



Testimony on H.620
House Committee on Commerce and Economic Development
Chris Carrigan, Vice President
Vermont Chamber of Commerce
January 31, 2018

Chair Botzow and esteemed members of this committee,

My name is Chris Carrigan, and I'm the VP of Business Development with the statewide Vermont Chamber of Commerce, which represents 1,500 members. I also manage the Vermont Chamber's Manufacturing Division, which is focused on aerospace and aviation.

Thank you for taking a look at H.620 and the opportunity to further develop the State-owned airports and promote economic development in the State.

Today I'm going to put forth some history, context on work to date to transform Vermont into a Supply Chain Hub and strengthen our ties with Québec, as well as draw your attention to an emerging opportunity to further develop our State-owned airports for enhanced economic development in the State.

Vermont's Aerospace & Aviation Industry

To begin, Vermont is home to a thriving \$2 billion aerospace manufacturing and civil aviation industry.

According to the Economic Impact of Civil Aviation by State study done by the Federal Aviation Administration (FAA), the economic impact of civil aviation alone for the state of Vermont includes:

- **\$1.1 billion** in economic output
- **\$316 million** in earnings
- **11,081** direct and indirect jobs

Civil aviation, furthermore, represents **2.3%** of Vermont's gross domestic product (GDP).

Additionally, aerospace manufacturing is an important part of Vermont's overall manufacturing economy, which supports 32,000 jobs (10.4% of all employment), accounts for \$2.8 billion or 9%

of the state's gross domestic product (GDP) and \$2.57 billion in exports or nearly two thirds (2/3) of all exports.

For aerospace manufacturing, Vermont is home to industry leaders, such as GE Aviation in Rutland, UTC Aerospace Systems in Vergennes, KAMAN and Kaman Composites in Bennington, and an established, world-class supplier base of over 250 small and medium-sized manufacturing enterprises (SMEs) with manufacturing capabilities in the areas of:

- Aircraft maintenance, repair & overhaul (MRO);
- Aircraft structures and sub-assemblies;
- Aircraft airframes and engines;
- Aerospace design & engineering;
- Avionics and electronics;
- Fixtures and gauges;
- Fuel management;
- Landing gears;
- Precision machining; and
- Turbomachinery.

World class aircraft Original Equipment Manufacturers (OEMs) from Airbus Americas, Bell Helicopter and BAE Systems to Boeing, Bombardier, and Sikorsky, a Lockheed Martin Company all depend on Vermont's aerospace manufacturers to design, build and deliver the finest quality products with innovation, speed to market and competitive advantage. The Boeing Company, for example, has **23** suppliers and vendors based right here in Vermont representing an **\$88.1 million** spend and supporting **2,800 jobs** for Vermonters.

Supply Chain: From Contacts to Contracts

Recognizing aerospace and aviation as a thriving industry and economic opportunity for the State, and, responding to the need of our members for access to contacts, new business opportunities and contracts, the Vermont Chamber of Commerce developed a supply chain matchmaking program and has a proven track record of bringing large out-of-state buyers and government contractors, suppliers and partners together in a meaningful way with **18** supply chain events over the last ten years. Manufactured in Vermont, the Vermont Chamber's Annual Supply Chain Conference and Trade Show in 2017, for example, recently featured:

- **100** exhibitors from Vermont, New England and lower Québec
- **400** B2B Supply Chain Meetings representing **100** hours of quality meeting time
- **20** OEMs, including Airbus, Bell Helicopter, Boeing, Sikorsky, Lockheed Martin and Raytheon
- Over **700** participants
- **24** Canadian companies in support of our Vermont – Québec Aerospace Trade Corridor, which is now being extend to Connecticut Aerospace

Tapping Québec Aerospace

Our work also extends across the border to a \$28 billion Canadian aerospace industry. A vital contributor to this market is the \$13.8 billion Québec aerospace cluster in and around Montreal.

Québec aerospace is the 3rd world capital of aerospace manufacturing after Seattle, Washington and Toulouse, France where commercial aircraft are built from the ground up at these locations.

