

iOS Devices cache the device location on a regular basis.

The trigger for a location record appears to be when a device recognizes a significant change such as a change of visible networks.

Testing has shown that the number of location records created per hour is greater when in motion compared to when static.

Even when static, the environmental changes could be enough change the visible networks and to therefore cause the device to believe that movement occurred, triggering a record creation.

The location appears to also be recorded randomly in order to update Apple's servers with network or traffic information.

Locations could also be recorded as a result of user interaction with the device.

Locations are not recorded consistently however. Whether in motion or static, there is no discernable pattern for when the records are created.

If a record exists, you can be confident that the device was at that location (or at least fairly close to it). Conversely, a lack of a record **does not** mean that the device was not at that location. It just means there is no record to prove it was.

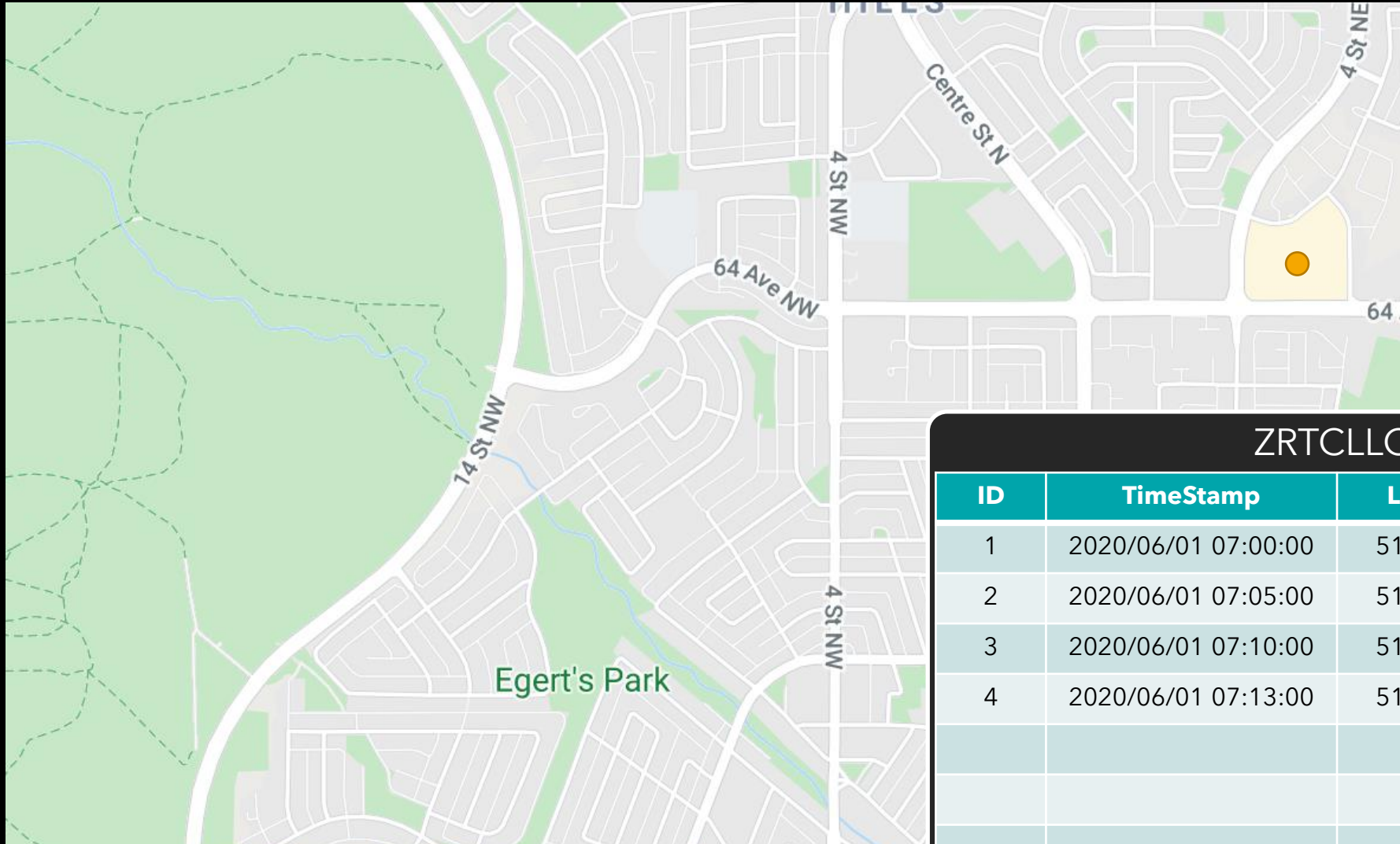
The cached locations are stored in a table called ZRTCLLOCATIONMO found in `~/private/var/Caches/routined/cache.sqlite` or `cloud.sqlite` (aka `Cloud-V2.sqlite`).

Eventually, the cached locations may be upgrade to "Frequent Locations" which are stored in `Local.sqlite` or `Cloud.sqlite`.

Both `Local.sqlite` and `Cloud.sqlite` are both on the same device and contain very similar table layouts and similar data. They are not identical however.

This presentation examines the `cache > frequent location` process.

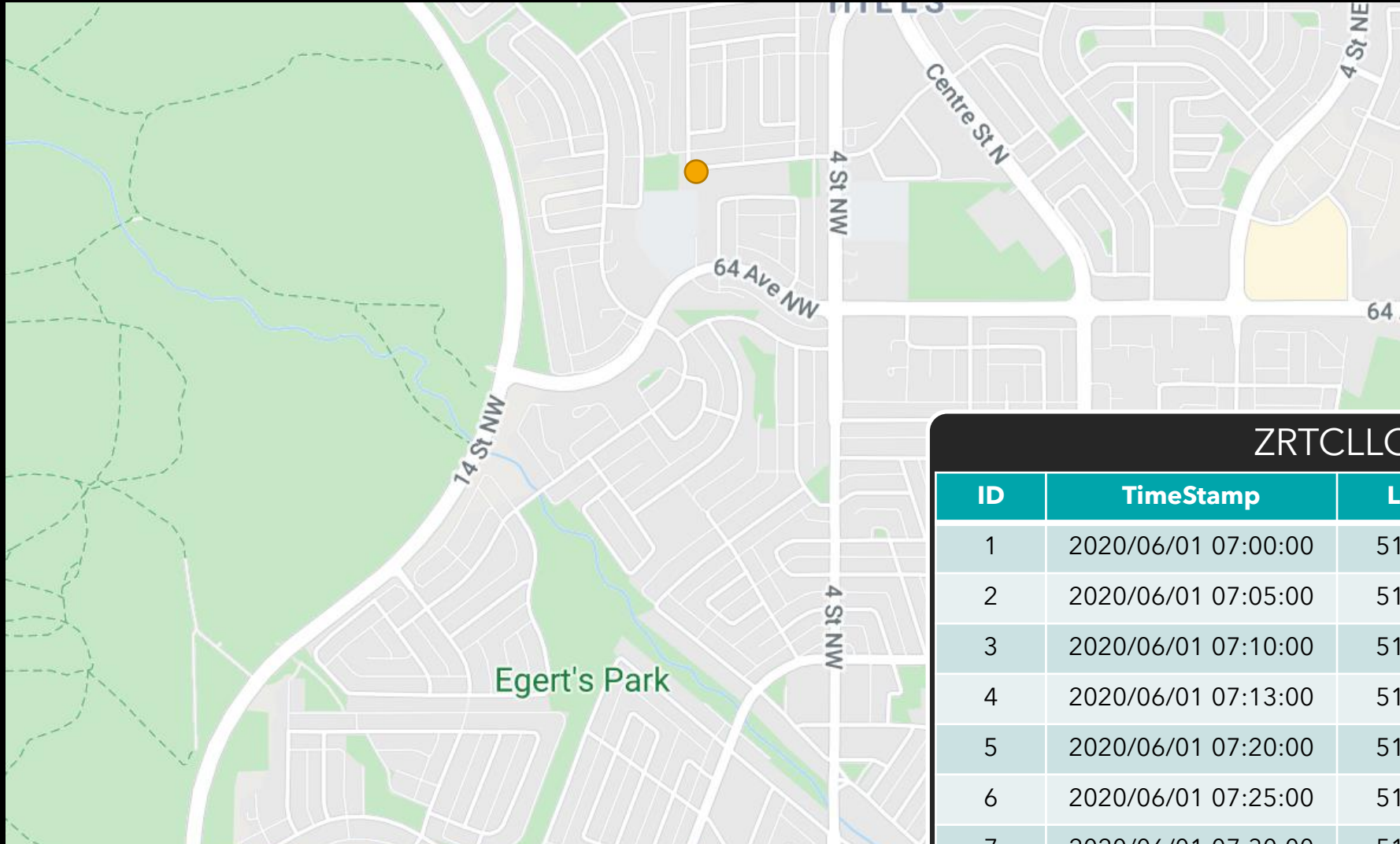
For the purposes of the example, the databases have been simplified and the criteria for a Frequent Location has been eased.



