

20. TENNYSON STREET AND LYTTELTON STREET OFF-ROAD AND ON-ROAD CYCLING FACILITIES - EVALUATION

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The purpose of this report is to inform the Committee of the results of evaluations that capture community perceptions and user behaviour in two recent major capital roading projects. The streets evaluated are Tennyson Street and Lyttelton Street which differ in their provision for cycling, the first having primarily off-road facilities and the second having on-road facilities. The Committee expressed interest in having the results of the Tennyson Street project reported once the comparative evaluation on Lyttelton Street was developed. The evaluations provide valuable information in helping assess the Council's performance in providing these two major capital roading projects but more importantly provide the Council and staff with current and insightful information on community perceptions and usage particularly in relation to cycle provision.

BACKGROUND

The Council's Cycle Strategy has the vision to make Christchurch a cycle friendly City. To achieve this vision the need to provide a cycle network throughout Christchurch is identified in the Strategy, this network needs to offer safe and encouraging cycle routes that meet recognised best practice standards and guidelines which encourage cycling in the community. Creating a comprehensive cycle network often necessitates providing physical cycle facilities and Christchurch has the benefit of using a number of recognised cycle guidelines along with its own experience towards determining what type of cycle facilities are best provided towards reaching the Strategy's Vision.

The Council adopted a strategic implementation plan towards recognising and improving cycle conditions in Christchurch when it adopted its first Cycle Strategy in 1996. Since that time it has been steadily working towards developing a cycle network that recognises the needs of different categories of cyclists whilst also recognising the practical limitations present. The result of this is that the current cycle network has elements of off-road and on-road facilities and that this is likely to continue with the question presented being what represents the ideal balance of each to providing the best cycling mix for Christchurch.

There has been some on-going debate at a political level within the Council over a number of cycle projects as to the desirability of off-road facilities versus on-road. It was during one of these debates that staff advised on the development of these evaluations and the Committee requested that when completed the results be reported. The evaluations have the potential to add to the collective knowledge regarding local community perceptions and preferences and certainly give cause to suggest that in these types of reconstruction projects the Council is well on the pathway to providing transport facilities that are generally meeting community expectations. The evaluations also show where the Council can look to make improvements in specific outputs which can further enhance the outcomes.

EVALUATION

The Christchurch City Council Transport and City Streets Unit has over the past six or seven years had an annual cycleways capital budget of approximately \$750,000 which represents approximately 2.5% of the Unit's annual capital roading expenditure. Post-construction project safety auditing and other Council surveys that include elements that relate to roading issues and service levels are undertaken on an ongoing regular basis. However, as a management tool it is good practice at intervals to take stock with an in-depth evaluation to ensure that the projects are meeting their objectives both in terms of the type of physical facilities provided and the process by which they are provided. This evaluation represents an operational expenditure equal to approximately 0.2% of the Transport and City Streets Unit annual capital budget.

PROJECT DESCRIPTION AND OBJECTIVES

The cycle path construction in Tennyson Street (Eastern Terrace to Colombo Street) is unique in Christchurch. The project was included within a programmed reconstruction of the kerbs and channels; the whole project which also included a new road corridor layout was completed in 2002.

The layout includes provision of a separated red cycle path that is off-road for most of its length but is on-road just prior to and after each intersection and also the inclusion of berm plantings that separate the footpath, that runs alongside the boundary fences, from the cycle path. It also includes pedestrian islands being added along with a flush median. (Tennyson Street plan attached).



Tennyson Street - layout view

A post-construction evaluation was commissioned to evaluate the new layout to determine the perceived strengths and weaknesses from both a users and residents perspective along with a behavioural study. The evaluation will help towards identifying the projects merits for possible implementation more widely in Christchurch. Due to the uniqueness of Tennyson Street the results will be useful in contributing to the collective national cycling knowledge and will be presented at the next national cycling conference.