Québec aerospace is also home to 204 aerospace companies, a network of 190 small and medium-sized enterprises, a workforce of 41,750 and some of the largest global aerospace OEMs, including Bombardier (Airbus), Bell Helicopter and Magellan Aerospace. Importantly, most of these Canadian companies source over 50% of their aerospace parts from the U.S.

The Opportunity: Québec – Vermont - Connecticut Aerospace Trade Corridor

With these two markets in mind, the Vermont Chamber recognized the opportunity to link Vermont's \$2 billion aerospace and aviation industry with Canada and tap Québec aerospace for enhanced, cross-border trade and supply chain integration for our Vermont aerospace manufacturers.

Over the past seven (7) years, and, in support of building the Vermont – Québec Aerospace Trade Corridor, the Vermont Chamber's record of work and investment in Québec includes **\$907,000** and the facilitation of **1,962** B2B supply chain meetings for our members and Canadian partners (see handouts).

The Vermont Chamber is now extending the trade corridor to Connecticut aerospace and connecting Vermont companies with Connecticut aerospace manufacturers and prime contractors for additional contacts, new business opportunities and contracts to optimize their supply chains. The Connecticut aerospace industry employs a workforce of 91,500 and is home to the worldwide headquarters for United Technologies Corporation and its subsidiaries, including UTC Aerospace Systems (UTAS) and Pratt & Whitney.

To help our participating manufacturers from Quebec, Vermont and Connecticut build their supply chain networks, the Vermont Chamber has also created an online New England Manufacturing Directory on its manufacturing website: www.manufacturedinvt.com.

Aircraft Maintenance as a Global Market Opportunity for Vermont

Along with tapping Québec and Connecticut aerospace, another market opportunity for Vermont's aerospace manufacturers is the global aircraft maintenance, repair and overhaul (MRO) market. In 2017, airlines spent \$70 billion on maintenance, repair and overhaul. 23% of this spending was on aircraft in the "sunset" portion of the life cycle (Boeing 737, 747 and 757). Aftermarket revenue growth from MRO is also a major priority for OEMs, such as Boeing, which

recently created its new Global Services Division with a goal of achieving \$50 billion in civil and military services revenue.

MRO includes a range of repair services for specific equipment, parts and components for private, commercial and military aircraft. Equipment and parts related to MRO include, for example, aerostructures, air conditioning, avionics and electronics, blades, cabin interiors, circulation, electrical power, gas turbine engines, gear boxes, and landing gears.

In response to this market opportunity, Vermont has an emerging and growing cluster of aerospace companies that serve the global MRO market and customers, including:

- **Commercial carriers**, such as American Airlines, Delta, ExpressJet, JetBlue & Lufthansa
- **OEMs**, such as Honeywell, Pratt & Whitney, for commercial aviation MRO supplemental support
- **Flight academies and schools**
- **Freight forwarding and logistics**, including FedEx and UPS
- **Medical services**, including flight ambulance and emergency transport
- **Military**, including supplemental airlift to the Vermont Air National Guard (VTANG)
- **Private charters**

Conclusion

In closing, and, for the road ahead, Vermont has a thriving aerospace manufacturing and aviation industry. With the aviation sales tax exemption for MRO parts, equipment and machinery now made permanent for both commercial and private, Vermont has an opportunity to market and promote this business incentive, leverage the work done on the Aerospace Trade Corridor, grow its MRO cluster and attract and recruit additional aerospace MRO manufacturers as value-added tenants for the State-owned airports. Doing so will generate additional revenue streams from leasing and foster economic activity and growth (the ripple effect) to the regions around the airports.

For airport marketing, the Vermont Chamber of Commerce, in partnership with the State and the Vermont Department of Tourism and Marketing (VDTM), offers a dynamic Tourism Marketing Program that reaches millions of visitors, business travelers and potential investors annually with an integrated portfolio of digital and media service offerings. My colleague, Ronda Berms, Vice President of Tourism, is also available to provide testimony and an in-depth review of this program.

Lastly, and, as we work to transform Vermont into a Supply Chain Hub and strengthen our ties with Québec, the State-owned airports play an important role as gateways for cross-border travel and tourism, and, as an aerospace trade corridor nexus strategically located between Québec and Connecticut aerospace, offer Vermont an economic development opportunity to more fully tap the global market for aircraft maintenance, repair and overhaul.

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