ZRTCLOCATIONMO

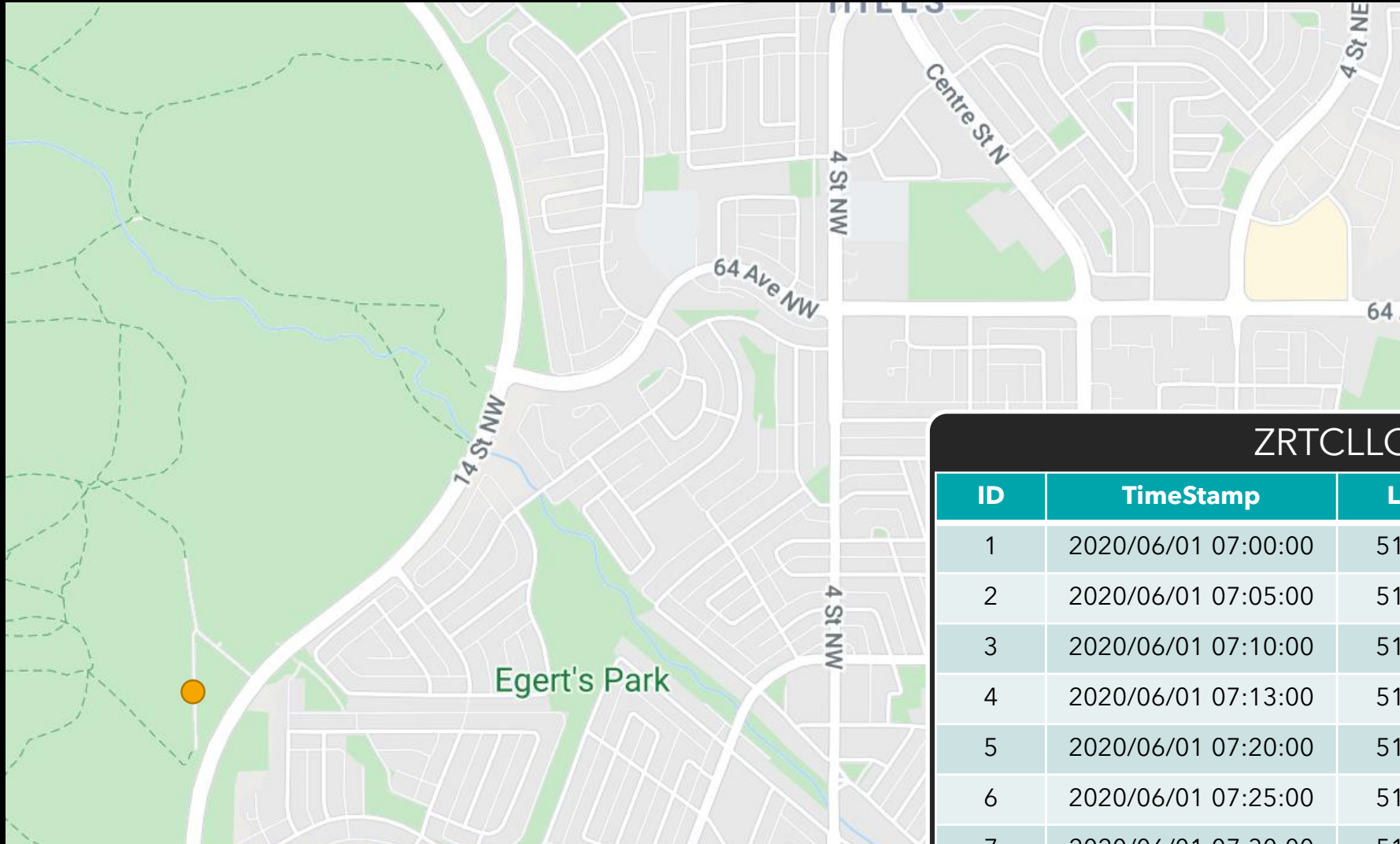
ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

A second record is created in the new location.



