ABANDONED RAILWAY RIGHTS OF WAY:

A POTENTIAL RECREATIONAL RESOURCE FOR MANITOBA

By

Jill E. Gooden

A Practicum Submitted
In Partial Fulfillment of the
Requirements for the Degree, Master
of Natural Resource Management

The Natural Resource Institute
University of Manitoba
Winnipeg, Manitoba, Canada
March, 1978

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ABSTRACT

The Hall Commission on Grain Handling and Transportation released a report in May 1977 recommending the abandonment of approximately 2,000 miles of prairie branch lines. A concern not examined in detail by the Commission is the alternate use of abandoned railway rights of way (ARRW).

A literature review reveals that areas in the United States and Southern Ontario have embarked upon programs of recreational development of ARRW. Uses include hiking, bicycling, cross-country skiing and horseback riding, among others.

This practicum involved an exploratory investigation into potential recreational use of ARRW. Four ARRW within the province of Manitoba were examined. Community members, trail group members, and government personnel were interviewed regarding their potential interest in the recreational development of ARRW.

The objective was to formulate a conceptual framework to assess recreation potential of ARRW. The framework was developed on the basis of the results of the exploratory investigation.

The outcome of the study is a framework that will guide future researchers through a process of collecting the relevant information necessary for the evaluation of the recreation potential of an ARRW. Key components of the framework include:

- identification of the ARRW under investigation
- a "rails to trails" checklist
- public information process
- a survey of residents in the community near the APRW
- a survey of trail proponent groups
- response of government officials
- a benefit-cost analysis
- assessment
- and the decision.

Tentative conclusions were made regarding the recreation potential of the ARRW investigated in the study.

ACKNOWLEDGEMENT

In recognition of the assistance provided in the preparation of this practicum, I wish to thank my committee advisors, Mr. Lawrence J. Clark, Executive-Director, Community Resource Centre, Brandon; Dr. Erasmus Monu, Department of Sociology, Brandon University; and Dr. E. W. Trychniewicz, Department of Agricultural Economics, University of Manitoba.

I wish to express my gratitude to Professor Thomas Henley, Acting Director of the Natural Resource Institute, for his guidance throughout the research process.

Financing of the practicum was provided by the Community Resource Centre at Brandon University.

CHAPTER 1

INTRODUCTION

Background Information

In May 1977 the federal government released the first report of the Hall Commission, Grain and Rail in Western Canada.[1] The Commission examined 6,284 miles of prairie branch lines and recommended the abandonment of 2,165.5 miles of rail line over a five year period and the continuing assessment of 2,343.6 miles of rail line under the jurisdiction of a Prairie Rail Authority.[2]

The process of rail line abandonment has resulted in alternative uses that are both innovative and interesting. Communities and governments in the United States and Canada have embarked upon programs of recreational development of abandoned railway rights of way (ARRW). A study investigating the recreation potential of Manitoba's ARRW will have relevance for policy-makers with regard to communities located in the vicinity of the ARRW, recreation opportunities in Manitoba, and the question of future ownership of ARRW.

Problem Statement

In the Province of Manitoba alone, 632.9 miles of rail line are recommended for abandonment. There are presently 138.6 miles of non-operating rail lines in Manitoba.[3] The rights of way are approximately 100 feet wide. If the recommendations of the Hall Commission are implemented, approximately 7,765 acres of land will soon be released from rail use in the province. In a time of increasing land use

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[1]Hall Commission, Grain and Rail in Western Canada, Vol. 1 (Ottawa: Minister of Supply and Services Canada, 1977).

[2]Ibid., p. 503. [3]Ibid., pp. 504-505.

pressures, careful consideration should be given to the future uses of ARRW.

The main concern of this study is recreational use of ARRW.[4] ARRW through scenic river valleys may be suitable for recreational trails, encompassing such activities as cross-country skiing and snowmobiling in the winter and hiking, bicycling and horseback riding the rest of the year. Wildlife refuges may also be an appropriate use. The conversion of ARRW to a recreational resource is an alternative use that is appropriate for a number of reasons.

Rising participation rates in trail-type activities[5] justifies the acquisition of land for the development of trails and ARRW should be considered as a potential resource. Conflicts between nature preservation and recreational use in provincial and national parks have intensified with increased visitor use of the parks. Conversion of the ARRW to recreational trails may help to alleviate some of the increased pressures of trail-users on the natural environment of parks. Rights of way provide a ready-made trail (rail companies retain the

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[4]Agricultural use of ARRW is another alternative. If past trends continue, it is reasonable to assume that some of the land from the 633 miles of rail line recommended for abandonment will revert to farming. This is especially desirable in situations where a right of way dissects sections of agricultural land. Reintegrating rights of way into existing farm holdings may result in increased productivity for the farmers conerned. The Hall Commission recommended ownership of the rights of way revert to the provincial crown. Mr. Otto Lang, the Minister of Transport, feels that ownership should revert to the federal crown. In either case, the jurisdictional authority could lease the land to the farmers wishing to cultivate the ARRW. The lease should be for an extended period of time and for a nominal fee of say $1.00. Only under these conditions would it be economical for the farmer to level and cultivate the right of way. Additionally, leasing would preserve the linearity in the event that the right of way should be required for future transportation purposes, transmission lines, or any other public corridor use. While some ARRW may be used for agricultural purposes, some may not be suitable for farming or some farmers may not be interested. These rights of way might be best used as wildlife habitat or recreational corridors.

[5]S. A. Aremu, Reclamation of Derelict Lands with an Outdoor Recreational Resort at the South-Interlake of Manitoba, Canada (Winnipeg: Natural Resource Institute, University of Manitoba, July 31, 1974), p. 49.

the chattel property, rails, ties and track material, but not culverts[6]) and negotiations for purchase would involve only one landowner. At the same time, the linear characteristic of the right of way remains intact in the event that it should be required for future transportation purposes. Abandoned rail lines also fulfill a number of requirements for trail construction (about which more will be said later). Proper trail maintenance would minimize weed problems for farmers located near the easement.

A number of trends account for the increased demand for recreational resources, and for trails in particular. There is little reason to suspect that these trends will not continue. Affluence and the accompanying higher incomes and shorter work weeks have given people more leisure time and money to pursue recreational activities. The increased emphasis on physical fitness, through such programs as Participaction, has also increased the demand for recreational resources. The realization that fossil fuel supplies are limited has meant that more people are utilizing energy-efficient modes of transportation and recreation -- such as bicycling and cross-country skiing. These facts and the existence of a highly urbanized country (about 70% of the population of Manitoba live in cities) help to account for the fact that more and more people are joining the exodus from the city to the country on weekends to partake in hiking, biking, skiing, picnicing, camping, and other recreational activities.

It is therefore reasonable to suggest that, in light of increasing demand for recreational resources and rising land use pressures, proposed abandoned rights of way with a trail potential should be acquired as soon as possible. The conversion of these lines into scenic recreational trails will fulfill a very real need. Such a project is also very timely in that the Hall Commission has recommended the abandonment in stages to 1981 of 2,165 miles of prairie branch lines. In the meantime, procedures and requirements for the development of recreational trails can be prepared to ensure that a trail program is instituted in Manitoba as soon as the rights of way become available.

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[6]Hall Commission, p. 342.

Objective

It is recognized that abandoned railway rights of way can be used in a number of ways.[7] This study, however, focuses on the recreational use of ARRW. The objective is to develop a conceptual framework to assess recreation potential of ARRW.

Methodology

Employing a framework to assess potential recreational use of an area is a common practice. This study is unique however, in that a framework is developed to assess potential recreational use of abandoned railway rights of way. A review of the literature reveals that the few studies conducted generally concentrated on one aspect of the process. This study therefore represents a compilation of the information considered relevant in other studies.

In an effort to determine the practicality of converting ARRW into a recreational resource, a conceptual framework is developed. The framework consists of a number of steps which will assist the resource manager in his or her decision. Key components are:

- identification of the ARRW under investigation
- a "rails to trails" checklist
- the public information process
- a survey of residents in the community near the ARRW
- a survey of trail proponent groups
- response of government officials
- a benefit-cost analysis
- the assessment
- and the decision.

The components of the framework were derived through trial and error experiences of the researcher. The literature review, investigation of four ARRW, and interviews with various individuals throughout the study period led the researcher to conclude that these were the relevant considerations for the framework.

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[7]Alternate uses include agriculture, roads, pipeline or hydro line corridors, race tracks, etc.

Time and budget constraints precluded the possiblity of examining all of the 633 miles of rail line recommended for abandonment within the province of Manitoba. Suggestions from Mr. Reg Forbes, Commissioner for the Hall Commission led to the investigation of three rights of way in the vicinity of Carman, Russell, and MacGregor.[8] A fourth right of way, between Grosse Isle and Hodgson in the Interlake, was included in the study upon the suggestion of Dr. E. W. Tyrchniewicz, Research Director for the Hall Commission.[9]

At the outset of the study, the following questions were posed:

1. What practical information is available with regard to the process of converting abandoned railway rights of way to recreational trails?
2. What alternative uses do the local people recommend? Are they interested in a trail development program?
3. Does support (i.e., legislative, financial or volunteer labour) for a "rails to trails" program exist within the government and amongst trail proponent groups throughout the province?
4. Are the four branch lines located near the towns of Carman, MacGregor, Russell, and Grosse Isle suitable (in terms of length, aesthetic qualities, distance from population centres, etc.) for trail or recreational development?
5. What are the limitations and potential difficulties with regard to a rails to trails program?

Practically speaking, the questions were answered by:

1. hiking the rights of way;
2. employing a rails to trails checklist and the Provincial Parks Branch criteria for trail development;
3. interviewing residents from the communities of Carman and Russell;
4. interviewing executive members of trail proponent groups;
5. interviewing government personnel involved with trail planning and construction; and
6. conducting a literature review of programs in the United States and Southern Ontario concerned with converting abandoned railway rights of way into recreational trails.

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[8] Mr. Reg Forbes, interview held in Brandon, Manitoba, November 4, 1976.

[9] Dr. E. W. Tyrchniewicz, interview held in Winnipeg, Manitoba, May 13, 1977.

The reader should recognize the exploratory nature of the study which ultimately leads to the formulation of a conceptual framework that may be adopted by prospective researchers investigating potential recreational development of ARRW.

CHAPTER 2

LITERATURE REVIEW

An Overview of Existing Trail Developments

The idea of converting abandoned rail lines into recreational trails is not new -- although it has not been tried in Manitoba. Our neighbours to the south have instituted a program in various states in conjunction with the National Trails System. In Ontario the Ontario Trails Program was inaugurated in 1971 and since then they have acquired three abandoned railway rights of way for trail purposes.[1] Common to both these programs is active citizen participation to ensure the successful implementation of the trail system upon adoption of the proposal. Often it was an individual or a group of people that initiated the project and then went to the government for the necessary legislative and financial support.

United States

Illinois Prairie Path

Individual initiative on the part of Mrs. May T. Watts resulted in the creation of the Illinois Prairie Path, an abandoned railroad bed running through Du Page County, west of Chicago. In recognition of her personal contribution and ability to involve others, the 1971 National Symposium on Trails awarded her a special citation and designated the Illinois Prairie Path as the first unit of the National Trails System.[2]

In 1963 Mrs. Watts wrote a letter the Chicago Tribune and emphasized the potential recreational opportunity in the abandoned right of way of the old Chicago, Aurora and Elgin interurban railroad.

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[1] Ed Mickiewicz, Railway Abandonments within the Province of Ontario (Ontario: Ministry of Natural Resources, April 1976), preface.

[2] Honourable R.C.B. Morton, Secretary of the Interior, "National Recreation Trail Dedication" in Proceedings: National Symposium on Trails (Washington, D.C.: Department of the Interior, Bureau of Outdoor Recreation, June 26, 1971), p. 2.

Having generated support and enthusiasm from the private citizens and civic groups along the 35 miles "lazy Y" - shaped right of way, proponents of the trail incorporated formally in 1965 as the Illinois Prairie Path Inc., a non-profit group. As a result of their efforts, Du Page County purchased the railroad's interest and leased a 10 foot wide stretch of the linear strip to the group for an annual fee of one dollar. The Boy Scouts, National Guard, and the Commonwealth Edison Company (which shares its easement for a power line with the Prairie Path) helped to clean up and clear the right of way for the trail. Maintenance of the trail has been carried on largely through the efforts of volunteers.[3]

The Elroy-Sparta Trail

The Elroy-Sparta Trail, a 30 mile foot, bicycle, and snowmobile trail, was constructed on the abandoned Chicago-Northwestern Railroad right of way and passes through the hilly, scenic area between Elroy and Sparta, Wisconsin. The history of the development of the trail dates back to 1964 when authority was granted to the railroad to discontinue service on the branch line. The railroad then advised the Wisconsin Conservation Commission (now the Department of Natural Resources) of the availability of the right of way for a trail that would "preserve a small slice of railroad lore for future generations".[4] Before purchasing the line in 1965 for $12,000, the Conservation Commission determined the interest of possible users by sending questionnaires and holding public hearings and meetings along the proposed trail. Trail use began in 1967 but it soon became clear that the existing trail surface was inadequate. The gentle railroad grade made the trail ideal for cycling, which accounted for 40 percent of the trail use. Limestone screenings were in good supply in the area and the entire trail was surfaced at a cost of less than $2,000 per lineal mile for an eight foot width with a four inch crown.[5] At the same

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[3] Citizens' Advisory Committee on Environmental Quality. From Rails to Trails (Washington, D.C.: Superintendent of Documents, U.S. Government Printing Office, February 1975), p. 30.

[4] Ibid., p. 33.

[5] Robert M. Cleckner, New Switches on Old Abandoned Railroads (New York: Bicycle Institute of America, Inc., no date), p. 4.

time, four bridges were planked and a picnic facility and campgrounds were added. There was still one problem to overcome though: adjoining landowners were apprehensive about the possibility of bicyclists spooking their cows, littering, and vandalism. In response, the Commission decided to build fences where necessary and the landowners agreed to maintain them for 20 years.[6] In 1971 the Elroy-Sparta Trail was nationally recognized and made a part of the National Trails System.

Annual maintenance (grading, patching ruts, trimming back foliage, leveling the moguls for the snowmobilers, run-through inspections and garbage pick-up) for the trail has remained around $6,700 -- even with the participation doubling every year since its opening. 1971 attendance exceeded 25,000.[7]

That this trail is a successful illustration of an abandoned line being converted into a desirable recreational resource is evidenced by the description given by the Citizens' Advisory Committee on Environmental Quality:

> The trail passes through a scenic rural landscape. It crosses rivers on old railroad bridges and trestles, which were included in the bargain purchase price, and winds through fields of clover and grain. Sometimes the farmers, now happy with the project's success, chat with the trail users. One dairyman even gives guided tours of his milking parlor. But perhaps the biggest attractions along the corridor are three 100 year old tunnels. The longest one measures eight-tenths of a mile, and a flashlight is a necessity in its dark, cook, absolutely quiet interior. Little imagination is needed to picture one of the many old steam locomotives that used to pass through the tunnel, blowing its whistle in the subterranean stillness.[8]

Other Trails

Two other trails in the United States exemplifying the successful conversion of abandoned railway rights of way to recreational trails include the Cargill Long Park Trail (2½ miles) at Longview, Texas and the Burke-Gilman Trail (11 miles) at Seattle, Washington. Both are located at the edge of the city and provide access routes to the city parks and campuses. The Burke-Gilman Trail set a precedent invaluable for trail proponent groups in the future. When authorizing

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[6] From Rails to Trails, p. 33. [7] Cleckner, p. 5.

[8] From Rails to Trails, p. 33.

the abandonment of the historical line that linked Seattle with the Canadian transcontinental line, the Interstate Commerce Commission stated:

> ... that the city, a public agency, or a civic group desiring the opportunity to purchase a right of way for use as a public parkland should be given the first opportunity to acquire it from the rail carrier.[9]

The significance of this decision will become apparent when the disposition of rights of ways of abandoned lines is discussed later.

The literature indicated that successful completion of these four trails is attributed to the following:

1. active citizen involvement;
2. a sense of history on the part of the community;
3. utility and railroad companies that exhibit an interest in the welfare of the community; and
4. the cooperation of the government.

Ontario

It was difficult to ascertain actual descriptions of the trails developed on abandoned rights of way by the Ontario Trails Program. The discussion of Ontario Trails will therefore be limited to the potential for recreational development as well as problems encountered in purchasing and developing the abandoned rights of way.

In 1974 the Ontario Trails Program was introduced in an effort to expand the province's outdoor recreation programs outside of provincial parks. Attention was focused on abandoned railway rights of way for two reasons:

1. they could provide a means of fulfilling the demand for additional recreational trail facilities required by the unprecedented increase in the number of hikers, cross-country skiers, horseback riders, bicyclists, snowmobilers, and motorcycle trail riders; and
2. competition for lands, as well as the nature of the land uses, particularily in Southern Ontario.

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[9] Ibid., p. 37.

More specifically, abandoned rights of way can be easily adapted to trails:

> They are level, well drained, good ground base, cleared, tree-lined and fenced corridors.
>
> They are located near or pass through urban centres. Hence, available to a great number of users in the urban areas.
>
> May link nearby recreational areas and trails in the vicinity.
>
> They have been assembled by one owner, thereby reducing the need to negotiate with a number of landowners in order to develop a trail.
>
> They are suitable for a variety of trail activities without exorbitant development costs.[10]

The last two items are probably the two most convincing reasons for acquiring an old line as opposed to starting from "scratch" -- especially in a time of restrained spending. Creation of a recreation trail where no previous easement existed would involve prohibitive expenditures and numerous problems. The powers of condemnation may have to be utilized. The path would have to be cut through trees, brush, and existing structures before the actual construction of the trail bed and surface could begin. The advantages of a constructed railway right of way readily reduce the cost of acquisition, manpower, materials, and energy:

> Although construction techniques varied, the centre of a railroad right of way was usually raised by a ballast of crushed rock, slag, volcanic ash, or some other porous material that served to elevate the track, keep it well drained, and thwart the growth of weeds. Where heavy rains and spring thaw were a problem drainage ditches were dug along either side of the roadbed.[11]

The raised surface allows for a better view of the surrounding countryside and minimizes the amount of construction required to make the easement worthy of the designation "trail". The gentle grades of less than 3 percent through hilly terrain also minimizes the stress on cyclists.

Adding interest to a trail superimposed upon an abandoned railway line are bridges, tunnels, and station houses. Examples of civil engineering feats and architectural achievements of the past, they

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[10] Mickiewicz, pp. 18-19.

[11] From Rails to Trails, p. 6.

are worthy of preservation in their own right. Additionally, the bridges can be used for fishing piers while station houses can accomodate ancillary recreational facilities such as trail headquarters, bike rentals, or hostels.

Despite the inherent capability of utilizing abandoned rights of way for recreational trails, a number of other considerations often limit the feasibility. They include:

> Monotony of the straight, narrow, level grade of the right of way does not exemplify the experiences that most trail users are seeking.
>
> Their geographical setting, as well as the abutting land uses, may deter from the "trail experience".
>
> Easements associated with the railway or municipality may have to be renegotiated. For example, permission to cross country roads may have to be renegotiated.
>
> The salvage of the rails, ties and trestles by the railway company may jeopardize the rehabilitation of the line for safe recreational trail purposes.
>
> The length of time surrounding the negotiations and sale of the right of way may exceed the time restraints placed on land acquisitions by the Ministry of Natural Resources for any fiscal year.
>
> The lack of proper maintenance of existing fencing, drainage and weed control during the period of abandonment and sale are often neglected. Consequently the burden of "cleaning up" falls upon the new owner.
>
> Pressures from abutting landowners on the railway companies would fragment the utility of the line for recreational purposes if they were to acquire portions of the line.[12]

Problems such as these account for the fact that the Ontario Ministry of Natural Resources has acquired only three branch lines of the twenty or so lines offered for sale during the last ten years. Nevertheless, the Ministry still considers the project a viable one and encourages the continuing investigation of such possibilities.

> It is important to note, ..., that trail development opportunities along abandoned railway rights of way will probably never be greater. The number of abandonments is rising to a peak that may never be reached again. Failure in the acquisition of these abandonments will possibly result in a loss of potential facilities for recreational trail opportunities in the future.[13]

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[12] Mickiewicz, pp. 19-20. [13] Ibid., p. 20.

Acquiring the Right of Way

Process of Abandonment

The process of rail line abandonment is similar in both Canada and the United States. However, the United States has included specifications that make it relatively easier for prospective trail users to acquire the abandoned rights of way.

In Canada and the United States the abandonment of operations of any federally governed line cannot proceed without the expressed approval of the Canadian Transport Commission and the Interstate Commerce Commission, respectively. Both bodies post public notices of the applications to abandon and review the applications at a public hearing. Interested parties may attend the hearings and present submissions favouring or opposing the abandonment. At this point the process becomes slightly different in the two countries.

