Reference will be made later to the question of the rail ferry.

The access and egress points on the proposed elevated road have all received the greatest attention both from the point of view of anticipated traffic flow and also having due regard as to the practicability of their situation. Thus there will be no attempt to locate a ramp where there is insufficient room. The complete structure will require the minimum of alteration to existing buildings and will not interfere in any way with any subsequent street plan. It will also be possible to build it in stages at any point or points and it admits of future expansion should this ever be desired. In addition, provision has been made to build an additional co-ordinating structure should the traffic in subsequent years so warrant it.

The route taken by the elevated road may be followed easily by referring to the sketch plan, sheet No. 1. It commences at Aotea Quay by connecting directly with the six lane motorway under construction. This connection is shown on sheet No. 2. where it will be noticed that two of the six lanes are led by crossover ramps to the existing Hutt Road thereby leaving four lanes to be continued in the form of the elevated road which is itself four lane. From Aotea Quay it proceeds along Waterloo Quay, Customhouse Quay, Jervois Quay, Wakefield Street, Cambridge & Kent Terraces, around the Basin Reserve, Adelaide Road, Riddiford Street, and Constable Street. At the end of Constable Street it swings slightly to the left in order to avoid the fire station and to be in line with Wellington Road. Access to Wellington Road is by tunnel (four lane). This gives access to Watt's peninsular and the Airport. From the Basin Reserve and by means of an elevated roundabout there is a branch leading out to Aro Street to which there is no direct access at the moment as traffic must divert by either Webb or Able Smith Streets (see plan). The branch ends in Aro Street (but could go further) and there is a tunnel from Norway Street to Glenmore Street so that traffic can get through to the Karori area. I understand that this tunnel has been under consideration for some time. The tunnel is four lane or two two-lane tunnels. Finally there is a connecting link along Taraniki Street which will be useful for the central area. This connecting link has elevated roundabouts at each end in order to avoid conflict between the different streams of traffic.

Reference will now be made at some length to the more detailed working of the elevated road with particular reference to the access and egress ramps upon which the satisfactory working depends. For a number of reasons I would suggest a tentative speed limit of say 40 m.p.h. along the elevated road.

Traffic entering Wellington via the new Hutt Road motorway (sheet No. 2) will desire to go along 1. the elevated road, 2. Aotea Quay, or 3. the Hutt Road. The motorway connects directly with the elevated road and the other connections are possible. There are "up" and "down" ramps between Aotea Quay and the Elevated Road. This permits connection between the Hutt Road and the Elevated Road. Reference to the plan (sheet No. 2) will show how the connections have been arranged. Not shown on the plan are cement silos and various railway lines which must be duly avoided. The Thorndon ramp must be arranged so as to avoid the Johnsonville line and the plan admits this accordingly. It is not to scale. The Elevated Road goes over the N.Z.R. bus garage near the existing ramps. The roof of the garage admits of being lowered.

The correct place for the rail ferry is near the Railway station and as the Elevated Road passes by there will be no addition through traffic at ground level. In any case there is plenty of room for a traffic roundabout at ground level at the Railway Station, if required. South bound traffic can leave the elevated road at ramp E3 which is before the traffic entrance to No. 9 platform at the Railway Station. Thus E3 will be used for the Railway Station, the ferry, and the Thorndon area. In the numbering of the ramps A is for access and E for Egress and the numbers run as follows:- A1 E2 E3 A4 E5 A6 E7 A8 E9 A10 A11 E12 E13 A14 E15 E16 A17 A18 E19 A20 E21 A22 A23 E24 E25 A26 A27 E28. Thus there are fourteen access ramps and fourteen egress ramps. A4 is to take traffic from the Thorndon - Railway Station area North.

E5 is to serve in a similar capacity as E3. A6 is virtually the counterpart of A4 only it is situated in Jervois Quay to much greater advantage as it can collect traffic from the Lambton area as well as the Railway Station. E7 lets off traffic in Jervois Quay but before reaching Cuba Street so that traffic may proceed up Cuba Street and get to the surrounding area. A8 is very suitably placed for taking North bound traffic from Cuba Street and Mercer Street going to either the Railway station or out of the city. E9 is located before the important intersection of Wakefield Street, Cambridge and Kent Terraces, and Oriental Parade thus enabling traffic to get onto Kent Terrace or Oriental Parade. A10 is the access for South bound traffic and will take traffic from Wakefield Street and Oriental Parade. It is situated just past the fire station and will be very useful for the fire brigade. All is the access for North bound traffic coming from Cambridge Terrace and Oriental Parade. E12 lets traffic get to Wakefield Street and Oriental Parade. E13 is for Basin Reserve traffic and is in Kent

PROPOSAL FOR EASING TRAFFIC CONGESTION IN THE CITY OF WELLINGTON.

