

# TRANSLINK 2021 OPEN CALL FOR INNOVATION

## Challenge Topic 1 – Regional Road Monitoring Innovation

### The Challenge Statement

**How can we measure regional vehicle flow volumes, emissions, noise and/or vibration in Metro Vancouver to help monitor our progress towards regional goals of promoting safe, healthy, clean, compact, and equitable communities?**

TransLink plans and manages the region's transportation system. This not only includes the transit system but also regionally significant road, cycling and pedestrian infrastructure throughout Metro Vancouver in partnership with local jurisdictions. Digital transformation is expected to be an essential consideration in planning for the future of an integrated multimodal transportation system in our region. Especially with an expected shift towards Mobility as a Service (MaaS), TransLink will see a growing demand for digital transportation system data.

While TransLink has a good digitalized data and insight on our public transit system, opportunities to collect current, reliable, and relevant anonymous digital data on vehicle, bike and pedestrian traffic is limited. Collecting anonymous vehicle volume data as an initial priority will serve as a foundation for further digital transformation. Insights gained from digitalized anonymous vehicle data will help to better anticipate and address the needs of different types of travelers in an integrated multimodal transportation system through improved decision making and policy planning.

TransLink is seeking innovative solutions on how technologies, solutions, processes, and/or models can help monitor our regional goals related to vehicle traffic. Solutions can range from direct data collection technologies to other products and services that enable the estimation of regional vehicle volumes, congestion, emissions, noise, and/or vibration.

TransLink is seeking ideas in areas including **one or more of the following**:

- Sensors or other measuring devices that can be deployed at limited capital cost, have low data communications, power, and maintenance requirements, and at a minimum, can record anonymous vehicle volumes and any of the following: vehicle classification (e.g. cars versus SUVs/light trucks and commercial vehicles; bicycle detection is not required), vehicle occupancy, air emissions, and noise/vibration
- Systems that can clean, tidy, and standardize monitoring data while providing records of what information is removed during the data wrangling process
- Systems that can acquire and maintain data connections to geographically dispersed sensors and provide high-granularity and low-latency data feeds
- Methods and processes that allow TransLink to continuously test and optimize the reliability of sensor and monitoring systems
- Any other practical solutions or methods that enhance TransLink's ability to measure and anticipate evolving travel preferences, behaviors and patterns, specifically related to the road mode

**While TransLink will review ideas at all stages of the development spectrum, priority will be given to ideas that have been successfully tested in operational environments in other jurisdictions and that can be deployed in our region in the near term. Simple and cost-efficient solutions will also be prioritized. Please note that TransLink is not seeking passive data solutions (e.g. vehicle GPS data).**