The results of the Tennyson Street evaluation are set alongside a similar evaluation of a recently developed roading reconstruction project that provided a 'standard' layout with on-road cycle facilities in Lyttelton Street (Lincoln Road to Wychbury Street). Lyttelton Street is similar to Tennyson Street with regard to its traffic volumes, shared status as a collector road and recent redevelopment (over 2002 and 2003).

Lyttelton Street's reconstructed sections provide a standard layout which includes on-road cycle lanes, occasional kerb build-outs and pedestrian islands along with reconstructed footpaths, berms, kerb and channelling. (Lyttelton street example showing mid section of plan attached).



Lyttelton Street - standard layout view

METHODOLOGY

Market research was conducted involving the following user groups of each street:

- Residents of the street (including view as pedestrians/cyclists/motorists),
- Cyclists,
- Motorists,

- Parents of children,
- Children,
- Local school teachers and School Board of Trustees.

Behavioural studies were also undertaken to observe user behaviour with an emphasis on studying conflict levels and accident rates and assessing the layouts compared to current guideline standards.

In detail the market research for each street involved approximately 100 face to face interviews with residents, 200 telephone interviews with cyclists that use the street (Lyttelton Streets current results from 50 cyclists with 150 more to be gained in spring), 100 face to face interviews with motorists using the street, four focus groups - two with parents of children that use the street and two with children that use the street and finally a postal questionnaire to a limited number of local teachers and local school board of trustees members (ten for Tennyson Street and seven for Lyttelton Street).

The behavioural studies were undertaken using video recordings over several days at each location. The crash rate analysis was made using the Land Transport Safety Authority five year reported crash records.

RESULTS

The overall evaluation of the two streets is made up of five separate detailed evaluation reports. Two of these reports analyse the behavioural aspects and consider the facilities alongside current design guidelines, two analyse the community and user perceptions of the facilities and the processes of delivery, the final report compares the results of the perception evaluations. The following results represent the main findings that will be of significance and relevant to the Committee.

The reports will be available at the meeting and will be utilised by the Transport and City Streets Unit towards identifying where improvements can be adopted in its provision of capital roading projects.

Overall the responses from the community are very positive and in all cases the majority of recipients were positive about both the facilities provided and how they were provided. However, there are a number of areas identified where possibly improvements can be made. These insights are important and will help to add more value to our Unit services to the community.

RESIDENTS

The issue of safety is a critical element of any roading project and both streets rated highly from a user perspective.

69% of residents stated that they felt very safe or quite safe walking in Tennyson Street. This clearly shows the majority of residents appreciate the streets redevelopment in relation to its safety aspects. 6% feel quite unsafe walking in the street whilst 12% are neutral and 12% don't know.

The residents consider the primary strengths of Tennyson Street to be that it keeps cyclists safer, it is more appealing, has attractive tree plantings, keeps cyclists, pedestrians and cars separate and is safer for pedestrians to cross.

The primary weakness seen by residents is that the road is too narrow, cyclists don't always use the cycleway and parking areas are a problem.

Interestingly in reply to the question of red or green colouring of the cycleway 72% of resident prefer red cycleway markings in their street.

In Lyttelton Street 76% of residents consider it safer to walk on since the redevelopment. Only 1% consider it somewhat less safe to walk on.

The primary strengths seen by the residents are that the redeveloped street looks appealing, has attractive tree plantings, improved street lighting, it keeps pedestrians, cyclists and cars separate and keeps cyclists safer.

The primary weakness is that traffic is perceived to be going faster or that it hasn't slowed the traffic (16%). Current traffic speed counts show that the average vehicle speeds are currently just under 55km/h whilst the 85th percentile speed is around 60km/h. These speeds are fairly normal compared to similar streets throughout Christchurch.