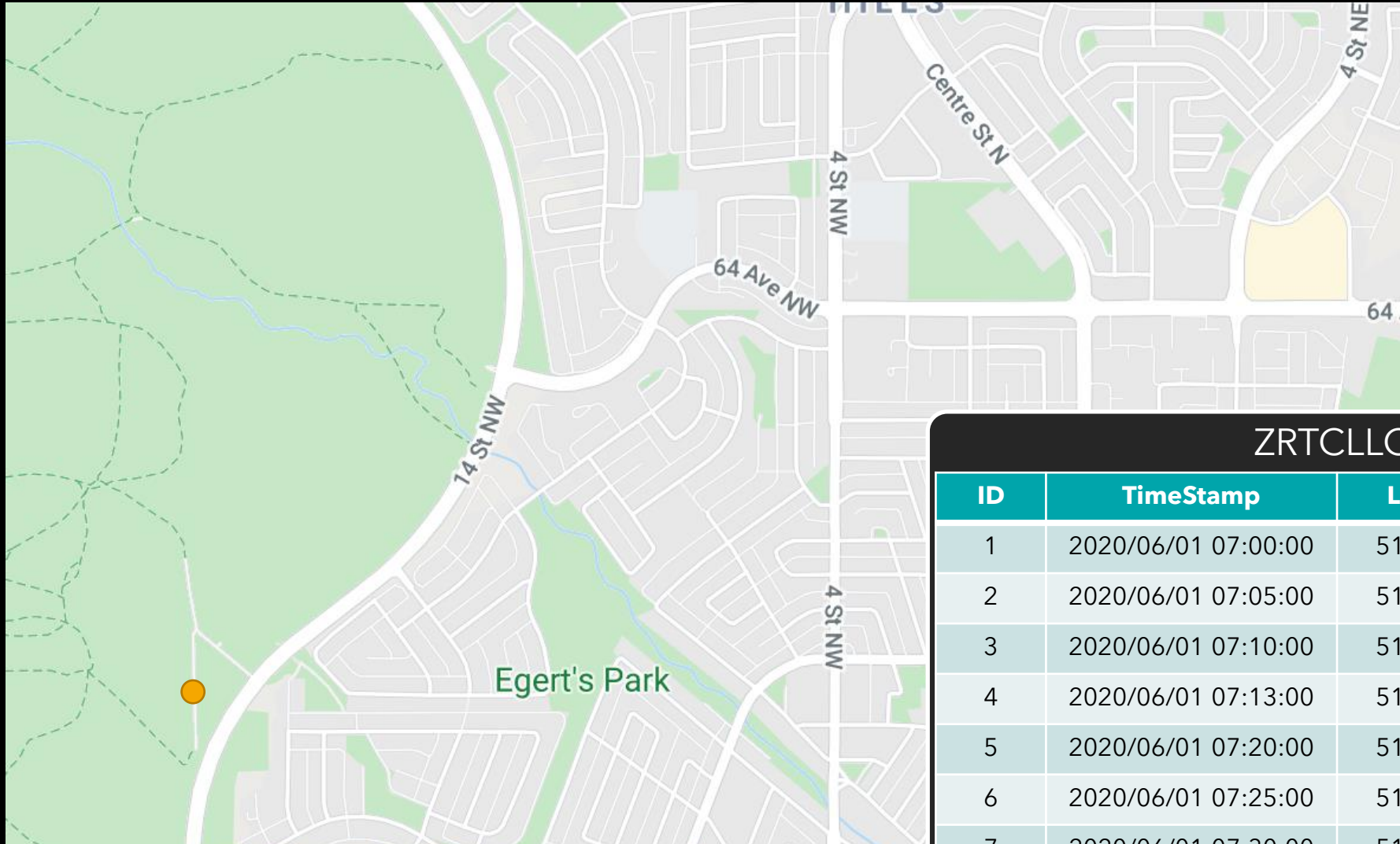
More records are created despite no location change.

ZRTCLOCATIONMO				
ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50



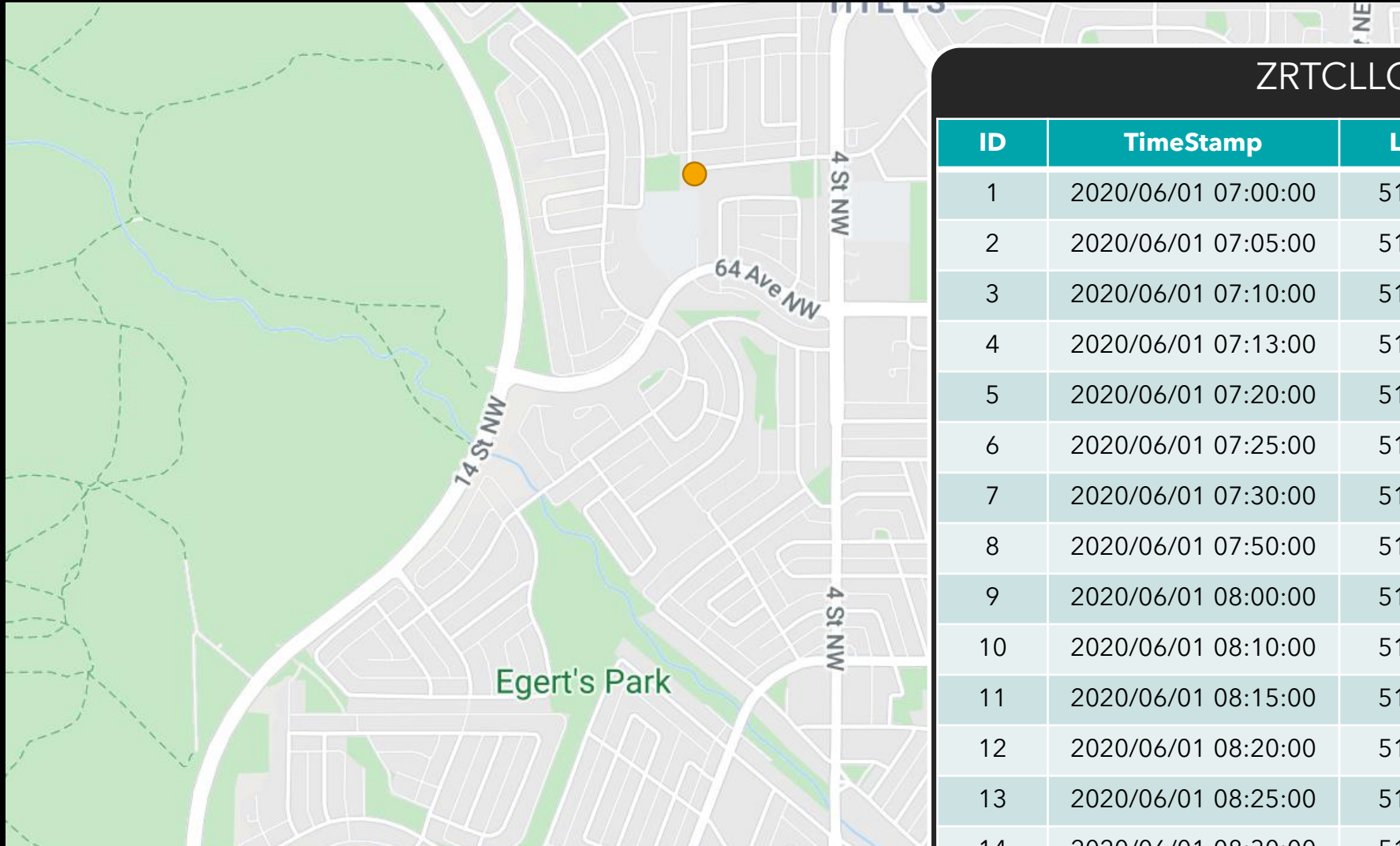
User visits a new location

ZRTCLOCATIONMO				
ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
8	2020/06/01 07:50:00	51.101992	-114.094803	65



