

Attachment 1 - Social Impact Assessment Literature Review

Background

The review focuses on the international and local practices on how social impacts of road development on people and communities are categorised.

Social Impact Assessment as a specific concept originated in the 1969 National Environmental Policy Act of the United States of America (NEPA) and later became widespread as a decision making tool in developed countries⁵². Recently, its use as a supporting tool for decision-making is gaining popularity with major infrastructural projects in developing countries. SIA is now a mandatory requirement for major road infrastructure projects funded by the World Bank⁵³, European Investment Bank, Asia Development Bank and other major international financial institutions⁵⁴.

The International Association for Impact Assessment⁵⁵ (IAIA) defines SIA as “ *the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment*”.

Vanclay and Becker (2003)⁵⁶ expanded on the implications of this definition, describing SIA as a broad umbrella or overarching framework that embodies the evaluation of all human impacts. Impacts included in this framework are: aesthetic (landscape analysis), archaeological and heritage, community, cultural, demographic, development, economic and fiscal, gender assessment, health, indigenous rights, infrastructural, institutional, political (human rights, governance, democratization), poverty assessment, psychological, resource issues (access and ownership of resource), tourism and other impacts on societies.

To obtain a full appreciation of these to enable them to be categorised needs the consideration of SIA as changes to one or more of the following:

- people’s way of life - that is, how they live, work, play and interact with one another on a day-to-day basis;
- their culture - that is, their shared beliefs, customs, values and language or dialect;
- their community - its cohesion, stability, character, service and facilities;

⁵² U.S. Department of Commerce, National Oceanic and Atmospheric Administration National Marine Fisheries Service (1994) - Guidelines and Principles for Social Impact Assessment

⁵³ Koji Tsunokawa and Christopher Hoban (Edit) 1997 - “Roads and the Environment - A Handbook” World Bank Technical Paper No 376

⁵⁴ www.eib.org/; www.adb.org/gms; www.tba.co.nz;

⁵⁵ www.iaia.org/

⁵⁶ Becker H & Vanclay F (eds) 2003, *The International Handbook of Social Impact Assessment: Conceptual and Methodological Advances*, Edward Elgar, Cheltenham, UK.

- their political system - the extent to which people are able to participate in decisions that affect their lives , the level of democratisation that is taking place, and the resources provided for this purpose;
- their environment - the quality of the air and water people use, the availability and the quality of food they eat, the level of hazard or risk, dust and noise they are exposed to, the adequacy of sanitation, their physical safety, and their access to and control over resources;
- their health and wellbeing - where 'health' is understood in a manner similar to the World Health Organisation definition: "a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity";
- their personal and property rights - particularly whether people are economically affected, or experience personal disadvantage which may include a violation of their civil liberties; and
- their fears and aspirations - perceptions about safety, fears about the future of their communities, and aspirations for their future and the future of their children.

International SIA Practices - Social Impact Categories

SIA has become firmly established internationally as an important aspect of environmental impact assessment. In Australia, the State Government has amended its Local Government Act to incorporate the principles of Ecologically Sustainable Development (ESD)⁵⁷. All levels of government have agreed that ESD is based on three under-pinning principles:

- development that safeguards the welfare of future generations;
- providing for equity within and between generations; and
- protecting biological diversity and maintaining essential ecological processes and life-support systems.

Under this ESD paradigm LGA practitioners have identified the following social impact categorisation relevant to major road infrastructure projects in the federal, state and local governments.

Population characteristics

- Present population and expected change.
- Ethnic and racial diversity.
- Demographic mix.
- Fluxes in temporary residents, seasonal and leisure visitors.

Community and institutional structures

- Local government and links to the larger political system;
- Patterns of employment and industrial diversification;
- Voluntary organisations;
- Religious and other interest groups;

⁵⁷ <http://www.communitysolutions.com.au/papers/quantsocimpass.html>

Political and Social resources

- Distribution of power and authority - participation, discrimination.
- Income and wealth distribution.
- Legal and civil rights.

Individual and family change

- Health.
- Education.
- Personal safety.
- Family and friendship networks.

