TECHNICAL PAPER

A WALKING AND CYCLING BENCHMARKING TOOL

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ABSTRACT:

Benchmarking was identified as a key enabler of local authority best practice by the stakeholders that contributed to the implementation plan for the NZ walking and cycling strategy. It is one of the ten resulting implementation plan initiatives, with reponsibility for development lying with the NZTA. It aims to assist local authorities to improve their services across a wide range of related activities that directly or indirectly support walking or cycling. It seeks principally to provide mechanisms to identify and, importantly, share best practice. This paper and display poster overviews international benchmarking techniques studied to derive the Walking and Cycling Benchmarking self assessment tool the Agency has commissioned to assist New Zealand local authorities, along with outlining the framework of the resulting tool. So far developed for cycling services, the project will next explore data needs, develop questionnaires and add a matching walking assessment methodology.

An industry consultative group informed an earlier phase of this work and the Conference and Display Poster presentation continues that helpful dialogue.

INTRODUCTION – WHAT IS BENCHMARKING?

The concept of "benchmarking" has been used widely in recent decades by many types of organisation and across a wide range of disciplines. Those organisations, sometimes supported by governments and industry stakeholder groups, have deployed various benchmarking techniques, through a common desire to seek continuous improvement in the delivery of their own services. The approach involves learning more about their operations by studying the services and results of similar organisations who are performing well, leading to a deeper understanding of their own strengths and weaknesses. This project, from the cycling delivery perspective, is being developed in close cooperation with the Australian Bicycle Council in order to permit later direct performance comparisons and trans – Tasman learning opportunities.

The process of benchmarking thus typically involves comparing operational performance – services, outputs and outcomes, with similar organisations or enterprises, Once best practice, performance differences and the reasons behind them are well understood across an industry, then each participating organisation has the potential to explore what aspects of others' "success factors" might best be integrated within the scope their own organisation's operations. Thus, a route map to continuous and often measurable performance improvements is an outcome of the benchmarking process, with each organization learning from others.

In simple terms this process can be summarised as follows:

Successful Benchmarking =

Self Analysis + Identifying Best Practices + Analysing Performance Differences + Implementing Findings

Result = Narrowed Performance Gaps Across an Industry and Tangible Performance Improvements

How Does Benchmarking Work?

Benchmarking, while seeking to explore as a key goal, qualitative examples and measures of best practice, nevertheless remains founded upon studying performance indicators. However, in this approach, these are deployed primarily as a means of self analysis, helping to identify key differences between participating organisations. As the techniques and examples explored later demonstrate, these differences of approach can be very wide ranging and complex. They typically go well beyond often seemingly straightforward matters of service delivery – in this case local authorities and their cycling and walking support services and the contributions of their stakeholder partners, such as NZ Police and health sectors.

The participants in a benchmarking exercise will typically collect or contribute to data collection for a prior agreed suite of indicators believed to be common and fundamental to service performance, in order to establish best practices in a particular field. Subsequent qualitative analysis through peer groups, site visits or more detailed case studies, are often then used to showcase and share best practices. This helps participants to understand more fully how those differing practices have been developed and how they might be best adapted to work for their own organisation.

So, benchmarking is not primarily a data collection, measurement and rating exercise. The ratings are a means to an end. It is instead a tool to help us learn from others and for professionals to share their expertise in a supportive learning environment.

Why Benchmark Walking and Cycling?

It remains central government policy to provide people with the opportunity to walk and cycle more often and safely. The Government through its 2009 Policy Statement on Land Transport Funding (GPS) 2009/10 – 2018/19, has signaled that the over – riding investment priority is towards land transport supporting economic vitality and growth. It has continued the support for providing transport choice by public transport and active travel modes, which continue to offer excellent value for money in many instances as both stand - alone projects or as part of wider infrastructure or services investment. The benchmarking of best practice, and importantly identifying efficient, best value provision for cycling and walking, therefore still accords closely with the Government's desired transport outcomes for the coming decade.

Achieving much of this goal is recognised as being in the hands of local government. Business as usual will almost certainly not be enough if we are to gain the best economic contributions from active travel. International best practice and performance in active travel delivery demonstrates that New Zealand could achieve improved performance in this area, but there are also some excellent examples of adaptable good practice already here within the country, that can point the way to timely and effective changes in services. A proactive approach to sharing best practice across New Zealand, and comparing that in turn with leading Australian and international examples therefore has much to offer. As indicated earlier, the cycling element of the tool is also being developed in collaboration with the Australian Bicycle Council, acknowledging the benefits of having a common performance assessment framework for both counties.

When applied to walking and cycling, any benchmarking process needs to encourage stakeholders to aim for continuous improvement in performance. They can ideally compare themselves to international best practice and both aspire to do better, as well as share their successes with others. The process should therefore facilitate networking, peer evaluation and support between broadly similar authorities so they learn from each other. Scoring of attributes can also help identify areas where improvement would make a significant difference and scores can also be used to compile league tables. By identifying the best performers for each success factor, these results comparisons encourage participants to delve deeper and understand their key drivers of successful outcomes. Most importantly, the scoring focus is self evaluation and certainly not to "name and shame" poor performers. Experience in the USA suggests that rating scores can result in towns and cities aspiring to improve their scores to reach target status within set time frames.

