NON MOTORISED USER AUDIT
A PRACTICAL GUIDE

Presenter:
Claire Graham BLA, NZILA Registered
Walking & Cycling Specialist, Auckland Transport
claire.graham@aucklandtransport.govt.nz

&
Co-Author:
Bridget Burdett
BE(hons), MET,MIPENZ, CPEng
Senior Transportation Researcher
TDG, Hamilton
bridget.burdett@tdg.co.nz

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Abstract

While safety audits are routine practice in New Zealand, audits of a project's accessibility for walking and cycling are less common. When issues of accessibility are noted in safety audits, they are typically given a 'minor' or less ranking, which usually means they are not important considerations for the design team. This practice paper summarises recent work in Auckland to create a useful and efficient non-motorised user audit process. The presentation will cover an insight into some of the challenges faced, the small step change approach taken and why, as well as revealing templates that have been developed to easily undertake this audit. Rather than identifying concerns for users from a safety perspective, the intent of this process is to identify opportunities to foster more walking and cycling. Early consideration of community demographics also encourages project teams to look at the big picture, and consider the needs of all road users throughout the project life. As a whole, the process can provide justification for improvements that might otherwise be missed opportunities. Collated findings can also inform training needs and process improvements across a road controlling authority.

INTRODUCTION

Recently there has been increasing focus on active transport in New Zealand (NZ) policy and practice, particularly in the area of cycling, where we have seen a substantial increase in investment at both local and national levels. This marks a notable shift in the way society and policy is changing the way it values and invests into alternative modes of transport from the private motor vehicle. While opportunities have always existed to consider non-motorised users (NMUs) throughout the design process of any infrastructure projects, this shift has provided designers and project managers with more awareness and appetite to integrate a tool to assist them to add value for these particular users.

As well as utilising this momentum from the shift in thinking and focus towards active transport we have noticed a persistent gap in the design process for a wide range of infrastructure and planning projects in Auckland. The gap which existed was the lack of any data and information around the people undertaking active mode journeys or just anyone not in private motor vehicle, moving through across or along the site. Assumptions seem to often be used in place of actual data which often resulted in lost opportunities and misunderstanding of how people might use the site.

This paper reflects on New Zealand's past interest and early experimentation in the use of mode specific and broader NMU audit/ review tools and then documents some of the early thinking and processes we have worked through to progress these initial ideas and understand the value of this tool. While we are only in the very early stages, this is a snapshot of where we are up to and where we are heading. Talking to a wide range of people involved in the different areas of designing and delivery of transport infrastructure projects has provided some invaluable insights so far.

BACKGROUND

What is so important about these modes and providing comfortable & accessible streets for them?

Walking is available to everyone and is arguably part of every journey: it does not cost anything, it does not discriminate. But the mode of walking needs more focus, as we see significant investment into large public transport interchanges and more frequent services being provided. Enabling all ages and levels of mobility to reach these services, means everyone has the opportunity to participate and this is really important. Walking is by far the most cost effective and space efficient way to get customers to public transport. Park and ride facilities occupy pockets of valuable land often in town centres and ironically these facilities for storing cars often reduce the access to the station for other modes.

Walking is a vital part of an integrated transport system. Most journeys start and end with walking, including car trips. Walking contributes towards economic, access and mobility, public health and environmental objectives.

One third of car trips in New Zealand are less than 2km. Short distance car trips like this generate the most pollution per km travelled. If more people walked for these short trips it would help to reduce emissions, manage demand on the transport system and reduce congestion.

Technology and changes in values globally are seeing more people move into urban areas looking for better job prospects, creating a competitive economy of cities. The cities that offer a greater range of transport options enabling city dwellers to not own a car are becoming increasingly attractive, particularly for the younger innovative generations, which are a generation successful cities want and need to be attracting.

There is a significant ageing population in New Zealand, with the proportion of people aged over 65 years projected to increase from 14.4% in 2014 to 23.8% by 2043 (Statistics NZ, 2015). There will soon be a much larger proportion of population who may not be able to, or may choose to not drive a car anymore. These are important members of the community who should be able to independently choose to stay engaged in community activities and events. To achieve this good transport options need to be provided. By offering easy, attractive and comfortable walking or cycling options for this older generation means they are much more likely to choose these and as a result remain healthier.

Projected population structural change in Auckland from 2011 – 2031 is shown in Figure 1 below. It shows that across all of Auckland, there will be a higher proportion of people aged over 65 years in coming decades; however the structure varies considerably across different communities.

