# Edmonton SmartTravel
# User Manual for Android Phone


## Contents

# About SmartTravel

On September 22, 2015, Edmonton City Council approved the 2016-2020 Road Safety Strategy that adopts Vision Zero, the long-term goal of zero fatalities and major injuries resulting from motor vehicle collisions. Considering that human error accounts for over 90% of roadway collisions, to reach Vision Zero the City of Edmonton requires a systemic and innovative approach to improve road user attitudes/behaviours.

Recognizing that most drivers now carry a smartphone, the City of Edmonton Office of Traffic Safety (OTS) and University of Alberta Centre for Smart Transportation (CST) are working together on a technology-based research & development project to create SmartTravel, a traffic safety smartphone application (app). This app will be used as a personal tool to increase drivers' awareness of potential collisions and influence their attitudes/behaviours to reduce collisions and speeding. Different voices, including a child's voice, are used to engage the user's attention. When users enter a school zone, they will hear an alert spoken by a little girl:  "School zone ahead, please slow down." At a new speed limit zone, an adult male voice will alert users, saying "Caution! Change in speed limit." An adult female voice reminds users to be cautious of pedestrians, saying "Watch out for pedestrians. High-risk pedestrian collision location."

The SmartTravel app is designed to run in the background and complies 100% with distracted driving legislation. When not driving, users can review maps of high-collision locations, school zones and speed limits, as well as traffic safety information sent through SmartTravel's push notification system. Push information includes real-time traffic disruptions, reminders of seasonal events (back to school, adverse weather, etc.), enforcement, and education campaigns.

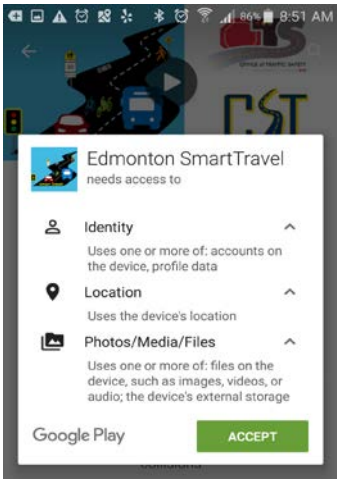
# Installation Manual

This installation manual is created based on the installation process for a Samsung S5 phone. The process could be different for other Android-based phones. To make the app run properly, your phone is required to have Android version 4.4.2 or above. Below are the steps to install the app:

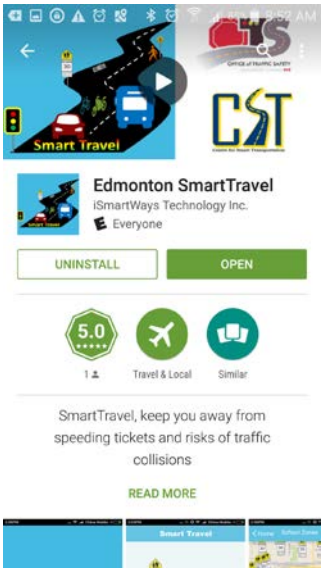
1. Search for Edmonton SmartTravel in the Google Play Store


2. Install the app. To function properly, SmartTravel needs access to your phone's:
    - **Identity:** This identity is about your device identity (also called device token), which is not your phone number; it is a 64 hexadecimal characters, such as *b968fec9ffd5eceb917990fa53fe51626cae2663c0930607d88e4c0516d26fca*. This access allows SmartTravel to send push notification traffic safety related messages to you (see next section to learn more about push notification messages).
    - **Location:** the information about your location will be compared to the location data stored in the database of the app and if it matches, the relevant verbal alert will be activated.
    - **Photos/Media/Files:** this access allows SmartTravel to store and update the data of school zones, speed limits and high-collision locations, which are required to provide verbal alerts.

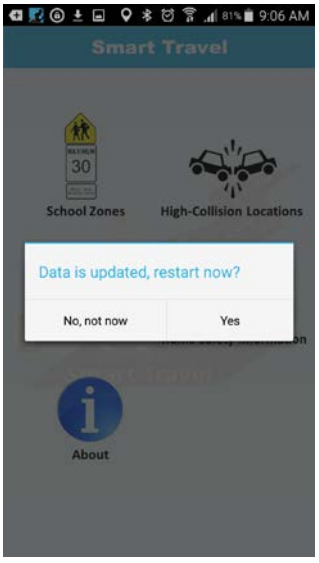
    Click ACCEPT if you agree.



