

# Benefits from multiple-purpose rights-of-way in the interior of British Columbia 1985

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## **Introduction**

In recent years, many projects have been planned or built which have involved the clearing and construction of new rights-of-way or the widening of existing rights-of-way. Most of these rights-of-way have been subjected to severe scrutiny by regulatory agencies and by environmental groups, protestors in general, and the various media at public hearings. Major projects like clearing of electric powerline and gas line rights-of-way, double tracking of the transcontinental railways, and construction of new highways have received unrelenting criticisms on the negative impacts to existing developments, natural resources, and unsubstantiated environmental values, and on native land claims.

The criticisms tend to group all rights-of-way into a common form of land use, regardless of their actual use and impacts. Rights-of-way for railroads and highways have single-purpose use because of the exclusive use of the ground surface. Rights-of-way for elec-

tric transmission lines and pipelines have multiple-purpose uses because the primary uses only monopolize the air space above or subsurface below ground level.

Virtually nothing has been said, printed, or proclaimed on the beneficial aspects of rights-of-way. Overlooked are the benefits which are derived from better transportation, higher land use, higher taxation base, alternate resource uses, and more reliable energy supplies. Also overlooked, is that most developments are built by responsible organizations with continuing financial, social, and political obligations to both private and public investors.

After participating in the British Columbia Utilities Commission hearings on the Vancouver Island Gas Pipeline Project, the Authors were aware of increasing criticism of rights-of-way in principle rather than in fact. Subsequently they visited private and public agencies to determine the underlying reasons for the criticisms in the most affected regions of the Interior of British Columbia from Williams Lake to Merritt.

## **Location of Major Rights-of-Way**

The major railroads and highways, electric transmission lines, and oil and gas pipelines traverse the Province from east to west and north to south to termi-

nals on the North Coast at Prince Rupert and on the South Coast at Vancouver. While to date, "common corridor" concepts have not been planned, the major transportation and utility rights-of-way have been routed in parallel and frequently common routes and rights-of-way, because of the constraints imposed by the limited accesses through the north-south orientation of the mountain ranges. Local geography and land uses have had little influence on the principal routing.

Most of the existing major rights-of-way pass through the Cariboo and Kamloops Forest Regions. Since these Regions have high multiple-use of land resources, they are selected for analyses of the impacts in this study.

## **Responsibilities of Developers**

Planners and developers of rights-of-way have responsibilities which are usually overlooked by critics when only the visual and physical impacts are reviewed after construction.

Rights-of-way for electric power; gas, oil, and water pipelines; and transportation are designed to ensure minimal interruption of services. This minimal interruption is frequently associated with safety to both the structures and to the public and private users. Physical influences like snow and land slides, ero-

sion, ground stability, and other safety influences affect the location and widths of rights-of-way. When combined with the aesthetic needs of the land owners, both private and public, rights-of-way are usually the result of many compromises to influences beyond the purpose of the principal service or intent.

Complex regulations exist to protect the customers and shareholders of utilities to ensure that developments are built at lowest cost and least impact to other resources. While the objectives of such regulations are laudable in theory, the objectives often result in costly pre-construction reports and hearings, delayed start-ups, and more expensive construction projects. Frequently, the costs of the latter could be better spent mitigating negative impacts, if any, of a completed project.

Often, little cognizance is given to the fact that developers of major projects are usually responsible organizations. Such organizations have specifications and procedures for construction and environmental protection which have been successfully developed from field experiences on previous projects, dating back several decades.

### Physical Impacts of Rights-of-Way on Land

Two main types of rights-of-way exist:  
*Single-purpose* use:

for highways, roads, railroads, and narrow electric distribution lines in which the surface of the ground and air space are only available for single-use

*Multiple-purpose* use:

for pipelines and electric transmission lines in which the surface of the ground is available for agricultural and forest crops, grazing of cattle and wildlife, transportation, and recreation.

Single-purpose rights-of-way limit the use of the land resources. The traffic on highways and railroads preclude any other activities. Frequently, the traffic has secondary impacts like noise, limited access, and environmental hazards which affect neighbouring lands. Land under narrow electric distribution lines has limited other uses except for agriculture. Often, such electric lines restrict the use of neighbouring lands for forestry because of the need for the right-of-way to be kept clear of danger trees. The impacts of single-purpose rights-of-

way are usually for the public-at-large or for distant communities. Seldom are the local benefits evident.

In contrast, multiple-purpose rights-of-way normally necessitate little change in the traditional uses of the land. Frequently they create higher land use. They commonly have high local benefits affecting other resources and land uses like wildlife and domestic livestock grazing and for more intensive agriculture, recreation, transportation, and access to settlements.

In the study area, rights-of-way lands are used for agriculture and grazing. Much of this new agricultural land results from clearing of forest stands of low productivity. In many regions, wildlife also benefits from improved growth of shrubs and other vegetation. Clearing of rights-of-way and construction roads provide access for local transportation, logging, trapping, grazing, recreation and other secondary uses.

Common criticisms to all rights-of-way are the withdrawals of land from the agricultural and forest land bases. In absolute terms, the criticisms may be true for single-purpose use rights-of-way but are only partially applicable to multiple-purpose use rights-of-way. On many of the latter, large areas of relatively unproductive grazing and forest lands are converted into productive agricultural and grazing lands. However, one of the possibly justified criticisms of rights-of-way is often the unregulated uses of created

access after construction because of trespass, poaching, weed control, and fire hazard to neighbouring lands.

The losses of agricultural and forest land bases can be materially reduced by the "common corridor" concept for rights-of-way. When transportation and utility services are incorporated in a common corridor, the land losses are appreciably reduced by the construction of the single right-of-way. Sometimes, the concept is limited by aesthetics, wildlife crossings, and extra costs of construction to protect non-compatible uses.

In calculating the annual allowable cuts for Crown forests, the British Columbia Ministry of Forests allows for withdrawals for rights-of-way and other higher uses. Accordingly, the construction of the more common narrow rights-of-way does not affect the current timber supplies available to the forest industry.

The following schedule indicates the relative nominal widths and areas per kilometer used for the various types of right-of-way. Many examples exist where parallel rights-of-way traverse the country and utilize the sum of the full widths. In contrast, many examples also exist of common rights-of-way where more than one use is made of extremely narrow rights-of-way. Such common use may require extra precautions for safety, corrosion, or interference of one or more of the facilities with each other.

Characteristics of Common Rights-of-Way			
Primary Use	Typical Width	Area	Multiple Uses
	M (FT)	HA/KM (AC/MILE)	
Highway	48.77 (160.00)	4.88 (19.39)	Transportation and scenic viewing
Secondary Road	20.10 (66.00)	2.01 (8.00)	Transportation only
Electric - Transmission	183.88 (600.00)	18.39 (72.73)	Grazing, forage, access, recreation, Xmas tree farm, agriculture
Electric - Distribution	6.10 (20.00)	0.61 (2.42)	Access
Pipeline - Gas and Oil	18.28 (60.00)	1.83 (7.27)	Grazing, forage, access, recreation, agriculture
Railroad	30.48 (100.00)	3.05 (12.12)	Transportation only