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Ohio Federal Military Jobs Commission Report

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OHIO FEDERAL-MILITARY JOBS COMMISSION

REPORT

31 December 2015

Ohio

31 December 2015

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Columbus Ohio 43215

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77th South High Street, 14th Floor
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The Ohio Federal Military Jobs Commission is pleased to submit our final strategy as outlined in Ohio Revised Code, 193.03 to 193.09. We applaud the efforts of our State leaders to further develop our economy and support the great people of Ohio. We would like to collectively thank you for the opportunity to serve our State and to provide advice to strengthen the federal and military jobs sector.

The Commissioners met for the first time following legislative approval and commissioner appointments in November 2014. This report includes a summary of Commission's activities from November 2014 to December 2015 as well as an overarching strategy that addresses the legislation. The development of this strategy could not have been possible without the support of research teams from Wright State University, The Ohio State University, and Cleveland State University. The overall goal of the strategic plan is to engage all of Ohio's military and federal installations and their respective communities in a process, along with Ohio's research universities and community colleges to better position these federal assets for future growth and viability. The sustainment and execution of this plan can only occur with dedicated State-level staff and resources. The sustainment strategy will be outlined in detail therein.

The federal installations in Ohio provide a collective payroll of $5B that supports 66,403 federal jobs plus 41,290 military retirees. In addition, Wright Patterson Air Force Base, NASA Glenn Research Center, Veterans Affairs Hospitals, Defense Finance and Accounting Service, Ohio National Guard, Joint Systems Manufacturing Center, and the Defense Logistics Agency provide a significant economic impact in Ohio.

We understand the purpose of the legislation and have focused on a strategic plan that will vastly improve Ohio's ability to attract and retain federal defense missions, private and public sector jobs and grow federal contracting opportunities in Ohio. Your support of the federal missions across Ohio is unprecedented and we are very proud to serve you on this important endeavor for our State.
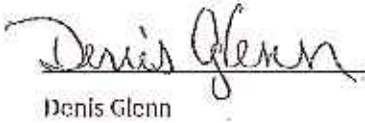
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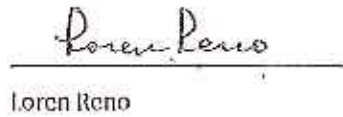
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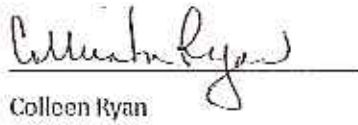
Donald Campbell
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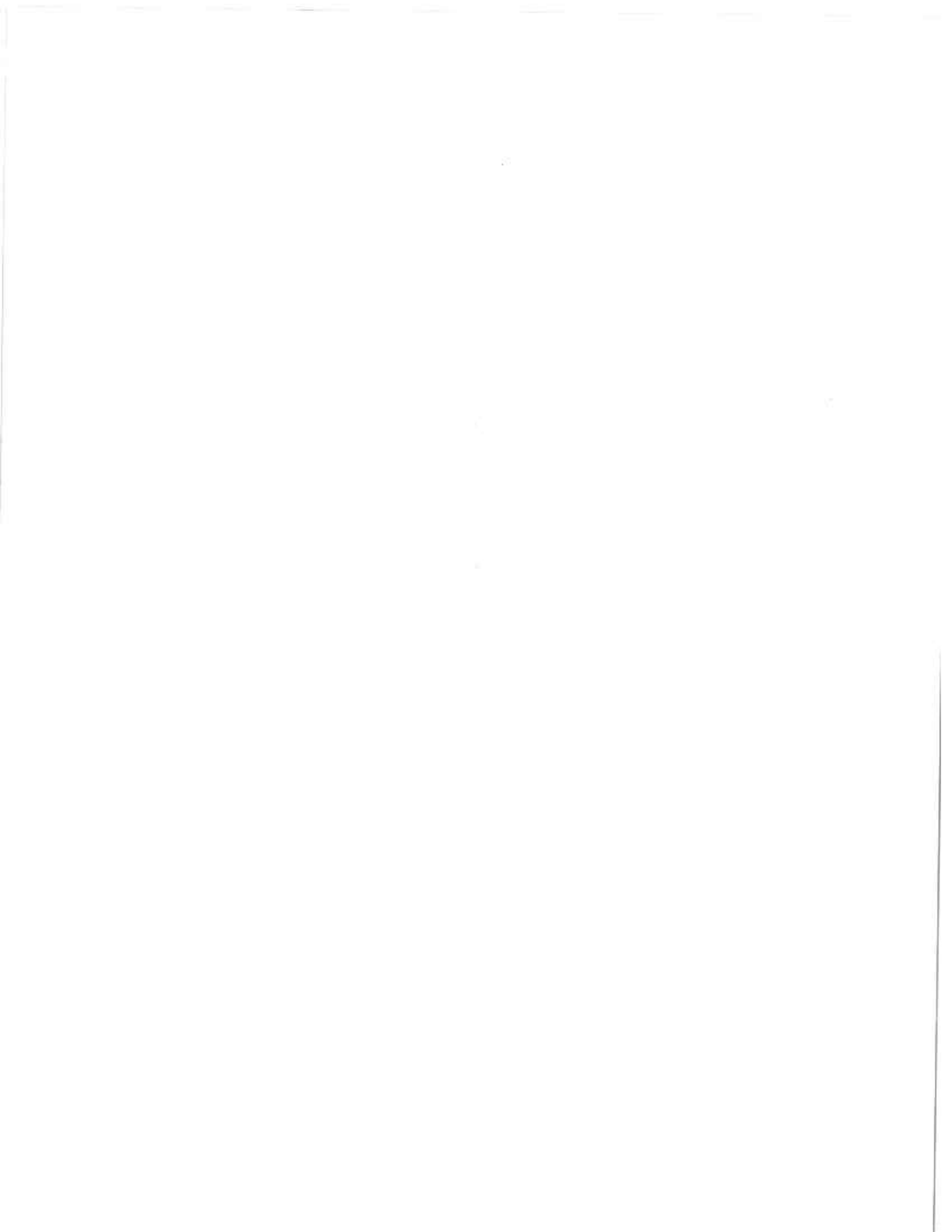
Ohio Federal Military Jobs Commission

Report

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Executive Summary

The leadership of the Ohio General Assembly and Governor John Kasich signed into law the Ohio Federal Military Jobs Commission to enhance Ohio's competitive position to retain, grow and leverage jobs associated with Ohio's significant military and federal installation assets. The overall goal of the legislation and this strategic plan is to engage all of Ohio's federal and military installations and their respective communities in a process along with the University System of Ohio to better position the State of Ohio for future growth and viability.

The focus of the legislation and strategic plan is to vastly improve Ohio's ability to attract and retain federal defense missions and grow contracting and job opportunities in both the public and private sectors. An independent poll conducted in 2014 showed nearly 80% of Ohio registered voters were highly supportive of this type of strategy.

Over the past four years, Governor John Kasich and the leadership of the Ohio General Assembly have made creating and filling new jobs for Ohio's citizens the State's number one priority. During this time, Governor Kasich challenged community and economic development leaders, the university system of Ohio and the legislature to stimulate expanded federal and private sector investment and corresponding new job creation associated with the State's major federal and military installations.

In response to the Governor's challenge, legislative leaders in close consultation with JobsOhio, the University System of Ohio, the Ohio Treasurer and military and civilian leadership of federal installations across the State have come together to develop this proactive and comprehensive state strategy to fully sustain and leverage Ohio's federal and military installations to retain, attract and grow high value jobs.

Ohio is home to NASA Glenn Research Center, the Defense Finance and Accounting Service, the Defense Logistics Agency, the Veterans Affairs Hospitals, Wright Patterson Air Force Base and The Ohio National Guard. These organizations employ over 70,000 people with another 50,000 related private sector jobs. Ohio's federal and military installations generate over $10.7 billion in annual economic benefit to the State.

Although Ohio has supported Base Realignment and Closure efforts and some research and technology commercialization efforts in the past, the State has never before had a comprehensive strategy to protect, expand and fully leverage the federal economic powerhouse in the State's economy. This strategy, for the first time in State history, documents a plan to protect and increase federal and military jobs in Ohio and expand commercialization efforts dramatically. This strategy details a bold, strategic investment in our federal and military installations to grow jobs for the citizens of Ohio. The State now requires bold implementation of this strategy with dedicated resources to ensure success in growing Ohio's economy in the future.

Chapter 1 of the strategy makes extensive use of the data contained in the Ohio Community Guide for Federal Asset Partnerships and the Ohio Federal Retention Phase I and Phase II Final Reports. In addition, this chapter team collected updated information to supplement these two previous reports. In this chapter the value of vibrant and engaged regional Federal Military Affairs Committees is emphasized. In addition, this chapter addresses the importance of a State-level official that can continue to update and keep track of Military Value information from across the State. This chapter

also discusses the continued importance of Public/Public and Public/Private partnership initiatives across the State and connecting the various installations to potential future opportunities.

Chapter 2 of the strategy builds a robust State-wide research and development initiative that is focused on supporting key federal installations in Ohio, while building the research and development portfolio of Universities and Colleges across the State. Specifically, this chapter creates an Ohio Federal Research Network that is built primarily around the research requirements of the Air Force Research Laboratory, the National Air and Space Intelligence Center, the Naval Medical Research Unit and NASA Glenn Research Center. This Federal Research Network funds Universities and Colleges across the State to work together with industry to address the most pressing research needs and technology commercialization opportunities from Ohio's large federal installations.

Chapter 3 of the strategy enhances communication and collaboration among State entities in order to create a statewide response to the federal initiatives that make contracts available to small businesses and veteran-owned businesses. Placing Small Business Development Centers and Procurement Technical Assistance Centers on a common information technology network and educating small businesses on how to do work for the federal government can help to accomplish this strategy. In addition, there is a recommendation for a State-level matching opportunity for Small Business Innovation Research.

Chapter 4 of the strategy recommends multiple initiatives focused on growing the workforce required to support the federal workforce needs of the State of Ohio. The strategy discusses impending future shortfalls in the workforce as well as mechanisms for growth. The strategy specifically addresses comprehension of the demand and supply of the federal workforce as well as the future development of the workforce. The strategy also encompasses the attraction of veterans to the State from around the world and retention of those already in Ohio.

Chapter 5 of the strategy summarizes the most important recommendations from all of the chapters and merges those recommendations with a sustainment plan for the future. The Commissioners focused to the maximum extent possible on developing a strategy that does not require a lot of new infrastructure --the vast majority of the recommendations in this report are designed to be implemented with existing infrastructure. However, there are recommendations that require new programs and funding. One priority recommendation creates a new position, the Facilities and Infrastructure Director, working for the Director, Ohio National Guard. It is envisioned this position will have the responsibility, in coordination with other appropriate State and regional entities, to oversee the sustainment of this State strategy.

The legislation is addressed in the following sections of the strategy:

Legislation	Page reference from strategy
(1) Develop and recommend strategies that support and foster collaboration among local and regional entities to identify appropriate opportunities for the protection of existing federal-military facilities and the placement of additional federal/military facilities in the State;	19-20, 26-27
(2) For facilities located in the State, maintain a current listing of all facilities of the federal government, including military, national security, and national aeronautics and space administration facilities, Ohio national guard facilities, and related State and federal facilities, including their master plans;	25-26, Federal Research Program
(3) Make recommendations, as appropriate, to prepare the State to effectively compete in future and ongoing federal budget reduction processes;	19, 26-28
(4) For the purpose of formulating strategies to secure the long-term viability, retention, and growth of military missions and facilities in the State, direct and review studies by experts that have utilized past base realignment and closure criteria and scoring to conduct a thorough and detailed analysis of the military value of the State's military installations, ranges, and airspace;	26-28, Federal Research Program
(5) Review the scoring criteria from any previous federal defense base closure and realignment commission's processes to determine the following: (a) The strengths and weaknesses of the State relative to competing installations and facilities, which shall include an analysis of military value 1-4 attributes, metrics and criteria such as airspace attributes, encroachment, air traffic control restrictions, area cost factors, and area weather; (b) The opportunities for increasing the military value of federal-military operations in the State that still exist after a previous federal defense base closure and realignment commission process.	21-24, Federal Research Program; OFMJC Survey
(6) Provide an ongoing examination of federal agency construction, including construction for the military, for homeland security, and for the national aeronautics and space administration, and related operations budget requests relative	25-26, Federal Research Program, OFMJC Survey

to the infrastructure plans of federal-military agencies and facilities	
(7) Access and review long-range military construction plans, associated costs, and timelines as made available by federal government agencies;	25-26, OFMJC Survey
(8) Recommend a public-private partnership for services specified by the Commission that include, but are not limited to, energy services, internet connectivity, snow removal, fire service, waste management, library services, day care center services, security services, and services opportunities to lower the cost of operations at federal-military installations in the State;	24-26, OFMJC Survey
(9) Examine the roles and responsibilities of general aviation at airports located in the State and develop and recommend local and federal programs to assist the State's installations and facilities related to municipal airport agreements and the federal airport improvement programs;	19, 26-28, Federal Research Program
(10) Review and develop joint base and infrastructure plans for improving proximity to training areas, consolidating training centers, and determining alternatives that may exist in current federal military construction programs for shared services and shared savings opportunities;	24-26, OFMJC Survey
(11) Evaluate plans for federal agencies and local communities that address excess capacity of buildings, developed land, and land available for development;	24-26, OFMJC Survey
(12) Evaluate enhanced use lease opportunities made available to federal/military entities in Ohio;	24-26, OFMJC Survey
(13) Recommend to the general assembly future programs that may enhance the State's ability to compete for the retention and creation of job opportunities related to federal-military facilities and infrastructure in the State;	68-69
(14) In consultation with other State agencies, develop programs that utilize federal and higher education research initiatives to commercialize and privatize products to private sector companies in the State;	30-38
(15) Develop programs that create a Statewide response to the federal initiatives that make	39-50

contracts available to small businesses and veteran-owned Ohio businesses;	
(16) Develop programs and initiatives to promote career awareness and readiness for, and job placement with, federal-military jobs and other private sector employer jobs in the State.	51-66

Ohio Federal Military Jobs Commission Achievements to Date

The Commissioners and chapter teams began their work to address the legislation in November 2014. There have been many major accomplishments as a result of building the strategy. The major accomplishments are listed below with page number references.

1. Surveyed Federal Military Affairs Committees across the State on installation specific information (P21).
2. Collected research requirements of Air Force Research Laboratory, NASA Glenn and National Air and Space Intelligence Center (P33).
3. Established Ohio Federal Research Network Centers of Excellence (P33).
4. Issued Ohio Federal Research Network Request for White Papers (P33).
5. Formed Ohio Federal Research Network Technical Review Council and Executive Review Board (P92).
6. Issued Ohio Federal Research Network Request for Proposals (P93).
7. Received Ohio budget for Ohio Federal Research Network Research and Development projects (P39).
8. Surveyed Ohio Federal Installations on Workforce Requirements over the next 5-10 years (P86).
9. Surveyed Ohio military members on separation and retirement location selections (P67).
10. Surveyed Ohio government service employees on retirement location decisions (P69).

Introduction

Pursuant to the reporting requirements in Ohio Revised Code, 193.09, the Ohio Federal Military Jobs Commission submits the following strategy.

An initial report was delivered by the Commission in April 2015. A report was submitted to the Governor, the President and Minority Leader of the Senate, the Speaker and Minority Leader of the House of Representatives that outlined the Commission's activities for the preceding 7 months, including findings and evaluations under divisions (A) (1) to (6) of Section 193.05 of the Revised Code.

Appropriations in the amount of $700,000 were passed (House Bill 494, December 17, 2014) and transferred to the Ohio Board of Regents (now Ohio Department of Higher Education) budget. This appropriation was granted to Wright State University and the Ohio National Guard for spending on March 16, 2015. The appropriation supports the Commission to develop the strategic plan for the 16 areas outlined in the Ohio Revised Code, 193.05.

Background

The bill creating the Ohio Federal Military Jobs Commission was signed into law on September 15, 2014. The purpose of the Commission is outlined in the Ohio Revised Code, Chapter 193.05 (A) and states "the federal-military jobs commission shall be responsible for the furtherance and implementation of federal-military installation jobs and any programs under this chapter." There are 16 areas of responsibility outlined. Of the 16 areas identified, 13 are related to the analysis of military value of installations within Ohio, one is related to federal and higher education research initiatives to commercialize and privatize products, one is related to recommending programs that make federal contracts available to small businesses and veteran-owned businesses and lastly, one is related to workforce development.

The House, Senate and Governor's office each appointed multiple Commissioners from across the State to serve on the Commission. The Commissioners were chosen based upon their experience and expertise in the federal government as well as in State government and industry. The Commissioners appointed are as follows:

By the Governor:

- Ms. Martha Smith - Senior Executive from the Defense Finance and Accounting Service in Columbus and Cleveland (retired)
- Major General (retired) Greg Wayt - Former Adjutant General of the State of Ohio (resigned in June 2015)

By the Senate:

- Brigadier General Stephen Markovich – Assistant Director of the Ohio Air National Guard and Senior VP of Operations for Ohio Health (resigned in October 2015)
- Ms. Bridget McDaniel - Executive Director The Richland Community Development Group (resigned in July 2015)

- Lieutenant General (Retired) Loren Reno - Former Deputy Chief of Staff for Logistics, United States Air Force; currently the Vice President of Academics (Interim) at Cedarville University
- Mr. Denis Glenn – Program Manager General Dynamics, Joint Systems Manufacturing Center, Lima, Ohio (retired), currently Allen County Board of Commissioners, DoD Community Assistance Program (appointed in August 2015)

By the House:

- Mr. Donald Campbell - Director of NASA Glenn Research Center (retired)
- Mr. Gary O'Connell - Senior Executive from the National Air and Space Intelligence Center at Wright Patterson Air Force Base (retired)
- Colonel (retired) Colleen Ryan - Former Installation Commander of Wright Patterson Air Force Base; currently the President of Vectren Energy Delivery of Ohio

In order to address the legislation, on October 22, 2014 a consortium of Universities, led by Wright State University, Ohio State University, Cleveland State University, The Ohio Inter-University Council, and Ohio Association of Community Colleges approached the Governor's Staff, House and Senate representatives with a plan to assist in writing the strategy. The plan was subsequently approved by Mr. Wayne Struble, Governor Kasich's Director of Policy, and Senator Chris Widener. The plan included an approach that divided the legislation into five chapters.

Chapter 1: Develop Federal Facility Retention and Expansion Plan

The Ohio Federal Military Jobs Commission will provide development and oversight in future federal facility retention and expansion efforts. The goal of this portion of the plan is to build on a State-funded database that identifies facility assets and prioritizes opportunities and threats to Ohio's federal and military installations for potential base realignment and closure actions and internal agency reorganizations and facility consolidations and downsizing.

The plan will utilize the Phase 1 and Phase 2 database created by the existing State-funded federal facility retention study. Subsequent recommended actions will be developed from this research. This section will also investigate the feasibility of creating an entity that would enable the facility and infrastructure financing required to acquire federal and military missions and agencies in Ohio. It is envisioned that infrastructure projects will be funded through existing or compatible State and local development financing programs to promote private/public partnerships, joint use and enhanced leasing mechanisms.

Supports Ohio Revised Code, Chapter 193.05 (1) to (12)

Chapter 2: Develop Ohio Research and Tech Transition Innovation Initiative

This strategic initiative will link private industry investment to the research assets of Ohio's research universities and community colleges and Ohio's federal research centers. This effort will build on successful collaboration models that have worked with the Air Force Research Laboratory, NASA Glenn and other installations to bring more research contracts to Ohio, expand the talent base, attract private investment and create new jobs.

Supports Ohio Revised Code, Chapter 193.05 (14).

Chapter 3: Expand Small Business Federal Contracting

Through collaboration with JobsOhio and the State of Ohio, an organizational construct will be developed to act as the conduit connecting federal agencies issuing Requests for Information and Proposal and Ohio small businesses that have the capabilities sought by the federal government. In addition, an educational outreach effort will be organized to identify and help train small businesses to be more successful in government contracting thus expanding the base of opportunities in Ohio. The effort will include mentoring and support of those companies as they pursue federal contracts.

Supports Ohio Revised Code, Chapter 193.05 (15)

Chapter 4: Create Workforce Placement Center for Federal and Military Jobs

In coordination with OhioMeansJobs and the Ohio Department of Higher Education, Ohio's research universities and community colleges, a specialized job placement process will be developed to link education, job training, and placement with the federal installations agencies and private sector contractors seeking future workforce placements. The process will be patterned after successful pilot projects with federal installations. The plan will look at both the federal workforce needs as well as the corresponding private sector employment base.

Supports Ohio Revised Code, Chapter 193.05 (16)

Chapter 5: Develop Ohio Federal Military Jobs Commission Organizational Structure and Five-Year Financial Plan

This section of the plan will include the development of an organizational structure to support the commission as well as a five-year budget for operations and major initiatives.

