11. Impacts on communities and their economic activity

HOW TO USE THIS CHAPTER IN THE CONTEXT OF EA AND ROAD PLANNING

<table>
<thead>
<tr>
<th>Stage in road planning (A)</th>
<th>EA activity (B)</th>
<th>Involvement in addition to EA team (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept</td>
<td>Screening</td>
<td>Proponent</td>
</tr>
<tr>
<td>Pre-feasibility feasibility</td>
<td>Scoping</td>
<td>Key regulatory agency</td>
</tr>
<tr>
<td>Engineering design</td>
<td>Consultation</td>
<td>Other government agencies</td>
</tr>
<tr>
<td>Construction</td>
<td>Determining baseline conditions</td>
<td>NGOs</td>
</tr>
<tr>
<td>Operation &amp; maintenance</td>
<td>Selection of preferred solution</td>
<td>Research groups</td>
</tr>
<tr>
<td></td>
<td>Assessment of alternative designs/methods</td>
<td>Public/community organizations</td>
</tr>
<tr>
<td></td>
<td>Development of environmental management plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Effects and compliance monitoring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evaluation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reporting</td>
<td></td>
</tr>
</tbody>
</table>

Shaded area = (A) Stages of EA covered in this chapter; (B) focus of this chapter; and (C) primary target readers.

KEY QUESTIONS ADDRESSED:

? What is it about community life that is so vulnerable to disruption by road projects?

? What are some of the more common manifestations of disrupted community life that arise from poorly planned road projects, and how can they be avoided or minimized?

? What are some of the key features of an approach to the planning of road projects that should ensure that community benefits will outweigh disruptions?
11.1 IMPACTS AND SETTING
Communities owe much of their vitality to the ease with which economic and social interactions take place. Ironically, while roads are central to this continuing interaction, the introduction of a new road, or the widening of an existing road, may well cause disruptions to local interactions which outweigh the benefits. With poor planning, this can be as true of the local road improvement as it is of the new highway. Properly planned, however, both should bring benefits to surrounding communities; for example through lower transport costs, better access to markets, goods, jobs, or services such as health and education. Admittedly, in the case of some major highways and freeways, the benefits may accrue mainly to long-distance travelers and haulage companies and their customers, while benefits to the local community may be minimal. Proper planning calls for recognition that road projects can lead to modifications in the community environment surrounding the road, influencing various aspects of lifestyles, travel patterns, and social as well as economic activities. Recognizing and planning for the management of these impacts is an important aspect of the environmental assessment of roads.

This chapter focuses on the more significant impacts that affect the community as an economic and social entity. Closely related impacts, which may have community-wide effects but tend to acquire their significance from their effects on individuals, are addressed elsewhere in this handbook. Chapter 12 discusses the impacts arising from land acquisition and resettlement, while Chapter 18 addresses impacts associated with construction, rehabilitation, and maintenance work.

11.1.1 The split community
Both new roads and significant widening can split a community. The introduction of faster traffic, access controls, and median barriers generally cuts traditional lines of travel or communication (see Figure 11.1). The alternative routes for local movements are sometimes substantially longer, directly affecting businesses, pedestrians, and users of non-motorized transport. The burden of accommodating the changes is generally greater for the poor.

In rural areas, the normal links between villagers and their farmlands (i.e., their economic space) may be cut by a new road or increased traffic. On the scale of the individual farm, the same phenomenon may disrupt existing farming patterns and connections between fields (see Figure 11.2). The ensuing impact on economic activity could be a loss of agricultural productivity or increased travel costs.

In both urban and rural locations, every effort should be made to facilitate the maintenance of existing patterns of movement and the continued use of existing modes of transportation and communication. Indeed, on those roads which are already difficult to cross, a proposed road improvement has the potential of introducing considerable improvements to community interaction through such simple devices as pedestrian bridges, underpasses.
11.1.2 The loss of roadside community business and social activity

Permanent occupancy of the open space of a publicly owned right-of-way quite commonly invites encroachment of local community activities onto the roadside, the footpaths, the bus stops, and even the road surface itself. These activities take many forms, including

- the selling of goods, whether from individual kiosks or more expansive markets;
- small businesses such as cafés and vehicle repair shops;
- uncontrolled stops by buses, taxis, and informal public transport;
- unregulated parking, often associated with business activities;
- the production of bricks on the road surface; and
- the growing of crops and the drying of farm produce within the road reserve.

