

An airport in our midst

LESLIE CAMPBELL

Victoria boasts one of the busiest water airports in the world—some think it's too busy.



PHOTO: DAVID BROADLAND

Floatplanes coming and going on the busy Victoria Harbour Airport

It's quite unusual—and ambitious—to have an airport smack in the middle of any city, on water or land. According to Transport Canada, which runs the harbour aerodrome, “Victoria Harbour is Canada’s only certified water airport and port that is home to cruise ships, floatplanes, passenger ferries, recreational boaters and kayakers.” And don’t forget the big yachts in the new marina. Did you know Victoria is now the busiest port of call for cruise ships in Canada? Or that the airport has earned the title of Canada’s, and sometimes the world’s, busiest water airport, averaging 100 flight movements (take-offs or landings) a day?

As Transport Canada’s graphic depiction of the harbour’s transportation avenues shows (page 6), all of the traffic in the harbour is occurring in a small space, one surrounded by dense development of the waterfront, including hotels and thousands of condos. Note the pinch-point between Songhees Point and Laurel Point, a narrow channel that all vessels, including aircraft, must squeeze through to get into or out of the Inner Harbour. And notice that airport runways are superimposed on the lane for boats over 20 metres in length.

The airport might even get busier if recently-announced plans to convert Harbour Air’s fleet to electric motors come to pass. Harbour Air is the main airline operating out of the harbour, with flights to

downtown Vancouver, South Vancouver (YVR), Pitt Meadows, and Whistler. With over 40 aircraft, it is possibly the largest seaplane airline in the world. It has won numerous awards over the years, including Canada’s Best Managed Companies (for 10 years), and Business of the Year in Victoria. Its founder and owner, Greg McDougall, was just inducted into Canada’s Aviation Hall of Fame. It claims to be the world’s first fully carbon-neutral airline (accomplished through an offset program). And now it plans to become the first commercial airline to be powered by electric propulsion.

When electrification of its fleet is complete, flight costs could come down as much as 70-80 percent, according to Roei Ganzarski of magniX, which is developing the new engines. If flight costs were reduced, it follows that fares might come down, too—certainly the offset charges would be eliminated. That would likely translate into greater demand—from tourists, business people, government employees, and even for freight. Typical fares now are over \$200 to Vancouver, but imagine a \$100 fare: the 30-minute trip could become enticingly convenient and affordable to a lot more folks.

When I suggest such a possibility to Harbour Air President Randy Wright, he said, “Fuel costs will come down, but it will take a while to convert the entire fleet. There is also a significant capital cost

MADOFF BELIEVES the reasons for the delay—19 years now—is the requirement that the regulations and standards will be subject to a 30-day public notice and thereby be held up to scrutiny.

involved in this refit. As a result, at this point, it's difficult to say what the impact will be on fares." He also doesn't think flight numbers will increase.

Residents with ringside seats on the harbour have expressed concerns for many years about the airport's safety, noise and exhaust fumes. While Harbour Air's electrification plans—if they are carried out—will eventually help on some fronts, the safety concerns will not go away, whether flight numbers increase or remain the same.

IN THE EARLY 1990s, when construction of condos began on the Songhees, floatplane flights numbered about 11,000 annually. Though they have ranged as high as 34,000, they've been hovering around 25,000 in recent years. (Helicopters not included—they add another 9,000 or so.)

In 2000, the harbour aerodrome was certified as an airport by Transport Canada, which regulates the Port of Victoria—basically from Ogden Point to the Selkirk Trestle Bridge. In 2008, the City of Victoria, in response to growing citizen concerns about safety, noise and emissions, set up a committee to look at the airport. In the minutes for a meeting that included representatives from Transport Canada, the anger of residents comes through loud and clear.

One resident, an experienced pilot with over 1600 hours of flight time, including in floatplanes, stated: "it's an accident waiting to happen...Any experienced pilot is astonished. If it was grass between the shores there'd be no airport." He and others commented that they had given up complaining because of the apparent futility. As one person put it, "Complaining to Transport Canada is a big black hole, nothing happens."

Another argued, "There has to be some limitation [of flight numbers] and some people think the carrying capacity has long been exceeded." A Songhees resident described how "on a typical day I wipe off my balcony and the rag is filthy [from plane exhaust]."

