

What do 88 fighter jets really cost?

The Canadian government is purchasing new fighter jets---a supposedly necessary upgrade for our security. We've written elsewhere about why these arguments for new fighter jets are bogus. Here, we'll walk you through an estimate of what these jets are really going to cost, and what other, more life-giving things we could do with that money.

What's in a jet?

As you might expect, there are lots of moving parts that go into producing, running, and maintaining flying death machines. The initial cost is *acquisition*: paying for the planes and their setup. This is the \$19 billion number that the government keeps quoting, but it's not the only cost.

After you get the planes, you have to keep them up and running, with major repairs and new parts and training. This is *sustainment*. Plus, *operations* covers the fuel, the salaries, and small repairs. We expect some of the planes to go down, so there's an *attrition* cost. And, finally, someday we'll have to get rid of the planes: the *disposal* cost. We call the total of all of these the *lifecycle* cost.

... For how much?

As of right now, the Canadian government hasn't given us a detailed cost estimate of the fighter jet program---just an estimated acquisition cost. They know that the actual cost of the program will depend on the company they choose to fulfill it. Plus, it would look bad to quote a number much bigger than \$19 billion.

Lucky for us, policy experts have estimated the costs of fighter jet lifecycles before. Using a combination of estimates from the Department of National Defence (DND), KPMG, and the Canadian Centre for Policy Alternatives (CCPA), we present our estimate of the lifecycle cost of 88 new jets, assuming the frontrunner F-35 takes the cake.

Expense	Cost (billions)
Development	0.6
Acquisition	19.0
Sustainment	19.1
Operations	35.8
Attrition	2.0
Disposal	0.2
Total Lifecycle	\$76.7 billion

Details

This estimate is pieced together from several reports all made during the last fighter jet procurement project in the early 2010s. Mainly, we used the DND estimate produced in 2013, and the CCPA report which critiqued that estimate in 2014, written by Byers.

Additional information on the current procurement was found in publicly available presentations by the Future Fighter Capability Project (FFCP).

Development: *\$606 million.* We have already spent \$606 million (Byers, 2014). It is unclear what additional development costs we may be responsible for.

Acquisition: *\$19 billion.* This cost is not just for the planes. It is for all “one-time costs associated with acquiring aircraft, ancillary equipment, infrastructure, information systems, mission software reprogramming capability, initial aircrew and ground crew training, weapons, support equipment, initial spares and project management” (DND, 2013) and for sustainment setup (FFCP, 2018). Initial sustainment services may be partially included in this cost. The DND estimates that the acquisition costs of the current program will be between \$15 and 19 billion---if the F-35 wins, it will most likely be \$19 billion (FFCP, 2018).

Sustainment: *\$19.1 billion.* These costs “include contracted labour and materials costs related to the major repair, overhaul, and upgrade of the aircraft and equipment, the management of the supply chain, and training-support management” (DND, 2013). In 2013, the DND estimated lifecycle sustainment costs would be \$15 billion. Since then, the value of the Canadian dollar has dropped significantly, adding \$2.1 billion (Byers, 2014). The inflation rate has not increased much since 2014, though it may in the future, potentially adding billions (\$12 billion for a 4 percentage point increase). The hours these jets are expected to fly significantly affects these costs. We don’t know what the planned flying hours are, or what flying hours have been in recent years. Assuming the number of planned flying hours for each jet hasn’t changed since the 2010s procurement, the number of hours will increase proportional to the increase in the number of jets from 65 to 88. This adds \$2 billion. The increase in number of jets will also likely increase the sustainment cost; we have no way to estimate this increase and have not included it here.

Operations: *\$35.8 billion.* “Includes salaries, fuel, first-line maintenance, and base-support costs” (DND, 2013). Fuel & maintenance costs may increase here; again, we do not have an updated plan for the number of flight-hours each plane will have. Byers starts with a \$29.7 billion operating cost for an F-35 fleet. His risk calculations are based on inflation (which has stayed steady so far), increased flying hours (which we have no data on), and increase in the price of jet fuel (which hasn’t happened yet, but is likely to). Assuming an increase in flight hours proportional to the increase in jets from 65 to 88, we add \$1.5 billion. Assuming an increase in jet fuel price of 50% during the lifecycle, we add an estimated \$4.3 billion.

