Avondale's Future Framework rapid HIA: final report.

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- Duncan McDonald (Avondale Community Board)
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A rapid appraisal workshop was held that was informed by:

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- Karen Donnelly (Auckland City Council)
- Angela Drake (Ministry of Education)
- Carol Everard (Auckland University)
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- Craig Wright (Ministry of Health)

Introduction

The draft Avondale future framework aims to help Auckland City effectively plan and manage the urban growth and change within the Avondale township - while strengthening the community, the economy and protecting the environment. The framework seeks to provide for more people in the area through rezoning, as well as outlining a programme of projects for roads, public transport, stormwater systems, open spaces and community facilities and services.

The Avondale town centre has been identified as an "area of change" in Auckland City's growth management strategy and it is projected to gain an additional 2000 households within an 800 metre radius of the town centre over the next twenty years. This is because Avondale possesses:

- a town centre with a mix of retailing and commercial services with a capacity for growth
- schools and community facilities
- natural features and open spaces with potential to increase their appeal
- good and improving access to public transport.

This projected level of urban intensification is likely to affect the future health of the local community, and the draft Avondale future framework was at a point in its consultation that allowed an HIA to be carried out – to maximise the frameworks potential positive impacts on health and minimise negative ones. Auckland City Council and the Auckland Regional Public Health Service also had a strong desire to work together to protect and promote health and wellbeing.

Health impact assessment represents a new approach to addressing the social, economic, health and environmental consequences of policies, programmes and projects. Its importance has been endorsed by the current government, and it can form a major plank of the Governments drive to reduce inequalities in health. At a local government level it can assist in the delivery of social, economic and environmental wellbeing as set out in the Local Government Act 2002. As a result, HIA is now at the forefront of the public policy agenda.

Background

As at the 2001 census Auckland City had a population of over 360,000 people and it is projected to grow by another 141,000 over the next twenty years. On current projections, the city could gain 141,800 people over the next twenty years. That equates to about twenty new people each day. The Auckland region (made up of five cities) has similarly rapid growth projections, with a 2004 resident population of 1.3 million people, making it the most populous region in the country (4.06 million people).

Avondale's future framework has been under development since 1999, having progressed using a community development approach to planning, that has included significant community input into the council's work. This has been supplemented by numerous council groups and professional studies focussing on the issues facing Avondale. The draft framework has five key strategies to transform Avondale and to reflect the community and council's aspirations for Avondale:

- Increase the number of people living in Avondale – by providing quality places to live
- Improve transport and connectivity – providing a framework for transport
- Support community development – an inclusive and engaged community
- Improve the physical environment – by providing quality open space and infrastructure
- Improve the economy – by setting out a plan for an active local economy

Under each of the five key strategies are a further 13 sub-strategies that contain 104 actions.

Once finalised the framework may be implemented through changing Auckland City's district plan, and/or putting forward projects for inclusion in Auckland City's annual plan.

The overall purpose of the plan is to 'encourage development that results in compact, pedestrian, cycle and transit-friendly communities' with 'a mix of residential, office and retail activities close to each other'. The framework is attempting to coordinate the development of amenities and services for Avondale, and to 'ensure that growth can be accommodated while improving the quality of life for the people of Avondale.'

The geographical area that the framework covers is shown in Figure 1, and is bounded by an 800 metre radius from the proposed rail station – an approximate 10 minute walk from the train station. The boundaries of the HIA were however set far wider than this and are described in the methods section.

Figure 1. Study area for change
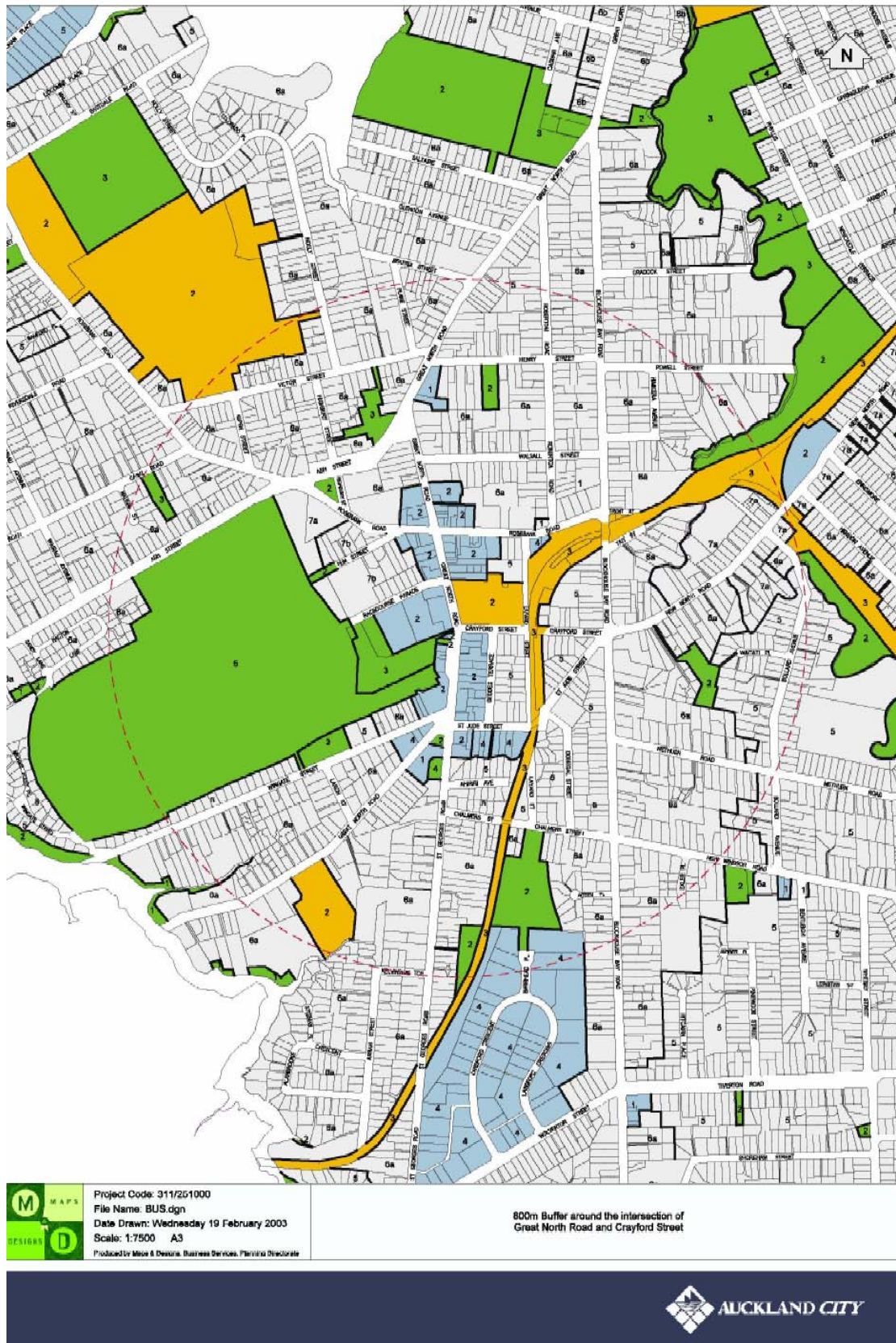
The HIA process used

Choosing the HIA

Auckland Regional Public Health Service (ARPHS) commissioned Quigley and Watts Ltd (Q&W Ltd) to lead a rapid appraisal of the Auckland City Council (Auckland CC) Avondale's draft future framework. Initial discussions between ARPHS and Auckland CC identified several possible projects that might be at an appropriate stage for an HIA. Discussions between Auckland CC and Q&W Ltd lead to identification of the Avondale framework being identified as highly likely to be suitable for an HIA – based on opportune timing, interest from the Auckland CC planner in charge of the framework, and the scope of the framework being developed.

