### PROJECT SUBMISSION DETAILS:

<table>
<thead>
<tr>
<th>External Organisation Name:</th>
<th>Priority One (Tauranga)</th>
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<tbody>
<tr>
<td>Supervisor/s:</td>
<td>Shane Stuart (Priority One), Jessica Turner (UoW) and Chanelle Gavin (UoW)</td>
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<tr>
<td>Field:</td>
<td>Engineering - Process, Civil, Software</td>
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<td>Project Title:</td>
<td>Exploring Traffic Congestion in the Bay of Plenty</td>
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<td>Project Aim:</td>
<td>The aim of this research project is to investigate traffic congestion in the Bay of Plenty area.</td>
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<td>Project Location:</td>
<td>Tauranga</td>
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<td>Outputs/Use of Data:</td>
<td>UoW may use any data collected for teaching, publication etc.</td>
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<td>Funding:</td>
<td>Priority One will provide Match Funding - $3,000</td>
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### EXPECTED OUTCOMES:

1. Identification of gaps in existing data.
2. A review of existing traffic flow modelling software, and existing interactive systems.
3. A model which can be used to predict traffic flow.
4. Visualisation of the traffic flow model data.
5. A prototype for a potential

### STUDENT TASKS:

1. A comprehensive review of existing literature and solutions currently in use.
2. Analysing the existing data.
3. Finding gaps in the existing data.
4. Modelling the data to allow for traffic prediction.
5. Using the data and model for visualisation.
6. Prototyping an interactive system to use the data to assist commuters.

### REQUIRED SKILLS:

1. Experience in data collection, analysis and visualisation.
2. Understanding of modelling through software such as Unisim/Superpro/ARCGIS/Matlab.
3. A general understanding of interactive systems.
4. Willingness to work as part of an interdisciplinary team.
5. Must be independent and adaptable.
PROJECT ABSTRACT:

Traffic congestion in the Bay of Plenty area is a well-known issue for commuters. Data from Priority One has identified that traffic flows have increased by 5.7% in Tauranga alone for the year between September 2017-2018. This is partially matched with a collective increase in both personal and commercial vehicle registrations in the area of approximately 5%. Traffic congestion adds to the financial and environmental cost of commuting with increased fuel consumption leading to increased air pollution.

This project is part of a 'city studio' type initiative that the University is piloting with Priority One in Tauranga, providing project based and work integrated learning opportunities through regional challenges. The initiative will commence with an initial investigation to quantify the congestion and to reduce traffic flow without a costly infrastructure investment in Tauranga occurrences of ENGEN170 and COMPX375. This project would be a continuation of this work and aims to analyse existing data to determine gaps in the data collection process and then use this data to model traffic flow. This model will then be used to visualise the data and for predicting traffic flows, in addition to informing an interactive system which will be used to help commuters plan their everyday trips.