

TRANSPORTATION COMMITTEE

TO: *MAYOR AND COUNCILLORS*

SUBJECT: INTELLIGENT TRANSPORTATION SYSTEMS STRATEGIC PLAN

RECOMMENDATION:

THAT the report titled “Intelligent Transportation Systems Strategic Plan” dated October 10, 2024, of the Transportation Committee meeting, be received for information.

REPORT

The Transportation Committee, at its meeting held on October 10, 2024, received and adopted the attached report presenting Council with an introduction to the Intelligent Transportation Systems Strategic Plan.

On behalf of the Transportation
Committee,

Councillor R. T. Lee
Chair

Councillor D. Tetrault
Vice Chair

TO: TRANSPORTATION COMMITTEE (TC)
FROM: GENERAL MANAGER ENGINEERING
SUBJECT: **INTELLIGENT TRANSPORTATION SYSTEMS STRATEGIC PLAN**
PURPOSE: To present an introduction to the Intelligent Transportation Systems Strategic Plan.

RECOMMENDATION

THAT the report titled “Intelligent Transportation Systems Strategic Plan” dated October 10, 2024, of the Open meeting of the Transportation Committee, be received for information.

1.0 POLICY SECTION

The Intelligent Transportation Systems (ITS) Strategic Plan supports the City of Burnaby’s Corporate Strategic Plan and the values for being an innovative community. The project is also aligned with Council-adopted goals, policies, and targets within Burnaby’s Transportation Plan (BTP) and the City’s Climate Action Framework that support a safe, sustainable, and accessible transportation system.

2.0 BACKGROUND

As envisioned in the BTP, the City strives to create a transportation system that fosters a vibrant and prosperous community by connecting people, places, and goods. The BTP identifies five modes of transport (walking & rolling, cycling, public transit, goods movement and driving) that are supported by seven ‘Big Moves’ to help reach citywide targets for safety, mode-split and zero-emissions. As part of the ‘Big Move’ under the driving mode, the City is developing a plan that incorporates sensor technology, real-time data transmission and analytics to enhance safety and optimize the road network performance.

3.0 GENERAL INFORMATION

ITS integrates information, technology, communications, and systems engineering with transportation infrastructure to enhance the management and operations of transportation facilities and systems. To help achieve the goals of improving safety, efficiency, and sustainability of the transportation network, the ITS Strategic Plan will establish a robust framework that incorporates current technological capabilities while aligning with broader City objectives. This will help address current challenges such as limited real-time information, road network congestion and aging transportation facilities, and anticipate future needs for an efficient, reliable transportation network.

3.1 ITS Strategy - Preliminary Planning Initiatives

The BTP emphasizes continued encouragement in the use of sustainable transportation modes but acknowledges driving will continue to be an important mode of travel in the City. Guiding principles are established under the ITS Strategic Plan to create a framework to align future decisions and investments, which are consistent with the goals and targets of the BTP by leveraging digital data collection systems and real-time data transmission and analytics.

The following guiding principles are being considered as part of the early project planning process:

- **Resilient Road Network System:** Enhancing incident detection and developing congestion management strategies
- **Reliable Curbside Access:** Optimizing curb use through dynamic management
- **Reduced Emissions:** Minimizing environmental impacts through sustainable traffic management
- **Efficient Streetlighting System:** Reducing energy usage through advanced sensing technologies
- **Informed Decision-Making:** Providing improved traveler information

3.2 Next Steps - Pilot Projects

To demonstrate the potential benefits of ITS in Burnaby prior to full-scale implementation, the following three pilot projects have been identified for further assessment.

3.2.1 Dynamic Curbside Management System

A Dynamic Curbside Management System optimizes the curbside utilization in urban areas by monitoring real-time curbside activity in conjunction with the existing parking management system. This system integrates sensors, data analytics, and communication networks to maximize the usage of curb space for various activities such as parking, loading, ridesharing, pick-up and drop-off.

3.2.2 Smart Streetlighting

Smart streetlighting integrates sensors, connectivity and other advanced technologies into the existing roadway lighting system. These smart streetlights can intelligently adjust brightness based on the presence of road users. This will enable the City to optimize energy consumption while maintaining roadway safety and minimize light pollution. Maintenance costs can also be reduced with an enhanced asset tracking and management system for the smart streetlights.

3.2.3 PTZ Cameras

The Pan-Tilt-Zoom (PTZ) Camera pilot project aims to provide access to real-time information and enhance decision-making processes. The City has PTZ cameras at select locations to monitor real-time road conditions to support maintenance and traffic operations. An assessment of existing cameras will be

performed along with identifying necessary upgrades. New cameras will be identified for installation at critical locations to provide a more comprehensive coverage of key roadways.

This initiative will enable staff to better monitor road conditions in real-time, including for key maintenance activities such as snow removal. This proactive approach will help improve road safety, reduce response times, and deploy resources across the City more effectively.

3.3 Project Phasing and Timeline

The development of the ITS Strategic Plan is expected to be completed in Spring 2025. In parallel, the City would initiate three pilot projects to demonstrate the potential benefits of ITS. Upon completion of the ITS Strategic Plan and pilot projects, the longer-term implementation strategy would be reviewed to determine a feasible timeline. This phased approach ensures that the City would have an opportunity to make informed decisions and optimize resource and funding allocation, while achieving a safer, smarter, more efficient, and sustainable transportation network.

4.0 COMMUNICATION AND COMMUNITY ENGAGEMENT

As part of the ITS Strategic Plan, Staff will engage with stakeholders, including neighboring municipalities and other agencies to explore potential collaboration and integration opportunities. Project updates and community engagement will take place at critical milestones.

5.0 FINANCIAL CONSIDERATIONS

The development of the ITS Strategic Plan is supported by Engineering Operating budget. The pilot projects and future long-term phases will be funded through the Engineering capital plan.

Respectfully submitted,

May Phang, P.Eng., General Manager Engineering

ATTACHMENTS

Attachment 1 – ITS Strategic Plan Presentation

REPORT CONTRIBUTORS

This report was prepared by Regent Cheung, P.Eng., RSP1, Transportation Engineer, and reviewed by Eric Tam, P.Eng., PTOE, Senior Manager Transportation, and Amy Choh, P.Eng., PMP, Director Engineering Transportation.