When the density of traffic becomes too great at an intersection there are two ways of overcoming the problem. The first is to build an overhead ramp so as to separate the two main conflicting streams of traffic, and the other is to provide an alternative route, not too far away. Sometimes, however, traffic flow is greatly assisted by the layout of the intersection. Post Office Square is an example of an unusual layout which assists traffic flow; there is an island of which good use is made by traffic turning right from the Quay, and the traffic lights a little further on enable traffic to get into the main stream. Taraniki and Courtenay Place intersection is another good example. Traffic going down the former street can turn right very easily and also can use the island on the left for entry into Dixon Street.

Wellington has its own special traffic problems and although much information can be obtained from text books it is necessary to investigate the situation very closely because the lay-out is very unusual. Firstly, most of the external traffic comes from the Hutt Valley and secondly traffic proceeding through Wellington itself is largely confined by the harbour on one side and hills on the other. Looking at a map of Wellington it can be readily seen that the major portion divides itself into four great areas (neglecting the Johnsonville - Ngaio part which has access to the main outlets). These areas may be designated as follows:-

1. Karori, Northland, etc.
2. Central or City area from say the Railway station to Buckle Street.
3. Island Bay, etc.
4. Watt's peninsular on which is situated the Airport.

The bulk of Wellington's traffic which is going any appreciable distance may be classified into one of three sorts:-

FIRSTLY traffic travelling purely within the City area, for the most part during business hours.

SECONDLY traffic between the suburbs and City area: that is to say between any of the four abovementioned areas.

THIRDLY traffic which is travelling into and out of Wellington itself (e.g. Hutt Valley, Motorway North, etc.).

Up to the present there have been several schemes put forward and whilst their usefullness is not questioned (except the proposed motorway which has problems of its own) the fact remains that they have not attempted to co-ordinate the whole into one vast system. Doubtless this has been due to several factors not the least being the apparently prohibitive costs which have deterred anyone from looking further into the matter. Investigation shows, however, that the suburban areas are close together and near the City area in various cases.

Having taken many important factors into consideration I would suggest that the best way to overcome the traffic problem is by means of a four lane elevated roadway with suitable access and egress points in the form of ramps. The objects to be achieved are as follows:-

1. Traffic will be enabled to enter and leave the city with ease.
2. Provision will be made for traffic within the central city area to move about without undue hinderance.
3. The four abovementioned areas will be interconnected in a thoroughly satisfactory manner.

The satisfactory working of a motorway or elevated road depends on the ability to get on and off it. It is hardly necessary to add that it must go to the right place, whether directly or indirectly. The proposed motorway through Wellington is a brilliant piece of work both in conception and the engineering point of view. However, as it has several serious disadvantages it would not be amiss to point them out here. It starts from the top of Aotea Quay and runs via a path near Tinakore Road, behind the Terrace, and finally ends at the basin reserve. There are traffic stations every half mile or so. It could of course be extended. Firstly, the unloading of much traffic at the Basin reserve will result in absolute congestion. A little traffic could be handled but the termination of the motorway at the Basin reserve would be most undesirable (as would the termination of an elevated road at that point). SECONDLY it does not take traffic to the centre of the city, nor does it go to the airport. The Karori area should be well served but the others will fare very badly. At present the only street that goes right across the city is Vivian Street (Buckle Street ends at Cuba Street) and it would be impossible for it to cope with the traffic. Even if connections were made with the other cross streets to the traffic stations they could not possibly cope with the traffic. Also the proposed motorway does not connect up the four great areas nor does it assist traffic to get about the central area. Therefore, to a large extent it will not help in getting traffic in and out of Wellington (Hutt Valley, etc.). THIRDLY it will mean shifting hundreds of houses with the subsequent cost and disruption.

FOURTHLY any motorway going <u>through</u> a city will form a barrier between those parts on either side of the motorway. This will seriously affect both commercial and residental areas.

FIFTHLY it will require a lot of valuable land which is urgently required for other uses, if not now then in the future.

Terrace. A14 is the access from the Basin Reserve and Mount Victoria Tunnel for traffic heading North and is situated in Cambridge Terrace. E15 is for traffic from the South wishing to get to the Basin Reserve, Buckle Street, and Cambridge Terrace. It is situated just prior to the elevated roundabout. E16 is for South bound traffic and is situated before the Riddiford Street Adelaide Road intersection so that traffic can proceed along Adelaide Road and get to the shopping area in Riddiford Street. A17 is the access for North bound traffic and collects traffic from Adelaide Road and Riddiford Street. A18 which is in Riddiford Street will be of most use to traffic proceeding to the Airport and Watt's peninsular. E19 permits traffic to get off the elevated road before it turns up Constable Street. It also serves the area in which it is situated. A20 is for North bound traffic coming from the Island Bay area and is situated in Riddiford Street. E21 allows traffic from the Airport to depart in Constable Street.

A22 is an access in Buckle street for getting to Aro Street and the Karori area. A23 is the access in the opposite direction and permits traffic to come from the top of Cuba Street and thence to almost any part of the elevated road. E24 permits traffic to turn into Cuba Street.