Community resources

- Natural resources and land use.
- Physical environment.
- Recreation.
- Availability of housing and community services.
- Viability of community life.
- Historical and cultural resources - indigenous and non English-speaking background.

SIA is also a requirement under the Commonwealth/ State Strategic Assessment Agreement for approval under its Environmental Protection Act 1986⁵⁸.

In the US, SIA is a statutory requirement under several acts of legislation such as the Magnuson Fisheries Conservation and Management Act 1976 and the Outer Continental Shelf Lands Act 1978. The predominant legislation though, is the National Environmental Policy Act 1969⁵⁹. The social impact assessment variables required under this legislation include:

- Population Characteristics which mean the present population and expected change, ethnic and racial diversity, and influxes and outflows of temporary residents as well as the arrival of seasonal or leisure residents.
- Community and Institutional Structures which mean the size, structure, and level of organization of local government including linkages to the larger political systems. They also include historical and present patterns of employment and industrial diversification, the size and level of activity of voluntary associations, religious organizations and interests groups, and finally, how these institutions relate to each other.
- Political and Social Resources that refers to the distribution of power authority, the interested and affected publics, and the leadership capability and capacity within the community or region.
- Individual and Family Changes referring to factors which influence the daily life of the individuals and families, including attitudes, perceptions, family characteristics and friend-ship networks. These changes range from attitudes toward the policy to an alteration in family and friendship networks to perceptions of risk, health, and safety.

⁵⁸ Vanclay, F. 2003. International Principles for Social Impact Assessment. *Impact Assessment & Project Appraisal* 21(1): 5-11

⁵⁹ U.S. Department of Commerce, National Oceanic and Atmospheric Administration National Marine Fisheries Service (1994) - Guidelines and Principles for Social Impact Assessment.

- Community Resources including patterns of natural resource and land use; the availability of housing and community services to include health, police and fire protection and sanitation facilities. A key to the continuity and survival of human communities are their historical and cultural resources. Under this collection of variables we also consider possible changes for indigenous people and religious sub-cultures.

In Canada, SIA is a statutory requirement under the Canadian Environmental Assessment Act⁶⁰. Stevenson⁶¹ (1995) described the way it categorised the impacts of major road projects on people and communities as:

Displacement of Residents - residents may be displaced by the construction of a road due to additional impacts like the economic impact resulting from acquiring new housing at a new location; social and psychological impacts due to the disruption of social relationships and establishing relationships in a new social environment; or changes in type and tenure of housing.

Displacement of Businesses and Community Services -road projects may remove or cause relocation of businesses and community services such as churches, community centres or parks. Businesses and community services may have difficulty in obtaining suitable relocation sites; they may lose clients, and on relocation, may incur additional costs to re-establish.

Impacts on Residents - how residents may be disrupted and inconvenienced by detours, local road closures, dust, noise, heavy equipment traffic on existing roads, changes in the level of service, safety hazards, and interference with emergency services during the construction phase. Occasionally, there is vibration damage to near-by structures.

On the positive side, SIA also describe how residents may benefit from construction employment. Travel time, gas consumption, accidents and inconvenience to users generally decrease. The roadway increases access to jobs, schools, stores, recreation and other community services and amenities. These effects can be reflected in increased land values.

However, there may be negative impacts for some residents living near the roadway. These include increased noise, pollution and aesthetic impacts. Some of these impacts can be mitigated.

Impacts on Businesses and Community Services - socio-economic impacts on businesses and community services can be positive and negative. During the construction phase, some businesses and community services may lose clients, while other businesses may

⁶⁰ André, P. and D. Bitondo (2001). "Development of a Conceptual and Methodological Framework for the Integrated Assessment of the Impacts of Linear Infrastructure Projects on Quality of Life". Canadian Environmental Assessment Agency Research and Development Monograph Series

⁶¹ Mark Stevenson (1995), "Social Impact Assessment of Major Roads" paper presented to the 20th World Road Congress, Montreal.

obtain additional business. When the roadway is operational, changes in traffic patterns may increase or decrease the clients for some businesses and community services.