That committee's final report in 2009 made clear that the City had no real power over the airport. It could ask Transport Canada to play nice, but that was about it. Among the things it "urged" Transport Canada to do were conduct an independent aeronautical study, and study the impact of noise and air quality.

No such studies have been done.

Former Councillor Pam Madoff, who chaired the committee on the airport, describes the issue as "one of the more frustrating files to have dealt with" over the course of her 25 years on council—largely because of Transport Canada's "lack of responsiveness and a level of disinterest that was quite extraordinary."

Another key "urging" of her committee was to finalize the *Water Airport Regulations and Standards*, after adjusting them to address "quality of life factors and the dense urban environment." The regulations have never been adjusted or formalized—they have been in draft form since 2000.

Songhees resident Susan Woods has shown me an almost comical two-decade record of annual promises from Transport Canada that the final regulations, along with a 30-day public comment period, were just around the corner.

Why Iyengar Yoga?



Yoga became popular in the West in large part through the teaching of BKS Iyengar. His method of learning yoga is now the most widely practised in the world. There are many good reasons for its popularity:

Accessibility: Iyengar yoga is accessible to anyone. Regular practice increases suppleness, strength and stamina, improves posture and concentration and quiets the mind to promote well-being.

High teaching standards: All Iyengar yoga teachers undergo a rigorous program of training lasting years. Many teachers at the Iyengar Yoga Centre have decades of experience, travelling regularly to India for instruction.

Safety: The Iyengar yoga technique emphasizes precision and alignment. Quality of movement is prioritized over quantity. You learn to move with ease in your body while working within limitations. This makes the yoga postures (*asanas*) safe to perform.

Use of props: Yoga postures are held for longer than in some other methods, allowing tight muscles to lengthen and relax, and helping to focus awareness. Props such as blankets, blocks and belts may be used to improve the understanding of poses or to help with difficulties.

Structured: The practice is progressive, building a stable foundation before attempting more demanding work. Beginners start with standing yoga poses and are gradually introduced to a fuller range of sitting and reclining yoga postures, forward extensions, inversions, twists, back bends and arm balances.

Balanced: Each group of yoga postures develops the body in different yet reciprocal ways and has different qualities: grounding, energizing, strengthening, stimulating, calming. Yoga classes at all levels devote time to relaxation. Once the body and mind are strong enough to sit or lie for extended periods without distraction, students learn yogic breathing (*pranayama*).

Variety: No two yoga classes are the same: teachers select yoga poses from the different groups of poses to emphasize the various aspects of the practice.

Integrated mental and physical practice: Iyengar yoga has been described as meditation in action. Practising the yoga postures with awareness has an integrating effect and works to harmonize mind and body.

"The practice of yoga for the sake of health, to keep fit, or to maintain flexibility is the external practice of yoga. While this is a legitimate place to begin, it is not the end," wrote BKS Iyengar. "Even in simple poses, one is experiencing the three levels of quest: the external quest, which brings firmness of the body; the internal quest, which brings steadiness of intelligence; and the innermost quest, which brings benevolence of spirit."

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The continuing delay led Victoria City Council, in July 2017, to pass a resolution to ask “the Government of Canada move forward with publication of *Canadian Aviation Regulations and Standards for the Victoria Harbour Water Airport*, to allow for public comment... and provide certainty for residents, operators and passengers.” In May 2018, after a motion by Councillor Ben Isitt, who noted the years of “runaround” by Transport Canada, the City sent another request for the regulations.

Madoff believes the reasons for the delay—19 years now—is the legal requirement that the regulations and standards will be subject to a 30-day public notice and thereby be held up to scrutiny—scrutiny, it’s implied, that could upset the airport appletart.

Marg Gardiner, president of the James Bay Neighbourhood Association, has been studying the harbour and the airport for decades. She uses words like “shameful” and “depressing” to describe how neglectful *both* the City and Transport Canada have been in addressing and protecting local residents from unhealthy levels of exhaust and noise, as well as potential accidents. She believes the City encouraged development around the harbour knowing about the liveability issues around a busy airport. She says it’s only through citizen action that airport traffic hasn’t increased more over the years: “It’s a political game.” Referring to the City’s committee and its recommendations, she adds, “There was lots of talk, but in the end nothing...no one demands anything from Transport Canada.”