The draft framework (draft 4) was provided to ARPHS and Q&W Ltd, and shortly afterwards Auckland CC asked for initial comments on the framework as it was just about to go to Council for sign-off prior to a further round of public consultation. This provided an opportunity to inform the development of the framework in its early stages. Since there were only three working days to present any initial comments it was decided by Q&W Ltd and ARPHS to carry out a 'screening' step on the framework – with the aim of confirming that an appropriate proposal for an HIA had been chosen, provide a chance to develop capacity and understanding of the HIA approach at ARPHS in a real-life setting, and to see if any initial thoughts on potential changes to the plan might come to light while undertaking the screening.

The screening report outlined the key features of the policy, the likely populations affected, the determinants of health that may be affected, lists possible mitigations/enhancements that surfaced, and describes some of the community concerns about health impacts. It was overwhelmingly clear that the framework was highly suitable for an HIA due to the breadth of determinants of health affected, the number of people affected, the magnitude of potential health impacts, the level of community concern about health impacts and the potential to affect vulnerable groups.

Setting the scope/boundaries of the HIA

A steering group (listed in the acknowledgements) was set up to determine the boundaries for the HIA. The group were sent information prior to the ½ day meeting outlining issues for them to consider. At the meeting the group made the following recommendations about the HIA and its scope:

Aims of the Health Impact Assessment:

- To identify the positive and negative health and wellbeing impacts of the Avondale Liveable Communities Plan.
- To inform the writing of the plan so that connected communities are enhanced, any trade-offs made are transparent, and to provide recommendations that enhance or mitigate impacts.
- To provide information on the positive impacts that can then be used to support the progress of the plan
- To strengthen partnerships between public service providers, funders and other interested agencies.

Elements of the framework to be assessed.

Since this was one of the first HIAs in New Zealand that was following a recognised social determinants of health method, we agreed that the HIA should focus on the action points of the plan. The action points are more tangible for assessing impacts

and this makes the process slightly more simple, rather than focussing on more abstract vision statements, and overarching strategies.

Population groups of most interest

The entire population of Avondale will be affected by the plan, but some vulnerable groups are likely to be affected, and so these provided focus for the HIA:
- Pacific people
- Asian people
- Employers
- Workers
- Young people (18 to 25 years)
- Infants and children (0-5 years; 6-18 years)
- Older people (over 65 years)

Geographical area

The area of study for the HIA extends beyond the 800m radius of the town centre, and includes the census area units of Avondale South, Avondale West, and Rosebank. The area covers Waterview, Rosebank Peninsula, Across to Olympic Park and Blockhouse Bay Road.

Determinants of health and wellbeing affected

The major determinants affected by this proposal, and that will be considered in the HIA are:
- Transport – access, modes, proximity to population, travel plans,
- Social cohesion
- Community facilities
- Open spaces
- Urban design, landscape and streetscape, crime prevention and safety
- Housing (new developments and Residential 8 planning rules)
- Waste
- Education – lifelong and quality
- Waterways/Environment
- Employment and town centre development

Carrying out the appraisal

A day-long rapid appraisal workshop was hosted by Auckland City Council, with the purpose of gathering stakeholder views on how the draft Avondale future framework affects the health and wellbeing of the local population, and whether there was anything that may be suggested for the plan to improve health and wellbeing, or reduce any harmful impacts on health and wellbeing? The participants represented a wide range of organisations and disciplines and are listed in the acknowledgements.

In preparation for the workshop a considerable amount of data was collected and summarised for presentation to, and use by workshop participants. This included a description of the framework; evidence about the link between relevant interventions and health impacts; a profile of the community and population. Data were sought from a variety of agencies, but not all were able to provide data within the timeframes required. Data providers are listed in the acknowledgements.

The workshop split participants into three self-selected groups and each group chose from a list of specified sub-strategies to work on, but participants self-selected the actions within each sub-strategy to assess. This organisation allowed for each part of the framework to be considered at least once by at least one of the groups.

The groups followed a set structure of work group questions adapted from a United Kingdom rapid appraisal tool. The matrix included:

- The determinant of health affected by the action point's implementation (with particular reference placed on determinants of interest in this HIA)
- A description of the direct or indirect health impact predicted
- A description of key factors that may encourage or prevent the health impact
- A judgement on the positive or negative nature of the health impact
- A listing of the populations potentially affected (with particular reference to populations of interest in this HIA)
- A listing of populations who may be differentially affected (with particular reference to populations of interest in this HIA)

Following the workshop, the results from the workshop tool were re-worked through the Public Health Advisory Committee's (2004) policy level HIA tool (by the author) to further test, integrate and explore concepts and impacts.

Community profile

Demographics

- 15 % growth in population between 1996-2001.
- High relative proportions of people aged under 20 years, and over 55 years.
- Low median household income relative to Auckland City
- Less European residents but more Pacific residents relative to Auckland City
- 22% of people with no qualification
- 42% of people gainfully employed full time
- Average household size 3.1 people (2.7 in Auckland City)
- 4341 households (1002 in category of "couple with children")

(Auckland City Council, 2003)

Education

- Educational attainment of current population in Avondale is close to the New Zealand average, but well below the Auckland average.
- 22% have no qualification and 36% have a high school level qualification
- School rolls in the electorates of Mt Albert, Mt Roskill and New Lynn have grown by 8-18% between 1999 to 2004.
- Standdowns (367-1976%), suspensions (362-575%) and exclusions (314 - 375%) have grown at a faster rate between 1999-2004 in the three electorates.

(Auckland City Council, 2003; Ministry of Education, 2005)

Health

Health – avoidable mortality in Auckland
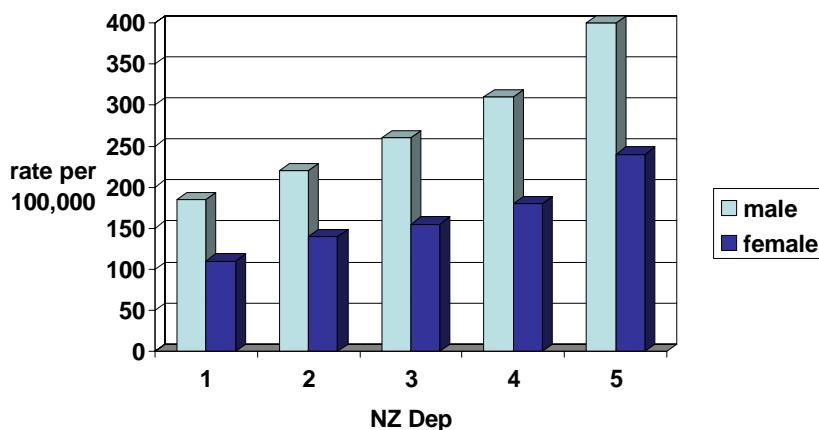
- 13 youth suicides (2 female and 11 male) in the Avondale area from 1992-2001 (nationally males have significantly higher rates than females in all ethnic groups).
- Heart disease rate for Auckland DHB is 18% higher than the national average, with 66 ischaemic heart disease deaths in older people over a two year period from 2000-2001.