Successful schemes reviewed for this study have tended to be lead by government, national user groups, or coalitions of like minded organisations. The involvement of external parties provides independent facilitation and moderation to ensure the integrity and consistency of the process.

The NZ Transport Agency is in a good position to develop and facilitate the benchmarking process. It was given this role in the implementation strategy for the NZ walking and cycling strategy and sees the support and encouragement of better practice as the primary goal for this project.

Who is Benchmarking for?

Benchmarking in the context of this project, informs all those who are engaged in some way in providing for walking and cycling. There are several audiences who will benefit from a benchmarking process and information in different ways:

Territorial Local Authorities (TLAs) – who either provide directly for walking and cycling in their area, or influence other stakeholders. These will typically be the main beneficiaries of the process. The majority of TLA's are already motivated to do better for walking and cycling – but officials can sometimes struggle to get the resources, information, advice and support

they need. Benchmarking will importantly identify what they are already doing well and go on to explore with support what they could do better.

Regional Authorities - who are responsible for the preparation and monitoring of Regional Land Transport Strategies, including regional walking and cycling strategies. Benchmarking exercises can assist them in their monitoring – by providing data and assisting them to set targets for future RLTS development and recommend funding priorities for implementation. It will also assist in identifying common themes and differences among local authorities in the region.

Central government. Benchmarking will provide a "snapshot" of national and regional performance against current national desired outcomes, together with a robust baseline of information against which future progress can be measured. It will especially inform decision making around the best value application of government support resources – both through encouragement and information, as well as deployment of support funding through the activity classes in the NLTP.

Other stakeholders: NZTA are also responsible for managing cycling and walking facilities within the state highway network in collaboration with the local authority walking and cycling plans. The Police may conduct education and enforcement activities. Cycle training may be provided by a range of providers. Travel behaviour change involves many partners at schools and workplaces. Sport and recreation and health promotion providers are involved in events and promotion. Public transport operations, parking provision, developers and organisations, with businesses making both location decisions and about providing community services, all impact on walking and cycling.

Citizen Advocate Groups: Who will use the information for citizen input into LTCCP and similar consultation processes to advocate for better practice.

Towards a Walking and Cycling Benchmarking Tool for New Zealand

The current NZTA commissioned project is to develop a Walking and Cycling Benchmarking Tool for New Zealand. It is primarily intended to assist territorial local authorities (road controlling authorities) to assess their programmes and activities performance in support of the active travel modes of walking and cycling. The project further progresses work previously undertaken for Land Transport New Zealand, and which focused on exploring, with the support of an industry advisory group, international best practice examples of benchmarking approaches – primarily focused upon cycling services and initiatives.

The desired primary outputs of the project were as follows:

- A review of international benchmarking approaches focused on "active travel" and that might be adaptable to the New Zealand context.
- Determination of appropriate performance assessment criteria and categories for considering local authority performance across a wide range of factors - through a range of data and information inputs provided by each.
- Development of a matrix of performance ratings, forming a resulting "benchmarking tool". This would enable the assessment of performance and measurement of progress on a consistent basis for the range of activities undertaken by TLAs and their partners that support walking and cycling in the area.

Earlier Work

An earlier phase of the project, supported by an industry steering group, had identified the following key international examples of benchmarking best practice with a broad focus on

active travel delivery. Those identified all assessed cycling needs. These were considered an ideal basis upon which to derive a benchmarking approach and tool adapted to New Zealand's needs.

- ***Velo Info*** – which deploys a self-rating system, focussing strongly on processes such as policy development, planning and implementation. It does not however distinguish between the different types of activities such as infrastructure, promotion, training and travel behavior change. This is evolving into the European "Spicycles project.
- ***European Bicycle Policy Audit (BYPAD)*** – which despite its name, has a focus on delivered outputs and travel behaviour, rather than on policies. It used questionnaires completed by officials, users and politicians to inform the analysis. The process is facilitated by accredited sustainable transport consultants.
- ***English Regions Cycling Development Team (ERCDT) (UK)*** – which had a well developed rating system, developed for the UK Department for Transport, with a strong focus on policies and intentions, rather than on outputs. (The same team further developed a tailored version of their approach for New Zealand in 2006).
- ***CTC (Cyclists Touring Club) Local Authority Benchmarking Project (UK)*** – an approach involving volunteer "peer group" authorities visiting each other to identify best practice and the sharing of results across a wide range of factors from policy, to programme, to facility design and delivery. A good structure that worked best when informed by a prior ECRDT evaluation against best practice.
- ***Dutch Cycle Balance*** – a multi facet rating system, based on an objective process for collecting data on cycling conditions using an instrumented bicycle, published statistics such as safety, and questionnaires. The results were used to inform a facilitated discussion between politicians, officials and cyclists on how planning could achieve scoring improvement. The data collection and facilitation was conducted by the Dutch Cycle Union, with costs shared between the local authority and the central government. An evaluation showed that the ratings were a good predictor of the mode share of cycling.
- ***Other*** useful benchmarking resources were noted to have included League of American Bicyclists - Bicycle Friendly Communities, Thunderhead Alliance (USA), the Queensland Survey of Bicycle Planning, and the *Bikeability* toolkit from the Bicycle Federation of Australia.