Added to this list of activities are social activities associated with the roadside which are far from illegal. In rural areas, in particular, but also in urban areas and at entrances to towns and villages, the roadside provides a social venue. People congregate along the roads to talk, smoke, drink or watch the traffic go by.

In urban areas, both the business and social activities are often found in built-up areas and near busy intersections, where traffic congestion is already heaviest. As traffic flows increase, conflicts increase between these local activities and the efficiency and safety of traffic functions of the road. Further conflicts and safety concerns arise when road improvement plans call for widening the road and reducing encroachments and accesses. Road planners need to recognize that some of these activities may play an important part in the social and economic life of the community. Economic impacts could include loss of businesses and customers, induced need for capital investment, and high opportunity cost losses. Very understandably, changes which might lead to such impacts may be resisted.

11.1.3 The by-passed community

While by-pass roads can overcome some problems of conflict between road use and community welfare, they may create other problems. On the positive side, by-pass roads reduce the immediate impacts of traffic on the community, and local commercial activities sometimes flourish as a result. On the negative side, communities may fear a loss of business...
from the diversion of traffic, and some community activities may "migrate" to the new route, potentially changing existing land use patterns and possibly undermining the objective of greater control of access on the new route. Environmental assessments for by-pass routes need to compare the effects of providing the new route with the effects of not providing it, (for instance, by analyzing the effects of increasing traffic on existing roads through built-up areas).

By-passes, like other road projects, can also cause changes in vehicle flow on the secondary network, possibly creating nuisances if traffic should increase at some locations.

11.1.4 The reduced convenience of traditional modes of transport

Traditional modes of transport may be disrupted by changes accompanying a road project. Measures which impede road crossings, control bus stopping points, and restrict parking of informal public transport vehicles near busy markets and intersections may reduce the attractiveness of these modes. The barrier effect of widened or new roads can increase travel time and distances for short local trips, especially affecting access by foot, bicycle, and other non-motorized transport. These potential changes need to be assessed alongside the benefits of improved access and transport services provided by an improved road.

11.1.5 The dilemma for tourism

Tourism can be affected both positively and negatively by road improvements. For example, while improved access may benefit the local tourist industry in the short run, increased activity may damage tourist attractions and lead to a decline in tourists and revenues, if not managed properly.

11.1.6 The "culture shock" effect

The "culture shock" effect can arise when somewhat isolated communities are exposed relatively rapidly to increased communication with the outside world. This is especially relevant to indigenous peoples, as discussed in Chapter 13.

11.1.7 The gentrification effect

Gentrification is a term sometimes applied to situations in which the value of land in a particular area is increased by infrastructural improvements, leading to higher rental values, a turnover in occupancy, and a replacement of lower-income tenants and residents by those who can afford the higher rents. This is a distributional issue, in that, overall, development projects can harm some segments of the community.

All of these factors give rise to justifiable concerns on the part of local communities about the effects of proposed road projects on their lifestyles and welfare. It is always preferable to identify and discuss these concerns at an early stage in the road planning process, so that the magnitude of likely effects can be understood more fully and designs can be modified accordingly.

11.2 DETERMINING THE NATURE AND SCALE OF IMPACTS

In broad terms, the assessment of the potential impacts a road project may have on a community is a two-step process involving:

i) a preliminary assessment; and

ii) a complete social assessment (only if warranted).

11.2.1 The preliminary assessment

The purpose of this is to determine the need for, and the scope of, further investigations. In this sense, it is part of the scoping phase (see Chapters 3 and 4). In essence, it is an examination of the project and the roadside activities.