- Fall related hospitalisations for Auckland DHB are 21% higher than national averages, with 389 fall-related hospitalisations over a five year period from 2000-20004.
- Tuberculosis rates double for Auckland DHB than the national average
- Obesity and overweight in Auckland DHB
    – 1 in 2 Europeans
    – 2 in 3 Maori
    – 1 in 4 Asian
    – 8.5 of 10 Pacific
- Nationally, in 2001/02 approximately 14 percent of Maori and 18 percent of Pacific primary school entrants failed the hearing screening test, compared to approximately 5 percent of European/Other primary school entrants. This also has significant implications for educational attainment.

(Ministry of Health, 2005; Ministry of Health 2004)

Transport

- Rosebank Road: 20-25,000 vehicles per day going through town centre on way to Rosebank Road and industrial area
- Ash Street and Rata Street: 30-40,000 vehicles per day bypassing the town centre from Great North Road to New Lynn
- Great North Road: 25-30,000 vehicles per day through town centre
- New North Road: 30-40,000 vehicles per day using major east west regional arterial parallel to western rail line
- Blockhouse Bay Road:15-20,000vehicles per day taking the district arterial connecting Great North Road with Tiverton Road and Wolverton Street
- St Judes Street: 20-25,000 vehicles per day linking New North Road to Great North Road and forming the southern boundary to town centre.
- School travel plan at Avondale Primary
- Western rail line into the city with passenger numbers increasing
- Approximately 500 bus movements per day through the town

(Auckland City Council, 2005)

Housing[1]

- 12% increase in houses built between 1996 to 2001
- Steady decrease in home ownership
- Overcrowding an issue
- Average household size in Avondale of 3.1 people (compared with 2.7 in rest of city)
- Housing NZ has over 1400 homes in the Avondale and nearby – approximately half are 35 years or older; and 1% have 5 or more bedrooms. In the seven census area units that make up Avondale, there are over 4500 Housing NZ occupants.
- One third of Housing NZ occupants in the area are Pacific. One third of Housing NZ occupants in the area are less than 16 years old.

(Auckland City Council 2005; Auckland City Council 2003; Housing New Zealand 2005)

Employment

- 30% growth in jobs in last ten years in Rosebank area
- Wolverton area has static job growth

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[1] The housing data relate to the greater area under review, not just the 800m radius.

- Avondale town centre has 80% of jobs in the retail sector
- Unemployment rate of 2% lower than the national average
- Predominantly blue collar workers in the area.

(Auckland City Council 2005; Work and Income NZ 2005)

Findings

It was not possible within a one day workshop to focus on all 104 actions of the framework. The actions that were chosen by the stakeholders were those that the stakeholders were most interested in assessing ad considered their highest priority, and these are presented below underneath each of the five key strategy areas.

Key health issues

The broad health characteristics of the framework are highlighted in the following table, and are presented with the wider factors that are known to determine and influence health. These are described for each of the key population groups of concern (from the scoping stage).

Group of interest	Key health issue	Main wider determinants
Total population	• Fear of crime • Mental health • Physical safety • Respiratory diseases • Accidental injuries • Social cohesion • Physical activity • Blood pressure • Obesity • Cancers • Coronary heart disease • Strokes • Stress • Social cohesion/interaction • Freewill and independent movement • Pride of place/ connectedness • Neighbourhood disputes • Dietary intake • Waterborne diseases • Risk of flooding	• Population growth • Design of community centre • Design of urban environment for safe and easy cycling and walking • Risk of road accident • Vehicle density • Car parks • Population density near to arterial routes • Public transport services accessibility, affordability and quality. • Educational access and achievement • Access to services – types of shops/retailers; supermarket; community facilities • Urban design that considers crime prevention • Urban design that considers injury prevention • Urban design that considers use by people with disabilities • Building design that encourages the use of shared spaces • Building design that is warm, dry and low noise • Buildings that have working covenants about ways they are used • Rubbish disposal • Cost of housing • Open space • Employment, quality of, productivity in and access to • Noise

		• Pollution • Vermin • Stormwater management • Sustainable use of energy
Pacific people	• Social cohesion/interaction • Lifelong opportunities • overall life expectancy • cancers • coronary heart disease • stroke • physical activity • risk of injury • Tuberculosis • Meningococcal disease	• Risk of road accidents • Educational access and achievement • House size (4 or 5+ bedrooms) and room size • Cost of housing • Access to appropriate community facilities (including NGO offices) and open spaces • Planning of community programmes offered • Open spaces meet diverse needs •
Workers	• Social cohesion • Physical activity • Alcohol and drug use • Road traffic accidents • Injuries • Stress • Mental health • Physical safety	• Access to alcohol and drugs • Travel to work policies • Car parks, bicycle storage • Childcare facilities (zoning) and school holiday programmes • Cost of housing • Increased density of employers and opportunities • Design of urban environment for safe and easy cycling and walking
Asian people	• Fear of crime • Mental health • Physical safety • Accidental injuries • Social cohesion • Physical activity • Stress	• Personal safety while out and about. • Access and affordability of public transport • Cost of housing • Access to appropriate community facilities (including NGO offices) and open spaces • Planning of community programmes offered • Open spaces meet diverse needs
Employers	• Social cohesion	• Access and affordability of public transport – customers and staff

	• Physical activity • Mental health • Lifelong opportunities • Road traffic accidents • Injuries • Stress • Noise	• Volume of customers in town centre – employment • Travel to work policies • Car parks, bicycle storage • Childcare facilities and school holiday programmes • Sustainable business practices • Business practices near residential areas • Design of urban environment for safe and easy cycling and walking • Business participation in community life, events etc • Employment policies regarding local employees
Young people (18 to 25 years)	• Social cohesion/interaction • Lifelong opportunities • overall life expectancy • cancers • coronary heart disease • stroke • physical activity • risk of injury • obesity • mental health	• Risk of road accidents • Educational access and achievement • Access to services (type of shops) near public transport hubs • Access to alcohol and drugs • Safe play areas and open spaces (zoning, access and within developments) • Community travel plans • Design of urban environment for safe and easy cycling and walking • Planning of community programmes offered • Management of community facilities to reduce conflict
Infants and children (0-5 years; 6-18 years)	• Truancy • Alcohol and drug use • Social cohesion/interaction • Lifelong opportunities • overall life expectancy • cancers • coronary heart disease • stroke • physical activity • obesity • risk of injury • hearing	• Risk of road accidents • Educational access and achievement • Access to services (type of shops) near public transport hubs • Access to alcohol and drugs • Safe play areas and open spaces (zoning, access and within developments) • Fencing of shared driveways • Building designs that consider risk of injury • Community travel plans • Design of urban environment for safe and easy cycling and walking • Education, and access to District Health Nurse visits or Social Workers In Schools.
Older	• Social cohesion	• Access to appropriate community facilities and open spaces

people (over 65 years)	• Mental health • Physical safety • Accidental injuries • Stress • Physical activity	• Design of urban environment for safe and easy cycling and walking • Police presence and neighbourhood watch type schemes • Planning of community programmes offered • Open spaces meet diverse needs • Housing design to reduce injury (particularly fall) risk

The potential impacts of the proposed actions, the populations affected and comments from workshop participants are presented in the matrix below. The matrix covers all five key strategies of the Framework, but only certain proposed action points (as chosen by the stakeholders at the workshop). This summarises the main findings of the HIA, and informed the recommendations.