Through the project, a two dimensional matrix of process and activity types was prepared to help compare the key features of these notable international benchmarking tool examples with each other. This was agreed by the project team to be a good starting point to lead the development of the benchmarking matrix "tool" for New Zealand. In short, it was clear that no international example in isolation was readily adaptable to wholly suit New Zealand's requirements, but that a blending of objectives and approaches from the other systems, adapted as necessary, was likely to provide the best way forward. It was determined that the resulting matrix should be capable of both being used as an initial "self assessment" by an individual local authority, and then subsequently as the basis of a more in depth peer reviewed assessment.

TOWARDS A QUALITY MANAGEMENT MODEL

Through the analysis of a number of the aforementioned benchmarking assessment methodologies, it became apparent that the framework used by the United Kingdom Cyclists' Touring Club (CTC) independent "benchmarking" project looked the most promising for New Zealand's needs. Further exploration of the CTC approach revealed that had its origins in an adapted application of the European Foundation for Quality Management (EFQM) Business Excellence Model.

That EFQM model provides a framework for assessing organisational management and delivery systems, and is promoted by the European Foundation for Quality Management. The model was understood to have been designed as a practical, adaptable tool to help organisations measure where they are on the path to "business excellence". It was further understood to have been applied to a wide range of business organisations of varying sizes and diversity in the public and private sectors across Europe. It is a comprehensive tool that, when adapted and applied correctly, can help to improve an organisation's understanding of all those areas of an activity that might influence successful performance. It specifically helps to identify key "success factors" that help lead to improved business performance, and was further understood to be particularly appropriate as a tool for self-assessment and continuous improvement.

In the UK, this model was adapted for deployment in the local authority cycling service delivery context by the CTC as part of their national Cycling Policy Benchmarking Project. It was used to help identify, and then better understand, best practice in local authorities' cycling policies and service outcomes. With the goal for this project being to similarly isolate best practice examples among local authorities in New Zealand, and develop mechanisms to efficiently share and foster service improvements, the EFQM model appeared to be an appropriate base methodology to adapt for this particular benchmarking project.

The Service Excellence Methodology

The baseline model assesses any complex practice for service delivery excellence from the viewpoint of seeking to identify its key components. It identifies key "enablers" (or inputs) that influence excellent service delivery, then how those lead to "results" (or outputs) and, ultimately influence demonstrable outcomes. The model permits a good understanding to be gained of all the pertinent activities and processes, which for even apparently simple delivery models, can be multi - factored. As some of these factors are often best understood in detail through more qualitative analysis techniques using some form of independent review, this was the application approach adapted and deployed by the CTC.

The overall process therefore achieves an increased understanding of the key success factors that lead to improving the performance of the chosen service. Applied to a wide range of practices, the generic service excellence model, shown in Figure 1, is adaptable (and importantly scalable) to identify those key success factors for cycling and active travel delivery. This enables them to be better understood and then compared across a range of local authority organisations.

ADAPTATION TO THE NZTA BENCHMARKING PROJECT

By analysing the alternative assessment methodologies deployed internationally, the chosen approach to achieving a "benchmarking tool" for this project was determined to be key components of the following three methodologies:

1. The "EFQM Excellence" model, as the benchmarking foundation, providing the structure for the core assessment matrix and identifying critical success factors in inputs, outputs (activities) and outcomes (results).
2. An adaptation of the ERCDT "bell rating", or performance scoring system, tuned to the current NZ context - enabling performance assessments to be undertaken and then compared in each of the identified assessment categories.
3. Components of the European BYPAD (Bicycle Policy Audit) approach to help acquire necessary performance data and feedback from each local authority, together with a subsequent adaptation of the Netherlands "Cycle Balance" system as a qualitative benchmarking approach for reviews by independent groups and / or end users - in a subsequent stage independent benchmarking analysis by a peer group.