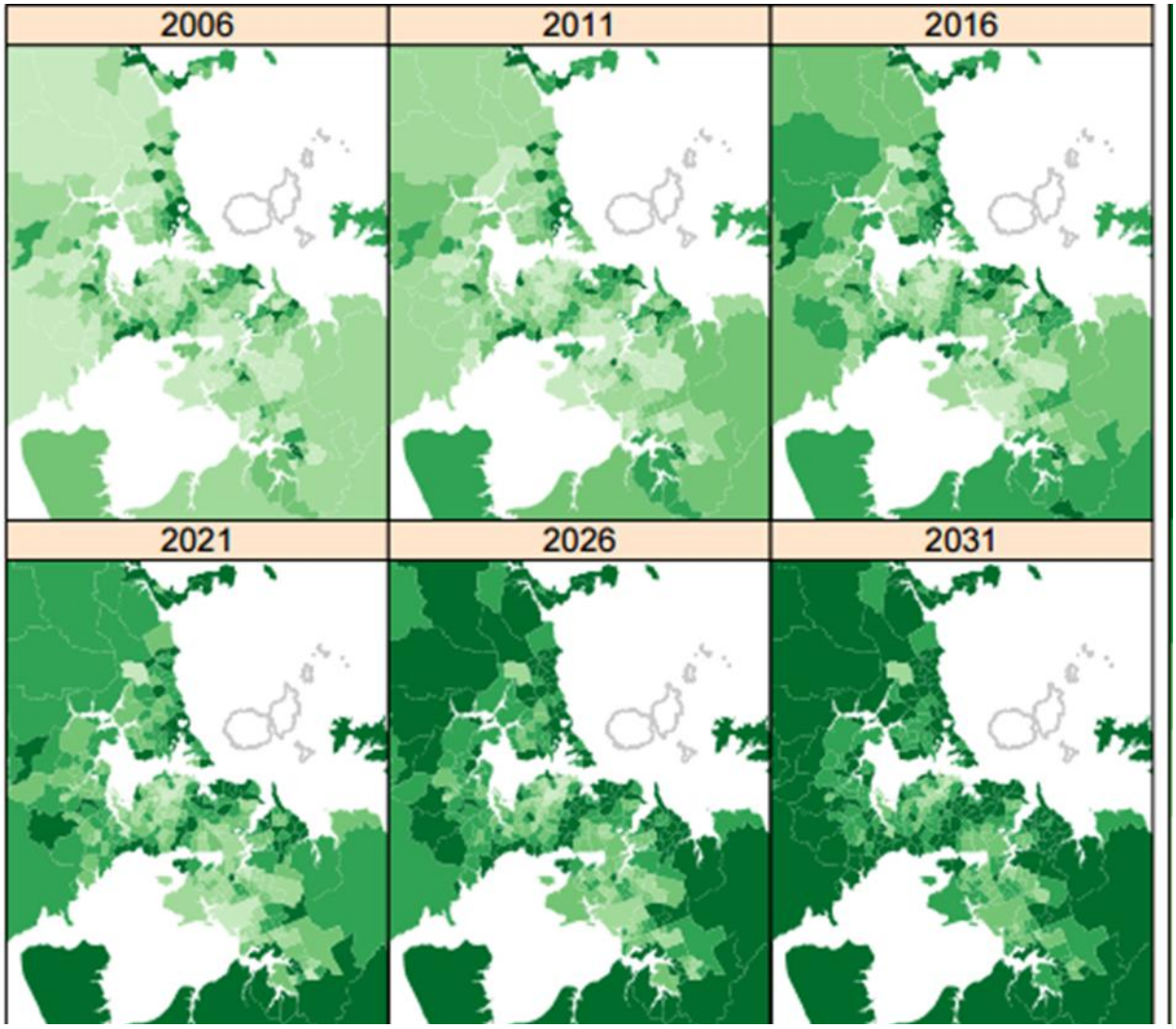

Figure 1 Auckland Population Projections, 2011 2031. Darker colour indicates higher proportion of people aged over 65 years.

Why should we be looking to focus on assessing and auditing the design of projects for walking, the mobility impaired and people on bikes?

Past policy and education has been primarily focused around motor vehicles and moving these as quickly and efficiently as we can around the city. Therefore the need to up-skill and assist professionals during this shift towards thinking more broadly about the transport space is critical. Many working professionals would not have been exposed to designing for urban cycling or the visually impaired, for example.

Safety has and will always be an important focus for our streets but more recently there has been considerable reflection into looking at how we balance designing for safety alongside designing streets that people want to be in - or are safety imperatives designing people out of our streets? Bringing overly conservative techniques (and rural road treatments) into our urban and neighbourhood streets we may actually be reducing risk by reducing participation, which ignores the broader health and society benefits from more walking and cycling.

There is limited knowledge and data that exists to utilise when designing for active modes due to the strong vehicle focused transport environment. But these modes are also much harder to measure both qualitatively and quantitatively, luckily technology is improving this situation. As an example walking is often considered to be provided for where there is a footpath, and while physically the designer may have provided the right width and the right thickness of concrete, there is much more to providing a comfortable and accessible walking environment than this. As seen below, this footpath would technically meet basic requirements, but is it the best walking environment that could be provide here?

Figure 2 Photo of Hillsbourough Road footpath in Auckland. Photo credit: Claire Graham

Designing for people is hard, networks are fine grained and decision making can be affected by so many variables. Audits can help to educate designers about issues they may not have considered, for example the proportion of households without any access to a motor vehicle.

