

Pedestrianisation: Are we reading from the same page? Perspectives from key stakeholders in Takapuna, Auckland

Leslie Wooller¹ , Hannah M. Badland² & Grant M. Schofield³

¹Auckland University of Technology, Auckland, New Zealand

²The McCaughey Centre, University of Melbourne, Melbourne, Australia

³Centre for Physical Activity & Nutrition, Auckland University of Technology, Auckland, New Zealand

Abstract

Transforming car-oriented streets into functional public spaces and pedestrianised environments has the potential to create environments that support active transport (e.g. walking and cycling), social interaction, and economic development. In the face of built environment characteristics, individual perceptions play a vital role in travel behaviour, spend characteristics, and social cohesion. This study investigates the perceived benefits of pedestrianising a shopping precinct in Takapuna, Auckland, New Zealand. Semi-structured interviews were conducted with nine stakeholders across three groups: shoppers, retailers, and local government. Shoppers and retailers perceived pedestrianisation schemes as a way of improving: aesthetics; connectivity and accessibility; safety; public transport infrastructure, and walking and cycling levels within the area. Retailers were also concerned about the impact of short-term construction on revenue. Local government respondents realised the potential of pedestrianising the site to improve existing infrastructure and become more economically competitive with other nearby retail options. All stakeholders recognised the importance and benefit of securing collaborative input into urban regeneration schemes. Any urban regeneration developments must be considered within a long-term cohesive strategic framework. Overall perceptions of pedestrianising Takapuna were seen as positive across all groups, and seen as being able to make improvements across multiple areas including further supporting business development.

Keywords: pedestrianised environments; urban regeneration; shopping precinct; public health; stakeholder perceptions.

Article citation: Wooller, L., Badland, H.M. & Schofield, G.M. (2012) Pedestrianisation: Are we reading from the same page? Perspectives from key stakeholders in Takapuna, Auckland. *Graduate Journal of Sport, Exercise & Physical Education Research*, 1: 16-30.

INTRODUCTION

Post World War II has seen a growing trend in the development of shopping centres in peri-urban settings, as land is less costly to purchase in these areas than more centralised locations. This is a shift from the traditional European city-style shopping precincts where developments frequently occurred before the wide scale use of automobiles and therefore are often proximal to residential housing and offer high levels of pedestrian infrastructure (Monheim, 2001). There are a number of examples of pedestrianisation schemes throughout Europe and other major cities that have

introduced measures such as traffic calming, and improved infrastructure to support walking and cycling, improving conditions for pedestrian users (Gehl et al., 1999; Levine, 2006; Monheim, 2001; Robertson, 1991; Schaller Consulting, 2006; Yiu, 2009b; Yuen and Chor, 1998). Urban regeneration through pedestrianised spaces have shown to increase physical activity levels, reduce car dependency, and improve economic activity at intervention sites (Cervero, 2000; Commission for Architecture and the Built Environment, 2001, 2007; Drennen, 2003; Gehl et al., 1999). Several studies have assessed the support for the development of pedestrianised shopping spaces, showing positive results (Acland Street Precinct Traders Association, 2003; Coleman, 2006; Curtin University of Technology, 2006; Gehl et al., 2006; Monheim, 2001). Perceived benefits for shoppers include: improved pedestrian links to services/facilities, and public transport infrastructure; development of open spaces for social and recreational use, and enhanced safety through the inclusion of traffic calming infrastructure (Commission for Architecture and the Built Environment, 2001). Architects and developers recognise the need to develop a better understanding of how people use public spaces (Sullivan, 2006). Retailers, on the other hand, often perceive pedestrianisation of shopping precincts more negatively. Common concerns include the potential increase in rental expenditure (Kodukula, 2006; Yiu, 2009a) and overcrowding of pedestrian areas (Schaller Consulting, 2006). For example, in a recent Bangkok study (Kodukula, 2006), 50% of the retailers perceived that pedestrianisation of the shopping precinct would not improve the shopping area, and a further 30% of the retailers identified that pedestrianisation of the area would increase rents, reduce shopper patronage, and increase pedestrian crowding.