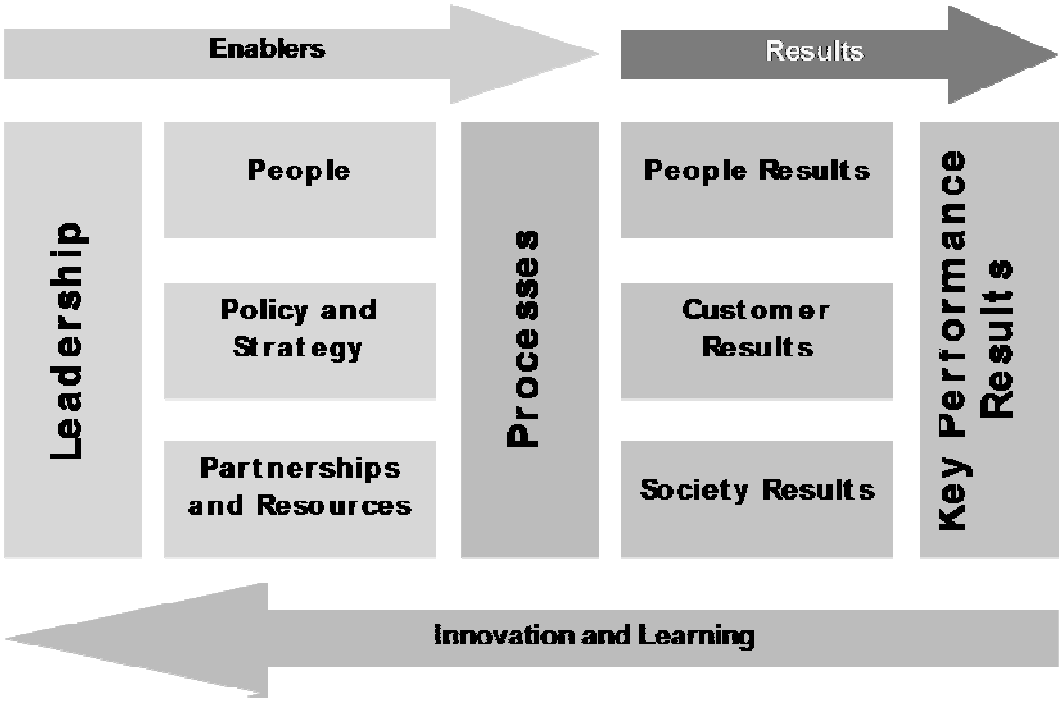

Figure 1 – The European Foundation for Quality Management (EFQM) Business Excellence Model

An Assessment Matrix – Key Criteria

The approach the project team derived recognised that a key requirement was to maximise the usefulness of existing local authority data sets that may already exist, and minimise the burden of collecting new data and information. These data sets include existing and proposed LTCCP programme data, published walking and cycling strategies and monitoring information already collected for those strategies.

It became apparent that acquiring the key performance model data sets for the key categories would most readily be achieved over two primary stages of data acquisition. Pertinent information could therefore best be collected for all authorities through a Stage A questionnaire - collating objective/factual information and deploying desktop data analysis where possible. A subsequent Stage B independent qualitative assessment, possibly involving peer groups, would best focus on those better performing authorities from Stage A, supplemented by those authorities with a strong desire to improve their performance and further contribute to the process. These two key stages are shown schematically in Figure 3.

Figure 2 shows the Benchmarking Assessment Matrix Model for Cycling derived as the basis for subsequent determination of the performance assessment methodology:

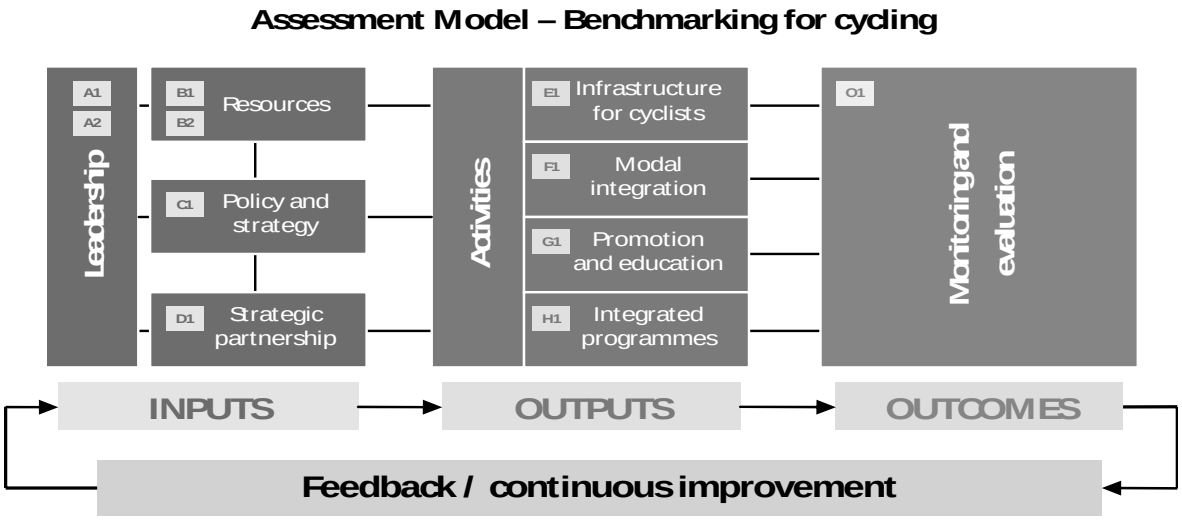

Figure 2 – A benchmarking assessment model for cycling, with key assessment categories

Assessment Methodology

The assessment approach would comprise of two stages as shown in Figure 3. Using the model, it would consist of an initial Stage A "self assessment" intended to collect primarily factual / quantitative information, along with some limited qualitative information. The latter qualitative information would be further explored where appropriate in the Stage B assessment.