When residents of both streets were asked to rate their overall satisfaction with the redevelopment the following results were gained:

	Tennyson Street %	Lyttelton Street %
Very satisfied	26	47
Quite satisfied	41	49
Neutral	17	1
Quite dissatisfied	14	2
Very dissatisfied	2	1

CONSULTATION

Residents of both streets were asked to indicate their satisfaction with the level of consultation between local residents and the Christchurch City Council during the development of their street. As the following results show there was a higher level of satisfaction with the consultation process in Lyttelton Street than in Tennyson Street. The primary reasons for the dissatisfaction centred around the perceived lack of communication or breakdown within the communication process itself.

	Tennyson Street %	Lyttelton Street %
Very satisfied	25	25
Quite satisfied	34	51
Neutral	24	13
Quite dissatisfied	13	10
Very dissatisfied	4	1

CYCLISTS

The Tennyson Street results showed that 92% of cyclists feel safe on Tennyson Street whilst 86% feel safe on Lyttelton Street. These figures confirm that the provision of cycle facilities does ensure that most cyclists feel safer. This perception is shared by the results shown in the residents primary strengths and also in the motorists results that follow.

Some 85% of the cyclists in Tennyson Street preferred red over green for the cycle lanes and 79% considered that the cycleway wouldn't be as safe if the colour was only on the actual road sections of the route.

Primary strengths of the Tennyson Street redevelopment include that it provides safety for cyclists, it separates cyclists from motorists and that the red colour helps identify the cycleway.

The primary weaknesses of Tennyson Street that were mentioned include cars not seeing cyclists at the driveways/stopping on the cycleway and rubbish bags/wheelie bins on the cycleway.

The primary strengths mentioned for Lyttelton Street included that the cycle lane is safer, liking the sections with red in the cycle lanes, the street seems wider, that the lanes giving allocation to cyclists and that it keeps the pedestrians, cyclists and cars separate.

The primary weakness mentioned is that it took a long time to complete.

MOTORISTS

In Tennyson Street 64% consider it safer to drive on than other Christchurch Streets and 93% consider it easy to drive through.

In Lyttelton Street 74% consider it safer to drive on than other streets with similar traffic flows but without cycle lanes and 98% consider it easy to drive through.

The primary strengths mentioned about Tennyson Street included that the cycleways are clearly marked, it has separated cyclists and young people from the cars, is safer for cyclists, cycleways are a good idea and the area looks appealing with all the plantings.

The primary weakness mentioned is that the road is a bit too narrow especially at the pedestrian islands

For Lyttelton Street the motorists primary strengths mentioned are that the street appearance is good with nice planting, that the street is/seems wider.

There were no specific weaknesses mentioned by significant numbers of motorists (over 15%).

BEHAVIOURAL AND DESIGN ASSESSMENTS

In brief the behavioural assessments for both streets revealed that the level of cyclists conflicts during the periods videoed were low and that there were no areas of significant concern identified from any of the sources of data gathered. However, it was noted that due to the relatively small amount of crash data available since the redevelopments that this continues to be monitored over a five year period. In regard to the design of the Tennyson Street cycle path, the assessment highlights that the path's alignment is too close to the property boundaries (currently 3.0m) and that under the current draft national design guides and contemporary cycling guidelines it should be considerably further away (around 2 to 6 metres). It recommends that if this type of facility is provided in future it should only be in environments that have fewer geographical limitations. It also recommends that an educational letterbox drop to residents be undertaken to inform about the need to keep the cycleway clear of obstacles such as rubbish bags.

The assessment also revealed that just after the redevelopment 78% of cyclists were using the cycle path - two years later 84% are using the path. This information is consistent with the perceptions evaluation in which 95% of cyclists stated that they mainly use the path.

SCHOOLS PERCEPTIONS

A limited number of postal questionnaires were included into the study canvassing individuals from Beckenham, Cashmere and West Spreydon Schools. These gave the following results:

"Thinking specifically about ... Street, from your school's perspective, do you consider that Street is safer for child pedestrians since the redevelopment of the Street?"

