

Brief on the study of Food Security in Northern Communities

Prepared for

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Food insecurity is a chronic and serious challenge for Canada's remote northern communities. Evidence indicates that it leads to a range of health problems from malnutrition and diabetes to depression. The causes of food insecurity in the North are multidimensional. The focus of this submission is the potential use of cargo airships to reduce the cost of transporting nutritious, perishable food to remote communities.

High food prices are a reality for most northern and indigenous populations. Wild harvest (country food) is generally insufficient to meet local food demand. Diets must be supplemented with food products transported long distances from southern origins. The high cost of transport increases the cost of living and food insecurity experienced in remote communities.

The attempt to deal with northern food insecurity began with the Food Mail Program that subsidized food shipments through Canada Post. This ad hoc subsidy was formalized in 2011, with the Nutrition North Program (NNP). The scope of the transport subsidies was narrowed to encourage the consumption of healthy foods.

Programs that treat symptoms and ignore causes are usually unsustainable. Since 2011, the NNP subsidy has nearly doubled from \$54 million to \$103 million by 2020. The subsidy will continue to increase. Populations are growing rapidly in the remote communities, and transport costs are increasing because of inflation, carbon taxes and climate change.

It would be misleading to focus only on the cost of transporting food when considering retail food prices. Indirectly, transport costs add as much or more to retail margins. Operating food supply chains in the North is much more expensive. Construction materials, electricity (if diesel powered), store supplies and everything else used in remote communities has to be brought in by annual sea lifts or over winter roads.

In the Northern logistics, the best is being done with whatever is available. Incremental improvements of existing transportation systems are unlikely to lower food prices. Climate change however, threatens to make matters worse. Global warming has already cut the winter road season in half. Water crossings are becoming more unreliable and more dangerous.

Only a technological breakthrough in transportation can change the status quo. Fortunately, an answer exists. Airships are making a comeback as a green technology for cargo transportation. They consume relatively little fuel because their lift is provided by lighter-than-air gases (helium or hydrogen). Airship technology offers to cut freight rates by more than 50% and provide predictable year-round transport throughout the North.

The proposed cargo airship designs can carry loads of 30 tons or more, travel at 150 kmph and reach all parts of Northern Canada. Airships can carry all types of cargo and are only restricted by weight. With large cargo bays, they can transport bulky, awkward cargo like roof trusses, prefab buildings and wind turbine blades. They can also carry low density grocery products like breakfast cereals, lettuce and diapers that are more expensive because of their volume.

A permanent reduction in the cost of transporting groceries will greatly improve food security. Increasing incomes will make food security sustainable. The transportation change created by airships will stimulate the northern economy because it makes resource development possible, too. Northern Canada is rich in known mineral deposits, but no one can afford the cost of building road access. Airship-based mining could create well-paid jobs all across the North.

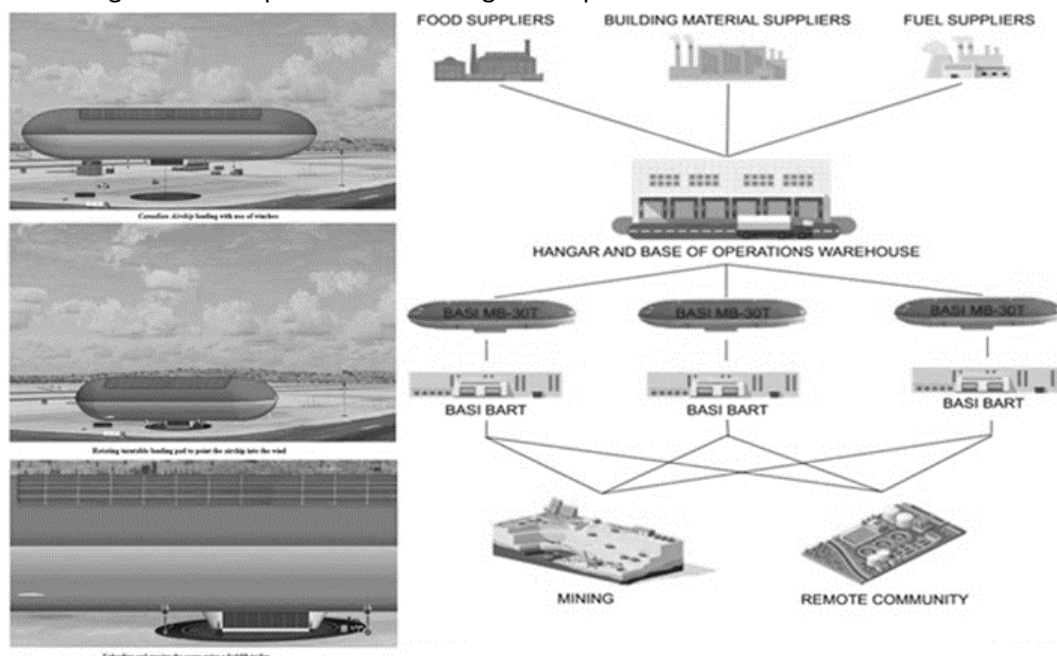
Another area of job creation in which cargo airships would make a huge difference is in the building and repairing of houses on Reserves. Overcrowded housing is an enduring problem. House construction is constrained when remote communities have to depend on short, annual re-supply seasons to bring in materials. And often, local residents do not get to participate in these building projects, because they lack the necessary skills and qualifications.

