

SOCIAL IMPACT ASSESSMENT OF MAJOR ROADS

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1.0 WHAT IS SOCIAL IMPACT ASSESSMENT?

Social impact assessment (SIA) has been applied in Canada to many provincial and federal projects and programs, including proposed energy generating stations, electricity transmission facility and pipeline route selection and assessment studies. More recently, a greater emphasis has been placed on SIA of the planning, design, construction and operation of proposed major roads projects.

Social impact assessment is a process of analysing, predicting and evaluating the future social and economic effects of proposed policy, program and project decisions and actions on the well-being of people, and their businesses, institutions and communities. Its goal is to protect and enhance the quality of life by ensuring that potential socio-economic impacts are minimized and sound environmental decisions are made.

Social impact assessment involves identifying: significant potential positive and negative changes in peoples' cultural traditions and lifestyles, their physical and psychological health, their families, their institutions and their community. And, it identifies ways of avoiding, mitigating, enhancing or managing those changes (e.g., monitoring and impact agreements).

2.0 WHAT DOES SOCIAL IMPACT ASSESSMENT DO?

Social Impact Assessment:

- Predicts the nature and size of potential negative and positive effects on individuals, businesses and communities;
- Develops and implements appropriate recommendations and impact management measures to avoid or decrease potential negative socio-economic impacts and enhance positive impacts;
- Identifies net social and economic impacts occurring after mitigation measures are applied, including roadway routing, design and operating conditions; and,
- Helps resolve public issues by working with the community to address the potential impacts.

3.0 WHAT TYPES OF SOCIAL IMPACTS RESULT FROM ROADS PROJECTS?

The impacts on people, their community and way of life can occur during project planning, construction, and the "operational" phase when the roadway is in use. The impacts result from the introduction of specific project characteristics (e.g., divided highway, length of construction) and the local community and individual's response. This response depends largely on the community

and individual characteristics (e.g., level of automobile travel, community satisfaction). Although each situation presents some unique potential impacts, the following list illustrates the types of socio-economic impacts that could occur [1].

3.1 Displacement of Residents

Displacement and resettlement of residents is significant and can lead to further impacts on the community. Residents displaced for the construction of a road may experience additional impacts such as: 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; and, changes in **type** and tenure of housing.

3.2 Displacement of Businesses and Community Services

For some projects, businesses and community services (e.g., churches, community centres, and parks) experience a significant impact when they are removed or relocated. The businesses and community services may have difficulty in obtaining suitable relocation sites, they may lose clients, and, upon relocation, may incur additional costs to re-establish. This too can have a significant impact in some communities.

3.3 Impacts on Residents

During the construction phase, 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. Occasionally, there is vibration damage to near-by structures. However, residents may benefit from construction employment.

When the roadway is opened for use, positive impacts result for many residents. 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.

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

3.5 Impacts on the Community

Community impacts can be 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. And, the disruption of residents can lead to a loss of satisfaction with life in the community and reduced participation in community activities.

4.0 A SOCIAL IMPACT ASSESSMENT METHOD FOR ROADS PROJECTS

SIA method can be applied to assist in the selection of routes within a transportation corridor and to fully assess a preferred route. One of the difficulties is the number and size of communities that may need to be assessed over the length of the route. In some instances, this can be time consuming and costly.

The SIA process can be streamlined by focusing socio-economic data collection on the public issues and possible local impacts. In this issue-oriented approach, the local community issues are taken seriously and addressed explicitly throughout the assessment. This approach is based on the principle of interaction with the public throughout the assessment, integration of the local community issues and data with the technical project studies, and iteration in the identification and resolution of the potential impacts [2]. Although this approach requires significant contact with the public, it does not replace a full public consultation program.

The following eight steps define a typical SIA.

(1) *Understand the Project:*

The SIA practitioner **and** the public must understand the project, including **the** alternative route alignments, the engineering specifications and the schedule.

(2) *Understand the Public Issues and Positions:*

One of the critical components of the SIA is knowing what the potentially affected public believes the issues to be. The process for conducting the SIA should address the public concerns about the routing, design, construction and operation. Scoping of the issues should be implemented at the outset of the assessment to narrow the project issues and the possible consequences of the project.

(3) *Understand the Community:*

In order to determine what the impacts may be on people and the community, a community profile is typically prepared to describe the social, demographic, and economic characteristics of residents and the community, including community structures, organizations and activities, the service areas for businesses and community services. The data collected for the profile should be narrowed to address the public issues and the possible social impacts.

(4) *Understand the Bio-physical Impacts:*

The bio-physical impacts of a project can have social consequences. For example, the concern associated with potential damage to a river which the roadway must traverse can have social implications. The SIA practitioner must understand the results of all of the technical studies (e.g., noise, biology, and dust) and determine the implications for the residents, businesses and community services.

(5) *Identify the Socio-economic Impacts:*

The analysis integrates the data on the project, the public issues and positions, the community and the bio-physical impacts to determine the potential socio-economic impacts. The potential impacts on households, individuals, organizations, neighbourhoods and the community are identified jointly with those who may be affected by the project. The SIA practitioner works closely with the community to determine how the planning, design, construction and operational phases may affect them and their community. This typically involves the development and application of social evaluation criteria and indicators, and accepted ways of weighting and ranking the criteria.

(6) *Identify Mitigation and Enhancement Measures:*

After the potential impacts have been identified, the community and the SIA practitioner work together to determine how the potential impacts can be avoided, mitigated or enhanced. This may include determining whether the individuals and the community should be compensated for the remaining impacts.

(7) *Identify the Net Socio-Economic Impacts:*

Once the avoidance and mitigation measures have been developed, the net potential socio-economic impacts are identified for each of the project phases. These net social effects are then carried forward to an overall evaluation of the project.

(8) *Develop an Impact Management Program:*

Changes in the community during the construction phase can result in other unanticipated impacts on the community. And, the predicted impacts may be of a different magnitude or duration than expected. For these reasons, it is prudent to implement an impact management program. The program would be designed and implemented jointly by the proponent and representatives of the communities affect by the project. The impact management program would monitor the changes to the communities and its people, and the success of the mitigation and enhancement measures.

5.0 CONCLUSIONS

The impacts of roads projects on people and their communities are important and are increasingly having greater influence on the route alignment decisions and roadway design. SIA methods are available to identify the potential impacts and to avoid, reduce, eliminate, or compensate the social impacts.

The issue-oriented SIA approach presented here:

- reduces the data collection for linear projects, reducing the time and cost.
- helps to resolve the issues by developing an effective working relationship to allow the public and the project team to address the issues.
- helps to reduce the need for lengthy hearings and other project delays based on the public concern or opposition to the project.
- can often assist the project management by helping to transform the public issues into manageable design standards and revised construction practices.

Bibliography

- [1] **FINSTERBUSCH, K.** A Methodology for Social Impact Assessment of Highway Locations, Federal Highway Administration, Maryland Department of Transportation, 1976.
- [2] **STEVENSON, M.A.** "Social Impact Assessment Principles and Approaches: Reflections on 15 Years of Practice", Social Impact Assessment, No.18,2 (Summer 1994), p.9- 14, New York, 1994.