The Canadian Transport Commission examines the evidence and arguments presented at the hearings and determines if the line is uneconomic. The abandonment of an uneconomic line is then specified by a date that is

> "a) to be not earlier than 30 days from the date of the order; and
> b) to be not later than 5 years from the date of the order."[14]

The posting of proposed abandonments allows a group that would like to acquire the rights of way for recreational purposes sufficient time to develop the appropriate plan of action. At the same time, important information regarding the physical existence and condition of the line can be ascertained from the application that the railroad company submitted. Along with other information the application contains:

- the name of the subdivision and the mileages between which abandonment is proposed;
- the names of stations on the line with mileages and approximate populations and a description of the present service;
- a statement of the history of the line, the present physical condition and any operating restrictions;
- the highway facilities in the areas served by the line;
- the distances from stations on the line to alternative stations on other lines;

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[14] Ibid., p. 6.

- alternatives modes of transport in the area;
- any known potential resource development in the area;
- any services planned for the future or proposed in the event of abandonment;
- anticipated changes in the transportation practices of those using or likely to use the line proposed for abandonment;
- the effect of such changes on other lines and other carriers in the area; and
- The company shall also submit such other information as the Committee may request from time to time.[15]

In the United States, the rail company's application requesting permission to discontinue serve is similar to the one filed in Canada with one outstanding exception -- "a description of the current land use in the area adjacent to the line" is included.[16] In Canada no consideration is given to adjacent land use. Such a description would also be valuable in determining the scenic attributes of a right of way under consideration for trail development.

In addition to consideration of the merits of the abandonment application, the Interstate Commerce Commission (ICC) provides an assessment of the "effects of the proposed action on the quality of the human environment within the meaning of the National Environmental Policy Act of 1969".[17] If it is determined that the quality of the human environment is significantly affected, then an environmental impact statement is prepared in which the public is invited to comment. In the environmental analysis, a prime recreation potential in a right of way may be identified and if appropriate interest is expressed, a recommendation giving public agencies the first right of purchase (usually for a period of 60 to 120 days) may be attached to any certificate granting permission to abandon. Those interested in public trails and parkland can thus use the regulatory structure of the ICC to seek preferred treatment.

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[15] Canadian Transport Commission, Railway Transport Committee, "Regulations Governing Applications to Abandon the Operation of Branch Lines under Section 314B of the Railway Act and other Applications for Abandonment" in Mickiewicz, Railway Abandonments, p. 24.

[16] From Rails to Trails, p. 13. [17] Ibid.

Unfortunately in Canada, an interested trail group cannot be assured of the acquisition. It is doubtful that an environmental impact statement would be required during abandonment proceedings. The disposition of the line rests with the respective railway company and permission to sell the right of way is at the company's discretion.[18] Thus an abandoned right of way in Canada cannot always be assumed for sale.

Release of the Hall Commission's Report has resulted in an ongoing debate with regard to the future disposition of railway rights of way. The Commission recommended to the Minister of Transport that

> ...upon abandonment, the roadbed -- that part of the property abandoned represented by land -- vest in the provincial crown for disposition as may be mutually agreed to between the relevant province and muncipal authorities.[19]

Mr. Lang is not in agreement, however. He wants the land in question to revert to the federal crown.[20]

While the Canadian and American processes of abandonment are similar, it is evident that in the United States an opportunity exists to retain the rights of way of a rail line as a public resource. The public resource may be continued in the form of a trail that

> ... contributes a sense of continuity with our past, enabling new generations of travellers to understand the great economic, social, and technological forces that, like hammer blows on glowing iron, shaped the Nation that was to become modern America.[21]

While this last point is typically melodramatically American, the connection with the past is a valid point.

Legislation and Planning

Acquisition of abandoned rights of way for trail purposes is more likely to be effected with the existence of supportive legislation and an institution created for such purposes. Once again, the United States and Ontario have set a precedent in this area.

United States

Interest in an adequate system of trail development in the United

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[18] Mickiewicz, p. 6. [19] Hall Commission, p. 103.

[20] Honourable Otto Lang, Minister of Transport, "The Hall Report: An Inviting Challenge for Prompt Action" (Regina: Press Release, May 12, 1977), p. 6.

[21] From Rails to Trails, p. 10

States dates back to the 1960 Report of the Outdoor Recreation Resources Review Commission which predicted a three-fold increase in the demand for recreation by the year 2000. At the same time the Report stated that trails "would be in short supply unless adequate additional facilities were provided systematically".[22] In 1965 President Johnson called for development and protection of a National system on trails. To this end a study entitled "Trails for America" (1966) was prepared as a blueprint for a comprehensive, long-range program of recreation trail development for the country. On February 3, 1967 a bill was introduced to establish a nationwide system of trails and by October 2, 1968 the bill was signed into law. Basically the National Trails System Act calls for the establishment of trails:

a) primarily near the urban areas

b) secondarily, within established scenic areas more remotely located.[23]

The Act also

> ... provides for cooperation between the ICC and other Federal agencies and the Secretaries of the Interior and Agriculture to assure that, to the extent possible, abandonments which may be suitable for improving or expanding the National Trails System are made available for public use.[24]

To ensure that potential trails are publicized, the Interstate Commerce Commission sends a copy of the notice of proposed abandonment to the national headquarters of the Bureau of Outdoor Recreation which in turn dispatches a copy to the regional offices. Up to date information on the status of rail abandonments can therefore be found at the offices of the Bureau of Outdoor Recreation and can be helpful in identifying rail to trail opportunities.

The Citizen's Advisory Committee on Environmental Quality has developed a "Checklist for Rail-to-Trail Potentials" that deals specifically with the possibilities of converting an abandoned right of way to a recreational trail. The Checklist suggests the following information

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[22] J. T. Verkler, Staff Director, Senate Committee on Interior and Insular Affairs, "The National Trails System Act" in Proceedings: National Symposium on Trails (Washington, D.C.: Department of the Interior, Bureau of Outdoor Recreation, June 26, 1971), p. 12.

[23] J.P. Campbell, Under Secretary of Agriculture, "Luncheon Talk" in Proceedings: National Syposium on Trails, p. 7.

[24] From Rails to Trails, p. 13.

be ascertained in developing the trail proposal:[25]

1. Physical Measurements
   - approximate length in miles
   - approximate width

2. Geographical Location
   - proximity to users (location within a two hour drive from major population centres recommended)
   - proximity to State and local recreation facilities (access to municipal swimming pools, tennis courts, connnection to other trails, etc.)
   - proximity to mass transportation (bus lines, railroad stations, airports)
   - possible use as a transportation route for those commuting to work or school in suburban or urban areas

3. General Condition
   - condition of the roadbed:
     presence or absence of rails and ties
     condition of ballast
     quality of drainage
     condition of bridges and trestles
     amount of overgrowth
     extent of erosion, slides, or washouts
     presence of obstructions or hazards

4. Condition of Title
   - fee simple (reversionary clause?)
   - easement

5. Topography
   - aesthetic qualities -- interesting natural features (wooded areas, exposed geological formations)
   - opportunity for nature study -- indigenous flora and fauna
   - parallel waterways -- rivers, streams, creeks, canals -- access points to waterways

6. Points of Special Interest
   - historic areas
   - unique scenic areas
   - picturesque communities

7. Proximity to Service Facilities
   - restaurants, parking, comfort stations, overnight lodging, and/or camping facilities accessible from the right of way
   - opportunity for development of comfort stations and/or picnic areas

8. Access Points
   - access from road crossings without encroachment on private property

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[25] Ibid., pp. 20-21.

9. Maintenance and Management
   - opportuntiy for establishment of waste collection areas near roads wide enough to accomodate motorized vehicles for maintenance collection
   - local trail and conservation groups that may be willing to volunteer aid in maintaining the facilities.

Sources of funding are available through various agencies in the United States. They include:[26]

- the Land and Water Conservation Fund Act
- the National Trails System Act
- the Federal Aid Highway Act
- the Housing and Community Development Act
- the Railroad Revitalization and Regulatory Reform Act (1976)
- gasoline taxes
- municipal bond issues
- the private sector -- trail and social groups, religious and other charitable organizations, The Nature Conservancy and the Trust for Public Lands (national non-profit conservation organizations).

Ontario

Events in Ontario offer an excellent example of trail planning at the provincial level and likewise provide a good lead for Manitoba to follow in the event that a rails to trails program is adopted in the province.

Ontario held its first Trails Symposium in June of 1973 in recognition of the need to bring citizens together to discuss the possibilities of developing "a province-wide network of recreational trails, the management of such a trail system and the legislative issues involved".[27] The overall emphasis of the Symposium was based on the principle of people orientation and citizen involvement backed by the cooperative efforts of the federal and provincial governments with regard to legislative and financial support. The ancillary role to be played by the Government was strongly emphasized in the keynote address.

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[26] Ibid., p. 24.

[27] Ontario Ministry of Natural Resources, First Ontario Trails Symposium Proceedings (Queens Park, June 27, 1973), p. 1.

An interdisciplinary approach was deemed necessary to effectively cover all aspects of a trail development program. This was evidenced by the presence of the Ministries of Agriculture, Transportation and Communication, Environment, Industry and Tourism, and Natural Resources. Coordinated efforts on the part of these departments could be helpful

1. in providing inventories of different kinds of trails;
2. erosion control and design questions;
3. the mapping of the trail;
4. acquisition of the land itself;
5. land use planning to develop and support the uses of the trail;
6. favourable taxation for those who wish to dispose of properties by way of gifts to the trail movement;
7. and with publicity.[28]

The process of developing an effective trail program was broken down into four parts: program coordination, trail planning and development, role of trail interest groups, and legislative issues.

Program Coordination

After defining objectives, the creation of an Ontario Trails Advisory Committee and an Ontario Trails Foundation was envisaged. The Advisory Committee was to consist of individuals from both the public and private sectors. Representation could be either regional or by activity groups (for example, hiking, cycling and horseback riding groups). The main function of the Committee would be

> ... to advise government on program policies, legislation and implementation, to advise the Ontario Trails foundation on funding needs and overall priorities and to act as a liaison with trail clubs to assess their needs and programme effectiveness.[29]

As implied above, the Ontario Trails Foundation would raise and provide funding, as well as control the rate of flow of funds to the overall trails program. In the form of a non-profit public agency, management would be by private trustees.

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[28] Ibid., pp. 9-10. [29] Ibid., p. 13.

Trail Development and Planning

This stage deals with the same considerations as discussed earlier with reference to the American system and therefore will not be repeated here. Suffice it is to say that considerations of actual trail development are widely applicable no matter the location of the territory to be traversed.

However, one aspect that was not discussed previously is that of conflict of activity use on trails. The Symposium proposed to overcome this problem by designating trails for specific activity use and ensuring that construction of the trail conformed to the requirements of the specified use.[30]

Role of Trail Interest Groups

Trail interest groups could be responsible for preparing a trail development proposal, and the later planning, development and management of the trail. Although ownership would rest with the government, the local municipality could be responsible for enforcement of the rules. Alternatively, the policing authority could be delegated to the appropriate trail activity group.

Legislative Issues

A clear statuatory mandate is necessary for the creation of a comprehensive trails program.[31] Bits and pieces of legislation under the jurisdiction of various government departments is too cumbersome to adequately deal with problems regularly encountered by trail planners. All encompassing legislation is needed for such problems as acquisition, liability, use and design, enforcement, and finance.

The Ontario Government has conceived a trail development process which appears to be simple in structure and is therefore likely to implemented with a minimal amount of "bureaucratic red tape". The concept of an Advisory Committee is especially appealing in the sense that it could bring together the trail groups and the government in a program of creative trail development.

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[30] Ibid., p. 22. [31] Ibid., p. 32.

Special Problems with Regard to the Disposition of Abandoned Railway Rights of Way

As mentioned earlier, the abandonment of a rail line in Canada does not necessarily mean that the right of way is for sale. The nature of the title may hinder or restrict the possible acquisition of the line by the Government. Additionally, major obstacles in the form of existing legislative encumberments have to be overcome before an abandoned right of way may be considered for acquisition and possible redevelopment by the Government.

In general, the railroad's title may be either easement or fee simple. The latter form may or may not contain a reversionary clause. If the title is fee simple, all ownership rights are purchased. The fee simple might however contain a "reversionary clause" that may indicate that if the right of way is used for a purpose other than the original intended one (in this case a railway), then ownership reverts to the seller or his heirs. On the other hand, title may be in the form of an easement which only gives the right to pass over land and to place certain improvements on the surface in order to facilitate passage. If the easement is unencumbered, the property owner is <u>not</u> legally obliged to renew an easement with a subsequent owner of the abandoned right of way. The nature of the title thus affects the manner in which the right of way is disposed and may hinder the acquisition for a trail.

The disposition of the rights of way of an abandoned railway line is a complex matter and is presently the topic of much debate. There has been a moratorium on rail line abandonments in Canada since 1965 and pending the recommendations of the Hall Commission. In Manitoba the rights of way are owned outright by the rail companies or, in some cases, have been acquired through squatter's rights. The CNR indicated to the Hall Commission that it will offer first to sell the land to the federal government, then the provincial government, municipal government and finally the farmer. In contrast, the CPR offered first rights of purchase to the farmer, then the municipality, the province, and lastly the federal government. The deliberations of the Hall

Commission took into consideration the British North America Act. Jurisdictional problems arise because the federal government, who had jurisdiction over the natural resources of the prairie provinces before 1930, gave the land outright to the railways. However, after 1931, jurisdiction over the natural resources went to the province. Although the rail companies legally own the land, the province feels it should have a say in who gets the land after abandonment.[32] As it stands now, the province has no say in the disposition. The Hall Commission did recommend, however, that ownership of the right of way revert to the province. The Minister of Transport, the Honourable Otto Lang, is in disagreement. He wants the land to revert to the federal crown. The Hall Commission's recommendation could be especially significant with regard to potential recreational uses of the right of way. The importance of the ownership of the right of way was emphasized earlier with regard to the Interstate Commerce Commission's decision to offer first rights of purchase to public agencies or civic groups wishing to purchase rights of way for a public parkland.

The present situation with regard to the disposition of ARRW is as follows. Subsequent to the Hall Commission's recommendations, the rail companies agreed to make a gift to the federal crown of all the land from abandoned railway rights of way.[33] This agreement put the question of disposition into the political arena: the debate is now between the jurisdictions of the federal and provincial governments. In a February press release Mr. Lang stated:

> The federal government intends to turn over lands from abandoned prairie railway lines to the appropriate owner, most often the farmer through whose land the right of way passes....
>
> "It is our intention to give the benefit of the land, whether it remains in the hands of the farmer, the municipality or occasionally the province, to the municipality in question so that they will be compensated for the loss of right of way and service."[34]

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[32] Mr. Reg Forbes, Interview held in Brandon, Manitoba, November 4, 1976.

[33] "Abandoned Prairie Railway Land to go to Appropriate Owner: Lang", Winnipeg Free Press, 8 February 1978.

[34] Ibid.

If the federal government follows this policy, municipalities may be able to use the land for trail purposes.

Statutes with regard to fencing, weed control, and drainage may be inhibiting factors when considering the conversion of a railway right of way to a recreational trail. The Federal Railway Act requires a new owner of an ARRW to fence the property, a proposition that could be rather cotstly.[35] However, the weed control and drainage legislation of the Act refers only to active rights of way. Once abandoned, the ARRW comes under provincial land use regulations.[36]

The Potential for Acquiring Abandoned Railway Rights of Way for Recreational Trails in Manitoba

Review of the rails to trails programs in the United States and Ontario is suggestive of alternate uses for ARRW in the province of Manitoba. The recommendation of the Hall Commission for the Abandonment of 633 miles of rail line presents an ideal opportunity for the province to embark upon a program of recreational trail development.

Government support must be obtained if Manitobans are to realize the recreation potential of ARRW. Presently, there is no recognized program in existence to aid the conversion of abandoned rights of way to trails. It is out of the jurisdiction of the federal government as the mandate of Parks Canada includes only Riding Mountain National Park and a corridor along the Red River between Winnipeg and Selkirk.

The provincial government is therefore the only alternative source of support with a broad enough sphere of influence. (Municipal and private support will be necessary in preparing the trail proposals.) When questioned about their interest in trail development, the Parks Planning Branch of the Manitoba Department of Tourism, Recreation and Cultural Affairs indicated that they had no involvement with trail development presently.[37] The provincial government is not particularly interested in taking the initiative of introducing a "rails to trails" program. It has been suggested however, that a trail proposal should come from the interested citizens in the province. What is needed, therefore,

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[35] Mickiewicz, p. 15.

[36] Kent Magarrell, CPR, Telephone Interview on March 28, 1978.

[37] Rick Wilson, Parks Planning Branch, Interview in Winnipeg on November 17, 1976.

is citizen enthusiasm and support on the part of those interested in tapping the recreational potential of abandoned railway rights of way.

In most cases, the Hall Commission has recommended a process of gradual abandonment over a period of five years. This time could be used to make more people aware of the recreational opportunity that exists. Interested communities and trail proponent groups could start to prepare specific trail proposals engaging the assistance of the Parks Branch of the Manitoba Department of Tourism, Recreation and Cultural Affairs.

CHAPTER 3

METHOD AND ANALYSIS

Introduction

Investigation of the recreation potential of abandoned railway rights of way led to the development of a conceptual framework outlined in Chapter 4. The framework was developed through a process which involved:

- a literature review (Chapter 2):
- investigation of four ARRW utilizing a rails to trails checklist (found on page 17) and the Provincial Parks Branch Criteria for Recreational Travelways (Appendix I);
- community surveys;
- a trail group survey; and
- interviewing personnel from various government departments with regard to recreational development of ARRW.

Investigation of four ARRW

As mentioned in the introductory chapter, time and budget constraints precluded the possibility of examining all of the 633 miles of rail line recommended for abandonment within the province. Commissioner Reg Forbes suggested examining three lines that he considered particularly scenic and the Research Director of the Hall Commission, Dr. Trychniewicz, suggested a fourth line close to Winnipeg. Information was collected by hiking the rights of ways and the results are summarized below. Detailed descriptions of the recreation potential of the ARRW are contained in the appendices.

Carman Subdivision

The Carman Subdivision of the Canadian National Rail line runs through the towns of Carman, Graysville and Roseisle and is 59 miles in length (see map 1). A field trip (June 1977) to the area indicated that the portion of the line between Roseisle and Cardinal is the most

MAP 1

REGION 2

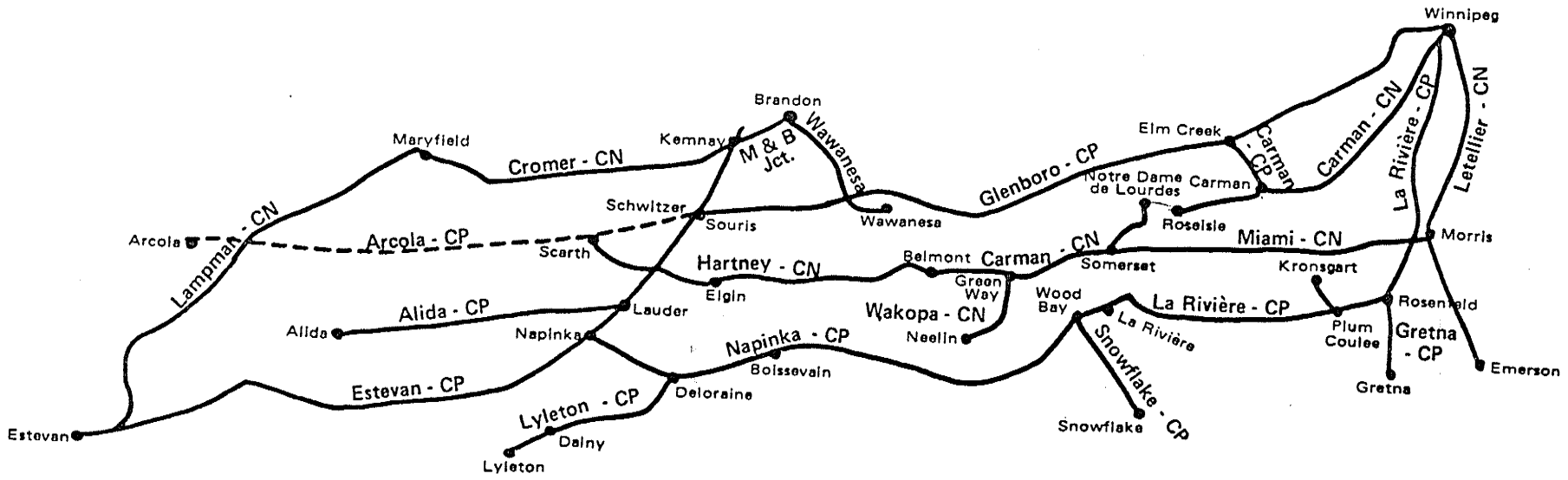
LEGEND

Basic Network, Guaranteed to Jan. 1, 2000

Commission Recommendations

To be added to the Basic Network
To be transferred to The Prairie Rail Authority
To be abandoned, 1977-1981
New construction
Transfer from CP Rail to CNR
Transfer from CNR to CP Rail

Government of Canada / Gouvernement du Canada
Hall Commission / Commission Hall



suitable for recreational development. Approximately ten miles in length, the Roseisle to Cardinal right of way winds through a ravine that is traversed with many creeks, ponds, bluffs, gorges, embankments and valleys. The low lying areas exhibit marshland vegetation while the dryer lands contain prairie and grassland vegetation. The gorges reveal interesting geological formations. There is opportunity for nature studies of indigenous flora and fauna. The maintenance of the area as a wildlife refuge would be compatible and complementary to non-motorized trail use of the ARRW. Cross-country skiers, hikers, and bicycle riders could enjoy this unique area of Southern Manitoba without disturbing the vegetation and wildlife.