The Stage B part of the assessment would likely involve a degree of peer group led independent assessment of performance and would focus on acquisition of qualitative data, particularly in determining success factors in the Activities categories of the model shown in Figure 2, with possibly some validation of performance from key stakeholders and user groups through separate surveys or interviews.

It is expected that this second stage independent review would be sought primarily by those Road Controlling Authorities (RCAs), with a strong commitment towards better performance. The approach will work best overall when the higher performing RCAs identified from Stage A also conduct Stage B detailed and qualitative assessments, so that their success factors can be understood by all for application elsewhere. Stage B would likely focus therefore on seeking out relevant best practice examples, to be shared initially between the "benchmarking group" of authorities, and subsequently with all local authorities nationwide. This second stage would require a greater resource commitment from those authorities. The participating RCAs could be grouped into RCA classification groups (largely by population size). This would ensure the information gained and shared would be directly relevant to an authority's circumstances - eg population size, geographic area and proportion of a road network classified as urban or rural.

The Stage B independent assessment might therefore involve peer group interaction or assessment involving a small group of 5 to 6 participants (one individual from each chosen or invited RCA), that would visit each other's authority. This approach was successfully applied by the CTC for their local authority benchmarking performance project in the UK. This project had a clear focus on the identification and sharing of best practice and identifying factors critical to success that were likely to be readily transferable to others in similar circumstances. This Stage B assessment is therefore capable of being similarly structured around gathering more qualitative information, which would likely be difficult to accurately

acquire wholly from a self assessment - thus providing a richer picture of performance and the necessary detail of success factors.

The process is also likely to benefit from individual RCA representatives gaining “peer group” feedback from people in a similar role and who have a full appreciation of the challenges faced by an RCA in that comparator group. It will create the opportunity to share how others have managed those challenges and learn about and build upon best practice. It should also help to build a long term support network for officers practicing in this area of delivery across the country.

In summary, the acquisition of data sets in the Stage A and B approaches is as shown in Figure 3 below.

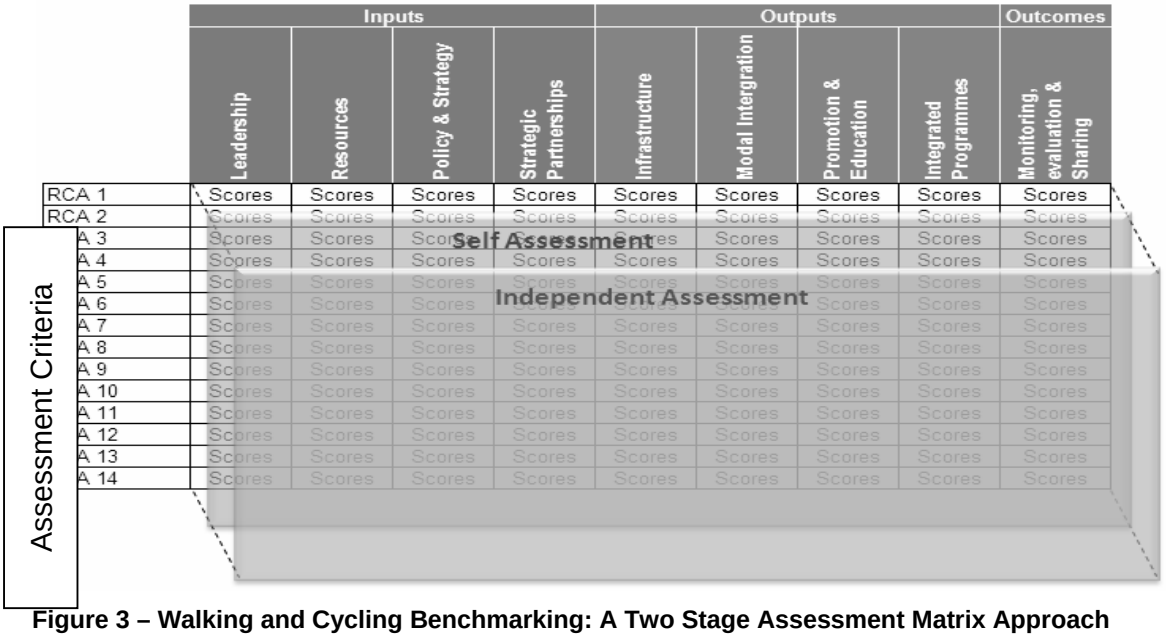

Figure 3 – Walking and Cycling Benchmarking: A Two Stage Assessment Matrix Approach

Best Practice Criteria

In order to score or rate performance for each of the assessment categories in an assessment matrix, the model needs criteria for best practice performance and a way of assessing achievement against a common performance yardstick . For cycling, the model had available the ERCDT bicycle “bell scores” developed for a wide range of categories as a very good basis for developing a scoring matrix. With the simple approach of best practice scoring five “bells” and a zero score demonstrating poor or negligible application of practice, this approach provides a framework for adjudging intermediate performance scores between those upper and lower limits. In assessing overall performance across the entire matrix, it is important to be aware that one authority may choose to provide fewer, more in depth services at a high standard of quality, while another may choose to provide or improve a wide range of service attributes to an acceptable standard, achieving average performance ratings across the whole matrix.

