

Making transport more accessible

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The purpose of transport engineering is to connect people to the activities that make life worthwhile. We also work on transport networks for the efficient movement of goods, but the people focus is what attracts many from other fields of engineering that are more, shall we say, “concrete”. And it’s important that all people can have their voices heard, and their needs met.

Connecting people means all people, but for decades an inbuilt bias in transport planning has meant an overt focus on peak-hour journeys to work. We measure and map those journeys and invest billions in capacity so peak hour travel is as efficient as practically possible. However, fewer than one-third of trips are a journey to work, and most trips are not in peak hours. One group with specific transport needs is disabled people. Not only are their trips more diverse than those of non-disabled people, they need transport infrastructure and services that are accessible. The quality of the infrastructure they encounter needs to be higher than for non-disabled people, who can step over a kerb, see whether traffic is approaching a crossing, and are more likely to have a higher income and can afford more transport choices.

We have standards to inform design of infrastructure, but we don’t measure disabled people’s participation in transport. This means engineers currently have no objective way to prioritise accessibility improvements that would make disabled people’s transport easier.

Engineering New Zealand’s Transportation Group has recognised that its own lack of diversity affects how we approach the complex challenges of connecting people to the activities that make a good life. In 2021 we started an internship to bring a student with lived experience of disability into a transport workplace to broaden the pool of professionals over time. Also, to expose transport engineers to the perspectives a disabled person brings to infrastructure design. Our first intern was Alice Davies, a social work student at the University of Waikato, interested in social policy and how transport engineering affects wellbeing for all people. Her internship at Beca in Tauranga included research into bus stop accessibility. Alice presented her findings to the Bay of Plenty Regional Transport Committee, focusing on her insight, “there’s nothing wrong with the design standards for bus stops. It’s just that there are zero bus stops where those standards have been fully implemented.”

As a transport professional, I wasn’t surprised Alice found limitations with Tauranga’s bus network. The same problems exist all over the country, and there’s increasing research to understand disabled people’s experiences of transport in Aotearoa, and what to do about it. I was delighted with the impact and influence Alice’s presence had on her Beca colleagues, and the broader transport community, showing them the impact of their work on a community.

We can and should work to improve the way we define and address complex problems in all facets of engineering. And we should work to improve the diversity of our profession itself. Many of our biases are implicit. We can only benefit from workplaces and professional community that more accurately represent the communities of people we’re designing for.

Here’s an extract from Alice Davies’ review of her internship in the Transportation Group’s newsletter, *Roundabout*: “I was invited to share my research with the Bay of Plenty Regional Council’s Public Transport Committee... [who] felt they have gone above and beyond for the local disabled community because they have given free bus fares to those who permanently cannot drive because of a health condition. Although I think this is a great action by the committee, what is the point of free fares if so many disabled people cannot access bus stops? To bring about change there needs to be communication between transport engineers and the community and that is where I believe social work can fit in. I believe transport engineering will reach a new level of influence when engineers step away from narrow design aims of efficiency and cost-effectiveness and acknowledge the ability they have to create environments of community empowerment.” ■