Impacts on the Community- community impacts can be considered positive or negative. The most significant impacts are likely to result from the displacement of residents, businesses and community services. This, in turn, affects the community as customers, and members of businesses and community services, jobs and social relationships are lost. The loss of residents can have an additional effect of disrupting the social relationships in the community, creating a further loss for those who remain. Disruption of residents can lead to a loss of satisfaction with life in the community and reduced participation in community activities.

Forkenbrock and Weisbrod (2001)⁶² give a very good account on transportation factors that affect people and communities, summarizing the various practices of categorising SIA effects/impacts used widely in the international arena. This is now largely adopted by major international funding organisations for project appraisals.

*Road transportation factors affecting **travel time savings** - while* traffic congestion and pressure areas may be shifted to another part of the township, travel time, congestion and incidents may be reduced, relieving pressure on some parts of the city, and increasing certainty of arrival time.

*Road transportation factors affecting **safety** -* crash rate may decrease, improved travel convenience thus reducing confusion and conflicting vehicles, no more pot holes and improved driving on smooth surfaces.

*Road transportation factors affecting **VOC⁶³ savings** -* resurfacing results in smooth roads which reduces loads and thus improve fuel efficiency. Good flow will reduce stop-and-go thus improve fuel use. Straight and short roads improve time taken for travel and reduce fuel use.

*Road transportation factors affecting **alternative transport modes** -* There are three major ways in which new or upgraded transportation facilities may affect the viability of alternate transportation modes i.e.

- upgrading roads can increase vehicular traffic;
- street widening can create barriers; and
- transportation projects can displace or disrupt facilities (e.g. bicycle trails, sidewalks, and public transport stops may have to be moved to make way for other facilities).

⁶² Forkenbrock DJ (Public Policy Centre - University of Iowa) and Weisbrod GE of Economic Development Group - Guidebook for Assessing the Social and Economic Effects of Transportation Projects, NCHRP Report 456 (2001)

⁶³ Vehicle operating cost

*Road transportation factors affecting **accessibility*** - Transportation projects can directly affect the accessibility of households and businesses in a given location in the following ways:

- Improvements to public transport systems can expand travel options and opportunities for residents and sometimes reduce traffic congestion.
- Improvements to road system capacity and traffic control can reduce travel times to and from affected areas for those with vehicles.
- Any type of transportation infrastructure (including highways, rail lines and other fixed guideways, terminals, stations, and parking lots) can represent a physical barrier to pedestrian or vehicular movement, thereby reducing accessibility to preferred destinations.
- During construction of transportation projects, there can be considerable disruption of travel, and access to numerous destinations can be adversely affected.

*Road transportation factors affecting **community cohesion*** - Changes in transportation systems can affect community cohesion in several ways including.

- direct effects of household and business relocation;
- direct effects of structural barriers; and
- indirect effects of psychological barriers.

*Road transportation factors affecting **economic development*** - Economic development effects occur as the *end result* of other direct effects that a transportation project has on travellers and non-travellers. Five specific factors or mechanisms at the root of economic development effects from transportation projects include: (1) business travel costs, (2) business market reach, (3) personal travel costs, (4) job access, and (5) quality of life.

*Road transportation factors affecting **neighbourhood noise levels*** - Traffic noise varies with the volume and type of traffic as well as with the physical geography of the terrain surrounding the roadway. A transportation project can bring about a series of noise related effects within a community.

*Road transportation factors affecting **visual quality in a community*** - Transportation projects can directly affect the visual quality of an area in the following ways: construction of new structures may disrupt the visual quality of an area; blocking views of existing community features, including significant landmarks, open space, and special vistas; change the visual structure of an area and add visual clutter to the environment.

*Road transportation factors affecting **property values and land use*** - Transportation projects affect property values and land use as a result of their direct effects on other social and economic factors. These include:

- changes in accessibility;
- changes in safety;

- changes in noise;
- changes in visual quality;
- changes in community cohesion; and
- changes in business productivity.