Supports Ohio Revised Code, Chapter 193.05 (13)

Commission Activities (November 2014 to December 2015)

On November 13, 2014, the Commissioners met with Dr. Dave Williams, Dr. Marty Kress and Mr. Joe Ritch, who were part of the 2005 Base Realignment and Closure planning team for Alabama. The Commissioners learned about the importance of a State strategy as well as many other lessons that were shared by the Alabama team. In preparation for their service and as recommended by the Ohio Ethics Commission, all of the Commissioners reviewed the Ohio Ethics Law and completed the on-line training module. The Commissioners met monthly beginning November 14, 2014. The duration of each meeting was approximately two hours. A summary of the meeting highlights is outlined below. The meetings had a broad focus on the development of the strategic plan, in addition to the meetings with various regional leaders throughout the State to gather input and feedback.

    (1) Dates of Commission Meetings
- a) November 14, 2014, Springfield, Ohio
- b) December 19, 2014, Columbus, Ohio
- c) January 16, 2015, Teleconference
- d) February 13, 2015, Columbus, Ohio
- e) March 13, 2015, Columbus, Ohio
- f) April 10, 2015, Columbus, Ohio

g) May 7, 2015, Columbus, Ohio

h) June 12, 2015, Columbus, Ohio

i) July 17, 2015, Columbus, Ohio

j) August 14, 2015, Columbus, Ohio

k) September 11, 2015, Springfield, Ohio

l) October 8, 2015, Springfield, Ohio

m) November 13, 2015, Columbus, Ohio

n) December 11, 2015, Columbus, Ohio

(2) Highlights of the Commission Meetings

a) During the initial meeting, the Commissioners had a presentation and question and answer period with Senator Chris Widener to get an overview of the legislative language. The Commissioners had regular interactions with Senators Widener.

b) The Commissioners met with a group of over 100 people representing Universities, JobsOhio regional offices, statewide economic development organizations as well as industry leaders. The group received a presentation from CBD Advisors on a recently completed Federal Retention Study, and then the group met in chapter breakout sessions to discuss the way forward for each section.

c) The Commissioners received monthly progress updates from the strategic plan chapter 1, 2, 3 and 4 leads. Each Commissioner was assigned to a strategic plan chapter for oversight and attended the section planning meetings. The discussions have focused on in-depth research.

d) The Commissioners developed a plan for regional tours that were conducted in the January-February 2015 timeframe. The Commissioners divided into two person teams and visited nine locations throughout Ohio. A standardized set of questions was developed that assisted in facilitating discussion at each location.

e) All Commissioners reviewed the Federal Retention Study reports completed by Greentree Group, Dayton Aerospace and CBD Advisors.

f) The Commissioners developed budget oversight procedures and approved the initial budget to support the Commission during 2015. The Commissioners reviewed the status of the budget monthly.

g) The Commissioners participated in a Cross-Talk meeting hosted on March 6, 2015 with the Austria Blue Ribbon Commissioners. The Blue Ribbon Commissioners shared many valuable lessons.

h) The Commissioners elected a Chair and Vice Chair during the March 13, 2015 meeting.

During the months of January and February 2015, the Commissioners visited nine regions across the State to inform the regional leaders as to the details of the legislation and to listen to the input from each region. The meetings were coordinated with the local Chambers of Commerce. The attendance at the meetings was very representative of the different regions and each meeting had representatives in attendance from the offices of Ohio's State and Federal elected officials. The intent of the meetings was to gather regional input based on a series of questions developed by the Commissioners and to gain input on regional views and expectations of the Commission. In addition, the meetings provided a forum to introduce the Commissioners, the Ohio Revised Code Commission requirements and to discuss the

strategic plan development. The overall feedback received from the different regions was very similar in context and was very useful to the Commissioners as they began to formalize a statewide strategy.

(1) Visit Locations, Dates and Commissioners attending
   a) Youngstown - January 22, 2015 - Ryan/Reno
   b) Columbus - January 23, 2015 - Smith/Wayt
   c) Mansfield - January 27, 2015 - O'Connell
   d) Dayton - January 29, 2015 - Reno
   e) Cincinnati - February 6, 2015 - Ryan/Markovich
   f) Toledo - February 10, 2015 - Reno/McDaniel
   g) Appalachia - February 11, 2015 - O'Connell/Wayt
   h) Cleveland - February 12, 2015 - McDaniel/Smith
   i) Lima - February 12, 2015 - O'Connell/Campbell

(2) The key general themes gathered across the regions are outlined below. The Commission maintained detailed minutes of each meeting.

   a) There was limited awareness of the Air Force Research Laboratory and NASA Glenn missions, key research initiatives, job opportunities and federal contract opportunities across the regions except for the Dayton region.
   b) The regions had limited awareness of Public-Public/Public Private initiatives as well as the Public-Public/Public Private process and opportunities for mutual support, except for the Dayton region.
   c) Many regions believe the State is well postured for future Department of Defense programmatic changes or a Base Realignment and Closure; however, they felt the State lacked a unified effort to accomplish. The lack of unified effort centered on local military affairs councils and an overall unified structure within the State.
   d) Although the Procurement Technical Assistance Centers within the State of Ohio are assisting small businesses with federal contract procedures, many regions felt that more should be done proactively for small businesses.
   e) The regions asked for a statewide Federal-Military Jobs Conference and sustainable structure/organization to allow for a brief of the strategic plan, mission and opportunity briefings by the Air Force Research Laboratory and NASA Glenn. This structure could serve as the central location for teaming opportunity discussions with large prime contractors and an understanding of the categories of federal contracts being offered within the State.
   f) The regions would like a better understanding of the workforce development requirements at the federal installations.
   g) The regions would like an understanding of the federal supply chain that exists in Ohio and access to a supply chain database.
   h) The regions have an interest in, and endorse a State-level Federal Retention Strategy.
   i) The regions have an interest in quarterly gatherings across the State to share lessons learned and regional strategies.

Strategic Plan

With the assistance of Wright State University, The Ohio State University and Cleveland State University, teams were formed from across the State to address each section of the legislation. Each team gathered experts in their area from public and private industry as well as higher education in order to formulate ideas for a statewide strategy. Each chapter of the report details the work completed and recommendations made to address the legislation and sustain the overall strategy.

Chapter 1 - Develop Federal Facility Retention and Expansion Plan

I. Legislative Charge

(1) Develop and recommend strategies that support and foster collaboration among local and regional entities to identify appropriate opportunities for the protection of existing federal-military facilities and the placement of additional federal-military facilities in the state;

(2) For facilities located in the State, maintain a current listing of all facilities of the federal government, including military, national security, and national aeronautics and space administration facilities, Ohio National Guard facilities, and related State and federal facilities, including their master plans;

(3) Make recommendations, as appropriate, to prepare the State to effectively compete in future and ongoing federal budget reduction processes;

(4) For the purpose of formulating strategies to secure the long-term viability, retention, and growth of military missions and facilities in the State, direct and review studies by experts that have utilized past base realignment and closure criteria and scoring to conduct a thorough and detailed analysis of the military value of the State's military installations, ranges, and airspace;

(5) Review the scoring criteria from any previous federal defense base closure and realignment commission's processes to determine the following;

(a) The strengths and weaknesses of the State relative to competing installations and facilities, which shall include an analysis of military value 1-4 attributes, metrics and criteria such as airspace attributes, encroachment, air traffic control restrictions, area cost factors, and area weather;

(b) The opportunities for increasing the military value of federal-military operations in the State that still exist after a previous federal defense base closure and realignment commission process;

(6) Provide an ongoing examination of federal agency construction, including construction for the military, for homeland security, and for the national aeronautics and space administration, and related operations budget requests relative to the infrastructure plans of federal-military agencies and facilities;

(7) Access and review long-range military construction plans, associated costs, and timelines as made available by federal government agencies;

(8) Recommend a public-private partnership for services specified by the Commission that include, but are not limited to, energy services, internet connectivity, snow removal, fire service, waste management, library services, day care center services, security services, and services opportunities to lower the cost of operations at federal-military installations in the State;

(9) Examine the roles and responsibilities of general aviation at airports located in the State and develop and recommend local and federal programs to assist the State's installations and facilities related to municipal airport agreements and the federal airport improvement program;

(10) Review and develop joint base and infrastructure plans for improving proximity to training areas, consolidating training centers, and determining alternatives that may exist in current federal military construction programs for shared services and shared savings opportunities;

(11) Evaluate plans for federal agencies and local communities that address excess capacity of buildings, developed land, and land available for development;

(12) Evaluate enhanced use lease opportunities made available to federal-military entities in Ohio;

Recommendation	Office of Primary Responsibility/Office of Collateral Responsibility
1. Establish a Facilities and Installations Executive Director who works with a small staff directly for the Ohio Adjutant General.	Governor's Office
2. Develop a long-term facilities and installations strategy for Ohio based on continuing data input and updates.	Executive Director
3. Coordinate a bi-annual Base Realignment and Closure military value briefing for Ohio's federal representatives.	Executive Director
4. Update the existing survey of Ohio's organizations bi-annually through the Adjutant General's Office on behalf of the OFMJC and request an update in the non-survey year.	Executive Director
5. Obtain Facility Condition Index data as soon as it is available from the DoD for all applicable Ohio Federal Installations.	Executive Director
6. Working with the United States Air Force, the United States Army, the Department of Veterans Affairs, and the Ohio Development Services Agency develop strategies to optimize the utility consumption at Ohio's key federal installations.	Executive Director/Adjutant General, AF Reserve Command, US Air Force, US Army, Ohio Development Services Agency (Energy Division)
7. Working with the Adjutant General's Department, the USAF, and the Air Force Reserve Command, formalize contingency land use and air space availability for future mission growth or to mitigate potential encroachment.	Executive Director/Adjutant General, AF Reserve Command, US Air Force
8. Working with the Department of Public Safety, explore partnerships for secure storage on federal installations as an offset for State investments in facility entrance security.	Executive Director/Adjutant General, AF Reserve Command, Ohio Department of Public Safety (Homeland Security)
9. Explore/improve the availability of fire arms training facilities as an asset for the Department of Public Safety and the federal installations in the state.	Executive Director/Adjutant General, AF Reserve Command, Ohio Department of Public Safety (Homeland Security)
10. Aggressively fund Public-Public and Public-Private initiatives as they are developed by the Federal Military Affairs Committee.	Governors Office

Table 1-1. Summary of Chapter 1 Strategic Recommendations

II. Background

The most significant challenge to, and best venue for, seizing growth opportunities is a vibrant, active, local Federal Military Affairs Committee. The synergy from a high functioning Federal Military Affairs Committee can identify those investments that can provide the greatest increase in military value and the highest leverage of community partnership opportunities. Currently, the OFMJC is the coordinating activity for all Federal Military Affairs Committees initiatives. Further, the OFMJC guidance and counsel sets the standard for Federal Military Affairs Committee data collection and elements in the State's

strategic message. The OFMJC works to keep the focus of State efforts on improving military value in the context of the Base Realignment and Closure definition of military value. As of the writing of this report, the legislative priorities are addressed, but more work is needed to follow up on the initial recommendations and to pursue some of the more long-term objectives. For long term sustainment of the efforts of this Commission as well as the efforts of previous study groups that examined military value data, the establishment of a Facilities and Installations Executive Director, who works for the Adjutant General is critical.

Success in this constrained budget environment will depend on State and Federal legislative engagement in the process. The OFMJC has been working directly with the Federal Military Affairs Committee to develop a common understanding of military value. That common understanding guides the recommendations contained in this report.

The OFMJC met with the local Federal Military Affairs Committee and then reviewed Base Realignment and Closure 2005 results and the competitive analysis data that were developed in previous studies. In addition, the OFMJC developed a survey for the largest installations in Ohio to solicit the top three projects that would improve military value at these locations. The recommendations listed below were derived either from nationwide competitive analysis (C) or survey responses (S).

The Office of Primary Responsibility for each of these recommendations must be the Executive Director and their staff. The Executive Director is the integrator for the many initiatives to improve military value. The Executive Director and staff provide the momentum and are accountable to the Adjutant General for tracking and facilitating the approved recommendations. Several other organizations have a stake in these recommendations and they are listed as an Office of Collateral Responsibility. The Office of Collateral Responsibility is listed after the /, separated by commas.

The legislative guidance from HB 438 provides an extensive list of activities that address the military value of Ohio's facilities. The Commission began its' efforts by focusing on regional Federal Military Affairs Committees and discussing concerns and future processes. The Commission then examined previous studies to understand the effects of programmatic changes and the rationale used in Base Realignment and Closure 2005.

Base Realignment and Closure 2005 data were analyzed for facility strengths and weaknesses compared to organizations across the country that perform the same mission. That data were reviewed across the major facilities in the State for common strengths and weaknesses. In addition, Strength-Weakness-Opportunity-Threat data from previous studies were reviewed for additional statewide trends.

The Commission recognizes that Facility Condition Index data will be critically important in future evaluations of the military value of Ohio's facilities, however, Facility Condition Index data will not be available until 2018.

Another important effort within the Federal enterprise involves partnering with communities for increased efficiencies through Public-Public or Public-Private efforts.

The Commission decided to survey the Federal Military Affairs Committees to gather the latest information regarding construction, military value, programmatic change, Public-Public or Public-Private

efforts, and key issues from the major organizations. The survey also enabled the Commission to continue the dialogue with the Federal Military Affairs Committees. The Commission looked for convergence of issues and developed a prioritization process for investments.

The Commission met with the local Federal Military Affairs Committees from February 2015 through May 2015. The purpose of the meetings was to introduce the Commission and to discuss the process of identifying State investments that could improve military value for the federal organizations in their area of interest. The discussions focused on differentiating the mission from the facility. Base Realignment and Closure calculates military value using the characteristics of the facility in supporting any of the Service specific missions. The Base Realignment and Closure process does not score the effectiveness or value of the mission at the facility.

While Base Realignment and Closure is the most discussed process that affects force structure, programmatic changes have had profound effects on Ohio's organizations. In the absence of a Base Realignment and Closure, DoD has made programmatic changes to stay within funding allocations.

From the Federal Retention Report Phase II:

> The total number of employees for Ohio DoD organizations for 2013 is listed in the table below, which also depicts the difference in employment numbers from 2012 to 2013. In one year, the Ohio federal workforce was reduced by 1,339 jobs. These drawdowns are a result of:
> - Workload reductions driven by the drawdown from Iraq and Afghanistan; post-war workload reductions also led to employee reductions in fee for service organizations like Defense Finance and Accounting Services – Columbus and Defense Logistics Agency/Defense Supply Center Columbus.
> - Ohio Army National Guard end strength adjustments directed by the National Guard Bureau.
> - Manufacturing reductions at the Joint Systems Manufacturing Center.
> - Budget reductions driven by the Budget Control Act and Sequestration.

Programmatic Changes
Programmatic changes within the United States Air Force in FY 2013 further decreased jobs in Ohio in FY 2014. This decrease was the result of loss of aircraft at Youngstown Air Reserve Station, Rickenbacker Air National Guard Station and personnel adjustments at Springfield Air National Guard Station.

Organization	2012 Employees	2013 Employees	Difference
Central Ohio Aerospace and Technology Center	781	781	0
Defense Finance and Accounting Service-Bratenahl	41	41	0
Defense Finance and Accounting Service -Cleveland	2,300	2,387	87
Defense Finance and Accounting Service -Columbus	2,650	2,531	-119
Defense Information Systems Agency	413	413	0
Defense Logistics Agency	2,800	2,493	-307
Joint Systems Manufacturing Center	671	544	-127
Ohio Air National Guard	4,862	4,862	0
Ohio Army National Guard	12,355	11,478	-877
Recruiting	753	753	0
US Air Force Reserve	1,966	2,044	78
US Army Reserve	5,363	5,361	162
US Marine Corp Reserve	1,139	1,139	0
US Navy Reserve	1,495	1,495	0
DoD Total	**37,589**	**36,322**	**-1,267**
NASA	1,711	1,664	-47
US Coast Guard	857	832	-25
State of Ohio	**40,157**	**38,818**	**-1,339**

Table 1-2. DoD Programmatic Changes in 2013[1]

Base Realignment and Closure 2005

The Commission reviewed the process and scoring from the 2005 Base Realignment and Closure. The overall ranking of Ohio facilities provided the context for the discussion. Table 1-3 presents those data.

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[1] Federal Retention Report, Phase II, September 2014, page 54

US Air Force BRAC 2005 Rankings for Ohio Bases		
Air Bases	**BRAC 2005 Ranking**	**Like Type Unit Assessment**
Mansfield ANGS	119 of 154 Airlift Ranking	23 of 28 C-130 Units
Rickenbacker ANGS	48 of 154 Tanker Ranking	13 of 25 KC-135 Units
Springfield ANGS	128 of 154 Fighter Ranking	N/A
Toledo ANGS	123 of 154 Fighter Ranking	20 of 23 F-16 Units
Youngstown AFRS	103 of 154 Airlift Ranking	16 of 28 C-130 Units
Wright-Patterson	43 of 154 Airlift Ranking	5 of 12 C-17 Units
US Navy & US Marine Corps BRAC 2005 Rankings for Ohio Assets		
Navy/Marine Centers	**BRAC 2005 Ranking**	**BRAC 2005 Score**
Columbus NOSC	3 of 152	77.1
Cleveland NOSC	55 of 152	62.9
Toledo NOSC	78 of 152	59.0
Cincinnati NOSC	87 of 152	58.3
Akron Navy Reserve Center	88 of 152	58.3
Dayton USMCR Center	22 of 35	47.3
Cleveland USMCR Center	23 of 35	46.8
US Army BRAC 2005 Rankings for Ohio Assets		
Asset	**BRAC 2005 Ranking**	**BRAC 2005 Score**
JSMC	76 of 97	1.60
Defense Finance & Accounting Service BRAC 2005 Rankings for Ohio Assets		
Asset	**BRAC 2005 Ranking**	**BRAC 2005 Score**
DFAS-Columbus	7 of 26	0.688
DFAS-Cleveland	12 of 26	0.587
Defense Logistics Agency BRAC 2005 Rankings for Ohio Assets		
Asset	**BRAC 2005 Ranking**	**BRAC 2005 Score**
DLA-Land & Maritime	5 of 16	0.1909

Table 1-3. US Air Force Base Realignment and Closure 2005 Rankings for Ohio Bases[2]

There are two "ranking columns in Table 1-3 for Ohio's 6 air bases
- The overall ranking against the total population – Base Realignment and Closure 2005 Ranking
- The ranking compared to units with the same equipment - Like Type Unit Assessment

Previous Federal Retention studies included an extensive analysis of the scoring from Base Realignment and Closure 2005. The Commission recognizes that the Base Realignment and Closure process includes four layers of analysis:
- The four military value categories
  - The ability to support current and future missions
  - Infrastructure
  - Surge capacity
  - Cost of operations
- The characteristics that are used to further define the four categories into Service specific measurable metrics
- The scoring system for each metric
- The weighting for each metric

The last three of these layers are not normally disclosed to the Congress at the start of a Base Realignment and Closure authorization and yet the last three layers are the key to understanding any bias in the Service process.

[2] Ibid, page 212

Cost is a continuing theme in Department of Defense requests for Congress to approve a Base Realignment and Closure. In the last Base Realignment and Closure, the Air Force used four metrics to further define the "Cost of Operations" category:

- Base Allowance for Housing – housing allowance in the area of the facility
- Locality pay – an offset for cost of living in the area of the facility
- Area Cost Factor – a calculation of the cost of construction in the area of the facility
- Utility Cost Factor – a measure of utilities cost for the facility

It is important to note that the USAF assigned only 3% to the weight of the Cost of Operations category.

Statewide Top/Bottom 10

Those previous studies provided a list of top ten strengths of the Ohio air bases. The top ten strengths list used Base Realignment and Closure data from Ohio's air bases compared to Base Realignment and Closure data from like type units. The Commission also developed a list of bottom ten weaknesses using the same methodology to highlight areas of potential improvement. The purpose of developing and analyzing both of these lists is to find common areas of strength and weakness. The tables below present common strengths, among air units and then common weaknesses.

Metric	Military Value Category	Deviation of Score from like type unit
Base Allowance for Housing Rate	MV-4	27%
Buildable Acres for Industrial Operations Growth	MV-3	24%*
Buildable Acres for Air Operations Growth	MV-3	21%*
Locality Pay Rate	MV-4	20%
Area Cost Factor	MV-4	15%
Ability to Support Large Scale Mobility Deployment	MV-3	15%
Fuel Hydrant Supports Mission Growth	MV-3	5%*
Level of Mission Encroachment	MV-2	4%
*Heavily influenced by the WPAFB score		

Table 1-4. Ohio Air Unit Common Strengths[3]

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[3] Ibid, extracted from Base Realignment and Closure data Appendix F

It is noteworthy that three of the four metrics for cost of operations (MV-4) are competitive strengths for Ohio's air units.

Prevailing Weather Conditions	MV-1	-45%
Installations Pavements Quality	MV-2	-24%
Ramp Area and Serviceability	MV-2	-23%
Utilities cost rating	MV-4	-20%
Ability to Support Large Scale Deployment	MV-3	-19%
Buildable Acres for Air Operations Growth	MV-3	-18%
Sufficient Munitions Storage	MV-2	-15%
Buildable Acres for Industrial Operations Growth	MV-3	-14%
Attainment/Emission Budget Growth Allowance	MV-3	-14%

Table 1-5. Ohio Air Unit Common Weaknesses[4]

Note that "buildable acres" shows as both a strength and a weakness. That is primarily due to the high score achieved by WPAFB's ranking on the strength average and the low score by the other air units on the weakness average.