	Tennyson Street n = 10 Respondents	Lyttelton Street n = 7 Respondents
Much safer	-	-
Somewhat safer	4	5
Neither/nor	3	2
Somewhat more unsafe	3	-
Much more unsafe	-	-

When asked if they considered that it is safer for child pedestrians to cross the road in the respective streets since the redevelopment, the following emerged:

	Tennyson Street n = 10 Respondents	Lyttelton Street n = 7 Respondents
Much safer	-	-
Somewhat safer	7	4
Neither/nor	2	3
Somewhat more unsafe	1	-
Much more unsafe	-	-

When teachers and trustees were asked:

"Do you consider that ... Street is safer for child cyclists since the redevelopment of the street?"

	Tennyson Street n = 10 Respondents	Lyttelton Street n = 7 Respondents
Much safer	5	1
Somewhat safer	1	4
Neither/nor	2	2
Somewhat more unsafe	1	-
Much more unsafe	1	-

Six of ten teachers do consider that Tennyson Street is now safer for child cyclists simply because the cycleway keeps the children separate from vehicles on the road.

For the two people who now consider the street more unsafe, the following reasons were stated:

"Passengers in parked cars are not usually aware of approaching traffic on the left hand side."

"As with adult cyclists there are often non-cyclists in the cycle lane. This includes recycling bins! Cars reversing out of drives often reverse to the road edge - not the cycle lane edge. Parked cars have door opening occupants - a problem with regular cycle lanes but worse on Tennyson Street as it is often young passengers not used to looking out for cyclists."

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Neither/nor	2	2
Somewhat more unsafe	1	-
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All seven teachers and staff from West Spreydon School (Lyttelton Street area) stated that they consider that parents would feel about the same as before the redevelopment about allowing children to walk to school. From their perspective, the redevelopment has had no impact on parents' attitudes relative to children walking to school.

All but two of the respondents from the Tennyson Street area indicated that they considered that parental behaviour would remain the same as before the redevelopment relative to allowing their children to walk along Tennyson Street.

However, a variation occurred in teachers' attitudes relating to whether or not they considered that parents would be more likely to allow their children to cycle to school.

Six out of ten teachers (Tennyson Street Area) stated that they consider that parents would be more likely to allow their children to cycle along Tennyson Street since the redevelopment.

Only one respondent from Lyttelton Street indicated that they considered that parents would be more likely to allow their children to cycle to school since the redevelopment, but six respondents considered that parental attitudes would remain the same.

PARENTS FOCUS GROUPS

A range of interesting and insightful perceptions was collected utilising these focus groups which has added more depth to the quantitative information.

As a very brief overview the parental focus groups raised issues that suggest that the safety perceptions of the facilities offered at Tennyson Street are considered superior to those of Lyttelton Street ie off-road cycle facilities are preferred over on-road as they are felt to be more safe for children cyclists. In addition there was a very high level of positiveness overall about both redevelopment projects with some concerns about the proximity of car parking next to cycle facilities on both streets.

The focus groups helped towards raising our understanding as to the level of the communities understanding in regard to how to use the facilities provided and has raised the issue that there is a need to undertake some level of local education and promotion where such facilities are developed and to consider a wider educational campaign throughout the city.

CHILDREN FOCUS GROUPS

As per the parents focus groups these focus groups allowed a deeper insight than that which the quantitative evaluations provided.

The groups identified the strengths of the Tennyson Street to be the provision of coloured cycle lanes when on-street, positioning the cycle path off-road, introduction of pedestrian islands, smooth surface of the cycleway and the slowing of motorists.

The weaknesses of Tennyson Street are seen as the cycle way being too narrow, its surface too smooth, its proximity to parked cars too close and the plantings obstructing the path and the footpath and the footpath being too close to residents driveways.

The strengths of Lyttelton Street were seen as having clearly designated cycle lanes, plantings, improved guttering and smoother lanes for cyclists and pedestrian islands which help slow the traffic and allow pedestrians to cross.