4. After finishing the installation, click OPEN.

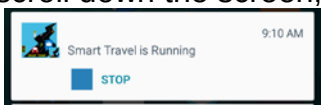



5. When you click Open, the app will run and you will see the image below. After a few seconds a question window to update the app will pop up. Click the Yes button. **Congratulations! The SmartTravel app is now ready to use.**

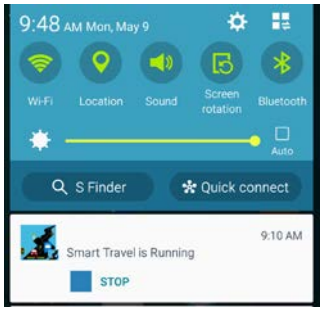




Since the data required to give alerts is stored in your phone, if you can download and install the app in a wireless environment you will not need to have any data plan to make this app provide alerts while you are driving. However, the data plan is required to enable you to receive push notification messages.

6. When the app has been installed, you will see the SmartTravel icon  appear at the top left of your phone screen (see the icon circled in red in the figure below). When you scroll down the screen, you will see as shown in the figure below.



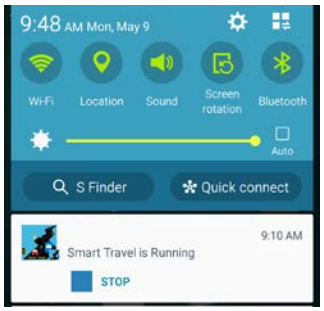





When the user is not driving at a speed of at least 20 km/h, the app will stay quietly in the background, and the GPS location and speed will be checked every 5 minutes to save the battery power. When the app detects a speed of 20 km/h or higher, the alert system will be activated to give alerts when users are approaching school zones, speed-limit changes, or high-collision locations (the GPS location and speed will be checked every second). With its capability to work in the background and automatically activate when the user starts driving, SmartTravel will not require you to take the effort to start this app each time you get into your car.

The app will still be able to give verbal alerts even when users are using other apps at the same time, such as Google Maps that provides verbal travel directions.

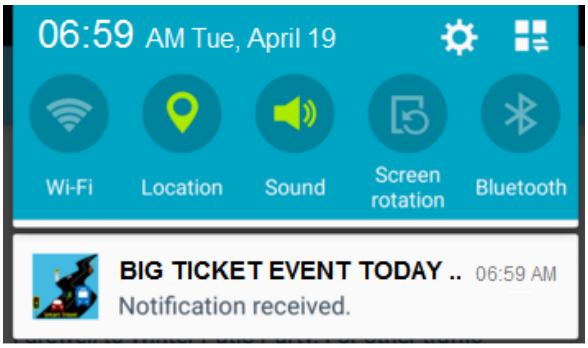
To stop the app, you can click the stop button as shown below. After stopping, the app will stop detecting your location and will not provide alerts. However, you will still be able to receive push notification messages.



