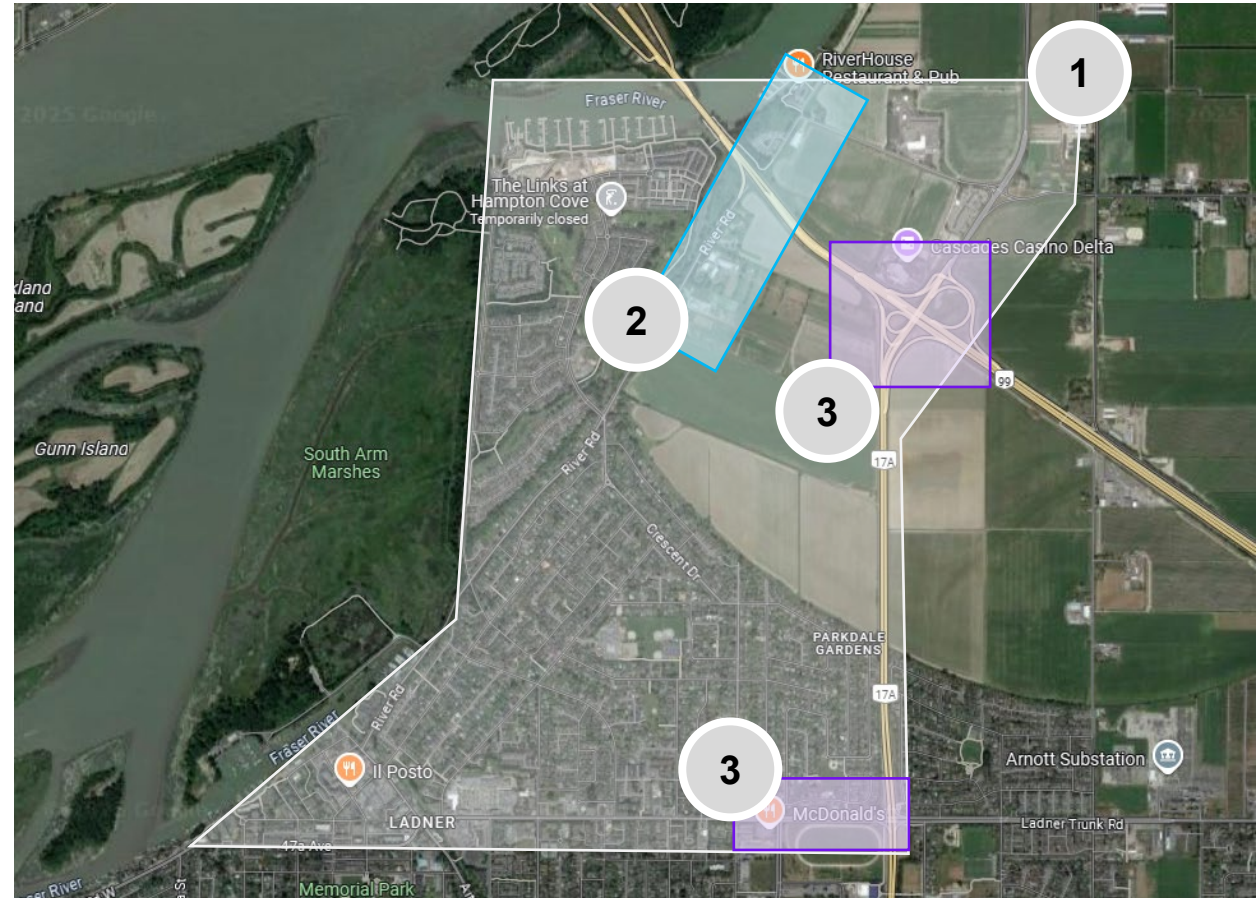
Additional RRO benefits



The RRO is an essential component of the **infrastructure upgrade package** with the potential to generate an additional **\$7.6 billion** in household spending in the City, and an additional **\$1.6 billion** in Ladner, over the next 30 years. This increase in net new local household spending will also contribute to further **municipal and provincial tax revenues** not currently modelled.

Current challenges

- 1 Addressing **housing needs** in the region and anticipated further **population densification**
- 2 **Single exit point** for emergency egress and commute between Ladner and Industrial Parks
- 3 **Increasing heavy congestion** at 17A / Highway 99 interchange and Ladner Trunk Road



Source: Google Maps

Further densification will require expanded road capacity

Challenge #1: Addressing housing needs in the region and anticipated further population densification

The City of Delta ranks among the top 10 municipalities in the Lower Mainland with significant housing shortages, prompting a housing target order from the BC mandating the addition of 3,607 new housing units within five years.