A number of complementary features enhance the recreation potential of the ARRW. Leery's Siding, located 3 miles west of Roseisle and adjacent to the ARRW, is the site of an abandoned brick mill that dates back 45 years. Many of the houses in the town of Carman were built with bricks from this factory. The unique and uncommon structure would be a point of historical interest to the prospective trail user.

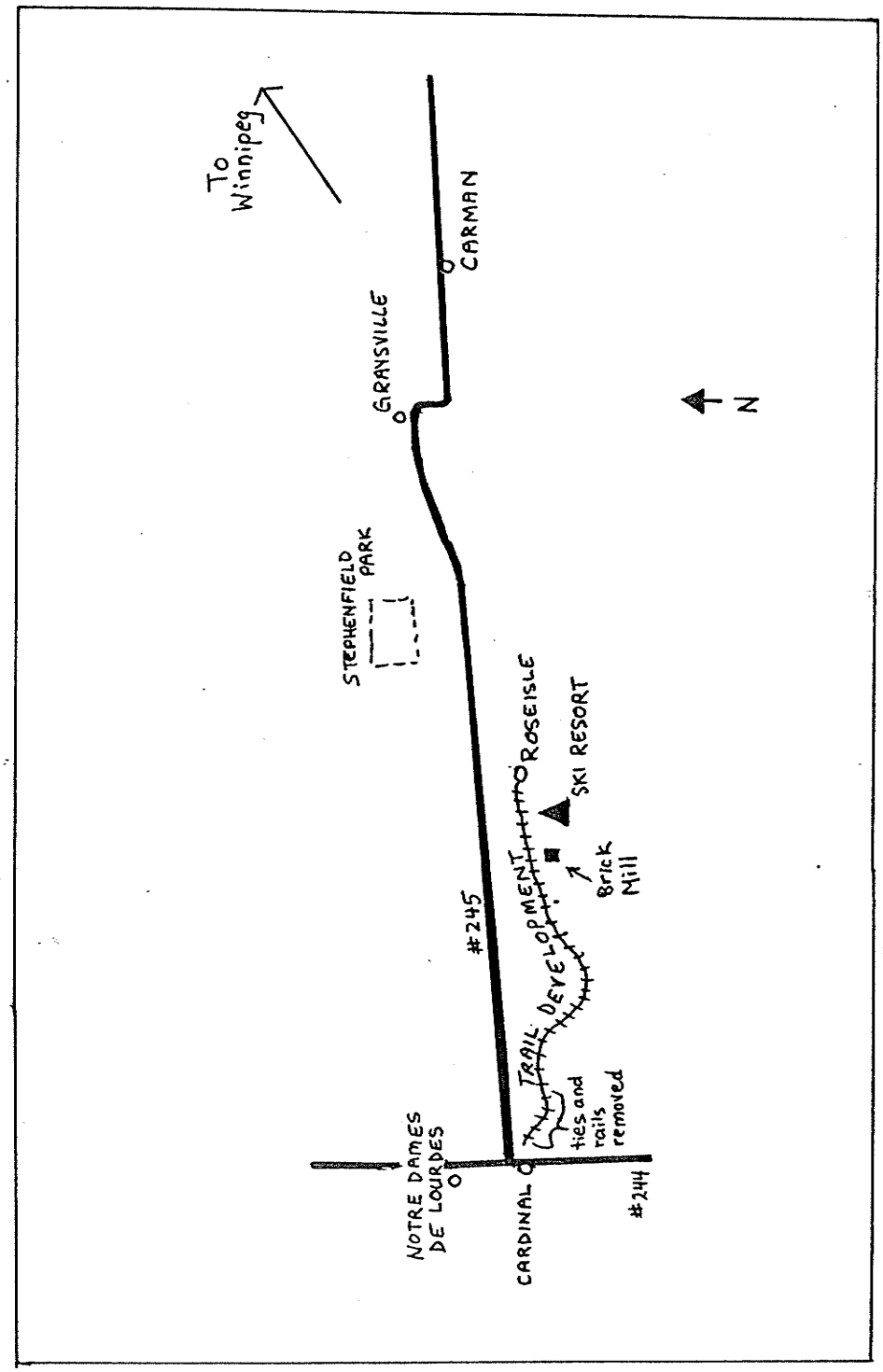
Located two miles west of Roseisle and also adjacent to the right of way is the Snow Valley Ski Resort. The resort would make an ideal starting or finishing point for a trail. In the winter the facilities could be used by cross-country skiers seeking warm shelter before making a return journey to Cardinal. Alternatively, the skier could arrange to be picked up at this point.

Stephenfield Provincial Recreation Park is located five miles northeast of the ARRW. Situated beside the Boyne River Reservoir, the park has a capacity of 120 campsites and offers swimming, fishing, boating and waterskiing opportunities. A trail between Roseisle and Cardinal would add diversity to the recreational activities available and may lessen the pressure of users in the Stephenfield Park.

Carman is the closest town (about 15 miles) with a variety of services including motels, schools, hospital, golf course, park, swimming pool, shopping district, and banks. The population is approximately 2,000 people. Carman is located 50 miles southwest of Winnipeg on P.T.H. #3 and is 120 miles southeast of Brandon.

Appendix A describes the ARRW in detail. A naturalist's description of the right of way is included.

Fig. 1. Sketch of Cardinal-Roseisle Right of Way



Tonkin Subdivision

Located approximately 120 miles northwest of Brandon (see map 2), the Tonkin Subdivision is not as close to urban centres as are the Carman and Varcoe[1] Subdivisions.

Of the 38 miles of rail line recommended for abandonment between MacNutt, Saskatchewan and Russell, Manitoba, the portion of the line traversing the Assiniboine River Valley between Dropmore and Shellmouth (about 10 miles in length) is most suitable for trail development. The rights of way between MacNutt-Dropmore and Shellmouth-Russell would not be especially appealing to the trail user. Appropriate trail activities for the Dropmore-Shellmouth portion of the line include bicycling, hiking, or horse back riding in summer and cross-country skiing in the winter. The ties and rails have not yet been removed and the ARRW would require a minimum amount of upgrading depending on the type of trail use(s). Wild animals and vegetation abound in the lush river valley and trail development would afford the type of experience a trail user seeks. Existing facilities in Assessippi Provincial Park, fishing opportunities, and a nearby game farm at Dropmore are attributes that contribute to the desirability of developing a trail through the Assiniboine River Valley. Roblin and Russell are each only 15 miles from the Valley and offer the services of modern communities to trail users who plan to stay and explore the area. Abandoned station houses at Dropmore and Shellmouth would be ideal for rest stops or hostels.

Appendix B contains a full description of the recreation potential of the Dropmore-Shellmouth ARRW.

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[1]The Varcoe Subdivision is the third ARRW investigated.

MAP 2: REGION 4

LEGEND

Basic Network, Guaranteed to Jan. 1, 2000

Commission Recommendations

- To be added to the Basic Network
- To be transferred to The Prairie Rail Authority
- To be abandoned, 1977-1981
- New construction
- Transfer from CP Rail to CNR
- Transfer from CNR to CP Rail

Government of Canada / Gouvernement du Canada
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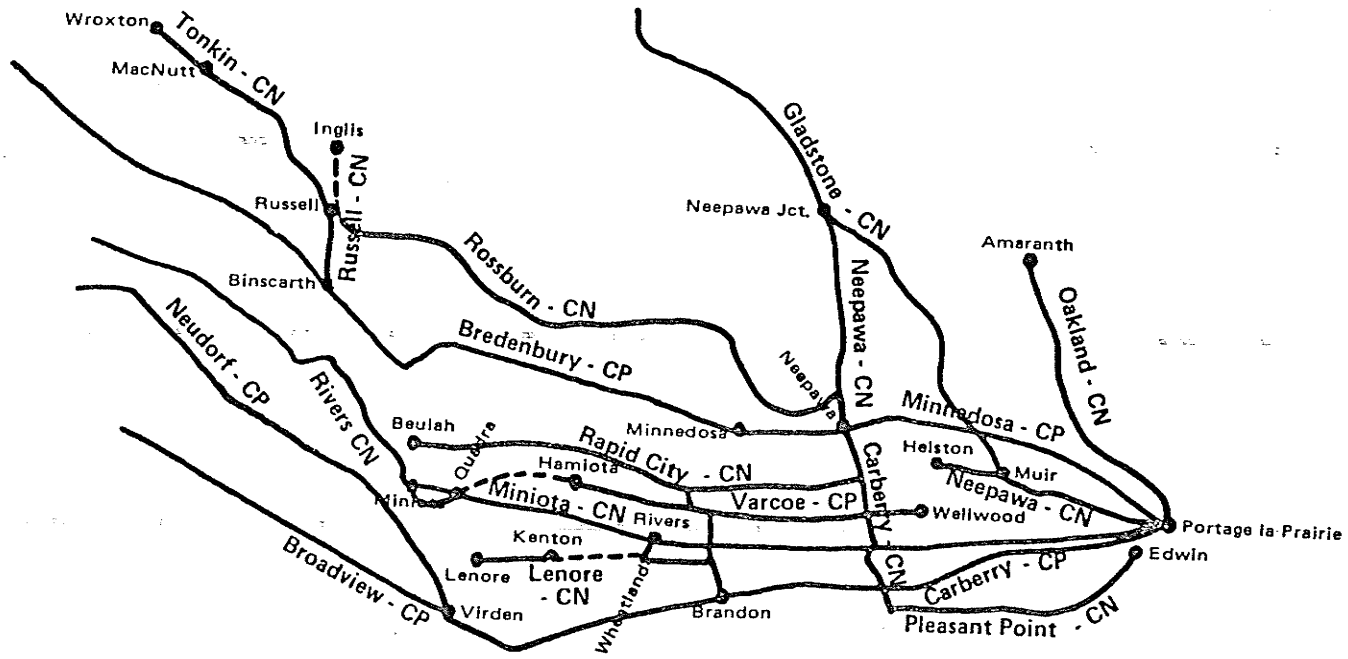
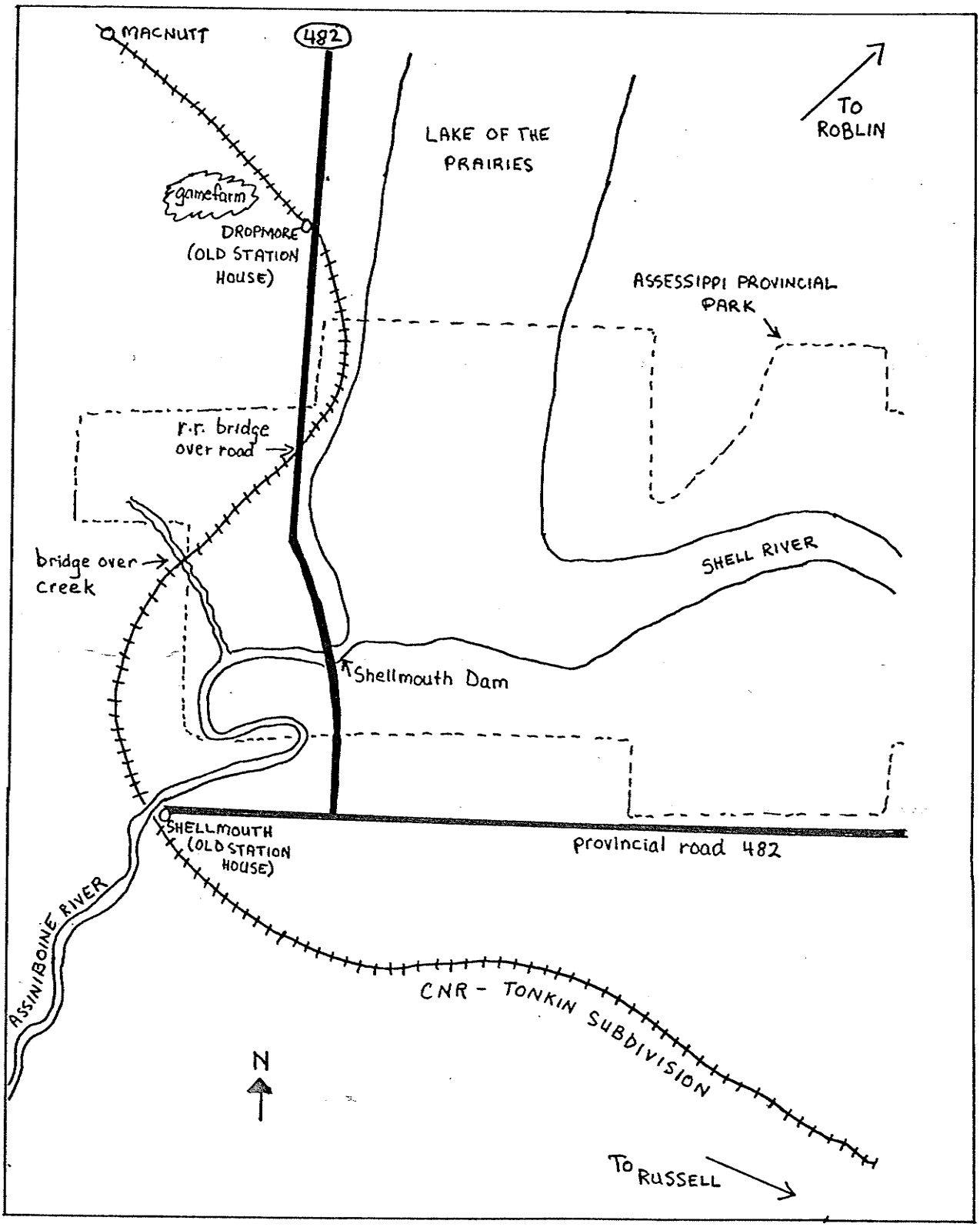


Fig. 2. Sketch of Tonkin Subdivision and Area



Varcoe Subdivision

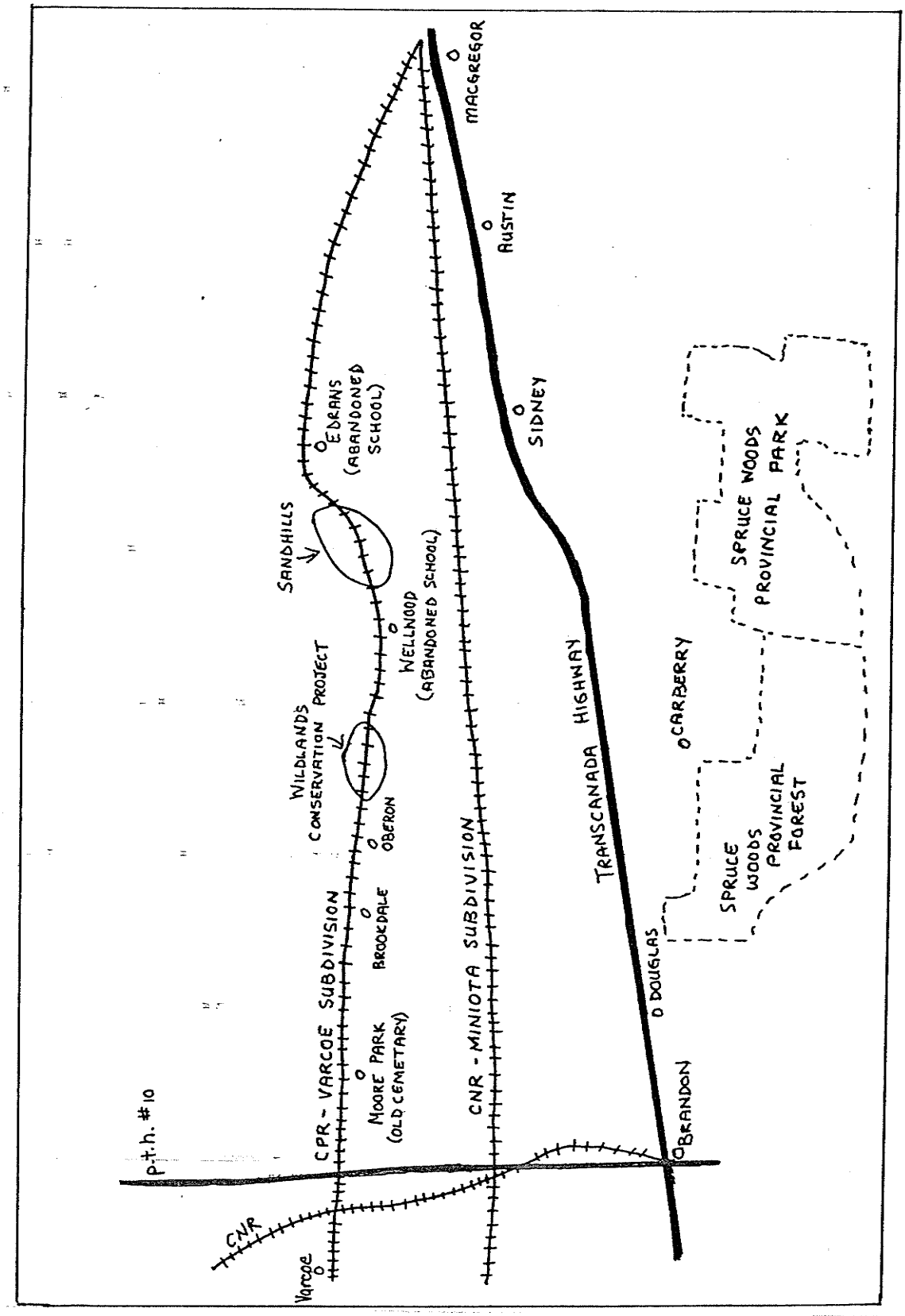
Approximately 60 miles in length, the right of way from Varcoe to MacGregor (see map 2) is generally flat and straight but travels through hilly terrain covered with trees, shrubs, swamps, or cultivated land. Wildlife is present in both the Carberry Hills area and a Wildlands Conservation Project near Oberon. Abandoned schools exist at Wellwood and Edrans. MacGregor is the only town of significant size and offers all the services of a modern community.

In the opinion of the researcher (after a field trip to the ARRW), the right of way would be suitable for trail purposes as a portion of a trans-provincial or transcontinental off-road route. If such a route was established, the east-west ARRW could accomodate cyclists or horseback riders travelling across the country. The terrain is interesting and scenic and the ARRW is located approximately 10 to 15 miles north of the TransCanada Highway -- except at MacGregor where it meets the Highway. Upgrading would be required for cyclists but not necessarily for horseback riders. The ARRW is wide enough to accommodate both uses. The abandoned schoolhouses might be used by those participating in a cross-country trek as rest stops or hostels.

Cross-country skiers and hikers would probably find the ARRW too monotonous for their trail purposes. Hikers and skiers would prefer a more hilly and winding trail than the one this could offer. Horseback riders and cyclists travelling to a final destination point could enjoy the surrounding scenery and would not be tired or slowed down by the direct route. In contrast, hikers or skiers out for an afternoon of activity would enjoy a trail with more variety and challenge. The right of way examined does not have these characteristics and should therefore not be considered for skiing and hiking. The type of trail most suitable would be that of a cross-country route for cyclists or horseback riders. Snowmobiling would not be compatible with the portion of the ARRW that passes through the Wildlands Conservation Project.

A more detailed description of the recreation potential can be found in Appendix C.

Fig. 3. Sketch of Varcoe Subdivision and Area



The Inwood Subdivision

The Grosse Isle to Hodgson portion of the Inwood Subdivision (see map 3) is an example of an ARRW not suitable for recreational development. The Inwood Subdivision starts at Grosse Isle (13 miles northwest of Winnipeg) and extends northward into the Interlake district for 80 miles. Close proximity to a large urban population and the rugged terrain of the Interlake were the two initial reasons leading to the investigation of this ARRW.

A field trip was undertaken in June 1977 to the area. In comparison to other, more scenic ARRW, it was apparent the features of the Inwood ARRW were limited for purposes of recreational development. The negative features are summarized as follows.

With regard to potential for trail development, the Inwood Subdivision exhibits characteristics that render the ARRW more scenic than some that pass through open grain fields. The rugged and diverse vegetation of the Interlake region would probably attract a trail user. Unfortunately, the straightness and flatness of the ARRW do nothing to enhance a trail experience, and, if anything, detract from it. There is an abandoned schoolhouse adjacent to the ARRW at one point that might be appropriate as a hostel or the school yard might be used for camping. But, in the opinion of the researcher, the presence of these facilities hardly warrant the development of a trail. The right of way of the Inwood Subdivision will probably revert to natural vegetation (like the surrounding land) upon abandonment. Efforts to develop a rails to trails program should be directed elsewhere -- that is, to areas more suitable in all aspects.

An additional limiting factor is that the terminal point, Hodgson, offers little of interest to a trail user. There is no campground, park, lake, or any other type of recreational facility that might encourage the trail user to continue a journey down the ARRW to Hodgson. Also, the provincial parks at Hecla Island and Grindstone are approximately 25 miles due west of Hodgson. As such, a trail user wishing to partake in an excursion of over 80 miles, would probably favour a more direct route from Winnipeg.

