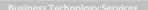# TransLink's Open API

Making Use of Data Through Open API Development

Why Open API?

- Expose the wealth of data collected from the regional transit and traffic network and service operations to the public via publicly available Application Programming Interfaces (APIs) and data feeds

- Provide an enhanced transit experience by providing real-time and up to date information to our customers

- Extend the service to the public by offering the information through a variety of products built by the development community
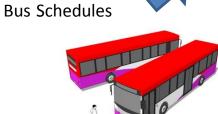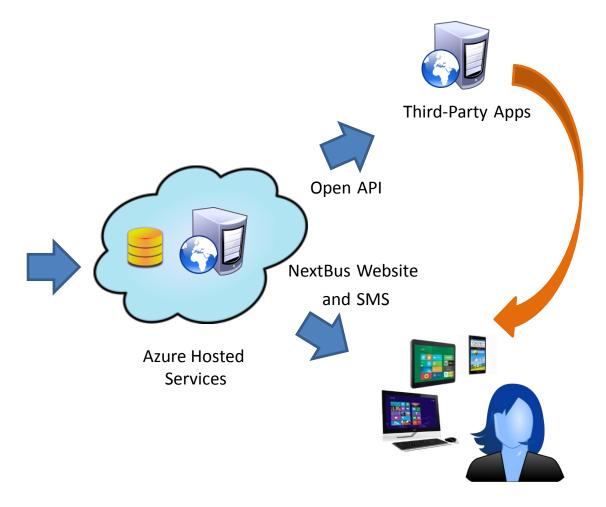
Data Flows and Services

Real Time Traffic Updates

Bus Schedules

GPS Bus Data Feeds
(Real Time)

Data Aggregation and
Distribution Systems

Azure Hosted
Services

Open API

Third-Party Apps

NextBus Website
and SMS

Open APIs

- TransLink currently offers three publicly available Open Application Programming Interfaces (APIs) for developers:

  - ➢ ***Real-Time Transit Information (RTTI)*** - Provides live bus scheduling information as well as bus stops, stations & exchanges, bus routes, and stop estimates

  - ➢ ***Regional Traffic Data System (RTDS***) - Provides near real-time data on average speeds and travel times on highways and major roadways in Metro Vancouver

  - ➢ ***Google Transit Feed Specification (GTFS) real-time*** - GTFS real-time is a feed specification that allows public transportation agencies to provide live updates about their fleet to application developers

- APIs are RESTful and data is returned in XML or JSON formats

- An API access key is required when calling into API

Real-Time Transit Information (RTTI)

- Provides bus network and service operations data:
  - ➢ ***Stops***: Returns data for a specific bus stop or all the bus stops within a given radius and GPS location. Data returned includes the street name, intersection, city, its GPS location, wheelchair accessibility, and the list of routes that the stop services
  - ➢ ***Stop Estimates***: Returns the next bus estimates data for a particular bus stop (*scheduled bus data is returned if time adjustments are not availabl*e).
  - ➢ ***Buses***: Retrieves vehicle information of all or a filtered set of buses for a specified route. Data returned will include the vehicle information, its location, and direction, and pattern .
  - ➢ ***Routes***: Provides sequenced patterns of service for a select route or bus stop. Data returned will include the route name and number, details on applicable route patterns, and their directions.
  - ➢ ***Status***: Gets the bus location and real-time schedule information status.

Regional Traffic Data System (RTDS)

- This API provides services that allow the users to view and query regional traffic flow information. The system generates two types of data:
  - Real-time traffic data in the form of speed profiles; and
  - Travel time by corridor and roadway segment
- The API offers a number of methods to query the available data including map tiles that allow paint the traffic flow information on a map, direction and estimated speed of movement, as well as travel times on specified road sections.
- The coverage of the RTDS includes provincial highways, the Major Road Network (MRN) and selected arterial roads within the Metro Vancouver boundary and also Highway-1 to Chilliwack and Highway-99 to Whistler.

API Management

- We require all API consumers to register with us and obtain their API access key prior to being able to consume the API.
  - ➢ Only basic contact info is required during the sign up (*contact name and email address*)
  - ➢ We also require all API subscribers accept our Terms of Use
- Translink does not provide technical assistance or guidance for any development projects. However, for customers asking questions or reporting issues, we are actively monitoring and interacting with developers through a discussion group dedicated to the TransLink Open API service.
- We actively collect and monitor usage statistics and investigate errors reported by the customers or captured in our logs.
- Basic Stats
  - ➢ RTTI Open API counts 1390 registered active users
  - ➢ Roughly 4M calls to Open API per/day
  - ➢ Requests coming through the Translink NextBus web site generate 1.5M calls a day

Demo

➢ Quick walkthrough of the developer.translink.ca

Useful Resources and Links

- Visit Translink Developer Resources @ developer.translink.ca to register for access or learn more about APIs.

- For a list of apps that developers have already created with Open API, check out our Third-party Mobile Phone Applications: *http://www.translink.ca/en/Schedules-and-Maps/Developer-Resources/Mobile-Phone-Applications.aspx* page.

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