

# A 17<sup>th</sup> Century Solution to a 21<sup>st</sup> Century Challenge

November 23, 2016

Let's say it's the mid-17<sup>th</sup> or 18<sup>th</sup> Century, and you are shipping Welsh coal from Newcastle to the industrial and trading hub at Plymouth, England. Or you are sending fishing vessels from Plymouth to Newfoundland and Labrador's Grand Banks, to return with a hold of cod.

To or from Plymouth, you really want to know exactly where the Eddystone Rocks are -- about 14 miles off. Today's shipping routes plot a line around them.



A few centuries back, however, infrastructure funding was in short supply. So the independent British agency responsible for lights, [Trinity House](#), struck a deal with Mr. Henry Winstanley, in 1696. Henry contracted to build a lighthouse at the Eddystone Rocks, and he would get all the profits for the first five years of operation and share half with Trinity House for another fifty years. This looks a lot like what we would now call a design-build-finance-operate public-private partnership, a DBFO P3.

What profits would be shared? A key element of such a model is revenue flow. Trinity worked with customs authorities and deputies to collect tolls (lights dues) at the ports where cargo ships arrived -- the bills of lading and the routes' origins and destinations documented the cargo to be assessed or which toll routes (lighthouses passed) had been used.

Henry shared the profit, but he got all the capital and maintenance risk and, early in the contract, had to rebuild the Eddystone Lights after a storm. In another storm in 1703, the light was swept away again and so, sadly, was Henry. That is operational risk.

The operational lease for the next light, approved by Parliament, was for a term of 99 years, and granted its holder a toll of one penny per ton of shipping that passed, coming and going. Trinity House today collects "lights dues" of 39 pence per registered ton to maintain its navigational aids.

This business model should seem familiar. NAV CANADA builds, maintains and operates Canada's air navigation system, and it describes itself as "the world's first fully privatized civil air navigation service provider, created in 1996 through the combined efforts of commercial air carriers, general aviation, the Government of Canada, as well as our employees and their unions."

Stakeholder representation -- interested parties -- on NAVCAN's board and advisory committee helps steer investments, decide how much capital to raise in debt markets, and set fees for air traffic control. Fee-setting is important, because it is the tool that ensures customers pay in proportion to the benefits they receive from air navigation, just like the UK's lights dues.

Most of the United States aviation sector looks longingly -- really longingly -- at the NAVCAN model. There, the Federal Aviation Administration is an arm of the federal Department of Transport, so its budget is part of the DOT's submissions to the congressional appropriations committees.

That means that a request to fund any air traffic control system upgrade competes with countless other appropriations requests. And political oversight means exposure to political windstorms, or getting stuck in a holding pattern. As of last week, neither the House nor Senate committees, for instance, will be approving any further appropriations this year, and for the time being will negotiate continuing resolutions allowing funding as approved in last year's appropriations cycle. There is a better way.

NAVCAN's apparent success seems to rest on its governance model, which pits together parties with competing interests and requires them to agree on a resolution. The "competing interests" part is crucial, because the company is a non-profit.

Similar non-share capital corporation structures can go wrong, if downstream customers' interests are insufficiently represented. What can happen then is that the company's management may be tempted to over-issue debt, and overbuild, knowing that the costs can all be pushed to someone else.

In the case of domestic air navigation services, the costs are going to be passed from airlines to customers, of course. But the airlines are competitive and not motivated to allow costs to climb unwarrantedly. Labour unions are motivated too. If airlines' profits are squeezed, gaining improved wages and benefits gets a lot harder. There's a little built-in discipline.

The same discipline is present in a well-designed for-profit privatization or P3 model.

This can be done in a leasing model. For instance, a municipality could sell a long-term operating lease for its drinking water system. (They are privately run in a lot of the world.) Maintaining quality of service is all of a sudden easy for the municipality; it enforces existing performance standards. And you can hit the system operator with a massive daily fine for each day the standard is missed. Boil-water warnings tend to be pretty rare in that environment.

The for-profit operator has an incentive to control costs – but during the term of the lease, which is a form of monopoly, how do you know it does not exaggerate them, and boost water rates? That's not so hard either – you put the lease out again for competitive bid.

This all points to the art of the contract, and balancing risks, rewards, and incentives. So as we contemplate more federal/provincial/local/private infrastructure deals, we should keep a close eye on the terms of the contract, so we don't get shipwrecked on a poor construct.

More on that another time.

*Finn Poschmann is President and Chief Executive Officer at the Atlantic Provinces Economic Council.*