



# Request for Proposal

KANATA NORTH AUTONOMOUS VEHICLE TRANSIT NETWORK  
FEASIBILITY STUDY

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## Project Overview

The Kanata North Business Association are requesting proposals to support a feasibility study for a new autonomous vehicle transport network that will connect and feed the Kanata North technology park to the City of Ottawa Light Rail Transit (LRT) Network.

## Kanata North Technology Park

Population Estimate: 36,996 / Household Estimate: 14,490<sup>12</sup>

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<sup>1</sup> City estimate based on 2016 census data

<sup>2</sup> The same census data put Kanata's total population in 2016 at 117,304. City of Ottawa used the StatsCan census data to estimate a population of KS at 48,700. The total of the two **estimates** brings us to 85,700 approx. for Kanata, a lower total

\$13 billion GDP, +66% since 2015

\$391,000 average contribution per employee (4x national average, +53% since 2015)

Employment Impacts - Returns to Government:

- Municipal: \$170.5M + 16%
- Provincial: \$1.96B + 40%
- Federal: \$1.99B + 47%
- Generates 33,000 jobs
- 33,000 jobs created and 24,000 directly employed in the park
  - 85% of employees originate from West Ottawa (Westboro), Kanata and West Carleton, West of Kanata (Stittsville), and Ottawa South (Barrhaven/Manotick)
  - 15% of employees originate from central & east Ottawa

## Strengths

As released in the Association's *2018 Economic Impact Assessment* report, the Kanata North technology park provides a significant and fast growing economic and employment impact to Ottawa, Ontario and Canada.

- Anchored by Kanata North-based BlackBerry QNX, Ottawa is Canada's Connected and Autonomous Vehicles (CAV) Capital and home to more than 90 start-ups, corporations and post-secondary institutions that are contributing intelligence to CAVs of the future.
- As an Ottawa L5 partner, companies in the Tech Park such as Ericsson, Nokia and BlackBerry QNX contribute to connectivity and functionality at the private test track where a significant amount of work is done to test and improve clean tech and agri-tech sectors.
- Kanata North is also home to the City's Ottawa L5 Public test track where Ottawa was the **first Canadian city to launch testing of an on-street autonomous vehicle (AV) communicating with live City infrastructure**. The Kanata North tech community is the perfect Smart Cities *living lab*.
- Founded in the Kanata North Technology Park, the L-SPARK Accelerator is the destination for software entrepreneurs. As Canada's leading and first SaaS Accelerator, LSPARK has been in operation for 5 years, boasting a portfolio that has **grown to 51 companies from across Canada, of which an aggregate of \$45.7 million of venture capital investment has been raised to date**.
- Our workforce is highly educated, skilled and valuable, contributing at four times the national productivity rate.
  - The recent opening of the University of Ottawa's Kanata-North campus supports a successful partnership and a close integration of a University in the Tech Park, offering talent, research and training to accelerate the capabilities of our companies.
  - In the future we expect the **University of Ottawa developing a significant campus with multiple faculties and disciplines teaching full time from the campus**.
  - We also expect a number of our other post-secondary institutions from across the city and the country setting up shop in Kanata North to be where the talent is.

## Weaknesses

- The greatest challenge in the Kanata North Technology Park is inadequate transportation infrastructure that can no longer support the existing level of growth.

- Traffic and transit challenges now impede the attraction & retention of world-class talent and companies.
- Kanata North is not yet recognized or prioritized by the City of Ottawa as an economic transit hub such as; Lansdowne and Bayview Yards with close or near-term access to the Light Rail Transit System.

## Transit Opportunities

1. The Kanata LRT (Moodie to Hazeldean) is estimated to cost \$2.1B (in 2020 dollars). This project can be built in stages, with the first stage being the section from Moodie Station to Terry Fox Station, with a value of \$850M (2020 dollars). Within this amount is a design, which is the next initial step towards implementation. A funding source is required for both design and construction.
2. With a built LRT from Moodie to Terry Fox, there is an opportunity to provide spur lines from the LRT to serve the Kanata North Business Park, and the DND complexes. The technology for these spur lines is undefined, but AV technology is an option that can be considered if third parties are willing. It should be noted that currently, the City has buses operating on the shoulder lanes along Highway 417 to Kanata. Therefore, in the absence of the LRT, the spur lines with AV technology can still be planned for connection to this bus service.
3. This document identifies issues that a feasibility study would address for the AV spur line option(s) as shown below on Plans A and B.