Starting from a written description of best practice, there are two ways of producing graduated ratings. Table 2 shows an example of part of a rating for cycling infrastructure delivery, with a descriptor for each level, similar to job sizing for employment. In the absence of good quantitative data, this method is fairly easy to apply provided the assessor has a good knowledge of the situation. It therefore lends itself to easy and quite accurate self assessment. The English Bell scores is used in this system, with it applied there by local

authorities initially self assessing themselves and a moderator from ERCDT ensuring consistency between regional and national local authority results. Better still, would be ratings objectively flowing from the data and questionnaire answers in a uniform way. Such indicators could include: spending per head of population on each output type, dedicated infrastructure as a proportion of total road length, proportion of primary school children receiving level 2 cycle skills training by age 11 and so on. Not all of the criteria can be measured this way of course.

Thus, the overall approach is intended to enable an assessment of an authority's performance in cycling and active travel delivery that is accurate and consistent enough to:

- Compare performance against similar authorities in New Zealand, Australia, and, in overall terms, internationally.
- Identify and support improvements in assessment scores over time.

Table 1 – Stage A and B Assessment Criteria

	Headline Criteria	**Key Assessment Criteria** *(Scoring and associated questions would be determined from an analysis of the following)*	**How primarily assessed?**	
			Stage A Self assessment	**Stage B Independent assessment**
Inputs	Leadership	• The extent to which politicians take a lead and direction in supporting cycling • The extent to which senior officers take a lead and direction in supporting cycling	X	X
	Resources	• The number of staff involved in cycling, their seniority and training • The level and continuity of funding – LTCCP related (current and future)	X	
	Policy and Strategy	• The presence of an up-to-date cycling strategy • The integration of the cycling strategy with other strategies and policies	X	
	Partnership	• The level of strategic partnership with other government agencies and stakeholders / shared goals and strategies	X	X (partly)
Outputs	Infrastructure for cyclists	• The extent and quality of infrastructure to assist cycling (e.g. cycle lanes/paths, signage, parking, prioritisation methods)	X	X
	Modal Integration	• The level of integration with public transport, walking, land use planning (e.g. facilities at interchanges, bike racks on buses, shared paths, cycle requirements for subdivisions)	X	X
	Promotion and education	• The extent of educational and training activities and funds dedicated to cyclists and non-cyclists • The number and scale of promotional activities for cycling	X	X
	Integrated Programmes	• The level of synergy between cycling and other programmes (e.g. road maintenance, renewal, road safety) – focus on added value projects and programmes) • Application of NMU review / audit principles • Shared programmes with third parties	X	X
Outcomes	Monitoring and evaluation	• Monitoring usage (level of increase /decrease of cycling) and safety (crash increase/reduction) • Monitoring of route quality and user satisfaction • Stakeholder satisfaction • Progress towards targets • Evaluation against GPS and NZTS	X	X (partly)

Comparison Assessment Ratings

Table 2 provides an example of how rated performance can be assessed for a single criterion – in this case the activity of E1 Infrastructure for Cycling , (as shown in the evaluation matrix, Figure 2). In all cases the draft performance ratings, or "scores" have been determined from an assessment of what poor, typical and excellent practice might look like in New Zealand and internationally at the present time. In order to achieve robust time series data for performance assessments, it will be important to ensure that these assessment ratings remain broadly consistent over time. Direct comparisons with international examples will be extremely difficult however, as the project has determined there is no one internationally recognised means for adjudging performance. Nevertheless, the technique derived by this project should provide a good basis upon which to judge better performing New Zealand authorities against existing and emerging international best practice and ideally be broadly comparable with Australian practice.

Table 2 – Assessment Scoring Example, Infrastructure Designed for Cyclists (Assessment Box E1)

