CYCLE INVESTMENT IN NEW ZEALAND – FROM FAMINE TO FEAST

Andy Lightowler, Technical Director, Transport Advisory / Beca Limited (Beca)

ABSTRACT

A few years ago funds for cycling projects were very difficult to secure. Recently, Government allocated $100m to Council's nationwide to spend over three years. This step change in funding left Councils, consultants and contractors challenged in gearing up to deliver the outcomes envisaged.

Cycle design solutions have made amazing progress. The painting of a simple white line to demarcate a cycleway has given way to separated cycle lanes of all sorts of colours. Designers have innovatively interpreted current NZ Design Standards, drawing on overseas guidance and experience, as they seek specific solutions to local challenges.

Increasing the width of the road corridor to accommodate separate cycle lanes is often difficult to achieve. Reallocating existing road corridor space can be controversial. It often involves removing car parking spaces and reducing intersection capacity for example. Transport agencies are increasingly confident at overcoming these challenges. Combining cycling projects with urban streetscape amenity improvements greatly assists in obtaining community buy-in.

This paper gives an overview of the challenges faced by designers and the innovative solutions developed for urban cycling projects in NZ. It also comments on best practice from overseas and how this has been applied to the NZ urban context.

KEY WORDS

- Reallocating road space
- Separated cycleways
- Best practice
- Innovative solutions.

INTRODUCTION

Historically, New Zealand's roads and streets were designed to maximise traffic flow. For many people who would like to cycle the road environment in many of our urban areas is perceived as too hostile.

But in an increasing number of towns and cities in Europe, for many adults and teenagers, hopping on a bicycle is the most natural and practical way to get around. Even primary school children will commonly ride unaccompanied between home and school. Try suggesting that to the majority of parents in New Zealand!

A few years ago, funds for cycling projects were scarce, and where they were available they were often difficult to secure or not fully utilised. Our politicians, urban planners and traffic engineers were also often not very brave. Whilst new approaches to street design have emerged which promote cycling and a more 'balanced' approach to allocating road space, these have often been adopted slowly and 'business as usual' tended to prevail.

In 2014, the NZ Transport Agency allocated $100m to Transport Authorities throughout New Zealand to bid for to spend on projects over three years through the Urban Cycleway Fund (UCF). The availability of significant additional funding was welcomed by many, and has led to more progressive thinking to encourage cycling. Despite many Councils, consultants and contractors having real challenges in gearing up to deliver the outcomes envisaged, it has led to greater bravery in adopting and adapting overseas practices in cycle provision to the New Zealand environment.

The recent resurgence in cycling has been heartening for those who have fought for better infrastructure to make cycling accessible and safer for everyone.

This paper gives an overview of some of the challenges that have been faced by planners and designers in New Zealand, and provides examples of the kinds of innovative solutions that have been developed for urban cycling projects.

GROWING CONFIDENCE

Cycle design solutions have made amazing progress in New Zealand in the last few years. The traditional painting of a simple white line to demarcate a cycleway has started to give way to the provision of Dutch style 'separated' cycle facilities or cycleway in a wide range of colours and designs. For the purposes of this paper, a "separated cycle facility" or "separated cycleway" includes any infrastructure (path or lane) intended for cyclists that is parallel to but physically separated from the main roadway in some way (kerb, island, vertical posts, etc.).

Increasing the width of the road corridor to accommodate separate cycle lanes in urban areas is often difficult to achieve. Reallocating existing road corridor space often involves removing car parking spaces and reducing intersection capacity for example, which can be controversial. Fortunately New Zealand's transport authorities are becoming increasingly confident at overcoming these challenges.

Transport engineers have grown in confidence at interpreting current New Zealand Design Standards, innovatively drawing on overseas guidance and experience, as they seek specific solutions to local challenges.

By combining cycling projects with urban streetscape amenity improvements, this greatly assists in obtaining community buy-in, as does careful planning of the construction phase of projects. Gaining the support of local boards and local media to achieve adequate communication before a project is implement, and offering front-line assistance during the construction phase, are also key to overcoming objections.