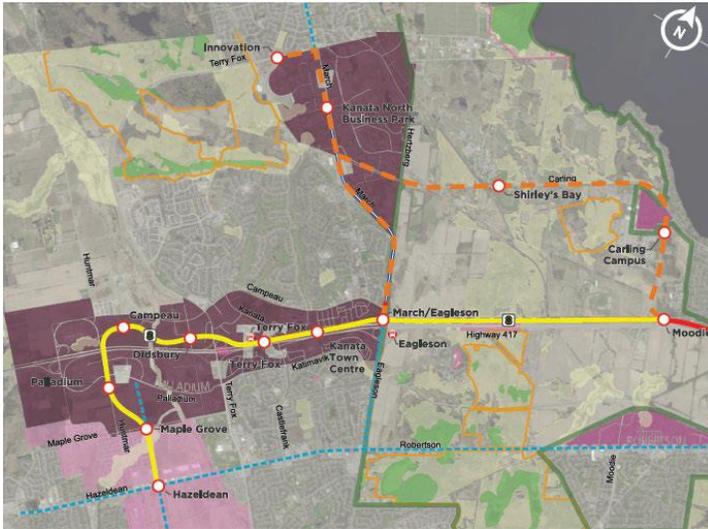
Plan A would involve establishing:

- an autonomous spur connecting to Moodie LRT Station and travelling north along Moodie Drive and then west along Carling Avenue connecting to the DND and Shirley's Bay federal facilities,
- a second autonomous spur would connect to future March LRT Station and travel north, along March Road, to Terry Fox Drive and west to Innovation Park and Ride. This would connect the Kanata North Business Park as well as the Kanata North community to the LRT.



Plan A

Plan B is similar Plan A, with an added autonomous connection between the Shirley's Bay facility and March Road.



Plan B

## Project Goals

A business case will be required including a needs assessment and planning context to identify benefits including:

- speed and reliability,
- benefit to employment centres and community,
- positive environmental impacts (reduction of GHG),
- supporting future development.

Recommendations of the feasibility study will need to include:

- Preferred optimal corridor (and key design features) with identified limits and station locations
- Preliminary service plan
- Capital and operating cost
- Implementation staging
- Seamless integration with planned transit corridors

## Project Scope

Both Plan A and Plan B would need to compare the pros and cons of these options including:

- dual lanes (one in each direction) or single lane bi-directional with lay-bys,
- at grade - dedicated to transit only,
- intersection control type identification and designation of transit priority
- anticipated ridership at key travel points (current year, 2031, 2046),
- station locations,
- travel time,
- relative cost (construction and operating),
- mitigation measures,
- service frequency (to DND and Shirley's Bay, KNBP and Kanata North),
- walking distance to transit stops.

Consultation with stakeholders, including various City departments will be required in order to help review assumptions and advise on policies and requirements, as well as City projects in the area.

Representatives from the business and technology sector in Kanata North would be involved in the consultation process.

Consultations would pose questions such as;

1. What is the proposed technology/technologies for AVITA?
2. How does AVITA adhere to policy and permitting as enacted by the Province for Connected and Autonomous Vehicle technology (ensure coordination of AVITA with the City's traffic control and communication systems)?
3. What is the high-level service plan, how many vehicles, what is their capacity and their frequency? High frequency can influence ridership, but also adds to capital and operating costs.
4. What is the impact on traffic operations, especially at signalized intersections?
5. What are the other auxiliary elements of the system (example: maintenance and storage yard, charging stations, etc.)?
6. Who is the operator?
7. Who would the corridor(s) serve?
8. How does this corridor serve locations outside of KNBP and DND campuses?
9. Who are the potential funding partners to help support the capital/operating cost of the project?
10. How would the project integrate seamlessly with the City's current BRT and planned LRT network? What are the transfer points? (References: Stage 2 LRT West Extension; Kanata LRT EA; and the Kanata North BRT EA).

## Target Deliverable Schedule

*The Kanata North Business Association will accept proposals beginning August 31, 2020 and ending September 14, 2020. A selection of a successful candidate will be anticipated by October 1, 2020.*

The Kanata North Business Association are proposing to begin the project in mid-October 2020 with a targeted deliverable by December 31, 2020.

## Budget Constraints

Anticipated spend of \$100,000 for this project.