WQ.190/2018

**WRITTEN QUESTION TO THE MINISTER FOR ENVIRONMENT
BY DEPUTY M. TADIER OF ST. BRELADE
ANSWER TO BE TABLED ON TUESDAY 9th OCTOBER 2018**

Question

Further to the Minister's answer to Written Question 170/2018 regarding air quality in the Tunnel, which stated that 'people walking or cycling through the Tunnel are safe' –

(a) what evidence does the Minister and the Environmental Health Department have to justify that statement;

(b) what levels of air pollution and exposure would be necessary for the Minister to deem it 'unsafe';

(c) what is the maximum amount of weekly peak-time exposure that the Minister would deem as 'safe';

(d) what action, if any, does the Minister intend to take to assist cyclists and pedestrians to 'minimize the time they spend in the Tunnel', in accordance with the advice given in answer to WQ.170/2018?

Answer

I've answered the question in four parts, as the question was asked:

(a) what evidence does the Minister and the Environmental Health Department have to justify that statement;

In determining if people walking or cycling through the tunnel are safe the environmental health team looked at several factors. The first and perhaps most obvious is the level of NOx (oxides of nitrogen) and particulates in the Tunnel.

The levels used by the EU and others to measure exposure are based on longer exposure times and are specifically designed for community exposure for example living by major roads.

Occupational exposure levels are designed to ensure people working in potentially polluted environments are a better guide to the safety, or otherwise, of people using the Tunnel. Even these are based on pollution levels assuming exposure during a working day.

Environmental Health also take account of international standards. New Zealand and France currently lead the way in Tunnel Air Quality matters, along with the UK.

Taking these factors into account the environmental health team conclude that 'people walking or cycling through the tunnel are safe'.

(b) what levels of air pollution and exposure would be necessary for the Minister to deem it 'unsafe';

For levels of pollution to be deemed unsafe there would have to be very high nitrous oxide levels, very high particulate levels with $PM_{2.5}$ being the predominant particulate pollutant, or a combination of these pollutants. ($PM_{2.5}$ are particulate matter with a diameter less than 2.5 micrometres which is about 3% the diameter of a human hair)

If NOx (oxides of nitrogen) concentrations were to reach 400 ppb (parts per billion) I would be concerned for the possible effects on those suffering from asthma. Even so, this is based on a 15 minute

average, whereas in Jersey a pedestrian takes only around 3 minutes to pass through the tunnel. The highest level of exposure measured in the tunnel was to the cyclist at 268.8 ppb for 1 minute.

I am unable to recommend guidelines for particulates at this moment , due to the lack of international health-based evidence on the risk posed by very brief exposures (seconds to minutes) as apply to users of our tunnel.

(c) what is the maximum amount of weekly peak-time exposure that the Minister would deem as 'safe';

Answering this part of the question is not straightforward. To reach the maximum exposure levels in (b) of 400 ppb for 15 minutes would require someone to be in the tunnel at peak times for over 20 minutes continuously. However, exposure is not linear, so this should not be equated with a maximum peak time exposure. That would vary dependant on other factors such as time between trips through the tunnel. Hong Kong sets a limit of 1000 ppb for 5 minutes as the limiting concentration for NOx in road tunnels with France setting 400 ppb for 15 minutes, Sweden and Belgium 200 ppb for 1 hour and Belgium 500 ppb for less than 20 minutes. PIARC (Permanent International Association of Road Congresses) has proposed a level of 1000 ppb. Maximum exposure levels for particulate pollution are not available for short term exposure.

(d) what action, if any, does the Minister intend to take to assist cyclists and pedestrians to 'minimize the time they spend in the tunnel', in accordance with the advice given in answer to W.Q.170/2018?

In addition to the advice already given, officers are working on real time monitoring. The previously reported trials of NOx detectors on lamp posts have progressed well. The next phase is to trial and calibrate these sensors on vehicles. We hope to use buses. If they work that will lead to rolling out the system to provide a near real time app showing air quality across the island.

I hope this will highlight the need for us to reduce emissions from vehicles.