In the matter of the Melbourne Metro Rail Project

Planning Panels Victoria

Proponent: MMRA

Expert Witness Statement of

Rose McArthur

Expert MMRA

1   Name and address

Rose McArthur

Technical Director

Mott Macdonald

Level 10, 383 Kent Street, Sydney, NSW, 2000

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2   Area of expertise

a) I hold the following degree:
Bachelor of Arts Honours (Human Geography) 2:1

b) For the past 17 years I have been involved in the development and delivery of Travel Demand Management (TDM) programs that support a city's ability to keep moving during periods of unprecedented pressure and planned disruption. These TDM strategies have supported major urban centres when they are affected by either large influxes of people for a short period of time (Olympics/Commonwealth Games) or disruptions to a transport network that result in changed transport networks and reduced capacity over a longer period of time (road and rail line closure). I advise Governments in Europe, Australia and America on the development of these strategies. I supported the delivery of the successful TDM program for the 2012 London Olympic Games and developed and led the TDM program for the 2014 Glasgow Commonwealth Games. I am the strategic advisor to the City of Gold Coast on the TDM strategy for the 2018 Gold Coast Commonwealth Games.

Most relevant is my role as Technical Director for the TDM program that is supporting the implementation of the light rail corridor in Sydney CBD that traverses George Street from North to South. I was responsible for the development of the TDM business case for this project in November 2014. This gained approval from the Transport Executive Board of Transport for NSW in March 2015. Following this approval I was commissioned to develop a three year long program of activity that sought to reduce AM peak hour vehicle traffic entering, leaving and circulating in the CBD study area by 15 per cent. This figure was arrived at after analysis of a modelled scenario of the effects on traffic movement that the capacity reduction the closure of George Street would have. This figure is equivalent to approximately 20,000 vehicle movements CBD wide in the 8-9AM peak. We have just completed the first year of activity in our three year program.

3   Scope

3.1 Instructions

I have been retained by Herbert Smith Freehills on behalf of the MMRA to prepare this witness statement and, in doing so, have responded to the following requests that this statement:

(a) Draws on, and is underpinned by my understanding of, the TIA and EES.
(b) Describes my experience in the design and deployment of TDM strategies;
(c) Provides examples of TDM strategies which have been deployed on other projects I have worked on which might be relevant or informative for the Panel, with a particular emphasises on the TDM strategies used in constructing Sydney Light Rail, and my assessment of the success of those strategies; and
(d) Include my opinions about the key issues that I believe should be considered in developing and deploying a TDM strategy for constructing the Project.

3.2 Reports Reviewed to Prepare Initial Study or Statement

In the preparation of this statement I have read Chapter 6 and Chapter 8 of the EES. I have read the full TIA and associated appendixes including the transport modelling summary report. I have read the submission to the Melbourne Metro EES from City of Port Phillip and the submission by City of Melbourne Council. I have read the publicly available MMRA brochures used in community exhibitions. I have reviewed the EPR provided as part of the environmental management framework paying particular attention to EPR T4.

3.3 Persons assisting with this work

There has been no other person involved as a significant contributor to this report. The views presented in this report reflect my opinions based upon my experience in developing and implementing TDM programs to support disruptive city based construction programs.

4   Findings

4.1 Summary of Opinions

'What is my experience in the design and deployment of TDM?

Travel Demand Management (TDM) is a term that is often either misunderstood or incorrectly referenced. TDM first came into being as a recognised term in the transport planning vernacular post the Atlanta Olympic Games held in 1996. The reason for this being that due to a lack of integration and coordination between transport operators, event organisers and transport planners, Atlanta was crippled with an influx of 10 million spectators and over 55,000 Games family that it had not adequately prepared for. The result of which was that the reputation of the state transport authority and Olympic organisers was badly tarnished. Athletes missed events and

spectators did not reach their venues. Businesses were unable to get goods or staff in and as a result were not able to take advantage of the positive economic uplift generated by the Games.

Photograph: 40,000 spectators exiting Atlanta's main stadium for a one car tram. Reports say it took 9 hours to clear the spectators.

Post Atlanta TDM has been used to enable cities to balance the supply and demand on their transport networks through a coordinated process that involves travel behaviour change, transport network management and capacity creation. When these three areas are implemented concurrently it forms an effective TDM campaign which:

- **Manages expectation** – so that reasonable passenger and business expectations are set
- **Manages total demand** at hotspots – to reduce, retime, re-mode and re-route to spread the peak
- Helps **optimise the transport network** – by providing all users with guidance on the most appropriate routes available (including non-intuitive)
- Support transport **reputation**
- Provides **legacy** foundations for long-term positive behavioral change

When applied effectively TDM ensures that journeys are influenced to happen at the right time, on the right modes, on the right routes or not made at all. This principle is what successful TDM strategies are based on. This is referred to as the 4Rs.