Key Strategy 1. To increase the number of people living in Avondale

Determinant of health affected by implementation of proposed action	Potential health impacts		Populations affected	Comments and recommendations
	Positive – beneficial effects	Negative – harmful effects		
Proposed action: Develop a new rail station precinct in a manner which provides for residential activities while creating small business opportunities				
Access to education improved	- Social cohesion/ interaction. - Life long opportunities - Overall life expectancy - Life long rates of death from cancer, coronary heart disease and stroke - Physical activity	Risk of injury from high vehicle traffic density Perception of 'stranger danger'.	School age children and youth using trains. Parents. Disabled students. Lower SES people using public transport	Coordination with Ministry of Education Network teak on placement of future school numbers growth/new schools to ensure specific needs are identified and targeted; and with ARTA to encourage safe routes to school. Design the services for ease of use by disabled. Ongoing education to children about safe transport behaviour
Access to services – types of shops that may congregate around the train station. Adult themed shops; internet shops; high energy density food retailers; alcohol.		Truancy of students, social cohesion/ interaction. Obesity.	School age children and youth. Total population.	Mitigate by regulating/reaching agreements with building owners on the type of shops near the station.

Personal safety – of movement to and from the station, and at the station	Fear of crime, stress, mental health, physical safety. Independence. Physical activity. Risk of injury.		Total population, but particularly users of public transport, pedestrians and those travelling at night. Elderly and young children.	Use crime prevention and injury prevention through urban design principles. Good linkages between all forms of public transport. Consult with ARTA to ensure students have safe access. Ensure station is used all of the time – shops, transport, clubs etc with mixed early and late openings/use. Mitigation to include reduction in overall vehicle movements to make it safer to cycle and walk to the station.
Physical design of the station, amenities and surrounding area to encourage visibility of people, reduce risk of injuries, be a place people want to go.	Fear of crime, mental health, physical safety. Accidental injuries. Vandalism. Stress.		Youth, children, older people, disabled.	Ensure no 'unseen' areas in the design. Provide good lighting. Encourage community participation, art in the design. Use non-slip surfaces throughout. Good seating, lighting and level boarding of trains –platform.
Access to open spaces within and around the design of the station.	Physical activity, mental health		Children, youth and older people. Workers and employers. People with disabilities.	Connect the transport systems with safe green corridors for walking and cycling. Safe and secure cycle storage provided.
Tenure of houses around the station	Access to drugs, alcohol		Workers, parents youth.	Encourage home ownership near station to reduce risk of rental houses being used for selling drugs.
Increased patronage and profitability of public transport. Potential for improved frequency and quality of services.	Social cohesion, physical activity. Reduced demand for vehicle use and impact on pollution.		Total population	Set up a community travel plan.

Proposed action: Neighbourhoods - Rezone parts of Avondale to residential 8a and 8b to accommodate future population growth.				
Litter and rubbish from new houses and businesses		Vermin, mental health, stress, feelings of connectedness to place, pride in community, accessibility to shops, reduced numbers of visitors to shops and houses. Neighbourhood disputes, physical and verbal violence.	Total population, children.	On-site and accessible rubbish disposal must be provided by building owners in separate utility shared space – no options for 'opting-out' should be allowed. Regular pick-ups of rubbish.
Desired transport infrastructure of residents and businesses may encourage space to be used for car parks	Increased access to services for those with access to a vehicle (but off-set by increased congestion).	Loss of open space, increased cost of housing, increased vehicle traffic movements in the local area. Pollution, road traffic accidents, injuries, physical activity, stress, social cohesion.	Workers, employers, children, older people, disabled people.	Restrict car parking, provide spaces for disabled people.
Shared and connected spaces for residents eg laundry	Reduced cost of housing, increased social cohesion		Residents	Encourage shared spaces in buildings, but ensure they are accessible, visible and safe.
Education – the potential need for another school	Increased employment, life long opportunities and life expectancy.	Loss of open space for new site.	Children, parents, residents, workers	Coordination with Ministry of Education Network teak on placement of future school numbers growth/new schools to ensure specific needs are identified and targeted; Encourage joint planning with Ministry of Education and other stakeholders

Food security – access, affordable and appropriate food for residents through local food outlets	Increased employment, diet, physical activity		Total population, low SES	Engage with major retailers about a new supermarket for the town, but carefully consider its location and the impact this may have on current retailers.
Access to services such as childcare holiday programmes and early childhood care	Improved social cohesion, mental health, employment, educational outcomes for children		Children, workers	Ensure adequate zoning for such facilities in or near the town centre.
Housing size for larger Avondale families, eg Pacific families	Families living together, wellbeing, mental health	Risk of overcrowding – tuberculosis, meningococcal disease. Increased cost of housing. Conflict, domestic violence. Educational achievement	Families, older people, workers Pacific people, low SES	Incentives for housing designs that are culturally relevant with options or 4 or 5+ bedrooms, and physically appropriate spaces for bathrooms/ communal areas/ homework rooms to fit a large person. Ensure Urban Design Panel considers cultural, health and safety issues in development approvals. Secure storage. Advocate for larger minimum floor area sizes.
Sustainable energy use in developments	Warm, dry homes – reduction in days off school and work due to illness, respiratory diseases, hospital admissions.		Children, workers, older people	Encourage sustainable energy options such as solar heating, shared drying facilities.
Additional housing available as apartments	Lower cost housing, access to services and employment, social cohesion	Increased desirability of area leading to increased rents, and gentrification. Low SES residents forced out of area. Mental health, social cohesion,	Low SES, workers, employers	Reduce the risk of unaffordable housing by encouraging Housing NZ to carry out mixed developments.

		access to employment and schools.		
Access to open space/ green spaces.	Physical activity, mental health	Risk of injury, perception of fear,		Encourage many small local playgrounds. Separate areas set aside for teenagers and young children. Zoning required. Crime prevention and injury prevention through environmental design principles encouraged.
Residential noise levels		Loss of sleep, mental health, school and work productivity	Local residents	Excellent noise reducing features and design required.
Community facilities, events, health care facilities, amenities such as seating and lighting, some parking for visitors.	Social cohesion, mental health, wellbeing, cultural identity.		Pacific, Asian, older people, parents	Combine with strategy 3.
Increased number of shared driveways		Injury from driveway run-overs	Young children, residents, drivers	Require fencing of driveways, residential design of living areas/doors not going onto or near driveways. Safe play areas
		Conflict, stress, physical and verbal violence over disputes	Residents, neighbours, police	Developments to have clear guidance on what is and is not allowed. Covenants drawn up by all stakeholders and communicated to tenants.
Multi-story housing	Lower cost housing	Falls, injuries from stairwells, windows and balconies.	Toddlers, elderly	Use injury prevention through urban design principles in developments. Urban design panel to have a safety focus.
Multi-story housing, reduced access to play areas	Physical activity, mental health, social cohesion.		Families, children.	Zone play areas close to developments. Community travel plans. Safe pedestrian routes to play areas. Encourage development of safe play areas within developments.
Proposed action: Encourage office and residential activities above the ground floor retail along Great North Road.				
Access to above		People with disabilities	All users, disabled	Incentives for disabled access in all

ground floor premises		may be excluded from access to employment; housing, social support opportunities.	people, older people, parents with small children.	developments. Consideration of people with disabilities by the Urban Design Panel.
Physical activity, people living nearby to where they work and socialise.	Physical activity, obesity, blood pressure,		Residents, older people, children, low SES.	Restricting the amount of parking available, though allowing for disabled parking. Plan to prioritise pedestrian travel over other forms of transport.
Exposure of residents and workers to pollution from busy transport corridor.		Cardiovascular and respiratory admissions. Risk of some cancers and increased death rates.	Total population. Older people, children. People with existing medical conditions.	Design residences so that they are set back from the road at level one and above. Discouraging traffic from using Great North Road by the use of multiple pedestrian crossings and lights.
Greater density of people living next to commercial premises		Increased noise	Businesses, residents	Restrict type of business use near residential areas. Ensure excellent noise insulation of buildings.
Conflict between residents and businesses		Stress, physical and verbal violence	Employers, residents	Developments to have clear guidance on what is and is not allowed. Covenants drawn up by all stakeholders.
Security and safety through increased passive surveillance of street and internal buildings	Reduced fear of crime, physical violence. Mental health, stress, physical activity.		Total population	Design developments to maximise passive surveillance
Security and safety through building doors being left open and shared common areas being used inappropriately		Increased fear of crime, physical violence. Mental health, stress, physical activity.	Residents	Building design features such as self-closing doors. Covenants drawn up by all stakeholders.