Will driverless cars solve accessibility for the ageing population?

Driverless cars are being discussed at nearly every conference or conversation around building cities, technology or transportation in cities around the world at the moment. As part of these conversations, there is often a focus on giving elderly and the mobility impaired back freedom through this new technology. But it is worth acknowledging driverless cars may not be available to people who cannot afford them, feel comfortable using them, or understand how to access (via smart phone/internet) these and other emerging technologies. So while there is no doubt there will be numerous benefits that arise from this new technology, it is not likely to be the 'silver bullet 'that will solve all of our transport problems and certainly for our aging population social isolation and physical health will not be assisted through this, unlike active transport.

WHAT IS AN NMU REVIEW OR AUDIT?

A NMU review is a systematic process applied to new roading projects by which the Design team identifies and documents existing and potential issues affecting NMUs, sets project objectives to improve conditions for NMUs, audits designs and construction to assess how well objectives have been achieved, and documents the design decisions that have been made (Land Transport NZ 2006).

The NMU Audit comes from the UK, where, like in many countries, legislation requires that infrastructure is universally accessible (Transport for London, 2014). Equity legislation in the United Kingdom (UK), Australia, the USA and South Africa, for example, was developed to fulfil obligations under international legislation such as the United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2014).

Non-Motorised Users are considered to include:

- Pedestrians or any person who is using a means of conveyance propelled by human power eg. scooters, skateboarders etc.
- Specific focus on people with disabilities, including mobility, intellectual, cognitive and sensory impairment.
- People riding on powered wheelchairs or mobility scooters
- People riding bicycles including electrically assisted bicycles (e bikes)
- People on horses (where relevant)

Objectives of an NMU review/ auidt: To promote the consideration of NMU interests, through a dialogue between project sponsor and design team in order to achieve optimum provision for NMUs within the constraints of the project.

- Encourage design team to identify and take opportunities to improve services offered to NMUs
- Ensure current and future needs of NMUs are recognised and developed within a roading project
- Prevent conditions for NMUs being worsened by a roading project
- Document design decisions made that affect NMUs

WHERE HAVE NMU AUDITS GOT TO IN NEW ZEALAND

The idea of auditing projects for Non-Motorised users has been around for some time now, with New Zealand looking to the UK to for guidance in this area in the past. In the year 2000, Transfund put together a scoping study to find out if NZ could benefit from a cycle audit and review process (Transfund New Zealand, 2000) This was following the Institute of Highways and Transportation in the United Kingdom publishing 'Guidelines for Cycle Audit and Cycle Review 1998 (Institution of Highways and Transportation, 1998).Recommendations from the Transfund scoping study suggested that a national group should be formed to write guidelines for using the process here and that once written it should be promoted to road controlling authorities to encourage cycling as a transport mode and form a cycle audit that is cost-effective and able to be used in all road design projects. It also recommended that the process of auditing for accessibility being developed in the UK should be considered in New Zealand and that training for safety auditors should include training how to provide for the safety and convenience of cyclist.

Then the Non-motorised User Review Procedures, Interim Guideline for trial and comment was produced in 2006 by Land Transport New Zealand (Land Transport New Zealand, 2006). This interim guideline sets out processes and responsibilities for undertaking this Review. It looks to be based on the UK NMU review and audit and the structure is as follows:

- NMU Context Report - collection of strategic and operational data about the road network, local community demographics and trip attractions, and definition of project objectives
- NMU Audit – applied at stages agreed in the NMU context stage but could include: preliminary design, detailed design, construction and post construction. The implications of how the project promotes connectedness, attractiveness, safety and accessibility for NMUs are measured and assessed at each stage.

In December 2014 'Safer Journeys for People who Cycle – cycling safety panel final report and recommendations' was produced by a panel of 10 experts from around the country (NZTA, 2014). This cycling safety panel was establishment following a Coronial Inquiry into a number of cycling deaths and tasked with developing innovative, comprehensive and practical recommendations for how central and local government can ensure cycling is provided as a safe option. One of the panel's recommendations under the Safe System Enablers was to see national guidelines, training of designers and better design auditing of cycling provision in all transport projects, due to the concerned about the ad hoc inconsistent approach that currently exists. This provides additional support for us to further this work being discussed here.

Although there is still nothing formally that requires NMU audits or mode specific audits to be undertaken in NZ, we can certainly see there has been continued interest and discussion about the usefulness and potential value of these over the last 15 years.

ALIGNMENT WITH POLICY IN NZ & AUCKLAND

As well as a number of documents (as noted above) which have recommended a tool to look more closely at the way we are designing and providing for non-motorised modes in projects, further weight is added when we start to look at policy documents both nationally and locally in Auckland. Examples of several documents ae noted below.

The NMU process provides evidence that pedestrians in particular are specifically considered as part of every transport project. Without this component, it is unclear how road controlling authorities can demonstrate that they meet their policy objectives in terms of non-motorised users.

