



**Railway Planning and Operations Program 2023**  
**Three-day course 7<sup>th</sup> 9<sup>th</sup> & 10<sup>th</sup> November 2023, 09:00 – 17:00**

<b>Day 1 – Tuesday 7<sup>th</sup> November: 09:00 – 17:00</b>	
<i>From 8.30 am</i>	Registration
Lectures	<ul style="list-style-type: none"> <li>— Management &amp; business planning Objectives, efficiency, market positioning;</li> <li>— Macro-economics Underlying economic drivers, cyclical issues, externalities: road v rail, operational factors driving profitability;</li> <li>— Micro-economics Generalised cost, value of time saved, elasticities, fares policy implications.</li> </ul>
<i>Classwork</i>	<i>OVERVIEW OF ASSIGNMENTS (Professor <a href="#">John Nelson</a>, Chair in Public Transport)</i> <i>GENERALISED COST EXERCISE</i>
<b>Day 2 – Thursday 9<sup>th</sup> November: 09:00 – 17:00</b>	
Lectures	<ul style="list-style-type: none"> <li>— Railway Structure &amp; Ownership; Railway privatization, fragmentation, franchising, funding, failure of Railtrack;</li> <li>— Rail freight Understanding trends, cost structures, and different types of operation;</li> <li>— Safety &amp; Signalling Historical development through to automatic systems, accident analysis, risk management.</li> </ul>
<i>Classwork</i>	<i>GENERALISED COST EXERCISE</i>
<b>Day 3 – Friday 10<sup>th</sup> November: 09:00 – 17:00</b>	
Lectures	<ul style="list-style-type: none"> <li>— Infrastructure design line capacity, train graphs, impact of different numbers of tracks, junction &amp; station layouts, Case study;</li> <li>— Timetabling &amp; rostering Appropriate frequencies, conflicting requirements, practical applications, regularity &amp; basic interval timetabling, inter-working, number of trains required, trade-offs with punctuality, staff rostering.</li> </ul>
<i>Classwork</i>	<i>TRAIN GRAPH AND TRAIN REQUIREMENTS EXERCISES</i>
<p>There will be tea breaks at approximately 10:30-11:00 and 15:00-15:30. Catered lunch 12:30-13:30pm.</p> <p><b>For tea-breaks there are many nearby outlets. Lunch is provided as part of the course fee.</b></p>	
<b>Assessment</b>	
<p>Two pieces of assessment are part of the course requirements. The Generalised Cost exercise will be due on Monday 13 November at 09:00 and the Train Graph and Train Requirements on 20 November at 17:00.</p>	

Draft at October 18, 2023.