And stays there a while

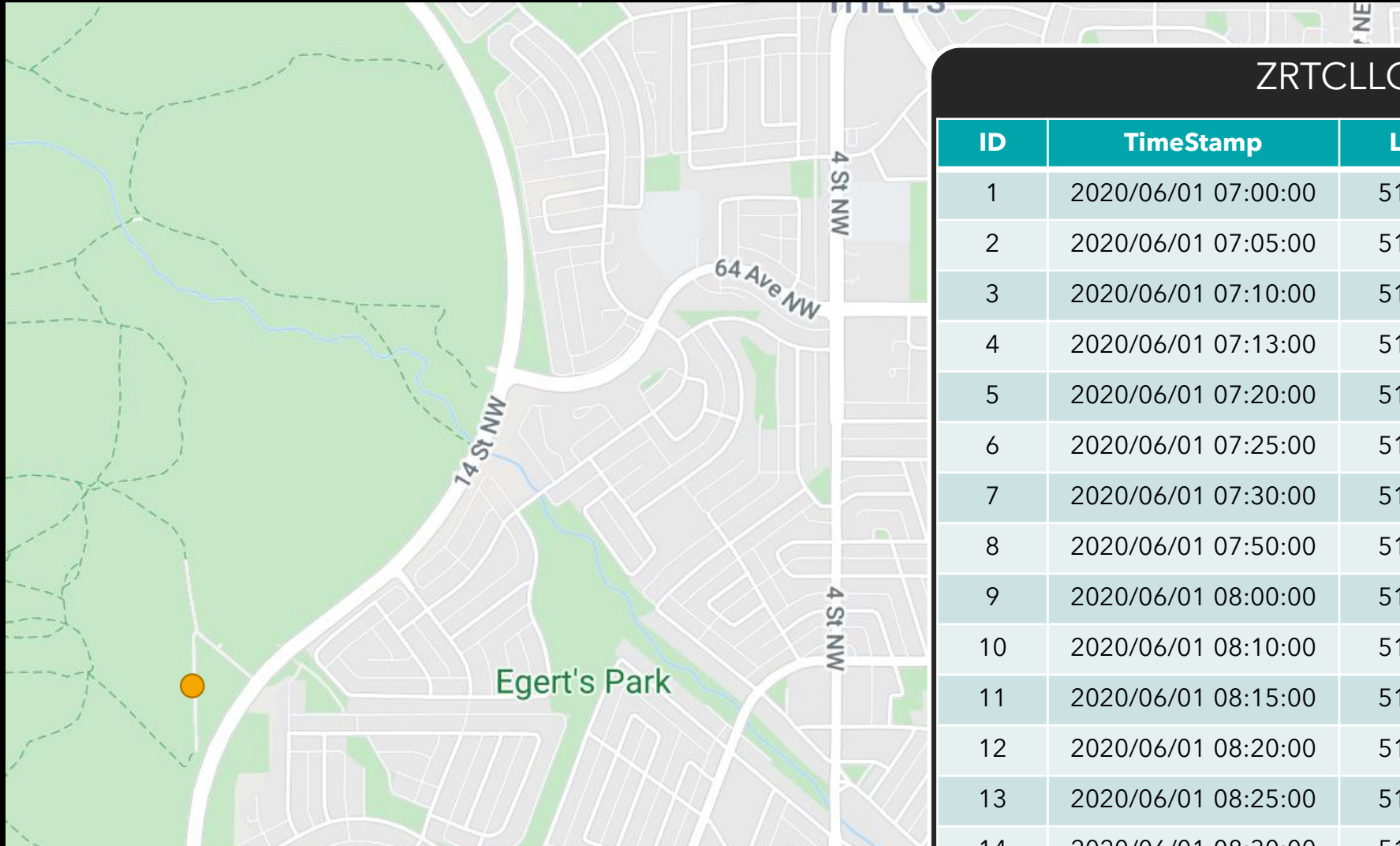
ZRTCLOCATIONMO				
ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30



Before returning home for a while longer.

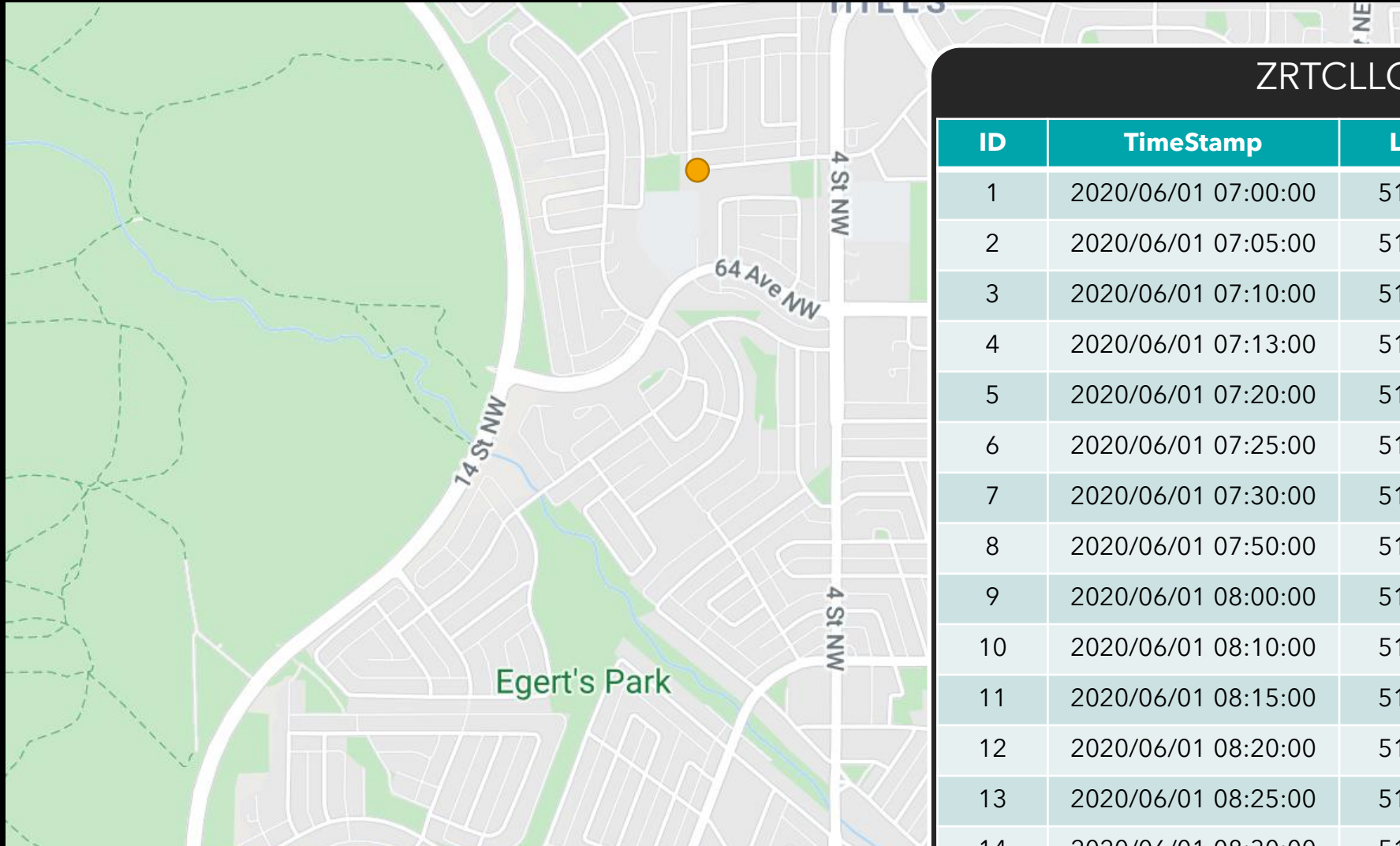
ZRTCLOCATIONMO

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20



But then goes back to the park.

