

I am a Transport Engineer working at SMEC and an active member of AITPM who volunteers my time on the Queensland Committee. Thank you for the opportunity to apply for the Study Tour Award to attend the Institution of Professional Engineers New Zealand (IPENZ) transportation group conference in Hamilton, New Zealand. Below I outline my response to the selection criteria.

1. The knowledge that I will focus on acquiring from attending the conference

The topic for this year's conference is "Safe Sustainable Future" – a topic that I am interested in gaining further knowledge and insight into. A "safe sustainable future" for me would mean a livable and productive urban environment. Creating viable transport options that are efficient and accessible, will be essential to a livable and productive city environment. Below are a few key knowledge areas that I would like to focus on should I be fortunate to attend the conference.

Transport safety – this is at the forefront of any project, planning study or work that a traffic and transport practitioner undertakes. Safety is the non-negotiable aspect across modes, time, and spaces. Safety standards, however, can sometimes be strict and in my previous experience I have noted that every so often our safety solutions can tend to be 'over-engineered'; provision of infrastructure is to a high safety standard but at a high economic or environmental cost. Could there be an opportunity, that is either used in New Zealand or elsewhere, to implement an innovative transport safety solution that also rationalises the economic burden on our road, rail, bus and active transport networks? This is why I will be eager to attend the presentation "Road Safety Improvement: Identifying a reasonable goal" whilst at the conference.

Innovative funding – I am interested in gaining more knowledge in relation to funding opportunities for innovative transport systems such as demand responsive transport (DRT), electric vehicles and cooperative or autonomous vehicles (AV). It has certainly been my experience that governments are fiscally constrained. New vehicle or infrastructure technology as well as digital innovations can be seen as "risky" to government and political leaders. I fear that funding constraints will be a hurdle for the timely deployment of new approaches to transport and potential technological step-changes and digital solutions. This does not position advisors or governing bodies favourably, with these agencies inevitably falling into a-reactive rather than proactive positions. A trend I have noticed, particularly with the recent award of the Logan Enhancement Project in Queensland, is that Governments will be seeking self-funded or market-lead proposals. With this in mind I will be very interested in attending the "business case / funding / planning" conference stream and in particular listening to the presentations "Capturing value: new funding strategies for transport infrastructure" as well as "Enabling the new network – using the business case approach to addressing Auckland's transportation challenges". If I can better understand funding opportunities in transport, or more creative uses of funds, I feel that I will be better positioned to assist my clients and communities.

Accessibility – Another area of interest to me on which I am keen to develop my knowledge of best practice is accessibility, and its relationship with land use and with cultural attitudes or behaviours. How could traffic engineers and transport planners devise better ways of matching travel demand with travel supply? This is why the presentations "Combining the power of bicycle use and public transport: implementing bike-train system in the New Zealand context" and "Planning for cycling in the dispersed city" are appealing to me. The latter presentation, in particular, is a challenge we often face in traffic

and transport in Australia. The issue of urban sprawl and peri-urban communities challenges our ability to better integrate land use and alleviate congestion. I'm keen to learn about global perspectives on this topic and how similar solutions could be adapted and implemented in our traffic and transport planning work in Australia.

Productivity – I am particularly interested in how future cooperative or autonomous vehicles will impact on the established principles of transit proximity and land use. Something I have been thinking about in recent transport analyses is how established traffic and transport principles will be challenged by transport technologies. For example, consider planning concepts such as Marchetti's Constant, which is the "30 minute city" idea that was founded in analysis of travel behaviours of urban communities dating as far back as ancient Greek villages. How could people's "travel time budget" be impacted by the advent of autonomous vehicles? Will commuters really be willing to commute further than they already do given that they can 'work' in their AV instead of focusing on the drive? Why bother travelling at all if the travel time of your commute is longer or just as productive than the time you actually spend at work? Why not teleconference or work remotely from home instead of travelling? In order to truly understand the social impact and productivity implications of autonomous vehicles I need to be able to analyse and model AV impacts. This is why I will be focusing on learning from presentations such as "Driving alone versus riding together: how shared autonomous vehicles can change the way we travel".