MAP 3: REGION 3

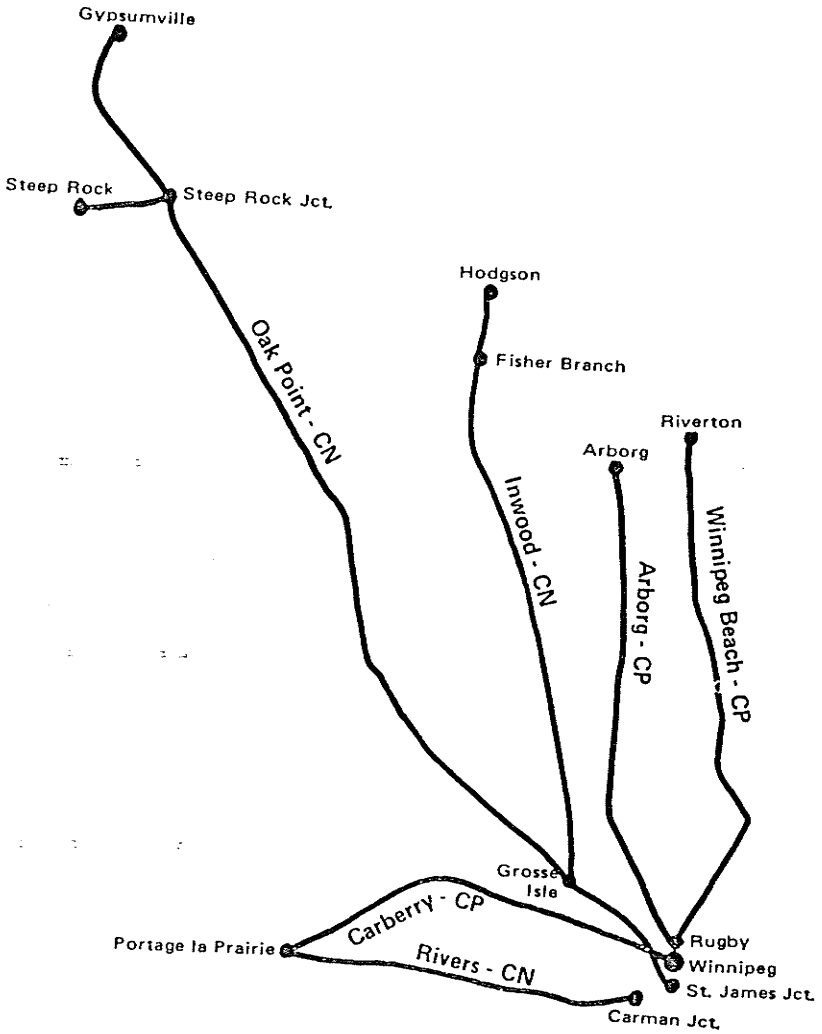
LEGEND

Basic Network, Guaranteed to Jan. 1, 2000

Commission Recommendations

- To be added to the Basic Network
- To be transferred to The Prairie Rail Authority
- To be abandoned, 1977-1981
- New construction
- Transfer from CP Rail to CNR
- Transfer from CNR to CP Rail

Government of Canada / Gouvernement du Canada
Hall Commission / Commission Hall



Summary Comparisons of the ARRW

On the basis of the information accumulated by means of the rails to trails checklist and the Provincial Park Lands Criteria, the potential of the three ARRW for purposes of recreational development are ranked as follows:

1. Cardinal to Roseisle ARRW (Carman Subdivision)
2. Dropmore to Shellmouth ARRW (Tonkin Subdivision)
3. Varcoe to MacGregor ARRW (Varcoe Subdivision).

It should be noted that the ranking is based largely on the physical descriptions of the ARRW.

Table 1 illustrates the comparative features of the three ARRW.

TABLE 1

SUMMARY COMPARISONS OF THREE ARRW

Characteristic Feature	Right of Way		
	Carman	Tonkin	Varcoe
distance from population centres	1	2	1
length of ARRW	1	1	2
complementary recreation facilities	1	1	2
ties and rails removed	1	2	1
variety of topography	1	2	3
winding as opposed to straight	1	2	3
points of special interest	1	1	1
proximity to service facilities	1	1	1
access points	1	1	1
TOTAL	9	13	15

The numbers in the table are indicative of the rank order the ARRW scores for each feature. For example, both the Carman and Varcoe Subdivisions score a "1" for distance from population centres. Both are relatively close in comparison to the Tonkin Subdivision. The

Carman and Varcoe Subdivisions have some ties and rails already removed, while the rails and ties are still intact in the Tonkin Subdivision. Thus the latter scores a "2", wile the others "tie" for first place.

The rank orders are totalled and the lowest score indicates the highest ranking ARRW in terms of the features in the table. Carman Subdivision ranks highest with a score of "9", followed by the Tonkin and Varcoe Subdivisions with scores of 13 and 15, respectively.

Theoretically, the assessment of ARRW for recreation potential would include community and trail surveys as outlined in the conceptual framework presented in Chapter 4. The prospective researcher should therefore include in the above table "characteristic features" or "criteria" that the questionnaires generate. For example, the ARRW may be compared in terms of the apparent willingness of community members to participate in a "rails to trails" project. Another comparative feature might be the need for additional recreational facilities in a community.

Community Surveys

Initially, personal interviews were conducted with a number of Roblin citizens to elicit comments on future uses of ARRW. However, this method proved to be time-consuming and costly. As an alternative method, questionnaires were mailed to councillors, reeves, mayors, agricultural representatives, rural development officers, high school superintendents, business men, farmers, local newspapers, Kinsmen Clubs, and recreation commissions of the Carman and Roblin-Russell areas. The format of the questionnaire[2] was designed to provide the researcher with an initial impression of leading citizens' views of future uses of the ARRW located near the community. Used as a tool to collect preliminary information, the questions were open-ended and allowed for a variety of responses. The responses were used to construct the community survey included in the conceptual framework developed in Chapter 4.

The questions and sampling method of the exploratory community studies do not represent statistically valid surveys. The information

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[2]The preliminary community questionnaire is contained in Appendix D.

collected was not, and is not, meant to be projected to the target population. However, some initial impression were formulated from the responses of the preliminary questionnaires.

Community response can be described best by the lack of interest and awareness regarding alternate uses of ARRW. When questioned about recreational use of ARRW, the Carman area respondents were generally in favour (one individual out of a total of nine opposed). In comparison, the Roblin-Russell residents appeared less receptive to the idea of recreational development of ARRW. Generally, the mayor and town council of Russell felt the recreational facilities of the area were adequate, and if anything, underused. They conveyed the feeling that rural residents had no need for "open space". In contrast, an employee of the Russell Recreation Commission felt facilities were not adequate.

Trail Group Survey

Questionnaires, similar to the community ones, were mailed to the executives of trail proponent groups. (Individual members were not surveyed.) The purpose of the exploratory survey was to record responses of trail groups concerning the recreational development of the three ARRW located near the towns of Carman, Russell, and MacGregor. Once again, the survey is not statistically valid but was used as a basis for constructing the trail group survey contained in the conceptual framework developed in Chapter 4. The preliminary questionnaire is contained in Appendix E.

Groups included in the "survey" were:

The Manitoba Naturalists Society
Rae Trail Volunteers
Manitoba Horse Council
Winnipeg Cycle Club
Snowman Incorporated (a snowmobile group).

Generally, the responses were favourable towards the recreational development of the three ARRW. The Manitoba Naturalists Society did qualify their support, however with the following statement:

> ... although the general feeling of the board was one of pessimism as to the use of the lines as possible hiking trails, the support of linear parks or conservation areas was considered to be of high merit.

The trail groups expressed willingness to participate in a rails to trails project by aiding in the trail planning, public relations, preparation of trail proposal, and volunteer labour in construction of the trail. Financial contributions would probably consist of "fund-raising" drives as most of these organizations have limited financial backing. The Manitoba Horse Council is presently conducting a survey on recreational facilities available to horse people in the province and would be willing to provide any information. Despite the reservation mentioned above, the Manitoba Naturalists Society expressed full support to the concept of rails to trails in a recent Bulletin (See Appendix F).

It should be noted that membership in trail proponent groups is largely urban and is therefore more likely to support a rails to trails project than rural community groups. It is the urban population that seeks the open space of the countryside.

Government Response

Personnel from three government departments were interviewed regarding the recreational development of the three ARRW in the study. The government departments included:

- Parks Canada, Federal Department of Indian and Northern Affairs
- Parks Branch, Provincial Department of Tourism, Recreation and Cultural Affairs
- Provincial Department of Renewal Resources and Transportation Services.

Parks Canada

Personnel from Parks Canada indicated their provincial mandate includes only the area within Riding Mountain National Park and a corridor along the Red River between Winnipeg and Selkirk. None of the rail lines recommended for abandonment lie within this area. Referring specifically to a letter from Parks Canada:

> Insofar as Parks Canada is concerned the idea that we might have responsibility for developing ARRW's in all cases is unlikely. Our mandate deals with nationally significant resources. Our active involvement would initially depend on the existence of such resources

> on or near the ARRW. The ARC program (Agreements for Recreation and Conservation) makes agreements with provinces to develop corridors containing nationally significant resources as well as resources at other levels of significance. Any ARRW's within such corridors would certainly be considered by Parks Canada for their recreation potential. Even here development of it might be a joint project or a provincial project.[3]

It appears, therefore, that federal government support or initiative in the recreational development of ARRW in the province of Manitoba will be minimal.

Parks Branch, Provincial Department of Tourism, Recreation and Cultural Affairs

When questioned about the interest of the Department with regard to trail development, the Parks Branch indiated that there was no involvement presently but they do have the necessary mandate.

> With specific reference to the purchase and use of abandoned railway lines, the Park Lands Act gives the Parks Branch all the necessary legislation.... Although there is a mandate to pursue the designation of lands for linear recreation, no specific program is operating in the province.... Parks Branch for the most part has trails primarily within existing Parklands as opposed to specific Recreation Trailways. We do anticipate however that trail-designation outside of parks will become more prominent in the near future in which case resources such as abandoned rail rights of way will be considered.
>
> The Recreation Branch of the Department ... has several funds available that may be of use to Municipalities in this regard. It should be noted however that the grants of Recreation Branch are for municipality use, as opposed say to a snowmobile club.[4]

The Manitoba Parks Branch is aware of rails to trails programs in Ontario and the United States. They feel, however, that the problems of trying to accomodate the demands of various trail user groups (for example, cyclists, snowmobilers, crosscountry skiers, etc.) would be numerous. They suggest that it would be best to go to the individual trail groups and obtain united suport and present a multiple-use trail proposal to the government.[5] Park planners would be willing to offer

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[3] Brian Wilkie, Parks Canada, Prairie Region, Letter dated July 27, 1977.

[4] W.W. Danyluk, Assistant Deputy Minister, Department of Tourism, Recreation, and Cultural Affairs, Letter dated November 30, 1976.

[5] Rick Wilson, Parks Planning Branch, Department of Tourism, Recreation and Cultural Affairs, Interview in Winnipeg on November 17, 1976.

technical advice.

It is evident that if a rails to trails project is to be implemented, the initiative must come from the citizens of Manitoba. The Parks Branch is not about to embark upon a project without broad support.

Department of Renewable Resources and Transportation Services

Personnel from the Department of Renewable Resources have expressed interest in utilizing abandoned railway rights of way for purposes of wildlife habitat -- especially in Southern Manitoba where preservation of wildlife habitat and agricultural production are often in direct conflict. The Department believes that ownership of ARRW will never revert to the province and ultimately the lines will have to be purchased. Funds have been allocated for the venture and the Department is attempting to acquire the ARRW. They are not sure, however, if the project will proceed: "Whether or not we will be able to acquire these lands this year remains to be seen".[6] The question remains unanswered as whether this Department will purchase all or some of the ARRW in the province.

Conclusion

The preceeding exploratory investigation formed the basis for the development of the conceptual framework presented in the next chapter. Prospective researchers wishing to investigate the recreation potential of an ARRW can utilize the framework to ensure systematic data collection of the study's objectives.

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[6] R.B. Oetting, Wildlife Biologist, Interdepartmental Memo to Mr. B. Barto, Planning Section, Department of Renewable Resources, July 20, 1977.

CHAPTER 4

THE CONCEPTUAL FRAMEWORK

Introduction

The purpose of this chapter is to develop a conceptual framework to assess recreation potential of ARRW. The framework is a cumulation and summary of factors considered significant by the researcher in the evaluation of recreation potential of ARRW. The framework is designed as a guide for future researchers in the evaluation of recreation potential of abandoned railway rights of way.

The conceptual framework begins with the identification of the ARRW under investigation. Following through the various steps, the researcher (or planner) is guided towards a decision. The framework is graphically depicted in figure 4.

The Framework

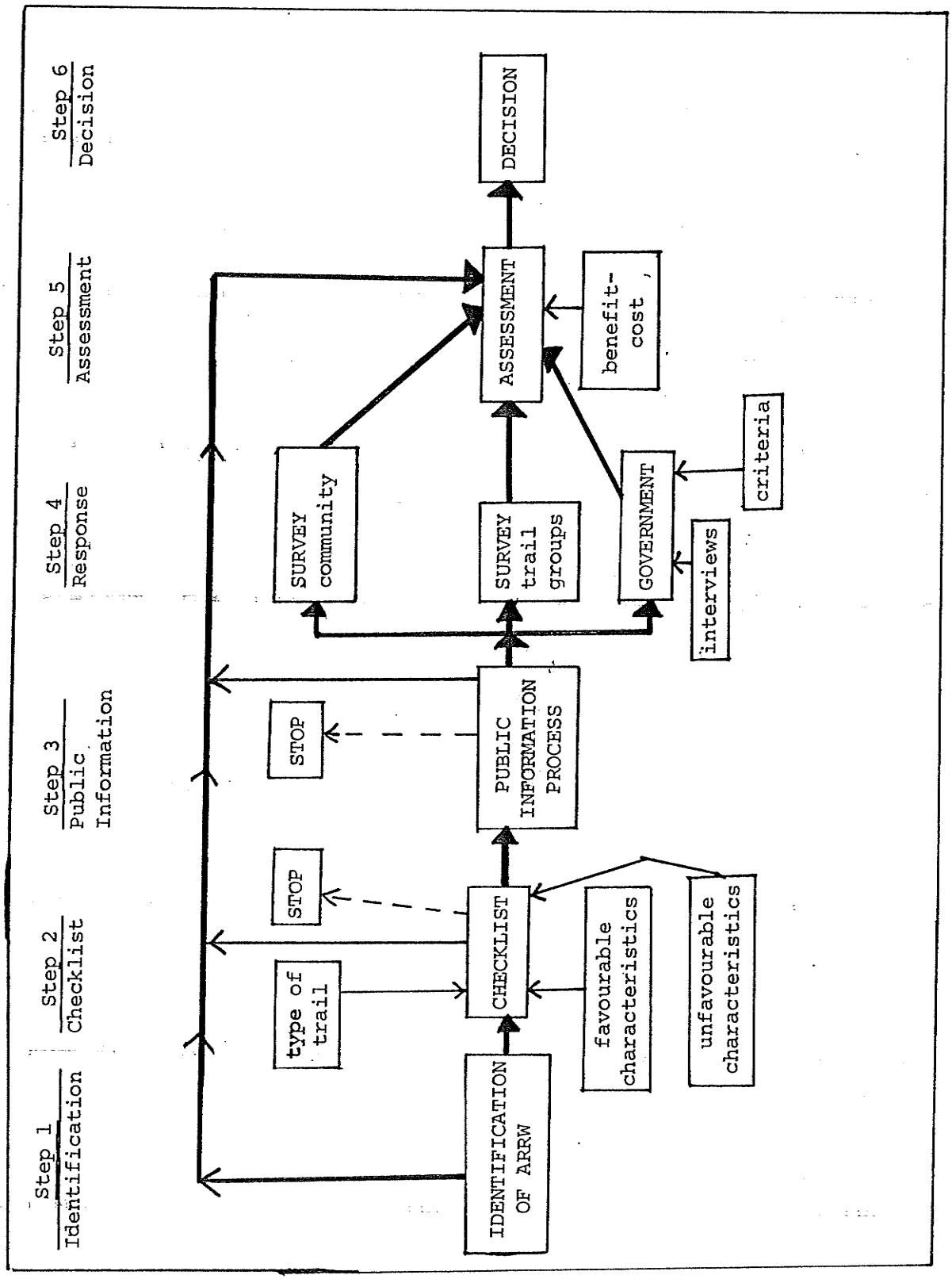
Step 1: Identification of the ARRW under Investigation

The first step is the identification of the ARRW. Interested citizens of the community, trail proponent groups, government or any other interested persons may be the initiator. The identification step should include:

1. a brief description of the ARRW including data such as location and length
2. the objectives or initial reasons for the proposal. For example, the group might propose development of an ARRW into a cross-country ski trail as a means of expanding recreation facilities of the community or attracting tourists.
3. why the ARRW merits conversion into a recreational resource. For example, the ARRW may wind through a scenic river valley.

For the purposes of this framework, potential uses include: bicycle paths, hiking trails, horse trails, cross-country ski trails, snowmobile trails, linear parks, or wildlife refuge areas.

Fig. 4. Conceptual Framework for the Assessment of Recreation Potential of Abandoned Railway Rights of Way



Step 2: Checklist

Once the initiator (or initiating group and hereafter called the "researcher") has decided upon the ARRW to be examined, more detailed information is collected. The right of way (or part of it) should be hiked by the researcher and a Checklist for Rails to Trails Potential (as found on page 17) completed to ensure a systematic compilation of the relevant data.

Inventory systems, such as the Leopold Matrix[1], may used to assist in the description of the topography and points of special interest. Whether or not such methodologies are utilized will depend upon the detail and level of expertise required by whomever (for example, the Provincial Parks Branch, a community, or a nature group) the researcher is preparing the information.

Upon completion of the Checklist, the researcher should specify more precisely the uses for which the ARRW is appropriate. The favourable and unfavourable characteristics of the ARRW for the specified uses should be listed. If the Checklist indicates the ARRW has limited appeal for recreational development, the researcher may choose to discontinue the study. Alternatively, a fourable physical description of the ARRW will provide the researcher with the necessary information for the next step.

Step 3: The Public Information Process

The information accumulated in Steps 1 and 2 should be compiled and distributed to interested groups and individuals. Additionally, the researcher could make a formal presentation (such as a "town hall meeting") to community, trail proponent, or nature groups. Discussion of the presentation should reveal the groups' interests or concerns with regard to the project. The researcher should include the responses in the tabulation of information.

Some people feel a public meeting is of little value and is time consuming. Researchers may learn, however, that a proposal will probably be much more readily accepted if members of the community (or people

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[1] Luna B. Leopold et al., A Procedure for Evaluating Environmental Impact (Geological Survey Circ. 645, 1971).

affected) are allowed to voice opinions and participate in the planning process. Public participation is a difficult goal to achieve for a variety of reasons (for example: lack of interest; participation has no effect on the decision-making process; or a feeling that one does not possess adequate skills to convey thoughts effectively). Nonetheless, encouragement and the opportunity to participate should be available to interested individuals.

Completing Step 3, the researcher should record the public's initial response to the project. If highly unfavourable, the researcher once again has the opportunity to discontinue the study. A favourable public response will lead the researcher to further explore the possibilities of recreational development of ARRW. He or she may also wish to note those persons particularily interested in the project for they may be of assistance in collecting the information in Step 4.

Step 4: Response

Step 4 consists of three phases that occur simultaneously:

1. Residents of the community(ies) located closest to the ARRW under consideration are surveyed to ascertain potential interest in the recreational development of the ARRW.
2. Another survey, similar in content, is distributed to members of trail proponent and nature groups throughout the province.
3. The response of government departments is elicited through two means: a) the interviewing of appropriate personnel; and
   b) comparing the characteristics of the ARRW to the Provincial Park Lands Criteria.

The Community Survey

As mentioned in Chapter 4, a preliminary questionnaire was distributed to a number of individuals in the Carman and Russell-Roblin areas. In this section a revised questionnaire is presented to assist the prospective researcher in the accumulation of information. The revised questionnaire contains close-ended questions and closely follows the methodology outlined by E.R. Babbie entitled Survey Research Methods. Researchers are urged to read this book prior to conducting a community

survey.[2]

The purpose of the community survey is exploratory. The objective is to determine community interest and willingness to participate in a project that entails the recreational development of the ARRW located nearby. The unit of analysis is a family living in the study community. Data is collected to provide the researcher with information on the potential use of the ARRW. A probability sample should be utilized to reflect the variation existing in the population. The results can therefore be projected to the target population. Cluster sampling is the method most appropriate for the community survey as it eliminates the exercise of compiling an exhaustive list of the elements comprising the target population.

The revised community questionnaire (Appendix G) is suggested as the appropriate instrument for gathering information regarding the community's opinion of converting ARRW into a recreational resource. However, the prospective researcher should distribute the questionnaire to a small test sample. A pre-test may indicate to the researcher an alternative strategy to improve the effectiveness of the survey. The researcher should examine the responses of the pre-test and determine if the questions generate information in accordance with the study's objectives.