In New Zealand 'Safer Journeys Road Safety Strategy' - has a vision that states "By 2020 we will have a safe road environment that encourages more people to walk and cycle, where vehicles travel at safe speeds and there is a culture of sharing the road" (Ministry of Transport 2010)

In Auckland the Auckland Transport Statement of Intent has three strategic themes which relate directly to NMUs (Auckland Transport, 2015)

- Prioritise rapid, high frequency public transport;
- Transform and elevate customer experience;
    - focused on making the transport system safer, simpler and easier to use, with services that meet our customers' demands.
- Build network optimisation and resilience;
    - to develop a "one system" approach. The networks of the different transport modes are connected and integrated

Auckland's Integrated Transport Programme sets out the 30-year investment programme to meet the transport priorities outlined in the Auckland Plan. The overarching outcome in the ITP is: *Auckland's transport system is effective, efficient and provides for the region's social, economic, environmental and cultural wellbeing*.

Auckland's Regional Land Transport Programme (NZ Transport Agency, Auckland Transport and KiwiRail, 2015) forms part of the National Land Transport Programme and represents the

combined intentions of the New Zealand Transport Agency, Auckland Transport and KiwiRail. Some of the objectives that from this programme include:

- increase the percentage of trips made by walking,
- provide and integrated, connected cycle network linking key population centres, education centres and transport facilities
- Unlock the supressed demand for cycling

The Auckland Transport Disability Policy (Auckland Transport, 2011) recognises the need to take specific actions to ensure that the transport system provides for the needs of people with disabilities. Some of the relevant actions in this include:

- the concept of the accessible journey as key to integrated AT planning for transport infrastructure and public transport services
- Conduct an accessibility audit when public transport routes are reviewed or redesigned, to include infrastructure and walking access, to identify any accessibility shortfall and recommend areas for improvement as part of the overall network design, and to ensure that information is provided before changes are implemented

The Auckland Plan (Auckland Council, 2013) a 30 year roadmap to deliver on Auckland's vision to be the world's most liveable city is underpinned by a set of outcomes and transformational shifts:

- A green Auckland
  - Transformational shifts to achieve this = strongly commit to environmental action and green growth.
- A well connected and accessible Auckland
  - Transformational shifts to achieve this = Move to outstanding public transport within one network
    - Providing reliable, efficient and safe rail, bus and ferry services, thereby increasing public transport patronage
- A beautiful Auckland that is loved by its people & A culturally rich and creative Auckland
  - Radically improve the quality of urban living & substantially raise living standards for all Aucklanders and focus on those most in need

The Auckland Transport Code of Practise (ATCOP) (Auckland Transport, 2014) states that:

- *"Strong delivery criteria will be implemented to ensure that design, construction and maintenance processes enhance potential positive impacts of transport projects" (Section 1: Introduction)*
- *Pedestrians are highlighted as the most important mode in any transport project: "There will be situations where the needs of other modes should prevail over the needs of pedestrians, but the new hierarchy will ensure that the needs of pedestrians will always be considered in all of our transport projects irrespective of their size and/or importance within the overall network" (Section 1: Introduction)*
- *"The 30 year transport programme for Auckland is categorised by functional areas which make up the intervention… …Design, plan and develop a connected and accessible street networks and paths. This better supports the appropriate intensification of land uses and provides the platform for supporting public transport, walking and cycling as efficient and effective modes of movement, as well as creating more legible and adaptable urban environments." (Section 2: Integrated transport planning)*

ROAD SAFETY AUDIT VS NON-MOTORISED USER AUDIT

The **RSA (Road Safety Audit)** is a well understood audit for which there are clear training recommendations/ requirements for people if they are going to be tasked with completing these for projects. Its focus is on safety of all modes at various stages throughout the project life. Its main objective is to comment on deficiencies in the design/ construction of a project in regard to safety, to reduce the likelihood of fatal or serious crash outcomes. Success of an RSA is measured by reduced number and severity of crashes over time.

The key objective of a road safety audit is to deliver completed projects that contribute towards a safe road system that is increasingly free of death and serious injury by identifying and ranking potential safety concerns for all road users and others affected by a road project.

RSA shall be conducted, at the four key stages listed below for all new projects on state highways and local roads unless the project manager considers there is reason not to do so. Project stages inlucde:

- concept stage (part of a business case)
- scheme or preliminary design stage (part of pre-implementation)
- detailed design stage (pre-implementation or implementation)
- pre-opening or post-construction stage (implementation or post-implementation).

In contrast, the **NMU (Non-Motorised User)** Audit is not well understood yet in NZ, with different professionals taking a slightly different approach if they are using it at all. There is no clear training in NZ for people to undertake these, only the Non- Motorised User Review Procedures in its draft form (Land Transport NZ 2006). The NMU audits main objective is to identify opportunities to enhance or improve access for active modes. Then the success of an NMU audit is measured by more people walking or cycling through a corridor or site.