Strengths, Weaknesses, Opportunities, and Threats
Previous studies gathered a more qualitative look at the federal organizations, including the characteristics of the mission at the facility. That data is summarized by unit in the appendices.

Facility Condition Index
One of the significant unknowns at this time is the DoD assessment of the quality of Ohio's facilities. DoD directed that all facilities be evaluated using a common process.

All facilities in the Department of Defense are being reevaluated against a common baseline to establish the Facilities Condition Index pursuant to a Department of Defense directive of September 10, 2013. That reevaluation effort is to be complete by September 2018.

Currently each Service uses their own unique evaluation system to evaluate the status of their facilities. All components of all the Services will migrate in the next three years to the Facilities Condition Index, which is a US Army Corps of Engineer process.

At present, the Service components use different methodologies and schedules to assess facility conditions, resulting in facility condition indices that are not comparable. Establishing a Department of Defense-wide facility condition assessment process will contribute to a more

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[4] Ibid, extracted from Base Realignment and Closure data Appendix F

reliable Department of Defense asset management program and will support better buying power by allowing Department leadership to better target fiscal resources to those facilities most in need of investment. Further, adopting a standard process will help ensure that condition data will be audit-ready in accordance with Under Secretary of Defense Financial Improvement and Readiness Guidance issued in March 2013.

Public-Public and Public-Private Partnerships

Wright Patterson Air Force Base, The Adjutant General, on behalf of the four largest Air National Guard locations, and Youngstown Air Reserve Station are all working with local communities to explore the potential of Public-Public and Public-Private partnerships.

The Partnership program is an initiative through which agencies on the installation and public-private sector community leaders can develop ways to leverage their capabilities and resources to reduce costs or risks by finding shared value in a long term relationship.

The most common types of Partnerships are as follows:
> Public-Public Partnership: An agreement between an installation and a local, state, or federal agency.
> Public-Private Partnership: A formal relationship between an installation/DoD and a private sector entity.
> Regional Partnership: Has three or more entities.
> Privatization of installation services and infrastructure: DoD sells an infrastructure asset to a private or a public entity to maintain and operate it for the installation.

The following are NOT Defense Installation Partnership goals:
> Transferring risk from one partner to the other.
> Using the partner's capital to supplement your own budget.
> Expecting benefits without making an investment.

The Air Force is currently the Service leader in this initiative with 25 bases and communities across the country pledging to reach more cost-cutting and resource sharing partnerships. This initiative is driven by the shrinking defense budget and less local government revenues.

This partnership approach is a more aggressive courting of neighboring communities to share the burden of costs. In this era of sequestration and a downsized military force, the Service has looked outside the gates of the base for new ways to pay for services and resources. This initiative is based in statutory law (Title 10 U.S. Code) and as such, gives the defense legal authorities for partnerships. The law then provides the basis from which the partners can focus around a proven process for exploring mutually beneficial partnerships. Potential community participants include the public and private sector, both for-profit and not-for-profit entities. The process leverages effective tools and techniques for developing shared understanding. The Air Force's Community Partnership Initiative has been very successful as it addresses both the technical and social challenges associated with partnering by bringing the right individuals together and creating a sense of ownership in the outcomes.

Surveys

The Commission addressed the 12 legislative requirements in a survey to the Federal Military Affairs Committees. The survey to each Federal Military Affairs Committee presented the Base Realignment and Closure data from 2005 and asked for an updated evaluation by local experts on several important issues. The nine specific questions were:

1. Are you in agreement with military value assessment: current status, weaknesses, strengths?

2. What other weaknesses do you see regarding military value?

3. Please describe the programmatic changes that have affected your organization since the 2005 Base Realignment and Closure.
   a. New mission?
   b. Change in number/type of primary mission equipment?
   c. New facilities built to support new mission?

4. The cost of operations and the manpower implications.
   a. Do you know the current cost of your operations?
   b. Is your current budget sufficient to meet mission requirements?
   c. Can the cost of operations be reduced by more efficient and or effective use of resources with some investment?
   d. Do you have sufficient manpower skills at all levels to perform your mission?

5. What steps are being taken to improve your organizations Military Value?
   a. Enhanced Use Agreements
   b. Public-Public, Public-Private Partnerships
   c. Other (other plans or actions that will or have aided in Reducing Costs of Operations).

6. What is your long range construction plan?
   a. How will it improve military value?
   b. Is the construction plan complete
   c. Are all aspects of the plan funded? Is the long-range plan funded?

7. What does your organization need to improve its military value other than construction (for example: training areas, available land for expansion or to prevent encroachment, security aspects or newly required physical setbacks, etc.)?

8. What local support have you received (existing cooperative agreements that improve military value, military or community support group activities, etc.)?

9. Finally, please list the top 3 projects that could improve the military value of your organization.

The surveys were sent in mid-July 2015 with a due date of August 31, 2015. The responses to question 9 were evaluated using four criteria. A sample survey is included in the appendix.

Prioritizing investment opportunities
In what ways does the proposed investment:
   • Redress a significant problem in military value

- Improve the competitive position of the facility
- Present an opportunity to improve military value for other Ohio facilities
- Provide collateral improvements for the community

III. Strategy

Ohio's Federal and Military Jobs Commission vision is to be the Go-To State for all Federal or Federal-related missions needing a home. This vision relies on an active strategy that includes the following:

1) Regular and consistent interaction between the Facilities and Installations Executive Director and the Federal Military Affairs Committees

2) Common updated understanding of:
   a. Military value
   b. The competitive landscape
   c. State priorities
   d. The budget environment
   e. Best practices

3) A military value statement for Ohio, the quick answer to "Why Ohio".

4) Federal and Military Jobs Communication Plan that ensures Federal representatives are informed on the BRAC process.

5) Active Federal Military Affairs Committees well integrated with Installation Commanders.

6) Facilities and Installations Executive Director input to State investments regarding military value suggested improvements.
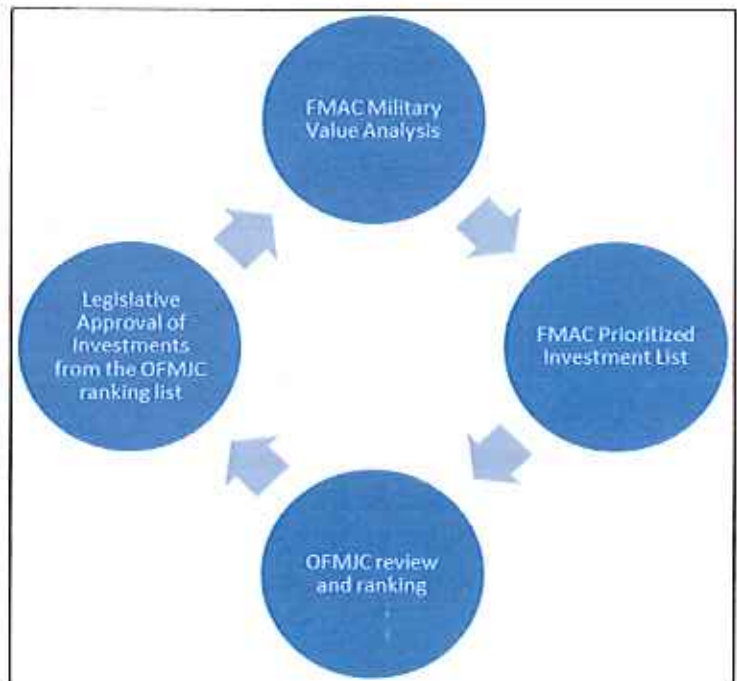
Figure 1-1. Federal Military Jobs Ohio Process

Process and Product (Figure 1-1)

The structure of the legislation, HB 483, would produce a set of recommendations for investment, a product, and a longer term process that reflects the constant change in military value. Recommendations for investments can be derived from static information, the data from the last Base Realignment and Closure and other studies. On-going dialogue between the Facilities and Installations Executive Director and the Federal Military Affairs Committees can produce recommendations that reflect the most current state of affairs. That dialogue is based on a common understanding of military value. The Federal Military Affairs Committee meetings and the surveys have documented a current common view of military value for the organizations that have responded. This view will regularly change as facilities are updated, and as Facility Condition Indices become available.

The Base Realignment and Closure process is a multi-layered evaluation that is subject to bias based on the metrics, the scoring of the metrics, and the weighting of the metric. The process is not intuitive and elected Federal representatives will need a periodic update on Base Realignment and Closure criteria and Ohio's strengths as the location of choice for Federal organizations.

Follow up, accountability, and timelines

The Adjutant General's Office is tasked with providing administrative support to the Commission. That support needs to be Service/Component independent supporting the needs of the various Ohio facilities. Successful follow up on the recommendations will depend on an Executive Director and supporting staff that can sustain the focus and momentum of the community of interest for each recommendation. The initial recommendations were selected to include a broad community of interests. Quarterly reports on each of the recommendations to the Adjutant General are necessary to assess the progress and viability of each recommendation.

1. Establish a Facilities and Installations Executive Director who works with a small staff directly for the Ohio Adjutant General.
2. Develop a long-term facilities and installations strategy for Ohio based upon continuing data input and updates.
3. Coordinate a bi-annual Base Realignment and Closure military value briefing for Ohio's Federal representatives.
4. Repeat the survey of Ohio's organizations bi-annually through the Adjutant General's Office, Facilities and Installations Executive Director and request an update in the non-survey year (S).
5. Obtain Facility Condition Index data as soon as it is available (C).

Competitive Analysis

Previous studies have identified the competitive landscape, the locations across the U.S. that perform the same mission. That analysis included facility statistics and community statistics. This data was shared with the Federal Military Affairs Committees and they were asked for any updates during the survey process. The baseline for analysis for both military value and community assessment was Base Realignment and Closure 2005. Though the data is older, some of the conclusions from previous studies are still valid.

The DoD support of another round of Base Realignment and Closure has focused on cost. Though the cost metrics may be expanded in the next Base Realignment and Closure round, the four cost measurements from Base Realignment and Closure 2005 will most likely be included. Ohio has a competitive advantage in three of the four cost metrics.

Additionally, though sufficient area for growth was available at Ohio's facilities, it was not recognized during the last Base Realignment and Closure. Area for growth will be a consideration for relocating missions. Previous Federal Retention Program studies also indicated a need to prevent future encroachment at Wright Patterson Air Force Base.

6. Working with the United States Air Force, the United States Army, and the Ohio Development Services Agency develop strategies to optimize the utility consumption at Ohio's key Federal installations (C).

7. Working with the Adjutant General's Department, the USAF, and the Air Force Reserve Command, formalize contingency land use for future mission growth or to mitigate potential encroachment (C).

Survey convergence

The ninth question in the survey asked for the top three projects that could improve military value. The Commission reviewed the survey responses for common projects that present opportunities for several organizations and potential positive impacts for the local community.

8. Working with the Department of Public Safety, explore partnerships for secure storage on federal installations as an offset for State investments in facility entrance security (S).
9. Explore/improve the availability of firearms training facilities as an asset for the Department of Public Safety and the federal installations in the State (S).
10. Aggressively fund Public-Public and Public-Private initiatives as they are developed by the Federal Military Affairs Committees (S).

Prioritization

As the recommendations are considered and refined, the process for prioritizing follows a benefit-cost analysis. Benefits are considered first using the process described earlier. These benefit metrics focus first on the effect on military value, then on the likely change in competitive position.

Benefit Analysis:
In what ways does the proposed investment:
- Redress a significant problem in military value
- Improve the competitive position of the facility
- Present an opportunity to improve military value for other Ohio facilities
- Provide collateral improvements for the community

Cost Analysis:
Considering the projected cost and timing, is the proposed investment:
- Economically feasible
- An opportunity that will be complete in a reasonable time frame
- One that will present a pay-back opportunity

Initial priority

Among the recommendations presented here, optimizing utility consumption/costs has the greatest potential payback. Improving utility cost BRAC scores addresses the only weakness Ohio had in the Cost of Operations category. Lowering the overall utility costs improves the military value of all Ohio installations. Better energy management has a positive effect on the environment. Both the US Air Force and the US Army have programs in place to assist with energy cost reductions.

IV. Conclusion/Next Steps

HB 64, recently signed into law, creates an Ohio Military Facilities Commission. The recommendations of this Commission should be shared by the Facilities and Installations Executive Director with the Ohio Military Facilities Commission.

The staffing structure to support the OFMJC needs to include sufficient personnel to:

- Coordinate the detail work to refine the recommendations
- Distribute, collect, and collate the bi-annual surveys
- Act as a clearing and coordination point for the Federal Military Affairs Committees
- Host an annual statewide meeting of Federal Military Affairs Committees to discuss military value related concerns
- Be the repository for the most current facility and community competitive data

The staff needs to be configured to foster effective communication, innovation, partnership, and collaboration among the State military installations. This effort will include meetings, discussion, activities, and actions to provide:

- A consistent channel for communication between military installations and community leadership across multiple areas State-wide
- A platform to discuss military value and ways to enhance it
- A recognized mechanism to share best practices and innovation from both a strategic and tactical perspective
- A means to sustain, grow, and re-invigorate partnership pursuits

The ultimate purpose of the full time staffing is to foster effective communication, understanding, and mutual support by establishing a primary point of coordination for resolution of opportunities, issues, and challenges. These opportunities, issues, and challenges transcend specific interests of the military and civilian communities of each separate Ohio location and require a fully integrated approach for successful planning and execution.

Chapter 2: <u>Develop Ohio Research and Tech Transition Innovation Initiative</u>

I. Legislative Charge

In consultation with other State agencies, develop programs that utilize federal and higher education research initiatives to commercialize and privatize products to private sector companies in the State.

Recommendations	Office of Primary Responsibility
1. Organize, fund, and advance the work of the Federal Research Network through designated technology focused Centers of Excellence with the primary goal of advancing the priority research thrust areas of Wright-Patterson Air Force Base and NASA Glenn Research Center	Ohio Department of Higher Education
2. The Federal Research Network will aggressively pursue federal procurement opportunities,	Ohio Department of Higher Education
3. The Federal Research Network will expand the engagement of Ohio firms to ensure the research is meeting government requirements and operational and warfighter needs	Ohio Department of Higher Education
4. The Federal Research Network will create the jobs, processes, firms and technology needed to meet emerging commercial market and government needs.	Ohio Department of Higher Education
5. The Federal Research Network will brand Ohio as the Partner of Choice -- Supplier of Choice.	Ohio Department of Higher Education

Table 2-1. Summary of Chapter 2 Strategic Recommendations

II. Background

The OFMJC tasked Wright State University, Ohio State University, and Cleveland State University to frame a requirements-driven R&D initiative that would address emerging mission focus areas for the US Air Force and NASA in which Wright-Patterson Air Force Base and Glenn Research Center play significant roles. The key aim of this effort is to leverage the State of Ohio investment, capitalize on federal and university research assets, and integrate Ohio firms and industrial partners into the proposed projects in order to address operational user needs. Another key focus for this effort is to facilitate the transition of government-funded technology to commercial markets, create the jobs, processes and firms of tomorrow in Ohio. We seek to differentiate Ohio from other states relative to its commitment and support of our national defense and civil space missions.

The end result of this year-long strategic planning effort is the organization of Ohio's universities and community colleges around the future research priorities of WPAFB and GRC through the creation of the Federal Research Network (FRN) and the funding of an initial suite of projects and activities directly aligned with Department of Defense and NASA requirements. The Federal Research Network investment is intended to be a seed fund and catalyst for additional federal procurement and industry-sponsored research. The FRN also provides an impetus for the leading research universities in the State to frame a new, requirements -focused/applications -oriented set of projects and activities that will stimulate economic development and job creation in Ohio.

As a result of the above referenced strategic planning process, the State has supported establishment of the FRN in Ohio to leverage our federal, university and commercial capabilities to support the future of WPAFB and GRC in Ohio and create new jobs. The FRN represents a new and innovative model for a federal-requirements driven, collaborative university research initiative through the proactive engagement of Ohio firms who have the ability and business interests to integrate the research results into the products and technical solutions of tomorrow.

The proposed projects and activities recommended by the Federal Research Network and approved by the Commission have been thoroughly vetted and fully endorsed by the leadership of Wright Patterson Air Force Base and NASA Glenn Research Center through the active engagement of the leadership of Air Force Research Lab, National Air and Space Intelligence Center, Air Force Institute of Technology, the Naval Aerospace Medical Unit Dayton and the technology directorates of NASA Glenn Research Center. As such, these projects are organized with the active participation of designated federal researchers who receive the full support of their respective host organizations. Each FRN approved project and activity includes multiple Ohio research universities and firms who also provide cost share to further leverage the State investment. To gain Commission and Federal Research Network endorsement rprojects must be aligned with a federal requirement and have a clear path to job creation. Projects must also be able to capitalize on the State's investment and attract other DoD and industry funding to Ohio.

A key strategy and component of the FRN is the establishment of lead Ohio-based universities in each research priority focus area that builds on Ohio's strengths and core competencies within the university system. These university- led Centers of Excellence (COEs) are responsible to organize and operate the core FRN research and tech commercialization programs through a collaborative business model with other Ohio research universities and industry partners. The university/industry collaborative COE's must also aggressively pursue other business development opportunities beyond the core FRN research program as a requirement of their participation and utilization of State funds. The FRN Centers of Excellence network is described in more detail later in this report and depicted in Figure 2-1 and 2-3.

These Centers of Excellence were organized State-wide in 2015 and are currently working collaboratively to expand their research focus to meet the requirements of WPAFB and NASA GRC. The Centers of Excellence have prepared proposals for research projects that have been reviewed and prioritized by WPAFB and NASA GRC staff members. In addition the Centers of Excellence have developed Ohio industrial partners that will accelerate the transition of the research projects to DoD and NASA mission applications as well as commercial applications. This is the first successful attempt to integrate the Ohio Research Universities to collaborate to meet the mission application requirements of the Ohio Federal Research Centers. These Centers of Excellence are forming the basis of a highly collaborative research network across Ohio to create an innovative research base that is better positioned to support national DoD and NASA research priorities.

Rationale for the Ohio Federal Research Network and Tech Transition Innovation Initiative

- Strengthening bonds among Ohio Research Universities, the private sector, and government at both State and federal levels to maximize Ohio's contributions to innovation, jobs growth, skills development, and national security lies at the core of these efforts.

- Improving strategic links between private industry investment to the research assets of Ohio's research universities and community colleges and Ohio's federal research centers will create a robust innovation network across Ohio.
  - Improve existing collaboration models with the Air Force Research Laboratory, NASA Glenn and other installations to bring more research contracts to Ohio, expand the talent base, attract private investment, integrate small and medium sized businesses into R&D activities, create new jobs, and provide the technical rationale for increasing the overall mission requirements of the government labs.
- A collaborative engagement all of Ohio's federal military and federal installations and their respective communities along with Ohio's research universities and community colleges will better position these federal assets for future growth and viability.
- Aligning Ohio's federal installations and their respective communities along with Ohio's research universities and community colleges will better position the State for future growth and viability and will vastly improve Ohio's ability to attract and retain federal defense and space missions, create private and public sector jobs and grow federal contracting opportunities in Ohio.

The Air Force Research Laboratory, the National Air and Space Intelligence Center, Air Force Institute of Technology, Naval Aerospace Medical Unit and NASA Glenn Research Center have been proactively engaged with Federal Research Network leadership in identifying critical Technology Research Focus Areas for the next ten to twenty years that will guide future federal investments in research. These key focus areas -- government requirements -- are the basis of project and activity recommendations in this report. In addition to a thorough review of the strategic plans, technology roadmaps and emerging mission requirements from DoD and NASA, there was also an extensive assessment of Ohio's research university R&D activities aligned to these federal requirements. Identifying, assessing and aligning these core Ohio based university research assets was accomplished as part of this initiative.

Based on the Federal Research Network Leadership Teams activities and critical inputs from AFRL, NASIC, AFIT, NAMRU-D, NASA GRC, and the Commissioners of the OFMJC, the key findings of the Federal Research Network are:

- There was limited awareness of the Air Force Research Laboratory, NASIC, NAMRU-D, and NASA Glenn missions, key research initiatives and requirements, job opportunities and federal contracting opportunities across the regions.
- The regions had limited awareness of current Public-Public/Public-Private initiatives as well as the associated processes and opportunities for mutual support.
- The regions supported a statewide review of federal requirements and creation of a strategy and plan to create teaming opportunity discussions with large prime contractors and an understanding of the categories of federal contracts being offered within the State.
- The regions would like a better understanding of the workforce development requirements at the federal installations and in the related industrial sectors.
- The regions have an interest in quarterly gatherings across the State to share lessons learned and regional strategies.
- Coordination of Small Business Innovation Research/Small Business Technology Transfer initiatives between WPAFB and GRC was seen as an opportunity to more fully engage small

businesses in Ohio with a particular interest in later stage grants leading toward commercialization of new products.