ADAPTING OVERSEAS DESIGN IN NEW ZEALAND

The design of New Zealand's cities is often quite different to overseas cities, particularly Dutch and Danish cities which are often outstanding and lead the world in many respects. In some respects it should be easy to simply apply overseas designs into New Zealand's cities – we often have way too much road space. But there are many subtle difference which get in the way and don't always make it practical. Adapting overseas concepts to a New Zealand context takes work, creativity and an entrepreneurial approach, both in design and in politics.

Driveways are a notable design challenge for implementing protected cycleways in New Zealand. One thing that New Zealand has in droves but the Netherlands tends to have much less of is driveways every few dozen meters.

Currently people cycling on a separated cycle facility along a road corridor do not have precedence over traffic entering or leaving side roads (signalised or priority-controlled), unlike someone cycling on the main roadway does. Under the current rules, cyclists have to give way to vehicles crossing the path of the separated cycleway, irrespective of the degree of separation provided or of any markings across the side road.

Our designers have a long way to go to figure out how driveways and protected cycleways can safely interact. It would be nice if we could just remove most of them to make our streets safe, and turn our roads back into roads where you can then just apply ‘off-the-shelf’ Dutch style treatments. But until then there is a substantial difference that needs to be overcome.

Experience has shown that best practices in the Netherlands may not be applicable in New Zealand due to different terrain, weather, existing infrastructure, cultural attitudes, etc. You cannot just say 'do what that flat, centrally-dense, high-level-of-government-control country does’ and try to duplicate it here. There is not really such a thing as a standard Dutch junction. In fact, every junction is designed to fit a particular space and is designed with the needs of the traffic in that space. The devil is very often in the details of implementation.

A huge difference is the legal environment for road users. Dutch drivers undergo much more training than New Zealand drivers, and they operate under very different rules of the road. Simply plopping a Dutch design into a New Zealand city without significantly revising the road user rules could put cyclists in grave danger where the Dutch design assumes cyclists would have right of way in a location that New Zealand laws would assign right of way to the motorist.

Sometimes there are too many design compromises because people objected to car parking spaces getting lost.

HORSES FOR COURSES

There is a real good reason a significant minority of cyclists do not care for protected bicycle lanes - namely they are usually slower and they do not leave manoeuvring room if something unexpected comes up. It is sometimes forgotten that the primary purpose of transport is to get from point A to point B. As such, speed is paramount only to safety. Any changes which make things slower for some users are not going to be highly looked upon. Good bicycle infrastructure should allow riders to set their own pace, not force them to ride at the speed of the slowest rider. Good bicycle infrastructure also negates, or at least dramatically reduces, the need to stop or slow down compared to regular on-street cycling. Protected bicycle lanes rarely help in that regard. The few that do are those built alongside a natural barrier like a park or river where by definition there's no motor cross traffic.

One of the potential issues with delineation, is that road users get used to it, not having to worry about other travellers on different modes. The more delineation and direction you have, the more road users can come to rely on it, meaning less thinking (or a different type of thinking) is required. In situations where we go down this path, it is important to get this delineation right.

INTERSECTION DESIGN CHALLENGES

A key consideration is the treatment of cycle facilities at intersections where it is often less easy to provide segregation and so the cyclist is often exposed to the more danger on pavements than they would be if they were on the road.

The challenge with off-road facilities is often how they are dealt with at intersections, where side-roads typically have priority. Contra-flow (wrong-way) cycling can also suffer from higher crash rates due to motorists not expecting you to be there.

WHAT DO CYCLISTS WANT?

What cyclist actually want depends on who you ask. Cyclists are not a homogeneous type and sometimes have differing opinions on what they want, in part dependent upon their own skills and experience. However, thanks to a lot of work, some of it done in New Zealand, we do have a pretty good idea of what people who would like to cycle want if they are to take it up. The key ingredient is often safety.

By safety they usually mean that they want to be able to ride their bicycles to where they want to go without putting their lives at risk - hardly a surprising or unreasonable request. Whilst statistics show that cycling is not nearly as dangerous as it may appear, few would dispute that it needs to be made safer and more pleasant.