The initial assessment of project activities

In this assessment, key questions to be asked of the project activities are:

- Do they involve new or modified alignments, road widening or roadside works, substantially increased traffic flows, faster speeds, new traffic patterns, or any other changes which could affect the surrounding social and economic environment and the VECs?
IMPACTS ON COMMUNITIES AND THEIR ECONOMIC ACTIVITY

- Will they generate substantial construction traffic or temporary traffic arrangements affecting the interactions within nearby communities?

The initial assessment of existing roadside activities

Here, key questions to be asked of the roadside activities are

- Are there significant social and economic activities within the road corridor?
- What are the main local travel patterns (including walking, cycling, and informal public transport), which may be affected by road changes?

For simple rehabilitation and maintenance projects on roads with little roadside activity, the preliminary assessment may determine that the impacts will be minimal, and no further assessment is required. Where there is a possibility of wider impacts, a complete social assessment is required, as discussed below.

11.2.2 The social assessment

There are three components to the assessment of impacts on community life which warrant attention here

i) the identification of the stakeholders;
ii) the consultation process; and
iii) the social surveys.

Identification of the stakeholders

The intent here is to identify the individuals and groups who should be involved in consultations. Typically, they include

- beneficiaries of the project;
- potential losers, i.e. those at risk of experiencing disadvantages;
- other stakeholders or parties with an interest in the project, such as governments and elected officials, experts, and non-government organizations; and
- others whose local knowledge may assist in identifying potential impacts and assessing the viability of alternatives.

1 While social assessment is recognized as a distinct activity, it needs to be applied within EA as an integral component.

Consultation

In Chapter 5, methods of providing information, offering consultation and inviting participation were discussed. These included the holding of public meetings and expert seminars, the use of interview surveys, the organization of neighborhood displays or discussions, on-site consultation, and rapid appraisal techniques. It is often desirable to use several different consultative activities to communicate successfully with the full range of people who have an interest in a project.

Procedures for consultative meetings need to be established through the collaborative effort of both the biophysical and socioeconomic components of the project. The types of information that need to be solicited, and the procedures for making decisions, need to be established. This information can help to focus meetings on issues most relevant to the environmental analysis of a project (see Section 5.1).

Potential pitfalls of community consultation should also be considered carefully. Poorly planned consultations can be dominated by vocal or powerful minorities, they can generate tensions within communities or between interest groups, and they may create uncertainties about project objectives, scope, impacts, or options.

The consultation process may take place on more than one occasion in the development of a project. For larger projects, it is common for initial meetings to provide and solicit information, while later meetings discuss solutions and
their implementation, perhaps after more analysis and investigation.

**Social surveys**
For major projects, extensive interdisciplinary studies may be needed in order to establish baseline data and forecast the likely effects of alternative actions. Depending on the issues identified in preliminary assessment, further study may be required of:

- **social factors**: for example: customs, value systems, social classes, hierarchical relationships, and kinship structures; organizations, leadership structures, and decision-making processes; social activities and facilities, such as health, education, and sources of energy;
- **anthropological factors**: for example: the various ethnic groups concerned with the project and their living habits; populations vulnerable to any confrontation with other cultures;
- **economic activities**: for example: their reliance on transport; their potential for growth; and
- **transport factors**: for example: existing roads and communications; travel patterns, including those by foot and non-motorized transport; data on traffic and its daily or seasonal variations.

While maps can be particularly useful for identifying key activities, vulnerable locations, and constraints, the linear nature of road projects unfortunately means that secondary sources of information (such as community surveys) are unlikely to exist. Thus, field surveys are required. This issue is discussed further in Chapter 12.

Rapid appraisal techniques offer a range of methods for obtaining social data with limited resources—and in a shorter time than is usually required for more extensive surveys. These are discussed further in Chapter 5 and in the works referenced at the end of this chapter.

**11.3 REMEDIAL MEASURES**

**11.3.1 Prevention**
Disruptions to social and economic interactions that make for community vitality can be avoided if a road project follows a route far from any human settlement or if changes made to existing roads are minimal.