- Remode
- Reroute

- Retime
- Reduce.

This is illustrated in the infographic used on the Sydney Light Rail TDM program:

The definition of what the 'right' journeys are is based on intelligence and data led strategy that identifies where there are current and forecast pressures on the network and where there is capacity on the remaining networks to host these journeys. This is an extremely important statement to bear in mind for when considering the TDM strategy to support Melbourne Metro.

This might be capacity on different mode, routes or times. When this approach to movement for the city has been defined and agreed, the public facing travel behaviour change program is then developed. This behaviour change campaign is then used to influence the travelling public to make journeys that are in line with the agreed TDM strategy.

A project that illustrates my design and deployment of the above principles is the TDM prepared in respect of the London Olympic Games. I worked for three years developing the TDM strategy for the Games and my part in its delivery was as business stakeholder engagement lead with a remit to reach 275,000 businesses and bring about a 40% (average) change in their weekday travel behaviour.

The below two diagrams show what a TDM strategy has to achieve for an Olympics (an event) where there is unprecedented pressure for a short period of time, and what is needed from a TDM strategy to support a city experiencing reduced capacity for a longer period of time such as the Melbourne Metro construction.
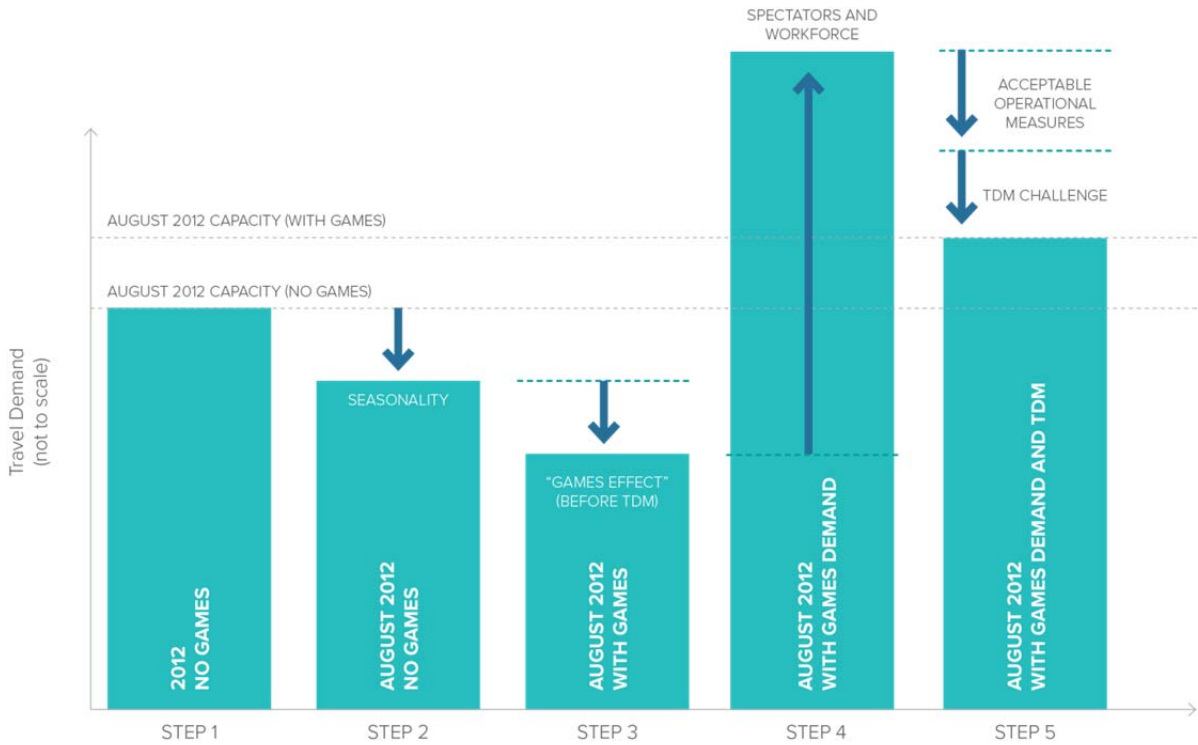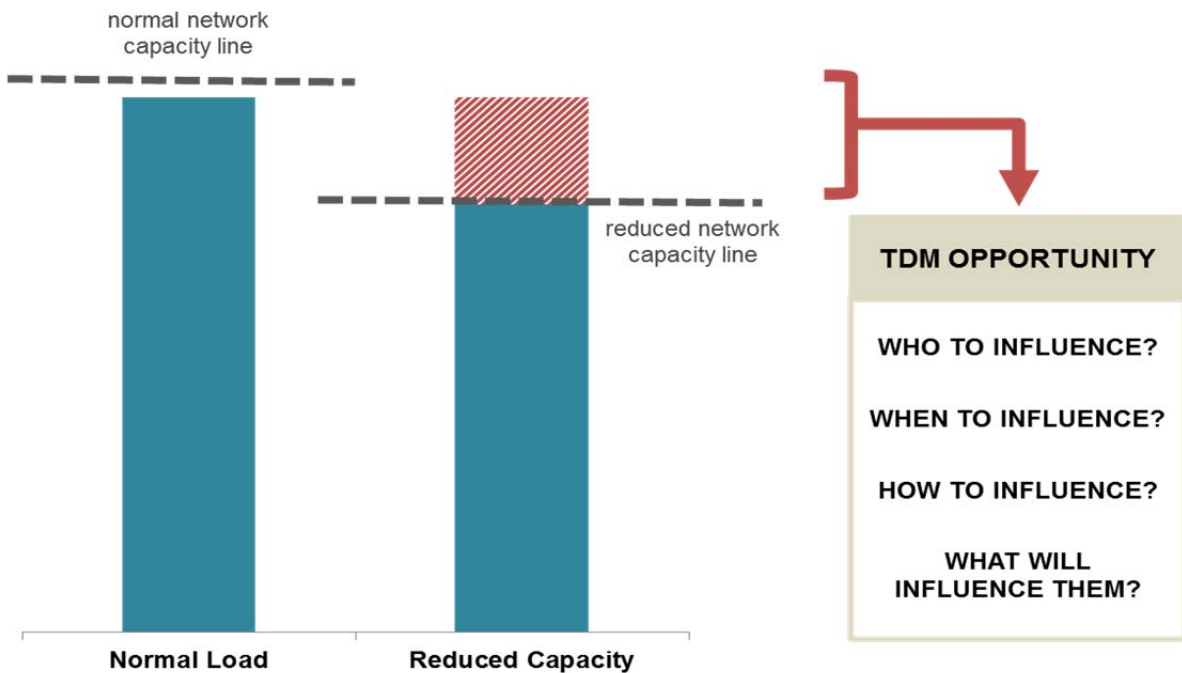
Figure 1: Event based TDM