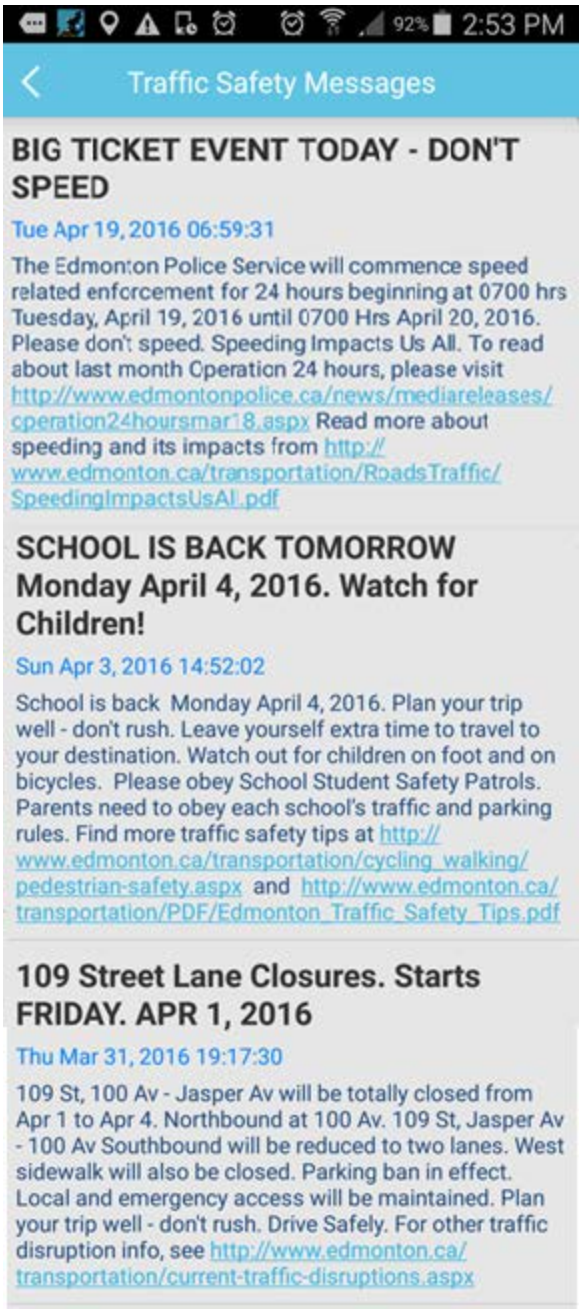

# Push Notification

The SmartTravel app sends important traffic safety related information to the users through its push notification system. Push information includes, but is not limited to, real-time traffic disruptions, reminders of seasonal events (back to school, adverse weather, etc.), enforcement, and education campaigns. Push messages may contain a link to a specific website that will allow the user to dig further into the information; for example: a link to the City of Edmonton traffic disruption map and City of Edmonton website.

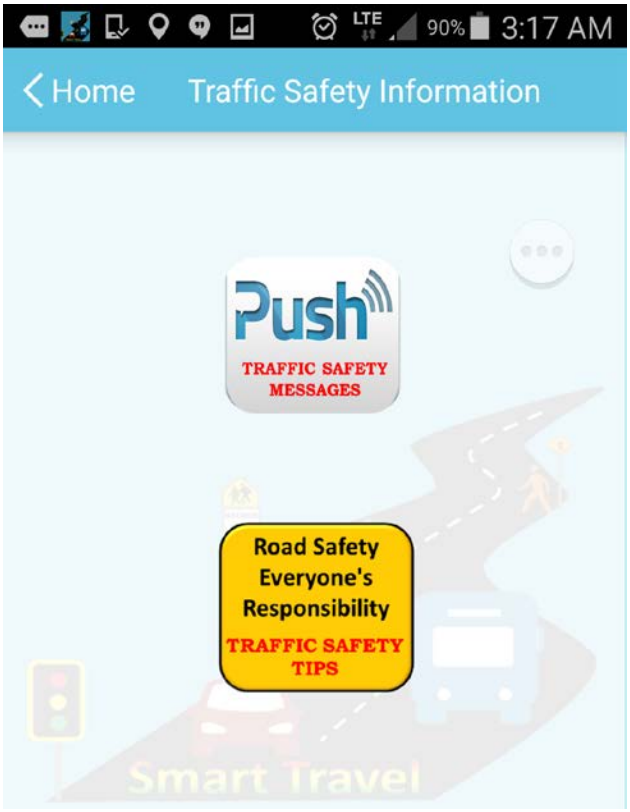
When the app manager (OTS) sends a traffic safety related push notification, SmartTravel's icon and a message appear in the status bar. The short message will appear in your phone as shown in the screenshot below.




You can click this message and it will bring you to the traffic safety message site of SmartTravel, as shown below. This site will show all messages that were sent in the last 7 days to a maximum of 20 messages (i.e., if there were more than 20 messages sent in the last 7 days, only the latest 20 messages will be displayed).




You can also click the Traffic Safety Information icon on the app homepage to see either the push messages or traffic safety tips.

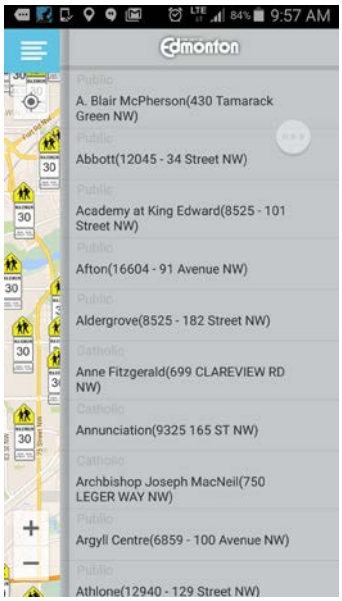


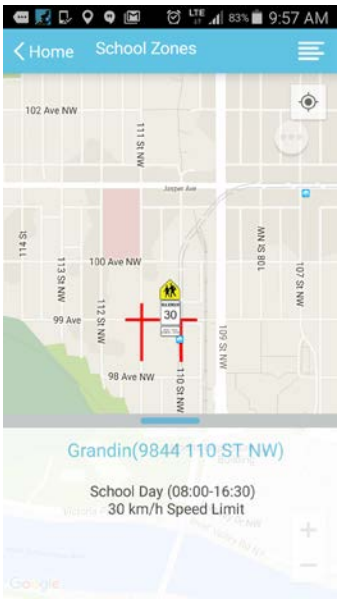

# Maps

When you are not driving, you can browse the app to see maps of school zones, speed limits, and high-collision locations in the City of Edmonton.