Housing demand & challenges

Ladner Village and areas along the Ladner Trunk Road are currently facing a pressing housing demand that remains unmet, positioning the City among the top 10 municipalities in the Lower Mainland with significant housing shortages. According to the latest data from the Canadian Mortgage and Housing Corporation, the rental market vacancy rate in the City is currently around 0.7%, suggesting a very tight rental market with high demand and limited available units. Stakeholders engaged indicated that anecdotally, local businesses in the Ladner Village area are grappling with challenges related to staff retention due to the high cost of living in the City, leading to difficulties in maintaining a stable workforce.

To meet the Provincial Housing Target Order, the City's zoning bylaw has been updated to permit up to 4 dwelling units per lot throughout most of the City.

Success of housing development closely tied to local infrastructure upgrade

According to stakeholders engaged, the success of these housing development and community densification plans is closely tied to the timely implementation of relevant local infrastructure upgrades and transit improvements. As the region faces significant housing shortages and anticipates further population growth, it is essential to prioritize improvements in transportation, which may already be challenged. By addressing these infrastructure needs, local governments can create a supportive environment for new housing projects, ultimately leading to a more sustainable and livable community.

RRO could unlock City's full potential to meet housing need

Current challenge

Challenge #1: Addressing housing needs in the region and anticipated further population densification

How RRO can help

RRO helps the City fully realize its plans for community densification and housing development to address housing shortage

Attract new residents

Addressing congestion levels is crucial for the City's further densification, according to stakeholders interviewed. By alleviating traffic concerns, the RRO can improve road safety and help strengthen the business case for growth and development in the area. The improved transportation infrastructure, including RRO, is expected to attract an influx of new residents by improving access to local communities.

Positive signal to real estate developers

By establishing the RRO, the City signals to real estate developers, and demonstrates a commitment to creating meaningful connections that enhance local transportation options, improving accessibility and mobility. Real estate developers often view accessibility and transportation issues as significant obstacles when considering new housing projects; without adequate infrastructure, they may be hesitant to invest in the region, which in turn limit the City's full ability to deliver plans for community densification and housing development.

The timeliness of local infrastructure upgrades and transit improvements can impact ability to meet housing and densification plans. If the RRO is not completed as part of the FRTP within five years, housing development may face delays and increased costs due to rising demand and construction inflation.

Emergency services access

Challenge #2: Single exit point for emergency egress and commute between Ladner and Industrial Parks

Ladner currently faces significant challenges due to its singular exit point to Highway 99 via LTR.

Impact on emergency services

The limited access point to Highway 99 presents significant challenges for emergency services. When incidents occur on LTR, the city loses access to the highway, hindering timely emergency responses and disrupting traffic flow. During rush hour, traffic congestion intensifies the difficulties emergency services face while navigating the area. The lack of a secondary access option severely restricts the effectiveness of emergency services, such as the ability to offer emergency services support to and from Tilbury Industrial Park.

Anecdotal evidence indicates that emergency vehicles often struggle to maneuver through gridlocked traffic during peak periods, leading to significant delays in response times and challenges in reaching those in need promptly.

Impact on community growth

Similarly, the reliance on a single exit route is also problematic for the growth potential of the Ladner community. As the population is projected to increase, the demand for efficient transportation routes will only intensify. Additionally, when population increases, effective access and egress for emergency vehicles becomes more important and can impact an even greater population if unaddressed.

RRO offers a secondary exit point

Current challenge

Challenge #2: Single exit point for emergency egress and commute between Ladner and Industrial Parks

How RRO can help

RRO provides a secondary route for emergency egress and commute between Ladner and industrial parks

Enhanced connectivity for emergency egress

As discussed previously, the reliance on a single exit point to Highway 99 via LTR presents significant challenges. Establishing a secondary exit point through RRO can significantly enhance connectivity and road safety for the community, as RRO can serve as a contingency for emergency response services. In critical incidents, the ability to access multiple routes can be vital for ensuring timely response. Interviewed stakeholders also highlighted that it is important to understand that the effectiveness of RRO in this capacity hinges on the government's commitment to appropriately outfit RRO for emergency egress.

Enhanced connectivity for community commute

RRO offers an alternative route and allows for better access to the Tilbury and Annacis Industrial areas, which are critical for local businesses and economic activity. The current congestion on LTR and 17A can impede access to these industrial zones, affecting the operations of business that rely on timely logistics.