Figure 2: Construction based TDM

The TDM campaign for the Olympic Games resulted in 34% of Londoners changing how they travelled for a sustained 17 day period as a result of the program. The 4Rs were used heavily to

allow people a choice of the travel behaviour change they adopted. The most popular of the 4R's was Retime with TfL transport data showing a significant number of people coming into the city earlier and leaving earlier. The legacy benefit has been most obvious in the uplift of cycling where the Olympics acted as a catalyst for change.

I am aware that the MMRP is a long-term project with sustained impact for many years, with impacts being felt in different locations and at different times as the project progresses. What should be taken from this Olympics overview is the concept of how to approach a TDM project and how the approach to behaviour change was mobilised.

The differences between a TDM approach for an Olympics and a potential approach to support the construction of the MMRP are of course the longevity of the construction period, the need for sustained and ongoing behaviour change over this period, a lack of control of the audience by one partner (TfL for London v's multiple Melbourne agencies) the absence of a Transport Coordination Centre, no shared platform or campaign site for talking about all of the transport impacts being felt by Melbourne concurrently.

There are however parts of the Olympics campaign which can be translated for Melbourne. In my opinion these are applying a holistic approach to the problem, focus on coordination, the need to reach a substantial audience, the fact this construction is a catalyst for more sustainable and durable travel behaviour, the strength of the travel behaviour change message, and the positive engagement with the business community. Melbourne has many things going for it in the travel habits observed in the City which are the already high level of non-car travel and the more balanced mode split in the city. All of these elements could deliver positive legacy benefits for the city.

