

SYNOPSIS

The community of Pikwitonei, with its population of 140, is served by a combination of scheduled railway/winter road and charter air operations. Access to the community from P.T.H. 6 is assured year-round; however, during the spring, summer, and fall, the community has experienced slow, unreliable, and relatively costly rail freight and passenger service, and not always available, yet costly air charter service. During the winter, road access does provide better, cheaper service. In the summer, a combination of forestry road and boat travel does provide alternative access for both people and light freight.

There is a general perception in Pikwitonei that the rail service could be improved and that the winter road season could be extended. Also, measures could be taken to enhance the forestry road and boat access option by providing secure landing/storage areas.

An All-Weather Road for Pikwitonei is estimated to cost more than \$20 M. Transportation benefits would only cover 20% of the cost. Given the existing year-around service provided by a combination of rail, air, winter road, forestry roads, and boats, the project will face strong competition for funding priority from numerous more remote communities.

Given that Pikwitonei does have year around rail access, it is recommended that the short-term focus should be on:

- Improvements to the forestry road and boat access system estimated to cost \$0.5 M/year, primarily for improved service levels.
- Exploring the feasibility, rail improvement options such as a rail-bus dedicated to the service of remote communities such as Pitwitonei, Thicket Portage, and Ilford costs for such a service, if feasible, would be in the order of \$0.5 M to \$1.0 M/year plus any railway lease costs for running rights. The primary benefit would be improved service levels.

In the longer-term, the community's best interests would be served by an AWR skirting the east side of Wintering Lake (or parallelling the railway) and tying into the East Jonas Road. This would be the most direct and provide the least travel time for traffic to and from Thompson. To maximize the benefits and economic justification, this road should also serve both the Thicket Portage community and the Pikwitonei community.

It is therefore recommended that the best route for an AWR be established at this time in order to focus short-term winter road and forestry road upgrade investments on the optimum solution. This would avoid throw away costs and minimize the environmental impacts. It could also accommodate short-term measures such as dedicated boat service and winter road stream crossing improvements.

A route selection study should be undertaken to establish the optimum alignments for Pikwitonei and Thicket Portage to East Jonas Road. As well, a functional design study should be carried out to determine the necessary alignment and cross-section upgrades to improve reliability and ensure public safety.

1.0 INTRODUCTION

A public consultation meeting was held in the community of Pikwitonei on March 6, 2001. The objectives of this meeting were to seek community input on future directions of transportation initiatives and to provide the Province of Manitoba Transportation and Government Services Department with a better insight into the existing transportation system, seek justification for an All-Weather Road, and to examine alternative means of improving transportation service to Pikwitonei.

In attendance at this meeting were:

- Mayor Warren Pagee
- Councillor Wayne Laubmann
- Councillor Valerie Dick
- Councillor Stephanie Cordell
- Councillor Martha Chartrand
- Twelve members of community
- Rod Murphy - Manitoba Transportation & Government Services Minister's office
- Amar Chadha - Transportation & Government Services
- Dan Highway - Transportation & Government Services
- Bill Cordell - Manitoba Transportation/Airports
- Larry Buhr - Dillon Consulting Limited
- Harold Westdal - H. Westdal Associates

2.0 EXISTING TRANSPORTATION SYSTEM AND SERVICE LEVELS

2.1 Community Profile

The community of Pikwitonei is an isolated community approximately 50 km southeast of Thompson, Manitoba. Pikwitonei has a population of approximately 140 people. It came into existence as a railway siding/way station when the Hudson Bay railway was first built. There are seven retail, rental, construction, and fuel supply businesses in the community.

Population growth for the community is estimated as follows:

Year	Population
2000	140
2010	200
2020	250
2030	310

The community of Pikwitonei relies on the Hudson Bay Railway (and VIA), non-scheduled air service, a combination Winter Road/Forestry Road access, and small boats for freight and passenger access to and from Thompson.

2.2 Railway

When the Hudson Bay line was first built, rail traffic focussed on through trains to Churchill and in the resource development, particularly in the Thompson area. With the advent of P.T.H. 6 (formerly 391), the railway function became more freight oriented, with freight destined for Thompson, Churchill, and the Nelson Generating Stations. Passenger service (VIA) through Thompson and onto Churchill has, however, continued.