*Road transportation factors affecting **distributive effects*** - With changes in transportation systems, the beneficiaries of a particular project may be difficult to identify because they are dispersed across a region. However, negative effects such as noise, community disruption, and other effects often occur along a relatively narrow area immediately adjacent to the road. Even when a project provides net gains across a region, the relative benefits and costs accruing to individuals and groups within the region vary so that those who must tolerate the worst effects may not be enjoying benefits commensurate with the costs they bear.

New Zealand Approach to SIA

In New Zealand SIA is a legal requirement for matters covered by the Resource Management Act 1991 framework, particularly under section 5(2), providing for the avoidance, remediation and mitigation of the impacts of use and development of resources to the environment (including people and communities). Schedule 4(2) is also relevant as it provides for the consideration of neighbourhoods and the communities when preparing an assessment of environmental effects.

Major road infrastructure projects require SIA in support of environmental approval applications to consenting authorities. The RMA does not provide a standard framework for preparation of SIA and most SIA works has been guided by the IAIA guidelines. Examples of social assessments for New Zealand roading projects using the IAIA principals include the Western Ring Route – Waterview Connection, and the Nelson Arterial Traffic Study, the approaches taken in these assessments are outlined below.

MWH⁶⁴ (2010) conducted a study on social effects of four options for the Nelson Arterial routes. This study outlines some of the social effects which may be experienced by members of local communities and individual residents in an area where a large roading project is taking place. The definition provided in this study provides a useful framework employed within NZ, and with similar characteristics to this Project. Different types of effects explored here are:

Community severance: physical and psychological social severance⁶⁵ (or dislocation) of communities caused by its interaction with roads and traffic.

⁶⁴ MWH, December 2010 - "Nelson Arterial Traffic Study: Social Impact Assessment of Selected Options"

⁶⁵ Grigg, A.O. and Ford, W.G. 1983, *Review of Some Effects of major roads on urban communities, transport and Road Research Laboratory Supplementary Report 778*, Berkshire.

Amenity: the quality and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes.

Recreation: passive and active, organised and informal or social interaction that contributes to people's mental as well as physical wellbeing.

Noise effects: both through hearing, and indirectly through the way noise affects attention spans and behaviour, including sleep interference.

Air Quality: the report identifies that the World Health Organisation (WHO)⁶⁶ has found that the effect of traffic related air pollution is one of the leading concerns in traffic issues. Groups at greatest risk from diminished air quality include elderly and very young residents in close proximity to the busy roads, children who are pupils at schools near busy roads, and people spending a high proportion of their time travelling on, or in environments with heavy traffic.

The social effects assessment of the Western Ring Route - Waterview Connection⁶⁷ examined regional and local effects. The assessment *describes IAIA definitions for impact assessment and emphasises the following principle as being important across all SIA:*

“The improvement of social wellbeing of the wider community should be explicitly recognized as an objective of planned interventions, and as such should be an indicator considered by any form of assessment. However, awareness of the differential distribution of impacts among different groups in society, and particularly the impact burden experienced by vulnerable groups in the community should always be of prime concern.” (IAIA, 2003 ‘Social Impact Assessment International Principals’, in ‘Western Ring Route – Waterview Connection; Assessment of Social Impacts, p 27)

The following key themes are included in effect assessment:

- People's Way of Life
- Culture
- Community
- Political Systems
- The Environment
- People's Health and Wellbeing
- People's Personal and Property Rights
- People's Fears and Aspirations

⁶⁶ WHO - Health Aspects of Air Pollution with Particulate Matter, Ozone and Nitrogen Dioxide - Report on a WHO Working Group Bonn, Germany (January 2003)

⁶⁷ BECA on behalf of NZTA RoNS Project: Western Ring Route - Waterview Connection (July 2010) “Assessment of Social Effects”

Note that for the Waterview project a separate Health Impact Assessment (HIA) was carried out to address the potential health consequences of the project. The SIA considers health effects which are complimentary to the HIA, such as perceptions of health impacts, and socio-cultural factors.

Suggested further reading

African Development Bank (October 2003) - "Integrated Environmental and Social Impact Assessment Guidelines"

André, P. and D. Bitondo (2001). "Development of a Conceptual and Methodological Framework for the Integrated Assessment of the Impacts of Linear Infrastructure Projects on Quality of Life". Canadian Environmental Assessment Agency Research and Development Monograph Series.

