Health Impact Assessment:
Wollongong Foreshore Precinct Project

August 2006
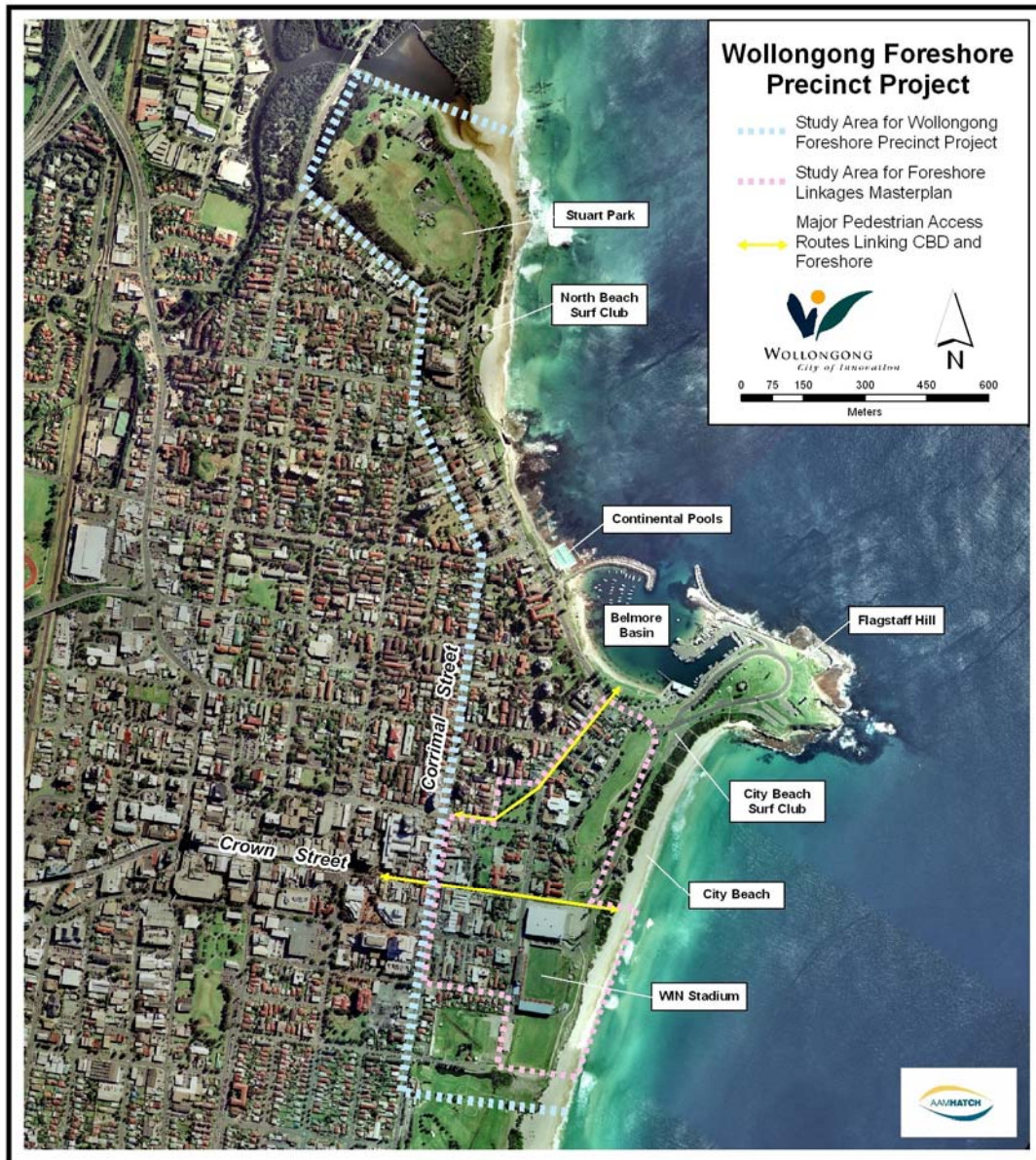
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Executive Summary

Introduction

The way we design our cities has been shown to have an impact on health. Health Impact Assessment (HIA) provides a systematic process for identifying the positive or negative impacts that could arise from proposed policies, programs or projects, such as local government planning proposals. A HIA was conducted by South Eastern Sydney and Illawarra Area Health Service, and Wollongong City Council on the Wollongong Foreshore Precinct (WFP) Project. The potential impact of the Project on physical activity, social cohesion and access to healthy food were assessed.

Methods

A desk-based HIA was conducted in advance of the WFP Project's implementation (prospective). The HIA process included screening; scoping; identification and assessment of potential health impacts; decision-making and formulating recommendations; and evaluation. Opportunities to enhance the positive impacts and mitigate the negative impacts were identified through the use of priority matrices for each focus area.

Results

Findings from the HIA showed that the WFP Project plan had the potential to benefit the health of residents and visitors to the Wollongong foreshore by increasing opportunities for physical activity and social cohesion as well as having a small impact on access to healthy food. A set of recommendations was developed that highlighted the initiatives that support health and included ways to maximise health benefits.

Discussion

The HIA process provides a useful framework for bringing local government and the health sector together to think about the impact of urban form on health. It is important to use HIA early in the urban planning process to inform policy decision-makers on the potential impact of their policy or plan on health. The desk-based HIA is a useful tool for the rapid assessment of future government plans, projects and policies.

Recommendations

1.   Initiatives in the plan with the most potential to impact health

1.1   Improvements to lighting throughout the site, particularly along the primary cycleway/walkway routes, will increase safety and allow broader use of the area.

1.2   Improvements to open space and recreation areas (including installation of picnic areas) will provide greater opportunity for physical activity as well as provide a meeting place to allow improved social cohesion. Picnic tables and seating will provide an opportunity for healthier food choices such as picnics and barbeques.

1.3   Improvements to the cycleway/shareway will benefit health and would improve safety to users and resolve conflict at congestion points.