What happens if we can combine these two audits?
Combining the NMU with the RSA into one review completed by the same person has been an approach we have seen taken when an NMU has been requested to be carried out for a particular project at AT recently. What happened when these audits were combined was that the RSA audit findings just seemed to have been rated for NMUs in an adjacent column as minor, moderate, significant etc (which is strange in itself as these users should be considered anyway as part of the safe system approach). But the key concern that arose from the act of combining these audits was that the key objective of the NMU audit to identifying opportunities within the project had been overlooked as the focus had remained on the safety aspects, so this was a useful learning to take forward.

PROCESS TO DEVELOP NMU AUDITS FOR AUCKLAND TRANSPORT

We carried out a case study NMU audit of scheme-stage project in East Auckland to test the usefulness of an NMU audit. This was a project that spanned two suburban communities and was a specific walking and cycling project. Work involved for this included reviewing the scheme assessment approach in considering NMUs, providing detailed comments on aspects of the scheme plans and on the scheme assessment report (SAR) as a whole. The comments and feedback were based on the interim guidelines ‘Non-Motorised User Review Procedure’ (Land Transport New Zealand, 2006) and the UK Design Manual, Volume 5, section 2, Part 5 ’Non – Motorised User Audits’ (The Highways Agency, 2005).

Some of the objectives of the project included:

- Increase levels of walking and cycling on the links created
- Increase transport choice by making walking and cycling more attractive
- Increase connectivity of the Auckland Cycle Network

- Increase safety (real and perceived) for pedestrians and cyclists on the network links created.
- Increase safety for school children who travel to school by active modes

Despite these objectives the scope of the project related almost exclusively to cycling, so the objectives for the project related to outcomes beyond the scope of the work, it was therefore difficult to assess how well or poorly the project meets these objectives. It was concluded that the objectives themselves are inappropriate for a scheme stage study.

Overall key findings of the audit relevant for promotion of an NMU audit process were:

- No demographic information was provided in the Scheme report (for example the age structure of the different catchments) this could have been used to prioritise the level of investment to areas where increased benefits are most likely;
- No data was reported or collected about walking in the study area, which could have helped to inform objectives and option development;
- Traffic volume and traffic speed were also missing pieces of information which are central to walking accessibility and cycling amenity and safety;
- Road hierarchy was not considered at the start of the study. If the form and function of each road link could have been more clearly defined, the rationale for the level of service and therefore type of infrastructure provision would itself be much clearer

The case study audit findings highlighted that the earlier an NMU-type process can be conducted within a transport project, the more cost-effective the process would be. Meeting with the Project Manager running the project further confirmed this finding and there were obvious frustrations from the Project Manager as many of the key aspects the review identified as missing were on were not able to be addressed at this later stage.

If NMU-specific objectives could have been set in conjunction with objectives for the project as a whole, findings from a staged audit approach are less likely to be large-scale, and are more likely to address low-cost details, which would be in the control of the Project Manager. Our thinking was that as the project moves through different stages of design, separate templates could be used to challenge design assumptions that might affect the amenity of walking and cycling facilities and environments.

The outcome of this process so far has been a general guide for where NMU audits could take place and their usefulness with a focus on the feasibility mandate stage.

ALIGNMENT WITH EXISTING AUCKALND TRANSPORT PROCESSES

We have started to explore what processes exist throughout the project life at Auckland Transport to see what kind of existing tools are available to Project Managers to assess and audit the accessibility of its proposed infrastructure. In 2015 in the Project Management Office at AT released a revised Project Management Framework. (See an excerpt of the AT Project Management process as Figure 1 below). This comprehensive document clearly defines the different stages of a project and various decision points that occur along the way.

Certainly an opportunity would be to integrate an audit tool as part of the sign-off approval at the formal decision point (yellow stars) at the end of each phase. This is where there is a chance for the business to consider the project, weigh up the benefits, costs, and make sure it's aligned with strategic objectives. If the project no longer achieves the intended outcome it can be stopped, or a new direction can be agreed upon.

A process which already exists which would complement this audit (but should reduce the workload here for stakeholders) would be the internal and external stakeholder engagement throughout the projects life. This includes:

- Various teams at AT & Partner organisations such as AC, NZTA & Panuku
- Advocacy groups- Bike Auckland, Living Streets Aoteroa
- Local Boards
- Disability advocacy groups' representatives
- Iwi Representatives