HARBOUR MASTER MARIAH McCOOEY, who also acts as the airport manager, assures me that, over the years, Transport Canada has developed measures to ensure all harbour users can coexist safely. Key among these measures is “a detailed traffic scheme, which has been in place for almost 20 years. It includes runways, lanes, and different zones that keep traffic flowing for all the diverse users.” She admits, “From shore it looks a bit random, but it’s actually well organized.”

Besides wall-to-wall windows on the water side of her Fisherman’s Wharf office, McCooley, who holds a Masters in Maritime Management, has a number of large high-resolution video screens providing views from 23 cameras around the harbour. The Coast Guard has access to these videos as well. The data is kept for 120 days so recent incidents can be reviewed if necessary.

Victoria Harbour Airport operates under a “Prior Permission Required” system: not just anyone can land their plane. All pilots flying into the harbour airport do special studies and take an exam, McCooley tells me.

NAV Canada provides “flight services” including up-to-date weather and water conditions for pilots, but, unlike at larger airports, no air traffic control (though NAV Canada’s tower on the harbour looks like an air traffic control tower at a regular airport, it isn’t). Pilots can communicate with NAV’s flight service advisors and with each other.

McCooley oversees on-the-water patrollers—a couple in the winter and seven in the summer. The biggest safety issue, she says, are

Transport Canada’s “Traffic Scheme” for the Public Port of Victoria





PHOTO: LESLIE CAMPBELL

Victoria Harbour Master Mariah McCooley

“transient” boat operators who don’t know harbour rules. Towards their enlightenment, she and the patrollers give out 2,500 brochures over the summer. These include the map, with its highlighted warning telling boaters to stay away from runways.

McCooley is not worried about the amount of traffic. “We have a lot of coordination [among partners], with lots of safety meetings... A lot of top professionals are looking at the harbour to make sure it works and is safe,” she says, mentioning representatives from NAV, the Coast Guard, City of Victoria, and the RCMP. All the partners meet every six months to make sure everyone’s in the loop about any developments and issues. There’s also a database that includes all reports of infringements that is available to all the partners. “It’s pretty fantastic,” says McCooley. Every incident in which a runway is crossed, or there’s been a misuse of boat lanes, is included and analyzed. There were 700 such non-serious incidents last year, but no real accidents. The incidents are recorded, says McCooley, as they do pose some risk. “We’re always asking what we can do to reduce it.”

Regular users, she says, are well-versed in proper procedures. Tug operators know they can go “right up the middle,” for instance. The whale-watching boats also use the middle lanes. Harbour ferries have to regularly traverse runways, so are heavily involved in safety meetings, she notes, telling me in all, there are 120,000 ferry movements per year. Each ferry has a two-way radio. A few years back Randy Wright described the arrangements as “working like a Swiss watch.”

Still, there are barges coming and going and there will be, eventually, some mega-yachts. As well, the Coho and other big ships have to use the airport runway. It seems an incredible amount to choreograph.

SUSAN WOODS, WHO LIVES IN A CONDO on the Songhees and has a masters degree in marine science, is not reassured by the Harbour Master’s confidence. Her main concern is the way planes are allowed

to fly close to residential buildings on the north side of the harbour. (Full disclosure: my mother lived in a Songhees condo for 24 years.)

The allowed distance from the edge of the take-off and landing areas to the nearest building is 50 metres. She believes it should be more like that of other airports: 300 metres. She notes, “In the event of a problem with the aircraft, strong gusting winds, momentary inattention by the pilot, or some other mishap, this 50-metre gap would be closed by an approaching plane in about one second.” Something Transport Canada calls “vertical transition zoning” has been allowed to get around the fact that buildings poke into the usual amount of transitional surface required for a safe runway zone. In a document online, Transport Canada states this type of zoning “is intended to provide relief for small aerodromes in mountainous regions, used in VMC [visual meteorological conditions], where river valleys, etc. are the only sites available. At other locations an aeronautical study and Headquarters’ approval is required.”

Woods also believes pilots should be prohibited from taking off or landing while there are obstacles (i.e. watercraft) present anywhere on the take-off and landing areas.

Marg Gardiner, who lives in a condo across the harbour in James Bay, agrees, lamenting that runways have been superimposed on the marine arterial highway used by the Coho and other large boats, which means that the unobstructed airspace for the landing and taking off of aircraft—a requirement of other airports—is not being met.