The change in ownership of the Hudson Bay line (from CN to OMNI TRAX or HBRR) has perhaps unintentionally resulted in a different mandate/focus for the railway operation. It became a long haul operation; local service points and local maintenance operations became a secondary (if not non-essential) part of the railway functions. Movement of primary agricultural (wheat) and mining (nickel) products was now the primary driving force of the system.

For Pikwitonei, this meant that rail passenger (and freight) service was cut from 13-14 train stops per week to six train stops per week. Freight operations no longer involved a stop-off when going north and south, but now involved only occasional way-freight pick-up going south and drop-off going north.

Railway service to Pikwitonei consists of three station stops/pick-ups southbound each week (Sunday, Wednesday, and Friday). These pick-ups are 7:30 a.m. and do allow a few hours for passengers in Thompson on Wednesday and Friday, when there is a 5:30 p.m. return trip. The Sunday trip, however, requires an overnight in Thompson, with a return departure at 5:30 p.m. on Monday. These trains frequently run late by as much as two hours, but because there is no station agent in Pikwitonei, passengers (and shippers) have no way of knowing when trains will arrive from the south or from the north. There is no station phone and no cellular phone service in Pikwitonei.

The existing train schedules require Sunday travellers to spend an overnight in Thompson. However, if trains are delayed by several hours, two-night stay overs can result. As a result, overall direct trip costs are likely to be \$100 to \$150/trip; indirect (inconvenience) costs relating to job time losses and school absenteeism are difficult to quantify. VIA's policy of giving priority to through traffic (largely tourists) and also Ilford traffic frequently limits boarding availability during the summer at Pikwitonei. The station facility has no washrooms, capacity for only 15 to 20 people even though there may be as many as 45 people may be boarding on occasion.

Freight services to Pikwitonei is severely constrained by VIA's operating policies. Limits of carry-on quantities and prohibition of fuel (engine, etc.) that can be transported, severely limit regular transport of goods to satisfy the community's needs.

Railway freight service to Pikwitonei is largely handled through Gardewine North, who operate both highway and rail interliner service, plus winter road freight delivery services on a largely exclusive contract basis. This precludes alternative freight shipment arrangements for reasons of cost or convenience. Because VIA does not allow gas, outboard motors, snowmobiles, etc. on the passenger trains, it is necessary to rely on the occasional way-freights for service during nine months of the year.

Multiple players and multiple rules have made it very difficult for Pikwitonei residents to effectively see redress for inadequate service/high cost implications. There is no alternative service during derailments and the big time delays occasioned by the higher priority large grain trains.

2.3 Air Service

Pikwitonei has a provincially operated airstrip (2,200 feet long) with gravel surface and pilot activated landing lights. There is no scheduled air service, but Skyward and Pim Air do operate charter air taxi services out of Thompson for four-sector aircraft no larger than the Caravan.

The runway length precludes conventional life-flight (3,000 feet) landings, but does permit smaller aircraft to provide Medivac and passenger/freight service to Thompson. A 1998 community presentation to Provincial Airports Safety Working Group did result in a recommendation for runway extension and gravel crushing.

Because Pikwitonei does not have a scheduled air service, air service to the community has a large element of uncertainty. Aircraft availability for the short hops to the community is frequently in question. Because of the short runway and the frequent cross winds, occasional fog in the summer or snow conditions in the winter, result in summer air service being cut off. Emergency medical situations cannot always be served.

2.4 Winter Roads/Forestry Roads

Pikwitonei has a regular winter road operation into the community. This road, which exits P.T.H. 6 six km south of Thompson, follows the North Jonas Road for 20 km and then crosses Partridge Crop Lake and Cook Lake ice for 35 km. This road is normally available for trucks/cars/etc. during January/February and most of March. The winter road system is intended to ensure access for two to three months (January and February to mid-March) each winter. The Winter Road Contractor is expected to keep the road passable under all except blizzard and active snowfall conditions. The community would like the road to open sooner (e.g., by mid-December) and be more consistently maintained. The existing winter and forestry roads to Pikwitonei are shown on Figure 1.

While the forestry road (e.g., North Jonas Road) is part of the functional winter road system, Tolko's forest operations are expected to maintain the passability of the winter road at all times. However, not infrequently when the forest company's operational priorities are elsewhere, and the local forest operations are temporarily shutdown, the access road maintenance is also cutoff.