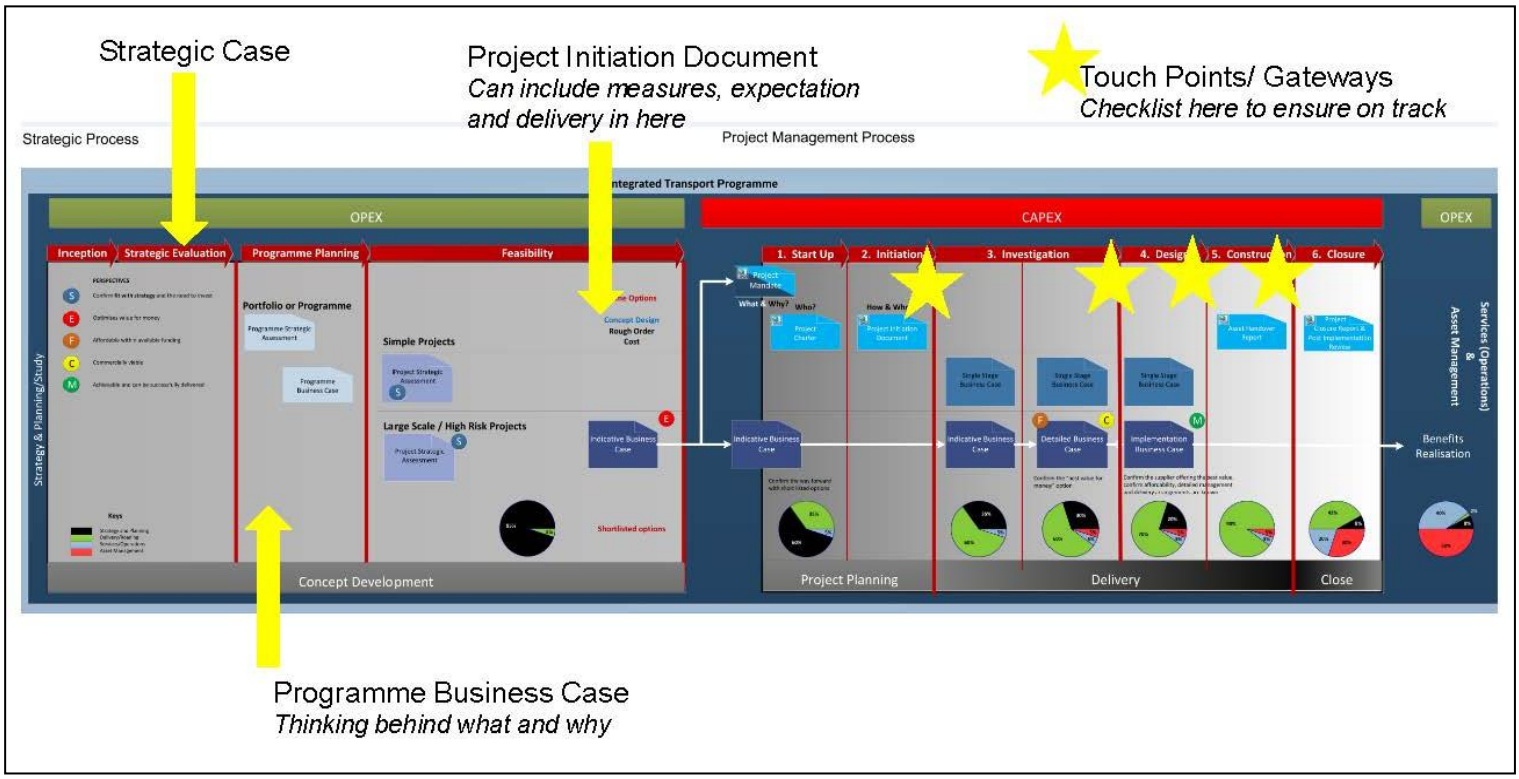

Figure 3 Excerpt from Auckland Transport Integrated Transport Programme

TEMPLATES

Once we discovered there is certainly policy, as well as gaps in existing project process that could be assisted and improved through the use of a review or audit of NMUs, we knew the biggest challenge would be coming up with a effective and efficient way to include the tool as part of the project process. So the idea of templates/ checklists came about and we began developing these using both the UK resources and the Land Transport NZ 'Interim guideline' as starters.

During the process of actually drafting these templates, we discovered there are two quite distinct types of NMU audit/ reviews that would be useful for different reasons:

1. **Pre-mandate or mandate setting**: where project objectives are set. This is the most important time to establish desired outcomes for walking and cycling through the project, so that audit comments can be incorporated with good reason. This area of project development is captured in the left side of the diagram in Figure 3. This work is somewhat similar to the context report that were required as part of the UK NMU tool and were noted in the Land Transport NZ document. We have included a draft template to assess this stage of work in the appendix; this is a further development of an earlier template and we suspect this will continue to evolve.

2. **Design checks and commentary**: Feasibility, scheme and design stages: opportunities to improve attractiveness and convenience of walking and cycling through making the best design decisions at all stages of the project. The stages at which an NMU audit would be carried out would ideally be agreed by the project team in the stage above *pre mandate setting stage,* although will design checks at some of these stages would still certainly be useful if the pre mandate stage has been missed.

A question has emerged for these particular stages of a project development around the potential use of mode specific audits and level of service tools rather than a broader NMU audit that attempts to cover all modes. In talking with engineers and designers working on similar projects round the world certainly there seems to be a trend towards mode specific audits.