The implementation of RRO could also benefit farm vehicles travelling, which are essential for maintaining agricultural productivity in the region. With less congested roads as a result of a secondary access point, farm vehicles can operate more efficiently, reducing the risk of accidents and improving their operational efficiency and productivity.

Increasing congestion

Challenge #3: Increasing congestion at 17A / Highway 99 interchange and Ladner Trunk Road

The 17A / Highway 99 interchange and Ladner Trunk Road (“LTR”) are critical transportation routes for residents and businesses in the region. However, recent observations indicate significant congestion, particularly during peak hours.

<i>Current traffic conditions</i>	According to stakeholders interviewed, the northbound traffic experiences the most severe delays, with reports indicating that vehicles often come to a standstill during peak periods.
<i>Access challenges</i>	Ladner has only one access route to Highway 99 via LTR, which further complicates the traffic situation. Residents in Ladner are currently facing long commute to cross Highway 99 during peak hours. The congestion on 17A and LTR has led to spillover effects into residential streets during certain times of the day. This issue is expected to worsen due to several factors, including the anticipated densification in Ladner as outlined in the OCP, and the projected substantial growth in Tsawwassen. The combination of these factors suggests that without intervention, congestion will continue to escalate. This not only creates congestion in residential areas impacting access of residents, but can also create safety concerns with more vehicles on streets meant to accommodate calmed traffic and pedestrians.
<i>Impact on local businesses</i>	Highway 17A also serves as a crucial access point for the Tilbury and Annacis industrial areas. The overcrowding on 17A can impede access to these zones, affecting local businesses and their operations.
<i>Infrastructure limitations</i>	Existing overpasses on Highway 99 do not meet current height criteria, resulting in increasingly frequent truck strikes that disrupt traffic flow, leading to significant delays and safety concerns.

RRO can help alleviate current heavy congestion

Current challenge

Challenge #3: Increasing congestion at 17A / Highway 99 interchange and Ladner Trunk Road

How RRO can help

RRO can help alleviate the increasing heavy congestion at 17A / Highway 99 interchange and Ladner Trunk Road

Reduced travel time for communities

One of the key advantages of establishing the RRO is that it provides an alternative route for Ladner residents to access Highway 99 with reduced travel times. Currently, local residents are often forced to navigate a full loop through congested areas in order to access Highway 99. By connecting west Ladner to Highway 99 through RRO, it also helps divert traffic away from residential streets and minimize the negative impacts of congestion on local neighborhoods.

This reduction in travel time not only enhances the commuting experiences but also contributes to decreased noise and air pollution in residential areas.

Reduced travel time for emergency services

Additionally, the establishment of RRO could significantly enhance the efficiency of emergency services and thereby enhancing overall community safety. The emergency services teams will be able to navigate through traffic more effectively and respond more promptly. This capability is crucial for safely removing individuals in-need from congested areas during emergencies, which can make a substantial difference in outcomes.

Additional benefits of RRO

The implementation of the RRO in conjunction with the F RTP presents several other potential benefits, as identified through staff interviews.

<i>Economic revitalization</i>	Additionally, the RRO could play a crucial role in addressing current economic challenges faced by local businesses. Many businesses in Ladner struggle to attract both workers and customers due to inadequate transit options and limited access points to and from the area. The implementation of the RRO has the potential to significantly enhance connectivity, thereby supporting local businesses and fostering economic growth in the region. This improved accessibility could make Ladner a more attractive destination for both employment and commerce, contributing to the area's long-term economic vitality.
<i>Economies of scale</i>	Combining these projects can lead to significant economies of scale for planning and construction activities. Bundling F RTP with RRO can allow for more efficient resource allocation and cost-effective project completion. By addressing infrastructure needs comprehensively now, the community can avoid the higher costs typically associated with delays and additional planning in the future. Furthermore, this integrated approach ensures that the resulting infrastructure is optimally designed and seamlessly interconnected.
<i>Minimize future construction disruptions</i>	Proactively building the RRO alongside the F RTP also offers several advantages. By completing both projects simultaneously, the community can minimize future construction challenges and disruptions, reducing the overall period of construction-related inconveniences and avoid potential conflicts that may arise from separate project timelines. Additionally, building the two together also ensures that infrastructure capacity scales in a balanced manner. If the F RTP is scaled up without a corresponding improvement in alternate routes like the RRO, it can exacerbate traffic issues where the increased tunnel capacity is not matched by the surrounding road network's ability to handle the traffic flow. The construction of the RRO can also ensure that the Millennium Trail, an important active transportation route, remains open during the development of the new F RTP tunnel, maintaining access for both pedestrians and cyclists.