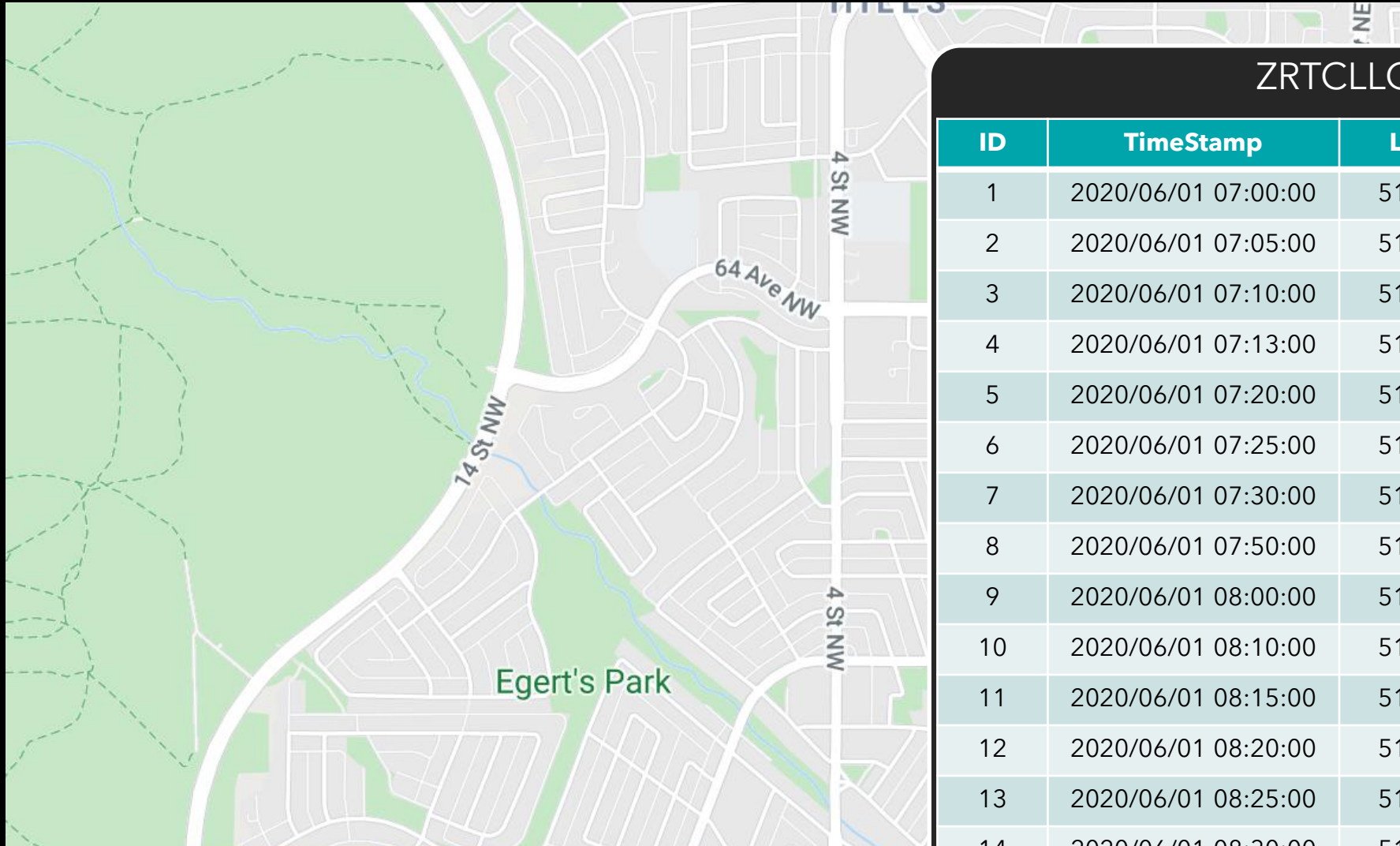
ZRTCLOCATIONMO				
ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50



And finally back home

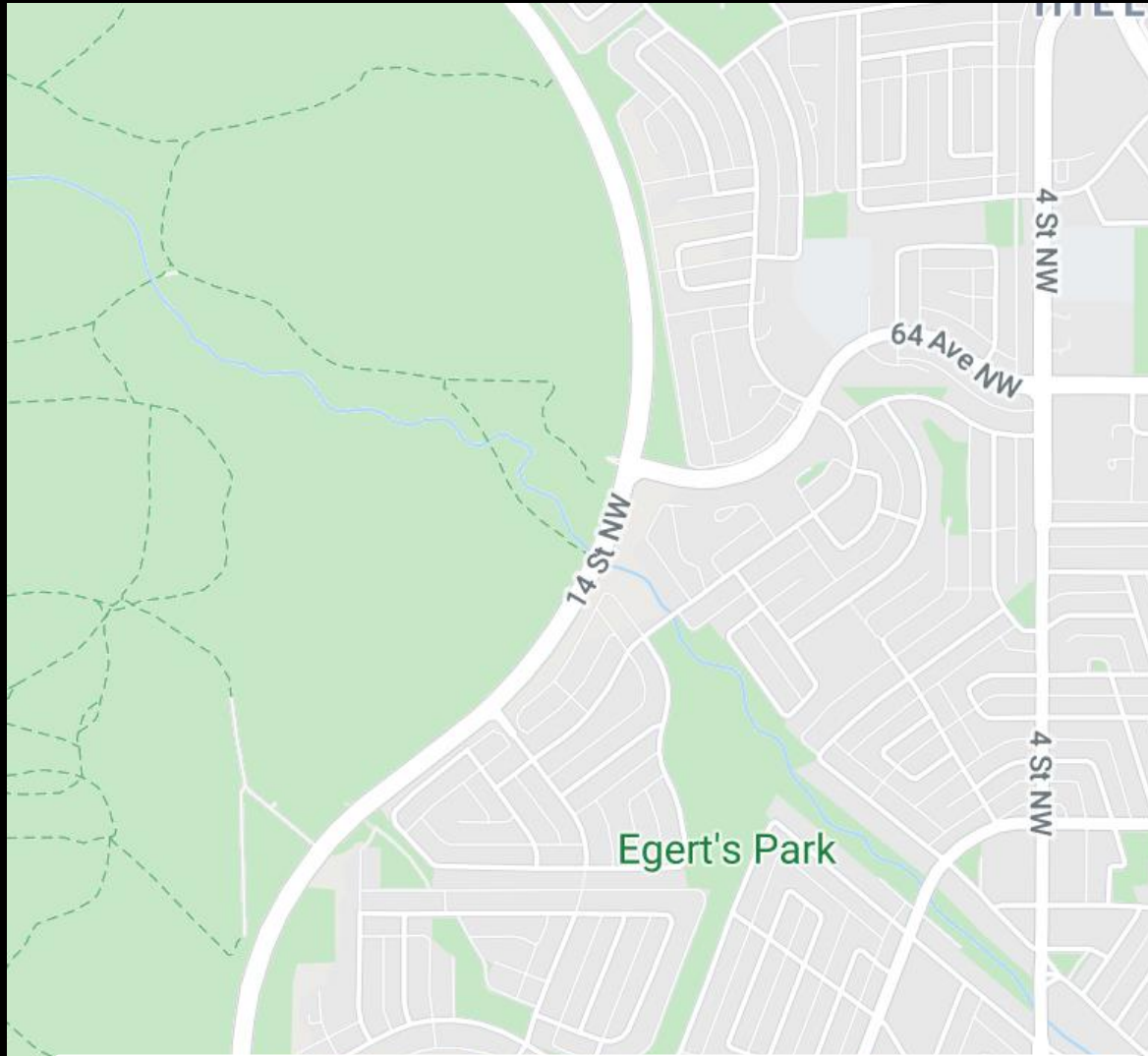
ZRTCLOCATIONMO

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50
17	2020/06/01 09:00:00	51.113791	-114.076669	25



At some point in the next few days, the device will group the records.