The results of the questionnaire may be summarized by reporting the frequency distributions of the responses. For example, question 1 will indicate the uses most frequently suggested and questions 2 and 3 will indicate the beneficial and negative aspects of the proposed project (as perceived by residents in the community). Similarily the results of Part B will describe participation in recreational activities. The information collected in Parts C and B is particularly important if a project to convert ARRW into a recreational resource is undertaken. Respondents indicating specific interest in Part D could be helpful in the future stages of the project.

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[2] E.R. Babbie, Survey Research Methods (Belmont, California: Wadsworth Publishing Company, Inc., 1973)

Survey of Trail Proponent Groups

As with the community survey, the trail proponent groups should be surveyed to ascertain potential interest and willingness to participate in a project involving the conversion of ARRW into a recreational resource.

The unit of analysis is an individual member of a trail-related or trail proponent group. There is no formal or published list of trail groups in the province of Manitoba. The researcher must compile a list of groups that he or she considers appropriate. For example, some prominent groups in the province are:

The Manitoba Naturalists Society
The Sierra club
The Rae Trail Volunteers
Manitoba Horse Council
Winnipeg Cycle club
Snowman Inc. (snowmobile group)
The Winnipeg Ski Club
Brandon Ski club.

Personnel from the Provincial Parks Branch will be helpful in the formulation of the list.

A probability sample drawn from the membership lists of the various trail groups should be utilized. The survey results will therefore be representative of the membership in trail-related groups in the province.

As discussed in the previous chapter, a preliminary survey was distributed to executive members of a number of trail-related groups. The open-ended responses were utilized in the preparation of the revised trail group questionnaire found in Appendix H. As with the community survey, the researcher should conduct a pre-test.

The frequency distribution of responses will identify the interests and concerns of the trail group members sampled. The information collected may be considered as representative of trail group membership in the province (assuming an appropriate response rate is obtained).

Response of Government Departments

Interviewing Government Personnel

The researcher should contact various government departments for assistance and also to determine potential interest (if any) in the study. Appropriate government departments include:

- Parks Branch, Provincial Department of Tourism, Recreation and Cultural Affairs;
- Provincial Department of Renewable Resources and Transportation Services; and
- Parks Canada, Federal Department of Indian and Northern Affairs.

While Parks Canada's mandate is specifically federal, the personnel are knowledgeable on the topic of preparing trail proposals. The provincial government has jurisdiction with regard to provincial land use matters. Any financial or formal planning and administrative assistance that the researcher can enlist, will come from the province.

The researcher should attempt to learn from provincial government personnel information regarding legislation, budgets, programs, agencies, or future plans of the government relevant to the proposal. For example, the researcher may learn that a particular government agency has a budget allocation or a program for some aspect of the proposal. A government department may be considering the adoption of a program similar in content to the one the researcher is proposing. Whatever the case, the researcher should be aware of any government activity with regard to the recreational development of ARRW.

Up to this point, it has been assumed that the initiator or researcher represents a group or individual outside of government. This may not necessarily be the case. The initiating group may be a government department or agency. They too should be aware of plans of other government departments or levels of government to avoid duplication of effort. Coordination between departments may be required.

Provincial Park Lands Criteria

The Parks Branch of the Manitoba Department of Tourism, Recreation and Cultural Affairs has two publications that will assist the researcher in determining the suitability (and acceptability to the province) of

the ARRW for purposes of recreational development.[3] The researcher should compare the characteristics of the ARRW to the criteria outlined in the two booklets. The relevant pages are reproduced and appear in Appendix I.

Step 5: Assessment

The fifth step of the conceptual framework consists of an assessment of the information collected. Additionally, a benefit-cost analysis may be utilized to assist the researcher in the assessment process.

Assessment of Information

For each step of the framework, a brief summary should be prepared identifying the significant results. For example, for each of the steps the following information should be presented:

step 1: Identification - the objectives of the proposed project;

step 2: The Checklist - the positive and negative aspects of the ARRW for recreational purposes;

step 3: Public Information Process - a brief summary of the outcome;

step 4: Response - Community Survey
- Trail Group Survey
} the results for each, indicating positive or negative attitudes towards the project;

- Government
a) interviews - government programs or plans that support proposal;
- any negative responses or rejections;
b) criteria - brief comparison of ARRW to criteria indicating positive and negative aspects.

The assessment will be dependent upon the objectives presented in Step 1. Does the data generated from the conceptual framework indicate the probable attainment of the project's stated goals? Recreational

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[3] The two publications are:

Parks Branch, Manitoba Department of Tourism, Recreation, and Cultural Affairs, Criteria for the Provincial Park Lands System (Winnipeg, June 1977).

Wm. M. Nanka, Criteria for Development: Motorized and Non-Motorized Recreational Trails (Winnipeg: Parks Branch, Department of Tourism, Recreation, and Cultural Affairs, November 1975).

development of ARRW will require favourable outcomes in the Checklist and the Provincial Park Lands criteria. Assessment of the various responses of Step 4 will depend upon who (for example, a community group, a trail group, or a government department) is the initiating group.

If residents of the community located closeby to the ARRW are proposing the project, the results of the community survey may be a determining factor. A community promoting tourism will also be interested in the response of trail proponent groups.

An initiating group consisting of trail proponents will consider the survey of trail group membership important. Government financing and legislation may be necessary. Trail groups may therefore weight heavily government response prior to the final decision regarding the proposal.

As mentioned previously, a government department may initiate the study. After ensuring the ARRW meets the physical criteria, a government department will probably weight equally the responses of the community and the trail proponent groups.

The assessment will therefore be dependent upon the objectives of the study and the relative weights the researcher or initiating group assigns to each component of the framework.

Benefit-Cost Analysis

In addition to the above assessment, a benefit-cost analysis of the project should be undertaken. It is recognized that many of the benefits accruing from the recreational development of an ARRW are difficult to quantify. Nonetheless, decision-makers are interested in the economics of a project.

The objective of benefit-cost analysis is to compare social benefits and costs of public investment projects on a monetary basis. The difficulty of imputing dollar values to disparate benefits and costs is easily exaggerated. Market prices are the basis for estimating benefits and costs. In the case of imperfect markets, techniques such as shadow cost pricing and alternative cost pricing can be utilized. Dollar values of benefits and costs appearing difficult to quantify can often be estimated from market information when the analyst employs some ingenuity and common sense.

Another reason for conducting a benefit-cost analysis is that the process often yields valuable information concerning the project which

might not be apparent otherwise. In assessing a project, it is necessary to identify clearly the basic objectives to be achieved by the project, the constraints facing the project, and the alternatives to be considered. This ususally leads to more detailed discussions and clearer appreciation of the various aspects of the project, and to the gathering of relevant data to arrive at better estimates of benefits and costs.

The efficiency criteria of benefit-cost analysis states that a project is considered efficient and should be undertaken if allocative benefits exceed allocative costs. However, governments often consider not only efficiency, but income distribution effects, environmental impact, and regional development amongst other objectives. Thus in the case where the recreation potential of an ARRW is being analyzed, the decision-maker might consider the merits of the project by itself -- i.e., are the benefits greater than the costs (or is the net present value equal to or greater than one)? Secondly, the decsion-maker may compare the net present value of the ARRW project to the net present value of other similar recreational projects (for example, developing a new park). In the latter situation, the net present value of the ARRW may not be positive but it may compare more favourably in monetary terms than other recreational projects. A government interested in expanding the recreation facilities of the province would choose the project with the greatest net present value -- albeit the value is negative.

The Countryside Commission in England has designed a benefit-cost analysis specfically for the purpose of converting ARRW into a recreational resource.[4] The description of the analysis is reprinted in Appendix J.

Step 6: The Decision

The assessment in Step 5 will result in a compilation of relevant information and ultimately a decision. The decision-maker may be the researcher himself. Alternatively, the researcher may present the assessment containing the summaries to the decision-maker who then decides on the basis of this assessment.

The steps comprising the conceptual framework for assessing the recreation potential of ARRW have been completed. The decision has been made. Next, the decision-maker must plan how to implement the program (if that is the choice).

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[4] J.H. Appleton, Disused Railway in the Countryside of England and Wales (London: Her Majesty's Stationary Office, 1970).

CHAPTER 5

CONCLUSIONS

Summary

The Hall Commission's recommendation for the abandonment of 633 miles of rail line will effectively release approximately 7,765 acres of land in the province of Manitoba alone. This is not an insignificant amount of land when one considers the increasing land use pressures. It is also significant in that the rail line abandonments are occurring in the southern portion of the province -- an area where agriculture and urban populations predominate.

While much of the land of the rights of way may revert to agricultural use, some may be appropriate for other uses. Recreational use including cross-country ski trails, bicycle paths, horse trails, snowmobile trails, linear parks, and wildlife habitats are one such alternative. Experiences of various community groups and government agencies in the United States and Ontario are indicative of some of the attempts to convert abandoned railway rights of way into a recreational resource.

In order to assess the recreation potential of an ARRW, a conceptual framework was developed. The major components of the framework include:

- identification of the ARRW under investigation
- a rails to trails checklist
- a public information process
- a community survey
- a survey of trail proponent groups
- response of government officials
- a benefit-cost analysis
- assessment
- and the decision.

Each component guides the prospective researcher through a process of accumulating information for purposes of evaluating the recreation potential of the ARRW. The framework may be utilized by an individual researcher, a community group, a trail proponent group, or a government agency.

The conceptual framework was developed on the basis of information collected regarding the American and Ontario experiences; interviews with government personnel, community members and trail group members; and the exploratory investigation of four ARRW. The nature of the study was unique and the results are presented to assist future researchers in a systematic accumulation of data for purposes of assessing recreation potential of ARRW. The framework enables the researcher to consider the physical characteristics of the ARRW, community and trail group interests, and government support.

On the basis of the exploratory investigation of the four abandoned railway rights of way, the Carman Subdivision was considered most appropriate for recreational development relative to the other ARRW examined. Located close to population centres of southern Manitoba, the Cardinal to Roseisle ARRW can offer a unique outdoor nature experience to the cross-country skier, bicycle rider, or hiker. The ten mile long right of way winds through a ravine, crosses streams, and passes an abandoned brick mill and an alpine ski resort.

The Tonkin Subdivision ranks second as it is located further from Manitoba's cities. However, the Dropmore-Shellmouth ARRW runs parallel to the scenic Lake of the Prairies, a reservoir created by the Shellmouth Dam, and passes through the western end of Assessippi Provincial Park.

Less winding than the above two ARRW, the Varcoe Subdivision ranks third as a potential recreation resource. The 60 mile length of the Varcoe to MacGregor ARRW would be most appropriate as an inter-connecting link in a transprovincial or transcontinental trail. Attractive features along the ARRW include the Carberry Sandhills and a Wildlands Conservation Project.

Evaluation of a fourth right of way, the Inwood Subdivision, led to the conclusion that it was not suitable for recreation purposes.

The physical characteristics of the above four ARRW were evaluated on a comparative basis. The evaluation should be regarded as tentative, as the community and trail group surveys were inadequate for statistical purposes.

Prospective researchers may wish to examine only one ARRW. In such a situation, the researcher should compare the ARRW of study to

an "ideal" ARRW -- that is, what are the shortcomings of the study ARRW in comparison to one that exhibits the ideal characteristics?

The objective of the study was to develop a conceptual framework to assess the recreation potential of abandoned railway rights of way. The framework is outlined in Chapter 4. The exploratory study and methodological basis of the framework is contained in Chapter 3. The results of this study will assist future researchers in a systematic evaluation of the physical characteristics of the ARRW and the interests of communities, trail groups, and governments with regard to the recreational development of abandoned railway rights of way.

Potential Problems

A project seldom proceeds without encountering a number of obstacles. Throughout the research process a number of problems were perceived with regard to converting ARRW into a recreational resource. Potential problems are as follows:

1. There is a lack of awareness among Manitobans of the process of rail line abandonment and any regard for future uses. It may be simply described as a "non-issue" to many individuals.
2. Generally, the population thinks and plans in the present. A comment expressed by a number of individuals was: "There is plenty of open space today. Why try to conserve it?"
3. Provincial Parks and Department of Renewable Resources personnel, and trail groups support the concept of rails to trails. On the other hand, rural residents are more reluctant* to accept the idea and would probably resent a rails to trails project "imposed" on the community by outside influences. In other words, the community should be involved in the initial planning stages of a trail proposal. This was the case for the rails to trails projects in the U.S.
4. There is the unsettled problem of the future ownership of ARRW and the payment of taxes.
5. Farmers may fear trespassing or vandalism by trail users on ARRW crossing their property.

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*This is the impression of the researcher. An adequate survey would have to be conducted to bear out the truth of this statement.

6. Problems of multiple and conflicting trail use may have to be resolved.
7. Future use of the ARRW may present a problem. Generally, farmers want the land in question for agricultural purposes; "environmentalists" feel it should be maintained for wildlife habitat; and "recreationalists" support the concept of rails to trails and/or wildlife conservation areas.

Limitations of the Study

The planning process can be divided into the following steps:

1. introduction of a concept or philosophy
2. formation of goals
3. analysis
4. alternate strategies
5. plan of action.

The research presented in this practicum coincides with the first step of the planning process. The concept introduced is the utilization of derelict lands as a recreation resource -- or more specifically, the conversion of abandoned railway rights of way into recreational trails. A review of the literature revealed that this concept is relatively new. A few attempts have been tried but there exists little documentation of the actual experiences. Thus the nature of the study was exploratory. A conceptual framework to assist future researchers in assessing recreation potential of ARRW was the outcome of the exploratory study. The framework is also suitable for application to any trail -- not only abandoned railway rights of way.

The practicum focused on recreational uses of ARRW. However, a wide range of alternative uses of ARRW were suggested by rural residents, trail group proponents and government personnel. Suggestions included: landing strip for small aircraft, flower gardens, tourist railroads, race tracks, irrigation supply right of way, cablevision route, pipelines, hydro transmission corridors, and agriculture. These uses were outside of the scope of the study and may be areas for future research.

APPENDIX A

ROSEISLE TO CARDINAL RIGHT OF WAY

Checklist for Rails to Trails Potential

1. Physical Measurements
   - 8.5 miles in length
   - approximate width of right of way is 100 feet
   - the roadbed is about 25 feet wide

2. Geographical Location
   Proximity to Users
   - 50 miles southwest of Winnipeg (population of 500,000) on P.T.H.#3
   - 120 miles southeast of Brandon (population of 35,000)
   - 15 miles west of Carman (population of 2,000)

   Proximity to Provincial and Local Recreation Facilities

   Stephenfield Provincial Recreation Park is located 5 miles northeast of the ARRW. Situated beside the Boyne River Reservoir, the park has a capacity of 120 campsites and offers swimming, fishing, boating and waterskiing opportunities. A trail between Cardinal and Roseisle would add diversity to the recreational activities available and may lessen the pressure of users in the Stephenfield Park.

   Snow Valley Ski Resort is located three miles west of Roseisle and adjacent to the right of way. The resort would make an ideal starting or finishing point for a trail. In the winter the facilties could be used by cross-country skiers seeking warm shelter before making a return journey to Cardinal. Alternatively, the skier could arrange to be picked up at this point.

   The nearby town of Carman has an outdoor swimming pool, golf course and park.

   Proximity to Mass Transportation

   The town of Carman is served by Greyhound and Grey Goose Buslines and Canadian National Railways.

3. General Condition of Roadbed

   Since 1962, the track between Roseisle and Cardinal has been impassable.[1] Canadian National Railways applied to the Canadian Transport Commission in 1966 for permission to abandon the Carman Subdivision between Roseisle and Notre Dame Junction. Permission was granted in 1975. At the time of abandonment,

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[1] Canadian Transport Commission, "Summary of Information Related to the Application of Canadian National Railways to Abandon the Carman Subdivision", October 1975, p. 2.

CN described the physical condition as such:

> The rail is mainly 60 lb. rolled in 1902 and 1904. The curves, bridges and turnovers are tie-plated and rail anchors are in place on most of the trackage. There are about 2800 treated ties per mile and about 50 per cent of these are salvageable. There is little or no ballast on the line. None of the bridges in this portion of the Carman Subdivision are considered safe for the operation of traffic.[2]

A field trip in June 1977 revealed that approximately one and a half miles of ties and rails have been removed from the Cardinal end of the line. Work crews were in the process of removing the remainder of the ties and rails.

The 8.5 miles of trackage between Cardinal and Roseisle contains 16 bridges. As mentioned above, their condition is unsafe for trains. However, minimal upgrading may only be required for pedestrian traffic. Alternatively, some bridges could be replaced with boardwalks across the streams. The stream embankments along the roadbed would provide challenging hills to the cross-country skier.

There is some fencing evident along the right of way but much has fallen into disrepair. If trail use was made of the right of way, fencing the entire ARRW would probably be unnecessary. The ARRW follows a ravine rendering much of the adjacent farmland inaccessible.

Mention was made in briefs submitted to the Hall Commission Hearings of frequent flooding (almost annually) of this portion of the Carman Subdivision.

4. Condition of Title

Canadian National Railways owns the right of way in the form of a fee simple title. In granting CN the permission to abandon operations in 1975 of the Roseisle to Notre Dame Junction portion of the Carman Subdivision, the Canadian Transport Commission stated:

> With reference to the disposition of right of way property by the applicants after gaining authority to abandon operation over this line, we have listened carefully to the applicant's policy in this matter. This policy has been stated in other cases but we think it is important that it be restated during the course of each branch line abandonment application. We have made it clear in the past that we do not consider we have jurisdiction to order a railway company to take any specific steps when disposing of abandoned right of way property. Nevertheless, we consider it our duty to require the applicants to make known their policy in this regard in order to alert adjacent landowners and local and provincial governments to the availability of land which could be converted to more appropriate contemporary uses.[3]

CN has described the abandonment procdure for this portion of the line as follows:

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[2] Ibid., p. 4

[3] Canadian Transport Commission, Decision , File No. 39310.102 (Carman, Manitoba: October, 1975), p. 3.

CN's policy, has been, subject to internal requirements, to offer abandoned rights of way to various levels of Government, then to adjoining owners and then to interested parties. This process is now underway and the Province of Manitoba has shown an interest in acquiring the 9.58 miles between Roseisle and Notre Dame Junction as a conservation.... the Federal Government is presently reviewing abandonment policies including the disposition of lands.[4]

5. Topography

A naturalist's decription of the right of way follows this Checklist.

A field trip revealed that the ARRW winds through a ravine that is traversed with many creeks, ponds, bluffs, gorges, embankments and valleys. The low lying areas exhibit marshland vegetation while the dryer lands contain prairie and grassland vegetation. The ARRW is lined with trees such as oak, elm, willow, or maple. The gorges reveal interesting geological formations. Outcroppings of argillaccous limestone of the Cretaccous age are exposed. Some of the streams may provide a "catch" to the lucky fisherman. Sections of the ARRW are surrounded by embankments as high as 15 to 75 feet -- an important consideration for a cross-country skier in a Manitoba winter. Open farmland or prairie is not visible to the trail user. Unlike may straight and monotonous rights of way, the Cardinal to Roseisle is a winding easement providing panoramic views of the valleys and bluffs. The scenery is very different from the nearby prairie landscape.

As noted in the naturalist's report, there is opportunity for nature studies of indigenous flora and fauna. The maintenance of the area as a wildlife refuge would be compatible and complementary to the non-motorized trail use of the ARRW. Cross-country skiers, hikers, and bicycle riders could enjoy this unique area of southern Manitoba without disturbing the vegetation and wildlife.

6. Points of Special Interest

Leary's Siding, located three miles west of Roseisle, is the site of an abandoned brick mill that dates back 45 years. Many of the houses in the town of Carman were built with bricks from this factory. The unique and uncommon structure would be a point of historical interest to the prospective trail user. It is located adjacent to the ARRW.

As previously mentioned, the ARRW passes by the Snow Valley Ski Resort.

Soft argillaccous cretaccous limestone is located near Leary's Siding and Babcock ($1\frac{1}{2}$ miles east of Leary's). If surfacing of the ARRW for trail use was ever required, the nearby limestone could be utilized.

7. Proximity to Service Facilities

Parking and comfort stations are available at the Snow Valley Ski Resort. Stephensfield Provincial Recreation Park, located 5 miles northwest of the Roseisle end of the ARRW, offers 120 campsites. Motel and hotel accomodation, restaurants, and shopping conveniences are available in the town of Carman.

At the western end of the ARRW near Cardinal, the right of way has a clearing of sufficient width to accomodate a picnic site and/or parking facilities.

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[4] G.H. Nerbas, Regional Counsel, CNR, Letter dated August 12, 1977.

8. Access Points

The ARRW is accessible at Cardinal via P.T.H.#244 or at Roseisle via P.T.H.#245.

9. Maintenance and Management

Waste collection facilities could be maintained at both the Cardinal and Roseisle termination points.

Local trail and conservation groups are a possible source of volunteer aid in maintaining the facilities.