A case in point is the difficulty of people on Reserves to obtain a “Red Seal” certification for the construction trades. Typically, electricians, carpenters and plumbers have to be brought into the remote communities from the South to build houses and public buildings. When so few houses are built per year, local workers cannot obtain enough hours for certification. Cargo airships could deliver building materials year-round to support longer construction seasons that would allow local people to qualify for these trades.

The ability to expand housing construction and repair would generate family income on the reserves. It would also enable credentialed workers to take up jobs in resource developments in the North. Cargo airships would also serve mining locations that are inaccessible today. Workers would be able to commute to these camps from their homes on the reserves.

Figure 1 presents a conceptual model of a cargo airship transportation service to remote communities and mining operations. On the left is an illustration of landing the airship on a BART landing pad. It allows the airship to rotate into the wind, while anyone on the turntable will be safely moved, too. On the right is the airship supply chain. Goods would be brought by truck or rail to northern transshipment points like Moosonee, Ontario or Yellowknife, NWT. The airship would carry the freight to the communities and mining camps. Ideally, mineral concentrates would be carried south to offset half the costs of the round-trip.

Figure 1 Conceptual model of cargo airship service to remote communities.



Source: www.buoyantaircraft.ca

An international competition to develop cargo airship technology has been growing for the past 25 years. Over a dozen airship companies worldwide have designs and experimental models have been flown. No technical barriers preclude construction of a modern airship, but thus far no certified cargo airships have emerged. The problem is risk and reward.

In all world history, no new transportation system has ever been successfully introduced that did not have strong Public support and encouragement. A combined Public-Private effort is needed to bring forward a cargo airship service for northern Canada. Without the government as a partner, the private sector will not invest. This is especially true for northern Canada where the population is sparse and widely distributed. The Public benefits to the creation of a cargo airship service for Northern Canada is much greater than the Private benefit.

The needed Public investment is as with all modes of transport ground infrastructure. Cargo airships need BART landing pads for the safe and efficient transshipment of goods to trucks. Like ships of the ocean that occasionally need public drydocks for repairs and inspection, cargo airships need public airdocks, too.

The project can be greatly de-risked, if the government provides leadership and support. The other important role that government has traditionally played is to help “prime the pump”. The airlines were all started with government mail contracts. For cargo airships to northern Canada, the government could direct some of its freight over the new service which would encourage private investment.

While resistance to the idea of risking public funds is understandable, the risk-return has to be put into perspective. It might cost \$500 million to get a cargo airship industry established in Canada, but a lot more is being spent on the North each year, just to maintain the status quo. For a permanent solution to remoteness and one that directly addresses the problem of northern food insecurity, it is necessary to take some limited risk. The risk of doing nothing is much greater.

Canada has the talented people, supply chains and tools to develop a made-in-Canada solution to the chronic transportation problem in the North. It only requires the political will to make it happen.

Organization:

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We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of reconciliation and collaboration.