Shared spaces are gaining acceptance within the urban planning field. Shared space is aimed at integrating the use of public spaces by removing the traditional segregation of motor vehicles, pedestrians and other road users. Kerbs, lines, signs and signals are replaced with an integrated, people-oriented understanding of public space, such that walking, cycling, shopping, social activities and driving cars take place (Hamilton-Baillie, 2008). Introducing shared spaces have the potential to improve existing land use mix, pedestrian accessibility, aesthetic appeal, and encourage walking within the designated areas (Commission for Architecture and the Built Environment, 2008). Although there is no comprehensive framework to evaluate these issues within pedestrianisation, ecological models have the potential to provide an ecological/ecosystemic way of understanding health, health and sustainable development, and healthy communities (Hancock, 1993). Of the three ecological models (The 'Mandala of Health', as a model of the human ecosystem, the health-environment-economy model, and the health-community model), the health-environment-economy model has the potential to identify interconnecting links between health, social, environmental, and economic well-being, with a focus on two overarching principles, being equity and sustainability. As a result the study aims have been developed in the broader theoretical framework of these models. New Zealand's urban design focus emphasises shared spaces, and the concept is currently being introduced into four streets within Auckland, New Zealand (Auckland City Council, 2009). North Shore's (Auckland, New Zealand) present core planning focus for Takapuna is to introduce localised shared spaces. For example, creating pedestrian priority walkways with appropriate signage and street furniture, providing cycle lanes to improve links to locations around the North Shore, and allocating pedestrian-oriented spaces for improved access to public transportation and the

beach (North Shore City Council, 2001, 2008). To date, much work has examined the urban form of the Takapuna shopping precinct with this concept in mind (North Shore City Council, 1991, 2001, 2008, 2009b).

The most recent strategic review of Takapuna was focused on the local government's strategy to accommodate future residential and commercial services and to improve the quality of the public space within the area (North Shore City Council, 2008). Key foci included: implementing contemporary urban design practices to new buildings and public spaces: adopting practical pedestrian policies to improve accessibility and functionality for all users: utilising technologies to enhance building structure, public spaces and streetscapes, and stimulating private investment opportunities to promote economic growth in the area. These recommendations were largely based on successful pedestrianisation schemes undertaken in European town centres (Gehl et al., 1999).

Although much background work has been carried out to highlight the benefits a pedestrian or shared space scheme would bring to Takapuna, little progress has been made to implement these changes. The present study, through examining the attitudes and perceptions stakeholders have on pedestrianisation, can identify valuable opportunities to incorporate collaborative stakeholder input to improve the development and planning process of pedestrian schemes in shopping precincts. This will enhance stakeholder 'buy-in' and stimulate the urban regeneration process within the area. Accordingly, this qualitative descriptive study seeks to examine the attitudes of three groups of stakeholders (shoppers, retailers, and local government) drawn from Takapuna, Auckland on the perceived effects of a conceptual pedestrianisation scheme. It is important to understand the role stakeholders play in pedestrianisation projects, in order that future projects can effectively support stakeholder engagement in the design process by enhancing communication and facilitate a shared understanding.

METHOD

Participants

Semi-structured face-to-face interviews with audio-taping were conducted with nine stakeholders purposively selected from each of the three following groups: 1) shoppers in Takapuna shopping precinct (S1, S2, S3; $n = 3$); 2) local government and business association (North Shore City Council Urban Design Team and Takapuna Business Association) representatives (G1, G2, G3; $n = 3$); and 3) local retailers (R1, R2, R3; $n = 3$). The lead researcher was the facilitator for each interview. Each interview lasted approximately 45 minutes.

Shopper and retailer participants were recruited during a previous shopper survey which helped determine shopper and retailer perceptions of pedestrianisation, shopper spend, travel behaviours, and environment characteristics of shopping precincts. This survey was conducted by the lead author and researcher assistants ($n=4$) in May 2009 in the Takapuna shopping precinct.

Retailer participants ($n=3$) consisted of two independent owner operator retail businesses (fashion and hobby and craft) and the third was franchisee operated (food and beverage). The local government representatives were identified by the

lead researcher and invited to participate by telephone. All interviews were conducted between June and July 2009. The host institution (Auckland University of Technology (AUT)) approved the study design and interview schedule through the research ethics process. The location, for all but one interview (Takapuna Business Association Offices), was the Auckland University of Technology rooms in Northcote, Auckland.