Summary of Checklist

The information recorded in the Checklist indicates the abandoned CNR right of way from Cardinal to Roseisle is highly suitable for recreational trail development. The winding character of the ARRW and the unique and interesting landscape and vegetation warrants the recommendation of the following uses:

- cross-country skiing
- nature hikes and interpretative studies
- bicycle path
- wildlife refuge.

A horse trail is another possibility. Horses may however, disturb the wildlife and vegetation of the ARRW. Compatibility of horses with the other uses should be considered.

Snowmobile use is not recommended for two reasons:

a) incompatibility with other uses; and
b) The ARRW winds in and out amongst trees, gorges and streams and may be unsafe for snowmobile use.

The favourable and unfavourable characteristics of the ARRW with regard to the above recommended uses are:

favourable

- vegetation and wildlife
- variety of landscape including streams, gorges, bluffs, and bridges
- winding character of right of way
- nearby recreational facilities and services
- close proximity to populated areas (within a two hour drive)
- supplies of limestone in the area if needed for surfacing
- access roads
- the length is an appropriate distance for trail use.

unfavourable

- ARRW may be subject to flooding in the spring
- one-way route (that is, not a loop trail)

A Naturalist's Description of the Roseisle to Cardinal ARRW (Carman Subdivision)

A number of plant communities are represented along the 100 foot wide right of way passing through the "Carman" gorge. A casual field trip through the area on June 16, 1977 led to the descernment of the following vegetation communities:

marsh
willow
prairie
young aspen
aspen
oak
elm/maple.

Vegetation type was observed to be closely related to the physical terrain and the consequent moisture level available. Low-lying areas were generally wetter and exhibited plants which require greater moisture levels to survive.

Marsh

The marsh community was the least represented along the abandoned railway right of way (ARRW). A small marsh of the type typical of south-western Manitoba was located at the Roseisle end. Cattail and Bullrushes were noted to surround a shallow pond. The level of land rose towards the railway bed and as a result of the reduced moisture level the Cattail and Bullrushes gave way to willow. Additional marshes were not observed. This could be the result of the nature of the water system of the "gorge". Spring run-off would result in a rapid, cool stream of water passing through the existing channels. The water channels probably would not hold a sufficiently large amount of water in successive summers to allow for development of a pond (marsh).

Willow

The willow community was relatively infrequent and occurred in association with low wet areas.

Prairie

Prairie vegetation characterized the high, well-drained areas. The vegetation typically observed in these openings were rose, hawthorn, snowberry, aspen saplings (less than 3 feet in height), Canada anenome, wild peavine, northern bedstraw, common sunflower and goat's beard.

Young Aspen

Areas similar to the above, but not as well-drained, exhibited a greater number of aspen. The "young aspen" community consisted of a dense stand of 8 to 12 feet high trembling aspen.

Aspen

The aspen community was found to be common and typically present in an area abutting an embankment. This community was composed of aspen 15 to 25 feet in height and was found to be relatively open (in comparison to the "young aspen" stand and the individual balsam poplar). The ground

cover observed within this community was: snowberry, cow parsnip, tall meadowrue, black snakeroot, golden alexander.

Oak

The oak community was characteristic on the more gentle sloping embankments in the gorge (sometimes bordering the aspen community). The oak is an indication of the drier conditions.

Elm/Maple

This "riverbottom" community type was observed in the deep ravines in close proximity to the stream. The ground cover associated with these woodland trees (elm, maple, cottonwood, green ash) included nodding trillium, grape, and moonseed.

As is evident from the above description of the vegetation, the ARRW exhibits a variety of vegetation communities or habitats. Abandoned a number of years ago, the right of way provides a "more-or-less" natural refuge for wildlife. (The terrain is not suitable for agricultural purposes.) Although relatively few songbird species, raptors (only one -- the red-tailed hawk) and waterfowl were observed, these numbers could be increased with management and maintenance (or conservation) of the vegetation. Such management would enhance not only habitat, but also the outdoor experience (or nature experience) of the hiker, naturalist, cyclist, cross-country ski enthusiast, etc. Management of the area for recreation and wildlife habitat would require careful planning and implementation. The most important and first step would be to design the ARRW for recreational use compatible with the conservation of wildlife habitat -- i.e., snowmobile trails and wildlife are not compatible. Another consideration in management of the ARRW for wildlife habitat is the small area or width. Management for wildlife would require the purchase of strips of land adjoining the ARRW or the assurance that this land would not be used for another purpose but left in its natural state. In the case of the Roseisle-Cardinal ARRW, the assurance may be a function of the terrain and soils of the area as it is not suitable for farming.

Few mammal species were observed on the field trip. This could be due to the time of day the ARRW was hiked. Alternatively, the recent abandonment and the small area of wildlife habitat may account for the low mammal populations. Generally, this region of Manitoba is a productive wildlife area. Mammals typically seen are red fox, cottontail rabbit, white-tailed deer, skunk, and weasel. These mammals are important to the nature or interpretative experience. Other mammals probably present would include the deer mouse, boreal redback, vole and meadow vole. Although upland game birds (such as ruffed grouse, sharp-tailed grouse, wild turkey, gray partridge) were not observed, these may be present or could be introduced if the ARRW was to be managed for wildlife and recreation purposes.

The vegetation along the ARRW provides the necessary habitat requirements for prairie wildlife and offers a distinct opportunity for interpretation. The large variety of vegetation types are closely related to the physical terrain, geology and geomorphology of the area and thus provide an opportunity for the discussion of plant ecology in interpretative events. An additional facet of plant ecology -- succession -- is also apparent along the ARRW. Successional stages from marsh to willow swamp in wet areas, or marsh to prairie to woodland, are represented and could be discussed in interpretative events.

Management of the ARRW will be necessary to maintain the wide diversity (marsh to Manitoba maple/elm woodland) of the area. Management will be most important for the existing prairie areas due to the quick succession of trembling aspen and shrubs such as rose, hawthorn, and snowberry into these open areas. The recent intense interest in the regeneration of prairie native to Manitoba would lend support to any efforts to set aside the ARRW for conservation/recreation purposes. The International Biological Program (IBP), Manitoba Committee for the Conservation of Terrestrial Ecostystems has emphasized that the true prairie vegetation in the southern part of the province has all but vanished. Current efforts exist to recognize the remaining fragments of this once extensive grassland and the initiation of appropriate measures to insure their preservation.[1]

Concentrations of prairie wildflowers such as Canada Anenome, wild peavine, northern bedstraw, common sunflower, and goat's beard in the spring and early summer indicate that the ARRW would exhibit a large number of forbs characteristic of Manitoba's native prairies. It would therefore be valuable to conduct field trips to the area to inventory the existing forbs and grasses. The actual value of the patches could be assessed and the evidence utilized to support the management of the ARRW for recreational purposes.

Factors which support the establishment of a trail along the Roseisle to Cardinal ARRW include:

1. the public's increasing desire for opportunities for nature appreciation;
2. the variety of vegetation cover and terrain; and
3. the possibilities of management for the preservation of wildlife habitat exhibited along the ARRW.

The ARRW has the potential for an exciting and educational outdoor recreation experience.

Recommendations

1. An inventory should be conducted of the vegetation along the ARRW -- particularly the prairie and "riverbottom" (elm/maple) -- to discover the presence of rare or endangered plants.
   Example: (a) Nodding trillium and grape are unique.
   Example: (b) Are yellow lady-slippers, closed gentian and big bluestem (grass) found here?

2. A mammal and bird inventory should be conducted in conjunction with the vegetation inventory for two purposes:
   (a) to lend support to the trail proposal and the concept of "rails to trails"; and
   (b) for use in planning for interpretation and other outdoor educational experiences.

3. Non-motorized trail use of the ARRW compatible with the maintenance of wildlife habitat is recommended.

4. The ARRW is recommended as an outdoor education trail for schools located in the area.

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[1] Levin, M.H. and G.M. Keleher. "Vegetation of a Prairie Near Winnipeg, Manitoba" in The Canadian Field-Naturalist, 1969. Vol. 83: 113-122.

Wildlife Species Observed June 16, 1977

Birds	
Blue-winged Teal	Ánas discors
Yellow Warbler	Dendroica petéchia
Barn Swallow	Hirúndo rústica
American Goldfinch	Spinus tristis
Short-billed Marsh Wren	
Red-tailed Hawk	Búteo jamaicénsis
Mammals	
Thirteen-lined Ground Squirrel	Citellus tridecemlineatus
Franklin Ground Squirrel	Citellus franklini
Reptiles	
Red-sided Garter Snake	

Vegetation Observed June 16, 1977

Trees	
Bur Oak	Querous macrocarpa
Eastern Cottonwood	Populus deltoides
Trembling Aspen	Populus tremuloides
Balsam Poplar	Populus balsamifera
Willow	Salix sp.
Green Ash	Fraxinus pennsylvanica
Manitoba Maple	Acer negundo
American Elm	Ulmus americana
Shrubs	
Snowberry	Symphoricarpos occidentalis
Wild Rose	Rosa sp.
Red Osier Dogwood	Cornus stolonifera
American Hazelnut	Corylus american
Hawthorn	Crataegus sp.
Saskatoon	Amelanchier alnifolia
Herbs	
American Vetch	Vicia americana
Golden Alexander	Zizia aurea
Black Snakeroot	Sanicula marilandica
Tall Meadowrue	Thalictrum dasycarpum
Wild Licorice	Glycyrrhiza lepidota
Prairie Lily	Lilium philadelphicum
Wild Columbine	Aquilegia canadensis
Wild Peavine	Lathyrus venosus
Canada Anenome	Anenome canadensis
Northern Bedstraw	Galium boreale
Goat's Beard	Tragopogan dubius
Common Sunflower	Helianthus annuus
Hedge Nettle	Stachys palustris

Herbs (continued)	
Spreading Dogbane	Apocynum androsaemifolium
Nodding Trillium	Trillium cernuum
Poison Ivy	Rhus radicans
Wild Mint	Mentha arvensis
Cow Parsnip	Heradleum lanatum
Moonseed	Menispermum canadense
Grape	Vitis sp.
Horsetail	Equisetum sp.

Liese Dorber
June 1977
Natural Resource Institute

Provincial Park Lands Criteria

The Roseisle to Cardinal ARRW compares favourable with the Provincial Park Lands criteria outline in Appendix I. With regard to suitability:

- The ARRW represents a historical travel route dating back to 1902.
- The abandoned brick mill, the variety of vegetation, streams, and scenic landscape represent a diversity of resources.
- The 10 mile length provides opportunities for picnicing and interpretation.
- The ARRW is not interconnected with other trails although it does pass and alpine ski resort.
- The ARRW passes through a ravine which adequately safeguards and preserves the character of the right of way from adjacent land uses.
- For purposes of control and management, an interested group may purchase the full title to the right of way from the CNR. Price is determined by the market.
- With regard to the possiblity of a National Trail System, the ARRW is not interconnected with trail systems of other provinces. It does, however, run in an east-west direction and the potential for interconnecting trails exists.
- Most appropriate uses would be foot or non-motorized bicycle paths and a cross-country ski trail. A horse trail may be another possiblity depending on the compatibility with vegetation and wildlife.
- Development requirements include levelling of the roadbed, interpretation programs, provision of picnic and parking facilities near the Cardinal termination point, and upgrading or removal of some bridges.

APPENDIX B

DROPMORE TO SHELLMOUTH RIGHT OF WAY

Checklist for Rails to Trails Potential

1. Physical Measurements
   - approximately 10 miles in length
   - the right of way is approximately 100 feet wide

2. Geographical Location
   Proximity to Users
   - Brandon is located approximately 120 miles southeast
   - Roblin is approximately 15 miles northeast of the Assiniboine River Valley
   - Russell is 15 miles woutheast of the Valley.

   Proximity to other Recreation Facilities
   - The ARRW passes through Assessippi Provincial Park. Available facilities include campgrounds, beaches and boat launching, nature trails, and a snack bar.
   - The ARRW runs along the west side of the Lake of the Prairies. Winter ice fishing is a popular activity on this reservoir created by the Shellmouth River Dam.
   - A game farm is located a short distance from the Dropmore end of the ARRW.
   - The southgate entrance to Riding Mountain National Park is approximately 120 miles due west of the ARRW.
   - The closest towns serviced by public transportation are Roblin and Russell.

3. General Condition[1]

Constructed between the years 1908 and 1928, the CN line has not been in use recently. Grasses and shrubs have grown along the roadbed. CN classifies the rail subgrade, and drainage as in fair condition. Ninety per cent of the ties are treated and in fair-to-good condition. The balance of the ties are in poor condition. There is a negligible amount of badly fouled pit-run ballast. Of the 17 wooden trestles on the line, 15 are considered in good condition and two are in poor condition. There are also two steel bridges with wooden approaches -- one in good condition and the other fair.

4. Condition of Title

CN has a fee simple title to the right of way. The federal government has made no decision with regard to the disposition of ARRW.

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[1]Canadian National Railways Submission to the Grain Handling and Transportation Commission Regarding the Tonkin Subdivision at Oakburn, Manitoba, February 12-13, 1976.

5. Topography

The right of way runs parallel to the Assiniboine River and Lake of the Prairies. Picturesque views of the Valley are a positive factor when considering the conversion of the ARRW into a recreational trail. One side of the ARRW is protected by an embankment covered with shrubs and wild flowers. The other side is open to a ravine extending towards the river. About half-way along the 10 mile stretch, the Shell River empties into the Assiniboine at the Shellmouth Dam. Wildlife (deer and porcupines,etc.) and deverse vegetation abound at the juncture of the two river valleys.

6. Points of Special Interest

The ARRW passes by two abandoned station houses -- each located at the small communities of Dropmore and Shellmouth. The abandoned station houses may be appropriate for rest stops or hostels for trail users planning to make a round trip on the right of way.

Other attractive features to the prospective trail user include an abandoned log cabin near Shellmouth and an old railroad bridge (built in 1925) over a creek. The bridge may provide fishing opportunities.

6. Proximity to Service Facilities

The towns of Russell and Roblin are located 15 miles from the ARRW. Restaurants, motel and hotel accommodation, and shopping conveniences are available there. The small towns of Shellmouth and Dropmore have general stores.

Trail users needs may also be accommodated by the facilities at Assessippi Provincial Park during the summer months.

7. Access Points

The ARRW is accessible at both Dropmore and Shellmouth via provincial road #482. The road also bissects the ARRW at the midpoint of the 10 miles (near the Shellmouth Dam) and therefore provides a third access point.

8. Maintenance and Management

The access points could also accommodate waste collection vehicles. The ties and rails have yet to be removed and the remaining bumps would require levelling. Upgrading of bridges and the addition of guardrails would be necessary for public safety.

Maintenance and management may be best achieved by integrating the ARRW into the nature trail system of Assessippi Park.

Provincial Park Lands Criteria

Comparing the Dropmore to Shellmouth ARRW to the Provincial Park Lands Criteria, the suitable characteristics are:

- The history of the Tonkin Subdivision dates back to 1908 when the Canadian Northern Railway Company began construction of the line.[2]
- Starting at Dropmore, the ARRW descends the Assiniboine River Valley and runs parallel to the Lake of the Prairies, a reservoir created by the construction of the Shellmouth Dam. Assessippi Provincial Park is located

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[2] Hall Commission Report, p. 377.

across the lake from the ARRW and is accessible via provincial road #482. The ARRW winds through the valley for about 10 miles and ascends at Dropmore.

- The nearby location of the Provincial Park affords camping, picnicing and swimming for the prospective trail users.
- Recreational development of the ARRW would complement the existing nature trails in the Park.
- For part of the way, the river on the one side of the ARRW and the embankment on the other side provide natural boundaries to preserve the character of the easement. On the floor of the Valley, the ARRW does pass through some agricultural land. Small shrubs, trees, and fences separate the farmland and ARRW, however.
- Provincial Government acquisition of the right of way would allow officials of Assessippi Provincial Park to exercise the management and maintenance duties necessary to convert the ARRW into a trail.
- Located adjacent to the Saskatchewan-Manitoba border, the Dropmore-Shellmouth ARRW may have potential as a link in a National Trail System (if it were ever established).
- Appropriate uses for the ARRW include hiking trail, bicycle path, horse trail, and cross-country skiing trail.
- Recreational development (or trail use) of the ARRW would require removal of the ties and rails, levelling of the roadbed, and provision of guardrails on one bridge. Interpretation programs would be an asset. Other facilities such as camping and picnic areas are located nearby in the Park. A comfort station for ARRW trail users should be provided.

APPENDIX C

VARCOE SUBDIVISION

Checklist for Rails to Trails Potential

1. Physical Measurements
   - approximately 60 miles in length
   - the right of way is approximately 100 feet wide

2. Geographical Location
   Proximity to Users
   - The western end of the ARRW is located approximately 15 miles north of Brandon. P.T.H. #10 bissects the right of way.
   - The ARRW ends at MacGregor (located 60 miles west of Brandon on the TransCanada Highway.

   Proximity to Other Recreational Facilities
   - Spruce Woods Provincial Forest and Spruce Woods Provincial Park are located south of the TransCanada Highway and near the towns of Douglas and Carberry.
   - Riding Mountain National Park is located 45 miles from the western end of the ARRW on P.T.H. #10.
   - A Wildlands Conservation Project surrounds the ARRW near Oberon.

3. General Condition
   The right of way is heavily grown over with tall prairie grasses and is barely distinguishable from the surrounding countryside in places. From Varcoe to Wellwood the ites and rails are intact but barely visible because of heavy growth. Between Wellwood and MacGregor the ties and rails have been removed -- entirely in some places and stacked in piles along the right of way in other places.

4. Condition of Title
   CP Rail owns the right of way. No decision has been made regarding the disposition of the property.

5. Topography
   The ARRW is flat, generally straight and lined with bushes and trees such as oak and poplar. In contrast, the surrounding country is hilly and often swampy, or bushy and treed. Some of the land is under cultivation. East of Oberon, the right of way passes through a Wildlands Conservation Project -- an area of dense forest. The Wellwood-MacGregor portion of the line passes through a peculiar land formation, the Carberry Sandhills. The presence of hoof prints and manure indicate that this portion is used by horseback riders.

The most interesting and scenic part of the ARRW is between Wellwood and MacGregor.

6. Points of Special Interest

The Wildlands Conservation Project and the Carberry Sandhills are worthy of special mention. These two areas could make a significant contribution to an interpretative program in the event a trail is established.

There are abandoned schoolhouses in the towns of Wellwood and Edrans which may serve as rest stops for the prospective users. An old cemetary dating back to 1912 is located beside the ARRW at Moore Park.

7. Proximity to Service Facilities

The ARRW passes through the villages of Moore Park, Brookdale, Oberon, Wellwood and Edrans. The towns are small and offer few services -- usually a general store and maybe a gas station. MacGregor, located at the eastern terminal, is the only town of significant size nearby. Hotel and motel accommodation, restaurants, and shopping conveniences are available there.

The small villages and abandoned buildings may be suitable locations for picnic sites, campgrounds, or rest stops. There are opportunities for picnic sites in the Sandhills along the ARRW.

8. Access Points

A number of roads cross the right of way and may be used to reach the ARRW. The roads include:

- P.T.H.# 10
- provincial roads #468, #464, #258, #353 and #352
- TransCanada Highway.

9. Maintenance and Management

The numerous access roads could accommodate waste disposal vehicles readily. The roads will also facilitate removal of ties and rails.

Trail use of the ARRW would require levelling of the roadbed and cutting back brush or tall grasses in some locations. The length of the ARRW (approximately 60 miles) would require the provision of rest stops and overnight facilities such as campgrounds. Winter campgrounds are another consideration for the winter trail enthusiasts. As mentioned, some of the smaller towns may be capable of developing the necessary facilities.

Local trail, conservation or community groups are a possible source of volunteer labour in maintaining the facilities. Recreational development of ARRW may be a possibility for a youth summer employment program for the students in the area.

Provincial Park Lands Criteria

The Varcoe to MacGregor ARRW compares to the Provincial Park Lands Criteria as follows:

- The Varcoe Subdivision has a history dating back to 1889.
- The ARRW passes by historical structures such as old schoolhouses and a cemetary. One-elevator prairie towns representative of the days when railroads were a prominent means of transportation are also located along the ARRW. Unique natural features include the Carberry Sandhills and a Wildlands Conservation Project.
- The ARRW is approximately 60 miles in length and offers the challenge of an extended trail to the enthusiastic horse rider or bicyclist. The small towns could provide the necessary facilities to the long distance trail users.
- Although the ARRW is not presently interconnected with other trails, the extended route would be an ideal link in a transprovincial or transcontinental trail. The close proximity of the ARRW to the urban population of southern Manitoba is a favourable feature.
- The right of way is approximately 100 feet wide. The shrubs and trees and fences would adequately safeguard and preserve the character of the ARRW.
- CP Rail has the title to the right of way. Controlled land use of the ARRW as a trail would require full title acquisition or an easement.
- Recreational development of the ARRW would require removal of the ties and trails, levelling of the roadbed, maintenance of a smooth surface if used for cycling, intrepretation programs, and shelter facilities for the trail users.