- The Dayton Region has a much better understanding of DoD requirements and how to secure federal funding than the other regions of the State. Key to the Dayton model is the integration of small businesses into the federal procurement cycle.

Based on the FRN's Leadership Team assessment, the next critical step is for the FRN to conduct a series of Industry Days and Technology Workshops that further integrates Ohio firms into the proposed solutions sets and further enhances the dissemination of the technology to government and commercial market needs. Initial assessments have been made with JobsOhio but these activities need to be further expanded. The FRN will develop an industry sector assessment and asset-mapping database for each proposed COE technology focus area that further identifies potential industry partners/collaborators.

Given these key findings of the Commission's strategic planning process and inputs from the leadership and directorates of Wright Patterson AFB, and NASA Glenn Research, the following recommendations were established:

The successful implementation of the FRN will result in:

- Defined emerging mission support for the Air Force, Department of Defense and NASA,
- Increased research funding opportunities for other federal procurements,
- Further utilization of the talent and capabilities in Ohio to solve national issues,
- Acceleration of the transition of research results to market needs, with an emphasis on creating and filling new jobs.

Figure 2-1.University Centers of Excellence

The FRN COEs mark a distinctly different approach to technology based economic development with a focus on aggregating and leveraging federal, academic and private sector capabilities and resources in Ohio to develop proactive and innovative solutions to address emerging federal research requirements and operational needs. The aim of the FRN is to provide a solid return on investment to both the federal customer and the State of Ohio. The former would benefit with translational research advances to improve operator performance and mission success and the latter would benefit with the transition of the research to Ohio defense and commercial enterprises that would create new products and fill new jobs. Based on the OFMJC proposal that was approved and initially funded by the Ohio General assembly in the FY 2016-2017 state operational budget, FRN initiatives are projected to create 2,500 new jobs and to attract $350 million in related new investments for the State of Ohio within five years.

- **The U.S. is facing increased global competition:** Resources are becoming more limited, partnerships are becoming more important, technical superiority is more critical, and the required transition of research to application is accelerating
- **The Electromagnetic Spectrum is becoming increasingly important:** There is competition for bandwidth between the Department of Defense and commercial enterprises -- new and innovative technical solutions are required.
- **Cyberspace has become the new battleground:** The threat is growing, evolving and more sophisticated; adversaries are exploiting vulnerabilities and disrupting operations daily; destructive capabilities are increasing -- solutions are highly portable to other sectors.
- **There is increasingly less freedom of movement in space:** Other nations, private industries are all pushing forward in space; future space situational awareness will be critical.
- **Fuel efficiency is here to stay and energy costs are a critical element of military operations:** Advances in hybrid electric propulsion and energy storage technologies have key applications for air, space and terrestrial apps.
- **Future missions will be increasingly conducted in denied airspace environments:** Anti-Access Aerial Denial will be the new normal; access challenges will require integrated technologies; longer distances will necessitate next generation rapid response capabilities.

Table 2-2. Summary of National and International future Challenges for DoD and NASA.

Ohio is home to the NASA Glenn Research Center in Cleveland and Wright-Patterson Air Force Base in Dayton, which houses the Air Force Research Laboratory and the National Air and Space Intelligence Center, among other organizations. Collectively, these federal installations manage over $7 billion annually in research and technology transition initiatives in carrying out their missions to provide our Nation with air, space and cyberspace dominance. The technological and mission challenges that NASA and DoD are focused on are summarized in Table 2-2 with additional details in Appendix 3 and 4.

In addition, these Ohio federal research installations connect Ohio to a nationwide system of cutting edge research organizations in the Department of Defense, NASA and other federal agencies. When combined with our statewide system of public and state-assisted research universities and diverse industrial base, Ohio is in an unique position to be a world leader in aerospace research and development and in capitalizing on the multitude of technology commercialization opportunities created from this federal research cluster. The State of Ohio is already the key supplier to Boeing and Airbus and this initiative is focused on expanding that role to the Air Force and NASA.

Although the State has supported some targeted research and technology commercialization efforts at Wright Patterson Air Force Base and NASA Glenn Research Center in the past, Ohio has yet to fully capitalize on these world-class assets by developing a comprehensive, proactive statewide effort to support the ongoing federal research missions at NASA Glenn Research Center and Wright Patterson Air Force Base, to expand this collaboration across Ohio's research universities and community colleges and to more fully incentivize and leverage industry partners to invest and grow in Ohio.

Until recently, Wright Patterson Air Force Base, and NASA Glenn have lacked incentives, necessary infrastructure and the flexibility to engage the State in partnering on strategic investments in collaborative research and tech commercialization programs. Federal contracting restrictions, internally oriented cultures and competition among contractors created an environment where collaboration and open dialogue were not facilitated and accepted as a business norm.

However, in recent years, changing externalities aligned to provide Ohio a tremendous new opportunity to better utilize our federal military and defense installations as drivers of economic growth:

- Reductions in the federal budget have created a dynamic environment and increased the feasibility and business case for Air Force, NASA and Defense leaders to press for local collaborations and shared resource strategies to accomplish core missions and reduce the cost of operations. Travel restrictions, lower research budgets and competition for talent also are creating a new paradigm for collaboration.
- Rapidly accelerating technology advancements in air, space and cyber domains are necessitating a more collaborative, externally oriented and inclusive approach to solving major federal research challenges and reducing the time needed to transition advancements to operational domains. The government finds a compelling need to insource technology as well as to develop new technology, and the interest in the technical capabilities of the university research community, small and medium size firms is increasing.
- At both Wright Patterson Air Force Base and NASA Glenn Research Center, United States Air Force and NASA leaders in key positions have recognized the value of active collaboration to their research centers and missions. This active engagement has created increased value for their installations by building more Ohio-based talent and capability to execute research and training and technology transition contracts. The Air Force Staff leadership facilitates these activities and Wright Patterson Air Force Base is pressing for more collaboration with local and State entities to share research priorities, expand tech commercialization initiatives, increase workforce development and small business contracting opportunities, as well as university research activities in Ohio.

The State's research universities have been challenged by the Governor and the Ohio General Assembly to take a more active role in bolstering the State's economy through research and technology commercialization with an emphasis on applications-oriented research that can be taken to market by Ohio-based firms or integrated into emerging mission requirements by NASA and/or the Department of Defense. Much work has been accomplished by the universities to develop plans and programs toward this end that could be focused on the opportunities generated statewide from Wright Patterson Air Force Base and NASA Glenn Research Center -- e.g., the opportunities that are highlighted in the Defense Innovations Marketplace and for Air Force Office of Scientific Research.

III. Strategy

Under the auspices and charter of the Ohio Federal Military Jobs Commission (Ohio Revised Code Chapters 193.03 to 193.09), the leadership of Wright Patterson Air Force Base, NASA Glenn Research Center, and the State's research universities have come together to develop a proactive and comprehensive State investment strategy and a corresponding lean networked organization structure that will fully focus Ohio's assets on the tremendous economic opportunities generated from these installations to retain, attract and grow high-value jobs and unleash this economic powerhouse to grow the State's economy. The recommended organizational structure for the Ohio Federal Research Network (FRN) and associated Centers of Excellence are shown in Figure 2-2.
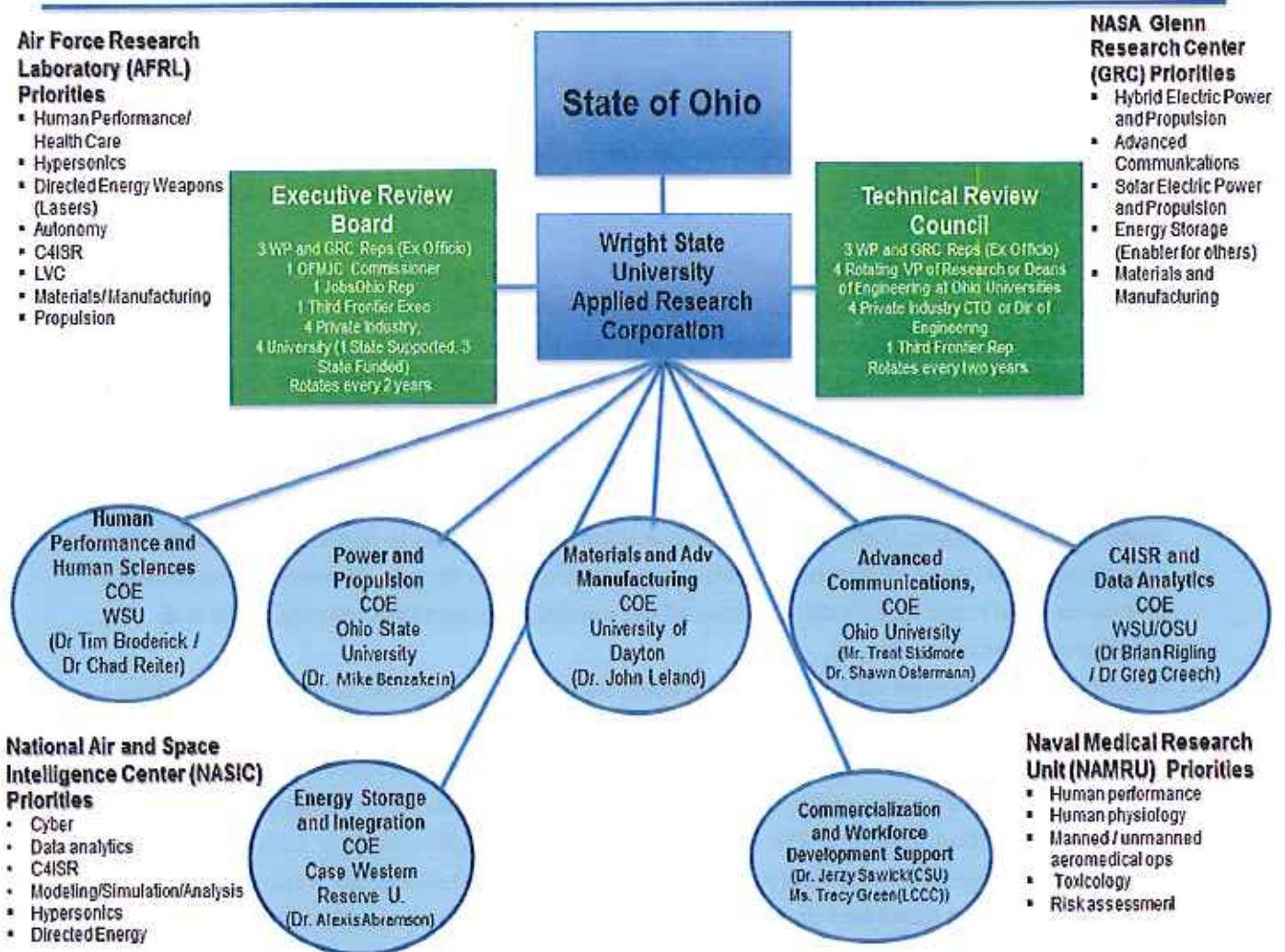
Figure 2-2. Organizational construct for Federal Research Network operation of Centers of Excellence.

Integral to this strategy is the engagement and full integration of Ohio's industrial base. The Ohio Federal Military Jobs Commission team will collaborate with JobsOhio and the Ohio Aviation and Aerospace Technical Committee to include the State's industrial base and entrepreneurial firms in research projects and tech commercialization opportunities. Industry participation is a key requirement for each and every FRN project and industry is the key to taking technologies to market as well as creating the jobs of the future.

The strategic intent of the Federal Research Network is to:

- Expand Ohio's research base of talent, capabilities and investment to complement and support the research missions and priorities of Wright Patterson Air Force Base and NASA Glenn Research Center, the National Air and Space Intelligence Center and the Naval Medical Research Unit.
- Align Ohio's research universities and community colleges around priority research initiatives at Wright Patterson Air Force Base and NASA Glenn Research Center that meet strategic mission requirements of NASA, the Air Force and Department of Defense and that create external investment and business opportunities for Ohio.
- Establish a major focus on transitioning research advancements and technologies to operational domains and Ohio firms for both the federal government customer and commercial sector where relevant. The focus for the Centers of Excellence is displayed in Figure 2-3.

	BASIC Research and Development	Applied Research and Development	Advanced Technology Development	Demonstration and Validation	Engineering and Manufacturing	RDT&E Management Support	Operational Systems Test and Validation
DOD RDT&E Level	6.1	6.2	6.3	6.4	6.5	6.6	6.7
NASA	TRL1	TRL2	TRL 3	TRL 4	TRL 5	TRL 6	TRL 7	TRL 8	TRL 9
	Basic Principles	Concepts Application Focus	Analysis and Experiments	Concept and Breadboard in Laboratory	Component and Breadboard Validation in Realistic Environments	System / Subsystem prototype demonstration in realistic Environment	System prototype demonstration in Operational Environment	Actual system completed and qualified through test and demonstration	Actual system Proven through successful mission operations

FRN COE Focus Mission Application Research for NASA, AFRL, NAMRU and NASIC

Figure 2-3. Federal Research Network focus for the Centers of Excellence

The Recommended Metrics for measuring the Federal Research Network success are:

- Expanded research base and capabilities in Ohio
- External investment attracted to Ohio
- Return on Investment of State funding
- New research awards and contracts from Federal and Industry sponsored research and development
- Mission support of Wright Patterson Air Force Base and NASA Glenn Research Center
- Technologies transitioned to federal and commercial markets
- Jobs retained and created in Ohio
- Technical research assets
- Principle investigators for funded basic (6.1) and applied (6.2 and 6.3) research across Ohio

The Specific Methodology for the Federal Research Network that was followed:

- Identify, in collaboration with the Air Force Research Laboratory, the National Air and Space Intelligence Center, NASA Glenn Research Center, and the Naval Medical Research Unit leadership priority research mission areas that meet significant national requirements and support their long term viability in the federal research portfolio
    - Priorities of Air Force Research Laboratory, the National Air and Space Intelligence Center, and the United States Air Force
    - Priorities of NASA Glenn Research Center
    - Priorities of both Air Force Research Laboratory and NASA Glenn Research Center

- Identify existing Ohio universities and private sector capabilities and/or potential initiatives that align with the above priorities
    - Research market potential, feasibility and State investment requirements
    - Establish collaborative initiative teams and business development plans with university, industry and government participation.
    - Assess existing federally funded research activities that align with emerging lists of DoD and NASA requirements
    - Drive proactive research and tech transition initiatives

- Align Ohio Federal Military Jobs Commission Research and Technology Transition plan and programs with other significant and complementary efforts in Ohio to leverage resources and capabilities
    - Ohio Aviation and Aerospace Committee/Ohio Space Plan
    - JobsOhio Aerospace Industry and Manufacturing Initiatives
    - Inter University Council Research and Technology Commercialization Plan
    - Ohio Third Frontier and private venture capital efforts

- Develop an organizational model under the leadership of the Applied Research Corporation at Wright State University to execute initial and ongoing Ohio Federal Military Jobs Commission FRN efforts that build on existing successful models with Wright Patterson Air Force Base, NASA Glenn Research Center and best practices nationally that create an innovative, proactive and sustainable enterprise for Ohio going forward
    - Expand research portfolio in Ohio
    - Attract research talent to Ohio
    - Foster ongoing collaborative strategic planning with Wright Patterson Air Force Base and NASA Glenn Research Center
    - Build on Wright Patterson Air Force Base/NASA Glenn Research Center connections to NASA, the Department of Defense and other federal research agencies
    - Frame proactive market research and proposal capability
    - Foster collaboration with Universities in Ohio and venture capital firms
    - Focus on outcomes: more research funding, outside investment, tech transition, new jobs

- Provide financial resources to stand up effort and co-investment in research tech commercialization initiatives primarily through the Ohio Department of Higher Education budget
- Provide linkages to relevant Ohio business pursuit/capture activities (e.g., JobsOhio and capability/competency mappings similar to the UAS study undertaken by the Dayton Development Coalition)
- Provide linkage to Ohio Manufacturing Extension Partnership Centers / Procurement Technical Assistance Centers, etc.

- Create a process for measuring the economic impact of overall effort (e.g. jobs created, jobs retained, research attracted, and subsequent investments)
- Evaluate overall success metrics and continually make recommendations for increased productivity of the Federal Research Network

IV. Conclusion/Next Steps

The Ohio Federal Military Jobs Commission's recommendation to establish the Ohio Federal Research Network creates a statewide strategy that will link and leverage federal investments from WPAFB and NASA Glenn to research and technology commercialization assets at Ohio's universities, community colleges and in the private sector. This strategy builds upon the lessons learned and successes of two model programs in Ohio that have achieved measureable results: the Alliance for Human Effectiveness and Advancement model at Wright State University which attracted over $150 million in new federal contracts, created 370 new jobs and over $100 million in outside private investment in Ohio over the last four years; and the SMART Technology Commercialization Center for Microelectronics and corresponding Venture Fund Accelerator co-sponsored by Lorain County Community College and Cleveland State University.

Based on lessons learned from Alliance for Human Effectiveness and Advancement, the SMART Center and a renewed level of cooperation from WPAFB, GRC and Ohio's university system, the FRN Initiative with NASA and DoD is expected to yield an even more significant measurable economic impact and return on investment in Ohio over the next five years.

The Federal Research Network marks one of the most collaborative undertakings ever executed with DoD, NASA, and the state university research institutes. It specifically focuses on supporting and leveraging Ohio's biggest collective research assets at WPAFB and NASA Glenn Research Center that account for nearly $7 billion in annual expenditures.

Specifically it is projected that the Federal Research Network will create a direct economic impact to Ohio in the following areas:
- $300 million in additional federal research contracts awarded to Ohio companies
- $250 million in new private sector investment
- 100 Ohio based companies significantly expanded or created
- 2500 new private sector jobs over the next 5 years

The utilization of existing related organizational infrastructure in the State, particularly in the areas of research, tech commercialization and workforce development, will integrate Ohio Federal Military Jobs Commission research operations with existing State programs and resources such as the International Community for Open Research and Education, JobsOhio, University/Community Technology Commercialization Centers, Robotics and Advanced Manufacturing Technology Education Collaborative, National Institute of Standards and Technology Manufacturing Technology Outreach Centers, National Network for Manufacturing Innovation, Procurement Technical Assistance Centers, etc.

After a yearlong effort to educate and organize Ohio's universities on the missions and emerging requirements of WPAFB and NASA Glenn, the Federal Research Network plans to release its first phase of state operating fund support in January 2016 to initialize the program. The efforts will begin by

funding a small group of carefully selected, competitive research proposals from the Technical COEs and an initial round of support services for tech commercialization and workforce development. Future funding rounds will be targeted to a limited number of additional research and technology proposals based on merit. In addition, as the Technical COEs' business plans mature, the FRN will seek additional State operating and capital dollars where there is an identified need and return on investment. In this way the FRN will provide Ohio with a new model for identifying and funding targeted translational research efforts that will strengthen the State's long term relationships with WPAFB and NASA Glenn, while also identifying and accelerating commercial opportunities in other markets.

Through this integration and teamwork, we will leverage State funds to grow the federal research funding in Ohio to produce technology that will create a robust growth model for Ohio and keep our nation safe in the present and future.

Chapter 3: Expand Small Business Federal Contracting

I. Legislative Charge

Develop programs that create a State-wide response to the federal initiatives that make contracts available to small businesses and veteran-owned businesses.

Recommendation	Office of Primary Responsibility
1. Enhance internet presence of Small Business Development Centers and Procurement Technical Assistance Centers	Ohio DSA, Business Services Division
2. Conduct an analysis on the locations of the Procurement Technical Assistance Centers and the Small Business Development Centers	Ohio DSA, Business Services Division
3. Establish an Small Business Innovation Research matching competitive grant program	Ohio DSA, Office of Technology Investments
4. Provide technology assessment reports to small businesses	Ohio DSA, Office of Technology Investments

Table 3-1. Summary of Chapter 3 Strategic Recommendations

II. Background

This chapter recommends two new programs to assist businesses in obtaining federal Small Business Innovation Research grants leading to increased job growth potential. The chapter also recommends enhancing an existing federal/state partnership to ensure assistance is more accessible to small businesses. Small businesses, those with less than 500 employees, are the backbone of Ohio's economy. According to 2010 data from the Small Business Administration, small businesses represent 98.1% of all employers and employ 47.7% of the private sector workforce. Small businesses operate in many industries in Ohio and the following chart lists those industries, based on North American Industry Classification codes and by number of employees.

Number of Ohio Small Firms by Industry, 2012[5] (ranked by number of small employer firms)

Industry	Employer Firms With 1-499 Employees	Employer Firms With 1-19 Employees
Other services (except public admin.)	24,691	22,853
Professional, scientific, & tech. svcs.	21,435	19,585
Retail trade	20,211	18,017
Health care & social assistance	19,713	16,138
Construction	19,307	17,818
Accommodation & food services	16,379	12,641
Manufacturing	12,268	8,525
Administration, support, waste mgt., remediation services	10,759	9,371
Wholesale trade	10,531	8,351
Finance & insurance	8,007	7,297
Real estate & rental & leasing	6,698	6,184
Transportation & warehousing	5,339	4,526
Arts, entertainment, & recreation	3,515	2,964
Educational services	2,554	1,857
Information	1,525	1,199
Management of companies & enterprises	780	151
Mining, quarrying, and oil & gas extraction	545	474
Forestry & agriculture support	263	245
Unclassified	153	153
Utilities	141	88
Total	183,062	158,247

Table 3-2. Number of Ohio Firms by Industry, 2012

To assist small businesses with competition, the federal government established several business classifications to aid and stimulate specific socioeconomic categories of businesses. The classifications allow for competition within a smaller pool of companies. These classifications also allow government contract managers to provide direct contract awards or set aside awards. Each classification requires a certification process to ensure businesses meet the established standards. Figure 3-1 lists the main small business classifications.