Setting

Takapuna is a central coastal suburb located in North Shore City, Auckland, New Zealand (Figure 1). Auckland is situated on a narrow isthmus of land between the Manukau Harbour on the Tasman Sea and the Waitemata Harbour on the Pacific Ocean (Abel, 1990), with a population of 1,461,900; 31% of the country's total population (Statistics New Zealand, 2010). The area contains an extensive range of shopping, commercial, entertainment facilities and recreational spaces (The Rose Garden and Hurstmere Green). The majority of retail and commercial buildings in the area were constructed in the 1970s, and are located within close proximity to the beach and a lake (≤ 500 metres), but the links between these facilities are disjointed, creating barriers for people using these spaces (Gehl et al., 1999). Until recently the Takapuna shopping precinct was the dominant retail centre in North Shore City, but has undergone an extensive decline in pedestrian numbers over the last ten years due to the development of several larger enclosed mall developments in peri-urban settings (North Shore City Council, 2008); as a result large parts of the shopping precinct are only active during work hours, closing down in the evening. Within Takapuna, most streets have a two-way vehicular traffic flow which is dominated by car parking (private and council operated), with a 50 km/h speed zone within the shopping precinct. The main shopping street in Takapuna is Hurstmere Road and is typical of post-war auto-centric urban design evident in many American and Canadian cities (Robinson, 2011). Public transportation options include a bus station and taxi stand, which are centrally located within a 200 metre walk from Hurstmere Road (Figure 2). Although a boardwalk is evident, only 350 metres along the beach front from the city centre, this is not continuous and does not link with the other facilities in the area. The shopping precinct lacks an attractive, safe pedestrian/cyclist network connecting important destinations.

Measurement approach

A semi-structured interview guide was developed by the research team and used for each of the interviews. The schedule contained 18 guideline questions under 4 predetermined themes focussed on perceptions of the Takapuna shopping precinct. The questions were modified slightly depending on the stakeholder group the participant came from and respondents were encouraged to expand their responses where appropriate. The overarching themes were: 1) general perceptions of the Takapuna shopping precinct; 2) attitudes toward pedestrianisation, 3) economic activity in relation to pedestrianisation; and 4) travel attitudes and behaviours. These themes were developed from predetermined research questions and identifying major themes through relevant literature. These themes are listed in Table 1.



Figure 1: Takapuna study area



Figure 2: Takapuna bus station on Lake Road

Table 1: Interview guide questions

 Introductory themes:

- What do you like about the current urban and physical environment of Takapuna town centre?
- What do you dislike about the current urban and physical environment of Takapuna town centre?
- What do you like about shopping in Takapuna town centre?
- What do you dislike about shopping in Takapuna town centre?
- What do you like about the current transport infrastructure in Takapuna town centre?
- What do you dislike about the current transport infrastructure in Takapuna town centre?

Pedestrianisation:

- How would pedestrianising Hurstmere Road affect pedestrianisation rates in Takapuna's town centre?
- What health impacts (if any) do you think would come from pedestrianising Hurstmere Road?
- How would pedestrianising Hurstmere Road impact on accessibility to Takapuna town centre?
- How would pedestrianising Hurstmere Road directly affect your business? (*Retailer only*)
- For retailers not located in pedestrianised areas, would you consider moving to Hurstmere Road if it was pedestrianised? (*Retailer only*)
- Do you think pedestrian-only areas provide safe and secure places to be in?
- Do you think pedestrianisation of spaces provides more opportunities for people to enjoy their surroundings?

Economic aspects:

- What financial impact would pedestrianising Hurstmere Road have on your business? (*Retailer only*)
- How would pedestrianising Hurstmere Road affect the type and/or frequency of purchases made by shoppers?
- What impacts would pedestrianisation have on the retail mix of Takapuna town centre?
- How do you think the North Shore City rate payers would respond if Hurstmere Road was to become pedestrianised?