## School Zones

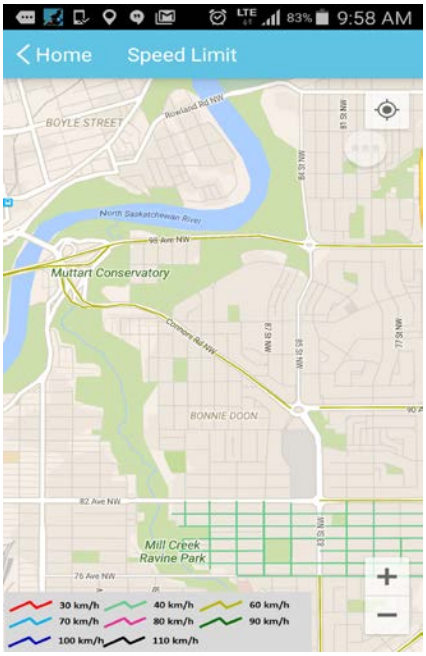
When you click the School Zones icon, the app will show you a map of school zones in the City of Edmonton. To see which road segments are part of a school zone, you can click either the school zone icon in the map or click the list button (at the top right of the app window) and select the school you are interested in. This school zone map is created based on the City of Edmonton Speed Zone Bylaw (Bylaw 6894).

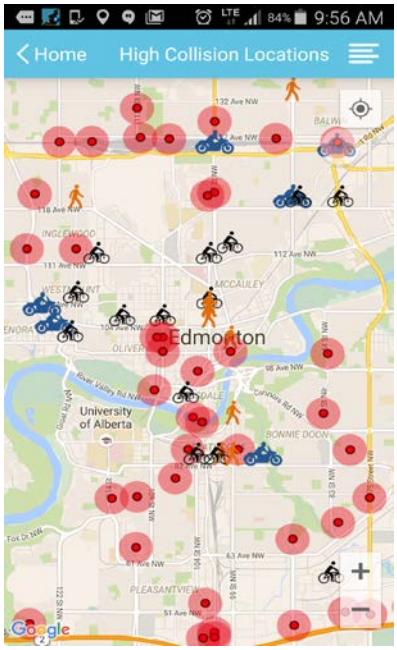

## Speed Limit

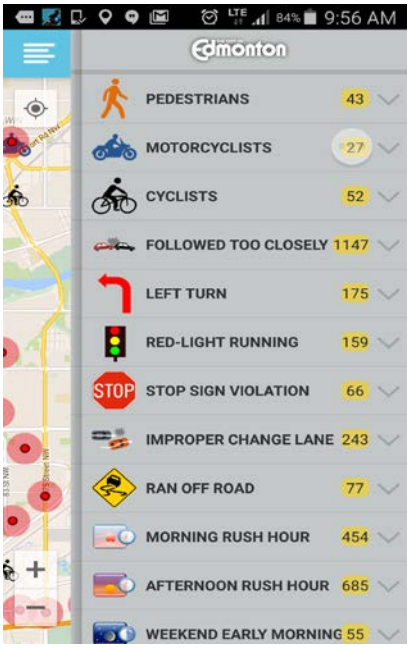
When you click the Speed Limit icon, the app will show you a map of Edmonton's roadways with different colours representing different speed limits. The default colour from Google Maps is used for a speed limit of 50 km/h (this speed limit is not listed in the legend). This speed limit map is created based on the City of Edmonton Speed Zone Bylaw (Bylaw 6894). Verbal alerts about speed limit changes are created based on this data. Temporary speed limits, for example due to special events or construction, will be neither shown in this map nor identified in verbal alerts.



# High-Collision Locations

When you click the High-Collision Locations icon, the app will show you locations on Edmonton's public roadways with high-collisions caused by a variety of reasons and involving various road users, such as:  followed too closely, red-light running, stop sign violations, pedestrians, cyclists, and motorcyclists.




The collision data used in this app is based on aggregated 2013-2014 collision data extracted from the Motor Vehicle Collision Information System (MVCIS), a database of motor vehicle collisions that occur on public roads in the City of Edmonton, maintained by OTS. The information in the database is collected from the provincial Collision Report Form, which is completed by members of the Edmonton Police Service either on paper at the scene of the collision or electronically at the front counter of a divisional or community police station. The database reflects all reported collisions on public roadways that result in property damage of $2,000 or greater, as well as any collision that results in a minor or major injury or fatality.

The collision data used in this app will be updated annually (around May) to reflect the previous two years of data.