LESSONS LEARNED

After several workshops with both Auckland Transport project managers, strategy managers as well as senior AT staff involved with revising the Transport Design Manual (formerly known as ATCOP), we have identified the following important points to consider in the development of this new process:

Strong agreement on the importance of NMUs
There was strong general agreement from everyone we spoke to that consideration of these modes and people were important. Interestingly many considered Non-motorised user needs were already being met and felt assured through processes such as external consultation with mobility and vision impaired groups undertaken for some projects that NMUs needs had been adequately considered. There was also some assumptions made that accessibility audits of some kind were being carried on all projects, which we found to be not the case.

Constrained by Project Scope
A common response from project managers was the concern that unless the mandate included specific reference in the objectives/ scope to providing for NMUs or any subset group of these, there was very little ability to change or make improvements along the way. Any amount of additional funding or design investigation exploring these aspects was considered above and beyond what they had been tasked with delivering.

How Road Safety Audits (RSAs) fit into the picture
The actual positive influence RSAs had on improving project accessibility outcomes was often minimal, but there was often perceived benefits that did not actually exist. Many project managers were certainly aware that design alterations needed to predominately focus on the serious or significant ratings and that while the moderate and minor had been noted (which is the typical 'home' of access recommendations that do not have clear safety effects) there was not usually budget or time to look into these with any rigour.

Limited understanding of what an NMU is
The term 'non-motorised user' is considered unhelpful by some, who feel that it does not adequately define the audit's intended purpose. There was confusion by some that these users did not include people with disabilities, then there was also the point made that NMUs would 'technically' exclude mobility scooters and electric bicycles. This raised discussion around the audit process name and how the term 'non-motorised user' was perhaps not comprehensive enough. We agree that 'non-motorised user' is not all-encompassing or entirely clear. A new name for the audit - a rebranding exercise of sorts - is something we would like to achieve as part of this work and this thought process is ongoing. A few audit name ideas thought about so far include:

- Quality Audit- this would include both RSA and NMU audit and is long term approach perhaps. The UK has an established process for this which would be worth using as a precedence.

- Accessibility Audit
- Vulnerable User audit
- People using the Footpath and riding a Bike Audit
- Wheels and Feet Audit
- Human Audit

Keep it Simple but make it Accountable
In terms of the audits integration into existing project process and framework the feedback has been about trying to make it as simple and easy to complete as possible.

- Several suggested it should be integrated into the RSAs so that people do not question additional workload
- There was certainly support to try and make this aspect of the design review much more accountable and able to be linked back to projects and policy objectives.

Big emphasis and desire to apply this thinking and template as early as possible in project process for all parties so far.

Tie it to Policy
The team leading the Transport Design Manual (former ATCOP) suggested there should be clear links to policy communicated to audit users (at least initially) either sitting within the template or somewhere else.

How could Recommendations/ Opportunities identified be Prioritised

There needs to be a way to prioritise recommendations through this tool. Perhaps a matrix: to assess which recommendations are the most cost-effective or proxies to assess/ measure success of investment for NMUs, ie. How many more people will a raised zebra crossing vs. a flush zebra attract to the PT interchange and then evaluating the economic benefit of the physical investment. This could be similar to project risk assessment where probability and consequence are ranked. Opportunity and trade-offs could be ranked here from 1-5. A ranking or coverage level of different types of users could also be integrated.

CONCLUSION AND RECOMMENDED NEXT STEPS

We have had good support for a process that increases design emphasis on walking and cycling. We have been particularly encouraged by the insight from management that early identification in the project mandate to support access for walking and cycling is the best way to get good outcomes for all road users. It has also been encouraging to hear there is now someone from the walking and cycling team at Auckland Transport who is assisting PMs to undertake counts and desire line mapping for NMUs.

The next step for us will be to continue to refine the Pre mandate/ feasibility template and to trial this across a range of projects in Auckland. Almost everyone we engaged with said there was little that could be done if opportunities were identified at a later stage, so our focus should be right at the beginning. We hope that continued engagement with the management and staff who will ultimately commission and complete these audits will result in a process that results in better environments for walking and cycling across the city. Training for Project Managers and design teams in this NMU audit/ review area is something that we will further explore both for Auckland Transport staff and consultants.

Modal specific audit tools for cycling are currently being developed in Auckland so it will be useful to see how this tool is applied, as this will likely require refinement and trialling too. Walking however still remains a little left behind and is certainly an area where further development could occur as an outcome of this work. Perhaps the PERS tool developed in the UK could be tested here in a range of projects (Transport for London, April 2014). These mode-specific LoS tools may replace the need for staged NMU audits past preliminary design.

