

26 February 2021

Steve Hall
fyi-request-14594-c97921fe@requests.fyi.org.nz

REF: OIA-7652

Dear Steve

Request made under the Official Information Act 1982

Thank you for your email of 2 February 2021 requesting the following information regarding the Waterview Tunnel, under the Official Information Act 1982 (the Act):

do you have any repeaters or transmitters to provide GPS location inside the tunnel.

If so can you please help with technical description or any documentation on how it works?

The Waterview Tunnel was not designed or provided with a system that a third party (service providers) can use to maintain accurate GPS location whilst transiting through.

While, Waka Kotahi NZ Transport Agency does not have any repeaters or transmitters inside the tunnel, service providers are allowed, with agreement from Waka Kotahi, to install their own signal repeaters in the tunnel, supported by local towers. Three Telco providers (Spark, Vodafone and 2degrees) have done so, improving continuity of their telephone and data services which may then help support GPS through their platform.

Other GPS service providers (such as Google) primarily rely on triangulation through satellites. GPS technology collects data from satellites and other service providers that help label places and locations. The moving devices help share the data with Google to give an accurate status of traffic and location.

As you know, GPS does not penetrate the ground in tunnels. If signals in a tunnel are too weak, the GPS may not function (depending on its quality and features). However, we understand that Google also use other techniques to try and predict location and position (dead reckoning) and fill in gaps.

If you would like to discuss this reply with the Waka Kotahi, please contact Paul Musson, Transport Technology Asset Manager by email to Paul.Musson@asm.nzta.govt.nz.

Yours sincerely



Peter Brown
Acting Senior Manager Maintenance and Operations