Business Classification	Description
Small Disadvantage	51% ownership or control by a person who is either socially or economically disadvantaged
8(a)	Business development program to assist socially and economically disadvantaged companies
Historically Underutilized Business Zone	Provides preferential access to small businesses located in economically distressed areas with either high unemployment or low income levels
Women Owned Small Business	51% ownership by a female and also control and operate the business
Service Disabled Veteran Owned Small Business	Service connected disability, 51% ownership by a service disabled veteran and control and operate the business

Figure 3-1. Small Business Classification Descriptions

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[5] SUSB and Nonemployer Statistics

Figure 3-2 illustrates the contract dollar awards from 2012 to 2015 for Ohio based small businesses. The 2015 amount is based on contract data as of March 10, 2015.
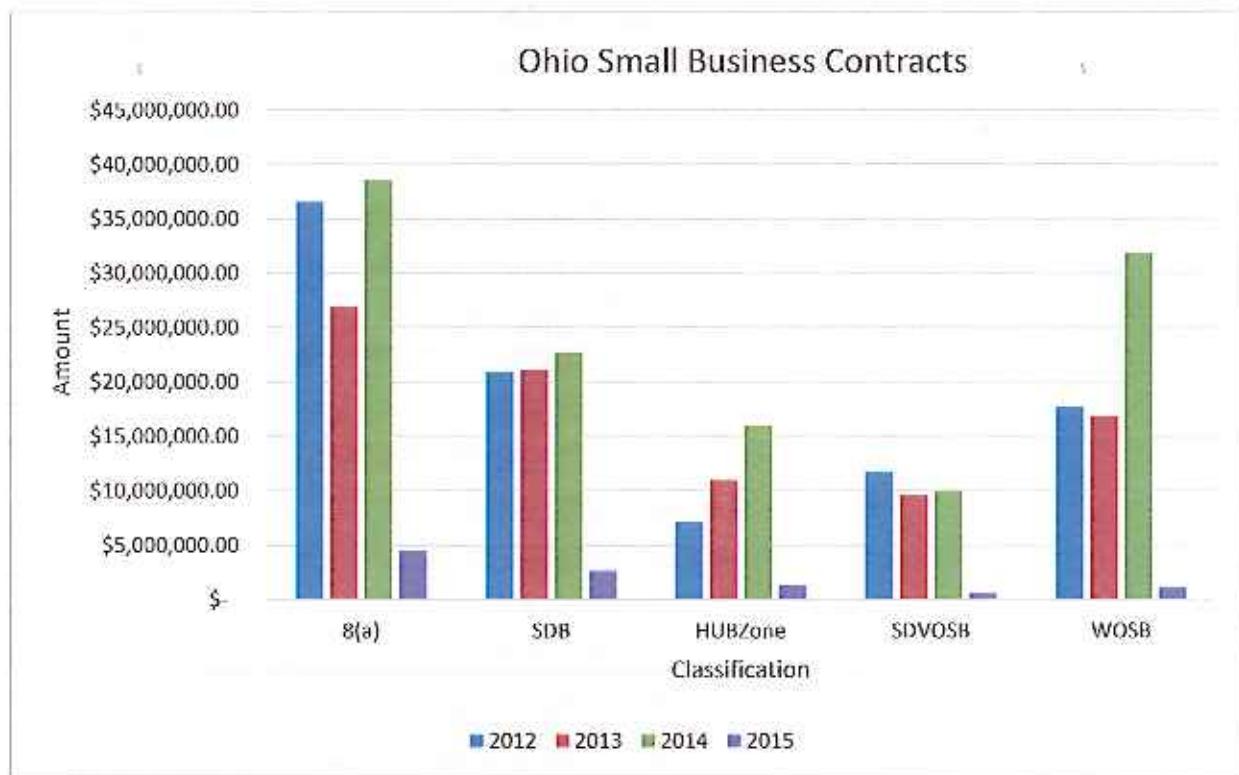
Figure 3-2. Ohio Small Business Contract Amounts[6]

Federal agencies negotiate with the Small Business Administration on a bi-annual basis to establish individual agency prime contracting and subcontracting goals for small business concerns. These individual goals then constitute government-wide small business contracting goals. The Small Business Administration ensures the sum total of all agency goals exceeds the 23 percent target established by federal law.[7] Figure 3-3 shows the small business contracting targets, both in prime contracts and in subcontracts for FY15.

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[6] Small Business Administration and Fedmine.us, data created March 11, 2015.

[7] SBA, "Small Business Procurement Scorecards, accessed at www.sba.gov/content/small-business-procurement-scorecards-0

Small Business Contracting Levels for FY15

Agency	Prime Contracting	Subcontracting
Small Business Administration (7300)	69%	7%
Dept of Defense (9700)	22%	36%
Energy, Dept of (8900)	6%	50%
Health and Human Services, Dept of (7500)	23%	33%
Veterans Affairs, Dept of (3600)	32%	18%
National Aeronautics and Space Administration (8000)	17%	36%
Homeland Security, Dept of (7000)	32%	41%
General Services Administration (4700)	32%	29%
Agriculture, Dept of (1200)	53%	23%
Justice, Dept of (1500)	28%	42%
Interior, Dept of the (1400)	53%	45%
State, Dept of (1900)	39%	32%
Commerce, Dept of (1300)	37%	30%
Treasury, Dept of the (2000)	35%	22%
Labor, Dept of (1600)	30%	55%
Transportation, Dept of (6900)	44%	50%
Environmental Protection Agency (6800)	40%	55%
Education, Dept of (9100)	20%	33%
Housing and Urban Development, Dept of (8600)	38%	55%
Agency for International Development (7200)	14%	19%
Social Security Administration (2800)	34%	50%
Office of Personnel Management (2400)	25%	55%
National Science Foundation (4900)	18%	24%
Nuclear Regulatory Commission (3100)	29%	45%

■ Prime Contracting   ■ Subcontracting

Figure 3-3. Small Business Contracting Targets for FY15

There is slight variation throughout the State on the top federal agencies providing small business contracts. The following chart contains the top federal agencies by JobsOhio Region in providing small business contracts.

Ohio Total		
Department of Defense		
NASA		
Department of Veteran Affairs		
Department of Energy		
General Services Administration		

NW Region	NE Region	SE Region
NASA	Department of Defense	Department of Energy
Department of Defense	NASA	Department of Defense
General Services Administration	Department of Veteran Affairs	NASA
Department of Veteran Affairs	General Services Administration	Department of Veteran Affairs
Department of Transportation	Department of Agriculture	Department of Transportation
Central Region	**West Central Region**	**SW Region**
Department of Defense	Department of Defense	Department of Defense
Department of Energy	General Services Administration	Environmental Protection Agency
Department of Veteran Affairs	Department of Veteran Affairs	Department of Homeland Security
General Services Administration	NASA	Department of Agriculture
Department of Transportation	Department of the Interior	Department of Health and Human Services

Figure 3-4. Top Federal Agencies for Small Business Contracting[8]

The Small Business Administration annually rates federal agencies and the government as a whole relative to meeting the negotiated small business contracting goals. The federal government received an "A" rating in 2013, meaning the government as a whole met the prime contracting and subcontracting goals for small business.[9] This was the first time the federal government achieved the established goal. The current climate within the federal government stresses the use of small businesses in federal contracting, both as primes and subcontractors. Within th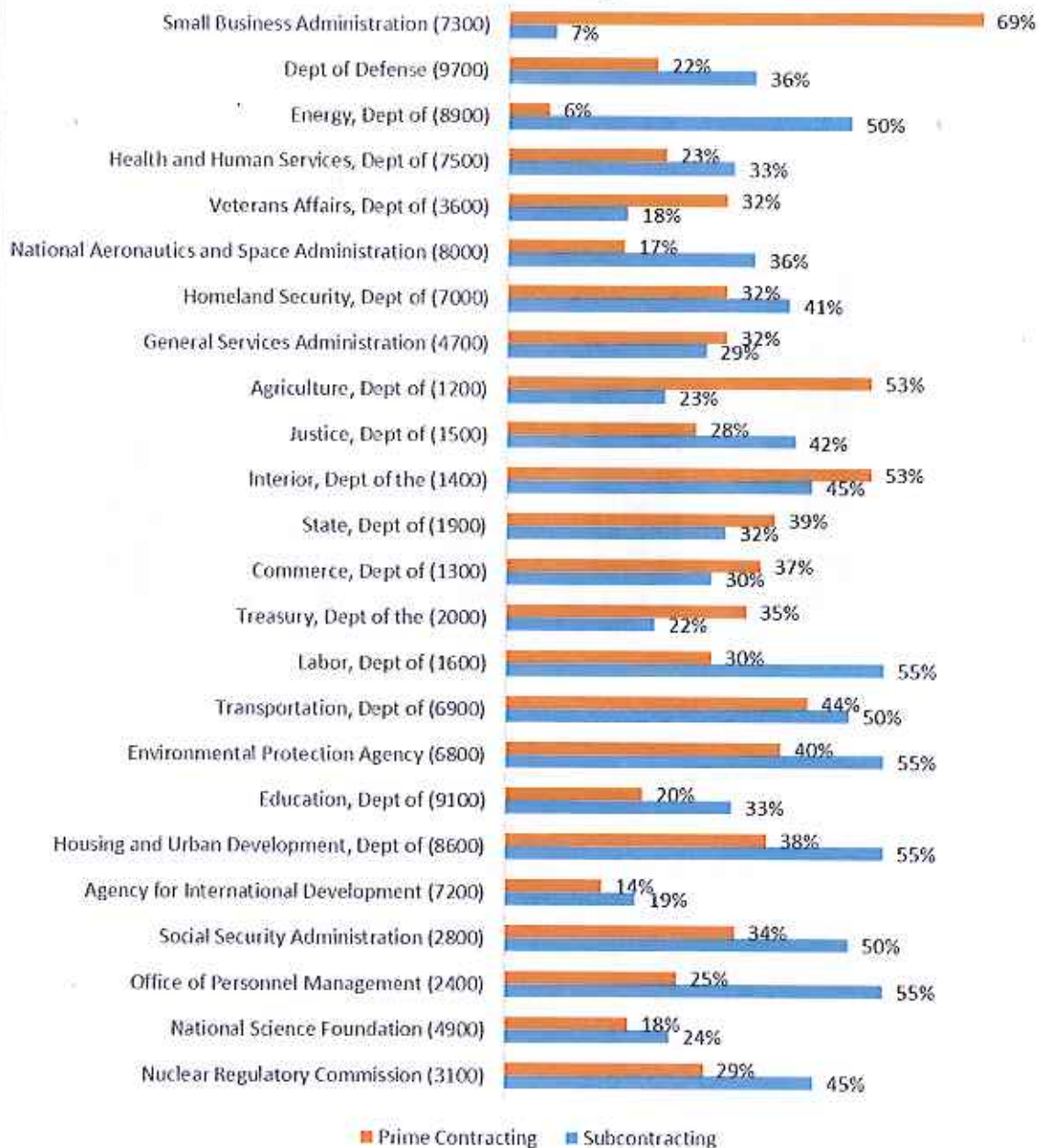e Department of Defense, for example, promotion of senior leaders takes into consideration whether the senior leader met the small business goals of the command. This push by the Department of Defense provides an opportunity for Ohio to provide a focus and support for small businesses that wish to contract with the federal government.

A deeper examination of the contracting data, however, illustrates a troubling trend. From FY11 through FY14, the percentage of dollars awarded to small businesses increased each year, from just over 18% to approximately 22%.[10] Despite a decline in overall federal spending, the dollars awarded to small businesses remained fairly constant during this period. Further analysis of the data shows that the number of small business contract actions fell by almost 60% and the average size of a contract action increased 230%. This reflects that fewer small businesses are winning contracts, but those contracts are worth more, which may indicate that some small businesses are doing well while others are losing opportunities to compete.

[8] www.sbir.gov
[9] SBA, "FY2013 Government-Wide Small Business Procurement Scorecard," available at https://www.sba.gov/sites/default/files/files/FY13_Government-Wide_SB_Procurement_Scorecard_Public_View_2014-04-28.pdf
[10] Congressman Steve Chabot Statement before the Committee on Armed Services of the House of Representatives, April 14, 2015

The Department of Defense data, in particular, shows reason for concern. The percentage of contract dollars awarded to small businesses from DoD increased from just over 16% to just over 19% during the same period, but the actual dollars only changed by approximately 10%. The number of small business contract actions at DoD fell by nearly 70% yet the value of those contract actions rose by nearly 290%. As the data shows, fewer small companies are winning contracts, but the contracts won are larger in dollar amount.
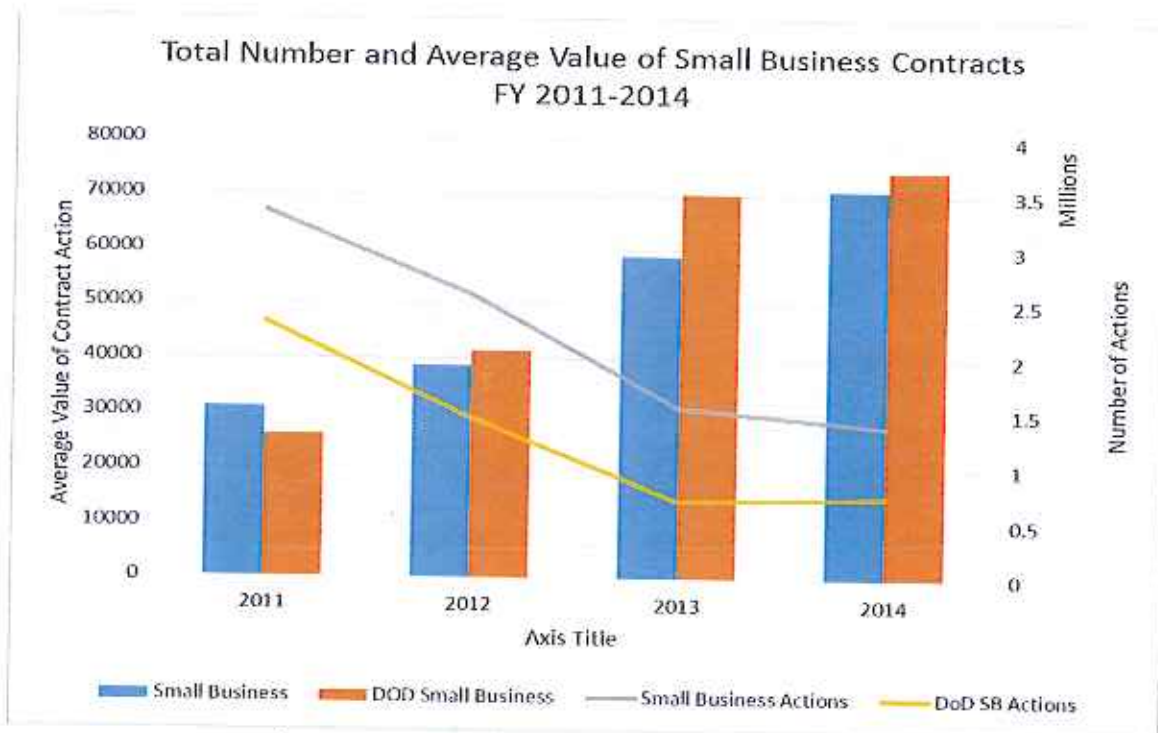
[11]Figure 3-5. Small Business Contracting FY10 – FY14

Contracting Challenges

Despite this push at the federal level, there are challenges outside the control of small businesses and the State of Ohio. Sequestration has constrained federal budgets and directly influenced defense spending. The chart below shows the federal contract dollars obtained by small businesses in Ohio from 2011 to 2014.

	2011	2012	2013	2014
Air Force	$423,650,283	$347,269,322	$279,777,098	$360,515,591
Army	$1,216,619,937	$928,711,791	$511,569,534	$249,520,708
Defense Logistics Agency	$232,463,088	$208,103,001	$197,276,900	$232,730,307
NASA	$138,340,680	$132,927,861	$169,403,926	$165,914,874

Figure 3-6. Ohio Small Business Contract Dollars Awarded by Year

Sequestration went into effect on March 1, 2013 resulting in reductions in mandatory spending authority by $80.5 billion[12] for the remainder of fiscal year 2013. The spending reduction resulted in a

[11] 1 SBA, "FY 2013 Procurement Scorecard," *available at* https://www.sba.gov/sites/default/files/files/FY13_Government-Wide_SB_Procurement_Scorecard_Public_View_2014-04-28.pdf

[12] Pub. L. No. 113-6

spending reduction of 7.9% for direct defense spending and 7.8% for defense discretionary spending.[13] The Air Force utilized unencumbered funds to lessen the impact of the mandatory spending reductions in 2014 while the Army took across the board spending reductions. These spending reductions impacted businesses as procurement orders were reduced, planned contract actions were delayed and various support contracts were terminated.

Over the past several years, federal agencies have bundled and consolidated contract opportunities. The permitted practice has been justified as a method to find cost savings for the taxpayer. Bundling is the consolidation of two or more procurement requirements for goods or services previously provided or performed under separate smaller contracts into a solicitation of offers for a single contract that is likely to be unsuitable for award to a small business.[14] A number of factors are considered in determining whether the single contract is unsuitable for a small business, including the nature of performance requirements, the size of the contract, and the geographic dispersion of performance sites.[15] The result is a contract that may be longer in duration and scope, reducing the opportunity and frequency of competition for contracts.

Beginning in 2005, the federal government launched the Strategic Sourcing Initiative, a structured and collaborative process of analyzing an organization's spending patterns to better leverage purchasing power, reduce costs and improve overall performance.[16] The Initiative focuses on goods, services and commodities common to all federal agencies and centralizes the purchasing so that the government can realize cost savings by capturing economies of scale. The Initiative resulted in blanket purchase agreements, enterprise contract activities, and centrally managed contract actions. Though cost savings are realized, the geographic dispersion of performance sites affects the ability of regional small businesses to participate.

The federal government has also recently increased the use of mandatory use contracts/government wide acquisition contracts. Typically, the mandatory use/government wide acquisition contracts are multi-year vehicles and cover multiple products or services. In mandatory use contracts, specific agencies are required to utilize an existing contract vehicle and only those companies awarded the opportunity to compete on task orders are able to bid and execute the work. The government wide acquisition contracts operate in nearly the same fashion as only those companies awarded a position on the contract can bid on task orders from across the government. In each of these cases, the level of competition is reduced and small businesses face a challenge in landing a spot on the contract. In some cases, a government wide acquisition contract is established specifically for small businesses. The challenge still remains that only those businesses that won the contract are able to bid on issued task orders. There have been instances of federal agencies granting waivers to allow other contract vehicles to be used to contract for services.

Current Assets to Assist Small Business

Ohio, like other states, contains Procurement Technical Assistance Centers that provide direct, free of charge services to small businesses. Procurement Technical Assistance Centers are administered by the Defense Logistics Agency and receive funding from federal and state governments. This funding partnership results in Procurement Technical Assistance Centers providing very similar services across

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[13] GAO report 14-233
[14] Small Business Act 15 U.S.C §632
[15] 15 U.S.C. 632(o)(2); FAR 2.101; 13 CFR 125.2(d)
[16] GSA Strategic Sourcing available at https://strategicsourcing.gov

the United States. These organizations are the primary providers of contracting support services and advice to companies. A full listing of Procurement Technical Assistance Center services is contained in the following illustration.

Procurement Technical Assistance Center Services [17]

One on one counseling	BID match to find bid opportunities	Workshops/webinars/conferences
Registration assistance (DUNS, SAM)	Networking facilitation	Prime/Sub contracting partnerships
Mentor/protégé assistance	Teaming agreements	8(a) and HUBZone opportunities
Bid proposal assistance	Product specification and standards	Procurement histories/pricing data
GSA contract assistance	Contract auditing/performance measurement	

Figure 3-7. Description of Procurement Technical Assistance Centers Services

Procurement Technical Assistance Centers also have the ability to create programs or educational courses that respond to direct needs from businesses. In some cases, Procurement Technical Assistance Centers generated new educational programs as a result of feedback from interested small businesses.

Procurement Technical Assistance Centers are located throughout Ohio and most offices are affiliated with Ohio University in Athens. Each Procurement Technical Assistance Center is responsible for a multi-county region and the number of counties varies by region. Ohio University Procurement Technical Assistance Center offices are located in Athens, Columbus, Lancaster, Akron, Cincinnati and Dayton and non-Ohio University affiliated offices are located in Kirtland, Youngstown and South Point.