ZRTCLOCATIONMO				
ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50
17	2020/06/01 09:00:00	51.113791	-114.076669	25

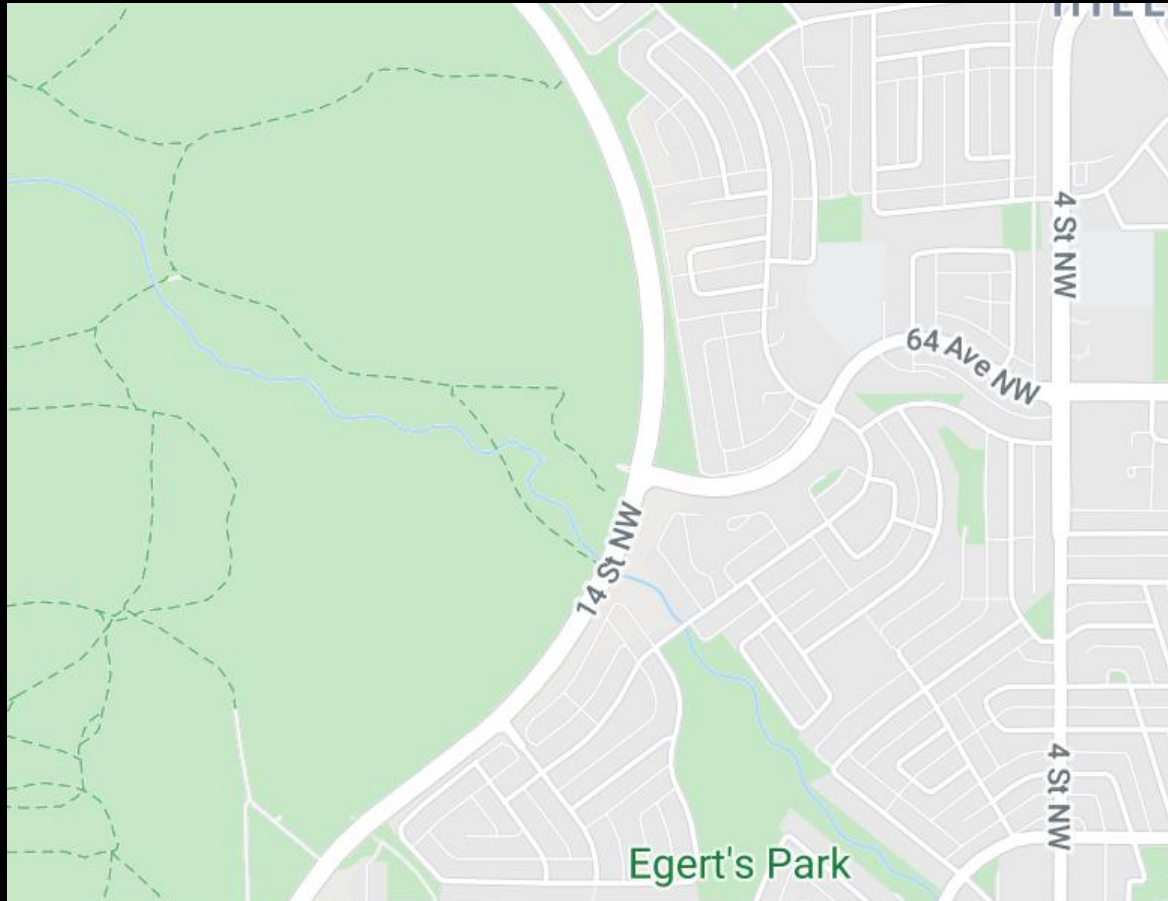


At some point in the next few days, the device will group the records by location.

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50



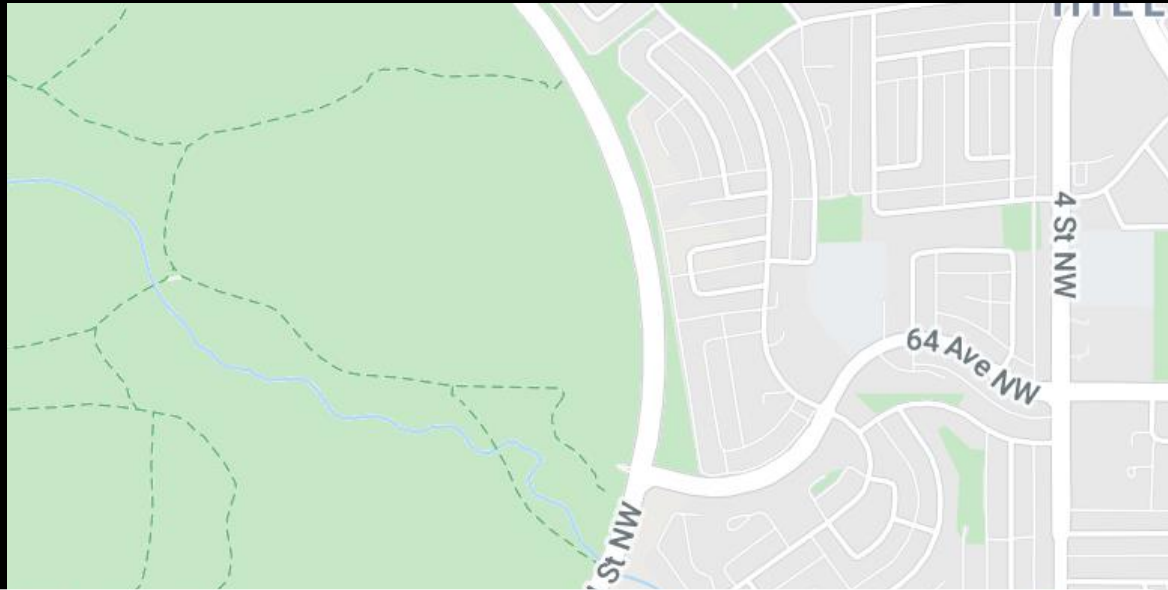
ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

Any groups that meet the threshold stipulated by Apple, will be upgraded to a "Frequent Location".

Those groups that don't meet the threshold remain in the database until it's time to purge (generally 7 days after creation)



ZRTLEARNEDLOCATIONOFINTERESTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

For the sake of the example, let's assume that the threshold is 5 records.

In this case, groups with 5 or more records become "Frequent Locations" and a corresponding location is created in the ZRTLEARNEDLOCATIONOFINTERESTMO table.

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
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ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ZRTLEARNEDLOCATIONOFINTERESTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

The device then goes down the list of cached records and creates "Visit" records in the ZRTLEARNEDLOCATIONOFINTERESTVISITMO table; basically a record of the first and last time a device was in a "Frequent Location".

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705

Points relates to the number of consecutive records in the cache table.

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ZRTLEARNEDLOCATIONOFINTERESTTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

The device then goes down the list and creates "Visit" records in the ZRTLEARNEDLOCATIONOFINTERESTVISITMO table; basically a record of the first and last time a device was in a "Frequent Location".