The weaknesses of Lyttelton Street were in only having small sections of the cycle lanes coloured their smooth surface encouraging high speed cycling.

Some anomalies within understanding occur within all groups of children - particularly relating to correct usage of pedestrian islands and intersections. Children within both Tennyson Street and Lyttelton Street groups identified initiatives that could help clarify and reduce uncertainty that currently exists around using these facilities.

Some children had attended road safety courses through their respective schools and as a result were quite confident in knowing how to use the facilities, however, particularly the younger children became frustrated when adults and older children were not 'following the rules' - thus leading some to question their own behaviour.

OVERALL SATISFACTION WITH THE REDEVELOPMENT

Residents, cyclists and motorists from each street were asked to rate their overall satisfaction with the completed results of the respective redevelopments of their street. The following table provides the results:

Table 1 Overall Satisfaction

	Tennyson Street Residents n = 92 %	Lyttelton Street Residents n = 96 %	Tennyson Street Cyclists n = 200 %	Lyttelton Street Cyclists n = 50 %	Tennyson Street Motorists n = 100 %	Lyttelton Street Motorists N = 100 %
Very satisfied	26.09	47.79	60.00	38.00	30.00	33.00
Quite satisfied	41.30	51.04	32.50	60.00	50.00	59.00
Neither satisfied nor dissatisfied	16.30	1.04	2.00	2.00	12.00	6.00
Quite dissatisfied	14.13	2.08	3.00	-	2.00	2.00
Very dissatisfied	2.17	1.04	2.50	-	6.00	-

FUTURE CONCEPT DEVELOPMENT

When the various user groups in each street were asked if they would like to see the respective concepts developed in other streets in Christchurch, the following results emerged:

Table 2 Future Development

	Tennyson Street Residents n = 92 %	Lyttelton Street Residents n = 96 %	Tennyson Street Cyclists n = 200 %	Lyttelton Street Cyclists n = 50 %	Tennyson Street Motorists n = 100 %	Lyttelton Street Motorists N = 100 %
Yes	73.91	96.15	93.00	96.00	85.00	89.00
No	26.09	3.85	7.00	4.00	13.00	11.00
Don't Know	-	-	-	-	-	-

In general terms, both concepts were well received by each of the various user groups, with a minimum acceptance level of 74% (Tennyson Street residents) and a maximum acceptance level of 96% (Lyttelton Street residents and cyclists).

CONCLUSIONS

It is very positive for the Transport and City Streets Unit to achieve such high levels of satisfaction within the community for these major capital redevelopment projects and reflects well on the Council. This is particularly so considering that these two projects are representative of the many projects that are constructed throughout Christchurch each year.

However, much of the value of the information in this report and the detailed information contained within the evaluations is held in the opportunities it allows the Unit to look to further improve its performance. It appears that this will mainly be provided through adding value by following up on major redevelopment projects with educational and promotional initiatives to improve community understanding on how to use the specific facilities and also a reminder on general road use rules and on the Council's transport visions.

As a responsible Council alongside consideration of the overall community satisfaction levels for perceived safety, there is the need to balance the cycle design guides and the tracked crash rates when considering the types of cycle facilities to provide in future roading redevelopments. The design assessment report highlights the need to consider the soon to be adopted national cycling design guide.

The Transport and City Streets Unit is currently working through the detailed reports towards implementing a number of initiatives identified and will look to consider implanting these into our normal processes in future particularly in the communication and educational areas towards gaining higher levels of community satisfaction and safer roads.

Staff

- Recommendation:**
1. That the report be received.
 2. That the crash rates for Tennyson Street be continued to be monitored for a further three year period.
 3. That any significant variations to the results of the Lyttelton Street evaluation after the additional surveying of cyclists is completed in 2004 be reported.

Chairman's

- Recommendation:** That the above recommendation be adopted.