Small Business Development Centers also provide technical and financing assistance to small businesses. The Small Business Development Center network in Ohio is the fifth largest in the nation with 27 centers serving Ohio's 88 counties. The Small Business Development Center network is provided through a partnership between the Ohio Development Services Agency, the US Small Business Administration and selected Ohio Chambers of Commerce, universities and economic development agencies. Starting in 1990, Congress required all new Small Business Development Centers be hosted by institutions of higher education or women's business centers or that a majority of Small Business Development Centers within a state be hosted at institutions of higher education. Small Business Development Center offices are established based upon the population density with the greater the density permitting additional Small Business Development Centers. Like Procurement Technical Assistance Centers, the services from Small Business Development Centers are free and are in-depth, one on one interactions. Small Business Development Centers provide the following services.

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[17] http://smpscolumbus.org/downloads/ohio_ptac_presentation__smps_3_19_2014.ppt

Small Business Development Center Services

Business plan development	Financial packaging and lending assistance
Export and import support	Disaster recovery assistance
Procurement and contracting aid	Market research services
Aid to 8(a) firms	Quality based assessments

Figure 3-8. Description of Small Business Development Center Services

III. Strategy

Though Ohio contains an extensive and expansive network of support services for small businesses, there are opportunities to strengthen the existing network without establishing a new entity to compete for existing constrained funding.

1. Enhance the internet presence of Small Business Development Centers and Procurement Technical Assistance Centers

In the current environment, the internet is typically the first stop for people and businesses to find information. The internet pages for the Small Business Development Center s and Procurement Technical Assistance Centers within the State operate as a part of their host organization's web presence. The result is a potentially confusing site that is the first step for businesses to find services. There is a lack of consistency of information, layout, and presentation among the sites. The information that is contained on the sites is predominately basic, such as an overview of services. Little content is provided on the details of services and the benefit of the services or consultation with businesses. The sites do not share information, such as webinars, presentations, or events nor do they appear connected to one another. Each site appears as an isolated island with little to no coordination with or linkages to other Small Business Development Center/ Procurement Technical Assistance Center sites across the State.

The State of Virginia maintains a cohesive, networked appearance of their Small Business Development Centers. All websites contain similar basic information; they contain a similar design and color scheme, and contain a connection to the host organization. Information is shared among Small Business Development Center locations and web pages and the overall appearance appears more proactive and engaging of business. The sites are user friendly and provide access to more detailed information including contact information for staff members at each Small Business Development Center location. The web presence of Procurement Technical Assistance Centers in Virginia is slightly different. Each Procurement Technical Assistance Center site appears independent, though the pages do contain similar colors and information. The information is user friendly and contains more than just the basic program overview. Though the Procurement Technical Assistance Center presence is not as connected as the Small Business Development Centers in Virginia, it does provide a solid model for Ohio to review in creating a cohesive, proactive web presence for Small Business Development Centers and Procurement Technical Assistance Centers.

The Small Business Development Center at Wright State University developed a new eCenter online framework to provide continuity among the Small Business Development Center s. This new internet framework enables increased service delivery and links all Small Business Development Centers to one another enabling businesses to access programs, products, counselors, or educational products from any Small Business Development Center across the State. The new framework also includes classes and programs offered by Procurement Technical Assistance Centers in Ohio, as long as that information is

made available to the Small Business Development Centers for inclusion online. The State of Ohio paid to build this new framework and it is offered to the other Small Business Development Centers across the state at no cost, other than the time to train staff to use and edit the webpage. Despite the State investment and new framework, Small Business Development Centers are not required to join the new network. To encourage consistency in the delivery of information and services, all Small Business Development Centers should be required to join the new eCenter network. The State should also examine the applicability of this eCenter framework for the Procurement Technical Assistance Centers to increase their connectivity and information delivery.

2 Conduct an analysis on the locations of the Procurement Technical Assistance Centers and the Small Business Development Centers.

Ohio contains a diverse network of small business support organizations spread throughout the State. Each region of the State contains a Procurement Technical Assistance Center, a Small Business Development Center, a JobsOhio organization, an International Trade Assistance Center, business incubator or an entrepreneurial support program. In some regions of the State, there may be multiple Small Business Development Centers or incubators. All of these organizations receive funding either from the federal and State government or just the state government. These entities, currently, are not in the same city or same physical location. It is not known if the current physical siting plan creates an efficient and effective service delivery system. Communication and collaboration is a challenge in most environments and being geographically dispersed, even in the same region, can make the communication and collaboration more difficult. In addition, the geographic dispersal of these support organizations makes it challenging for federal small business officers to visit and maximize their time in each region.

The State should examine the level of communication and collaboration between the Procurement Technical Assistance Centers and Small Business Development Centers by undertaking a business case analysis of the agencies. The analysis should examine the following items:

- Is the current number of Procurement Technical Assistance Centers and Small Business Development Centers in Ohio sufficient?
- Are the current locations of Procurement Technical Assistance Centers and Small Business Development Centers efficient and sufficient for service delivery to small businesses throughout the State?
- Is the current organizational structure of Procurement Technical Assistance Centers and Small Business Development Centers an effective model? Is there a more efficient and effective organizational model for service delivery?

Based on the findings from the analysis, the State should consider implementing the recommendations to support the small businesses in Ohio.

3. Establish a Small Business Innovation Research matching competitive grant program.

The Small Business Innovation Research program is a competitive grant program at the federal level that encourages domestic small businesses to engage in federal research and research and development that has the potential for commercialization. The SBIR program enables small businesses to explore their technological potential and provides the incentive to profit from the commercialization of technology. Federal agencies with R & D budgets in excess of $100 million are required to allocate 2.8% of their

Research and Development budget to the Small Business Innovation Research program.[18] The Air Force Research Laboratory and NASA Glenn Research Center Small Business Innovation Research awards and expenditures are contained in the Appendix. Several states across the US contain State Small Business Innovation Research matching grant programs to maximize these federal investments and to grow small businesses. See the Appendix for information on these State programs.

These matching grant programs may be more important and impactful given a 2014 policy directive to enhance the effectiveness of the Small Business Innovation Research program. A new transition rate applies to only those applicants that received 20 or more Phase I awards over the past five years, excluding the most recent year. This benchmark rate requires that awardees must have received on average one Phase II award for every four Phase I awards during the most recent five year period.[19]

Additionally, a commercialization benchmark was created to measure Phase II SBIR awards. This benchmark applies only to Phase I applicants that received more than 15 Phase II awards over the past 10 fiscal years, excluding the past two fiscal years. The requirement is the awardee must have received, to date, an average of at least $100,000 of sales and/or private investments per Phase II award or have received a number of patents resulting from the SBIR work equal to or greater than 15% of the number of Phase II awards received during the period. Failure to meet these benchmarks results in a loss of eligibility to receive a Phase I award for one year.[20]

In 2012, Ohio ranked sixth in the nation in the number of Small Business Innovation Research awards, though it ranks lower in the number of successful Phase II awards. Figure 3-9 shows the number of Phase I & II SBIR awards in Ohio from 2010 – 2014.[21]

Year	No. Phase I	Phase I Dollars	No. Phase II	Phase II Dollars	Total
2014	126	$ 18,383,068.00	55	$ 54,473,677.00	$ 72,856,745.00
2013	117	$ 17,499,807.04	55	$ 43,172,403.00	$ 60,672,210.04
2012	161	$ 26,045,703.00	79	$ 69,838,212.00	$ 95,883,915.00
2011	161	$ 19,629,962.00	77	$ 66,623,195.00	$ 86,253,157.00
2010	198	$ 24,327,110.00	80	$ 81,075,664.00	$ 105,402,774.00

Figure 3-9. Small Business Innovation Research awards in Ohio

As of 2013, 17 states have adopted one of three state match programs – a state match to a Phase I award, a state match to a Phase II award, and a limited match program.[22] In constructing a matching program, Ohio could use portions of programs established by other states. After reviewing other states, this recommendation contains parts of matching programs from Kentucky and Connecticut. Kentucky's program is more robust than other states and is summarized below.

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[18] SBIR program overview, www.sbir.gov/about/about-sbir
[19] SBIR performance benchmarks, www.sbir.gov/performance-benchmarks
[20] SBIR performance benchmarks, www.sbir.gov/performance-benchmarks
[21] www.sbir.gov/reports/state-summary
[22] *Multilevel Innovation Policy Mix: A closer look at state policies that augment the federal SBIR program*, Research Policy 44 (2015) 1387-1402, Lauren Lanahan and Maryann Feldman.

Kentucky SBIR Grant Program[23]

Phase 0	State provides up to $4000 to write Small Business Innovation Research proposal
Phase 00	State provides up to $4000 to Phase I winners to write proposal for Phase II
Phase I	State provides up to 100% match with cap of $150,000
Phase II	State provides up to 100% match, with cap of $500,000/year for 2 years

Figure 3-10. Kentucky Small Business Innovation Research Grant Program

Kentucky's program began in 2006 and is managed by a separate 501(c) (3) organization, the Kentucky Science and Technology Corporation. The Kentucky Science and Technology Corporation was incorporated in 1987 and enters into contracts with the Commonwealth of Kentucky to execute various programs, including the Small Business Innovation Research matching program. The public financial support for Kentucky Science and Technology Corporation in 2012 was almost $18 million.[24] The Kentucky Science and Technology Corporation maintains a full time staff of five at a cost of $1.7 million in 2012.[25]

The Kentucky program is designed to help prepare innovators, entrepreneurs and technology-oriented small businesses for success in the Small Business Innovation Research grant program. Figure 3-11 lists the state investment and the resulting federal investment from the Small Business Innovation Research matching program. During the period of 2006-2013, these investments resulted in the creation of 366 jobs, 13 licensing agreements, the filing of 117 patents and 20 out-of-state firms creating operations in Kentucky.[26]

Round	Solicitation Period	Number of Applications	Number of Awards	Matching Funds Awarded	Federal Grant Funding
1 to 11	October 26, 2006- May 18, 2011	134	112	$26,809,120.00	$44,297,938.00
12	July 1, 2011 - August 1, 2011	8	3	$759,478.00	$1,370,347.00
13	October 1, 2011 - October 31, 2011	12	9	$3,389,934.00	$8,497,155.00
14	January 1, 2012 - January 31, 2012	7	4	$1,086,979.00	$2,662,268.00
15	April 1, 2012 - May 14, 2012	11	9	$1,509,593.00	$2,815,843.00
16	July 1, 2012 - July 31, 2012	11	8	$1,277,438.00	$1,918,160.00
17	October 1, 2012 - October 31, 2012	10	8	$2,116,829.00	$3,009,046.00
18	January 1, 2013 - January 31, 2013	3	2	$300,000.00	$450,000.00
19	April 1, 2013 - April 30, 2013	4	4	$1,188,226.00	$1,991,666.00
Totals		200	159	$38,437,597.00	$67,012,423.00

Figure 3-11. Kentucky Small Business Innovation Research Matching Program[27]

Ohio could create a similar Small Business Innovation Research matching program with the matching program focusing on Phase II awards. A program focused on Phase II, the part of the program targeting technology development and commercialization, has the greatest potential to lead to job and business growth. The program should focus on technology areas important to Ohio's federal labs (human

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[23] Kentucky Science and Engineering Foundation, ksef.kstc.com

[24] KSTC form 990 Schedule A, 2012 filing to the Internal Revenue Service

[25] Ibid.

[26] Kentucky Cabinet for Economic Development Office of Entrepreneurship Annual Report for July 1, 2012 to June 30, 2013, thinkkentucky.com/kyedc/pdfs/FY2013AnnualReport.pdf

[27] Kentucky Cabinet for Economic Development Office of Entrepreneurship Annual Report for July 1, 2012 to June 30, 2013, thinkkentucky.com/kyedc/pdfs/FY2013AnnualReport.pdf

performance and health science; propulsion and power; materials & manufacturing; advanced communications, command, control, communication, computers, intelligence, surveillance and reconnaisance). The program could be managed by the Ohio Third Frontier, which provides funding to Ohio technology-based companies, universities, nonprofit research institutions, and other organizations to create new technology-based products, companies, industries and jobs. The Third Frontier already has a staff, has a background in technology and job creation and has a Commission that votes on funding for projects. Empowering the Third Frontier to manage this program would maximize existing resources and limit the need for additional staff or new organizations.

Recommended Award Amount	$250,000 per year for two years
Recommended State Investment	$3,000,000 per fiscal year ($6,000,000 per biennium)
Program Timeframe	Establish as 7 year pilot, then evaluate

Table 3-3. Small Business Innovation Research Matching Program Recommendations

Through the Third Frontier Program, Ohio had the Ohio Research Commercialization Grant Program from FY 2004 – FY2009. During that period, $13.3 million was awarded and $60 million in sales was achieved. A majority of sales was concentrated in six companies and the remaining portfolio of investments had modest results. The portfolio included a number of companies that are "Small Business Innovation Research Shops," companies that sustained their operations through Small Business Innovation Research awards. The program did not receive funding in FY10/11 and the statutory language was subsequently repealed. The Office of Small Business and Entrepreneurship within DSA maintains an interest in the SBIR program, specifically its potential importance as a source of growth capital for companies in the priority areas of software/IT and medical technology. Based on empirical data of the companies within the portfolio of the Office of Small Business, federal funds are not a significant component of the growth capital they raise. However, the investments being tracked by the State are typically new start-ups seeking venture capital or angel investors to grow the business. The program recommendation should be established to limit funding to "SBIR Shops" to ensure funding is going to businesses looking to grow and expand.

3. Provide technology assessments

Technology assessments are an important part of a Phase II Small Business Innovation Research as they address the commercialization opportunity of a specific technology. Assessments are typically expensive, especially for small or startup businesses, costing between $2,000 and $5,000 for which specialty companies or organizations complete the assessment. The information provided by the tech assessments include strength of technology relative to similar technologies, related patents and implications for current competitions, likely markets for the technology, potential market barriers, end-product opportunities, and target customers or organizations.

Connecticut has this program and contracts with Foresight Science & Technology for Go/NoGo Assessment Reports. The business pays a fee of $150 for this service which generates 30-40 reports annually. This only applies to Connecticut companies applying for a SBIR. Reports began in September 2010 and are first come, first served based on funding.

Partnering with a technology transfer consulting company would provide technology assessment reports to small, Ohio-based businesses. This would be done through a contract for which small businesses would pay a nominal fee for the report and the State would subsidize the remaining cost. The State would facilitate the report and this would apply only to Ohio companies applying for a Phase II Small Business Innovation Research. It is recommended the State provide $500,000 per biennium to support this initiative. The State could adjust the support level in future years depending on usage of the program.

IV. Conclusion/Next Steps

Establishing a Small Business Innovation Research matching program would enhance Ohio's companies in commercializing technology and assist Ohio's universities in moving technology into the commercial arena. The emphasis on aligning the research of Ohio's universities with the technology requirements of the federal labs in Ohio creates another point that a Small Business Innovation Research match program can leverage. The technology assessment recommendation further strengthens the efforts of the State to better support the federal research labs. Enacting these recommendations creates a unified strategy to support research and technology development from Ohio's businesses and universities.

Chapter 4: <u>Create Workforce Placement Center for Federal and Military Jobs</u>

I. Legislative Charge

Develop programs and initiatives to promote career awareness and readiness for, and job placement with, federal-military jobs and other private sector employer jobs in the state.

Strategic Recommendations	Office of Primary Responsibility
Appoint a Regional Workforce Director in every JobsOhio Region	OhioMeansJobs (Office of Workforce Transformation)
Utilize JobsOhio regions to build relevant workforce alliances in different industries within each region	OhioMeansJobs (Office of Workforce Transformation)
Build upon the Choose Ohio First Fund in order to offer scholarships at State schools for students pursuing State and Federal in-demand occupations in Ohio	Ohio Department of Higher Education (Choose Ohio Office)
Create apprenticeship and internship opportunities in Ohio's in-demand jobs in order to create clear pathways for students interested.	Ohio Department of Higher Education (Internship Office) and Ohio Career Technical Centers
Develop statewide policy that provides financial incentives for training for veterans moving to/remaining in Ohio for an in-demand job.	Department of Veterans Services (Education Office) and Ohio Department of Higher Education
Work with Ohio Office of Workforce Transformation and Department of Veteran Services to connect Department of Defense Transition Assistance Program to Military.Com and all Transition Assistance Programs around the world.	Ohio Department of Veterans Services (Outreach Office)
Conduct "Transition to Ohio Employment" sessions for transitioning military members.	Ohio Department of Veterans Services (Outreach Office) and Ohio Department of Job and Family Services
Develop guided student placements to fill in-demand areas and to create pipelines for students in degree programs that meet business demand.	Ohio Means Jobs (Youth Division), Department of Education and Ohio Department of Higher Education
Develop and expand Internship and Co-op programs.	Ohio Department of Higher Education (Internship Office) and Ohio Technical Centers
Continue to develop the capacity of the Aerospace Professional Development Center and the ability of the APDC to work with and A&D industry point of contact in each Job Center.	Aerospace Professional Development Center Ohio Department of Job and Family Services

Table 4-1. Summary of Chapter 4 Strategic Recommendations

II. Background

The Aerospace and Defense industry has been in critical need of Science, Technology, Engineering, and Math (STEM) workforce pipeline for decades. This unique sector operates in an environment where innovating and developing cutting-edge technology impacts more than just profit margin, it's a matter of national security. Many studies have captured the critical need for STEM workers in the Aerospace

and Defense industry, perhaps the most long running report is the yearly Aviation Week report.[28] Nearly two decades of STEM workforce data in the industry has been gathered. In addition, Ohio studies have been completed that place the Aerospace and Defense workforce needs in a national and state context. These reports have found, that "despite the struggling economy and the challenges that have plagued the commercial aviation market, the national Aerospace and Aviation industry has experienced growth from 2005 to 2009. U.S. Aerospace sales increased by 21 percent and profits increased by 29 percent. However, at the same time, aircraft production lines have contracted as a result of decreased defense spending over the past 15 years. This contraction has limited production surge capacity, an event that is looming as a result of aging aircraft in both the commercial and defense fleets."[29] While the Aerospace and Defense industry was impacted by defense spending cuts, the commercial aerospace industry continued to see growth, and was even rebounding from the recession. The existing demand, coupled with the commercial growth has made the recruitment of STEM talent even more critical to the success of the Aerospace and Defense industry nationally.

Ohio was not immune to the economic impact of the recession, quickly followed by sequestration and defense spending cuts. Despite these events, Aerospace and Defense companies surveyed still reported current and future demand for STEM graduates. In the 2011 Ohio Board of Regents Aerospace and Aviation Workforce Strategy, the Aerospace and Aviation Industry was defined by core occupations with the addition of support industries that would be needed to facilitate growth in key defense areas. These occupations will be helpful in defining future statewide initiatives. In addition, Wright State University's Center for Urban and Public Affairs published an extensive report that compiles the research and data analysis activities. These two efforts should be foundational to future strategies and policies.

In 2012, Governor Kasich issued EXECUTIVE ORDER 2012-02K, which created the Governor's Office for Workforce Transformation (OWT) and the Governor's Executive Workforce Board. The primary objective of this executive order was to coordinate and align workforce policies, programs and resources across the State and better align State funding around data-driven workforce strategies. This approach led to the development of a strategic plan to reform Ohio's workforce system and refinement of OhioMeansJobs.com, an online tool that captures business workforce needs and connects job seekers to those opportunities. The Ohio Federal Military Jobs Commission workforce strategy will fully integrate with these State-level programs and leverage the extensive work that has already been completed. In the same way data was used to identify the need for *Insuring Ohio Futures* as established "to educate students, career-changers and military veterans about the career opportunities that exist in the insurance industry,", the Ohio Federal Military Jobs Commission will use the extensive body of research that has been completed to develop programs, strategies and initiatives to meet the growing demand for STEM workers in the Aerospace and Defense industry. To accomplish this task, an alliance was established that incorporates expertise from commercial Aerospace and Defense leaders, military personnel and manpower experts, education, and State workforce development agencies and initiatives.

As with any complex issue, funding has been identified at the State level to address specific aspects of the challenge. The Ohio Development Services Agency offers vouchers for incumbent worker training, the Ohio Department of Jobs and Family Services offers a federally funded On-the-Job program to help

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https://info.aiaa.org/SC/YPC/Aviation%20Week%20Workforce%20Study/AvWeek_Workforce_WP_07122011.pdf
[29] Ohio Board of Regents, Aerospace and Aviation Workforce Strategy, 2011.

employers hire and train new employees, Ohio's Department of Education implemented the Straight A fund to spur innovation in Ohio classrooms, and the Ohio Department of Higher Education offers several grants and scholarships designed to recruit and retain student talent to Ohio colleges and universities. In addition to these State resources, a myriad of private foundations and federal programs have been focused on meeting the future workforce needs.

The foundation is strong for the development of a comprehensive Ohio Aerospace and Defense workforce development strategy. Resources are available, and more work is critical to align existing resources to meet the growing demand for qualified, STEM workers in the Aerospace and Defense industry.