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONNOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705

This reference relates to the ZRTLEARNEDLOCATIONNOFINTEREST table ID

ZRTLEARNEDLOCATIONNOFINTERESTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

The device then goes down the list and creates "Visit" records in the ZRTLEARNEDLOCATIONNOFINTERESTVISITMO table; basically a record of the first and last time a device was in a "Frequent Location".

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705

The ENTER value is the first timestamp record of the group

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ZRTLEARNEDLOCATIONOFINTERESTTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

The device then goes down the list and creates "Visit" records in the ZRTLEARNEDLOCATIONOFINTERESTVISITMO table; basically a record of the first and last time a device was in a "Frequent Location".

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705

The EXIT value is the last timestamp record of the group

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ZRTLEARNEDLOCATIONOFINTERESTTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

The device then goes down the list and creates "Visit" records in the ZRTLEARNEDLOCATIONOFINTERESTVISITMO table; basically a record of the first and last time a device was in a "Frequent Location".

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ZRTLEARNEDLOCATIONOFINTERESTTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

Records 3 & 4 are ignored because they didn't meet the threshold requirements.

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705
2	3	51.113	-114.076	1	2020/06/01 0720	2020/06/01 0730

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ZRTLARNEDLOCATIONOFINTERESTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

The next group is added.

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705
2	3	51.113	-114.076	1	2020/06/01 0720	2020/06/01 0730
3	4	51.101	-114.094	2	2020/06/01 0750	2020/06/01 0800

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ZRTLEARNEDLOCATIONOFINTERESTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

The next group is added.

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705
2	3	51.113	-114.076	1	2020/06/01 0720	2020/06/01 0730
3	4	51.101	-114.094	2	2020/06/01 0750	2020/06/01 0800
4	4	51.113	-114.076	1	2020/06/01 0815	2020/06/01 0830
5	2	51.101	-114.094	2	2020/06/01 0840	2020/06/01 0845

ZRTLEARNEDLOCATIONOFINTERESTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

The next group is added.

ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705
2	3	51.113	-114.076	1	2020/06/01 0720	2020/06/01 0730
3	4	51.101	-114.094	2	2020/06/01 0750	2020/06/01 0800
4	4	51.113	-114.076	1	2020/06/01 0815	2020/06/01 0830
5	2	51.101	-114.094	2	2020/06/01 0840	2020/06/01 0845
6	1	51.113	-114.076	1	2020/06/01 0900	2020/06/01 09??

ZRTLEARNEDLOCATIONOFINTERESTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

This record would actually only be added if this process was running outside of the location specified.
It will never leave the EXIT field empty, so the exit must have happened. Otherwise it just waits.

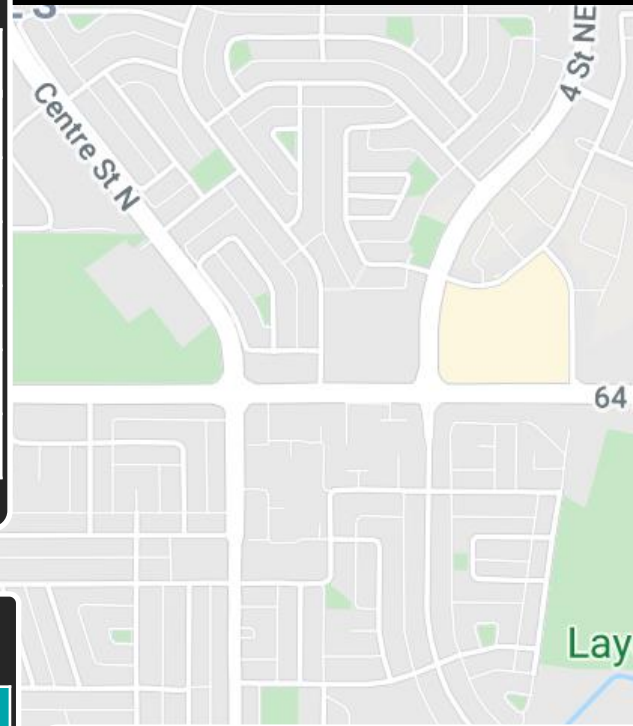
ID	TimeStamp	Latitude	Longitude	Accuracy
1	2020/06/01 07:00:00	51.113791	-114.076669	20
2	2020/06/01 07:05:00	51.113791	-114.076669	20
5	2020/06/01 07:20:00	51.113791	-114.076669	30
6	2020/06/01 07:25:00	51.113791	-114.076669	30
7	2020/06/01 07:30:00	51.113791	-114.076669	50
11	2020/06/01 08:15:00	51.113791	-114.076669	20
12	2020/06/01 08:20:00	51.113791	-114.076669	30
13	2020/06/01 08:25:00	51.113791	-114.076669	15
14	2020/06/01 08:30:00	51.113791	-114.076669	20
17	2020/06/01 09:00:00	51.113791	-114.076669	25

ID	TimeStamp	Latitude	Longitude	Accuracy
3	2020/06/01 07:10:00	51.111565	-114.054771	50
4	2020/06/01 07:13:00	51.111565	-114.054771	20

ID	TimeStamp	Latitude	Longitude	Accuracy
8	2020/06/01 07:50:00	51.101992	-114.094803	65
9	2020/06/01 08:00:00	51.101992	-114.094803	50
10	2020/06/01 08:10:00	51.101992	-114.094803	30
15	2020/06/01 08:40:00	51.101992	-114.094803	65
16	2020/06/01 08:45:00	51.101992	-114.094803	50

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705
2	3	51.113	-114.076	1	2020/06/01 0720	2020/06/01 0730
3	4	51.101	-114.094	2	2020/06/01 0750	2020/06/01 0800
4	4	51.113	-114.076	1	2020/06/01 0815	2020/06/01 0830
5	2	51.101	-114.094	2	2020/06/01 0840	2020/06/01 0845
6	1	51.113	-114.076	1	2020/06/01 0900	2020/06/01 09??



ZRTLEARNEDLOCATIONOFINTERESTTMO

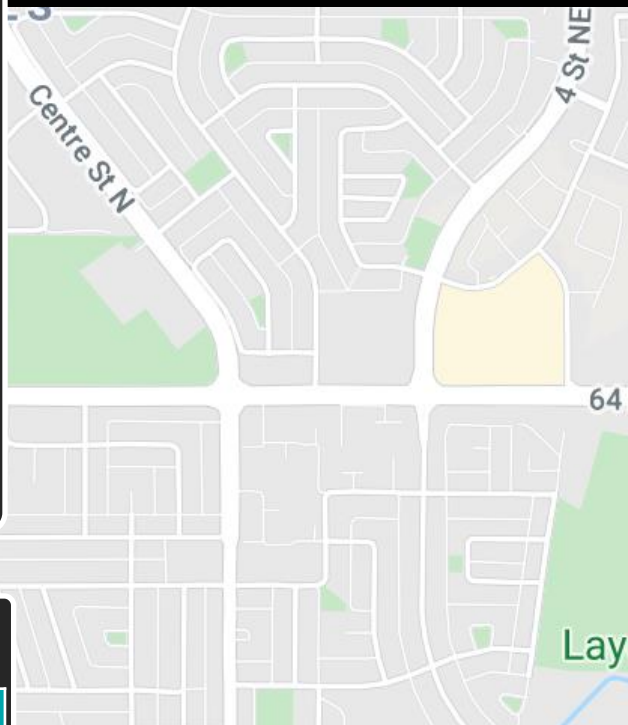
ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

After 7 days, the records are purged from the cache database.
So on the 8th June, the records from the 1st are cleared.

