Feedback on Discussion Document – [redacted]

My main interest is railways, because I worked on UK electrification as a Chartered Engineer after graduating, and further studies. After giving a paper at an IEE conference in London in 1972, I was invited to join NZ, Ministry of Works and Development, as a Principle Consultant, Electrical Engineering.

My main concern now is that Kiwirail is not developing in this country. Sure there is an impressive development of City Rail in Auckland, but there are no plans to extend rail to Auckland Airport, nor plans to get rail to the North Shore. Electrification is being extended to Pukekohe, but no plans to continue to Hamilton. When the existing electrification was nearing completion, I submitted plans to continue the electrification to Auckland, while the workforce still existed. My Roads Board colleagues said, "Rail is old fashioned, roads are the transport of the future!" That thinking still exists today. I planned a rail route around Auckland Harbour in 1986, to Albany via Hobsonville, when cracks were discovered in Auckland Harbour Bridge. I costed it at $2billion, when all the land was not developed. My Roads Board colleagues rubbished it as, "money down the drain!" Because the life of the Harbour Bridge was uncertain, they wanted to build a 4-lane motorway tunnel under the harbour, costing at the time, $100billion "an investment for the future," they said.

My recommendations to the National Infrastructure Commission are all about rail. We need to develop rail in this country to get trucks off our roads.

1. **New Cook Strait ferries must carry rail freight.** If freight has to be taken off rail wagons in Wellington and Picton, and transferred to road trucks, freight will be loaded straight on to trucks at the start of the journey, and not use rail at all. After crossing Cook Strait it will continue all the way to its destination by truck. This happened in UK when Beeching closed all the rural rail lines in UK. Goods from rural areas had to be taken by truck to the nearest main line rail depots, and transferred to rail there. In fact, once the goods were loaded on to trucks, they were taken the whole journey by truck. 2/3rds of the rail network was closed by Beeching. That resulted in over 2/3rds of the rail freight being transferred to the roads, and it has increased ever since. About 90% of all freight in UK now goes by road. 3-lane motorways allowed trucks to use only the two slow lanes, keeping the third lane as a fast lane for cars. Now trucks are allowed to use all three lanes. The last time I was there, I found it most oppressive driving on motorways. The trucks were travelling too close to me all the time.

2 **Rail electrification has to connect Hamilton to Auckland.** At the same time double the track the whole way to allow more passenger trains between Hamilton and Auckland. While the teams are together, continue the electrification south of Pukekohe, and upgrade the track at the same time. Trains should be able to travel at 125 miles per hour, 200km/hr. That speed is easily obtainable with trains on our gauge of 3ft 6ins,1067mm. With that track upgrade, passenger

trains should be able to travel between Hamilton and Auckland in less than one hour. Regular trains in UK now travel at 240km/hr. Speeds of over 400km/hr are envisaged for HS2.

3 **Rail electrification between Wellington and Palmerston North.** There has to be a voltage changeover point, say Levin. Existing 1600V DC Wellington to Levin, and Levin to Palmerston North, 25kV AC to match the rest of the network. I would envisage changing the whole Wellington network to 25kV AC eventually. In the meantime it is possible to obtain locomotives to work off both voltages, with automatic switching inside the locomotives. This happens in UK, in the Southern Region in particular, where there are ground rail tracks carrying 600 Volts DC. Sections of the track in Liverpool are the same. Locomotives there can work off both voltages, automatically.

4. **Get more freight on to rail, all over the country.** Electric trains have no carbon emissions, especially when using hydro power. The CO2 produced by a thermal power station to drive a train is only 6% of the train load, compared with 30% CO2 emissions by road trucks carrying the same loads. We need more freight on to rail, all over the country, and plan electrification in more areas. I suggest Palmerston North to Napier for a start.

5. **Provide more rail passenger services.** There used to be passenger trains between Wellington and Napier, and even Gisborne. I used them often. People can relax on a train, and have refreshments, and work on their computers. Buses are not comfortable for long distances. Auckland in particular need more passenger train services, where they can get to work faster, and more relaxing. E.g. Albany to Britomart in less than 30 minutes, easily achievable with modern trains, e.g. the Aventra.

6. **Connect Auckland North Shore to rail network, and also connect Auckland Airport to rail.** Where airports are connected to rail networks the passenger numbers using trains increases dramatically. I have examples, again from the UK, Liverpool, Manchester, Birmingham, and now Heathrow, London, is connected via Crossrail, the latest new rail project in the UK. Manchester Airport Station had to be increased in size by four after being built, around the year 2000. Liverpool Airport station was designed to carry 100,000 passengers per day. It is now carrying 170,000 passengers per day. There are similar figures for Sidney, Australia. We have to get traffic off our motorways, particularly in Auckland. When I have driven from Hawkes Bay to Auckland, I get stuck in traffic at all times of day, once over the Bombay Hills and it takes over an hour to get to the CBD.

7. **Rebuild the Napier to Gisborne rail line, particularly through Esk Valley.** Over a period of one hour recently I counted over 30 logging trucks. It makes the road dangerous for commuters, and all other traffic. Also reopen the line to Gisborne. If there was a passenger train, I would use it every time. The road is not an easy road to use and there are too many trucks, Reopen the railway and the road will then be safer for everybody.

8. **I have not discussed the South Island, but I would add rail passenger services for Christchuch.** I suggested a rail line to the City Centre, after the earthquake, and also serving the new stadium. My recommendations fell on deaf ears. Plan a rail passenger Station in the city centre near the cathedral. and get rail commuter services serving the suburbs as far as Ashburton and Darfield. and others. including the Airport.

I will be pleased to make a submission to the Infrastructure Committee, or even talk to you directly if possible. This was one of my specialist subjects in the UK, and I designed a train tracking system, to track the positions of all trains on an electrified network, using data transmission over the overhead wires. This has further developed since, with a computer fitted in every electric locomotive, and commuter train. The programme today can do away with the driver altogether.

Yours sincerely,

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