Provide examples of TDM strategies which have been deployed on other projects I have worked on which might be relevant or informative for the Panel, with a particular emphasises on the TDM strategies used in constructing Sydney Light Rail, and my assessment of the success of those strategies;

To better illustrate how TDM has been successfully applied to an analogous construction scenario more similar to what Melbourne could experience, and as requested by Herbert Smith Freehills in my scope, I will describe the design and delivery of the TDM strategy that is helping to manage the effects of the construction of the Sydney Light rail on the Sydney CBD, to keep Sydney moving. My role on this has been from conception, to business case, to development of a program of activity through to implementation.

The TDM program for Sydney is called Travel Choices, and we are delivering the Travel Choices program on behalf of the TfNSW CBD Coordination Office. The program was initiated because of the construction of the Sydney Light Rail and the resulting closure of George Street in the Sydney CBD. Therefore the project initially looked at the huge implications of redistributed traffic from the main north-south road in the Sydney CBD, resulting in the need to reduce vehicular traffic moving

in and out of the CBD. Initial modelled scenarios showed a 30% reduction in road capacity in the city with the sequential closure of this North South road route.

In the below diagram the long blue line is the light rail but the red lines are where the significant congestion impacts were forecast to be experienced.

On commencement of the project we undertook analysis to identify who travelled from where to access the CBD, how these people travelled and at what time. We sought to understand journey purpose too. We agreed that our approach was to target car drivers moving in and through the CBD in the AM peak period between 8am and 9am.

We identified that the most efficient way of achieving behaviour change was to deliver a travel advice for business program that targeted employers and their employees. We identified that by going to just 18 per cent of the 12,000 employers in the city we would reach 75 per cent of all employees. A rudimentary display of this methodology is in graphic below.

Reaching businesses employees

- **12,000** businesses in Sydney CBD employ approx. **360,000** people
- Targeting **18%** of these get us a **75%** reach
- Locating 'hotspots' makes this even more targeted, effective and efficient
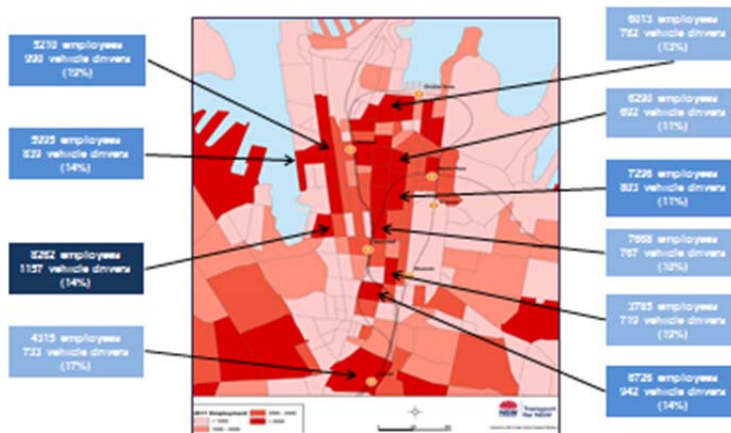
Measuring Success

We have been working on the program since July 2015, in which time we have engaged with 588 organisations of various sizes, sectors and geographies. The majority are large employers with over 500 staff.

Our approach for Sydney was to offer a sliding scale of engagement based on how large and how impacted the organisation was and how many car drivers there were in the organisation. For larger, highly impacted, high car driver organisations we provide one-to-one Site Specific Advice (SSA) which includes up to 15 days of time from a specialist travel advisor who supports them in undertaking a travel survey with the staff, develops a Travel Action Plan for the organisation that aims to provide them with as much resilience against the impacts of the construction as possible. We also link them into our network to keep them updated on the construction timetable, changes to the road network and how this may impact them. For smaller to medium size organisations we invite them to attend a workshop where we cover the construction changes, the impacts to the road network, how this may impact their staff/clients/deliveries and run them through establishing a Travel Action Plan. This is delivered to up to 20 organisations at a time. We also undertake drop in sessions in central CBD locations to provide bespoke advice to people on a drop in basis. We have a marketing and communication campaign that reaches a mass audience and we have a library of bespoke collateral for organisations to use to get themselves ready and prepared. We have social media channels and a website where all of our information is held.

Another important part of our program of activity is working with Business Intermediaries (for example the Chamber of Commerce, business forums and property/facilities managers) as a means of spreading the information and messaging to as wide an audience as possible. We have 32 Business intermediaries in our program and their cumulative reach is almost 10,000 businesses. For

small businesses they find the same information on our web site, in printed collateral and at drop in session we hold across the city.