APPENDIX D

PRELIMINARY COMMUNITY QUESTIONNAIRE

The following questionnaire was distributed to a non-probability sample of residents (example: town councillors and mayors) of the Russell-Roblin and Carman areas. The purpose of the questionnaire was exploratory. The structure of the questions were thus open-ended and a variety of responses were generated. The responses received from the preliminary questionnaire were used in the construction of the close-ended questions in the revised community survey developed in Chapter 4.

With regard to the following questionnanire, question #1 identified the ARRW to which the questions referred.

QUESTIONS

1. The Hall Commission has recommended abandonment of the Canadian National Rail line between Russell, Manitoba and MacNutt, Saskatchewan (32.7 miles).
   a) What effect will this have on your community?

   b) Do you have any suggestions for future uses of the abandoned right of way?

2. Are there other members of your community that might be in agreement with you in the uses you have suggested? Who?

3. How might your community benefit if abandoned rights of way were put to these uses?

4. What resources (eg. time, labour, materials, money) could your community contribute towards converting the rights of way to these uses?

5. How do you spend most of your leisure time?

6. What type of recreational activity do you most frequently participate in? How often (approximately)?

7. What do you think is the most popular leisure time activity for members of your community?

8. What type of recreational facilities are located in or near your community (eg. swimming pools, lakes, campgrounds, ski hill, etc)?

C. 9. Have you considered the possibility of converting the abandoned railway right of way into a recreational trail? For example, a right of way passing through a scenic river valley might be used as a bicycle path, cross-country ski trail or a horse trail. Please elaborate (rather than just yes/no).

10. Abandoned railway rights of way have been converted into recreational trails ("rails to trails") in certain areas of the United States and Great Britain. Do you know of any volunteer groups or individuals in your community that might be interested in participating in a "rails to trails" project?

11. If so, what aspect -- trail planning, public relations, financial, preparation of trail proposal, other?

12. In what way do you think a "rails to trails" project might be beneficial to your community?

13. What do you think of a "rails to trails" project as a source of employment or economic benefit for certain groups in your community? For example, students or the elderly could be responsible for construction, maintenance, and rules of conduct along the trail. They could also act as naturalists or interpretative planners.

14. If a project to convert rights of ways to trails was undertaken, what additional facilities would be necessary?

15. A hike along the right of way would be the best way to assess the trail potential. At some time in the future, would you be interested in participating in a hike with other members of your community?

16. Would you like to receive more information with regard to potential trail development on abandoned railway rights of way?

APPENDIX E

PRELIMINARY TRAIL GROUP QUESTIONNAIRE

As explained in Chapter 3, a preliminary questionnaire was distributed to executive members of a number of trail-related or trail proponent groups in the province. The purpose and content is similar to the community questionnaire in Appendix D. However, the questions refer to ARRW in general, rather than a specific one.

QUESTIONS

1. Name of Organization:
   Address:
   Phone number:

2. Size of Membership:
   Representing what area(s):

3. Objectives and/or Activities of Group:

4. The Hall Commission has recommended the abandonment of 633 miles of railway lines in the Province of Manitoba. Does your group have any suggestions for future uses of abandoned railway rights of way that might improve the quality of life for Manitobans?

5. What else could the right of way be used for?

6. Have you heard any suggestions from other members in your group (or community)?

7. Have you thought about the possibility of converting the abandoned railway right of way into a trail? What do you think of the idea?

8. Abandoned railway rights of way have been converted into recreational trails ("rails to trails") in certain areas in the United States. Generally speaking, would a "rails to trails" project be of interest to your group?

9. Would, or could, your group contribute towards the funding of a provincial "rails to trails" project?
   (Cost estimate: A 30 mile trail was constructed on an abandoned railway right of way in Wisconsin. The trail was covered with limestone screenings at a cost of less than $2,000 per lineal mile for an 8 foot width and 4 inch crown. Annual maintenance costs in 1971 were $6,700 and attendance exceeded 25,000 in the same year.)

10. What do you think of a "rails to trails" project as a source of income for students in the summer (i.e., a STEP project)? For example, students could be responsible for construction, maintenance, and rules of conduct along the trail. They could also act as naturalists or interpretative planners.

11. How do you spend most of your leisure time? What type of recreational activity do you most frequently participate in? How often (approximately)?

12. What do you think is the most popular leisure time activity for members of your group? of your community?

13. A hike along the right of way would be the best way to assess the trail potential. Would your group be interested in participating in such a hike?

14. What facilities do you feel are necessary and/or complementary in conjunction with trail development?

15. Would you like to receive information on what communities in the U.S. have done with regard to converting abandoned railway rights of way into recreational trails?

16. Do you think a "rails to trails" project would be practical or viable within the province of Manitoba? Why or why not?

17. Would your group participate in a "rails to trails" project? If so, what aspect -- trail planning, public relations, financial, preparation of trail proposal, other?

APPENDIX F

MANITOBA NATURALISTS SOCIETY BULLETIN

In August 1977 the researcher presented a summary of the study proposal and some of the results to the Board of the Manitoba Naturalists Society. The following article is reprinted from: Manitoba Naturalists Society, Bulletin, Vol.1, No. 1, September 1977, p. 13.

Volume 1, Number 1 September 1977

Bulletin

Manitoba Naturalists Society

Jill Gooden urges program to convert rails to trails

At the last MNS Board Meeting, Jill E. Gooden of the Community Resource Centre at Brandon University, made a presentation on a special project she has undertaken. It is to identify alternative uses of abandoned rail lines. The project comes as the result of the Hall Commission's recommendation that 632.9 miles of rail line in Manitoba be abandoned immediately. If these recommendations are implemented, a significant amount of land will soon be released in various parts of Manitoba. Most rail right of ways are 100 feet wide. Jill's study purports to examine the feasibility and possibilities of converting abandoned railway rights of way into recreational trails, such as bicycle paths, cross country ski trails, hiking trails, horseback riding trails, snowmobile trails and linear parks.

Conversion of rail lines to recreational uses may help to alleviate some of the increased pressure of trail-users on the natural environment of parks. Conflicts between nature preservation and recreational use in provincial parks and national parks have intensified with increased visitor use and Jill's contention is that rail right of ways can help solve this problem.

Mr. R. Forbes, a Commissioner on the Hall Commission, has noted that three scenic branch lines in the province of Manitoba have been recommended for abandonment and may be worthy of trail development. They are: The Carman subdivision running through the towns of Carman, Graysville and Roseisle. The right of way passes through the scenic Boyne Valley and the Roseisle-Graysville section is located near a provincial campground and the Snow Valley Ski Resort. The Varcoe subdivision which runs parallel to the Trans Canada Highway between Brandon and Carberry also passes through scenic country about 15 to 20 miles north of the highway and has good trail potential. The Tonkin subdivision is a stretch of line between Russell, Manitoba and MacNutt, Saskatchewan. The right of way cuts through the Assissippi Park and follows the Shellmouth Reservoir for several miles.

The Manitoba Naturalists Society supports Jill Gooden in her project and supports the concept of converting rail lines to recreational purposes. Another possible alternative for rail line use is allowing the right of ways to return to natural growth promoting expansion of wildlife habitat. A study project for somebody?

APPENDIX G

REVISED COMMUNITY QUESTIONNAIRE

Introduction

The following questionnaire is being distributed to residents of your community. The purpose is to survey the interest of community members in a project that would involve conversion of the nearby abandoned railway right of way (ARRW) into a recreational resource. For example, some of the more scenic ARRW may be appropriate for cross-country skiing, hiking and walking, bicycling, horseback riding, snowmobiling, trail biking, as linear parks, or wildlife conservation areas. Alternatively, some ARRW may be relatively uninteresting for recreational purposes and should revert to farming.

Instructions

The questionnaire consists of four parts:

Part A: Suggested Uses of Abandoned Railway Rights of Way (ARRW)

Part B: Participation in Recreational Activities

Part C: The Use of ARRW as a Recreational Resource

Part D: Future Interest in the Project.

There are 14 questions in total. For each question, a number of responses are given. Some questions require only one answer; others may have more than one answer. Please indicate your answer(s) with a checkmark, ✓ , in the bracket ( ) following your choice.

All responses are confidential.

The Questions

Part A: Suggested Uses of Abandoned Railway Rights of Way (ARRW)

1. From the following list, please indicate the use(s) you consider most appropriate for the ARRW located in your area.

cross-country ski trails	( )
walking trails	( )
bicycle paths	( )
horse trails	( )
snowmobile trails	( )
trail bike paths	( )
wildlife conservation area	( )
farming	( )
linear parks*	( )
leave as is	( )
other; please list ----------	

*Linear Parks might include picnic or camping sites, flower beds, wading pool, historical monuments, a nature study area, etc.

2. What benefit(s) do you think your community would derive from the recreational development of the ARRW?

an additional recreational area for the community	( )
a tourist attraction	( )
a method of weed control	( )
wildlife habitat	( )
employment opportunities	( )
improvement in quality of life	( )
none	( )
other; please specify _____	

3. What disadvantages or negative impacts would your community suffer from the recreational development of ARRW? Please check the appropriate answer(s).

vandalism	( )
trespassing	( )
maintenance	( )
dollar expenditures	( )
lost farm land	( )
loss of wildlife habitat	( )
none	( )
other; please specify _____	

Part B: Your Participation in Outdoor Recreational Activities

4. In what outdoor recreational activities do you participate? Please check the appropriate answer(s).

	HOW OFTEN?		
Activity	Several Times Weekly	Weekly	Monthly or Less
golf			
hockey			
baseball			
lawn bowling			
tennis			
horseback riding			
cross-country skiing			
walking for pleasure			
picnicing			
bicycling			
nature hikes			
snowmobiling			
trail biking			
camping			
swimming			
other; please specify			

5. What types of recreational activities and facilities are readily available to members of your community?

Activity or Facility	ADEQUACY OF AVAILABLE FACILITIES				
	Very Adequate	Adequate	Inadequate	Very Inadequate	No Opinion
golf course					
skating rink					
park					
tennis courts					
bowling green					
horse trails					
open space					
cross-country ski trails					
walking trails					
picnic sites					
campgrounds					
bicycle paths					
snowmobile trails					
swimming pool					
lake					
ski hill					
other; please specify					

6. In what recreational activities would you like to participate in the future but are unable to do so now?

Activity	REASON				
	Lack of Time	No Facility Close By	Financial	Haven't Tried It Yet	No Reason/ Other
golf					
hockey					
baseball					
lawn bowling					
tennis					
horseback riding					
cross-country skiing					
walking for pleasure					
picnicing					
bicycling					
nature hikes					
snowmobiling					
trail biking					
camping					
swimming					
other; please specify					

7. In your opinion, what recreational facility(ies) is your community in most need of or would be the most beneficial to the community?

_____

_____

Why? _____

_____

Part C: The Use of ARRW as a Recreational Resource

8. What is your impression of the idea of converting the nearby ARRW into a recreational resource? Please check one answer.

very favourable	( )
favourable	( )
no opinion	( )
unfavourable	( )
strongly opposed	( )

9. What resources do you think your community could contribute towards a project that involved the conversion of ARRW into a recreational resource? Please check the appropriate answer(s).

volunteer labour	( )
materials	( )
financial assistance	( )
planning assistance	( )
public relations	( )
none	( )
no opinion	( )
other; please specify _____	

---

10. If a project to convert ARRW into a recreaticnal resource were undertaken, who do you think should conduct the program? (For example, who should be in charge of planning, administration, maintenance and promotion of the project?) Please check one answer.

the local community	( )
the government	( )
trail proponent groups	( )
a group specifically created for this purpose	( )
don't know	( )
other; please specify _____	

---

11. Who should finance the cost of converting the ARRW into a recreational resource? Please check the appropriate answer(s).

community groups ( )
municipal government ( )
provincial government ( )
private donations ( )
trail proponent groups ( )
don't know ( )
other; please specify _____

Part D: Future Interest in the Project

12. A hike along the right of way would be the best way to assess the recreation potential. At some time in the future, would you be interested in participating in a hike with other members of your community? Please check one answer.

yes ( )
no ( )
maybe ( )

13. Would you like to receive more information with regard to recreational development of abandoned railway rights of way?

Yes ( )
No ( )

If yes, what is your name and address?_____

_____

_____

14. Do you have any additional comments with regard to a project that that would convert the ARRW near your community into a recreational resource?_____

_____

_____

APPENDIX H

REVISED TRAIL GROUP QUESTIONNAIRE

Introduction

The following questionnaire is being distributed to members of various trail-related groups throughout the province. The purpose is to survey the interest of trail group members in a project that would involve conversion of abandoned railway rights of way (ARRW) into a recreational resource. For example, some of the more scenic ARRW may be appropriate for cross-country skiing, hiking and walking, bicycling, horseback riding, snowmobiling, trail biking, as linear parks, or wildlife conservation areas. Alternatively, some ARRW may be relatively uninteresting for recreational purposes and should revert to farming.

Instructions

The questionnaire consists of five parts:

Part A: Suggested Uses of ARRW

Part B: Participation in Recreational Activities

Part C: The Use of ARRW as a Recreational Resource

Part D: Future Interest in the Project

Part E: Information Regarding the Trail-related Group of which You are a Member.

There are 18 questions in total. For each question, a number

of responses are given. Some questions require only one answer; others may have more than one answer. Please indicate your answer(s) with a checkmark, ✓ , in the bracket ( ) following your choice.

All responses are confidential.

The Questions

Part A: Suggested Uses of Abandoned Railway Rights of Way (ARRW)

1. From the following list, please indicate the use(s) you consider to be most appropriate for an ARRW located in a scenic area of the province.

cross-country ski trails ( )
walking trails ( )
bicycle paths ( )
horse trails ( )
snowmobile trails ( )
trail bike paths ( )
wildlife conservation area ( )
agriculture ( )
linear parks* ( )
leave as is ( )
other; please list_____

Linear Parks might include picnic or camping sites, flower beds, wading pool, historical monuments, a nature study area, etc.

2. Of what benefit do you think recreational development of an ARRW would be? Please check the answers you consider most appropriate.

an additional recreation area ( )
a wildlife habitat ( )
a means of attracting tourists to the nearby community ( )
a method of weed control ( )
employment opportunities ( )
improvement in the quality of life ( )
none ( )

other; please specify_____

---

3. What disadvantages or negative impacts do you think would occur with the recreational development of ARRW? Please check the appropriate answer(s).

vandalism ( )
trespassing ( )
maintenance ( )
financial expenditures ( )
loss of agricultural land ( )
loss of wildlife habitat ( )
none ( )
other; please specify_____

Part B: Your Participation in Outdoor Recreational Activities

4. In which outdoor recreational activities do you participate? Please check the appropriate answer(s).

	HOW OFTEN?		
Activity	Several Times Weekly	Weekly	Monthly or Less
golf			
hockey			
baseball			
lawn bowling			
tennis			
horseback riding			
cross-country skiing			
walking for pleasure			
picnicing			
bicycling			
nature hikes			
snowmobiling			
trail biking			
camping			
swimming			
other; please specify			

5. What types of recreational activities and facilities are readily available to members of your trail group? Please check the appropriate answer(s).

Activity or Facility	ADEQUACY OF AVAILABLE FACILITIES				
	Very Adequate	Adequate	Inadequate	Very Inadequate	Not Applicable
golf course					
skating rink					
park					
tennis courts					
bowling green					
horse trails					
open space					
cross-country ski trails					
walking paths					
picnic sites					
campgrounds					
bicycle paths					
snowmobile trails					
trail bike paths					
swimming pool					
lake					
ski hill					
other; please specify					

6. In which recreational activities would you like to participate in the future but are unable to do so now?

Activity	REASON				
	Lack of Time	No Facility Close by	Financial	Haven't Tried It Yet	No Reason/ Other
golf					
hockey					
baseball					
lawn bowling					
tennis					
horseback riding					
cross-country skiing					
walking for pleasure					
picnicing					
bicycling					
nature hikes					
snowmobiling					
trail biking					
camping					
swimming					
other; please specify					

7. In your opinion, what recreational facility is most lacking in the province? _____

Why? _____

Part C: The Use of ARRW as a Recreational Resource

8. What is your impression of the idea of converting scenic and aesthetically attractive ARRW into a recreational resource? Please check one answer.

very favourable ( )

favourable ( )

no opinion ( )

unfavourable ( )

strongly opposed ( )

9. What resources do you think your trail group could contribute towards a project that involved the conversion of ARRW into a recreational resource? Please check the appropriate answer(s).

volunteer labour	( )
materials	( )
financial assistance	( )
planning assistance	( )
public relations	( )
none	( )
no opinion	( )
other; please specify_____	

_____

10. If a project to convert ARRW into a recreational resource were undertaken, who do you think should conduct the program? For example, who should be in charge of planning, administration, maintenance, and promotion of the project?) Please check one answer.

the local community	( )
the government	( )
trail proponent group	( )
a group specifically created for this purpose	( )
don't know	( )
other; please specify_____	

_____

11. Who should finance the cost of converting the ARRW into a recreational resource? Please check the appropriate answer(s).

community groups	( )
municipal government	( )
provincial government	( )
private donations	( )
trail proponent groups	( )
don't know	( )
other; please specify_____	

_____

Part D: Future Interest in the Project

12. A hike along the right of way would be the best way to assess the recreation potential. At some time in the future, would you be interested in participating in a hike with other interested individuals? Please check one answer.

yes ( )
no ( )
maybe ( )

13. Would you like to receive more information with regard to recreational development of abandoned railway rights of way?

yes ( )
no ( )

If yes, what is your name and address?_____

_____

14. Do you have any additional comments with regard to a project that would convert scenic and aesthetically attractive ARRW into a recreational resource?_____

_____

_____

Part E: Information Regarding the Trail-related Group of which You are a Member

15. What is the name and address of your organization?_____

_____

16. How many members belong to your organization?_____

17. What area(s) of the province are represented in your organization?_____

_____

18. Briefly, what are the objectives and/or activities of your organization?

_____

_____

_____

_____

_____

_____

APPENDIX I

TRAIL CRITERIA

The following pages are reprinted from two booklets:

1) Parks Branch, Manitoba Department of Tourism, Recreation and Cultural Affairs. Criteria for the Provincial Park Lands System. Winnipeg, June 1977. pp. 9-11.

2) Wm. M. Nanka. Criteria for Development: Motorized and Non-Motorized Recreational Trails. Winnipeg: Parks Branch, Department of Tourism, Recreation and Cultural Affairs, November 1975. pp. 1-10.

Criteria for the Provincial Park Lands System

Criteria for Provincial Recreational Travelways

Significance

Provincial significance is ascribed to those lineal areas of exceptional value or quality in illustrating or interpreting the natural travel routes of our provincial heritage, such as:

i. trails having natural, scenic or historic qualities that give them recreational potential of provincial significance;

ii. highways or roadways appropriately designed and located in areas that contain certain significant features relating to scenic quality, variety, accessibility, location and geographic destribution, adaptability to development, compatibility and other elements; and

iii. rivers, streams, channels, lakes, reservoirs, bays, estuaries, marshes, wetlands or lagoons, containing historical, natural or recreational values that merit protection, management and development.

To possess provincial significance, the area must reflect integrity. That means it must represent a true, accurate, essentially

unspoiled example of our historical travelways.

Suitability

Provincial Recreational Trailways:

i. Provincial Recreational Trailways should represent routes of travel significant in the history and development of the province.

ii. They should often contain or pass through a diversity of resources including those of historical, natural, cultural, recreational or scenic value.

iii. They should be several miles in length and provide opportunities for camping, picnicing and interpretation, or connect with other designated park areas that provide these opportunities.

iv. They should be interconnected with other major trails to permit the enjoyment of extended hiking or riding experiences.

v. They should have sufficient areas of land on both sides to adequately safeguard and preserve their characer.

vi. They should be controlled or managed through the use of full title acquisition, easements or zoning, and therefore, may pass through public and private lands.

vii. Where possible they should be interconnected with trail systems of other provinces in the event a National Trail System is established.

viii. Public use of these areas should be made on foot, horseback or non-motorized bicycles.

ix. Development should consist of trail improvement shelters, landscaping, interpretation and facilities for camping.

Criteria for Development:

Motorized and Non-Motorized Recreational Trails

TRAILS FOR MOTORIZED VEHICLES--SNOWMOBILES

A. Trail Development Criteria

The following is a list of criteria for the development of trails for motorized vehicles.

i. Where suitable, existing trails, old logging roads, unused roads, seismic lines, fire lanes, abandoned road beds and utility rights-of-way should be used, with upgrading where necessary to meet minimum requirements. New construction, clearing or cutting of any kind should be avoided when alternative routing is possible.

ii. Structural and natural hazards such as fences, guy wires, cliffs and banks should be avoided.

iii. Location:

(a) Trails should traverse as much *variety* in terrain, vegetation, and scenery as possible. This should be accomplished while maintaining a safe trail which does not seriously hinder resource-use co-ordination. By "resource-use co-ordination" is meant consideration of potential logging operations and provisions for possible re-routing of trails when conflicts arise.

(b) Where possible local points of historical interest, such as explorers' or fur trade routes, should be made evident within trail systems.

(c) Trail layout must be designed for both night-time and daytime use.

(d) Speed, scenery, terrain, degree of difficulty and vegetation are variables to be considered along each route. Where possible a trail should display variation in at least one of the above items every half mile.