While there have been no accidents in many years, Gardiner says, “There have been close calls.” She’s seen near-misses between aircraft and buildings or watercraft. She has also seen and reported incidents in which, during rough weather, taxiing planes seemed to lose control and come perilously close to fuel docks.

NAV Canada facility at Shoal Point looks like an air traffic control tower—but isn’t. There is no active air traffic control for Victoria Harbour Airport.



PHOTO: LESLIE CAMPBELL

Woods says the only incident she's witnessed (and reported) recently was one in which "a Twin Otter landed eastbound on operating area Alpha, and the pilot had to use probably-maximum reverse thrust in order to attempt to complete the landing prior to crossing east of the line joining the N and S markers. However, it appeared that the plane had neither completed its landing nor was at or below five knots before crossing the line."

Woods and her fellow Songhees residents have pressed for years for an aeronautical study to identify the deviations and the remediation needed for airport safety—one conducted by a qualified, professional, independent consultant. To no avail.

AND THEN THERE'S THE NOISE. Harbour Air's eventual shift to electric planes will definitely help. Wright predicts, "The electric planes will be about 75 percent quieter."

Meanwhile—and it could be a long while—it's noisy, as those living on the harbour or walking the Westsong Walkway can attest. "Especially during the busy summer period," says Woods, "windows and doors have to remain closed due to conversation-stopping noise and the noxious fumes which accumulate inside homes."

A City of Victoria presentation from October 2008 suggested that noise problems were primarily due to propeller noise—not just engines—and that they were "exacerbated by proximity of aircraft to shoreline buildings." (What Gardiner refers to as a concrete canyon over water.) I found a 1995 US study of seaplane noise that stated: "The principal factor in the intensity of seaplane noise is first the type of seaplane..., next the tip speed of the propeller (RPM's), followed by the angle and distance that can be kept between the seaplane and the listener, and lastly the power setting (throttle)." It stated that a Cessna 206 with 300 hp engine and three-bladed propeller has a maximum of 88 dBA.

The only noise study done by Transport Canada dates back to 2000. It found that average noise was "just below acceptable level," and acknowledged a problem does exist. Single-event levels during one three-hour period in the afternoon exceeded 85 dBA 14 times, Woods noted. With more than 100 flight movements a day in summer, such numbers don't seem surprising. (City noise bylaws do not apply, given the federal jurisdiction.)

Noise is more than a nuisance; it's a recognized health hazard, increasing stress, the risk of hypertension, and ischaemic heart disease. It also has negative effects on sleep, communication, performance and behaviour, reading and memory acquisition, and mental health.

When I raised the question of noise with Transport Canada, Simon Rivet, a senior advisor with its Communications Group, listed the noise mitigation strategies that have been implemented: "We only allow three-bladed turbo-prop aircraft, which is the quietest version of a floatplane in existence. Best practices include the reduction of reverse thrust when landing, with sufficient room to allow for a natural slowdown, rather than having to put it in 'reverse,' which is quite noisy." He also noted that rules around runway use dramatically reduce noise levels: the majority of take-offs are from Bravo runway in the Outer Harbour; while the preferred runway for landings is eastbound on Alpha, "because it also minimizes the amount of idling and manoeuvring on the surface." Finally, he noted that no flights are allowed before 7am.

But with no noise-level studies in two decades, how do they know if these measures have been successful, or to what degree? Harbour residents are still finding it very loud. And quieter electric planes could be a long way off.



PHOTO: MAGNIX

A shop mock-up of how magniX's electric propulsion system would be adapted to a Cessna aircraft

Gardiner feels that until things change, all prospective harbour condo buyers should be warned about the noise. As I talk with her on the phone, the Coho blasts its horn in the background.

UNTIL SEAPLANES CHANGE TO EPLANES, the city's booming core population means that more people will notice the noxious fumes around the harbour. Susan Woods believes "unburned or partially combusted fuel from floatplane operations at Victoria Harbour Airport result in volatile organic compounds and suspended particulate matter being spewed into the surrounding environment, including the walkways and residences... The sooty, oily film which begins to coat our windows, soon after they've been washed, is a visible testament as to the volume of particulate matter polluting our air each and every day." (I too have seen the greasy film that coats windows on the Songhees side.)

Transport Canada's last study, based on 1998 activity levels, found that VOCs being released into the harbour came from both motorboats and planes. While more VOCs were produced by motorboats (including whale-watching vessels), aircraft emissions, because of their dispersal in the air, tend to affect humans more.