ID	TimeStamp	Latitude	Longitude	Accuracy
400	2020/06/02 06:45:00	51.101992	-114.094803	65
401	2020/06/02 06:56:00	51.101992	-114.094803	50
402	2020/06/02 07:10:00	51.101992	-114.094803	30
403	2020/06/02 07:15:00	51.101992	-114.094803	30
404	2020/06/02 07:20:00	51.101992	-114.094803	45
405	2020/06/02 07:23:00	51.101992	-114.094803	20
406	2020/06/02 07:27:00	51.101992	-114.094803	45
407	2020/06/02 07:34:00	51.101992	-114.094803	10

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705
2	3	51.113	-114.076	1	2020/06/01 0720	2020/06/01 0730
3	4	51.101	-114.094	2	2020/06/01 0750	2020/06/01 0800
4	4	51.113	-114.076	1	2020/06/01 0815	2020/06/01 0830
5	2	51.101	-114.094	2	2020/06/01 0840	2020/06/01 0845
6	1	51.113	-114.076	1	2020/06/01 0900	2020/06/01 09??



ZRTLEARNEDLOCATIONOFINTERESTTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

ID	TimeStamp	Latitude	Longitude	Accuracy
733	2020/06/03 08:10:00	51.101992	-114.094803	65
734	2020/06/03 08:20:00	51.101992	-114.094803	50
735	2020/06/03 08:31:00	51.101992	-114.094803	30
736	2020/06/03 08:36:00	51.101992	-114.094803	30
737	2020/06/03 08:52:00	51.101992	-114.094803	45
738	2020/06/03 08:54:00	51.101992	-114.094803	20
739	2020/06/03 09:08:00	51.101992	-114.094803	45
740	2020/06/03 09:10:00	51.101992	-114.094803	10

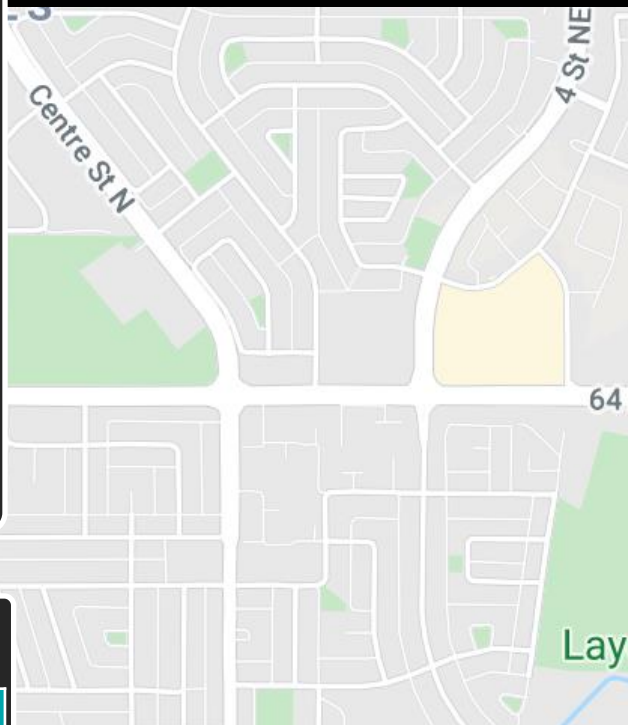
...On the 9th, the records from the 2nd are purged.

And so on.

But the frequent locations remain.

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705
2	3	51.113	-114.076	1	2020/06/01 0720	2020/06/01 0730
3	4	51.101	-114.094	2	2020/06/01 0750	2020/06/01 0800
4	4	51.113	-114.076	1	2020/06/01 0815	2020/06/01 0830
5	2	51.101	-114.094	2	2020/06/01 0840	2020/06/01 0845
6	1	51.113	-114.076	1	2020/06/01 0900	2020/06/01 09??



ZRTLEARNEDLOCATIONOFINTERESTTMO

ID	DataPoints	Latitude	Longitude
1	10	51.113791	-114.076669
2	5	51.101992	-114.094803

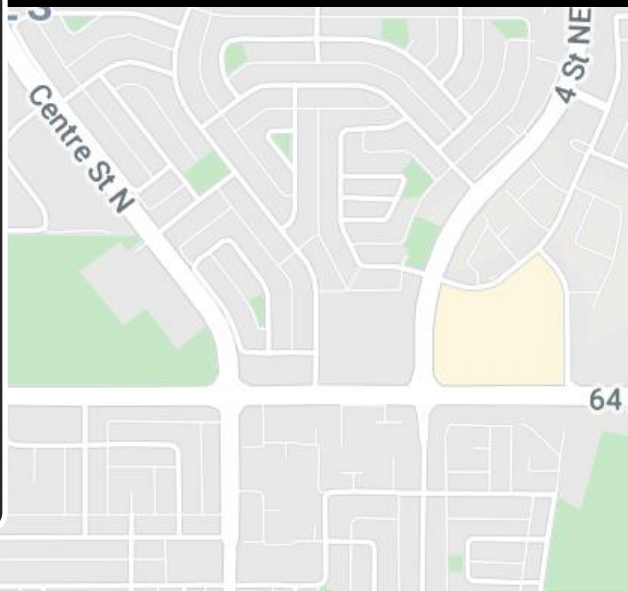
ID	TimeStamp	Latitude	Longitude	Accuracy
733	2020/06/03 08:10:00	51.101992	-114.094803	65
734	2020/06/03 08:20:00	51.101992	-114.094803	50
735	2020/06/03 08:31:00	51.101992	-114.094803	30
736	2020/06/03 08:36:00	51.101992	-114.094803	30
737	2020/06/03 08:52:00	51.101992	-114.094803	45
738	2020/06/03 08:54:00	51.101992	-114.094803	20
739	2020/06/03 09:08:00	51.101992	-114.094803	45
740	2020/06/03 09:10:00	51.101992	-114.094803	10

For a few months anyway.

If the location isn't revisited for around 4 months, the record is purged.

ZRTLEARNEDLOCATIONOFINTERESTVISITMO

ID	Points	Lat	Long	Ref	Enter	Exit
1	2	51.113	-114.076	1	2020/06/01 0700	2020/06/01 0705
2	3	51.113	-114.076	1	2020/06/01 0720	2020/06/01 0730
3	4	51.101	-114.094	2	2020/06/01 0750	2020/06/01 0800
4	4	51.113	-114.076	1	2020/06/01 0815	2020/06/01 0830
5	2	51.101	-114.094	2	2020/06/01 0840	2020/06/01 0845
6	1	51.113	-114.076	1	2020/06/01 0900	2020/06/01 09??



ZRTLEARNEDLOCATIONOFINTERESTMO

ID	DataPoints	Latitude	Longitude	ZPlaceCreationDate	ZPlaceExpirationDate
1	10	51.113791	-114.076669	2020/06/01 07:00:00	2020/10/06 07:00:00
2	5	51.101992	-114.094803	2020/06/01 07:00:00	2020/12/09 06:50:00

Check the ZPLACEEXPIRATIONDATE field in the ZRTLEARNEDLOCATIONOFINTERESTMO table to see when the record will be purged.

This date appears to be updated continuously when the location is revisited.