Academics and policy makers have identified three groups of cyclists. The “Strong and Fearless” cyclists are accustomed to putting up with the inadequate cycling infrastructure now provided. They make the best of poor road conditions and continue to ride regardless. The “Enthused and Confident” cyclists are up to most rides but would welcome well marked, even separated on road cycle lanes and intersection improvements.

The last group is the largest and often most focused on. The “Interested but Concerned” are not likely to commit to serious utility cycling until a network of separated paths is provided for much of their cycling routes. This group is the largest at 30-40% of the population and research has found that they would cycle more if they felt safe. This pent up demand for cycling can help all road users, even motorists.

The Netherlands achieved its world beating modal share not by building a few high quality paths separated by lesser infrastructure (that was tried in the 1970s and did not work), but by building exceptionally safe infrastructure everywhere. In London, the focus has been on having a plan for, and creating a safe wider network first. This is before introducing new infrastructure. A quality piece of infrastructure is practically worthless if it leads to nowhere!

A key lesson that is being learned in New Zealand is to think in terms of all types of cyclists. Also think in terms of what the end result is compared to what was there before. If it is faster and at least as safe, that is good. If it is safer and at least as fast, that is also good. If it is both safer and faster, then you scored a big win. If either safety or speed are reduced, then perhaps you need to rethink the design.

THE NEED FOR TRIALS

Trials of new road designs are often more difficult than they should be. It took Auckland Transport a long time to come round to the idea of using planter boxes as a means of separating cycleways from the main road, for example. In New York, there is a long history of trialling new ideas before they are rolled out more widely. Demonstration projects in New Zealand which apply new designs for cycle infrastructure may help accelerate the adoption of new approaches into everyday practice. Further research is perhaps needed to understand and help remove the planning and delivery process barriers to implementing new approaches.

PUBLIC REACTION

The cycle projects recently implemented in New Zealand's cities have not been without their critics. Local and national press and cycle groups have questioned some of the designs, notably where they involve the removal of parking.

Even in centrally located, multi-modal neighbourhoods, some residents are convinced that it hurts the neighbourhood to dedicate any street space to anything other than cars. Bicycle lane sceptics may well be more passionate and noisy than proponents.

A key lesson is not that we should live in fear of a vocal minority. It is just a reminder that with any project as visible and meaningful as a protected bicycle lane, some people will see themselves as 'winners' and others will see themselves as 'losers'. And also that members of another group — often about the same size as the self-identified winners — can be swung either way depending on their perception of whether the project is needed. This is why cycle facilities should be delivered as part of a wider network, rather than on a piecemeal basis.

Another key lesson is that greater focus is needed on awareness of cyclists. Some people do not appreciate that bicycles are classed as vehicles!

The ridership impacts of improved cycle facilities prove they are worth implementing. But cities should not build them without being able to explain why a connected network of safe and low-stress bicycle routes will make everyone a winner.

The Urban Cycleways Programme is generating some great projects all over the country. Mention Auckland and cycling together in the past two years and the dominant thought is "the pink path" – **Te Ara i Whiti or "Lightpath"**, which takes a disused motorway bridge to create a 900m walking/cycling link from the southern entrance of the CBD around to the west of the central city (see Figure 1). The outrageously bright magenta coloured surfacing has ensured a global photo opportunity since its opening in December *2015*. It is a great piece of cycleway, with lots of space and nice views of the city. The Beach Road and Nelson Street cycleways are other great achievement (see Figures 2 and 3 below), the former being notable for the high standard of streetscape design integrated into the cycleway project. But of course these projects are only small pieces of the entire puzzle.