**11.3.2 Mitigation**
The splitting of a community can be minimized by taking account of local movements at the road design stage and by making provision for improved crossings or alternative access routes. The latter can be achieved through the use of signals, intersections, pedestrian underpasses, overpasses, service roads, and alternate arrangements for local traffic circulation. As discussed in Section 11.3.3 below, the quality of different access arrangements can affect property values and the amount of financial compensation that may be called for.

Minimizing the loss of roadside business activity is best dealt with through ongoing collaboration between the road agency and those local agencies responsible for the enforcement of encroachment regulations. The intent should be to ensure that the interests of both the road users and the community are served. In this way, far less disturbance of activities on the publicly owned right-of-way should ensue. Yet, this may require more enforcement personnel than are available.

Where road improvements require removal of some local activities from the right-of-way, a common mitigative measure is to provide alternative space for these activities nearby. The covering of drains or the purchase of additional roadside land, for example, can permit continued operation of roadside stalls, customer parking, or pick-up areas for informal public transport services. An example is shown in Figure 11.3.

The effects of bypassing local businesses can sometimes be mitigated by providing service areas adjacent to the new routes and by encouraging local communities to make use of the new opportunities provided. However, care should be taken to discourage the migration of businesses that are not essential for the passing traveler since such movement can drain the existing roadside community of much of its vitality. In other cases, roads can be designed to encourage long-distance travelers to continue to use local businesses.

Residential and business areas should be identified early in project planning and considered as constraints in the choice of alternative routes, the planning of temporary traffic diversions, and the location of work-site camps.
11.3.3 Compensation

Resettlement and compensation may need to be considered for those whose housing, land, welfare or livelihood is directly affected by a project. This is discussed further in the following chapter on land acquisition and resettlement.

Compensation may also be provided through the restructuring of property layout and access arrangements disturbed by road construction.

More comprehensive compensation for loss of community amenity can often be provided through small landscaping and roadside improvement measures which take advantage of the changes in road layout and operation to provide alternative spaces and facilities. Service roads, roadside markets, and bus parks are examples of facilities frequently included in road projects in order to provide for commercial or social activities that are important to community life.

FIGURE 11.3
CREATION OF REST AREA: IMPROVED FACILITIES FOR ROADSIDE ACTIVITIES

Present: Allowing vehicle to stop on the road is incompatible with the traffic speeds expected of the new road

Future: Providing roadside market area and parking—and preserving the traditional "conference tree"—protects local community activities and incomes and improves safety
11.4 MINIMIZING IMPACTS ON COMMUNITIES AND THEIR ECONOMIC ACTIVITY: AN ACTION CHECKLIST

Road projects should be planned to maintain the social and economic interactions that are vital to community life. This section highlights the more important steps in the EA process relative to the incorporation of this principle into the social development process.

Baseline data and potential environmental impacts
Basic information on the nature of the project and roadside activity will indicate whether potential impacts are significant (see Section 11.2.1). Where a complete social assessment is required, quantitative data may cover land use, demographics, economic activities, traffic counts, and travel patterns (see Section 11.2.2). These may be supplemented with sociological data on community cultures, organization, and social activities. Many details of the current situation can only be obtained through community consultation; this involves surveys, questionnaires, and meetings. The impact assessment may include maps of constraints, sensitivity to changes, and forecasts of changes to baseline conditions, with and without the project.

Analysis of alternatives
Information on each alternative should include socioeconomic as well as biophysical environmental impacts, including possible secondary effects on lifestyles, travel patterns, and land use. Where community impacts are significant, the final choice of alternatives may depend not only on technical criteria, but also on the priorities and perceptions of those affected. Thus consultation is crucial.

Mitigation plan
Many options are available to mitigate the effects of road development on the surrounding communities (see Section 11.3). Technical, financial, and institutional aspects should be considered to ensure that chosen measures are feasible, effective, and sustainable in the particular social environment.

Environmental specifications for contractors
The main requirement relevant to this section is to ensure that work camps, temporary works, and the lifestyles of construction workers do not have any negative impacts on the social and economic welfare of nearby communities.

Legislation
Legislation on property rights, expropriation procedures, and compensation requirements should be considered; this should also involve public participation and include appeal processes.

11.5 REFERENCES AND BIBLIOGRAPHY


