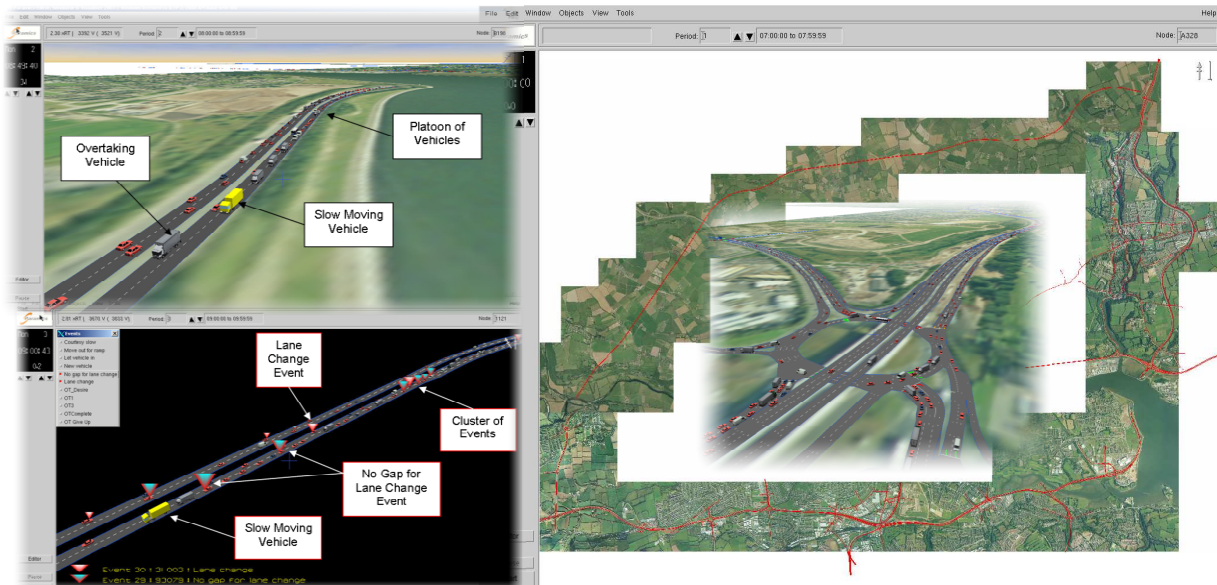


N25 Cork South Ring Road - Analysis of Slow Moving Vehicles



ILTP were commissioned by the National Roads Authority and the Cork National Roads Design Office to undertake an assessment of the traffic impacts and safety impacts that Slow Moving Vehicles (SMVs) can have on the N25 Cork South Ring Road (SRR). The N25 SRR S-Paramics microsimulation traffic model developed by ILTP was utilised to assess the journey time and vehicle speed impacts of the SMVs on the N25 Cork SRR. The S-Paramics model was also utilised to assess the safety impacts of the introduction of SMVs on the SRR. S-Paramics has the ability to quantify certain modelling events that can act as safety indicators with regards to the increase in propensity to overtake the SMV.

2 number SMVs were released onto the SRR S-Paramics model road network over the course of the 3 hour AM and PM peak periods in eastbound and westbound directions. The SMVs were seen to cause delays to vehicles behind them, creating platoons of vehicles. Vehicles in the platoon behind the SMV were seen to overtake the SMV, which can conflict with vehicles already in the overtaking lane.

Increases in journey times and reductions in vehicle speeds were observed due to the introduction of the SMVs on the SRR road network. The S-Paramics analysis showed that the slower the SMV travelling on the SRR the greater the impact on journey times and vehicles speeds. It was noted that at congested parts of the N25 SRR, such as northbound through the Jack Lynch Tunnel the impact of the SMV is negligible as the queued traffic is generally travelling at speeds similar or lower than the top speed of the SMV.

The S-Paramics analysis of overtaking resulting from the introduction of the SMVs to the N25 SRR indicated that the introduction of just 2 SMVs had a disproportionate impact on the number of overtaking manoeuvres being undertaken on the entire road network.

ILTP undertook an accident investigation study on the Cork SRR to identify causal factors that may have been linked to the presence of Slow Moving Vehicles on the N25 road network.

ILTP undertook a case study of the impact of SMVs southbound through the Jack Lynch Tunnel, as the impact is negligible northbound at peak times due to the congestion. Upon entering the Jack Lynch Tunnel vehicles are prohibited from changing lanes, as a result the impact of delays on the platoon of vehicles behind the SMV is increased. Coupled with this HGV deceleration on the steep incline exiting the tunnel southbound increases the impact of SMVs on the platoon of traffic behind it.

The assessment showed that SMVs can impact on the traffic using the tunnel for 15 minute following the SMV, due to the shockwave of vehicles slowing down behind the SMV.