Desirable local businesses accessible to residents	Access to services and employment. Increased business activity, increased feelings of safety due to more people about.		Employers, workers	Mitigate by regulating/reaching agreements with building owners on the type of shops near the station.

Key Strategy 2. The right transit system

Determinant of health affected by implementation of proposed action	Potential health impacts		Populations affected	Comments and recommendations
	Positive – beneficial effects	Negative – harmful effects		
Proposed action: State Highway 20. Work with Transit NZ on the SH 20 route to ensure that it supports the growth and development of the Avondale town Centre.				
Significant increase in vehicle traffic flowing into and from Avondale. Encourage a mode shift away from public transport.	Increased access to services for those with access to a vehicle (but off-set by increased congestion).	Pollution, road traffic accidents, injuries, physical activity, stress, social cohesion.	Employers, workers, children, low SES	Carry out HIA on SH20 proposal. Link more closely with public transport options in strategy 2. Include travel demand management as part of SH20 action. Link to the five LTMA objectives.
Proposed action: State Highway 20. Investigate local transport improvements in partnership with Transit NZ to manage the impact of SH 20 Avondale extension				
Significant increase in vehicle traffic flowing into and from Avondale. Encourage a mode shift away from public transport.	Increased access to services for those with access to a vehicle (but off-set by increased congestion).	Pollution, road traffic accidents, injuries, physical activity, stress, social cohesion.	Employers, workers, children, low SES	Encourage a collaborative working relationship with Transit NZ and other key players by setting up a working group.
Proposed action: the Avondale walking and cycling area plan				
Active transport promoted	Physical activity, mental health, freedom of movement, stress.	Increased risk of accidents, exposure to vehicle pollutants	Children, low SES, older people, young people	Critical that a pedestrian friendly environment has priority in all urban design and projects undertaken. Community, business and school

				travel plans are a priority issue to ensure safe travel and further encourage mode shift coordinated through. Contact with ARTA & local schools over school travel plan policies.

Key Strategy 3. An inclusive and engaged community

Determinant of health affected by implementation of proposed action	Potential health impacts		Populations affected	Comments and recommendations
	Positive – beneficial effects	Negative – harmful effects		
Proposed action: Redevelop the Avondale community centre to make it larger, more visible and create a better link to the library				
Social connectedness, belonging	Physical activity, mental health, wellbeing, social contacts	Design and operation may exclude particular groups – cultural, ages etc	All, Pacific, Asian, Low SES	Current focus is too narrow on just the library and community centre. Can be used for multiple opportunities including learning (possibly special education for young people), market places, displays etc. It needs to be culturally appropriate and affordable. Needs to provide for teenagers/older people as well. Culturally appropriate childcare at the community centre. Work with the Ministry of Education Early Childhood Education team to discuss, identify & target the areas of specific need or projected need.
Design an environment that encourages active transport, and communal spaces for rest.	Physical activity, mental health		All, children, older people.	Active travel is prioritised above other modes. Secure bike storage available. External seating.
Social isolation – knowing who lives in the community	Mental health, wellbeing, physical activity, social connectedness, safety		Older people, people with disabilities	Work with Police to set up Neighbourhood Watch
Employment and community work	Community wellbeing, employment and associated life-long		Vulnerable groups	Set the community centre up to include NGO work space at affordable rates.

Determinant of health affected by implementation of proposed action	Potential health impacts		Populations affected	Comments and recommendations
			opportunities.	

Proposed action: Investigate a recreation precinct plan for Avondale.

Social cohesion though the use of existing facilities such as schools.	Mental health, wellbeing, physical activity, social connectedness, safety		Total population, excluded children	Encourage local schools to make facilities available, and promote that availability. Engage the Ministry of Education network team to help identify & target areas of need.
Social cohesion through businesses being encouraged to input into the plan;	Mental health, wellbeing, physical activity, social connectedness, safety		Workers, employers.	Encourage businesses to participate in recreation activities, support local events and sponsor venues.
Social cohesion by providing affordable programmes that meet the needs of local people, and vulnerable groups.	Mental health, wellbeing, physical activity, social connectedness, safety		Vulnerable groups. Women, young people, unemployed, older people	Gather community input into design of plan and programmes provided. Provide childcare. Consider the separate needs of migrant groups. Encourage young mothers to meet. School holiday programmes.

Key Strategy 4. Improving the physical environment.

Determinant of health affected by implementation of proposed action	Potential health impacts		Populations affected	Comments and recommendations
	Positive – beneficial effects	Negative – harmful effects		

Proposed action: Review the provision of open space in Avondale.

Amount of open space and its use	Mental health and wellbeing, social inclusion, physical activity, safety.	Loss of open space if built on and not replaced.	All, low SES, children, elderly	Open spaces managed to encourage use. Incorporate good design principles (eg, crime prevention – CPTED). Create open spaces for a variety of uses and easily accessible. Policing and surveillance of areas to reduce perception of fear
Access to open space for multiple	Physical activity, mental health, social contacts	Perception of fear and crime if not well	Children, elderly, women	Provide open spaces within walking distance of residential areas. Provide safe walking

types of use		managed or designed		routes. Ensure open spaces meet diverse community needs. Appropriate lighting, surveillance, etc (CPTED and IPTED).
Proposed action: Promote focal points for young people in the development of public facilities and spaces.				
Education, by promoting opportunities for learning from focal points and recreation/ social facilities	Participation; lifelong opportunities		Young people	Consider possible friction between youth and try to avoid.
Safety		Rivalry and violence between young people and across ethnic groups	Male teenagers generally	Have facilities that are well managed
Access to libraries and other recreational facilities using youth development initiatives	Access to knowledge and life skills, lifelong opportunities.		Young people	Develop facilities that are close to young people. Safe access by active and public transport to facilities.
Proposed action: Identify options to improve the quality of stormwater outflows.				
Increasing the capacity of stormwater pipes	Improved sanitation of local streets, reduced risk of exposure to waterborne diseases. Reduced risk of flooding	Works to upgrade are expensive, disruptive and take funds from other community projects	Whole community, older people, children	Stormwater management needs a local and regional focus as many of the impacts are not localised.

Key Strategy 5. Strengthening the economy

Determinant of health affected by implementation of proposed action	Potential health impacts		Populations affected	Comments and recommendations
	Positive – beneficial effects	Negative – harmful effects		
Proposed action: Support the use of sustainable business practices				
Reducing vehicle kilometres travelled and single occupancy cars	Physical activity, social contacts, pollution, safe choices of mode use available, community severance		Workers, employers,	Travel plans set up for businesses. Review parking spaces available. Promote cycling and walking infrastructure, versus infrastructure to improve vehicle transport. Review community travel patterns. Link with transport strategies.
Reduces waste, sustainable energy use and reduces wastewater run-off	Risk of flooding reduced, long-term wellbeing		Employers, ratepayers	Link with physical environment strategies.
Increases pedestrian activity in the local area	Physical activity, mental health, stress	Risk of injuries	Workers, people using businesses, particularly youth, elderly and the disabled.	Pedestrian infrastructure required and hierarchy of transport modes is required. Pedestrians > cyclists > public transport > taxis > freight > private vehicles.
Employment of local residents	Reduced vehicle movements & pollution, increased social time with friends and family, stress, safe choice of transport mode available. Physical activity. Reduced risk of accidents from reduced km travelled.	Increased risk of accidents if mode change to unsafe active transport within current vehicle-dense environment.		Encourage policies of employment that favour local people. Describe health benefits of local employment to WINZ staff and employers. Link to transport strategies.