My assessment of the success of these strategies

In my experience a focused TDM program can achieve a level of behaviour change that minimises the impacts of construction on a city and supports the travelling public in making an informed travel choice that minimises disruption to their journey. Of the four major macro TDM programs I have implemented each one has achieved their objective.

To demonstrate to the panel how I assess and measure success of a strategy I will use the Sydney Light Rail TDM project as an example. It has a strong tracking, monitoring and evaluation framework in place to help us identify our success or otherwise against the program objectives. It also supports the team delivering it in identifying the demographic they need to influence more, or mode that needs to be influenced more.

For Sydney we set KPIs that we monitor ourselves against each week and report back to the client on. We decided in month 6 that we would not measure success solely from whether we had achieved a 15% change in peak hour car travel as TfNSW could not give us +/- 1% accuracy from their road count data, due to loop count issues and unreliability of the data. We decided to use KPIs based on our level of engagement and surveyed our businesses to ask what behaviour change their staff had undertaken.

By year one we needed to have engaged positively with 500 businesses, to have recruited 50 Site Specific Advice businesses into our program and to have delivered workshops to 250 businesses.

We also measure our success using daily CBD pedestrian counts, train load data, road performance data, bus load data and ferry load data. The initial results of our year one monitoring and evaluation report has shown a movement of vehicle trips out of the 8-9AM peak to the shoulder of the morning peak with higher volumes recorded arriving into the CBD cordon before 7:30AM. Train load data is showing higher volumes of usage overall and higher train loads before the 8AM peak.

Pedestrian counts show an overall increase in CBD footfall between major CBD stations which we believe to be as a result of our work to encourage walking between meetings as opposed to taxi usage. There is no cycling data available as this is held by City of Sydney. I am unable to quantify the pedestrian data without preapproval of TfNSW which I have not been able to get in time for the preparation of this report.

My opinions about the key issues that I believe should be considered in developing and deploying a TDM strategy for constructing the Project

In line with the above request I have reviewed the documents as set out in section 3.2 of this statement, concentrating on the TDM strategy set out in EPR T4 which states:

EPR T4 Travel Demand Strategy

- In advance of construction works, MMRA to develop and implement a travel demand management strategy and appropriate tools to promote specific transport behaviour changes in response to road, bicycle and pedestrian paths closures/modifications and to reduce traffic congestion around construction sites, particularly in the vicinity of the Parkville and Domain precincts where road closures and restrictions are proposed. The strategy must be consistent with the MMRA Community and Stakeholder Engagement Plan.

Key Issues

To be effective, a TDM strategy to support the MMRP will need to be led by a good understanding of the city wide impact that construction will have on congestion and journey times across all modes. Ideally these would be identified through modelling outputs. This will enable MMRA to understand the size, scale and behaviour change impact that a TDM program would need to have. This in turn will allow MMRA to understand the appropriate response and program of activity needed.

It will be very important for MMRA to identify a clear picture of the impacts likely to be felt by those who live work and play in Melbourne and develop their TDM strategy to adequately address this. The size of their response will always be in response to the ultimate design of construction which as yet has not been finalised.

Understanding the size of the challenge

Having current and forecast figures on network saturation is important for the implementation of a successful TDM strategy as described in EPR T4 because MMRA needs to understand how many people are travelling, when and where so that they understand who they have to influence. This needs to be for all modes and not just road.

Cumulative impact of multiple projects affecting Melbourne transport

Melbourne Metro is of course not the only project being undertaken in the time period of the Metro construction. Acting alone, MMRA may not be able to be as effective in changing behaviour as it would be if considering the impacts from other projects such as level crossing removal or western distributor works that will affect the same audience and networks. There is a need for coordination between projects.

Level of mitigation required

Key discussions to be had early within the MMRA team should be about the aspirational level of behaviour change they wish to achieve. This will then help them understand what levers they will need to use. For example the higher the level of behaviour change needed, the more they will need to consider the use of measures such as pricing levers, fare raises, free off peak travel, strong messaging, reducing journeys rather than retiming them etc. It will also be the driver behind the budget needed to implement the TDM program too.

Proposed Approach

When the scope for the program is defined the next decision will need to address the approach. The approach should ideally be signed up to by all partners responsible for delivering transport in Melbourne so should include PTV and Vic Roads as a minimum. Public submissions from City of Port Phillip and City of Melbourne stress the importance of having a well-developed and well-resourced travel demand management strategy in place to manage the impacts of construction. These two councils are significant players in making this effective and MMRA will need the Councils to be part of the solution. They will be critical in helping MMRA build relationships with the businesses they already work with.