1.4   Provision of toilet facilities (including disabled toilets) and a parent's room for breastfeeding would enhance the usability of the foreshore area.

2.   Ways to maximise the health impacts of the initiatives in the plan

2.1   Ensure that the lighting is vandal-proof and that a regular service program is established so that it remains in good working order at all times.

2.2   Conduct regular surveillance and maintenance of the open space and recreation areas.

2.3   Provide picnic tables with shade covers and ensure that tables are accessible to those with prams, older people, those less mobile and persons with disabilities.

2.4   Improve crossing points in areas where local residents and visitors are likely to access the foreshore area. International evidence has shown that the safest crossing points are those which are raised and clearly marked.

2.5   Address traffic management issues and associated car-parking issues in and around the foreshore area.

2.6   Incorporate Safer by Design principles to reduce potential for anti-social behaviour in open space and recreation areas.

2.7   Consider re-designing the cycleway/boardwalk so that both parts are located at the same level. In the plan, the proposed cycleway/boardwalk is to be constructed at different levels which may result in an increase in the risk of falls and accidents.

3. Other Recommendations

3.1 That Wollongong City Council consider the development of a comprehensive approach for improving the community's access to healthy food for the whole Wollongong Local Government Area. An approach such as this could influence the distribution of supermarkets, fresh food outlets and community food services (e.g. soup kitchens) across the area to ensure all residents have access to low cost and fresh food. Other aspects could include an increase in the availability of water bubblers, the development of new breastfeeding facilities, and the establishment of food gardens.

3.2 That Wollongong City Council and the South Eastern Sydney and Illawarra Area Health Service jointly undertake health impact assessments on future plans and projects.

1.   Introduction

The way we design our cities and organise our lives impacts on our health behaviours (Gebel et al, 2005). The burden of chronic disease which is rapidly increasing worldwide has partly been linked to increasing urbanisation. Active intervention in diet and physical activity has demonstrated reductions in rates of chronic diseases. Creating an environment that supports health is the key to reducing rates of death and disability from chronic disease (WHO/FAO, 2002).

Health Impact Assessment (HIA) is 'a combination of procedures, methods and tools by which a policy, program or project may be assessed for its potential, and often unanticipated effects on the health of the population and the distribution of these impacts within the population' (ECHP, 1999). NSW Health have undertaken work in the field of HIA with the aim of increasing workforce skills in the assessment of health impacts, to integrate HIA into the NSW health system as a tool to improve internal planning and decision making as well as a way to engage external partners on initiatives which influence health outcomes (NSW Department of Health, 2004a). In 2004, the former Illawarra Area Health Service conducted a HIA of an environmental management plan, in conjunction with a local council (Neville et al, 2004; Neville et al, 2005). From this project came the recommendation to conduct a further HIA in conjunction with local government but using a less resource intensive methodology. A feature of the methodology for a desk-based HIA is that the process involves review of existing literature and data, rather than the collection of new data or information.

A prospective, desk-based HIA on the Wollongong Foreshore Precinct (WFP) Project plan was conducted by South Eastern Sydney and Illawarra Area Health Service (SESIAHS), and Wollongong City Council. The WFP Project aims to develop the city's foreshore "into a well planned centrepiece, enhancing the character of the precinct while creating a lasting impression on residents and visitors", www.wollongong.nsw.gov.au, June 2005. Initiatives in the WFP Project included the conservation of environmental aspects of the city foreshore, landscape architecture, traffic movement from vehicle to pedestrian, commercial and tourist opportunities and an overall foreshore design. The WFP Project covers an area, which is bound by Bank Street to the south, Corrimal Street to the west and extends north to Stuart Park. The site has facilities such as a walkway/cycleway, access to beaches, a variety of restaurants, cafes and take-away food outlets. The housing type in the vicinity ranges from single dwellings to medium and high-rise

buildings, inhabited by families, couples and students. The aim of this HIA was to determine the potential impacts of the WFP Project in relation to physical activity, social cohesion and access to healthy food. These three areas were chosen because the agencies conducting the HIA had a specific interest in each of these areas.

2.   Methods

A prospective, desk-based HIA was conducted on the WFP Project plan. A Steering Committee was formed with members from SESIAHS and Wollongong City Council (see Appendix for Terms of Reference and Timeline). The Steering Committee conducted the five stages of HIA (Table 1).

Table 1: Stages involved in conducting a Health Impact Assessment

Stage of Health Impact Assessment	Purpose	Outcome
Screening	To identify whether a HIA is required.	Recommendation to proceed with HIA or not.
Scoping	To determine the scope of the work to be undertaken.	Outline of how the HIA will be conducted including the time, resources and activities required.
Identification and assessment of potential health impacts	To identify and assess the potential health outcomes of the proposal.	Document that describes the potential health outcomes of the proposal.
Negotiation and decision-making	To prioritise potential health impacts and negotiate recommendations.	Set of recommendations to guide the proponent of the proposal in the implementation and action regarding the proposal.
Monitoring and evaluation	To reflect on the process, monitor health outcomes and evaluate the effectiveness of the HIA.	Evaluation report or publication on the HIA process and health and other outcomes.

Adapted from Simpson et al, 2004

Stage 1: Screening

The purpose of the screening stage of HIA was to determine if a HIA was required. The questions that were considered by the Steering Committee are listed in Table 2 (Results section).

Stage 2: Scoping

The purpose of scoping was to determine the scope and nature of the HIA. The key issues addressed by the Steering Committee as part of the scoping step are shown in Table 3 (Results section).

Stage 3: Identification and Assessment of Potential Health Impacts

The Steering Committee was provided with details of the proposed initiatives along the foreshore as part of the WFP Project. Several meetings were held between members of the Steering Committee to discuss the potential health effects of the initiatives. The information obtained from the literature review, community profile and NSW Health data as well as knowledge and expertise of the Steering Committee members formed the evidence base upon which the health impacts were assessed. Several members of the Steering Committee had been trained in HIA methodology and had been involved in conducting a HIA on a similar type of plan.

