7.0 COMPARISON OF ALL-WEATHER ROAD AND WINTER ROAD SYSTEM COSTS

7.1 Basic Strategies

There are a variety of circumstances which will influence the economic viability of an All-Weather Road system strategy. These are briefly described as follows:

- Existing Transportation Situation
- Existing Situation with an All-Weather Road
- Existing Situation minus Railway
- All-Weather Road to Replace No Rail/Winter Road System

Each of the above scenarios was analyzed on the basis of capital costs, operating and maintenance costs, ongoing basic freight costs, ongoing passenger travel costs, resource industry freight costs, mild winter cost implications, and other special issues. The evaluation employed a 2.5% community for growth, freight, and for passenger traffic, an 8% discount factor, and a 20-year present value analysis assuming the scenario existed at Year One.

7.2 Existing Transportation Situation

The community of Pukatawagan transportation needs are met by a combination of railway, airline, and winter road travel. The costs incurred are in the order of $3.2 M/year ($38 M - 20-year present value), of which:

- 30% is rail related.
- 35% is air related.
- 35% is winter road related.

Additionally, there are transportation costs incurred by:

- Tolko ~$3,100,000/year - 20-year present value of $31 M.
- HBMS ~$2,300,000//year - 20-year present value of $23 M.
- Fishery Operation ~$65,000/year - 20-year present value of $0.65 M.
- Wild Rice Operation ~$100,000//year - 20-year present value of $1.0 M.
- Norman Health Authority ~$1,000,000/year - 20-year present value of $12 M (Medivac only).

When winter roads are impassable due to mild winter conditions/high winter flows on the Churchill River/etc., there are additional costs related to rail freight replacing winter road freight which equates to $0.38 M (20-year present value).

Winter roads/pioneer roads must be constructed annually at estimated costs of $0.4 M/year ($4 M 20-year present value).

In total, the area's transportation needs under the existing situation involve costs of $11.0 M/year (including mild weather/special infrastructure scenarios) or $113 M (20-year present value).

7.3 Existing Situation with an All-Weather Road

If an All-Weather Road were built (to Highways Standards) from P.T.H. 10 to Pukatawagan over a total distance of 175 km, there would be a significant shift in the freight and passenger movements. It is estimated that 80% of freight currently moved by air and rail would shift to All-Weather Road travel. Rail passenger service would likely be eliminated. All rail passengers would be expected to switch to All-Weather Road travel.

The cost of such an All-Weather Road is estimated at $100 M, which equates to $8 M/year when amortized at 8% and maintained over a 50-year facility life (a 20-year present value of $80.0 M).

Under these circumstances, the transportation costs incurred by the community of Pukatawagan would be reduced from $3.2/year to $2.3 M/year (a reduction equivalent to $11 M 20-year present value).

HBMS and Tolko (which would continue to use rail) costs remain unchanged, fishery and wild rice operations would see a 20% reduction in cost. Health transport costs would be reduced by 50%. Mild winter/high river flow situations would cease to be an issue; with a cost saving of $0.27 M (20-year present value).

In total, this All-Weather Road scenario would see a net increase in the transportation costs for the Pukatawagan area of $63 M (20-year present value) from $113 M to $176 M. Figure 7.1 illustrates these relative impact of the All-Weather Road on the existing transportation system.

Figure 7.1 Cost Benefit Analysis (Existing Transportation System, including Rail versus All-Weather Road)

7.4 Existing Situation - Minus Railway

If the HBMS mine at Ruttan Lake were to close in the near future, it is likely that the HBRR would cease operations to Pukatawagan and Lynn Lake. Under these circumstances, it is estimated that almost all current rail freight would have to shift to winter road haul, with a small diversion to air freight. It is also anticipated that 100% of the former rail passenger travel will switch to an alternate mode of transportation. Air travel will likely account for 25% of the former rail passenger travel, while winter road travel will account for the remaining 75%.

Under these circumstances, the basic transportation costs for the community of Pukatawagan will increase by $0.1 M/year ($1.2 M 20-year present value).

Hudson Bay Mining & Smelting's concentrate transport would cease to be a consideration. To continue, logging operations in the area would be forced to employ winter road haul with annual transport costs of $10 M/year compared to $3.1 M/year) under the existing situation. This equates to a $66 M (20-year present value) cost increase.

Fishery and wild rice operations would have to switch to air freight haul at approximately five times the cost.

The impact of mild winter/high river flow situations would be much greater, with full reliance on air freight. Costs would equate to $5.4 M (20-year present value) compared to $0.38 M (20-year present value) under the existing situation.

In total, the transportation situation without a railroad would incur costs of $17 M/year ($165 M - 20-year present value) or an increase of $6 M/year ($52 M - 20-year present value) under the existing situation.

7.5 All-Weather Road System to Replace No-Rail/Winter Road System

$2.3 M/year. A saving of $12 M (20-year present value). With no rail service, the modal split for freight would become:

- 99% All-Weather Road (formerly 95% winter road).
- 1% Air (formerly 5% air).

For passengers, the modal split would be:

- 80% All-Weather Road (formerly 40% winter road)
- 20% air (formerly 60% air).

The forest industry would experience cost savings of $5 M/year (relative to no rail/winter road) or the equivalent of $40 M (20-year present value). This assumes the industry could continue to operate in the study area after rail closure on an economic basis, which is not necessarily the case.

Manitoba Hydro/MTS/Lodge operations as a group would be expected to achieve savings of $0.7 M (20-year present value).

Health service transport costs might be reduced by $0.5 M/year ($6.0 M - 20-year present value) in the areas of referred patient and escort travel plus Medivac costs.

Whether or not HBRR/VIA would have reduced long-term costs depends on the nature of existing governmental agreements for long-term rail service.

In total, an **All-Weather Road system** compared to a **No Railway/Winter Road** scenario would see overall costs of $17 M/year ($170 M - 20-year present value); an increase of $5.7 M/year (20-year present value). Figure 7.2 illustrates the relative impacts of the All-Weather Road.

Figure 7.2 Cost Benefit Analysis (Current System Without Railway versus All-Weather Road)