Disposal: *\$168 million.* “Include[s] the costs of demilitarizing the aircraft, removing hazardous materials, storage and final disposition of the airframe” (DND, 2013). This cost may be higher due to the larger number of jets and their increased technological complexity over the CF-18s---the aircraft the National Defence estimate was based on.

Additional costs: *None.* Byers mentions several costs that are somewhat external to the acquisition project but are nonetheless essential for the operation of the jets in the Canadian military. We generously assume that this time the government has factored them into the acquisition costs.

Attrition: *\$2 billion.* Last time, attrition costs were expected but not explicitly included in acquisition costs. It *seems* like attrition is still not included in the costs, but we don't know for sure (FFCP, 2018). It is reasonable to include an estimate of \$2 billion in attrition costs, consistent with a 0.73 cent dollar.

Infrastructure: *\$21.3 million.* The infrastructure needed for the jets is being built outside of the acquisition process, meaning it is an additional cost not accounted for in acquisition (FFCP, 2019). So far, \$21.3 million has been awarded in infrastructure contracts and much more could be spent (DND, 2020). This figure is not included above due to it being comparatively small.

Risk & limitations to this estimate: Several of these figures could change depending on inflation rates, the value of the Canadian dollar, the cost of jet fuel, or any number of other factors. This potential for change is called risk, since they create the risk that the project could cost more than initially estimated. Byers (2014) wrote his report to emphasize this risk, and provided an estimate for a scenario where the price of jet fuel doubled, inflation hit 4%, and the value of the Canadian dollar dropped to 0.70 cents U.S. (a scenario which is reality today). His upper estimate was \$126 billion. There is substantial risk still for high inflation and higher jet fuel prices which could raise the cost far above our estimate of \$77 billion.

We also have limitations. The main limitation to this estimate is our assumption that the F-35 will win the competition. There are two other jets being considered: Boeing's Super Hornet and SAAB's Grippen. It is possible that either of these jets winning would reduce the cost of the program, especially in acquisition and fuel costs. Our other limitation is in detail: we don't have access to the specifics of flying hours, infrastructure, replacement parts, sustainment salaries, or anything else. We're relying there on old estimates for a slightly smaller program. It seems likely, of course, that more jets means more salary hours and parts and so on, so we may have underestimated sustainment and operations costs.

What else could we spend \$77 billion on?

As you can imagine, there are a lot of more life-giving things that \$77 billion could be spent on. With \$4.7 billion, we could provide clean water to Indigenous communities. With only \$2.1 billion, the federal government could adequately address atrocious standards in long-term care homes for the ongoing pandemic.

Many First Nations, Inuit, and Métis communities still do not have access to reliable, clean running water and other crucial community infrastructure. CBC reported in October of 2020 that the Liberals have spent \$1.65 billion of \$2.19 billion set aside for addressing the water crisis in Indigenous communities (Stefanovich, 2020). In 2017, the Parliamentary Budget Office estimated the cost of improving water and wastewater systems in Indigenous communities at \$3.2 billion (PBO, 2017). However, an independent Indigenous firm estimated the cost at \$4.7 billion, accounting for higher population growth (Alida, 2018). The investment the government is putting in is superficial, and does not address underfunding of other infrastructure issues for decades (Dobell, 2020).

The COVID-19 pandemic has laid bare the atrocious conditions of the long-term care sector across Canada. The Canadian Association for Long-Term Care has said that this pandemic combined with 30 years of underfunding across the sector created the “perfect storm” for long-term care homes (CALTC, 2020). The conditions in some homes when the virus hit was, in some cases, comparable to concentration camps (Canadaland, 2020). Following this, the CALTC called on the federal government in September to provide \$2.1 billion over 2 years specifically to fund the COVID-19 response and for a number of policy changes to address the lack of standards across the sector (CALTC, 2020). The Fall Economic Statement announced some funding measures for long-term care; \$1 billion in funding to the Safe Long-Term Care Fund and \$38.5 million for recruitment and retention of personal service workers to help address the labour shortage (CALTC, 2020). However, the chair of CALTC, Jodi Hall, says the sector needs more; “[t]his is a crisis 30 years in the making and, while this is a good first step, we are hoping that this will be a long-term relationship between the federal government, provinces and territories and the long-term care sector in support of structural changes[.]” (CALTC, 2020).

Surely \$77 billion could be better used to ensure the safety of our disabled and elderly populations, and nationalize the long-term care sector. \$77 billion could easily ensure clean drinking water for all. This \$77 billion could go towards life.

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