Community Profile

The Steering Committee reviewed a Community Engagement Report prepared by Wollongong City Council. The information provided an understanding of the views of the community and the current usage of the foreshore area by the community. The Steering Committee also used the information to:

- Obtain demographic characteristics of the people living in the foreshore area.
- Determine indicators that may relate to physical activity, social cohesion and access to healthy food.
- Compare the demographic characteristics and other indicators of the Wollongong foreshore to those living outside this area and those living in the wider area within the Wollongong Local Government Area (LGA).

NSW Health Data

The NSW Health Survey 2003 provided information about health behaviours and health status. Data from the NSW Health Survey was used to assess social capital, physical activity levels and food consumption of residents in the local government area.

Literature Review

Due to time limitations when conducting a desk-based HIA, the literature review on the effects of the environment on physical activity and social cohesion has been taken directly from a recent HIA report on the Shellharbour Foreshore Management Plan (Neville et al 2004) which was undertaken by several of the authors of the present HIA. The literature review on access to healthy food was derived largely from recent reports and summary documents from government and other expert agencies, with additional material obtained from peer-reviewed publications and project reports.

Stage 4: Decision-Making and Formulating Recommendations

This stage involved the Steering Committee ranking the initiatives that had potential health impacts and formulating recommendations about the WFP Project. After consideration of the initiatives of the WFP Project, the Steering Committee developed a series of matrices to be used combining the likelihood of the impact and the relative size of impact resulting from each initiative. The initiatives were ranked as high or medium or low priority.

Stage 5: Evaluation

Process Evaluation

The process evaluation involved a semi-formal interview being conducted with each member of the Steering Committee to determine the usefulness of conducting a HIA. The questions asked are listed in Table 7 (Results section).

Impact Evaluation

Follow-up on behalf of the Steering Committee will occur six months after the HIA Report has been completed to determine if any changes have been made to the WFP Project plan as a result of the HIA Report and its recommendations.

3.   Results

Stage 1: Screening

The screening stage identified that a desk-based HIA would proceed on the WFP Project. A table with the questions and answers for the screening stage of the HIA is shown below (Table 2). Screening indicated that potentially positive health impacts of the WFP Project included the provision of a safe, accessible and aesthetic environment conducive to both formal and informal recreation activities that may increase physical activity and social cohesion levels in the target population. The changes may also enhance opportunities for access to healthy food, which may also result in improved health outcomes. The screening process indicated that potentially negative or unknown health impacts could be related to pedestrian access to the Wollongong foreshore area and issues associated with vehicular traffic and parking facilities near the foreshore.

Table 2: Questions and Answers for Screening

Question	Answer
What is the size and significance of the policy/program – will the HIA involve more effort than the actual proposal?	The WFP Project is a relatively small proposal in terms of Council's overall infrastructure improvements.
Is there significant funding attached to the proposal?	Council has estimated the cost of the works at $40 million. Funds are yet to be allocated to the Project.
Are there any readily apparent impacts?	The apparent impacts are generally positive health impacts.
Is the proposal preceded by several other initiatives?	The proposal is being conducted in conjunction with a City Centre Revitalisation Strategy for Wollongong.
Who is it likely to affect?	The local residents and visitors to the area.
What groups will it impact on?	Potentially all population groups.
What are the potential links between the policy and health (both direct and indirect)?	Positive impacts include increasing opportunities for physical activity, improving social cohesion and access to healthy food.
What are the potential health equity impacts (intended & unintended, positive and negative) of the policy?	Access to healthy food from food outlets is limited to some population groups due to the cost. Pedestrian and vehicle access to the area may be too restricted due to limited car-parking in the area.

Stage 2: Scoping

The major issues considered and the outcomes of the scoping stage are shown in Table 3. These include the timeline; the range of stakeholders; the type of evidence that will be used; and mechanisms for making recommendations.

Table 3: Issues and Outcomes for Scoping

Issue	Outcome
The definition of health and health outcomes to be considered.	The definition of health used for the HIA is 'health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (WHO, 2005). Inextricably linked to this is the understanding that at every life stage, health and well-being are affected by complex social and economic factors, the physical environment as well as hereditary factors (Harris-Roxas et al, 2004). The health outcomes that were considered include physical activity, social cohesion and access to healthy food.
Formal confirmation of the goal, objectives, strategies and expected outcomes and timeframe for the HIA.	The primary aim of the HIA was to determine the potential impacts of the WFP Project related to physical activity, social cohesion and access to healthy food. The objectives of the project were to: ▪ Understand associated health benefits related to the health determinants of physical activity, social cohesion and access to healthy food. ▪ Anticipate any inequities that may arise as a result of the implementation of the WFP Project. ▪ To assist Council to prioritise initiatives to benefit health.
Formal confirmation of the processes for conducting the HIA (eg. management of issues that arise outside of Steering Committee's meetings and require member's attention).	The Steering Committee developed Terms of Reference (Appendix) which outlined the processes for conducting the HIA and roles and responsibilities of Steering Committee's members.
What kinds of evidence will be gathered and how it will be assessed.	Policies and plans from local and state government, as well as evidence obtained from published literature on the subject were used for the HIA.
The range of stakeholders who need to be engaged	It was not necessary to directly engage stakeholders for a desk-based HIA. Information from Wollongong City Council's community consultation was used as a proxy for the community consultation process.
Mechanisms for making recommendations.	Final recommendations will be presented to Wollongong City Council in the HIA Report.

Stage 3: Identification and Assessment of Potential Health Impacts

Community Profile

The Wollongong foreshore area is predominantly inhabited by an older population with over 30% of residents in the 55 and older age category which is higher than in the Wollongong LGA (23%). Other age groups which were well represented in the foreshore area include the 25-40 (24%) and 41-54 (19%) age groups. Aboriginal and Torres Strait Islander peoples comprise 0.4% of the Wollongong foreshore area which is less than the Wollongong LGA (1.5%). Households in the Wollongong foreshore area have a range of weekly household incomes: the highest earning census collection district (CCD) within the population had a median weekly income of $1000-$1199, while the lowest earning CCD had a median weekly household income of $500-$599. The median income in the Wollongong LGA is $700-$799. The Wollongong foreshore area has a Disadvantage Index of 1031, which is an average level of disadvantage compared to the rest of the Wollongong LGA and the NSW state average figure of 1000 (ABS, 2001).