Travel:

- How would pedestrianising Hurstmere Road affect car parking options or traffic flows in or around Takapuna town centre?
 - How would pedestrianising Hurstmere Road affect the public transport accessibility in Takapuna town centre?
 - How would pedestrian-only areas provide more opportunities for diversification of transport options or activities?
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Data analysis

Full transcripts were generated by the lead researcher from data collected through audio-taped interviews and field notes. Transcriptions were randomly checked against the interviews by the wider research team and were summarised using recursive abstraction (Spiggle, 1994) to illuminate patterns or concepts arising from the themes. Concepts and comparisons were identified by electronically searching transcripts for key words (e.g., pedestrianisation, transport infrastructure, economic aspects, safety, pedestrian accessibility) using Microsoft Word 2007 (Microsoft Inc., Redmond, WA). Using the thematic approach (Braun and Clarke, 2006), data was organised to show patterns in semantic content (not looking beyond what a participant has said), the themes were systematically examined for different viewpoints, the potential frequency and strength of opinion, and any unconventional opinions.

RESULTS

Results were separated firstly by the five themes, and secondly by stakeholders comments (Tables 2-5). The majority of respondents ($n = 8$) perceived pedestrianisation as an opportunity to provide recreational and social engagement, encourage more leisure businesses (e.g., cafés) and the use of active transport, and improve pedestrian accessibility to public transport and the beach. In addition, the local government respondents recognised that pedestrianisation developments would require a series of practical and well-considered strategies to initiate this process. It was regarded as possible to manipulate the streetscape by developing small areas of pedestrian-only spaces through restricting vehicular traffic in nominated streets and introducing shared space designs (no curb interface, using cobbles on the street surface, and minimising traffic signage) within designated areas. These strategies would also, in part, improve connectivity with the local beach and nearby retail shops and services (theme 1).

Table 2: Perceptions relating to founding themes of Takapuna

Shoppers:

Nothing to attract me to the centre. Not enough shopping variety. It's alright if you have a car but is disjointed and not user friendly for public transport and other forms of transport (walking/cycling), (S1).

No incentive to come to visit the area. Shopping selection is good. Transport network gets me from A to B. Not enough car parking spaces/car parking too expensive, (S2).

North Shore City Council/Takapuna Business Association:

The centre has a poor relationship with the beach; streets that have poor connectivity and are not pedestrian friendly (Como, Huron, Northcroft Streets & Byron Ave). The centre has individual store operators that you would not necessarily find in the malls, which gives opportunities for innovation to take place, although the type of shops (retail mix) still needs improvement. Some like shops are not grouped together meaning that distances walked are great, this would deter people from shopping in the area. The centre lacks the depth and range of shops at present; lacks continuity of the shopping experience as many of the shops adjoining Hurstmere Rd are cut off by poor pedestrian connectivity. This creates a situation where shoppers amass either in the mall or the street not both. The current bus station is well positioned and should be visible to the public to encourage patronage. Although more needs to be done to the pedestrian infrastructure to support public transport in the town centre (more pedestrian-only area, residential housing in close proximity); provide better vehicle linkages to support public transport usage; would like to see a central car park supporting pedestrian-only areas, (G1).

Retailers:

The centre is close to the beach and is a natural attraction for visitors and locals. The physical environment of the area means that Takapuna is confined to a narrow isthmus with the harbour on one side and the beach on the other. The urban environment has been developed with the car in mind and does not utilise the physical attributes of the area. Shop selection in the area is good. The current urban environment needs upgrading. The buses are located in the centre of the shopping district and the current two-way traffic flow and speed of vehicles through Hurstmere Road is a problem, (G3).

All stakeholders recognised the lack of aesthetic appeal and the need for improved maintenance within the Takapuna shopping precinct (Table 2). It was acknowledged that the close proximity of the area to the beach was an asset, although connections to the beach were disjointed or non-existent. The quality of the shopping theme

yielded mixed results, with respondents reporting both excellent (S2, S3, R2) and poor availability of goods and services within the area (S1, R1).