(e) A trail system should contain open stretches of land strategically dispersed throughout the area. Such open areas permit snowmobilers to rest, to picnic, or to "open up" their machines.

iv. Trail Loops: One-way trail loops -- those which bring the snowmobiler back to the starting point -- are preferred. One-way systems are safest, maximize variety and are the most economical to construct and maintain. Main trails should not be routed through areas of special scenic or historic interest. Instead, short spur loops should take the snowmobiler into special-interest areas. All main trails should contain shorter, alternative routes within the main loop area.

v. Trail Length: Most users dislike trails that test snowmobiling ability or endurance. The most preferred loop length is 15-30 miles, with 45 miles being a practical maximum. A 5-10 mile loop should be considered as minimum.

(a) Novices' Loop: A short loop of approximately one mile should be established at the start of the trail.

(b) Travel Time: Main trails should not exceed 4 hours in average travel time.

vi. Trail Width and Clearance:

(a) Widths will of necessity vary with topography, land characteristics, curves and intersections. Width of a one-way trail should be 10 feet, with 5 feet considered the minimum and 12 feet the maximum. Where two-way routes are unavoidable, the minimum recommended width is 12 feet. Brush should be cleared for two feet beyond the trail's edges.

(1) Clearing width may be varied according to desired vehicle speed; the faster the allowable speed the wider the clearing.

(2) Obstructions over 10 inches above ground should be removed, or the trail should be rerouted.

(3) A minimum trail width of 10 feet is required where maintenance vehicles must be accommodated.

(4) Leaning or damaged trees within 30 feet of trails should be removed to prevent their falling onto trails during heavy snowfalls and strong winds.

(b) Vertical clearance should be to a height of 10 feet above normal snow accumulation, and an ample allowance should be made for snow-covered branches.

vii. Turning Radius: The minimum turning radius should be 25 feet to avoid abrupt changes in speed.

viii. Visibility:

(a) Sight distances should be a minimum of 50 feet horizontally and vertically throughout the trail.

(b) Snowbanks should be cut back at least 200 feet in both directions on both sides of the road or trail at any road crossings or trail intersections.

ix. Roads: No trails should cross Provincial Trunk Highways or Provincial Roads. Only those trails which connect adjoining loop systems should be permitted to cross these roadways. All crossings must be appropriately signed.

x. Grades and Slopes:

(a) The maximum slope should be no greater than 25% to insure safe and easy travel. Approaches to steep slopes should be straight and as long as possible.

(b) Consideration must be given to potential "effective" grades on slopes where blowing and drifting of snow occurs.

(c) On long grades or those exceeding 25% slope, the need for alternative flatter routes should be anticipated to bypass these sections during adverse weather conditions.

(d) Trails should cross at right angles to contours and not transect side slopes, thus contributing to user-safety and reduction of the zone of disturbance to birds and other winter wildlife communities on escarpments.

xi. Restrictions:

(a) Canada Land Inventory Class 1 and 2 wildlife areas should be avoided. Class 3 wildlife areas larger than half a square mile should also be avoided where possible.

(b) Small lakes, with fish populations that would be quickly depleted by ice fishing, should be avoided unless special fishing regulations are imposed. Due to the exceptional susceptibility

of lake trout to winter stress, trails should bypass oligotrophic lakes with this species unless special fishing regulations have been imposed.

(c) Buffer zones need to be established around points of fast-moving water and open water that freezes with only a thin layer of ice. No trail should be routed over any body of water where the maximum depth of flow may exceed two feet at any time. Where stream crossings are unavoidable, bridges, at least eight feet wide capable of retaining snow cover and supporting maintenance equipment, should be constructed. These bridges should have guard posts and guard rails. In principle, main trails should not be routed over lakes, streams and other bodies of water in late fall or spring. Instead, a trail must be provided around the lake to insure snowmobiling does not occur over water surfaces during unsafe ice conditions. Where trails border lakes and other bodies of water, a permanent warning sign must be placed at access points to indicate ice conditions (Fig. 1).

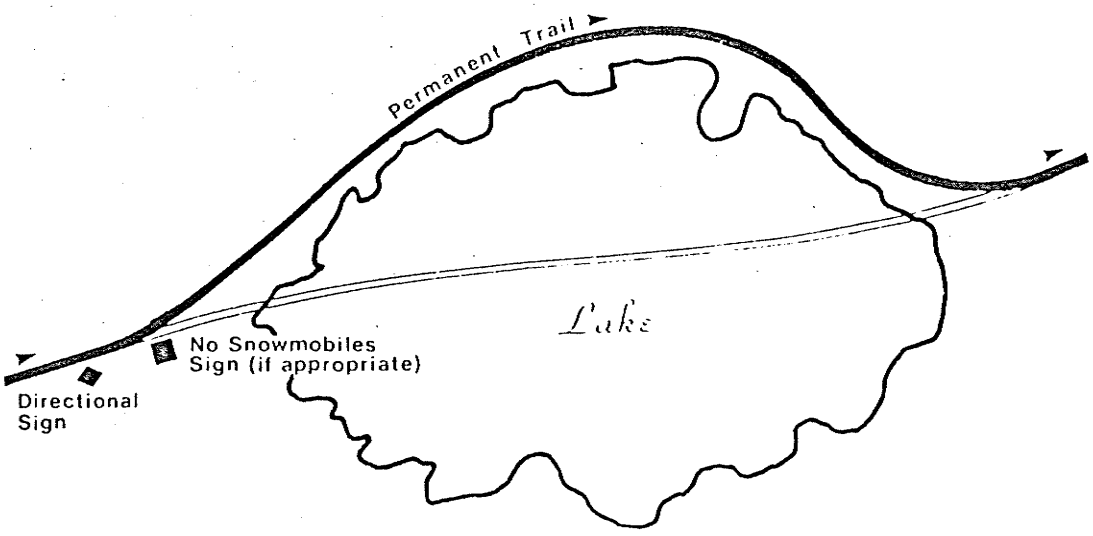

FIGURE 1

RE-ROUTING AND TRAIL POSTING

(d) Trails should be routed away from delicate or fragile ecological associations, winter browse areas, experimental areas, plantations, nurseries, game preserves and any other areas of possible conflict.

(e) Minimum snow cover for snowmobile operation on trails is three inches.

(f) Rally courses and race tracks should be prohibited unless specifically authorised by the relevant Municipality.

B. Trail Maintenance

Trails must be maintained constantly. Mechanical dragging to eliminate "moguls" or humps is essential for enjoyable use of trails. Heavily used trails should be rolled immediately after each snowfall. Under most user-conditions maintenance is impractical on weekends. In addition to a locally determined routine of trail patrol, trails must be inspected for new hazards, sign replacement and cleanup.

C. Facilities

i. Control: Strict control of access points to the trail is necessary to avoid undesirable traffic flow and to maintain maximum safety for the user.

ii. Parking: At the beginning of the trail parking is necessary for three types of uses: pull-through parking for cars with trailers, regular parking for automobiles, and a parking and assembly area for snowmobiles. A suitable designated area is needed for loading and unloading snowmobiles to reduce traffic congestion and provide safety for snowmobilers and pedestrians.

iii. Where possible certain park facilities, such as waysides, should be used, provided that such use does not interfere with or have a deteriorating effect on the area beyond that normally anticipated from its primary function.

iv. Trash receptacles and toilets should be provided at access points. Similar facilities should also be provided in open areas or clearings along trail loops where picnic or camping activities are known to take place or are anticipated. Litter

receptacles should be placed at convenient intervals along the trails. Tables and fireplaces are recommended where demand justifies their installation.

v. The following facilities should also be readily available to users dependent on the relative size of the trail complex:

(a) Warming shelters,
(b) Rental, repair and fuel concessions,
(c) Camping facilities,
(d) First aid and emergency facilities,
(e) Telephone, and
(f) Food service.

Information on these facilities and on the trails should be available at all access points. Trails should be routed, where possible, in the vicinity of existing first aid and emergency facilities, telephones and fuel and repair services. These areas should be noted on all maps, and directions to them provided on trail information signs.

vi. Snowmobile warmup and testing areas should be provided at major access points.

vii. Maps and General Information: Maps showing regional snowmobile routes should be to a scale of 1:250,000. Maps for individual loop systems should be to a scale of 1:50,000. Maps should clearly indicate:

(a) All parking areas,
(b) Information posts,
(c) Shelters (on and off the trail),
(d) First aid and emergency facilities,
(e) Concessions, with a list of services provided,
(f) Designated picnic areas,
(g) Trail names or numbers,
(h) Trail classification, if applicable,
(i) Safety instructions,
(j) Local snowmobile laws,
(k) Rules of trail use, and
(l) Areas of special interest.

TRAILS FOR NON-MOTORIZED USE--CROSS-COUNTRY SKIING

The following is a list of criteria for the development of trails for non-motorized use.

A. Trail Development Criteria

i. Location:

(a) Trails should be laid out in rolling wooded terrain with a number of climbs and descents to provide variety.

(b) Trail design should attempt to establish a ratio of 1:1:1 of flat, uphill and downhill landscapes.

(c) It should be anticipated that proper trail design will necessitate the preparation of new bush trails, resulting in less use of seismic lines, abandoned road beds, etc.

(d) Trails may normally be routed through or near fragile ecological associations, winter browse areas, experimental areas, plantations, nurseries, game preserves and other areas normally prohibited to snowmobiles.

(e) Wherever possible, local points of historical interest should be made evident within trail systems.

ii. Trail Direction Changes: Abrupt changes in direction or sharp dips in the trail need to be analysed and altered if there is a possibility a ski could flex too far and break.

iii. Slopes:

(a) Trails developed on south-facing slopes should be through forest tree cover. South-facing slopes will catch the sun in winter and be comparatively warm compared with shadowed or north-facing slopes. In spring, south-facing slopes are far warmer and snow-melt is early. Thus south slope trails through forest tree cover insure a prolonged spring skiing season.

(b) Where possible, trails should be laid out at right angles to contours to avoid side hill slipping of skis which quickly breaks ski track continuity.

iv. Prevailing Winds:

(a) Exposed north-west slopes should be avoided where possible.

(b) Direction and strength of prevailing winds should be considered at all times when planning a section of trail on exposed slopes.

v. Trail Loops:

(a) Trail loops need not be one-way. Trails should be signed as one-way only if heavy use demands it, that is, only when a skier is frequently required to "break track" to allow fellow skiers to pass in the opposite direction.

(b) Novices' Loop: To obtain the most distance from trails and to increase the skier's safety, bays that start and end at a central point are advisable for novices' loops at access points (Fig. 2).

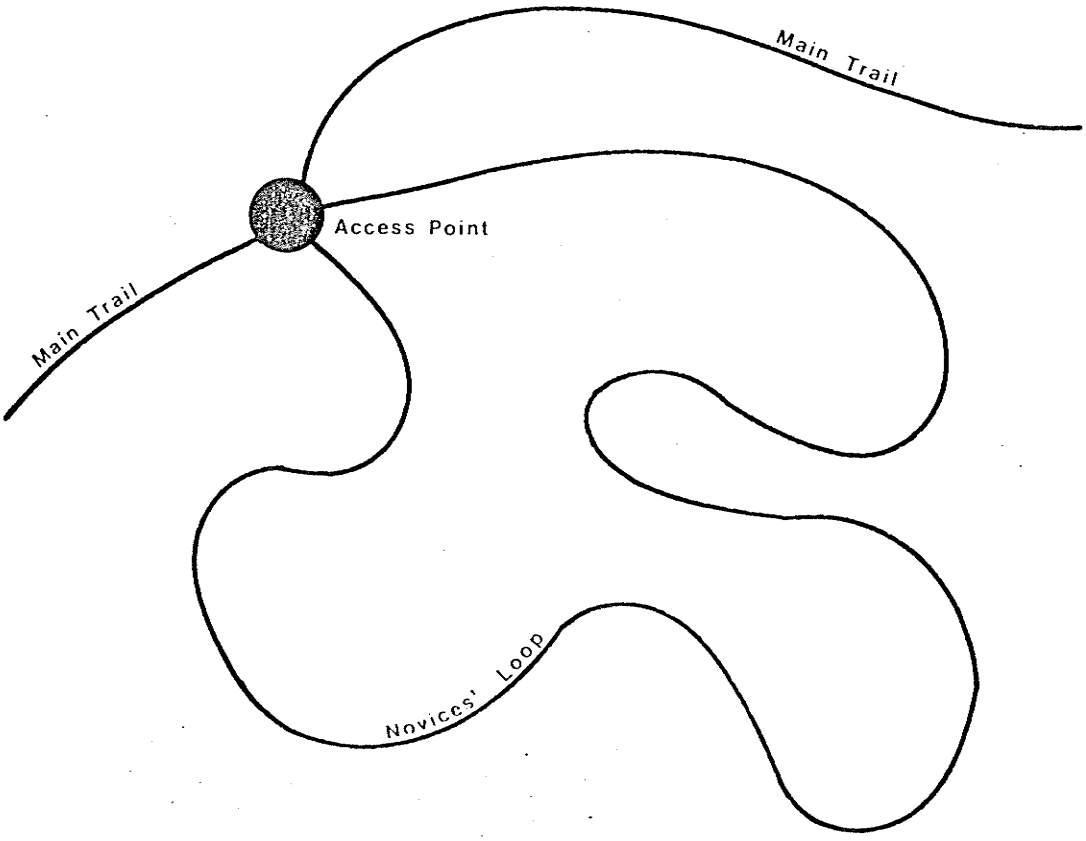

FIGURE 2

NOVICES' LOOP

vi. Trail Length: The trail speed of an average skier is 2-4 miles/hour. A 10-to 15-mile loop should be considered maximum for one day's travel.

(a) Novices' Loop: A short loop of approximately half a mile should be established at each access point.

(b) Travel Time: Average travel time for a ski trail loop should not exceed 5 hours.

vii. Trail Width and Clearance: (See Trails for Motorized Vehicles--Snowmobiles, A.vi.) Trail width should be a minimum of eight feet, and wider at bends. Sharp bends should be widened and banked slightly to assist ski turning.

B. Trail Maintenance

i. A grooming sled (track setter) must accomplish two purposes:

(a) Pack the trail, providing for the firm planting of ski poles on either side of the set track, and

(b) Set the ski tracks by means of two steel plates protruding through the bottom of the trail groomer which cut tracks, the width of each ski, that are six inches apart on the inside edges (Appendix I).

ii. Grooming occurs less frequently on cross-country trails during the skiing season. A trail is not repacked by the grooming sled until skier tracks are sufficiently well-worn and no longer hold the skis. A heavy snowfall makes poling difficult, obliterates the track, and requires a grooming run.

iii. Scarification with a wheeled/treaded trail groomer may be necessary each year during the fall to prevent successful re-establishment of brush. Brush removal must be more intensive than on snowmobile trails.

C. Facilities

i. A small parking lot for 10-12 cars should be provided at access points.

ii. Where possible certain park facilities, such as waysides, should be used. It is not anticipated that such use will interfere with or have a deteriorating effect on such areas beyond that normally anticipated from their primary function.

iii. Trash receptacles and toilets should be provided at access points.

iv. Warming shelters and picnic facilities should be provided where appropriate.

v. Information on facilities and on the trails should be available at all access points. Trails should be routed, where possible, in the vicinity of existing first aid and emergency facilities.

vi. Maps and General Information: Maps showing ski trails should be to a scale of 1:50,000 and should clearly indicate:

(a) All parking areas,
(b) Information posts,
(c) Shelters (on and off the trail),
(d) First aid and emergency facilities,
(e) Concessions, with a list of services provided,
(f) Designated picnic areas,
(g) Trail names or numbers,
(h) Trail classification, if applicable,
(i) Safety instructions (when applicable),
(j) Local snowmobile laws (when applicable),
(k) Rules of trail use, and
(l) Areas of special interest.

APPENDIX J

COST-BENEFIT GUIDELINE

The cost-benefit guideline is reprinted from: J.H. Appleton, Disused Railways in the Countryside of England and Wales. A Report to the Countryside Commission. London: Her Majesty's Stationery Office, 1970. pp. 40-41.

Cost benefit analysis

6.1 Theoretically the most satisfactory basis for evaluating the merits of any proposal for converting a disused railway to other uses is a cost benefit analysis. It should be possible to make such an analysis for any proposal to use such land for a specific purpose. In practice the cost of undertaking a *full-scale* analysis will hardly be justifiable for any but the largest projects likely to come before the Countryside Commission.

6.2 In most cases, however, it is possible to list those benefits which it is hoped to achieve and those items on which costs are likely to be incurred and to quantify at least some of these.[1] The procedure is illustrated in Table 4A, which concerns an imaginary proposal by a local authority to convert a disused railway line into a recreation route.

6.3 In general the more easily quantifiable items are set out at the top and the less tangible items at the bottom. In any one project the level

[1] See, for instance, the Institute of Municipal Treasurers and Accountants, *Cost Benefit Analysis in Local Government* (1969).

Table 4: Application of cost benefit analysis to the conversion of a disused railway as a recreation route

A. Total costs and benefits throughout the life of the project assessed (where applicable) at present values

	Costs	Benefits
Quantifiable	Capital costs: e.g. purchase price legal charges dismantling (after purchase) site preparation Running costs: e.g. maintenance of fences, ditches, etc. weed control wardening	Direct benefits: e.g. receipts from associated car parks, etc.
Non-quantifiable	Social costs: e.g. damage from trespass, poaching, vandalism, etc.	Social benefits: e.g. generated revenue for cafes, riding stables, etc. relief of pressure: on other recreation areas on agricultural land on congestion of other routes saving of time (e.g. walking, cycling to work) 'enjoyment opportunity', amenity, etc.

B. Calculation of benefit: cost ratio

	Quantifiable costs:	£	Quantifiable benefits:	£
Quantifiable	a	—	a	—
	b	—	b	—
	c	—	c	—
	etc.		etc.	
	Total	—	Total	—
Non-quantifiable	Non-quantifiable costs:		Non-quantifiable benefits:	
	a		a	
	b		b	
	c		c	
	etc.		etc.	

to which quantification could be taken would depend partly on the nature of the data to be quantified (cf. purchase price and 'enjoyment opportunity'), partly on the time and resources available for making the analysis, and partly on the reliability which it was decided was required for any particular item in any particular case. For instance, it might be argued that an evaluation of poaching as a social cost would help to refine the total estimates, or it might be thought that any assessment of this would be so unreliable as to obscure rather than clarify the issues involved.

6.4 Once the quantifiable items had been selected, a benefit/cost ratio could be derived on the basis of present values using the Government stipulated discount rate (Table 4B). The guiding rule is that all projects showing a ratio greater than one should be approved. However, it might very well be felt that, where non-quantifiable benefits were valued highly by the decision-maker, the project might be approved even though the ratio were less than one, and perhaps there might also be converse cases where important non-quantifiable social costs were felt to be prohibitive to ratios comfortably in excess of one. The same data can be used for further calculations. For example, if it were thought that the comparison with agricultural use was of general importance (since it is not possible to work out someone else's benefit/cost ratio—i.e. the farmer's), an appropriate formula could be used to derive a rate of return and this could be set against the estimated national average financial yield on agricultural land (but see 6.8).

6.5 By setting out the non-quantifiable data below the line (Table 4B) one would present the decision-making body with as complete a picture as possible of what benefits one was hoping to achieve and how much the public was being asked to pay for them.

6.6. Since a cost benefit analysis examines the social benefit accruing to the whole community, it would not be permissible to build into such an assessment a figure for grant aid. As an issue confronting a local authority, however, the expectation of grant can obviously be crucial. Similarly one could not allow, as a social benefit, revenue to cafes, riding-stables, etc., if this simply represented custom transferred from similar establishments elsewhere.

6.7 There are a number of particular difficulties involved in quantifying data relating to the conversion of disused railway lines, especially for recreational purposes and especially on the 'benefit' side. A good deal of guess-work is likely to be involved in predicting the numbers using such facilities and the evaluation of such use will not be easy. Nevertheless, where such analyses are presented in connection with individual case studies, they should be welcomed by those responsible for making investment decisions in this field. It is in any case a matter of common prudence that, before a decision is made for any project, the costs and benefits expected to flow from it, and to whom, should be carefully set out if not evaluated, and a *pro-forma* based on Tables 4A and 4B might reasonably be asked for when projects for the conversion of disused railways to recreational use are submitted for the approval of the Countryside Commission.

6.8 By contrast with the assessment of recreational projects it might be thought that estimating the costs of conversion of disused railways to agricultural use would be comparatively easy, since agricultural land can be said to have a productivity which, over a whole farm, can be assessed in monetary terms. As has been shown, however (Section 5), agricultural re-use, especially in areas likely to be of greatest potential for recreation routes, does not always mean 'production' in the sense of growing crops. Access roads, hard standing, slurry disposal pits, elimination of 'severance', etc., are much more difficult to evaluate since they may affect the working of the whole farm and not just the section of disused railway line concerned. This is no reason why a landowner contemplating purchase should not attempt an assessment of the advantages and costs along the lines set out in Table 4, adapting it to cover the kind of information which would be relevant to his own problem. Even if he could quantify hardly any items he might still derive some guidance from assembling information of a non-quantitative kind in this form.

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