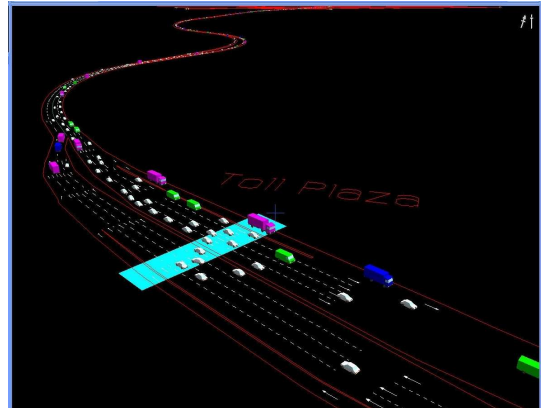
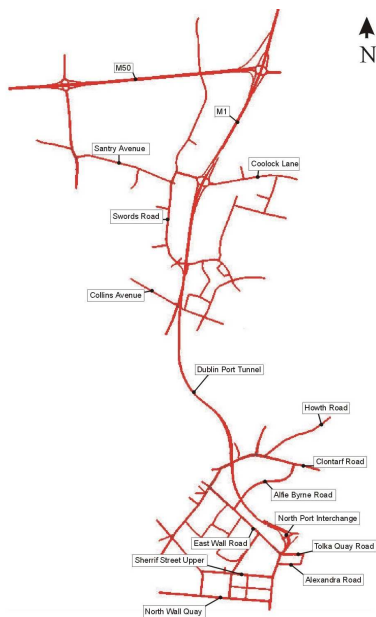


Dublin Port Tunnel - Capacity Assessment



ILTP consulting Transport Planners were commissioned by Hyder, Consulting Engineers to undertake a capacity assessment of the Dublin Port Tunnel (DPT) using the Paramics Microsimulation Model. The brief was " to identify the level of traffic that will maintain an acceptable level of service such that congestion and queuing do not occur in the tunnel"

The purpose of the assessment was to establish a set of performance criteria that could be used to determine the appropriate and desirable maximum capacity (DMC) of traffic flows within the actual tunnel under normal operating conditions. Since the maximum permitted traffic levels and the different vehicle mixes within the tunnel would influence toll revenues, it was important to be able to quantify the numbers of vehicles which would be toll free (HGVs) and those that would pay a toll. The report also dealt with the assessment of the tunnel environs, the Toll Plaza and the wider road network implications. In addition, two external incidents were also considered, the full closure of East Wall Road and the full closure of Promenade Road (North Port Access)

The Paramics model was ideally suited to assessing complex and varying traffic conditions and road layouts. This enabled the DMC within the tunnel to be established, by taking into consideration the vehicle composition, the physical characteristics of the tunnel and the traffic management measures to be implemented. It was also used to model the proposed toll plaza layout, the North Port Tunnel Interchange, the East Wall Road scheme and the environs around the north portals of the DPT.

On analysing the data it was established that relatively high traffic flows could be accommodated within the tunnel, thus ensuring maximisation of toll revenues. Nevertheless, careful monitoring is essential in ensuring that the maximum operational capacity is never exceeded. It was also identified that the northern end of the DPT road network can with proper management, adequately accommodate the traffic flows. However, at the Southern end significant modifications would be required to accommodate the predicted traffic flows. Any incident on the road network to the south of the DPT would result in very severe congestion, leading to queues forming very quickly back into the tunnel. Therefore, minor modifications or modest reductions on the Desirable Maximum Capacity levels permitted within the tunnel are not sufficient to address many of the problems highlighted in the report