03

**Quantitative impact
estimation of
infrastructure
upgrade package**

Methodology and key assumptions of impact estimation

Based on comprehensive discussions with the City's project team, the following **working hypothesis** is utilized for quantitative impact estimation, and served as the foundation for further quantitative analysis and impact assessment of the infrastructure upgrade package:

Working hypothesis

The comprehensive infrastructure upgrade package (which includes RRO) is projected to grow the local population by 15,311 households, driving an increase in estimated local spending of \$1.6 billion within 30 years.

In consultation with City staff, it is understood that the establishment of **RRO** is a part of Delta / Ladner's **critical transportation ability and asset**, and is **intertwined** with the **comprehensive infrastructure upgrade package**; this initiative is **essential to support** the anticipated household growth outlined in OCP.

In alignment with the project team, the components to estimate this quantitative impact are as follows:

Components

Net household growth under the comprehensive infrastructure upgrade scenario

x

Average local household spending on an annual basis

=

Net annual spending locally

Refer to **Appendix B** for data and data sources utilized in support of this estimation.

Key assumptions of this approach include:

- As directed by the City's development team, the projected population growth included in the City's 2024 OCP is based on the assumption of a full infrastructure upgrade, which includes RRO and other infrastructure upgrades such as the F RTP.
- The estimated household growth associated with the comprehensive infrastructure upgrade comprises of existing BC residents relocating to the City and new immigrants to BC / Canada. This growth commences 2021, according to the 2024 OCP update.¹
- No inflation is considered in this impact estimation. All figures are in 2021 dollars.

Source:(1): 2024 Official Community Plan Update: [OCPFactSheet 2024-02-07_v4](#)

Quantitative impact estimation of infrastructure upgrade

City of Delta		
Estimation	Net household increase under the infra upgrade scenario compared to BAU; evidenced with data from the City:	15,311
	Assume the same growth rate and pattern between 2021 and 2051 for both infra upgrade and BAU scenarios	
	Assumed local annual spending per household, based on data from Statistics Canada:	\$32,000
	Estimated net new local annual spending in the City of Delta in year 2051:	\$490 million
	Estimated net new local annual spending in the City of Delta between 2021 and 2051:	\$7.6 billion
Ladner		
Estimation	Estimated proportion of Ladner's household growth against the City of Delta's projected household growth:	22%
	Estimated net new local annual spending in Ladner in year 2051:	\$106 million
	Estimated net new local spending in Ladner over 30 years:	\$1.6 billion

Conclusion:

- The establishment of RRO is a part of Delta / Ladner's critical transportation ability and asset, and is greatly intertwined with the comprehensive infrastructure upgrade package; this initiative is essential to support the anticipated household growth outlined in OCP.
- This comprehensive infrastructure upgrade package could support generating an additional \$7.6 billion in household spending in the City of Delta, and an additional \$1.6 billion in Ladner, over 30 years. This increase in net new local household spending will also contribute to further municipal and provincial tax revenues not currently modelled.

04

Conclusion

RRO will support the City of Delta's projected growth

In summary, this analysis underscores the essential role of the RRO within the City of Delta's comprehensive infrastructure strategy, aimed at accommodating anticipated population growth and addressing transportation challenges. The RRO is pivotal for unlocking local economic development, enhancing connectivity, alleviating traffic congestion, and also for bolstering emergency response capabilities.

In consultation with staff, it was emphasized that as the City responds to the Housing Target Order mandated by the Government of British Columbia, the timely implementation of the RRO, alongside the F RTP project, is essential to ensure that the community can accommodate its growing population sustainably with the necessary supporting infrastructure.

Looking ahead, it is important to consider several key factors that could influence the successful implementation of the RRO, such as:

- Coordinating timelines with the F RTP project to avoid additional delays that could lead to increased costs and community disruption; and
- Gathering insights from the Planning, Engineering, and Transportation teams to ensure that the RRO aligns with community needs and adheres to regulatory standards.

The RRO investment, alongside F RTP and other infrastructure upgrades will continue to support the City of Delta in fostering economic growth, improving business, resident, and emergency access. Overall, this contributes to a more resilient transportation network that benefits all current and future residents within the City and the region.

The analysis presented in this report should be considered “point in time”; that is, estimates are subject to change if underlying assumptions or market conditions shift. These assumptions include:

- **Projected population increase:** it is assumed and anticipated that Ladner will experience significant increase in its population over the coming years, contributing notably to the overall growth of the City and therefore the resulting economic impact discussed within this document.
- **Anticipated infrastructure needs:** it is assumed that the current infrastructure is projected to face challenges in accommodating the anticipated growth unless comprehensive infrastructure upgrades are implemented. The establishment of RRO is assumed to be a part of the critical transportation capacity and asset, and is greatly intertwined with the comprehensive infrastructure upgrade package. This initiative is essential to support the anticipated household growth outlined in the OCP.