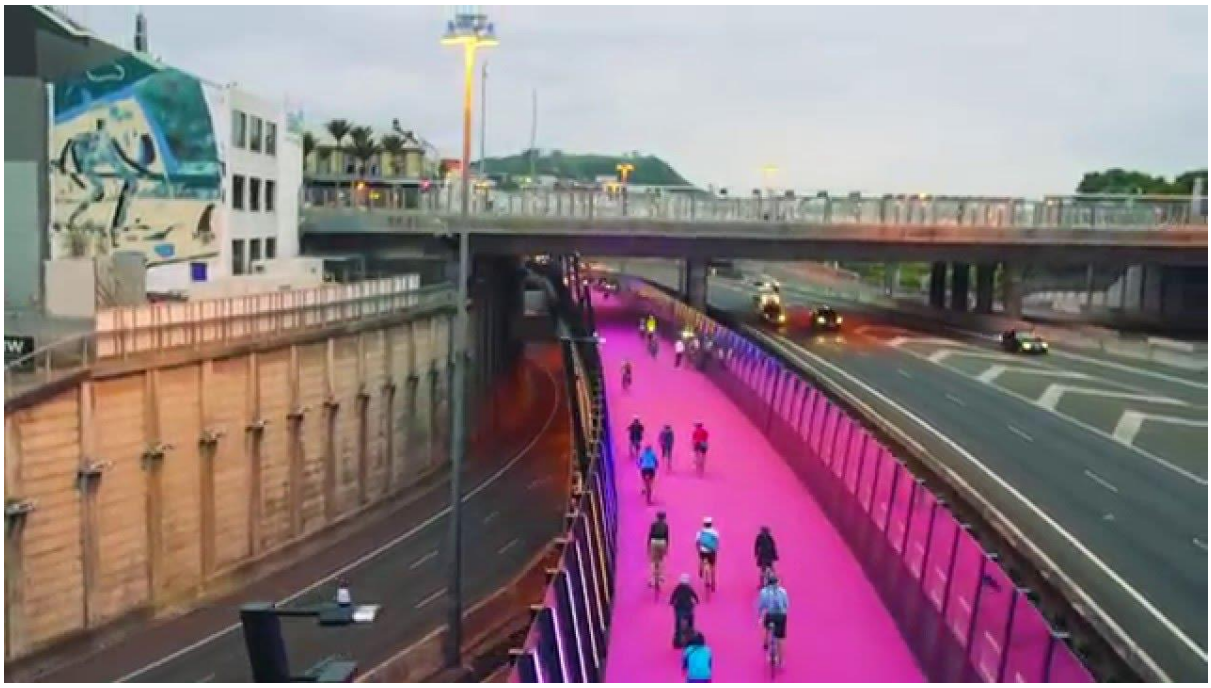

Figure 1 – Lightpath, Auckland

Figure 2 – Beach Road Cycleway, Auckland

Figure 3 – Nelson Street Cycleway, Auckland

CONCLUSION

In conclusion, the recent availability of relatively large amounts of additional funding has been a landmark moment in New Zealand cycling history. Whilst it has been challenging for New Zealand's Council's, consultants and contractors, they have risen to the challenge to improve cycle facilities in New Zealand's urban areas. Although progress has been slow on some projects and challenging in some locations, several of the projects implemented represent an amazing achievement / a real step-change.

Implementing cycle lanes often takes courage, leadership, a different way of thinking, and a system that allows innovation to successfully implement cycle projects.

The recent UCF funding initiative has led to a lot of lessons being learnt, in particular from applying best practice from overseas. Whilst there are elements of recent projects that could have been done better, the lessons learns will undoubtedly help make future cycle projects an even greater success.

With the increasing implementation of high quality cycle lanes in New Zealand in the last few years, we have far more robust evidence — both anecdotal and quantitative — that they increase ridership, make streets safer, and benefit cities economically. These have provided a number of examples for those of us working to make the case for improved cycle facilities and better integrating these with the overall road network.

AUTHOR BIOGRAPHY

Andy is a Technical Director at Beca Ltd with 29 years' experience in planning and designing a wide variety of transport projects in the public and private sectors. He has led the implementation of a number of cycling infrastructure projects in New Zealand since moving here in 2009, including Auckland's first segregated cycleway on Beach Road, and the Nelson Street cycleway project connecting the North West Motorway cycleway to Auckland's CBD. Andy's involvement in cycle projects dates back to the late 1990s when he was responsible for managing the preliminary design phase of the Malahide Road Quality Bus Corridor and Cycle Route project in Dublin, Republic of Ireland. This pilot combined bus priority and cycleway project was undertaken in collaboration with Dutch cycle design specialists, and included the implementation of an innovative cycle 'gyratory' at an existing busy six-arm roundabout.

21 Pitt Street, Auckland
andy.lightowler@beca.com