Tolko's logging trucks also pose a safety issue on what is essentially a one-lane road. Spring melt and summer rains can create unreliable and unsafe conditions on the Forestry Road. Muddy, slippery surfaces, deep ruts, and washouts further limit the available community transport usage. Because of poor lake ice conditions such as in 1997-98, the winter road access was cut short and the community fuel supply for the entire year was put into question.

See Figure 1: Winter Road Site Location Plan.

2.5 Water Access

Other than during the winter, the North Jonas Forestry Road is passable 60% to 70% of the time from P.T.H. 6 to the Grass River upstream of the Railway Bridge. This, with some difficulty, allows water transport of goods and passengers during the open water season of May to October.

Because of the summer fishery operations on Wintering Lake, small individually owned watercraft operate across Partridge Crop Lake during the open water season of May to October. These small boats are also employed to transport fuel and groceries from the end of North Jonas Road at the Grass River to Pikwitonei. Because there are no specific transfer facilities, and available boats (estimated number at ten) are largely dedicated to the fisheries operations, this form of access is limited and heavily focussed on fuel transport.

Because there is no dedicated “water taxi” in Pikwitonei, the availability of boats for passenger travel and freight movement is not assured. Most of the watercraft is under fishery ownership, and its availability for community transport is probably second priority.

Apparently, there is no official program of boat-related community access. Wharfing facilities are limited and inadequate; road connections to the waterfront are almost non-existent; there are no secure accommodation for passenger and freight at the Grass River landing point. Theft of gas, motors, and other equipment at the Grass River landing is an occasional problem.

Weather conditions which affect air travel also affect water-borne travel. Because of the longer trips and travel times of an hour or more, equipment breakdown is more likely and more frequent, particularly during low flow years, such as 1989.

2.6 Local Roads and Vehicles

There are only 4 km of local roads serving the community and accessing the airport and the solid waste landfill. Despite this, there are approximately 40 locally owned vehicles in Pikwitonei. In summer when community access is by rail or by boat, vehicle operation out of Thompson is more effective. The number of local vehicles is quite low.

Fairly frequent usage of the Winter Road provides a substantial degree of travel reliability. However, the condition of the Winter Road (compared to an All-Weather Road) will create a significant additional degree of wear and tear on vehicles operating on it.

Storage of personal vehicles in Thompson (sporadically during the winter) and full-time at the Grass River storage landing site during the summer can result in much higher vandalism and other risks.

3.0 EXISTING COMMUNITY INFRASTRUCTURE AND SERVICES

The following provides a brief overview of the existing community infrastructure:

Hydro/Telephone Services

Pikwitonei is serviced by the local hydro and telephone grids.

Water Supply

Pikwitonei is largely serviced by a piped water distribution system. Water is drawn from Pikwitonei Lake and treated by means of a local water treatment plant.

Sewerage

Pikwitonei is serviced with a low pressure sewage collection system and a sewage lagoon.

Medical

The community is serviced by a provincial nursing station and the Northern Patient Transport Program. Emergency medical services consists of medical evacuation flights to Thompson or Winnipeg or winter road transport to Thompson.

Schools

Pikwitonei has a Frontier School servicing students from Kindergarten to Grade 9. The school currently accommodates approximately 21 students. High school students have to go to Thompson or Cranberry Portage in order to continue their education.

Police

Police service is provided by the Royal Canadian Mounted Police out of Thompson.

Employment Opportunities

Employment opportunities are limited to Pikwitonei. Forestry operations and Manitoba Hydro maintain work to provide some opportunities. Trapping and fishing are significant seasonal employers. Wild rice harvesting has not yet developed to a substantial level.

The community hopes that employment opportunities would improve with the provision of an All-Weather Road, given the potential access to a broader area and Thompson for forestry and mining.

4.0 EXISTING COMMUNITY TRANSPORT NEEDS

Based on the current population, it is estimated that Pikwitonei requires the inflow of 700 tonnes/year of fuels, building materials, equipment, food stuffs, etc. Based on available data and community comments, it is further estimated that the means of freight delivery to the community is as follows:

- Rail - 300 tonnes/year
- Air - 70 tonnes/year
- Winter Road - 300 tonnes/year
- Boat - 30 tonnes/year

It is worth noting that since the 1997 advent of land line power, that there has been a substantial conversion to electricity for building heating. Heating fuel import to the community has declined significantly.