Any changes in these assumptions could result in different outcomes and may require a reevaluation of the analysis. To maintain the relevancy and accuracy of this analysis, it is crucial that these assumptions are revisited regularly. For example, congestion challenges may become more severe, more quickly if policies are enacted which drive greater movement of goods via freight or other vehicular traffic; conversely, the challenge may also ramp up more slowly if immigration policies slow population growth significantly.

The successful implementation of the RRO is essential for the City of Delta's long-term development goals, and ongoing assessment of underlying assumptions will be key to navigating the challenges and opportunities that lie ahead.

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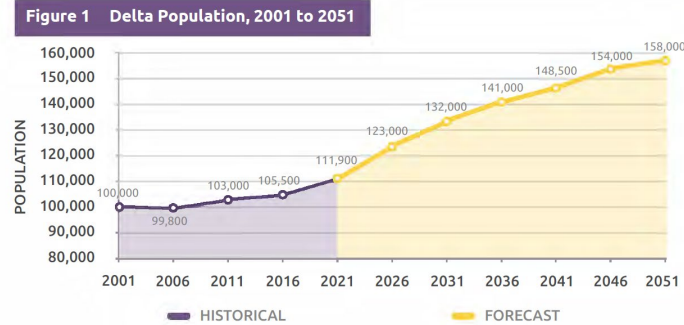
Appendix

Appendix A: documents reviewed

- Traffic study for Marina Gardens Estates
- Origin / Destination Data for the GMTR: Attachment F – WSP and MM Group, 2016
- Delta OCP 2024: <https://delta.civicweb.net/filepro/documents/230675/?preview=230680>
- City of Delta Housing Needs Assessment Report: <https://www.delta.ca/sites/default/files/2023-08/Housing%20Needs%20Assessment>
- Finance Standing Committee Letter in Support of 2nd Exit Ladner 07262024
- Item 22 – Briefing to the Standing Committee on Finance Pre Budget Consultations – Second Exit Out of Ladner (River Road)
- Second Exit out of Ladner – River Road Overpass – letter to Ministry of Transportation and Infrastructure
- Second Exit out of Ladner – River Road Overpass – presentation at Union of BC Municipalities
- Excerpt on City of Delta’s Hazard, Risk, and Vulnerability Assessment conducted September 30, 2024
- Motor vehicle accidents statistics – Delta Police Department Intelligence Information
- Emergency responses statistics 2020 – 2024

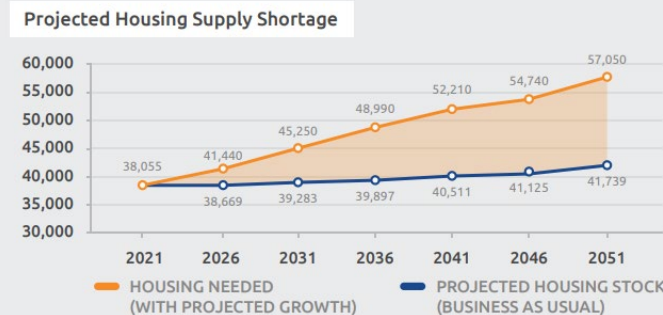
Appendix B: data utilized for quantitative impact estimation

Delta's 2024 OCP¹



According to the same source, Ladner will see a population increase and is estimated at 34,400, i.e., 22% of Delta's projected population at 2051. It is anticipated that around half of the growth will be around the Ladner Corridor / Municipal Town Centre, which feeds into the Ladner Trunk Road.

Fact Sheet #1: OCP Background²



As directed by City staff, the *Business As Usual* projection represents the anticipated household growth in absence of the comprehensive infrastructure upgrade package.

Statistics Canada: Annual household expenditure³

2021 **total** household expenditure: **\$92,500**

Food purchased from stores, shelter, and healthcare represents **34.5%** of total household, at approx. **\$32,000** (assumed **local household spending** on an annual basis.

Source:(1): Delta Official Community Plan 2024 – Housing Our Future: [Delta OCP 2024](#)

(2): Housing Not Keeping Pace With Growth: [Housing Our Future](#)

(3): Table: 11-10-0222-01 Statistics Canada: [Household spending, Canada, regions and provinces.](#)



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