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BECA on behalf of NZTA RoNS Project: Western Ring Route - Waterview Connection (July 2010) "Assessment of Social Effects"

Beca Carter Hollings, Ferner Ltd & Incite, 2001 - "Social Impact Assessment Technical Report 17 : Prepared for NZ Transport Agency and Porirua City Council"

Beca Carter Hollings & Ferner Ltd (1995) - "Social impact assessment: EIA for the Albany to Puhoi Realignment (ALPURT)".

Becker H & Vanclay F (eds) 2003, *The International Handbook of Social Impact Assessment: Conceptual and Methodological*

Beever L B (2002) - "Addressing Environmental Justice Through Community Impact Assessment" *Paper presented at the Eighth TRB Conference on the Application of Transportation Planning at Corpus Christi, Texas.*

Bunker, R & Cloher, D (1998) - "Social impacts of land acquisition and reservation for urban transport facilities: state 1 report" - *South Australia. Department of Transport, T: Adelaide, S: South Australia, C: Australia*

Department of Commerce (U.S.), National Oceanic and Atmospheric Administration National Marine Fisheries Service (1994) - Guidelines and Principles for Social Impact Assessment

Eastern Corridor strategy study (2001) by MWH, Zomac Planning, Boffa Miskell.

Forkenbrock D J; Benshoff S; Weisbrod G E (2001) - "Assessing the Social and Economic Effects of Transportation Projects".

Forkenbrock DJ (Public Policy Centre - University of Iowa) and Weisbrod GE of Economic Development Group - Guidebook for Assessing the Social and Economic Effects of Transportation Projects, NCHRP Report 456 (2001)

Grigg, A.O. and Ford, W.G. 1983, *Review of Some Effects of major roads on urban communities, transport and Road Research Laboratory Supplementary Report 778*, Berkshire.

<http://www.communitysolutions.com.au/papers/quantSOCIMPASS.html>

Koji Tsunokawa and Christopher Hoban (Edit) 1997 - "Roads and the Environment - A Handbook" World Bank Technical Paper No 376

Mark Stevenson (1995), "Social Impact Assessment of Major Roads" paper presented to the 20th World Road Congress, Montreal.

MWH, December 2010 - "Nelson Arterial Traffic Study: Social Impact Assessment of the Selected Options"

NZTA, PSF 13 (2011) - Social Environment Management Form - Pekapeka to North Ōtaki

Opus-NZTA "WAIKATO EXPRESSWAY - CAMBRIDGE SECTION: Social Impact Assessment"

Third National Community Impact Assessment Conference: "Community Impact Assessment in the 21st Century - Making Connection and Building Relationships", Madison, Wisconsin, August 2002.

Vanclay F. 2005, "Principles for Social Impact Assessment: a critical comparison between the International and US documents" - Environmental Impact Assessment Review, vol. 25.

Vanclay, F. 2003. International Principles for Social Impact Assessment. *Impact Assessment & Project Appraisal* 21(1): 5-11

Viinikainen.T & Kaehoe.T (2007) - "Social impact assessment in Finland: bypass of the city of Hamina".

Ward Beverly G, 2005 - "Measuring the Effectiveness of Community Impact Assessment: Recommended Core Measures"

Ward Beverly G, 1998 - An Evaluation of the "Community Impact Assessment: A Quick Reference for Transportation" Booklet and Related Practices.

Ward B G; Smith C (2003) - Community Impact Assessment: "The Greening of the Agencies".

WHO - Health Aspects of Air Pollution with Particulate Matter, Ozone and Nitrogen Dioxide - Report on a WHO Working Group Bonn, Germany (January 2003)

www.adb.org/gms; The Asian Development Bank Website also contain guidelines and related information on social impact assessment requirement for major road infrastructure project appraisal.

www.eib.org/; - The European Investment Bank Website contain informative guidelines on social impact assessment requirement for major road infrastructure project appraisal.

www.iaia.org/ - International Association for Impact Assessment is a useful site containing information on social impact assessment frameworks that may assist project appraisal and environment/social impact assessment.