REFERENCES

Auckland Council (2013) *Auckland Plan* accessed 26th January 2016 from http://theplan.theaucklandplan.govt.nz/

Auckland Transport (2013) A*uckland Transport Disability Policy.* Alison Rust

Auckland Transport (2014) *Auckland Transport Code of Practice 2015*, accessed 27th November 2015 from https://at.govt.nz/about-us/auckland-transport-code-of-practice/

Auckland Transport (2015) *Auckland Statement of Intent 2015/16 – 2018/19* accessed 26th January 2016 from *https://at.govt.nz/media/1181349/AT-Statement-of-Intent-2015-2018-17July.pdf*

Land Transport New Zealand (2006) *Non-motorised user review procedures* accessed 27th November 2015 from https://www.nzta.govt.nz/assets/resources/cycle-network-and-route-planning/docs/nmu-guidelines-interim.pdf

Ministry of Transport, 2010. *Safer Journeys Road Safety Strategy2010-2020.* accessed 26th January 2016 from http://www.saferjourneys.govt.nz/about-safer-journeys/strategy-2010-2020/

NZ Transport Agency. (2013) Road Safety Audit procedures for projects: Guidelines https://www.nzta.govt.nz/assets/resources/road-safety-audit-procedures/docs/road-safety-audit-procedures-tfm9.pdf

NZ Transport Agency. (2014) *Safer Journeys for people who cycle: Cycling safety panel final report and recommendations, December 2014,* accessed 26th January 2016 from *http://www.saferjourneys.govt.nz/assets/Panel-Report-Safer-cycling.pdf*

NZ Transport Agency, Auckland Transport and KiwiRail (2015), *Auckland's Regional Land Transport Programme 2015-2025.* accessed 26th January 2016 from https://at.govt.nz/media/1191335/Regional-Land-Transport-Plan-Adopted-Version-July-2015.pdf

The Highways Agency (2005) *Design Manual for Roads and Bridges*, Volume 5 (2) Part 4 Provision for Non-Motorised Users, accessed 27th January 2016 from http://www.standardsforhighways.co.uk/dmrb/vol5/section2/ta9105.pdf

Transfund New Zealand (2000) *Cycle Audit and Cycle Review: A Scoping Study –Research Report No.180.* Francis and Cambridge Ltd Christchurch, accessed 27th January 2016 from https://www.nzta.govt.nz/resources/research/reports/180/

Transport for London (April 2014), *Walking Good Practise* – Version 4, accessed 27th January 2016 from http://content.tfl.gov.uk/walking-good-practice.pdf

Statistics NZ (2015) *National population projections, characteristics*, 2014(base)-2068, accessed 27th November 2015 from http://nzdotstat.stats.govt.nz/wbos/Index.aspx

APPENDIX: DRAFT TEMPLATES

NON-MOTORISED USER AUDIT

Designing with a focus on people & their travel needs

PROJECT STAGE : Mandate setting / Objectives Development or Assessment

Project Title			
Prepared by		**Reviewed by**	
Date		**Status**	

OBJECTIVE OF THIS AUDIT

To gather information to inform the mandate, or inform the direction of focus for the project

STRATEGIC DATA & CONTEXT INFORMATION	INCLUDED	COMMENTS
Policies/ Strategies – goals/ vision this project could support- refer to notes		
Provide site location plan		
Transport Generators - Show where the trip generators & destinations exist in the area on a plan, these could include: • Places of employment • Library • Educational centres - Schools/ Universities • Transport hubs • Natural landscape features as places of interest – volcanoes or beaches • Community centres, town & local centres		
Road Typology - Road hierarchy definition - Review the roads and streets strategy in TDM/ ATCOP (June 2016) & include Network Operating Plan if one exists for this area		
Landuse Context – Unitary/ District Plan Are there any other development proposals or land use changes of relevance happening in the area?		
Natural Landscape - including Topography – provide GIS maps showing relative gradients of the area		
Community Demographics - from Statistics NZ Information www.stats.govt.nz • Age profile maps – Maps of age profile compared to average Auckland Region • Proportion of population with no access to a motor vehicle		
Existing or Planned NMU routes/ provision • Overlay the Auckland Cycle Network Plan – Are there opportunities to connect into this network or does your site include routes on the ACN? • Identify any Key Walking Routes – these are places that people need to travel between eg. public transport stations, schools, local shopping centres , health and community centres, leisure facilities etc.		

DATA - OPERATIONAL	**INCLUDED**	**COMMENTS**
Pedestrians flows and activity – peak/off peak		
People on bikes flows – peak/ off peak & daily counts		
Motorised vehicle flow – peak/ off peak and AADT & speed information		
Existing Bus services and bus stop locations		
Existing Rail service and stations		
Crash data – Look at causalities by user group and injury severity		
Show on a plan existing and well used walking routes		
Show on a plan existing and well used cycling routes		
Potential walking or cycling routes & desire lines not currently used – due to personal security or road safety fears		
CONSULTATION - Who are the key community stakeholders to involve?		
Local residents		
Affected parties		
Interested groups, eg Blind foundation, Bike Auckland etc.		
Potential users of future route/ facility		
IDENIFICATION OF ISSUES/ CONFLICT POINTS – define impact that the existing operational and strategic information will have on the project & document locations and instances of potential conflict between users		
NMU OBJECTIVES – To be set here		

AUDIT PLAN – When will this project benefit from future NMU audits? This is to be agreed with the project design team.	**YES**	
Feasibility		
Preliminary / Scheme Design		
Detailed Design		
Construction		
Post Construction		
GENERAL COMMENTS - MIGHT BE OUTSIDE OF SCOPE…		