Table 3: Perceptions relating to pedestrianisation

Shoppers:

Pedestrianisation would bring more people into Hurstmere Road for shopping and leisure activities. People would walk more if the pedestrian mall was in place so the advantages speak for themselves. There would be less traffic congestion so people would be able to walk around more freely increasing accessibility to services and shops. Pedestrian-only areas would provide pleasant, relaxing, noise and pollution free places to be in. Happy and proud of the innovative way the council have looked at increasing walking incidences, (S1).

If pedestrianisation was well advertised it would work well. The scheme would have to discourage vehicle traffic from entering Hurstmere Rd for reasons of pedestrian safety; pedestrianised areas would encourage people to stay and linger longer in the town centre (social interaction). Takapuna needs to introduce shared urban spaces as in Europe (cars and people). Pedestrianisation will work if the adequate parking options are supported, an example of this would be to introduce more 'green' parking options. That is parking on all-weather green surfaces; this would be more pleasing on the eye than large parking structures, (S3).

Yes, pedestrian spaces would provide safer places provided they are supported by security personnel and security cameras. Yes of course, people would enjoy their surroundings if the following was implemented: 1) changing art structures, and 2) more theatrical performances in the area, would provide a better atmosphere, (S3).

North Shore City Council/Takapuna Business Association:

What I feel would work is to pedestrianise a portion of Hurstmere Road (Halls Cnr to the Takapuna Bar) and divided into three sections. The first section is the pedestrianised section and two vehicle segments (Hurstmere through to The Strand and/or Hurstmere Road through to the central car park). No through traffic as such although traffic would travel in opposite directions [←→]. Although I would ultimately like to see a series of pedestrianised lanes with no traffic at all through Hurstmere Road (conflict). Very few health impacts would result from pedestrianisation, although at present shoppers are subjected to car fumes making their shopping experience not so great. Would like to see the promenade developed further in The Strand, with Hurstmere Road to remain a shopping destination with a reduced level of car traffic. Pedestrianising the entire length of Hurstmere Road would have major impacts on accessibility to the Takapuna area. The traffic at present flows evenly between the three routes (Anzac, Hurstmere and The Strand) and the current plan is to give increased pedestrian priority. The real concern here is that if Hurstmere Road was to be pedestrianised that would give the other route alternatives a 50-50 split forcing more traffic onto The Strand and along the beachfront which is counter-productive, (G2).

Pedestrianisation may not necessarily provide safer places to be in, without the high population density these can become isolated places. Pedestrianised spaces that are active usually would provide opportunities for people to enjoy their surroundings, although equally good shopping streets can also provide the same opportunities. I think people would be happy with the concept of pedestrianisation, (G1).

Retailers:

In the short term it may affect pedestrianisation rates as people get used to the idea of parking and utilising the pedestrian mall; it would increase pedestrianisation rates long-term as people enjoy walking through the pedestrian mall without the worry of vehicles (injury). Pedestrianisation would encourage more people out of their cars and into the pedestrian-only areas (walking, cycling, and rollerblading); provided that there is adequate parking facilities accessibility to the centre would not be compromised. Pedestrianisation would benefit this business as it would give people safer access to the shop (crossing streets and intersections); pedestrianisation would also allow people to amble across the road safely, taking away the need for people to seek cafés on that side of the street due to the inconvenient nature of having to cross at pedestrian crossings or light patrolled intersections. The business would possibly look at utilising the footpath area, therefore increasing the number of customers that could be served and seated. Being a café

business pedestrianisation is a positive move, and I am sure that this business would consider moving to this type of retail and urban set-up, (R2).

Yes, pedestrian areas are safe places to be in. Pedestrian areas provide people with opportunities to enjoy their surroundings, (R1).

Public transport infrastructure was considered by most respondents ($n = 8$) to be insufficient for the area. As a result, strong support was seen for transportation infrastructure and pedestrian-only spaces that encourage non-motorised forms of transport (walking and cycling), and this in turn, was perceived to positively impact on health outcomes. It was also recognised that pedestrianisation would reduce the likelihood of vehicle-related injuries to pedestrian users, therefore 'heightening' the shopping precinct experience. Respondents strongly agreed that pedestrianisation would provide supportive environments for social interaction and the opportunity for users to linger and stay longer. Firstly, that pedestrianised streets may be unsafe places to be in (especially at night). Proposed solutions to enhance safety were to increase natural surveillance by increasing pedestrian volumes and placing surveillance cameras and security personnel in prominent positions. Secondly, Takapuna may be unable to support the required volume of foot traffic to make the urban regeneration successful because of its low residential population density. Thirdly, pedestrianisation was generally received as being beneficial in the long-term for the area and regarded as a practical solution to improve the shopping precinct (Tables 3 and 4).