Evidence of health impacts

All impacts and subsequent health impacts mentioned below are known to definitely occur, unless otherwise indicated. [This section is not yet complete and requires additional information to be inserted – any suggested text with references would be appreciated].

Pollution related health impacts would include cancers, leukaemia, increased deaths and hospital admissions from cardiovascular diseases and respiratory diseases. Asthma symptoms and bronchodilator use will increase (Transport and health study group, undated). Four hundred and forty people annually are estimated to die from PM10 air pollution in Auckland annually. This is higher than the nationwide road toll. 'Extremely conservative' average hospitalisations in Auckland from PM10s in Auckland are estimated to be 200 per year. Restricted activity days (spent in bed, missed from work and when activities are partially restricted due to illness) in Auckland from PM10s are estimated to be around 750,000 every year. Health effects of PM10s are coughs, asthma symptoms, bronchitis, respiratory illness and mortality (Ministry for the Environment, 2003). Roadside concentrations of carbon monoxide, nitrogen dioxide, sulphur dioxide and benzene in Auckland exceed ambient air quality guidelines. A significant decrease in work capacity in healthy adults, decreased exercise capacity at onset of angina and increased duration of angina in people with ischaemic heart disease are health effects of carbon monoxide. Ozone is estimated to contribute to over 100 deaths per year in Auckland. Benzene concentrations are estimated to cause less than 70 cases of leukaemia over lifetime exposure in Auckland (Ministry for the Environment, 2003a). Due to heavy concentrations of pollutants in the centre of roads, air intakes of vehicles and exhausts directed at ground level – pollution inside cars is up to three times higher inside vehicles than outside (Health Education Authority, 2000)

Noise related health impacts are unlikely to lead to hearing loss but contribute to high blood pressure (able to be estimated), minor psychiatric illness, loss of sleep, increased communication difficulties (speculative), and a possible interference with concentration (speculative) (Transport and health study group, undated; National Health Committee, 2003). High noise levels can impair the performance and educational attainment of children (Dejoy, 1983; Sanz et al, 1993).

Road traffic accidents account for over 300 deaths per year, with even more people injured causing both short and long-term incapacity/injury. Pedestrian and cyclist deaths and injuries are significant in New Zealand, with such accidents being more likely for these groups than for drivers. Vulnerable communities experience far greater cyclist and pedestrian injury and death rates than less vulnerable communities, particularly for children, and children are most likely to be killed or injured in built up areas close to their homes. This is further compounded by the most deprived areas also having more children living in them (Land Transport Safety Authority, 2005; The Institute for Public Policy Research, 2002; National Health Committee, 2003). Perceived danger from traffic restricts children's independent mobility, with subsequent increases in traffic to transport children, and decreases in fitness and psychological well-being of children who no longer cycle or walk at will (speculative) (Transport and health study group, undated). Children and adults in deprived areas are less likely to travel by car (due in part to lower car ownership) and are more likely to make journeys on foot. Above 50 km/h the risk of killing a pedestrian child during an accident rises dramatically (Proctor, 1991). Where modal share for pedestrian and cycling is lower, the relative risk of having an accident increases sharply – therefore there is safety in numbers for cyclists and pedestrians (Jacobsen, 2003).

Physical activity. Inactive lifestyles are a causal factor for obesity and overweight, and New Zealand is in the middle of an obesity epidemic (Ministry of Health, 2005). Physical activity reduces the risk of heart disease, stroke, cancer, diabetes, high blood pressure, depression, osteoporosis, obesity and improves well-being (Health and Transport Study group, undated). Those without private transport have no other options other than to use local opportunities, and these should always be maintained where possible. Good public transport increases opportunities for physical activity by users (getting to and from public transport hubs), and reduces the number of private vehicles on local roads (increases desirability and perceived safety for all walkers and cyclists) (Public Health Advisory Committee, 2003). This is particularly true for short local trips. Reduced free-will movement of children due to increased traffic flows and lower perceived safety of the environment impacts on children's mental health and physical health (Frumkin, 2001). While road traffic accidents are a significant issue for pedestrians and cyclists, the numbers of deaths pales in comparison to the numbers of deaths attributable to coronary heart disease, stroke and cancer.

Community Severance/social connectedness. Community severance occurs when people are separated from social networks/support, community facilities and services by a physical barrier, such as a busy road. For example there is a reduction in the number of friends in the same street when there are high volumes of traffic on that street (Appleyard, 1981). Many studies have shown that people without social support have higher death rates (Hawe and Shiell, 2000), but there is not direct evidence between transport projects and social support. Community severance also results in reduced play areas for children and reduced access to local education, work, shops and healthcare for those without cars (Frumkin, 2001). Social exclusion can also result in reduced physical activity and since those without private transport are more predominantly vulnerable groups, further inequalities arise (see above for affects). UK work shows that non-car owning people on low incomes make 25% fewer journeys than low income people with a car, and 56% fewer journeys than high income car owners (Transport Statistics Great Britain, 2001). For some people transport can have positive impacts on health by facilitating social support, such as enabling better access to friends and family (Public Health Advisory Committee, 2003).

Education
Day care, pre-school education and child care for school age children can promote development, and physical and mental health. Children with a low level of educational attainment are more likely to suffer from poor adult health in later life (Bynner and Parsons, 1997; Zoritch and Roberts 1998). Lack of access to childcare may be a barrier to adult employment, reduce household income, increase the risk of social isolation and reduce access to support necessary for mental and physical wellbeing of adults, and interventions that have addressed childcare have shown positive impacts to both adults and children in these measures (Zoritch and Roberts 1998).

Access and mobility. Access to education, work, shops, healthcare and social networks often requires transport. Those without a car (highly represented in vulnerable communities) have reduced access to those facilities designed that assume car use. Within car-owning households – the elderly, children and women are less likely to have access to the car. According to the New Zealand Transport Survey, car usage is lower in women, in Maori and Pacific peoples and in people with low incomes ()Land Transport Safety Authority, 1999). People with disabilities are particularly affected by access issues. Health impacts of these are definite. Ensuring

safe, accessible and reliable public transport, walking and cycling options goes some way to mitigating a lack of private vehicle transport (Public Health Advisory Committee, 2003; Transport and Health Study Group, undated). However increased use of poorly maintained public transport, such as use of old buses, will increase air pollution (Fleeman and Scott-Samuel, 2000).

Housing. As areas become more desirable the possibility of increased house prices and rents increases. Those who do not own their own home (most vulnerable) may need to leave the area to find affordable accommodation, increasing social isolation and exclusion from community. Those who do own their own home may see significant gains in wealth through rising house prices. Housing (due to situation next to high traffic areas for example) may become less desirable, affecting minor psychiatric illness and wellbeing. The direct causal pathways from housing to health impacts are speculative in this case. Displacement of housing is a significant predictor of wellbeing, where security and length of tenancy are related to multiple health outcomes, including minor psychiatric illness, stress and an ability to socially invest/engage with a community. All household members are affected, including children and the elderly. Flow on effects include disrupted friendships, employment and education.