NSW Health Data

The 2003 NSW Health Survey indicated that only 43.5% of residents in the Illawarra Health Area have an adequate level of physical activity, which is significantly lower than for NSW (45.0%). A lower proportion of Illawarra females (38.5%) were physically active when compared with females in NSW (40.5%). A significantly higher proportion of people were overweight or obese in the Illawarra Health Area (52.4%) compared with NSW (48.3%) (NSW Department of Health, 2004b).

Information on social capital for the former Illawarra Health Area from the 2003 NSW Health Survey suggest a similar level of social cohesion to the state level, with the exception of the item related to visiting neighbours, which was significantly higher in the Illawarra Health Area compared to the whole of NSW. Similar patterns of results for social capital indicators were observed in the 2002 NSW Health Survey (NSW Department of Health 2003).

The 2003 NSW Health survey showed that only 46.0% of Illawarra residents ate the recommended 2 serves of fruit per day which is similar to NSW (45.8%) but only 24.6% ate the recommended 5 serves of vegetables per day. Although vegetable consumption was higher than state average (19.3%), Illawarra had a higher rate of consumption of high fat foods than the state average, in particular for fried potato products where Illawarra had

the second highest intake of all NSW health areas (NSW Department of Health 2004b). Similarly children had well below recommended intakes for vegetables with at least 85% of 2-12 year olds not consuming recommended amounts, however, 95% children consumed recommended amounts of fruit (NSW Department of Health 2002).

Literature Review

This literature review explores the effect of the environment on physical activity, social cohesion and access to healthy food.

Physical Activity

Physical activity ranks as the second most important factor in chronic disease prevention in Australia (Mathers et al, 1999). Physical activity has been shown to reduce the risk of coronary heart disease mortality, non-insulin-dependent diabetes mellitus and colon cancer and to relieve symptoms of depression and anxiety (Commonwealth Department of Health & Family Services, 1998; US Department of Health and Human Services, 1996). Adequate physical activity levels are also important in the prevention of overweight and obesity (US Department of Health and Human Services, 1996).

There are many determinants of physical activity including individual, social and environmental factors. There is an increasing interest in the physical environmental determinants as we acknowledge a more comprehensive explanation for physical activity behaviour (Carnegie et al, 2002).

Research has shown that accessibility and availability of recreational facilities, including cycle/walkways, are important factors in determining physical activity levels (Huston et al, 2003; Carnegie et al, 2002; Humpel et al, 2002; Brownson et al, 2001). Access to open public space and footpaths has been shown to be influential on whether an individual reaches the recommended level of walking (Giles-Corti & Donovan, 2003).

Having an aesthetic environment to exercise in is important in determining physical activity levels, the likelihood of walking for exercise and the use of parks (Lawlor et al, 2003; Carnegie et al, 2002; Humpel et al, 2002; Ball et al, 2001; Corti et al, 1996). Bauman et al (1999) found a link between living in a coastal area and having higher levels of physical activity. A cross-sectional study of Australian adults found that their perceptions of aesthetic and practical features of the physical environment were significantly associated with actual walking behaviour (Carnegie et al, 2002). Having

adequate amenities is important in influencing the use of parks (Corti et al, 1996), for example toilets, drinking water, lighting and shade (Sallis et al, 1997).

There is evidence that people who perceive their neighbourhood as unsafe are more likely to be physically inactive (Centers for Disease Control & Prevention, 1999). An international study found that safety was the most important factor in parents' decisions about whether to take their children to parks (Sallis et al, 1997). Trust of neighbours and self-reported use of parks and playgrounds have been associated with increased physical activity levels (Addy et al, 2004). Walkers and cyclists have reported that safety is an important factor in influencing their use of cycle/walkways (Lawlor et al, 2003).

Convenience is an important factor influencing the use of cycle/walkways (Lawlor et al, 2003), the likelihood of walking for exercise (Ball et al, 2001) and in the use of parks (Corti et al, 1996). Factors such as increased distance (Merom et al, 2003), busy streets and steep hill barriers have been negatively associated with use of cycle/walkways (Troped et al, 2001). Distance, busy streets and having to drive to a park are also important barriers in park use (Corti et al, 1996). Distance has been associated with the use of public open space for recreation, and may be more important in the utilisation of public open space than for sporting and recreation centres (Giles-Corti & Donovan, 2002).

Environmental barriers such as travel distance must be considered when planning community cycle/walkways (Troped et al, 2001). However it is not clear how far walkers and cyclists are willing to travel to use a cycle/walkway for exercise (Merom et al, 2003). Giles-Corti and Donovan (2002) suggest most users of public open space live within approximately five hundred metres of the space. Another study suggests that, for older women, living within 20 minutes walking distance of a biking or walking trail is associated with greater amounts of walking (King et al, 2003). An improved understanding of these issues will assist in promoting the use of cycle/walkways more effectively (Troped et al, 2001).

Interventions that aim to change the environment by reducing barriers and increasing opportunities for physical activity can be effective and have the potential to impact the physical activity levels of large numbers of people (Sallis et al, 1997). An evaluation of the UK National Cycle Network indicated that nearly half of those interviewed felt the cycle network had allowed them to substantially increase their physical activity levels by a substantial amount. However, the results of this study are limited due to possible selection

and interviewer bias (Lawlor et al, 2003).

Two studies have found that people of higher education were more likely to use walking trails or walk/cycleways (Troped et al, 2001; Brownson et al, 2001). One of these studies also found people of younger age and men were positively associated with use of walk/cycleways (Troped et al, 2001), while the other study found women were more likely to use walking trails than men (Brownson et al, 2001). Women and those of lower income and education groups were more likely to have increased their amount of walking due to walking trail use (Brownson et al, 2001).