Many floatplanes run on "avgas"—a petroleum fuel with lead added to it. Lead was phased out of gasoline for automobiles decades ago because of its serious health effects. Yet small planes with piston engines still use it. Wright assured *Focus* that none of Harbour Air planes flying to Victoria Harbour use leaded gas. However, Transport Canada's Rivet told me there is no requirement for planes to use unleaded gasoline. So other planes flying into the harbour likely do use it. Rivet also said the airport has no air-quality monitoring program. No one really knows just how bad the air around the harbour is these days.

Beyond the health of locals, of course, is that of the planet. All carbon-burning craft play starring roles in warming the planet. Aviation, however, states the David Suzuki Foundation, "has a disproportionately large impact on the climate system. It accounts for four to nine percent of the total climate change impact of human activity." The industry has been "expanding rapidly in part due to regulatory and taxing policies that do not reflect the true environmental costs of flying." Travelling by air "has a greater climate impact per passenger kilometre, even over longer distances. It's also the mode of freight transport that produces the most emissions," the Foundation states on its website.

It's time to sleep again

Harbour Air has worked hard to be as green as possible under these circumstances. Its Victoria terminal has a green roof and solar panels. Most importantly, since 2007, it has had an impressive carbon offset program. All emissions of the company, 97 percent coming directly from seaplane fuel use, are “offset” through Offsetters Clean Technology, a company that specializes in both calculating carbon emissions and finding appropriate projects to invest in—both regional and international—that reduce carbon emissions. Harbour Air has information about the projects online and makes customers aware of the offsets by showing their cost on ticket receipts. It also tells them that a return flight to Vancouver produces 87 kg CO₂-equivalent per passenger. Nevertheless, Harbour Air’s overall emissions have crept up over the years to 12,793 tonnes CO₂-equivalent in 2017.

While offsets may be better than nothing, critics have argued they are a bit of a shell game, allowing people to rationalize their carbon-intensive habits rather than changing them. Most experts agree they are not a substitute for directly reducing emissions, given the urgency of tackling climate change. University of Ottawa Professor, and President of the Environmental Studies Association of Canada, Ryan Katz-Rosene, told *The Georgia Straight* an honest definition of “carbon offset” might be something like, “a framework to enable people to continue to produce carbon dioxide and to absolve themselves of responsibility when they might not even work in the first place and, if they do work, are things that should be happening anyway.”

So the Harbour Air electrification moves are potentially very good news for those concerned about climate change and air quality. (Unfortunately, there are no such technological fixes foreseen for larger planes.)

How soon will Harbour air electrify its planes? Wright says, “We plan to have an eplane ready for flight testing in late 2019. But it will take a while for Transport Canada regulations to catch up. We anticipate that it will be a multi-year effort to convert the entire fleet.”

Judging from the 19 years Transport Canada has taken, so far, to finalize the airport regulations, we may have a long time to wait for those electric planes.

Marg Gardiner says she’ll believe it when she sees it. She’s seen too many failures along such lines, including aborted plans to electrify the buses going to and from cruise ships. Even if Harbour Air’s plan is realized, and electric planes reduce both health and environmentally-damaging emissions, as well as some or most aircraft noise, “it doesn’t address the safety issue at all,” says Gardiner.

On that front, Transport Canada needs to step up, do the aeronautical studies, and finalize the standards and regulations for the airport that it has long promised.

No one is suggesting the airport be closed or moved out of the harbour. Most agree that it provides a valued service and brings economic benefits to Victoria. But it is publicly owned. The private airlines pay nothing in port fees. Taxpayers pay for it all—the Transport Canada managers, the Harbour Master, the on-the-water patrollers and their boats and brochures, along with the frustrations, possible health issues, and benefits that come with having an airport in the middle of Victoria’s harbour. They understandably want to be assured of adequate safety measures and quality of life.



Editor Leslie Campbell misses her regular visits to her mom’s old condo. The view of our busy, beautiful harbour is hard to beat.

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Diane Regan, owner of Triangle Healing Products, constantly researches what is new in the world of health, and says Europeans tend to see how well they can build something rather than how cheaply they can make it. The Balancer Das Original is a very good example of that European quality.

European excellence is also evident in the German-made Bellicon Rebounder, named the number-one piece of exercise equipment by the North American Chiropractic Association for its low-impact, effective means of exercising.

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