The above does not include the gasoline and diesel fuel brought in by Tolko to sustain their forestry operations, Manitoba Hydro for their transmission line maintenance and the local fishery operation on Partridge Crop Lake.

In the area of people transport, it is estimated that the community generates the following in and out transport:

- Rail - 500 trips (in and out)/year
- Air - 2,000 trips (in and out)/year
- Winter Road - 800 vehicle trips (in and out)/year
- Boat - 200 people trips (in and out)/year

Both the freight and people transport numbers would be expected to rise in step with population growth. This population growth has been estimated to grow at 2% per year.

5.0 COMMUNITY TRANSPORTATION COSTS - EXISTING VERSUS ALL-WEATHER ROAD SYSTEM

Manitoba Transportation & Government Services initial estimate of potential annual savings due to an All-Weather Road was \$200,000. The reaction from the community was that this was too low and has been re-evaluated below at \$275,000/year.

It was further suggested that the estimated \$200,000 cost saving did not recognize:

- Accommodation costs for the typical one or two night stay overs in Thompson for rail passenger traffic.
- Summer boat/Forestry Road travel for fuel, grocery, etc. supplies.
- Fish transport to Wabowden at rail costs of \$0.13/kg.
- Frequent non-availability of passenger capacity when VIA trains stop at Pikwitonei.
- Ambulance costs from Thompson Airport to Thompson Hospital on Medivac.

While the actual cost of freight and passenger transport is highly dependent on a variety of factors such as vehicle load/ultimate origin or destination/etc., it is not unreasonable to suggest the following overall transport costs based on efficient use of equipment:

	Existing Winter Road System	All-Weather Road System
Road Travel (to and from Thompson)	800 trips @ \$5.25 = \$4,200	2,100 trips @ \$4.85 = \$10,000
Road Freight (from Winnipeg)	300 tonnes @ \$0.60/kg = \$180,000	300 tonnes @ \$0.44/kg = \$132,000
Air Freight (from Thompson)	70 tonnes @ \$0.28/kg = \$19,600	nil
Air Passengers (to/from Thompson)	2,000 trips @ \$65.30 = \$130,600	nil
Rail Freight (from Thompson)	300 tonnes @ \$0.19/kg = \$57,000	300 tonnes @ \$0.17/kg = \$51,000
Rail Passengers (to/from Thompson)	500 trips @ \$30.00 = \$15,000	nil
Boat/Forestry Road (freight and passengers)	200 trips @ \$50.00 = \$10,000	nil
Fish Transport (to Wabowden)	90 tonnes @ \$0.13/kg = \$11,700	90 tonnes @ \$0.11/kg = \$9,900
Medivac (to Thompson)	estimated @ \$60,000	estimated @ \$10,000
Total System Costs	\$488,100/year	\$212,900/year
Total System Savings due to All-Weather Road	\$275,200/year	

Note:

The above does not include any potential cost savings that would accrue to Tolko's forestry operations.

6.0 ALL-WEATHER ROAD SYSTEM - ROUTE ALTERNATIVES

The current winter road from Thompson to Pikwitonei consists of:

- 6 km of P.T.H. 6 (south from Thompson) - paved.
- 20 km of Forestry Road (North Jonas Road) - rough gravel.
- 35 km of Partridge Crop Lake and Cook Lake ice road and overland.

Further to discussions with the Mayor Council and community, All-Weather Road routes have been further redefined and/or re-identified as follows:

6.1 Extension of North Jonas Road - Partridge Crop Road/South and East of Cuthbert Lake

It is anticipated that an All-Weather Road incorporating the North Jonas Road could be built for \$21.5 M, including:

- \$10.0 M for upgrading North Jonas Road - Partridge Crop Road.
- \$4.5 M for extension of North Jonas Road - Partridge Crop Road to the junction with the Thicket Portage Access Road.
- \$7.0 M for the connection from Thicket Portage junction to Pikwitonei.

This All-Weather Road roadway would have an equivalent annual cost of \$2.0 M, including \$200,000 of increased annual O & M costs. This All-Weather Road option is shown on Figure 2.

If this All-Weather Road were also extended to Thicket Portage, the total capital cost would be \$3.0 M with equivalent annual costs of \$2.7 M.