Providing the right infrastructure and access to an environment that supports physical activity is important but may be insufficient on its own to increase physical activity levels (Giles-Corti & Donovan, 2002; Giles-Corti & Donovan, 2003; Eyler & Vest, 2002). There is strong evidence of effectiveness of environmental policy approaches that enhance access to places for physical activity together with informational outreach activities (Kahn et al, 2002; Task Force on Community Preventive Services, 2002). Merom et al (2003) reported a heightened awareness of a rail trail after a media campaign however, only a low proportion of those aware of the rail trail reported using it.

Social support has been consistently, positively associated with physical activity in adults (Giles-Corti & Donovan, 2003; Eyler & Vest, 2002; Trost et al, 2002; Ball et al, 2001; Brownson et al, 2001). An Australian study found that men who had fewer social connections were more likely to have low levels of physical activity (MacDougall et al, 1997).

To enable people to take advantage of a supportive physical environment, complementary strategies that aim to influence individual and social environmental factors are needed (Giles-Corti & Donovan, 2002; Sallis et al, 1997). Interventions aiming to increase physical activity levels need to create a social and cultural environment that supports physical activity (Giles-Corti and Donovan, 2003; Eyler & Vest, 2002; Ball et al, 2001).

Social Cohesion
Social cohesion occurs when a community can work together and support each other (NSW Department of Health, 2003a). Lomas (1998) refers to social cohesion as the product of the physical and social structure in a community, both of which are important elements of the social system within a community. The physical structure can influence

health through the creation, enhancement or neglect of the physical environment. The social structure of a community is reflected in things like meeting places and opportunities for interaction. The physical and social structure can either inhibit or support a sense of belonging, social relationships, mutual support and caring, all of which can have an influence on health (Lomas 1998). Local neighbourhoods and relationships are important factors in people's sense of health and well-being (Baum, 1999).

Lomas (1998) argues that the way our society is organised, the extent of interaction among citizens and the degree of trust that exists within a caring community are the most important determinants of health. People who are socially engaged with others and actively involved within their community live longer and have better physical and mental health (Leyden, 2003). It is important to involve the community and to consider cultural values and social relations when undertaking changes to the physical environment (MacIntyre & Ellaway, 1999). Involving young people in decision-making is also important as it can assist in connecting them with their community (Foundation for Young Australians, 2003).

The design and layout of an environment can influence social interaction (Baum & Palmer, 2002). Baum and Palmer (2002) argue that 'third places' that is, common meeting places that are not commercial or domestic environments, a perception of safety and a pleasant environment are all important in encouraging people to interact within their community and in facilitating social relationships. Preserving and improving social structures such as meeting places where views and values can be exchanged and trust can be built, can enhance social cohesion (Lomas, 1998). Playing with children and walking dogs in parks is an informal way of bringing people together and facilitating interaction (Baum & Palmer, 2002).

Although the provision of public open space that is safe and accessible is an important resource for the community, the proximity, size and design characteristics of the space are important factors in whether the space is utilised (Giles-Corti & Donovan, 2002). Improvements in urban design such as community art organised by the local community can result in improved social networks and increased community capacity (Semenza, 2003).

Ensuring suburbs are places in which residents are encouraged to interact are an effective form of health promotion (Baum & Palmer, 2002). Baum & Palmer (2002)

recommended strategies include creating attractive places to walk, parks with community facilitators, subsidised schemes for local cafes and shops so as to increase employment and providing meeting places. They argue these strategies may contribute to efforts in overcoming disadvantage in suburbs of lower socio-economic status (Baum & Palmer, 2002).

Widespread social changes such as the increased use of cars and decreased amount of walking, allow little time to meet other people and affect the feeling of a community (Baum & Palmer, 2002). Leyden (2003) found higher levels of social capital in those living in walkable neighbourhoods than in those living in car-oriented suburbs, where a walkable neighbourhood is defined as one that allows residents to perform daily activities such as shopping, going to the park, taking children to school without the use of a car. However it is unknown whether social people might be more likely to choose walkable neighbourhoods rather than walkable neighbourhoods encouraging sociability (Leyden, 2003). Nevertheless social capital and walkable neighbourhoods are positively linked.

Lindstrom and co-workers (2001) found a link between low levels of leisure-time physical activity and low levels of education, income and socio-economic status. They argue that differences in social capital between socio-economic groups may be the reason for some of the socio-economic differences in leisure time physical activity and that efforts to improve social capital may be important in increasing the number of those physically active and in reducing socio-economic differences in physical activity levels. However, a later study conducted by Lindstrom et al (2003) could not confirm whether contextual characteristics of the neighbourhoods such as social capital were important in differences in leisure time physical activity status between neighbourhoods. They found that differences in leisure time physical activity status between neighbourhoods were mainly due to individual factors such as their level of education, social participation and country of origin. However, Lindstrom et al (2003) did not investigate other contextual factors related to the physical aspects of the environment such as access to facilities and neighbourhood walk-ability and their links with physical activity status. Health is influenced by the physical and social structure which may inhibit or support a sense of community, social relationships and mutual support (Lomas, 1998). Local neighbourhoods and relationships are important factors in people's sense of health and well-being (Baum, 1999).

Access to Healthy Food

Food access is defined as access to quality food in local communities that is safe, affordable at competitive prices, culturally acceptable and nutritious and provides the opportunity for healthy food choices (NSW Department of Health, 2004c). Access to healthy food is an important determinant of health. Good nutrition, together with physical activity, is a major factor in the prevention of overweight and obesity, type 2 diabetes, cardiovascular disease and some cancers. About half the adult population in NSW and one third of children are overweight or obese. This is linked to the increasing incidence of diabetes for which the age of onset is also getting younger (NSW Department of Health, 2004c). A worrying trend is that increasing numbers of people are experiencing poor food security ie they don't have resources and/or ability to acquire and consume a healthy diet (Webb and King, 2004; NSW Health, 2003b). Malnutrition is a real consequence of food insecurity (NSW Department of Health, 2004c).

