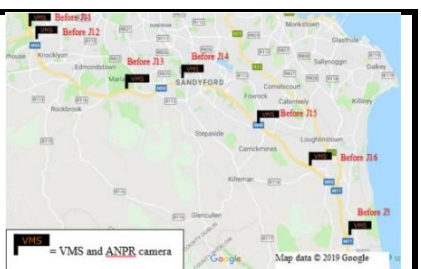


# PROJECT PROFILE

<b>Title</b>	<b>Dealing with Latency Effects in Travel Time Prediction on Motorways</b>
<b>Contractor</b>	David Laoide-Kemp (TII) and Margaret O'Mahony (TCD)
<b>Contact details</b>	david.laoide-kemp@tii.ie and margaret.omahony@tcd.ie
<b>NRA Mentor</b>	David Laoide-Kemp
<b>Start date</b>	9th April 2020
<b>End date</b>	3rd July 2020
<b>Status</b>	Complete
<b>Type of project</b>	TII Research Project
<b>Cost</b>	N/a
<b>Project reference</b>	Published Paper based on MSc Thesis

<p><b>Description</b></p>	<p>Real-time traffic information is now a crucial part of operating a road network. The quality, accuracy and reliability of such information is critical to the road operators and users. Real-time travel time prediction methods using Automatic Number Plate Recognition cameras or Bluetooth/Wi-Fi readers that use matching algorithms to generate travel times in real-time can be vulnerable to an inherent latency issue. Measured travel times are based on vehicles that have already completed the journey and may not be representative for users about to commence that same journey. Full details at: <a href="https://www.sciencedirect.com/science/article/pii/S2666691X20300105#!">https://www.sciencedirect.com/science/article/pii/S2666691X20300105#!</a></p>	 <p>Locations of VMS along test route.</p>
<p><b>Objectives</b></p>	<p>The aim of this research was to identify the latency in travel time prediction, quantify its effect, and develop a model to remove it. Datasets for the M50 motorway in Dublin, Ireland, were used to conduct the analysis.</p>	
<p><b>Benefits</b></p>	<p>The ability to predict more accurate travel times in real-time is a benefit to both the road user and road operator, as it provides more information as to how the road network is performing, and thus the ability to discern greater efficiencies.</p>	
<p><b>Outputs</b></p>	<p>The results show that real-time travel times can be more accurately predicted when combined with historical travel time information. The approach was found to be valid and achievable and the developed tool can predict and inform both road operators and users during regular periods of congestion. The project also identified other data sources, such as real-time Automated Incident Detection (AID) loop data, incident and weather data, that can further enhance the predicted travel time calculation.</p>	