

## MobileScapes Frequently Asked Questions - Canada

### Data and Parameters

Questions/Topics	Answers/Descriptions
Which data providers are used?	MobileScapes uses three combined sources of permission based, de-identified mobile movement data. These mobile data are sourced from trusted suppliers who meet data quality and privacy compliance standards.
What time period can I get data for?	Data pulls are available from January 1 <sup>st</sup> , 2018. Data are updated daily.  A single extract will be limited to a maximum of 2 years of data.
Unweighted vs. weighted data	Weighted data will be the default. Weighting is to Household Population 15+. Users will have a setting option to retrieve unweighted data.  Weighting allows you to produce population estimates of visitors to geofenced areas. In addition to total visitors, weighted estimates are also created for visits to produce foot traffic estimates.
Is there any way to discern margin of error with relation to weighted estimates?	Mobile movement data are based on what we refer to as “Big Data”. The concept of a <b>margin of error</b> —that researchers are familiar with in sample surveys—does not apply to this type of data. The frequency of pings and number of devices with location services turned on require weighting and normalization.  EA data scientists have spent several years in R&D to understand the coverage and bias—both spatially and temporally—and they have developed routines using best practices to remove outliers, understand the bias and weight data to general population. It’s not possible to provide a statistical margin of error such as would be associated with a sample survey.  In several real-world tests, our normalized and weighted data provide results closer in line with reality than what resulted from using raw ping data.
Ping observations	We capture a single ping per day, and that ping is the first ping of the day. For example, if we see pings at 10:00 AM and 2:00 PM on the same day, we only count one ping for the day and for daypart purposes it will be attributed to the 9AM – noon daypart.  We take the first ping because we want to display when the device first arrived in the geofence.

	<p>When multiple geofences are aggregated in a single extract, it only captures the first observation in the first geofence visited.</p> <p>Multiple geofences can be viewed independently in a single extract. There is an “Individual” option when selecting multiple geofences.</p>
<b>Are the data privacy compliant?</b>	<p>Yes. EA MobileScapes data is modeled from permission-based data collected by our trusted suppliers, using location-enabled apps. The data are de-identified by our suppliers before it is sent to Environics Analytics. The data are used as inputs to models that normalize and weight to the general population. EA’s expert methodologists address bias and small sample size issues using best practices, external controls, and advanced modelling techniques.</p>

## Geofences

Questions/Topics	Answers/Descriptions
<b>How can I create geofences for my extracts?</b>	<p>Geofences can be hand-drawn on a map in the MobileScapes Data Extract tool or you can also import spatial area polygons (When importing, turn on the <b>Geofence</b> toggle). We have also created an EA Geofence Library, a layer of pre-defined geofences, that can be accessed within the ENVISION MobileScapes Data Extract tool.</p>
<b>Geofence size limitation</b>	<p>The max geofence size limit is 5 million square feet. This limit only applies to your hand-drawn or imported geofences. The limit will not apply to EA geofences.</p> <p>Multiple EA geofences can be selected for a single extract. For user-defined geofences, you are still limited to one geofence per extract.</p>
<b>EA Geofence Library</b>	<p>EA has undertaken a large-scale effort to build a vast layer of polygons for Canadian commercial, institutional and recreational locations. The polygons can be used as geofences for destination-based mobile movement extracts both within ENVISION and for project deliverables. In ENVISION, the library can be accessed using the Geofence Explorer within the MobileScapes Data Extract tool. The geofences are not available for sale outside of the MobileScapes products.</p> <p>EA relied on our industry knowledge, large team of analysts and many relationships with partners to identify and classify locations. All data used to validate our process and to fill in gaps were used with permission.</p>

## Outputs

Questions/Topics	Answers/Descriptions
<p><b>Mobile movement insights delivered with each extract from ENVISION</b></p>	<p>Daily Visits and Unique Visitors will be returned along with the Common Evening Location (CEL), Common Daytime Location (CDL), days, dayparts and months.</p> <p>Daily visits can be represented as an “estimated Household Population 15+” weight. They can be thought of as total foot traffic for the geofence over the time period selected.</p> <p>Unique visitors can also be represented as an “estimated Household Population 15+” weight. They filter out multiple visits to give a true indication of unique population identified within the geofence over the time period selected.</p>
<p><b>International devices</b></p>	<p>International devices will not appear when pulling a Canadian mobile movement extract within ENVISION.</p> <p>International devices are available via custom work outside of ENVISION.</p>
<p><b>Methodology for assigning Common Evening Location (CEL) and Common Daytime Location (CDL)</b></p>	<p>Common Evening Location (CEL) is where a device is most commonly observed between 6PM and 8AM and the Common Daytime Location (CDL) is where a device is most commonly observed between 9AM and 5PM.</p> <p>A common location is defined by a 100m x 100m cell (third decimal latitude and longitude point) which has the highest score over each monthly date range. Monthly updates use the observations of the given month, plus the 15<sup>th</sup> onward of the previous month. For example, the date range for the May 2020 CEL/CDL is April 15, 2020 to May 31, 2020.</p> <p>To establish a monthly CEL or CDL, we look at the number of unique hours a device is seen in a cell multiplied by the number of unique days that the device was observed. For example, if a device was observed each hour between 9am and 5pm over the course of 15 days during the respective monthly date range, then this device would receive a score of (8 unique hours) X (15 unique days) = 120. The minimum score to establish a CEL or CDL is 100.</p>