Table 4: Perceptions relating to economic aspects

Shoppers:

Pedestrianisation would bring more people to the area and these people would have a certain expectation of the type of shops that they would prefer to shop in, (S1).

Pedestrianisation would encourage the type of shops that people can sit and stay or linger for longer, (S3).

Consult the people of Takapuna and ask them what they would like. People would generally support the idea of pedestrianisation providing that the parking is supported, a central theme and focus was introduced and the shops were upgraded, (S3).

North Shore City Council/Takapuna Business Association:

Would make it safe for families and children; would make the area more of a café outdoor dining experience, creating a more relaxed atmosphere; takes away any concerns about car related injuries to shoppers, (G2).

Retailers:

It would bring more customers/tourists to my shop; this would bring a positive financial impact for not only this shop but for the whole shopping area. This would have a big effect as more customers would mean more opportunities for increased sales on a long-term basis making us more competitive. There would be an increased variety as the empty shops would fill with different types of shops, (R1).

Pedestrianisation would bring more customers to the café for the abovementioned reasons, therefore increasing financial takings; on the flip side of the coin the business would see a drop in take-out purchases from people who have travelled to the shop by car. As more customers are able to be seated this creates opportunities for sit down purchases (larger meals). Frequency would not vary too much, although more customers would create more turnover of tables. It would create more sit down cafés/bars and leisure businesses, (R2).

Would affect our business greatly. Our customers would shop less frequently as access would be impeded due to the direct nature of pedestrianisation. Perhaps pedestrianisation would draw more businesses that are food and beverage oriented to the area, (R3).

I think the rate payers would not mind monies being allocated to pedestrianising Hurstmere Road, providing they can see value for money. At present the cost of rent does not equate to money well spent as there has not been a 'facelift' in this centre for some time, (R1).

The economic theme identified mixed perceptions. It was recognised by all groups that hospitality businesses would be attracted to pedestrian-only areas (Table 4), resulting in people spending a longer period of time in the shopping precinct. Yet, one shopper (S2) perceived no positive economic benefits of pedestrianisation due to redevelopment costs incurred, restrictions to vehicle traffic flows and the loss of car parking spaces. Retailers had short-term concerns regarding pedestrianisation; these included reduced revenue opportunities resulting from a decrease in foot traffic caused by limited accessibility to the area, and limited aesthetic appeal (e.g., on-going construction). Despite this, retailer feedback was largely positive about the long-term prospects of pedestrianisation.

Table 5: Perceptions relating to travel

Shoppers:

If there was sufficient parking on the peripheries of the town centre then this would greatly accommodate shoppers. Improvements to the ring roads would improve traffic flow, (S1).

North Shore City Council/Takapuna Business Association:

Would make it safe for families and children; would make the area more of a café outdoor dining experience, creating a more relaxed atmosphere; takes away any concerns about car related injuries to shoppers, (G2).

Retailers:

Pedestrianisation would bring more customers to the café for the abovementioned reasons therefore increasing financial takings; on the flip side of the coin the business would see a drop in take-out purchases from people who have travelled to the shop by car. As more customers are able to be seated this creates opportunities for sit down purchases (larger meals). Frequency would not vary too much, although more customers would create more turnover of tables. It would create more sit down cafés/bars and leisure businesses, (R2).

Would affect our business greatly. Our customers would shop less frequently as access would be impeded due to the direct nature of pedestrianisation. Perhaps pedestrianisation would draw more businesses that are food and beverage oriented to the area. (R3)

It was identified that pedestrianisation would likely lead to long-term increases in shopper volumes which would provide opportunities to improve sales and economic activity in the area, in addition to becoming more economically competitive with other retail options. North Shore City Council and Takapuna Business Association

expressed a desire to see the retail mix of the area improved with a major anchor shop and a larger number of 'high-end' retailers to encourage increased pedestrian volumes and economic vitality for the area. All respondents strongly agreed that the number of vacant or short lease shops operating was a major concern to the viability and retail mix of the shopping precinct. It was recognised that ratepayers of North Shore would support the idea and concept of pedestrianisation in some form in Hurstmere Road, Takapuna. Fourthly, developing the area into a shared space would provide additional opportunities for people to engage in a more pleasant environment (e.g., leisure activities, reduced noise and air pollution).

