18 October 2024

File Ref: OIAPR-1274023063-31819

By email: ███████████████

Tēnā koe ██████

Request for information 2024-268

I refer to your request for information dated 14 October 2024, which was received by Greater Wellington Regional Council (Greater Wellington) on the same day. You have requested the following:

"I have been consuming the Metlink GTFS-RT API/data feed and have a few questions that I hope someone can answer:

1. Is there a way to check if new position data is available without pulling all position data again? The Last-Modified/If-Modified-Since and etag headers don't appear to be supported.

2.Are there any soft or hard api limits? I would like to experiment with timely data but do not want to poll too frequently especially if it is not possible to avoid pulling stale data repeatedly.

3. How do rail positions work? Rail sources frequently report precisely the same lat/lon across different timestamps - and update much less frequently than buses.

4. Sometimes a vehicle lat/lon is reported as 0,0. Does this have a special meaning or should it just be ignored?

It would be great to hear answers to these questions and any other guidance/recommendations on using the GTFS RT data."

Greater Wellington's response follows:

1.Is there a way to check if new position data is available without pulling all position data again?

The GTFS-RT feeds are provided as a REST API in JSON and protobuf format, which means that you will need to make a request to the GTFS-RT vehicle positions or trip updates endpoint to receive the latest data. The data is cached for five seconds, so requests should be made up to a maximum of this frequency.

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For the second half of the first part of your request, *The Last-Modified/If-Modified-Since and etag headers don't appear to be supported,* our external development team advises it is looking at the issue to see whether these headers should be added.

2.Are there any soft or hard api limits? I would like to experiment with timely data but do not want to poll too frequently especially if it is not possible to avoid pulling stale data repeatedly.

There is a limit of 10 requests per second, with a burst limit of 20 requests. It should be more than sufficient to request GTFS-RT data every five seconds.

3.How do rail positions work? Rail sources frequently report precisely the same lat/lon across different timestamps - and update much less frequently than buses.

Each vehicle on the network (bus or train) has different update frequencies depending on how they are configured. Update frequencies range from five seconds through to 30 seconds.

4.Sometimes a vehicle lat/lon is reported as 0,0. Does this have a special meaning or should it just be ignored?

This should not normally happen, and if it is spotted it can be raised through to website@metlink.org.nz to investigate the cause of this. It does not have any special meaning - it will just be that the GPS for that vehicle has not fully re-connected to GPS satellites. It is possible this could happen when vehicles go through tunnels, for example.

It would be great to hear answers to these questions and any other guidance/recommendations on using the GTFS RT data."

In general, if you are looking to request GTFS-RT data frequently, we would recommend requesting it in protobuf format (https://gtfs.org/documentation/realtime/proto/), as it has a smaller payload than the JSON version.

I trust you find the information provided helpful.

If you have any concerns with the decision(s) referred to in this letter, you have the right to request an investigation and review by the Ombudsman under section 27(3) of the Local Government Official Information and Meetings Act 1987.

Please note that it is our policy to proactively release our responses to official information requests where appropriate. Our response to your request will be published shortly on Greater Wellington's website with your personal information removed.

Nāku iti noa, nā

Samantha Gain
Kaiwhakahaere Matua Waka-ā-atea | Group Manager Metlink