Housing design has significant impacts on the risk of housing-related diseases, conditions, and injuries such as respiratory diseases, rheumatic fever, meningitis, falls and burns. These translate into effects on children's days off school, adults' days off work, self rated health and respiratory symptoms, objective measures of GP visits and hospitalisations (Thomson et al, 2002; Howden Chapman, 2004). Housing tenure, indoor air quality, dampness and mould growth and housing design all have strong associations with health outcomes. Intervention research has shown improved mental health and wellbeing with housing improvements, but that there is a risk of housing improvements increasing rent – actually making peoples health worse. Original residents may also move away from the area and not benefit from the housing improvements (Thomson et al, 2002).

Specific issues in relation to high density housing in Auckland include poor ventilation, a lack of space (room size, storage and food preparation areas), and intrusive outside noise. Safety and security of car-parking, mail and access to apartment buildings, inadequate recycling facilities, poorly designed rubbish areas, inadequate balconies and the importance of building managers are further issues (Auckland Uniservices, 2004).

Employment. Urban growth projects often present opportunities for training and employment while under construction, and from ongoing use of facilities and stimulation of business. Any increase in employment or job opportunities has major impacts on income, purpose, social support and participation in society for the individual and family, with subsequent improvements in death rates from cancer, coronary heart disease and stroke, depression, anxiety, self harm and suicide (National Health Committee, 1998). Such jobs can be targeted at local unemployed. However, it is typical that the wealth generated (particularly GDP) from such expansion is not shared equally. It is possible that the jobs created may be low-wage, insecure, not available to local unemployed people and also that the higher quality jobs will go to people from outside the local area (further increasing travel for these non-local workers, affecting their families and the communities they travel through). Such a situation would negate a major potential positive aspects of the framework (increased local employment).

Crime. Injuries received from criminal activities, while only a small proportion of all recorded crime, include physical injuries such as fractures, bruises and infection with sexually transmitted diseases; and psychological injury such as post traumatic stress disorder which can be serious and long lasting (Cohen and Miller, 1998; Norris and Kaniasty, 1994). Experience of, and fear of crime impact on health through stress, sleeping difficulties, loss of appetite, depression, loss of confidence and increased use of coping methods that harm health (for example, smoking) (McCabe and Raine, 1997). The mental distress and social exclusion caused by fear of crime can significantly affect the quality of a person's life, and those previously unaffected by crime may suffer from this as well. Finally, people with lower vulnerability to crime may still be affected by fear of crime (Evans and Fletcher, 2000). As the number of people increase in an area the perception of safety can improve if the environment is conductive to this, using crime prevention through environmental design principles. Crime prevention through interventions that reduce fear, prevent situational crime and target criminal and anti-social behaviour have been shown to generate largely positive health impacts of the types listed above (Hirschfield, 2003)

Loss of open space. Green spaces are used by communities for recreation, relaxation, market places and/or no particular use. They provide places of employment, contact with the land, peace and quiet, natural beauty and contribute to natural biodiversity. Such factors contribute substantially to both mental and physical health, and loss of open space can be particularly damaging to communities who have little other open space nearby, or who are undergoing rapid development where open spaces are rapidly reducing. Mitigation by preserving alternative open spaces in compensation for the lost space is an option.

Conclusions and recommendations

The potential health impacts of the framework have been categorised as both positive and negative, although the majority are positive. This is likely to be due to the community development approach undertaken to develop the plan, and the plans broad focus on five inter-related key strategies.

The impacts on health and the determinants of health that were identified under a key strategy were often replicated in other parts of the framework due to the inter-connected nature of the action points proposed. This is beneficial because proposing solutions to enhance or mitigate health impacts for one issue often enhances or mitigates other actions in the framework also. Such a situation is common, reflecting how the determinants of health and wellbeing are similarly inter-related.

A number of recommendations were put forward by the invited stakeholders in the rapid HIA workshop and through subsequent work. However only those that:
- had matching evidence, and
- were practically able to be mitigated or enhanced, and
- matched residents' concerns, and/or
- affected a large number of people, and/or
- caused a significant impact, and/or
- disproportionately affected a vulnerable group

have been brought through into these recommendations. This ensures that any recommendations taken up by Auckland City Council are robust, practical, evidence-based and desirable for the community and stakeholders. The HIA recommendations for alterations to the framework (made in blue italics for ease of use) are:

Key strategy 1. To increase the number of people living in Avondale

The town centre
- Encourage *accessible* office, residential *and community facilities* above the ground floor retail along Great North Road.

Small office, community facilities and home precinct
- Rezone for activity along key routes to the rail station by providing office, small offices, home offices *or community facilities (such as childcare, safe play areas)* at ground floor level.

Neighbourhoods

- rezone parts of Avondale to Residential 8a and 8b to accommodate predicted future population growth. Residential 8 zone allows terrace house and apartment style living close to town centres with high quality urban design controls

- review residential developments with more than eight units. Auckland City's urban design panel is charged with promoting quality design in the city and will review these developments. *Auckland City Council will advocate for design impacts on health and wellbeing, safety, crime prevention and impacts on people with disabilities to also be considered by the panel.*

- expand the current urban design provision in the Residential 8 zone to include specific criteria to reflect Avondale's sense of place *and reflect Avondale's requirement for larger homes (4 and 5+ bedrooms).*

- *Accessible, visible and safe shared community areas will be encouraged (for example utility, laundry, safe play areas, etc). Design of any car parks and driveways will be planned so as to reduce risk of injury and reduce reliance on private transport.*

- *Businesses, owners and residents will be encouraged to draw up agreements for use of buildings relating to noise, rubbish, parking, security, etc and communicated to residents*

The rail station
- Develop a new rail station precinct (at the top of Crayford Street West) in a manner which provides for residential activities while creating small business opportunities *and encouraging community spaces/events*.
- The precinct *will provide infrastructure for,* and integrate trains, buses, pedestrians and cyclists and provide *limited* car parking.
- *The precinct will use crime prevention, injury prevention and disabled-friendly design principles*

Key strategy 2. The right transit system

Strategy 1.
- The 'travel to school' plan for Avondale Primary School *to be used as an example to encourage all schools, businesses (large and small) and the community to develop travel plans.*
- The Avondale walking and cycling area plan *to form the backbone of any decisions taken regarding transport and urban infrastructure. A hierarchy of transport modes to be used: pedestrians > cyclists > public transport > taxis > freight > private vehicles.*

Develop integrated passenger transport rail services and facilities.
- This point and subsequent actions are strongly endorsed from a health and wellbeing perspective.

State Highway 20
- Work with Transit NZ on the SH 20 route to ensure that it supports the growth and development of the Avondale town Centre*, manages traffic demand and protects the wellbeing of the local residents.*
- State Highway 20. Investigate local transport improvements *in a working group* partnership with Transit NZ *and other stakeholders* to manage the impact of SH 20 Avondale extension.

Great North Road
- Great North Road – Increase the capacity, efficiency *and safety* of the corridor between the town centre and Waterview.