Benchmarking Category	**Activities** **Infrastructure Supportive of Cycling**	**E1**
Assessment Criterion	**The authority demonstrates a clear commitment to assessing cyclists' needs in its roading and transportation design and decision making.**	
Performance Definition	**Associated Score**	**Assessment Method(s)**
No assessment of cycling needs in roading and transportation design and decision making • The local authority does not actively consider cyclists' needs in its infrastructure provision for roads or transportation. • There are no examples of cyclists' needs being incorporated into transportation or roading programmes of work. • Maintenance and renewal programmes make no obvious provision for the reasonable needs of cyclists.	0 Bells	(The assessment should pay some regard to the appropriateness of infrastructure priorities to meet the authority's reasonable transportation needs: ie to distinguish between city and largely rural authorities, taking account of issues such as population size and density). M1 M2 (Unlikely to be value in undertaking Stage B, of M3, M4)
Limited assessment of cycling needs in roading and transportation design and decision making • The local authority has some examples of considering cyclists' needs in its infrastructure provision for roads or transportation. • There are some limited examples of cyclists' needs influencing transportation or roading programmes of work. • Maintenance and renewal programmes make limited provision for the reasonable needs of cyclists.	1 Bell	As Above
The authority assesses cycling needs to some degree in roading and transportation design and decision making • The local authority has a number of examples of considering cyclists' needs in its infrastructure provision for roads or transportation, where evidence is available of changes to the programme or design which have benefited cyclists' needs. • Maintenance and renewal programmes make some provision for the reasonable needs of cyclists and assess	2 Bells	As above, but may be value in a proportion of authorities scoring "average" of 2 Bells or more undertaking: M3 M4

renewal programmes against a route hierarchy of cyclists' needs across the local authority's area. • The authority ensures design checks and scheme brief approvals processes assess, in part, cycling (and walking) needs for those schemes and programmes.		
The authority is developing a structured approach to assessing cycling needs across its infrastructure programmes • The local authority has a policy of considering cyclists' needs in its infrastructure provision for roads or transportation. • There is ready evidence of the policy benefiting cyclists' needs through provided examples. • Maintenance and renewal programmes are required to demonstrate reasonable provision for needs of cyclists, and renewal programmes are assessed against a cyclists' hierarchy of needs across the local authority's area. • The authority has a structured approach to implementing the LTNZ (NZTA) Non Motorised User Review Procedures across its transportation and roading programmes. • The authority pays regard to cyclists' needs in other infrastructure programmes, beyond roading and transportation.	3 Bells	As Above For better performing authorities from Stage A (i.e. "average" of 3 Bells or more): M3 M4
The authority has implemented a comprehensive approach to ensuring cycling needs are assessed across its infrastructure programmes, transportation decision making and land use planning • The local authority has a policy of considering cyclists' needs in its infrastructure provision for roads or transportation. • There is ample evidence of the policy benefitting cyclists' needs through a wide range of available examples. • Maintenance and renewal programmes for roads and greenspace networks are required to demonstrate reasonable provision for needs of cyclists, and renewal programmes are assessed against a cyclists' hierarchy of needs across the local authority's area. • Aspects of these considerations consistently feature within scheme assessment reports to political leaders. • The authority has implemented the LTNZ (NZTA) Non Motorised User Review Procedures to an appropriate degree across its transportation, roading, land use and greenspace programmes. • The authority has established a hierarchy of user needs either across its territorial area, or based upon key land use patterns. The principles of ensuring the entire roading and transportation network is "cycle friendly" is acknowledged and is beginning to influence decision making.	4 Bells	(The assessment should pay particular regard to the appropriateness of infrastructure to meet the authority's reasonable transportation needs: ie to distinguish between city and largely rural authorities, taking account of issues such as population size and density). For all: M1 M2 For better performing authorities from Stage A (i.e. "average" of 3 Bells or more): M3 M4
The authority has ensured cycling needs are prioritised across its strategic policy making, transportation decision making and land use planning, and thus are directly reflected in its infrastructure programmes • The local authority has a policy of considering cyclists' needs in all its relevant infrastructure management programmes. • The authority has a published hierarchy of road user needs which its infrastructure management and development programmes seek to deliver against. This will exist either across its territorial area, or be based upon key land use patterns. • There is ample evidence of these policies benefitting cyclists' needs through a wide range of available infrastructure and network management examples. • Maintenance and renewal programmes for roads and	5 Bells	(The assessment should pay some regard to the appropriateness of infrastructure to meet the authority's reasonable transportation needs: ie to distinguish between city and largely rural authorities, taking account of issues such as population size and density). For all: M1

greenspace networks are required to demonstrate reasonable provision for needs of cyclists, and renewal programmes are assessed against a cyclists' hierarchy of needs across the local authority's area. • Aspects of these infrastructure management considerations consistently feature within scheme assessment considerations of political leaders. • The authority has comprehensively implemented the LTNZ (NZTA) Non Motorised User Review Procedures across its transportation, roading, land use and greenspace programmes. • These NMU procedures have demonstrated positive influences over the quality of infrastructure provision and network management in favour of cyclists.		M2 For better performing authorities from Stage A (ie "average" of 3 Bells or more): M3 M4

DISCUSSION

At this stage, the true value of assessment ratings to the overall benchmarking process has been difficult to determine in the absence of prior knowledge about which aspects of service delivery of active travel emerge as the most critical success factors. Although the UK ERCDT approach did not produce totals, nor did Dutch Bicycle Balance, this can reduce the aspiration of an authority to aim for gold or, for instance "top quartile" status. That is possible in the Velo Info or league of American Bicyclist models, which recognise status from Bronze through to Platinum. At this stage, publishing total scores is not intended as an output from the process, but could be considered if benchmarking participants wish it.