A healthy diet for Australians is considered to be one that is in line with dietary guidelines ie includes plenty of breads, cereals, vegetables, fruit, and only small amounts of foods high in fats, sugars and salt (SIGNAL 2001). It is recommended that both adults and children drink plenty of water and that infants are breastfed for at least six months and up to 12 months (SIGNAL 2001).

Educating consumers is considered to be an insufficient solution to changing people's eating habits to be more in line with national dietary recommendations. Webb and King (2004) argue that as the environment plays a larger role than education strategies, changes to the environment would lead to more sustainable health outcomes. Potential influences on access to healthy food and nutrition include urban form through type and location of food outlets and facilities such as water bubblers, community gardens and breastfeeding places. For instance, the built environment affects how easily disabled and disadvantaged people can get to food shops. The design of buildings and public spaces affects how women feel about breastfeeding in public (Gebel et al, 2005; Webb and King, 2004).

Elements within the food environment that undermine healthy eating include the proliferation of takeaway food outlets and advertising that favours less healthy options. Food outlets that sell prepared food are an important component of the food supply (Stickney et al, 1994). Food purchased away from home accounts for almost 30% of total food expenditure in Australia and half of this is spent on fast-food purchases (BIS

Shrapnel, 2000). There is a demonstrable link between fast-food consumption and overweight and obesity (Jeffrey & French, 1999). Fast-food has been shown to have a higher total and saturated fat content than food prepared at home (Ashton & Hughes, 2000). Large serving size and the policy of many fast-food chains to market 'meal deals' and encourage customers to upsize for a small additional cost also adds greatly to the potential to contribute to excessive energy intake. In addition, soft drinks have been identified as significantly contributing to excess weight gain in young people (Gill et al, 2006; WHO/FAO, 2002). An element within the food environment that promotes healthy eating is the availability of healthy food choices (Gebel et al, 2005). However, the cost of healthy alternatives available in some food retail outlets can make them less available to people on limited incomes (NSW Department of Health, 2003b).

Urban design factors that place groups and individuals at risk of poor food access include: lack of food supply within walking distance (2.5km); limited choice in local food outlets and food types; absence of local food outlets that sell low-cost cooked or prepared meals and absence of food gardens. Personal factors include disability or illness, low income and the need for careful budgeting to pay essential household bills (NSW Department of Health, 2004c).

Location of food outlets is generally determined by urban planning policies at state, regional and local levels (Gebel et al, 2005). A number of multi-strategy, intersectoral projects have influenced access to, and availability of food in metropolitan and regional areas of NSW. These projects have focussed on community food and nutrition systems and are designed to help improve food security for disadvantaged communities. Examples of such projects include the Penrith Food Project and the Hawkesbury Food Project. Features of these programs have been that they have substantial and sustained commitment from local government, local health services, and members of the community (NSW Department of Health, 2004c).

A national survey of local governments in 1995 found the majority of councils had limited involvement in nutrition related matters compared to food regulation responsibilities. Potential areas of influence for local government were identified as nutrition concerns related to low-income residents, and inclusion of fresh food outlets within commercial/residential development applications (Yeatman, 1995).

Food security is noted to be an issue in the Wollongong local government area, and is significant enough for the Wesley mission to offer a free service that provides over 400 meals per week to local people. The recently formed Illawarra Food Fairness Forum is addressing food security issues in the local community (Food Fairness Forum, 2005)

Thus, access to a healthy food is improved where a variety of food that is in line with dietary guidelines is available locally, at reasonable cost and to a range of people including those who are disadvantaged. There is an important role for local government in aspects such as considered planning of location of food outlets and transport systems.

Stage 4: Decision-Making and Formulating Recommendations
The Steering Committee discussed the likelihood of the impact and the relative size of the impact for each initiative in the WFP Project in relation to physical activity, social cohesion and access to healthy food. The decisions were based on the available literature and the Steering Committee's knowledge and expertise in these areas. The findings are presented in a priority matrix for each focus area (Tables 4-6).

The likelihood of the impact refers to whether there is sufficient evidence of an effect on physical activity or social cohesion or access to healthy food. The definitions used for the likelihood of the impact occurring were: **definite** is a demonstrated association in the published literature or through expert opinion; **probable** is likely to have an impact; and **speculative** means we are guessing there will be an impact. The relative size of the impact refers to the number of people potentially affected and the magnitude or severity of that impact on an individual. This does not reflect the actual size of the impact but is presented in relative terms.

The ranking system used to prioritise the initiatives was as follows:
    High priority consists of the following categories:
- Definite likelihood of impact with a large or medium size of impact
- Probable likelihood of impact with a large size of impact

    Medium priority consists of the following categories:
- Probable likelihood of impact with a medium size of impact
- Speculative likelihood of impact with a large size of impact

    Low priority consists of the following categories:
- Definite likelihood of impact with a small size of impact.
- Probable likelihood of impact with a small size of impact.
- Speculative likelihood of impact with a medium or small size of impact.