	CEL and CDL are then assigned to the closest postal code. Lat/long's for the CEL and CDL postal code will be assigned.
<b>Do mobile extracts filter out likely residents or employees observed within a geofence?</b>	<p>Yes. If the ping observation CEL or CDL is within the geofence, that observation will be removed from the extract that is delivered.</p> <ul style="list-style-type: none"> <li>• Removing CEL matches allows us to remove likely residents in a multi-purpose building (where retail and residential exist in the same structure).</li> <li>• Removing CDL matches allows us to remove likely employees of the business being geofenced.</li> </ul>
<b>Why are there records with a weight of 0 in my extract?</b>	Records with weights of 0 represent devices observed in the geofence on a given day that have a low level of observations on that day (low level is defined as a device observed for less than ten 30 minute intervals on the day and is calculated for each day of your query request). We've maintained these records in the extract to allow you to understand the movement of these low-quality devices for any additional ad-hoc analysis you wish to complete.
<b>Why are there records without a postal assignment?</b>	This may be blank due to a device not having a sufficient historical CEL/CDL assignment in the database. These devices were not observed frequently enough within the CEL or CDL assignment window to appropriately assign the device to a location.
<b>How can I calculate weighted visits per weighted visitors?</b>	You can divide weighted visits by weighted visitors per record. Due to the bias within the underlying data, it will have a slight positive bias to it. This is due to visitors who only visited once as they may be undercounted.
<b>Will I receive a notification if the sample size for a MobileScapes extract is low?</b>	<p>Yes, if the number of unique devices for a MobileScapes extract is below 450, you will be notified via an onscreen alert in ENVISION. A total record count below 450 does not meet our minimum recommended sample size for reliable segment profiling. If you receive the alert, please consider increasing the date/time range for the affected geofence(s), or aggregating multiple geofences, to increase the record count; or consider limiting your profiles to the Target Group, Social Group or Lifestage Group level.</p> <p>To discuss the implications of using geofences with low sample sizes, please contact your Environics Analytics account representative.</p>

## Usage Scenarios

Questions/Topics	Answers/Descriptions
Where can the mobile movement extract be found in ENVISION?	Mobile movement extracts are found in the “Customers” section of My Data.
When selecting multiple geofences during an extract process, why choose to aggregate them into a single polygon?	When you aggregate multiple geofences, ENVISION will automatically deduplicate the file so you can analyze true unique visitors. If your use case is to understand the true unique visitors with no overlap or duplication of devices, this is the best option to choose.
When selecting multiple geofences during an extract process, why choose to treat them as individual geofences?	This option allows you to save time from having to run a separate extract for each unique geofence. However, when analyzing these types of extracts, such as creating a profile or running a MobileScapes Trend report, we recommend you use the filter to select a single geofence at a time, and then run your analysis. If you create a profile or run a MobileScapes Trend report using multiple geofences from a single extract, you risk introducing duplication into your results due to possible double counting of devices seen in multiple geofences.
When I select multiple geofences during an extract process, and then select the individual option, can I create a profile or MobileScapes Trend report for the entire extract?	In this scenario we recommend using a filter to select a single geofence for each profile you create, or each MobileScapes Trend report you run. This will prevent double counting of devices that may be seen in multiple geofences. If you create a profile or run a MobileScapes Trend report using multiple geofences from a single extract, you risk introducing duplication into your results.
If I want to understand visitors only for a specific day, daypart or month when running a weighted extract, what is the best way to achieve that?	<p>In this scenario, we recommend selecting the “aggregate geofence” extract option, then selecting the specific day, daypart or month during the extract process.</p> <p>If you wish to understand visits for a specific day, daypart or month, you could run an entire timeframe for an “aggregate geofence” extract, and then when creating a profile of the extract in ENVISION, select the specific day, daypart or month fields for the aggregated geofence. You will get a profile of visits in this case.</p>