III. Strategy

The 21st century brought with it an era of turmoil for the nation and the State of Ohio. Thousands of job losses occurred simultaneously with growth in technological innovations and industries, specifically in occupations in, and supporting, the Aerospace and Defense industry. The combination of the Great Recession and Sequestration changed the way in which the industry found talent while still accomplishing their objectives. Workforce strategies and investment priorities must be realigned to ensure future growth and prosperity under these new conditions. Not only is post-secondary education becoming more important to Ohio businesses, the "right" degree matters. Yet the business voice isn't impacting higher education's student placement process. Culture change is critical for successful outcomes.

The first workforce priority of the Ohio Federal Military Jobs Commission is to develop a system that can focus on filling the education pipeline with talent that possesses the aptitude to excel in all levels of programs in demand by the Aerospace and Defense industry. The public workforce system is designed to assist workers with soft skills training and short term training programs, but a system does not exist to put students, dislocated workers, or under employed workers on a path toward degrees needed by the industry. The Ohio Federal Military Jobs Commission will support the public workforce system by identifying lower-skilled job opportunities in the Aerospace and Defense industry, but the primary focus must be on developing a highly educated and skilled workforce with the degrees and credentials that meet current and future Aerospace and Defense industry needs. Demand for talent must be part of any supply effort to ensure over- or under-production does not happen. For example, while workforce agencies across the State attempted to address the heavy jobs losses resulting from the recession they focused on current demand without a view toward the supply, or in some cases the future demand. Without a long-term strategy, workforce professionals focused on Healthcare, anticipating the increasing needs of the nation's aging population. That focus has caused an annual over-production of 15,000 more nursing program graduates than available jobs and an annual over-production of 12,000 bio/life sciences graduates. This over-inflated focus on healthcare programs also had the potential to create a dependency on the healthcare industry in the same way the State was dependent on the automotive industry. At the same time, the State saw an annual under-production of 5,000 computer systems program graduates and an annual under-production of 6,000 computer engineering program graduates.[30]

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[30] Data analysis included EMSI data and IPEDS data

The Demand – A successful workforce development model will start with business demand and allow that data to inform the supply. The baseline of Federal workforce needs in Ohio comes from Federal, State Government and Industry requirements. The most complicated business demands to define, especially in terms of STEM workforce needs, are the requirements from the DoD installations and NASA Glenn. These workers are classified merely as federal workers in available data sources. In 2011, it was reported that "30 percent of Wright Patterson Air Force Base's workforce hold STEM-related positions, and WPAFB leadership project 180 annual new STEM job growth over the next five years."[31] It's also been reported that as much as 20% of those positions are filled with employees that will be eligible to retire within the next five years. The Ohio Federal Military Jobs Commission and this workforce strategy will work with the State to develop consistent methodology to understand federal labor force needs across Ohio.

This methodology will include data from the Ohio In-Demands Job listing, ongoing forecasting reports received from Wright Patterson Air Force Base, the Ohio National Guard and NASA Glenn regarding their in-demand jobs, and labor market data available through federal databases. Other federal installations in Ohio will also be included in this research. In addition, since labor market data is based on historical trends and cannot account for brand new demands in the Aerospace and Defense industry, consistent input from commercial businesses should validate the data compared to their projected needs. These workforce needs must be communicated to the six JobsOhio regions across the State, the workforce initiatives in those regions, and higher education (see supply section for detailed strategies.)

This workforce strategy will support the efforts of the Office of Workforce Transformation to translate the In-Demand Jobs to educational requirements, including industry recognized credentials and certificates, career pathways and degrees that are in critical need.

A snapshot in time was recorded through the Ohio Board of Regents Aerospace and Aviation Workforce Strategy in 2011. This data can be used as a baseline for the business need and can inform follow up initiatives.

> More than 120 private Aerospace and Aviation companies in the State of Ohio participated in a workforce survey to define Aerospace and Aviation workforce requirements over the next five years. Even though this timeframe is limited compared to the long-term growth in the Aerospace and Aviation industry, most businesses struggled to define these short-term needs as their workforce demand depends on the company's success in winning defense contracts.

> In these results, the most common industrial classification of these companies is in the research and development classification (NAICS 541712), representing 39 of the 126 companies responding to the survey. One-third of the companies anticipate future shortages of qualified candidates over the next five years. The most common reasons for this are due to specific occupation or skills that are already perceived to be difficult to recruit/attract and due to education and training programmatic issues.

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[31] Ohio Board of Regents, Aerospace and Aviation Workforce Strategy, 2011.

Ninety occupations were specified by the 126 private sector companies surveyed as critical occupations of the Aerospace and Aviation Industries. Engineering and Information Technology emerged as the most critical and complicated. In these two fields, little standardization of occupation titles and experience is required; as a result, the focused analysis shifted to degrees required for the occupations. The top five common degrees were defined as: Mechanical Engineering, Aerospace Engineering, Electrical Engineering, Computer Science, and Computer Engineering. The study also looked at secondary degrees that would be considered by the businesses if the primary degrees were unavailable.
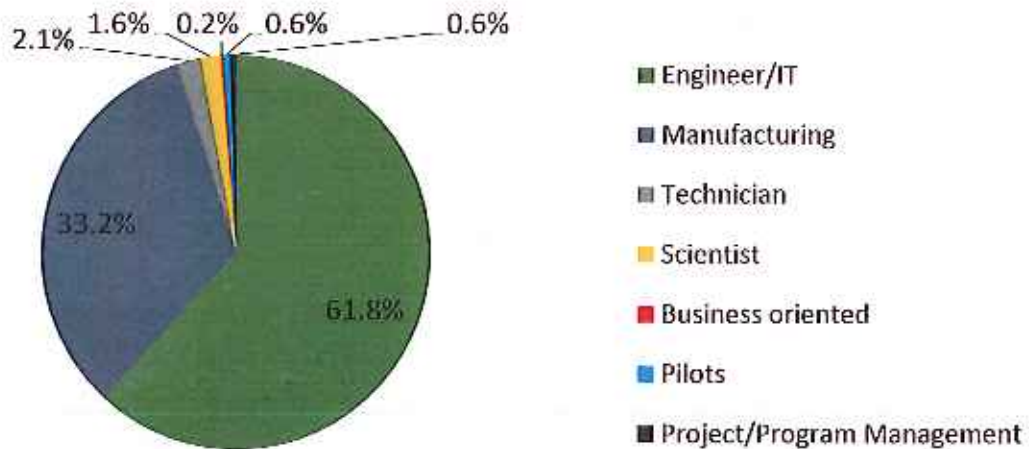
Figure 4-1. Aerospace Business Talent Shortfalls[32]

In addition to this data, a follow up report has been developed to assess the current state of the aerospace industry in the state of Ohio. The report provides an analysis on Aerospace Manufacturing, Research and Development, Federal/Military Jobs and the Aviation Industry. For each industry a staffing pattern was reviewed to determine under and over production. A modeling tool was used which takes into account demand based on federal data sources which project using algorithms applied to historical trends, the supply of workers completing higher education programs that meet those demands, and it takes into account churn. Included in this data is the Labor Market Information data Ohio Means Jobs uses to identify the most in demand jobs. By laying on top of this data set the supply data and the churn data, a more detailed picture develops. The bottom line in the report, is that the State is not under producing STEM graduates in the context of the staffing patterns that support the defined industry sectors. A critical note regarding this development is that, it appears Ohio is making progress on graduating STEM talent, the real challenge now is connecting that talent to an Ohio network which leads to successful career placement.

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[32] Ibid

State Name	2015 Jobs	2023 Jobs	2015 - 2023 Change	2015 - 2023 % Change	2023 Location Quotient
California	397,567	373,641	(23,926)	(6%)	0.74
Texas	336,400	352,588	16,188	5%	0.95
Virginia	314,568	308,413	(6,155)	(2%)	2.70
District of Columbia	212,199	199,147	(13,052)	(6%)	9.34
Maryland	209,997	208,574	(1,423)	(1%)	2.74
Florida	201,604	201,496	(108)	(0%)	0.84
North Carolina	190,401	191,040	639	0%	1.49
Georgia	182,579	175,955	(6,624)	(4%)	1.42
Washington	142,833	138,811	(4,022)	(3%)	1.41
New York	133,781	129,409	(4,372)	(3%)	0.50
Pennsylvania	105,440	103,313	(2,127)	(2%)	0.63
Colorado	96,605	95,832	(773)	(1%)	1.21
Illinois	95,768	95,306	(462)	(0%)	0.57
Ohio	88,914	85,125	(3,789)	(4%)	0.56
Hawaii	87,342	85,827	(1,515)	(2%)	4.30

2015.2 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Figure 4-2. Federal/Military Industry Projections by State[33]

Also in the report, a challenge for any State is to accurately define the workforce requirements of their military installations. Federal labor and market data is not equipped to address the specialties that are often needed to support the military missions and these jobs are categorized into two major Standard Occupational Classification codes: "901199 Federal Government, Civilian, Excluding Postal Service" and "901200 Federal Government, Military." According to the analysis, Ohio ranks 14th in the US for the number of civilian and military jobs. Like most of the other states employing large numbers of civilian and military workers, Ohio's federal jobs are projected to decrease. This aligns with the decrease of federal budgets, including defense expenditures.

The report goes on to analyze the staffing patterns associated with military jobs. The table below reflects the data from a summer 2015 survey conducted by Wright State University Aerospace Professional Development Center regarding future workforce needs as of 2015 of all Federal Installations across Ohio (Wright Patterson Air Force Base, Defense Logistics Agency, Joint Systems Manufacturing Center, Defense Finance and Accounting Service, Defense Supply Center, Ohio National Guard).

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[33] Ibid

Top 20 Annual Federal Workforce Needs in Ohio	
Nurse (BSN)	2600
Doctor	885
Medical Support Assistant	880
Nurse (LPN)	690
Nurse Assistant/Aide	420
Accountants	350
Pharmacist	290
Health Aid	250
Maintenance Mechanic	200
Financial Manager	155
Intelligence	140
Aircraft Mechanic	100
Contracting	67
Electrical Engineers	78
Program Management	75
Aerospace Engineers	70
Information Technology	57
Computer Engineer	55
Logistics Management	45
Law Enforcement	40

Figure 4-3. Ohio Federal Installation Projected Workforce Needs[34]

With the preceeding data as the foundation, we suggest the following program recommendations that require statewide cooperation:

1. Appoint a Regional Workforce Director in every JobsOhio Region. This appointment would allow each director to focus on the most critical strategic workforce needs in their specific industry sectors. Each Regional Workforce Development Director would host regular workforce assessment panels in every JobsOhio regions to understand regional workforce demand (participants: government, industry, and education). This panel would review data analytic reports generated by the OFMJC (that would include demand data validated by industry), updates on workforce development initiatives across the State, best practices from State and national workforce programs, set regional workforce goals and a progress report on metrics once goals are established, and identify barriers to workforce development strategies. This

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[34] Wright State University Aerospace Professional Development Center Workforce Needs Survey, 2015

information is obtainable through licensing of economic modeling tools like EMSI, which JobsOhio has had access to and should continue to procure.

2. Utilize JobsOhio regions to build relevant workforce alliances in different industries within each region. The Regional Workforce Development Directors will be the lead in developing these alliances and would communicate with each other to identify alliances across regions that would enhance statewide efforts and networks. In 2012, the Greater Cincinnati Foundation partnered with FSG, a consulting firm, to assess the collective impacts of backbone organizations. Through this research, they defined five key conditions for shared success. These conditions will be a foundation for strategies in developing and leveraging workforce alliances. According to the body of work, backbone organizations accelerate change by working behind the scenes. The study found that achieving large scale change through collective impact models involved five key conditions:

   a. Common Agenda: All participants have a shared vision for change including a common understanding of the problem and a joint approach to solving it through agreed upon actions

   b. Shared Measurement: Collecting data and measuring results consistently across all participants ensures efforts remain aligned and participants hold each other accountable

   c. Mutually Reinforcing Activities: Participant activities must be differentiated while still being coordinated through a mutually reinforcing plan of action

   d. Continuous communication: Consistent and open communication is needed across the many players to build trust, assure mutual objectives, and appreciate common motivation

   e. Backbone support: Creating and managing collective impact requires a separate organization(s) with staff and a specific set of skills to serve as the backbone for the entire initiative and coordinate participating organizations and agencies.[35]

The Supply – The baseline of all higher education institutions across Ohio is through an Ohio Department of Higher Education data system. Like the federal labor market data, these are historical numbers of program completions in degree programs. Some additional credentials are also in the data, but it is by no means a comprehensive look at the supply. To ensure the supply is guided by the demand some culture change is needed. First and foremost, education systems must understand what the business demand is, and how that need translates to higher education programs. The Ohio Federal Military Jobs Commission acknowledges that the accreditation process can be lengthy, and changing programs to meet Aerospace and Defense demand at the speed of business is no easy undertaking. For this reason, innovative methods of meeting business demand should be explored. For example, Massive Open Online Courses are gaining momentum and credibility. Providers like Coursera and Udacity are offering nano-degrees and specializations from reputable institutions like The Ohio State University, Johns Hopkins, and Princeton University to name a few. Finding ways to incorporate blended learning into existing programs can take the pressure off an institution while still adapting to meet business demand.

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[35] http://www.ssireview.org/blog/entry/understanding_the_value_of_backbone_organizations_In_collective_Impact_1

With any workforce development program, the program implementation is usually only as good as the upfront assessment. A focus must be placed on student assessments, assuring they have the aptitude for the program coursework and the disposition for the jobs that result from the program. Along the same lines, students with the aptitude and disposition for STEM programs who are not considering entering such a degree program should be guided toward possible programs better suited to meet workforce demand. Off the shelf assessments like American College Test Work Keys (job skills assessment system that helps employers select, hire, train, develop, and retain a high-performance workforce), are already available across the State. Working with industry, workforce development centers, and university advising offices, a guided student placement process should be developed to fill the education pipeline with students uniquely adapted to succeed in the desired degree and career field.

Program recommendations include:

1. Conduct joint Education and Business planning sessions in every JobsOhio region to allow business needs to inform regional workforce supply (participants: government, industry, and education). Participating businesses should be able to define the long-term business needs and what degrees are acceptable to meet that need. Businesses should also report on secondary degrees that could meet their requirements with some additional coursework or training (Ohio Board of Higher Education, Aerospace and Aviation Workforce Strategy for example). This information can be compared to the Ohio Department of Higher Education data system, available degree programs and acceptable Massive Open Online Course supplemental coursework.

2. Build and expand upon the Professional Science Master's Degree that is currently hosted at 10 institutions of higher learning across Ohio. This program is a two-year graduate degree program designed to fill management and senior staff positions at technology-based companies. It's a useful professional development pathway for employees desiring to pursue training in advanced science disciplines and gain critical skills needed for business leadership and development.

3. Build upon the Choose Ohio Fund in order to offer scholarships at State schools for students pursuing State and Federal in-demand occupations in Ohio (certificate, license, associates, bachelors, masters, etc.). Several pilot projects are underway like Montgomery County's College Promise. Eligible students are those whose lives have been impacted by poverty and are identified and selected during their 8th grade year. Each student is supported through high school by a caring adult mentor and through programming offered by the College Promise Program, college and university partners. The selected students, upon the successful completion of high school and after meeting the entrance requirements to regional institutions are awarded scholarships that allow them to attend college at little to no cost to them or their families. Often, the scholarship supplements available grants that require no repayment due to the poverty level of the students in the program. The most critical aspect of any scholarship program is an effort to ensure the students are college ready at high school graduation. Any program offered should include a comprehensive plan to assist the students with math and English proficiencies. This recommendation can leverage the opportunities being created by the Ohio Workforce Transformation Officer, $13 million of a $130 million scholarship program has been identified to enhance several scholarships for low-income students at community colleges and regional campuses to attend school year round.

4. Create apprenticeship and internship opportunities in Ohio's in-demand jobs in order to create clear pathways for students interested. As STEM jobs become more and more specific, some employers become more interested in passion for learning and trainability over specific STEM degrees. Identifying short-term training or on-the-job opportunities to meet the business needs in these situations would most likely be on a case-by-case basis. Developing the capability within each JobsOhio region to understand the post-college training needs and to know where to find the solution is another strategy needed to respond to business needs at the speed of business. Aligning this training with on-the-job and incumbent worker training dollars would be beneficial.

Veterans –The Budget Control Act has led to many military reductions around the world. Each service is cutting thousands of military employees over the next few years. As these cuts continue, there will be a large pipeline of veterans around the world, with extensive training and Aerospace and Defense industry experience who are in search of civilian career opportunities. Communicating to those veterans about job opportunities in Ohio will be no easy task. This strategy requires a strong partnership with Ohio Department of Veterans Services to align opportunities for advertising career choices in Ohio as well as easing the job search options for veterans around the world. A communications strategy, incorporating social media, among other methods, will be needed to reach the target population.

Ohio has been working hard to ensure the training and work experiences veterans gain during military service is recognized. The Community College of the Air Force (CCAF) credits and associate degrees of applied sciences are recognized by the Ohio University System. Continued networking with CCAF and all of Ohio's community colleges and four-year institutions has the potential to impact one of the biggest challenges in workforce development: addressing industry experience that is often required by highly technical jobs, but cannot be obtained through traditional higher education experiences.

In a series of focus groups conducted by Wright State University Center for Workforce Development during the preparation of this chapter, some trends were identified within enlisted and officer demographics regarding decision points in determining employment location. Each focus group in the demographic categories identified in the table had approximately 20 attendees. The following table outlines the trends and should be considered when developing recruitment efforts to Ohio bases or retention of military members who retire or separate from military service.

DEMOGRAPHIC	TREND COMMENTS IN PRIORITY ORDER
JUNIOR ENLISTED	• Desire quick translation of military skills and abilities • Desire increased college credit opportunity—based on experience/certifications • Desire streamlined avenue for job searches—currently too many databases • Desire a region with long-term economic growth potential • Want high quality schools for dependents
MID-CAREER ENLISTED	• Desire choices in quality of healthcare • Desire tax benefits (retirement pay and other) • Desire low cost of living • Desire access to quality, reasonably priced childcare • Desire options in entertainment/quality of life • Desire high quality education opportunities • Desire quick translation of military skills and abilities, gap between skills needed for entry-level military versus civilian work
SENIOR ENLISTED	• Desire access to spouse employment • Desire ease of state certification process for transitioning spouses • Desire quick translation of military skills and abilities, gap between skills needed for entry-level military versus civilian work • Desire a low cost of living • Desire connection with community • Desire an area with a low crime rate
COMPANY GRADE OFFICER	• Desire a low cost of living and ease of access to transportation • Desire access to spouse employment
SENIOR OFFICER	• Desire high quality education opportunities • Desire connection with community • Desire a low cost of living • Make education free at State schools for retires & dependents who elect Ohio as home of residence and buy home in state (currently qualify if 60% disabled) • Desire ease of State certification process for transitioning spouses • Desire streamlined avenue for job searches—currently too many databases (want single center)

Figure 4-4. Military Focus Group Data[36]

In addition to the information above, a survey was developed by Wright State University Center for Workforce Development to categorize the top ten retirement location factors considered by

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[35] Wright State University Aerospace Professional Development Center Focus Group Survey, 2015

government civilians when they near retirement. Approximately 100 government civilians from across the State who are close to retirement, were surveyed. In this data, the category "Established" included items like no mortgage payment (house paid off), professional networks, and familiarity of the region. "Recreation/Activities" included theater, sports, hunting, parks, and other indoor and outdoor activities. "Continuing Education" included both access to and affordablility. Regarding the tax rate, several sited States that do not tax retirement benefits or have no city tax or state income tax.
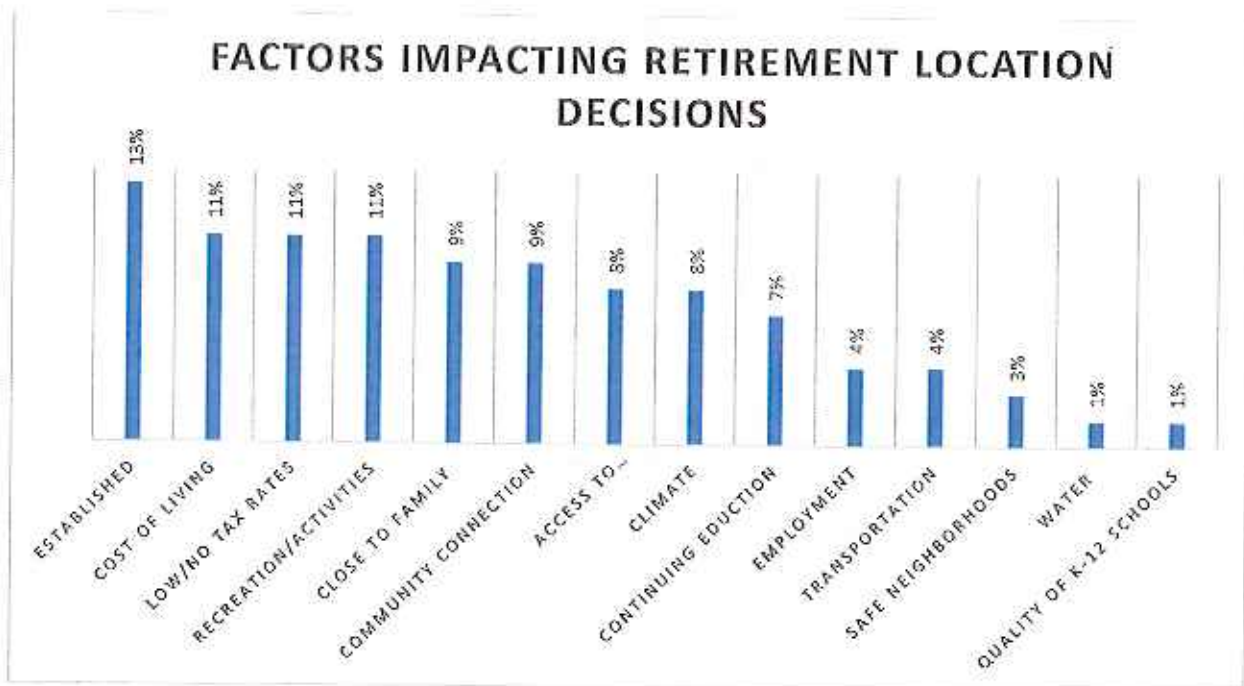
Figure 4-5. Factors Impacting Civilian Retirement Location Decisions.[37]

Program recommendations that require feasibility studies and/or statewide cooperation include:

1. Develop statewide policy that provides financial incentives for training for veterans moving to/remaining in Ohio for an in-demand job. The federal government already offers the Special Employer Incentives program which reimburses up to 50 percent of the veteran's salary during the Special Employer Incentive program, which typically lasts up to 6 months. The Ohio Department of Veterans Services will educate employers regarding this program and assist in navigating the requirements and paperwork. In addition, several states have established programs that cover training and on-boarding expenses for employers that hire veterans.