Table 4:
Priority matrix for Wollongong Foreshore Precinct Project: initiatives with a potential to impact on physical activity

LIKELIHOOD OF THE IMPACT	RELATIVE SIZE OF IMPACT		
	Large	Medium	Small
Definite	Lighting Installation of Regional Playground & Cultural Open Space Parkland/Open Space Stuart Park Upgrade including Cycleway	Cycleway/Shareway Seating Additional Parking (General Foreshore Area)	
Probable	Toilets Perimeter Walk Fitness Stations Boardwalk – Brighton Lawn Upgrade Continental Pool Upgrade Bourke Street Improvements Elevated Walkway	Shade Structures Lang Park) Picnic Facilities Art (Temporary)	Parking
Speculative		Vehicular access from Squires Way to Stuart Park with additional parking.	Art (Permanent) Markets Visitor Centre – Flagstaff Hill

Source: adapted from Risk Assessment matrix (Shellharbour City Council)

■ **High Priority**	▨ **Medium Priority**	☐ **Low Priority**

Table 5:
Priority matrix for Wollongong Foreshore Precinct Project: initiatives with a potential to impact on social cohesion

LIKELIHOOD OF THE IMPACT	RELATIVE SIZE OF IMPACT		
	Large	Medium	Small
Definite	Lighting Toilets Parkland/Open Space		
Probable	Installation of Cultural Outdoor Space Picnic Facilities Perimeter Walk	Seating Shade (Lang Park) Bourke Street Improvements Elevated Walkway Parking Art (Temporary)	Parking
Speculative	Markets	Visitor Centre Continental Pool Upgrade Vehicular access from Squires Way to Stuart Park, including additional parking	Art (Permanent) Footpath

Source: adapted from Risk Assessment matrix (Shellharbour City Council)

■ **High Priority**	▨ **Medium Priority**	☐ **Low Priority**

Table 6:
Priority matrix for Wollongong Foreshore Precinct Project: initiatives with a potential to impact on access to healthy food

LIKELIHOOD OF THE IMPACT	RELATIVE SIZE OF IMPACT		
	Large	Medium	Small
Definite	Picnic Facilities		
Probable	Stuart Park Upgrade	Extension of Cycleway/Shareway Toilets	
Speculative	Bourke Street Improvements	Vehicular access from Squires Way to Stuart Park with additional parking Timber Boardwalk	Footpath (Cliff Road)

Source: adapted from Risk Assessment matrix (Shellharbour City Council)

■ **High Priority**	▨ **Medium Priority**	☐ **Low Priority**

Based on the matrices, the Steering Committee formulated a set of recommendations for presentation to Wollongong City Council. A general recommendation was made by the Steering Committee that the WFP Project had the potential to benefit the health of the local residents and visitors to the Wollongong foreshore area by increasing levels of physical activity and social cohesion as well as having a small impact on access to healthy food. A list of specific recommendations is presented at the beginning of this document (pages 6-7). These recommendations relate to the order of priority for initial implementation of initiatives, and to ways to maximise the potential positive health impacts and minimise the potential negative health impacts.

The Steering Committee also suggested the need for comprehensive food planning as part of local planning and policy development to ensure the availability of a wide range of food options for the whole community. This could include location of supermarkets, and specialty food outlets. South Eastern Sydney and Illawarra Area Health Service, Wollongong City Council and agencies such as Healthy Cities Illawarra and Illawarra Food Forum could work together to ensure there is access to healthy food.

Stage 5: Evaluation

The monitoring and evaluation of the HIA determines the value and feasibility of conducting a HIA. Process evaluation was undertaken in April 2006; a copy of the questions asked and a summary of the responses is presented in Table 7. Impact evaluation will occur six months after the HIA is completed to identify the changes that have been made to the WFP Project as a result of the HIA. This process assisted in establishing the usefulness of the HIA process.

Table 7: Questions and Answers for Process Evaluation

Question	Answer
What worked during the HIA process? (Prompts: Why? Could you please give an example of that?)	The communication throughout the HIA between members of the Steering Committee was excellent. All the information necessary for the meetings was provided up-front. The make-up of the Committee worked well. The different backgrounds and experience of members on the Committee contributed to the success of the project. The detailed information of the proposed project provided by Council was very beneficial to conducting the HIA.
What didn't work during the HIA process? (Prompts: Why? Could you please give an example of that?)	The major difficulty associated with the project was the co-ordination of a large group of people. This is one of the inherent difficulties faced by a Steering Committee made up of busy professionals who are housed in different geographical locations. It was also suggested that an alternate person at Council be nominated, to attend meetings, if necessary.
What would you do differently next time? (Prompts: Why? Could you please give an example of that?)	Next time it may be useful to have shorter meetings at the Council Chambers, to ensure that more people are able to attend the meetings. Another suggestion was to have a summary of the information provided prior to the meeting. Clear delineation of the roles of each Committee member needs to be set out at the beginning of the process.
Would you conduct another HIA? (Prompts: Why/not? Could you please give an example of that?)	All the members of the Steering Committee agreed that they would conduct another HIA.
What impact do you think this HIA will have on the future development of the WFP Project plan?	The HIA could potentially change aspects of the proposed WFP Project. Elements that may change relate to the cycleway, cycle racks and commercial opportunities across the site. The Steering Committee also felt that the HIA may reinforce the benefits of the Project plan and to encourage Council to implement the plan.
Has this project influenced your thinking about the relationship between a local government management plan such as the WFP Project plan in relation to physical activity, social cohesion and access to healthy food?	The project has confirmed thoughts about the linkages between health and the built environment and in relation to the specific determinants or focus areas of health.
What are the advantages in local government and the health service working collaboratively on a project such as the WFP Project plan? What are the disadvantages?	The advantages of working collaboratively are numerous. They include working with other sectors and obtaining an understanding of how they work, learning a new process such as HIA, establishing networks and developing good team work. The HIA should also have an impact of the WFP Project.
How has being involved in the HIA changed what you do in the future?	All members of the Steering Committee agreed that they will think more about the implications of an infrastructure project (and possibly other projects) on health.

4.   Discussion

The HIA process provided an opportunity for the Steering Committee to identify the many positive health effects of the WFP Project on physical activity and social cohesion and to a lesser extent on access to healthy food as well as to make recommendations to maximise these effects and to minimise any potential negative health effects.

The aspects of the WFP Project that were considered to have the greatest impact on health and therefore should be considered for initial implementation included the following:

- Improvements to lighting throughout the site, particularly along the primary cycleway/walkway routes, will increase safety and allow broader use of the area.
- Improvements to open space and recreation areas (including installation of picnic areas) will provide greater opportunity for physical activity as well as provide a meeting place to allow improved social cohesion. Picnic tables and seating will provide an opportunity for healthier food choices such as picnics and barbeques.
- Improvements to the cycleway/shareway will benefit health and would improve safety to users and resolve conflict at congestion points.
- Provision of toilet facilities (including disabled toilets and a parent's room for breastfeeding) would enhance the usability of the foreshore area.