Something else I would like to gain by attending the conference is familiarity of the people and organisations who are leading international best practices in the industry. Doing so will improve my own professional knowledge of best practices and expand my professional networks. I will be better informed of where to look or who to contact next time I would like to implement something innovative. Should I be fortunate to attend the IPENZ conference I will be aiming to develop relationships with presenters and participants, with a view to potentially collaborate on future opportunities together.

2. The potential application of this knowledge to my current role

In my current role as transport engineer at SMEC I regularly work to deliver transport analysis, transport plans, development assessments or infrastructure delivery. There is a need to provide the most cost-effective solution that is safe, utilises resources efficiently and represents good value in terms of social and community well-being.

The knowledge that I will focus on as outlined above in section one is directly transferable to my current day-to-day role. The knowledge that I would like to focus on at the conference in relation to transport safety, innovative funding solutions, accessibility and productivity will help me to better plan and develop more safe sustainable future transport systems. For example, better understanding the emergence of autonomous vehicles and the implications for our transport system will add value to the outputs I provide for my clients and future communities.

I also hope that the knowledge I gain by attending the conference will help me in my current role by allowing me to lead by influence. I hope to do this by imparting new ideas and perspectives in discussions within the teams that I work with. By attending the conference I hope to develop myself on both a personal and professional level. I also wish to use my experience to positively influence those around me in my day-to-day role and within the AITPM QLD committee.

In my current role as an AITPM Queensland branch committee member I think that attending the Institute's Conference in New Zealand will put me in good stead for organising future technical events for AITPM and also in participating in committee discussions regarding our direction and function within the industry. For instance, there has recently been discussion around the emerging 'sub-chapters' of AITPM such as the transport modelling group and the young professionals group. I am keen to hear from IPENZ committee representatives as to how they operate their professional body.

By broadening my knowledge and professional networks at the conference I also hope to encounter ideas that I may develop further. I have aspirations to use this knowledge at work and advance the profession, stimulating ideas for further research of my own or in collaborations with others. For instance, I would consider pursuing further research on the topic of a paper I previously presented at the *36th Australasian Transport Research Forum* (held in Brisbane in 2013) in the area of land use planning and transit proximity. By attending the conference, I hope to acquire knowledge that will allow me build on new ideas to ultimately contribute back to the profession.

3. How I will enhance the AITPM/IPENZ relationship while at the conference

I believe I can enhance the relationship between AITPM / IPENZ in three ways by attending the conference. Firstly, I can act as a branch committee representative of AITPM in attendance at the conference. I can explain the types of technical seminars, networking events and online presence that AITPM facilitates. Secondly, I can act as a conduit between IPENZ and AITPM, sharing with both IPENZ and AITPM members my insights and ideas for creating a smarter and sustainable future transport system. Attending the conference would be a wonderful opportunity for knowledge and information exchange. I will also encourage delegates to attend our AITPM conference in Melbourne later this year. Thirdly, I will enhance the relationship by writing an article for the AITPM and / or IPENZ newsletter within two months upon return from the conference. I am also willing to compile a brief video for the AITPM video news update. I am a confident public speaker so would feel comfortable to provide a brief introduction about AITPM whilst at the conference. I will certainly be eager to get to know the IPENZ organisers and committee representatives at the conference.

I will continue to strengthen the relationship long after the completion of the conference. I am always looking for interesting industry event ideas. If there is a particular case study, or interesting speaker, that our Queensland committee members can benefit from then I would like to add value for the members of AITPM by inviting them to either our National Conference or by hosting an event here in Queensland.

I also understand that IPENZ is active on social media outlets Facebook and Twitter which I can utilise to further the information exchange and brand awareness between the groups.

I hope that the above shows how I am invested in the relationship between IPENZ and AITPM, and that I am a passionate traffic and transport industry participant who is keen to develop my own professional experience and develop the knowledge of others too. Thank you again for this opportunity.

Kind regards,
Alexandra Kelly