The scoring system should also be primarily based on actual achievements - but also give some credit for good intentions as expressed in forward budgets, programmes and strategies that show a firm authority commitment to raising performance in the future. A sound data collection process and questionnaire would allow these aspects to be separately rated when reporting results.

The scoring scale needs to both reflect maximum scores based on international best practice and conceptually be within the reach of a very committed New Zealand or Australian RCA. Trial scoring, using the English regions and Velo.info ratings for a leading New Zealand authority, showed it achieved rating scores of around 3 out of 5 on most criteria. This would be an accurate assessment of good local performance, but leaving sufficient scope for improvement on an international comparison. However, this does mean that only half the range is left to describe existing differences across existing NZ and Australian practice. Nevertheless, it remains preferable that any benchmarking tool should also broadly align with other tools being used internationally. The cycling tool, as has been said, is being developed in collaboration with the Australian Bicycle Council with a view to having a common framework for both counties. It may be possible to interpret the data prepared for the local tool in way that is comparable with other systems. The development of data sources and questionnaires, which is a further stage of this project, could keep this in view.

For walking assessments - the only international tool available, is that recently developed by Walk 21 for use in benchmarking the international Walking Charter. The team developing that tool has acknowledged the NZ work to date and the development of the NZ walking tool will also benefit from the experience and expertise developed in that project.

CONCLUSIONS

Service delivery and performance benchmarking was identified as a priority by the stakeholders that developed the implementation plan for New Zealand's walking and cycling strategy. NZTA have subsequently commissioned work to develop a benchmarking tool to meet that objective.

This is still a work in progress and an assessment of benchmarking techniques deployed worldwide for the assessment of (primarily) local authority performance in the delivery of cycling provision (ie in terms of policy and strategy setting, budget provision, infrastructure delivery and promotion), has revealed a wide range of techniques.

None have appeared directly translatable to the Australian and New Zealand situation in terms of fully meeting the requirements of the steering group that oversaw the first part of the project. Nevertheless, a number of the techniques do have much to offer individually in meeting some of the important outcomes sought. By blending a number of the approaches and adapting them further to the local situation, there is every opportunity for the proposed method to offer excellent results in a new "Benchmarking Tool" to be used to support and encourage improved walking and cycling performance among local authorities in New Zealand and Australia. There are merits in having a broadly compatible trans – Tasman tool.

A positive aspect of a blending of existing techniques in this way, is that to some extent all the examples examined are internationally "tried and tested". Consequently, there is good evidence showing how an assessment methodology might be delivered in practice here and the likely results possible from its application. Of all of the techniques analysed, the United Kingdom CTC Benchmarking Project of local authority cycling performance appears the closest to the overall aspirations for this project. The primary driver is to create a productive environment for the sharing of best practice, resulting in a climate of continuous improvement among local authorities. This is understood to have also been the key objective for CTC in their benchmarking project.

It is also possible for Road Controlling Authorities to self assess their own performance using the written description ratings in the project report and further work is planned to develop a self assessment tool for walking. Questionnaires and data specifications remain to be developed for both areas of delivery, and where possible robust ratings derived from them to better inform objective scoring in the ultimate assessment matrix.

The draft tool is however now at a point where feedback can be sought on its applicability throughout the profession and this is why a display poster has been prepared for the Conference to accompany this paper and presentation.

REFERENCES

Reports

ASPERGES, TIM (2003) *BYPAD: A benchmarking instrument for local cycling policy*?

BORGMAN, FRANK (2003), *The Cycle Balance,* in *Sustainable Transport: planning for walking and cycling in urban environments* ed. TOLLEY, RODNEY. CRC press.

ENGLISH REGIONS CYCLING DEVELOPMENT TEAM (ERCDT) (2004) *Local Authority Assessment Progress Review.*

Websites

BICYCLE FEDERATION OF AUSTRALIA (2005), *Bikeability toolkit*. Australian Greenhouse Office, Dept of the Environment and Heritage
http://www.travelsmart.gov.au/bikeability/pubs/routebasedchecklist.pdf

DEPARTMENT for TRANSPORT *Benchmarking of Local Cycling Policy* (CTC et al)
http://www.dft.gov.uk/pgr/roads/tpm/tal/cyclefacilities/benchmarkingoflocalcyclingpolicy?page=3

CTC (UK Cyclists Touring Club) *Best Practice Case Studies*.
www.ctc.org.uk

European Foundation for Quality Management (EFQM)
http://ww1.efqm.org/en/Home/tabid/36/Default.aspx

Velo.info – since developed as the "Spicycles" questionnaire and reports
http://velo.info . and http://spicycles.velo.info/

The Thunderhead alliance - now renamed "Alliance for biking and walking" - benchmarking report 2007 (2009 report is imminent)
http://www.peoplepoweredmovement.org/site/index.php/site/programs/2007_benchmarking_report/

League of American Bicyclists - bicycle friendly communities
http://www.bikeleague.org/programs/bicyclefriendlyamerica/

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