Ways to maximising the potential positive health impacts and minimising the potential negative health impacts are as follows:

- Ensure that the lighting is vandal-proof and that a regular service program is established so that it remains in good working order at all times.
- Conduct regular surveillance and maintenance of the open space and recreation areas.
- Provide picnic tables with shade covers and ensure that tables are accessible to those with prams, older people, those less mobile and persons with disabilities.
- Improve crossing points in areas where local residents and visitors are likely to access the foreshore area. International evidence has shown that the safest crossing points are those which are raised and clearly marked.
- Address traffic management issues and associated car-parking issues in and around the foreshore area.
- Incorporate Safer by Design principles to reduce potential for anti-social behaviour in open space and recreation areas.

▪ Consider re-designing the cycleway/boardwalk so that both parts are located at the same level. In the plan, the proposed cycleway/boardwalk is to be constructed at different levels which may result in an increase in the risk of falls and accidents.

Local government needs to develop a comprehensive plan that takes into account the impact of urban design and local infrastructure on access to healthy food. Considerations within the plan could include the distribution of supermarkets, fresh food outlets and community food services (e.g. soup kitchens) across the area to ensure all residents have access to low cost and fresh food, an increase in the availability of water bubblers, the development of new breastfeeding facilities, and the establishment of food gardens. Far less research in the area of environmental influences on nutrition has been published to date in comparison with the influences on physical activity (Gebel at al, 2005, National Heart Foundation, 2004) and social cohesion (National Heart Foundation, 2004). One environmental factor that could be associated with nutrition-related behaviours in the context of the WFP project is the types of food available in the vicinity of the foreshore. Healthy food choices from outlets such as restaurants, take-away food stores, cafes and convenience stores may be less available than unhealthy choices and relatively expensive. An increase in these types of food outlets is therefore not likely to increase access to healthy food without specific policy or health promotion intervention. Another environmental factor is changes to infrastructure that enable people to walk or cycle to shops in town where food may be cheaper (eg supermarkets), however the positive impact of this is limited by the need to transport food home.

The HIA process was beneficial in relationship building between local government and an area health service and allowed consideration of health impacts in an urban planning project plan. Working with Wollongong City Council on a HIA has allowed the health sector to potentially influence a plan before it goes out for broader public comment. The process has strengthened the skills of the staff within the health service and provides an excellent framework for rapid responses to other council plans where we want to consider our priority health promotion areas.

Health impact assessment could assist in the development and planning of similar public works in the future. The findings from an HIA can be beneficial for lobbying councils to provide infrastructure that creates opportunities for people to be more active in their daily lives and more connected with their community as well as provide adequate healthy food accessibility.

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Appendix:

Steering Committee Terms of Reference and Timeline

Purpose:

To provide advice and guidance to the Wollongong Foreshore Precinct Project HIA project team on the conduct of the HIA, in particular:

▪ Identification of other stakeholders.

▪ Establishing the scope of the HIA – definitions, levels of evidence, principles, process for negotiation and decision making.

▪ Framing of the recommendations arising from the results of the HIA.

▪ Undertaking the process evaluation of the HIA.

Members of the Steering Committee

1. Carolyn Dews, Project Officer, South East Sydney Illawarra Area Health Service (SESIAHS), (Chair).
2. Sarah Thackway, Director of Public Health, Manager Population Health, SESIAHS.
3. Susan Furber, Research and Evaluation Co-ordinator, SESIAHS.
4. Erica Gray, Acting Manager, HP Service Development Program, SESIAHS.
5. Dian Tranter, Nutrition Team Co-ordinator, Health Promotion Service, SESIAHS.
6. Ben Harris, Centre for Health Equity Training Research and Evaluation (CHETRE), University of New South Wales.
7. Andy Goldie, Foreshore Precinct Committee, Wollongong City Council.
8. Cate Wallace, Public Health Officer, NSW Health.

Responsibilities

1. Participate in Wollongong Foreshore Precinct HIA Steering Group meetings – in person, by teleconference and/or provide feedback on key documents.

2. Undertake the screening and scoping steps of the Wollongong Foreshore Precinct Project HIA.

3. Undertake the negotiation and decision making step of the Wollongong Foreshore Precinct Project HIA.

4. Facilitate presentation of the Health Impact Assessment Report to the key decision makers.

5. Use existing networks and forums to communicate about the HIA on the Wollongong Foreshore Precinct Project, including the main findings.

6. To disseminate findings from the HIA to stakeholders and other agencies.

Meetings

It is proposed that the Wollongong Foreshore Precinct HIA Steering Group will meet as per the attached timeline. The venue for the face-to-face meetings will be at Illawarra Health - Division of Population Health and Planning or at Wollongong City Council. The HIA Project Officer will deal with issues that arise out of session and may require member's input.

Timeline for Health Impact Assessment on Wollongong Foreshore Precinct Project Management Plan, 2005/06

Date	Proposed Actions
20th September 2005 10am – 12.00 noon.	Initial Steering Committee Meeting: Membership of the Steering Committee & identification of stakeholders. Terms of Reference of the Steering Committee Background to HIA process Background to Wollongong Foreshore Precinct Project **Step 1 - Screening steps of the HIA** **Step 2 – Scoping steps of HIA**
26th October 2005 12.30 – 2.30pm	Possible interim HIA Meeting.
15th November 2005 10.00am – 1.00pm	**Step 3 – Identification and Assessment of Potential Health Impacts** **Step 4 – Negotiation and Decision Making**
17th January 2006 10.00am – 12 noon	**Step 5 – Evaluation and Monitoring** Final Health Impact Statement/Report Evaluation of the HIA Process Finalisation of outstanding issues