DISCUSSION

The interviews highlighted support from all groups for a pedestrianisation or shared spaces scheme in the Takapuna shopping district. However, concerns emerged with regards to the short- and long-term implementation and viability of such a project. From the five themes investigated, important similarities emerged in attitudes amongst the stakeholders studied.

Transportation infrastructure within the area failed to make provisions for all types of travel modes, particularly with regard to public and active transport. The findings of the present study are similar to those expressed in an earlier strategic document for the area (North Shore City Council, 2008), where it was recognised by the North Shore Council that pedestrian and transport linkages between retail shops, public transport facilities, and the beach needed to be improved. It was suggested that a well-formed strategic urban design framework is required to further develop connections with local amenities. Within Europe, a positive relationship was established by Monheim (2001) between pedestrian accessibility, transportation options, and economic activity in pedestrian precincts, in which pedestrian volumes, and economic performance were strengthened, as a result of improved accessibility (public transport) and higher quality retail options locating to pedestrianised streets. Comparable to our findings, Sukolratanamatee and Rogers (2010) identified that improvements to the pedestrian environment may enhance the recreational opportunities and promote social interaction. It was not surprising that all stakeholders noted a lack of aesthetic appeal and maintenance to buildings and amenities in the shopping precinct, as this was clearly expressed in previous strategic documentation for the area (North Shore City Council, 1991). The aesthetic and maintenance characteristics of pedestrianisation schemes is also supported in previous literature (Gehl et al., 2006; Gehl et al., 1999; Litman, 2003).

The recognition by the stakeholders of positive health benefits resulting from pedestrianisation was unsurprising. Internationally, an extensive evidence base exists documenting the relationship between pedestrian schemes and the improved walking and cycling conditions (Andrew et al., 2003; Ang-Olsen et al., 2003; Gehl, 1989; Kenworthy, 2002; Levine, 2006; Robertson, 1991; Wellington City Council, 2004; Yuen and Chor, 1998), and improved walking and cycling infrastructure has been positively linked to physical activity engagement (Saelens et al., 2003). Local government acknowledgment of the need to provide environments and infrastructure conducive to encouraging physical activity and health is replicated in previous strategic documents (North Shore City Council, 2001, 2008), and actively supports public consultation with the local community through a community feedback process,

to ensure that clear community health and economic goals are being addressed (North Shore City Council, 1991, 2009a). Morrison et al. (2004) identified the relationship between pedestrian-friendly environments that reduce traffic speed with decreased pedestrian-vehicle related injuries and fatalities. Similar to our findings, stakeholders expressed that implementing traffic-calming measures (road humps and kerb extensions) within the pedestrianised space would likely reduce the injury risk to pedestrian users and encourage more non-motorised modes of transportation to the shopping precinct.

As a result of pedestrianisation, land use mix within the shopping precinct may potentially change, with increases in the number of outdoor café-type establishments and/or high-end retail stores. Securing a major anchor shop and supporting 'high-end' retail shops was important for local government stakeholders. This is further supported by Ibrahim and Galven's (2007) findings where a major anchor retailer strengthened economic activity and foot traffic within a local shopping district. As such, improving Takapuna's urban environment is likely to be an important factor for encouraging diversity of shops, securing long-term income options (rental income and capital growth), and eliciting high quality covenants that improve the economic performance for the future.