A business focused campaign would bring the greatest opportunity for influencing the right journeys and give best public understanding and support for the project. A recommended TDM approach for Melbourne would be to engage with the business community through a coordinated travel advice for business program of activity. This will help the commuting population of Melbourne, who I believe will be the greatest contributor to road based movement in the Parkville and Domain areas, to prepare for the changes ahead.

The TDM team will need to understand the full picture of impacts to advise the businesses what they need to plan for and how to shape their business operations accordingly. MMRA should develop an engagement approach that delivers travel advice through direct engagement, digital and social media channels and is supported by a mass media engagement campaign.

The direct engagement should be on a sliding scale according to the size of the organisation and the level they will be impacted. TDM for Melbourne also needs to be supported by a significant integrated marketing and communication campaign that takes advantage of paid advertising and media as well as social media. This needs to be done in collaboration with all transport stakeholders in a joined up campaign that takes into account the other major projects being rolled out across the city concurrently.

A specific program of interventions and advice for the freight community is essential. They are a group who I expect could be materially impacted because the freight industry is predominantly road-based. I would recommend a travel advice for freight work stream is developed to mirror the travel advice for business campaign. This should include at a minimum the delivery of Site Specific Advice, workshops, drop in sessions and good collateral as well as presentations at their business events, engagement with their business intermediary groups, their involvement in the development of materials and advice to check it is relevant to them.

Universities as places of education and employment will need specific attention in the TDM program due to the size and impact they have on the city.

In line with EPR T4, there needs to be strong links between MMRA stakeholder and engagement teams and TDM team. This relationship is important as multiple parties will be communicating

different messages but to the same audience. This needs to be communicated and a forward plan of engagement shared between all parties.

TDM is put in place to support network operations and is not a PR campaign. MMRA stakeholder and communication groups may need to put out messaging on behalf of the TDM team that will achieve behaviour change and will need a rapid sign off process.

Good tracking and evaluation is necessary to measure reach and influence of the campaign. This is an essential component. It should be able to show where the program needs to dial up or down according to how successful it is being. This needs to be developed and started early in the program. KPIs should be set very early in the project and reported on at the TDM steering group and at senior MMRA leadership or Departmental level when necessary.

MMRA should develop appropriate governance and accountabilities for the delivery of TDM. It should have the authority to ensure that it can sign off messages that will mitigate the potential impacts of Project construction on road traffic, freight movement, pedestrians, cyclists and existing public transport services. It will need to set the levels of behaviour change needed as well as ensure the program has the right tools to be able to achieve this change. I suggest that there is a specific TDM steering group set up that reports directly to a senior MMRA leadership group. If necessary, TDM should be a standing agenda item and reports be submitted on progress as and when required. Terms of reference should be drawn up and the steering group should include representatives from the transport providers, marketing and communication representatives as well as MMRA and the two councils impacted by the Domain and Parkville station construction specifically.

5   Declaration

I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Planning Panel.

Signed **..**

Date 12 August 2016..........

Annexure A – Qualifications

Qualifications

Bachelor of Science (Hons) Human Geography, University of Leicester, 1999

Professional associations

Chartered Member Institute of Highways and Transportation

ACT TravelWise - Board Director. Vice Chair

Guest Lecturer on Travel Demand Management, Erasmus University - Rotterdam, Sabadell University- Barcelona, University West of England – Bristol

PTRC London Evening Lecture Series - Senior Lecturer

Employment history and achievements

2003 – 2006	Principle Development Related Travel Plan Advisor, Surrey County Council, London
2006 - 2012	Associate Director, Colin Buchanan, Transport Planning Team Lead, London
2012 – 2015	Associate Director, Jacobs/SKM, London . Global Practice Leader - TDM
2015 – Present	Technical Director, Mott Macdonald, London

Some relevant project experience includes:

- Transport for New South Wales –Travel Demand Management Program for Sydney CBD

- Christchurch Earthquake Recovery Authority (CERA) – Travel Demand Management programme. Christchurch

- Strategic Advisor, Travel Demand Management - Gold Coast 2018 Commonwealth Games

- Glasgow 2014 Commonwealth Games TDM Programme Director

- Business Stakeholder Engagement Manager - Travel Demand Management. Olympic Delivery Authority (ODA)

- Spectator Transport Manager Football co-host cities London 2012, ODA

- Workplace Travel Planning Advisor, Transport for London