E25 is for South bound traffic and is situated before Vivian Street so that use may be made of it. A26 is for North bound traffic and is in Taraniki Street after Vivian Street so that traffic coming out of Vivian Street may use it. A27 is situated in Taraniki Street after Courtenay Place and will take traffic from Courtenay Place heading South and will allow traffic from the Manners and Wakefield Streets area to use it. At first sight it may not appear to be very well placed because in theory traffic from Manners Street would have to make a rather awkard right hand turn. However it must be pointed out that Dixon Street is one way and therefore we can neglect it. Also any traffic from Manners Street wishing to use A27 would find it much easier to turn left at Cuba Street and make two right hand turns to get into Taraniki Street because Manners Street is very congested between Cuba Street and Taraniki Street. Cuba Street below Manners Street is usually clearer than the upper part. Also A27 is reasonably well placed for traffic coming from Mercer Street which can get very congested. E28 is the egress in Taraniki Street for North bound traffic. It is situated before Courtenay Place intersection, which, as mentioned above lends itself to a right hand turn because of the island.

The elevated roundabouts are situated as follows: FIRSTLY at the intersection of Wakefield and Taraniki Streets, SECONDLY at the intersection of Cambridge and Kent Terraces and Buckle Street, and THIRDLY at the intersection of Buckle and Taraniki Streets. Their purpose is to assist the smooth flow of traffic. The first two elevated roundabouts are situated on intersections where there is plenty of space available. However, in order to build the third it may be necessary to shift some buildings at the top of Taraniki Street. For the most part the elevated road follows streets which are quite wide enough to take it; Buckle Street however, may need to be widened slightly, also to allow for ramps A23 and E24, otherwise all other ramps are located at places where there is either sufficient road width available of land is readily to hand without any buildings on it. The elevated road follows roads where the corners are not too sharp. Thus from Wakefield Street into Kent Terrace the corner or turning will be of ample radius so as not to impede the flow of traffic. Also negotiating the Basin Reserve can be managed in a satisfactory manner. To avoid too sharp a turn into Constable Street there is an empty section in the right place.

The elevated road is both necessary and desirable and it will achieve the aims and objects listed above, i.e.:-

1. Traffic will be able to enter and leave the city with ease.
2. Provision will be made for traffic within the central city area to move about without undue hinderance.
3. The four abovementioned areas will be interconnected in a thoroughly satisfactory manner.

The elevated road makes no attempt to remove <u>all</u> traffic congestion in Wellington and therefore it can be stated that some congestion will remain. Certain areas have been deliberately by-passed in order to make provision for an integrated scheme at a later date should this ever be necessary. Thus Lambton Quay, Bowen Street, Molesworth Street and adjacent area have been carefully avoided firstly to make provision for any future integrated scheme which may prove necessary, secondly because they are off the beaten track in relation to the scheme as a whole, and thirdly because the area is very heavily built up with shops and large commercial houses. Any future scheme would probably consist of suitably placed overhead ramps which would separate conflicting streams of traffic. From the point of view of traffic one of the advantages of the elevated road is that it follows roads which are not hilly and therefore there will be no hill climbing.

All parts of the elevated road are four lane, including the tunnels. Each lane is twelve feet in width and there is a raised centre portion similar to that on the Hutt Road. For drainage

purposes the elevated road will slope towards the centre so that there will be no possibility of cars splashing water over the sides: Also it will suit the style of lighting which will consist of lamps set into a somewhat raised curb and shining across the road. By this means the road itself will be lit up and there will be no light shining in motorist's eyes as under the present rather antiquated system. Actually anything other than an elevated road would not lend itself to this system of lighting.

The cost of the elevated road will be quite substantial. Neglecting roundabouts, ramps, and tunnels it will cost roughly £700,000 per mile which is about £3,850,000 for the 5½ miles of elevated road. to this must be added the cost of three roundabouts, twenty-eight ramps and two tunnels. The two questions which arise are:-

1. Can it be afforded?
2. Can Wellington afford to be without it?

Much money has been spent on the Airport which caters for comparatively few people whereas the elevated road would benefit virtually everybody either directly or indirectly. I maintain that the scheme is a good one and also that it alone will cope with the Wellington traffic problem. It can be built in stages and used as it is built. For the most part it follows streets which are wide enought to accommodate it, and it could be extended if the need ever arose.

The all important question of finance must be considered and I would suggest that a public loan be raised and that an Act of parliament be passed the effect of which will be to divert all the taxation on petrol sold in the Hutt Valley - Wellington area to the financing of the elevated. This would, of course, be used to pay off the loan. Considering how much money must be wasted in traffic jams I feel certain that the public would readily respond to the idea of the opportunity to subscribe to a loan towards the payment of the elevated road.

Edward G. Hall.

Motorway

1. No provision for getting to Karori area.
2. Not very good access or egress for Island Bay Area.
3. The portion along Buckle St will cut Wellington into two, but an elevated road would permit vehicular & pedestrian traffic to pass below without delay.
4. Does not drop traffic off in the central portion, except at the edges.

EGHall