Consistent with Kodukula's (2006) findings, it was perceived that construction of pedestrian areas might, in the short-term, hamper potential retail revenue. Although retailer concerns regarding pedestrianisation may be well-founded, concerns of pedestrian accessibility to shops could be reduced by implementing temporary measures to facilitate access to retail stores during any construction work in the area, and promoting these measures to the local community. These measures may include: providing alternative pedestrian linkages with services and facilities; supporting active and public transport by creating marked passages, and providing appropriate car parking options on the periphery of the shopping precinct. Care should be taken to implement these strategies along with any pedestrianisation scheme, as gaining 'buy-in' through consultation and communication between retailers and shoppers is imperative to the success of the scheme, as different stakeholders are likely to hold differing perceptions and views regarding the built environment.

The respondents supported improvements to pedestrianised environments to help alleviate concerns raised regarding personal safety. It was perceived that environmental and structural enhancements (enhanced natural surveillance from increased pedestrian volumes, prominent surveillance cameras and security personnel) would be better options to what was currently available, in order to improve their perceptions of safety within the pedestrianised area. Wright and Montezuma (2004) reported that vibrant pedestrian spaces attracted people to the area creating a 'safety in numbers' effect. Gehl et al. (1999) also found that pedestrianisation encouraged people to stay longer and to engage in a more diverse range of social activities that likely extended beyond normal office hours. It was perceived by stakeholders that including elements such as street furniture (benches and planter box setting) within the pedestrianised space, has the potential to create a more pleasant environment, encouraging users to engage in a more diverse range of activities.

CONCLUSION

Urban design and public health professionals are recognising the potential in improvements to the urban environment in the form of pedestrian-oriented schemes by integrating and coordinating policies and interventions to improve economic and health outcomes. This study defined that pedestrianisation through an urban regeneration process was generally well supported by shoppers, retailers, and the local government. Despite this research adding to the evidence base there were several limitations to this study. Firstly, due to the purposeful sampling strategy used, the stakeholders were likely not representative of all users in the area, resulting in bias. Secondly, the study was regionally-focussed, therefore, these findings may not be transferrable to other settings in New Zealand or internationally. Thirdly, the interviews were only administered at one time point. Longitudinal research is needed to help determine the causal relationship between the potential economic and public health implications of pedestrianisation. Stakeholder engagement in urban design as a decision-making process has the ability to support or challenge urban design concepts (pedestrianisation) through a shared understanding among multiple stakeholders (Carmona et al., 2010). However, this collaborative process would require constant support to manage varying interests, opinions and conflict. For example, alleviating project feasibility and accessibility concerns for both shopper and retailer during construction, in the short-term, would help to ensure a seamless development process.

A successfully developed pedestrianisation project is likely to improve economic performance, encourage 'high-end' retail options, improve personal security and enhance health outcomes. Improvements to the urban environment are also likely to create opportunities for people to engage in social (e.g., dining and shopping) and recreational activities (e.g., sport and outdoor events). Links to public transport would likely be strengthened and integrated infrastructural development to support non-motorised modes of transportation (walking and cycling). By further understanding these relationships, future urban design interventions and policies can be implemented in response to stakeholder and community input in an attempt to improve the health and well-being of urban populations.

FIRST AUTHOR'S BIOGRAPHY

Leslie's doctoral research examines the effect changes to the built environment in the form of shared spaces has on travel behaviours in a New Zealand context. Associated relationships between shopper and retailer perceptions, spending habits and behavioural and spatial use characteristics will also be examined. This research contributed to a Master in Health Science and investigated the economic and public health implications of pedestrianising a roadway in Auckland's town centre, with a focus on who the users were, their travel mode choices and level of expenditure. Customer and retailer attitudes towards pedestrian-oriented zones in Auckland's town centre were investigated. How the spending habits and travel behaviours of adult customers may be influenced by pedestrian-oriented zones in Auckland's town centre were also investigated. Data collection was conducted between June and July 2009.

ACKNOWLEDGMENTS

Thanks are due to the organisations and their representatives whose invaluable contributions have made this research possible: Takapuna Beach Business Association (Peter White) for providing guidance and practical assistance; North Shore City Council (Catherine Edmeades and John Stenberg) for sharing their knowledge and commitment to the project; Onehunga Business Association (Amanda Kinzett) for providing information and support and to Celia Kuch (Centre for Physical Activity and Nutrition Research) for her assistance with data collection. An expression of thanks is given to Wendy Leach for permission to use of her artwork on the cover of the retailer questionnaire.

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