See Figure 2 Conceptual All-Weather Road - Option 1

6.2 Forestry Road - Lake Transport System

In lieu of full All-Weather Road access to Pikwitonei, it would be possible to upgrade and extend North Jonas Road to Partridge Crop Lake (east of railroad) and construct a secure storage/wharf facility on Partridge Crop Lane and a wharf facility at Pikwitonei. A community-based water taxi/barge service could also be added to ensure reliable and scheduled services.

This would involve capital costs of \$4 M and overall costs of such a service would be in the range of \$0.5/year.

6.3 Lower Standard Road

Arguments have been presented that suggest a pioneer road (i.e., upgraded Forestry Road) would be adequate for Pikwitonei transport needs. Building such a road which does not meet Manitoba Transportation & Government Services standards presents serious liability and safety concerns.

The Mayor of Pikwitonei expressed cautious interest in such an approach, but requested a more concise definition of the Pioneer Road concept.

Relatively speaking, such a Pioneer Road might be built at 60% of the cost of an All-Weather Road meeting provincial standards.

6.4 Improved Rail Service

It has been suggested that a rail-bus service from Thompson could be a means of achieving more reliable and predictable passenger and freight service to Pikwitonei. If feasible, this would require substantial support and cooperation from Hudson Bay Railroad and VIA. Costs of such service would be in the \$0.5 to \$1.0 M range/year, including rail-bus purchase, rail station at Pikwitonei, rail-bus maintenance shelter, dedicated rail bus operating areas, and annual operating maintenance costs. Lease or travelling rights costs would be additional.

7.0 OPPORTUNITIES AND SOCIAL IMPACTS

Pikwitonei currently cannot support all the normal community services that would make it a desirable place to live. There is only one store in operation, no gas station, etc. A sawmill operation also failed.

With an All-Weather Road, the community sees new opportunities such as:

- Local stores, service stations, and restaurant.
- Employment in Thompson area.
- Employment in broader resource industry.
- Cottage development.
- High school students living at home while pursuing education in Thompson.
- Easier access to medical/dental services.
- Access to banking and other professional services.
- More reliable and quicker fish delivery to Wabowden.
- Tourism and related industry.
- Year around travel/lower cost personal travel.

Social impacts to the community were perceived as positive and negative. An expanded social life could be good or bad. Easier access to and from Thompson would promote a better lifestyle, but it could also promote crime/drug use/etc. It would also bring outsider cottage development and resource exploitation.

8.0 OVERALL STRATEGIC ANALYSIS AND CONSIDERATIONS

An All-Weather Road to Pikwitonei would incur annual costs of \$2.0 M/year (\$20 M - 20-year present value). Direct transportation cost savings would be \$275,000/year (\$3.6 M - 20-year present value) covering approximately 20% of the All-Weather Road costs. As such, the project will require substantial additional justification on a socioeconomic basis in order to become a funding priority. (Note: if Thicket Portage is also connected to the All-Weather Road, the above annual costs would rise to \$2.7 M and direct transportation benefit would total \$600,000/year.)

Alternative strategies that would result in improved and more reliable transport services, but at lower capital costs, are:

	Annual Costs	Transport Annual Benefits
• Forestry Road/Boat Access	\$0.5 M	\$0.05 M±
• Lower Standard Access Roads	\$1.0 to \$2.0 M	\$0.10 M±
• Improved Rail Service	\$0.5 to \$1.0 M	\$0.05 M±

The foregoing estimates and transport costs are very approximate, but do reflect the relative merits of different strategies. Service level improvements are not factored into the above.

In the longer-term, the community's best interests would be served by an AWR skirting the east side of Wintering Lake (or parallelling the railway) and tying into the East Jonas Road. This would be the most direct and provide the least travel time for traffic to and from Thompson. To maximize the benefits and economic justification, this road should also serve both the Thicket Portage community and the Pikwitonei community.

It is therefore recommended that the best route for an AWR be established at this time in order to focus short-term winter road and forestry road upgrade investments on the optimum solution. This would avoid throw away costs and minimize the environmental impacts. It could also accommodate short-term measures such as dedicated boat service and winter road stream crossing improvements.

A route selection study should be undertaken to establish the optimum alignments for Pikwitonei and Thicket Portage to East Jonas Road. As well, a functional design study should be carried out to determine the necessary alignment and cross-section upgrades to improve reliability and ensure public safety.