Strategy 2.
Develop integrated *pedestrian, cycling,* passenger transport, bus and rail services and facilities
- *Create high quality segregated spaces for pedestrians and cyclists, advocate for travel demand management to encourage sustainable travel modes and design improvements to cater for people with disabilities*

Key strategy 3. An inclusive and engaged community

Strategy 1

Support opportunities for community and visitors to participate in community life *and educational opportunities.*

- Redevelop the Avondale community centre to make it larger, more visible, create a better link to the library *and use design principles that consider crime and injury prevention, users with disabilities and users who arrive at the centre by bicycle and foot.*

- hold *affordable* events in the library/community centre precinct to encourage greater use of the facilities

- support *community-driven* programmes to increase the use of the library

- promote the library learning centre to attract ~~the wider community~~ *all ethnic groups and reduce social isolation*

- consider the need to expand the library and community facilities to accommodate greater use associat*ed* with population growth *and the need for affordable child care and NGO services.*

- *advocate for joined up services in educational settings through the use of public health nurses and social workers in schools.*

Strategy 4

Develop activity spaces and recreation

- investigate a recreation precinct plan for Avondale *that reflects the needs for different types of spaces for different peoples (use a community development approach).*

- develop partnerships with schools *and/or businesses* to provide greater ~~recreation~~ opportunities for ~~youth~~ *all residents*

- *encourage affordable child care facilities and school holiday programmes for children.*

Key strategy 4. Improving the physical environment.

Strategy 1

Undertake an open space network plan for Avondale to guide the development of parks and reserves. This plan will set out to:

- review the provision of open space in Avondale *using a community development approach*

- align open space facility provision to the impact of increasing population *and to the cultural mix of residents.*

- improve the quality and design of existing parks*, recreation areas and dog-exercise areas*

- expand the network through strategic acquisition *near to residential development*

- involve *local* artists and the community in the design of parks and public art and spaces

- promote focal points for young people in the development of *managed* public facilities and spaces

- *link all open spaces and facilities together with community travel plans and safe pedestrian and cycle routes.*

Strategy 4.

Align stormwater, wastewater and utility provision to meet the impact of an increasing population.

- Identify options to improve the quality of stormwater outflows *that reflects and considers both local and regional needs/ impacts.*

Key strategy 5. Strengthening the economy

Strategy 1.

To support economic and employment growth of the local economy

- *advocate for businesses to set up travel plans*
- *work with the local business association to improve understanding about the benefits of hiring local people into local jobs, particularly the health and economic benefits*
- *advocate* the use of sustainable business practises *in multiple sectors – transport, education, waste, manufacturing, etc.*

Strategy 2

To support the development of a vibrant and sustainable town centre.

- continue the redevelopment of town centre streetscape and public amenities to support *pedestrian and cycle infrastructure that will promote the use of local businesses*

Further stakeholder involvement

All of the stakeholders involved in the health impact assessment wanted to be further involved in the future development of the Framework. For example, the Ministry of Education commented during drafting of this report that they'd like to assist and work with schools and Council on any decisions regarding schools, school spaces and resources, and where appropriate include others such as the Tertiary Education Commission.

References

Appleyard, D. (1981). Liveable streets. Los Angeles, University of California Press.

Auckland City Council (2003) Auckland City: Growth Management Strategy. Auckland: Auckland City Council.

Auckland City Council (2005) Draft Avondale's future framework. Auckland: Auckland City Council.

Auckland Uniservices Ltd (2004). Living the highlife? A review of apartment living in inner city Auckland. Auckland: Auckland Uniservices. Available at http://www.bia.govt.nz/e/uploads/apartment-living.pdf

Bynner, J and Parsons, S (1997). It doesn't get any better: the impact of poor basic skills on the lives of 37 year olds. London: The Basic Skills Agency.

Cohen, M and Miller, T (1998). The cost of mental health care for victims of crime. Journal of Interpersonal violence, 13(1): 93-110.

Dejoy, D. (1983) Environmental noise and children: A review of recent findings. J Aud Res, 23: 181-94.

Evans, D and Fletcher, M (2000). Fear of crime: testing alternative hypotheses. Applied Geography, 20: 395-411.

Fleeman, N and Scott-Samuel, A. (2000). A prospective HIA of the Merseyside Integrated Transport Strategy. J Public Health Medicine, 22(3): 268-74.

Frumkin, H (2001). Urban sprawl and public health. Public Health Reports, 117: 1-44.

Hawe, P, Shiell, A. (2000). Social capital and health promotion: a review. Social Science and Medicine, 51, 871-85.

Health Education Authority (2000). Health update: environment and health: road transport. London: HEA.

Hirschfield, A (2003) The health impact assessment of crime prevention. Available at http://www.phel.nice.org.uk/hiadocs/HIA_Crime.pdf

Housing New Zealand (2005) Properties and occupants in the New Lynn portfolio. Personal communication, Angela Pearce (Housing New Zealand). 12 April 2005.

Jacobsen PL. Injury Prevention 2003; **9**:205-209

Land Transport Safety Authority (1999). The NZ Transport Survey. Wellington: Land Transport Safety Authority.

Land Transport Safety Authority (2005). Research and statistics. Available at http://www.ltsa.govt.nz/research/

McCabe, A, and Raine, J (1997). Framing the debate: the impact of crime on public health. Birmingham: Public Health Alliance.

Ministry for the Environment (2003). Health effects of PM10 in New Zealand. Air quality technical report No 39. Wellington: Ministry for the Environment.

Ministry for the Environment (2003a). Health effects of CO, NO_2, SO_2, ozone, benzene and benzo(a)pyrene in New Zealand. Air quality technical report No 43. Wellington: Ministry for the Environment.

Ministry of Education (2005). SDS figures and rolls for schools in Avondale. Personal communication, Vivien Knowles (Ministry of Education). 22 April 2005.

Ministry of Health (2001) The New Zealand Health Strategy. Wellington: Ministry of Health.

Ministry of Health (2004) An indication of New Zealanders' health. Wellington: Ministry of Health.

Ministry of Health (2005) SMR and other indicators of interest for Avondale. Personal communication. Li-Chia Yeh. 29 April 2005.

Ministry of Health (2005a). Tracking the obesity epidemic. New Zealand 1977 – 2003. Wellington: Ministry of Health.

National Health Committee (1998). The social, cultural and economic determinants of heatlh in New Zealand. Action to improve health. Wellington: National Health Committee.

Norris, F and Kaniasty, K (1994). Psychological distress following criminal victimization in the general population – cross sectional, longitudinal and prospective analyses. J of Consulting and Clinical Psychology, 62(1): 111-23.

Proctor S. Accident reduction through area-wide traffic schemes. Traffic Engineering and Control 1991; 32(12): 566-573.

Public Health Advisory Committee (2003). Impacts of transport on health – an overview. Wellington: National Health Committee.

Sanz SA, Garcia, A. (1993). Road traffic noise around schools: A risk for pupils' performance. Int Arch Occupational Environmental Health, 65(3): 205-7.

Statistics New Zealand (2005) Population monitor. Available at http://www.stats.govt.nz/popn-monitor/default.htm

The Institute for Public Policy Research (2002). Streets ahead: Safe and liveable streets for children. Available at http://ippr.org/research/files/team20/project20/safestreetsfinal.pdf.

Thomson, H, Petticrew, M, Morrison, D. (2002) Housing improvement and health gain: a summary and systematic review. Glasgow: Medical Research Council.

Transport and health study group (undated). *Carrying out a health impact assessment of a transport policy – guidance from the transport and health study group.* Stockport: Faculty of Public Health Medicine and Transport and Health Study Group.

Transport Statistics Great Britain, 2001. Cited in Pitches, D. The 2003 West Midlands Local Transport Plan. A rapid HIA. Birmingham: The University of Birmingham.

Work and Income NZ (2005) Unemployment in Avondale. Personal communication. Evon Muir. 18 April 2005.

Zoritch, B and Roberts I (1998) The health and welfare effects of day care for pre-school children: a systematic review of randomised control trials. In: The Cochrane Database of Systematic Reviews. The Cochrane Library Issue 2. Oxford: Update Software.