2. Develop legislation for State tax benefits for veterans and civilians coming to Ohio to work when they separate or retire from the military since many new veterans struggle to adapt to their new home after they separate. A tax benefit for new veterans (within the first two years), would allow veterans the time they need to settle in their new home. A tax benefit that reduces taxes on a percentage of a new veteran's pay in the State of Ohio, would be a one of a kind opportunity that would attract veterans to the State.

3. Build regional veteran support capabilities. In 2014, Easter Seals Tri-State in Cincinnati led a 10-month community project that brought together 60 agencies and 200 community leaders through a series of working groups. Their task was to communicate, collaborate and identify

[37] Wright State University Aerospace Professional Development Center Retirement Survey, 2015

opportunities and needs of veterans returning to the workforce. An extensive report[38] highlights the lessons learned, unique needs of the target population, and strategies. Particularly of interest was the body of work around education and employment.

4. Work with Ohio Office of Workforce Transformation and Department of Veteran Services to connect Department of Defense Transition Assistance Program to Military.Com and all Transition Assistance Programs around the world. This program needs to show the cost of living incentives for Ohio. "Why Ohio/Stay Ohio" and "Come Home to Ohio" campaigns should be developed to inform veterans why Ohio satisfies and exceeds retirement needs for veterans.

5. Conduct "Transition to Ohio Employment" sessions for transitioning military members. One of the largest sources of veterans returning to the civilian workforce is Wright-Patterson Air Force Base. All retiring and separating active duty assigned to WPAFB or geographically separated units in a three-state area are already required to attend the WPAFB Transition Assistance Program. These sessions would be an ideal time and location to promote Ohio employment opportunities, showcase companies interested in hiring veterans, and acclimate each military member to the resources, like OhioMeansJobs.com, that are available to them.

6. Create a point of contact in each Jobs Center around the State that can address veterans questions and assist veterans in their job search. In addition, each Job Center should have courses and consulting services specifically for veterans. The Department of Veterans Services will work with the Job Centers and Workforce Investment Boards to develop courses and consulting services for veterans at the Job Centers. Courses would include interviewing skills, resume writing, and other skills needed by veterans.

7. Build veterans engagement opportunities into each JobsOhio region through the Military Affairs Committees in each region. Military members who separate or retire from the service often struggle with the loss of their professional and social network. Assisting veterans in developing new networks and other mechanisms to connect the veterans and their families within the community, is very important to attract more veterans to our State. Engaging A&D industry partners in the networking would provide an additional connection to the community, and may lead to higher retention rates of this population. State VA facilities should also be engaged in this process as well as the other recommendations above.

Career Awareness – Students across Ohio are generally unaware of their career opportunities within Ohio. Specifically, students living in poverty or first generation college students have little to no knowledge of Aerospace and Defense industry occupations. An added layer of mystery is the type of jobs and missions that are available on federal installations. A marketing strategy at all levels of education is critical for students to be able to understand potential career options. Additionally, advisors require training to understand business demand.

The first step for the JobsOhio and OhioMeansJobs teams is to identify the in-demand occupations and recruit business and military partners to develop information regarding those opportunities. Education must include input on the types of programs that are available at the post-secondary level to meet those requirements. Collateral material and social media campaigns will be built from a larger strategic communications plan.

[38] http://www.easterseals.com/swohio/shared-components/document-library/tristate-veteran-community.pdf

Program recommendations that require feasibility studies and/or statewide cooperation include:

1. Develop social media campaigns for High School and College students exposing them to the job opportunities in Ohio and the career paths for different in-demand jobs across the State. The campaign would need to build brand recognition and cover the expanse of the various social media platforms. Some traditional collateral material will also be required to provide the advisors with hardcopy information while meeting with students and parents.

2. Develop guided student placements to fill in-demand areas and to create pipelines for students in degree programs that meet business demand. High school counselors and college admissions counselors and academic advisors must be trained and equipped to articulate career opportunities associated with the degree programs that are offered across the State. A paradigm shift is needed as students think about their plans after high school. Filling programs based on student demand for the program cannot continue, program capacity must be driven by current and future business demand. Students interested in programs that have few job prospects must be informed about workforce landscape, especially if their assessment and aptitude tests suggest they're suited for programs in the in-demand occupations. The OhioMeansJobs will work with educators, businesses and parents to develop training, messaging and material needed to build an effective guided student placement model. This recommendation can leverage the strategies that have been developed by the Ohio Workforce Transformation office as they build out career counseling in the high schools and to college students matriculating into the Ohio Educational System.

3. Develop systematic data collection and reporting mechanisms to identify the required shift in programming for the State of Ohio. As the needs of business change, a mechanism for data collection and reporting will be required to identify the shifts in needed programs or skills. Understanding that businesses do not have the capacity to respond to surveys on a regular basis, a schedule and rotation should be developed to integrate industry data with input from business networks, associations and national reports. This information should be compiled and delivered to every Career Services organizations in the State. This report would ensure businesses are not inundated with separate surveys, would provide a statewide and regional view toward the demand and should educate the career service professional on the changing labor market.

Career Readiness – Understanding the career opportunities across the State and entering appropriate degree programs to meet those needs is not enough to address the skills gap in Ohio. Many aerospace and defense industry occupations require on-the-job experience, especially in the Aerospace and Aviation industry sectors. In the 2011 survey of Aerospace and Aviation businesses in Ohio conducted by Wright State's Center for Urban and Public Affairs on behalf of the Ohio Department of Higher Education, a wide range of industry experience expectations was captured. "The years of experience required by occupation varies by employer. For instance, some companies stated that they require three years of experience for their aerospace engineers, while others require ten years. Several initiatives are needed to address the complexity of the problem."[39] Impact areas that could be addressed by the post-secondary education system were identified. Those positions, "requiring zero to three years of experience could be addressed through a robust internship program and strengthening

[39] Ohio Board of Regents, Aerospace and Aviation Workforce Strategy, 2011.

co-op programs. The other areas will require a combination of programs targeting experienced technicians (primarily at Wright Patterson Air Force Base), the development of Bachelors of Applied Science degrees, and increasing retention rates of master's and doctorate graduates."[40]

Program recommendations that require feasibility studies and/or statewide cooperation include:

1. Develop a fund or budget line for State-level grant opportunities for colleges and universities to team with industry to create pathways to in-demand occupations. There are federal grant opportunities available; however, those grants are highly competitive and usually individual institution efforts. A concerted, statewide effort designed to bring business experience into the classroom or to bring the classroom into the industry environment will ensure a comprehensive, strategic response to address the business needs and prepare Ohio's graduates to enter the workforce.

2. Continue to build upon the Career Connections Framework Model built through a collaboration at the State level. For this model to be successfully used and sustained, an understanding of in-demand job growth areas and opportunities is needed for educators and counselors at the K-12 level. To assist educators, One Stops and Regional Workforce Directors could develop a series of tools to advise counselors and teachers of regional and state in-demand job opportunities. The importance of a career awareness curriculum for students in the State of Ohio which culminates in a career assessment and the creation of an OhioMeansJobs profile cannot be overstated. At the college level, a seminar should be created for all Ohio colleges and universities to ensure students are aware of the career opportunities available to them in Ohio. A modified course could also be developed for the Job Centers that would incorporate their existing assessment tools and information dissemination.

3. Develop and expand Internship and Co-op programs. The State has developed a robust internship program, and one particular example is managed by the Southwest Ohio Council for Higher Education (SOCHE). This program coordinates internship opportunities available throughout the region, and in particular, they have partnered with the Air Force Research Laboratory and the Air Force Institute of Technology to provide an entry point for qualified student to WPAFB. SOCHE manages the application process, hiring and payroll for the business. Replicating this program in other regions not only provides students with the opportunity to gain industry experience, it can increase the retention rates of Ohio's talent as 4 out of 10 interns are eventually hired into full-time positions at the business. In addition to the ease of screening and hiring for businesses, developing financial incentives for businesses which create internships to fill in-demand jobs would increase the number of businesses that would be able to participate in internship experiences. Another possible program to bring more people to the region would be to replicate the Office of the Secretary of Defense SMART program through State funding. It is an internship program, whereby students are attracted from across the country to come work at the Air Force Research Laboratory during their summers from college.

Career-Placement –The Job Centers located in most counties across the State offer many services for job seekers. In recent years, the Job Centers have been tasked with managing highly educated dislocated workers, which require different resources, expertise and capacity. In order to support and

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develop aerospace and defense -related industries across the State, the Job Centers need employees who are focused on these workforce needs. The Job Centers would continue to focus on the in-demand jobs in their region, and would also have a new capability to support federal job needs in their region. By placing Regional Workforce Development Directors in each region, specialized knowledge can be conferred to each Job Center and connect the unemployed with knowledge about in-demand jobs, jobs with over and under production of supply and jobs that will continue to grow and expand. This knowledge can ensure job placement meets the needs of the worker and the future needs of Ohio.

Program recommendations that require feasibility studies and/or statewide cooperation include:

1. Continue to develop the capacity of the Aerospace Professional Development Center and the ability of the Aerospace Professional Development Center to work with an aerospace and defense industry point of contact in each Job Center. Each region has unique requirements related to the A&D industry but will also need an understanding of statewide and federal workforce requirements. This capability requires embedded A&D industry points of contact in each Job Center to work on regional issues. Ideally, the existing Job Center process for intake and assessment could be utilized and modified slightly to identify applicants suited to meet the in-demand occupations. A process and capacity study will be needed to implement this strategy.
2. Establish an A&D industry point of contact in each Job Center across the State that can work with the APDC on job requirements and fills. These points of contact would be a one-stop for businesses as well as job seekers across the State in the A&D industry.

IV. Conclusion/Next Steps

The ultimate goal of the Ohio Federal Military Jobs Commission is to recommend strategies that will enable Ohio to produce and/or attract the talent needed to meet the future business needs of the Aerospace and Defense industry and federal workforce in Ohio. To accomplish this, a model is needed that starts with industry defining and identifying their needs. Each Regional Director of Workforce Development will work with regional industry alliances to best understand needs and coordinate supply efforts.

Ohio has the elements required to close the skills gap, but each of these elements are silos that respond to one piece of the problem without solving the systemic disconnect between worker supply and business demand. The recommendations described above solve this disconnect by creating a Regional Workforce Development system that works to connect industry with job seekers, students and educational institutions.

A January 2012 report from the US Government Accountability Office entitled "Workforce Investment Act: Innovative Collaborations between Workforce Boards and Employers Helped Meet Local Needs" surveyed what federal agencies identified as the most promising or innovative collaborations across the country that had produced positive results. Based on reviews of these programs, the Government Accountability Office identified six factors that facilitated collaboration within these programs and produced results[41].

Focusing on Urgent Needs	Leadership	Leveraging Resources	Employer Responsive Services	Minimizing administrative burden	Demonstrating Results
• Addressing similar needs for multiple employers across a sector • Working together to define scope of problem • Finding Common ground to develop solutions	• Involving leaders with authority or persuasive ability • Using a neutral convener to build trust	• Using resources such as grants to attract additional support • Finding ways to build on limited WIA funds • Attracting employer contributions and support in-kind	• Employing staff with industry knowledge • Tailoring services to address employers specific needs • Making training services more relevant and useful to employers • Serving a diverse mix of jobseekers and workers to address employer needs	• Streamlining data collection methods • Having a single point of contact or program manager • Limiting length, frequency or focus of meetings	• Increasing supply of skilled workers • Helping employers address recruitment and turnover • Increasing skills for jobseekers and workers • Placing jobseekers in jobs • Increasing employer Involvement in workforce system • Achieving cost savings or efficiency improvements

Source: GAO analysis of Interviews

Figure 4-6. Government Accountability Office Identified Best Practices[42]

Ohio is well positioned to respond to this crisis. During the 20th century, the State invested heavily in higher education, including community colleges, career technical centers, and universities with branch campuses. In fact, Ohio Governor James Rhodes made a speech in which he asserted that there should be a State-supported Institution of higher education within 30 miles of every Ohio citizen.

In fact, successful examples of collaboration between businesses and higher education exist across the State. In these cases, businesses are working directly with their community colleges and career technical centers to provide short-term training that will lead directly to employment. In many cases these short-term training programs can mature into a degree program, which allows workers to continue their education at their own pace and potentially go to school while earning an income. Opportunities such as these are necessary for Ohio to recover. Our businesses, our workers, and our State and local government cannot afford the cost or the time lost for workers to exit the workforce and enter four-year degree programs. Skilled workers are needed now, and our workforce and higher education system must respond.

Chapter 5: <u>Develop Ohio Federal Military Jobs Commission Organizational Structure and Five-Year Financial Plan</u>

Each chapter of the Ohio Federal Military Jobs Strategy discusses sustainment and the steps required to ensure the success of the strategy. The Commission worked to build processes and procedures that did not create substantial new infrastructure while improving overall outcomes regarding federal and military jobs. The only portion of the strategy that requires a new infrastructure is the Chapter 1 recommendation to create a Facilities and Installations Executive Director. Based upon the Commission's research, it was concluded that there was not an office at the State-level that managed military value information and data, yet this is believed to be a critical component to the future success of retaining and expanding Ohio federal and military infrastructure.

The long term success and sustainment of the facilities and installations section of this plan is built around the standup of an Executive Director of Facilities and Installations who works directly for the Governor while being administratively assigned to the Ohio National Guard. The State of Ohio has made a significant investment over the last ten years in understanding the rules of Base Realignment and Closure as well as understanding military value, the needs of each of its installations and the value of Public and Private Partnerships. However, there is currently no ownership at the State-level for these valuable data points and a strategy to keep information current. The Commission believes the future success of the State around retaining existing infrastructure and attracting new business to the State is contingent on an office at the State level that owns the data and processes as well as collects regular data updates. Based on the initial funding of the Ohio Federal Military Jobs Commission, the Commission has funded the Executive Director position for two years. Initial follow-on funding from the State is not required until 2018. The Executive Director of this office will have multiple responsibilities to include:

- Maintain the library of all previous research and data regarding federal facilities and installations across the State of Ohio
- Host regular gatherings of the Military Affairs Committees from each JobsOhio region and encourage each JobsOhio region to work together to advance military value and public/public and public/private partnerships across the entire state
- Manage the legislative communication strategy for the State and Federal level regarding the military value of Ohio's Federal assets and educate our legislators on the strengths and weaknesses of our installations to aid in their decision making and funding strategies, especially as these strategies relate to any future base realignment and closure activity.

The chapter on Research and Technology transition establishes a Federal Research Network for the State of Ohio. This Research Network encourages and incentivizes universities across the State to work with industry partners and each other to address the most urgent needs of the Air Force Research Laboratory, NASA Glenn, the National Air and Space Intelligence Center and the Navy Medical Research Unit. The ultimate outcome of this close statewide collaboration in response to Federal Research needs will be commercialization and technology transition of the newly developed concepts. The sustainment of this network is contingent on State investment in the most critical Federal Research needs as well as ownership by the university system of Ohio.

The chapter on Small Business recommends two new programs to assist businesses in obtaining federal Small Business Innovation Research (SBIR) grants leading to increased job growth potential. The chapter also recommends enhancing an existing federal/state partnership to ensure assistance is more accessible to small businesses. It also encourages an analysis of the existing PTAC and SBDC structure to determine if greater efficiencies might be feasible and economical.

The chapter on Workforce Programs recommends Regional Workforce Development Directors for each JobsOhio region. In addition, there are multiple recommendations around understanding the workforce supply and demands, attracting veterans to Ohio and encouraging academic advisors and their students to better understand career options and resources.

The table below details the annual investment required to ensure the long-term viability of this strategy. The Ohio Federal Military Jobs Commissioners set aside $350,000 from the initial distribution for the Commission to pay for the setup of the Executive Director's office within the Ohio National Guard for Fiscal Years 2016 and 2017.

Chapter Recommendation	Funding Required Annually	Year required
Facilities & Installations Office (Director & two staff members)	$200,000	2018-2019
Federal Research Network	$20M	2018-2019
Small Business	$3.25M	2017
Workforce	$5M	2017-2018

Table 5-1. Ohio Federal Military Jobs Commission Strategy Long-Term Budget Requirements

State Policy Considerations for the Governor and Ohio General Assembly

Through legislative actions approved by the Ohio General Assembly and Governor over the past five years, there are three separate Committees/Commissions that have been created to address certain aspects of aviation, aerospace, military facilities retention and expansion. All three organizations have volunteer Commissioners and board members. All three organizations also have overlapping interests and legislatively mandated responsibilities that could impact the execution and implementation of the recommendations contained in the above report.

Although it is not in the direct purview of the Ohio Federal and Military Jobs Commission to make policy recommendations to State leadership, the Commissioners respectfully suggest some thoughts on this issue for coordinating and better connecting the work of these three entities as it relates to the recommendations and findings of this report.

Federal and Military Jobs Commission

- Recommend that the future focus of the OFMJC be on oversight of the direct job creation and workforce development initiatives within this report. Specifically, the Federal Research Network, SBIR/STTR expansion in small business and the Aerospace Professional Development Center and Regional Workforce Development effort.
  Includes recommendations 10-13 and 17-37,

Ohio Military Facilities Commission

- Recommend the future focus of this new commission be on continuing the work of the OFMJC on federal facilities retention and expansion in collaboration with the Ohio Adjutant General's office and provide oversight on all matters pertaining to future BRACs and P4 activities. Includes recommendations 1-9.

Ohio Aviation and Aerospace Committee

- Include oversight and execution of the OFMJC recommendations on expanding and growing small business procurement activities with the federal government as part of their ongoing programmatic efforts.
Includes recommendations 14-16.

Complete list of recommendations with responsible office at the end of each recommendation. Preliminary recommendations were reviewed by each referenced office.

Governor's Office

1. Establish a Facilities and Installations Executive Director who works with a small staff directly for the Ohio Adjutant General.
2. Aggressively fund Public-Public and Public-Private initiatives as they are developed by the Ohio Federal Military Affairs Commission and local Military Affairs Committees.

General Assembly

3. Develop legislation for State tax benefits for veterans and government civilians remaining in or coming to Ohio to work when they separate or retire from the military.

Adjutant General

4. Coordinate a bi-annual BRAC military value briefing for Ohio's federal representatives.
5. Develop a long-term facilities and installations strategy for Ohio based on continuing data input and updates.
6. Repeat the survey of Ohio's organizations bi-annually through the Adjutant General's Office, Facilities and Installations Executive Director and request an update in the non-survey year.
7. Obtain Facility Condition Index data as soon as it is available.
8. Working with the United States Air Force, the United States Army, and the Ohio Development Services Agency develop strategies to optimize the utility consumption at Ohio's key federal installations.
9. Working with the Adjutant General's Department, the USAF, and the Air Force Reserve Command, formalize contingency land use for future mission growth or to mitigate potential encroachment.
10. Working with the Department of Public Safety, explore partnerships for secure storage on federal installations as an offset for state investments in facility entrance security.
11. Explore/improve the availability of fire arms training facilities as an asset for the Department of Public Safety and the federal installations in the state.

Ohio Department of Higher Education

12. Organize, fund, and advance the work of the Federal Research Network through designated technology focused Centers of Excellence with the primary goal of advancing the priority research thrust areas of Wright-Patterson Air Force Base and NASA Glenn Research Center.
13. The FRN will aggressively pursue federal procurement opportunities.

14. The FRN will expand the engagement of Ohio firms to ensure the research is meeting government requirements and operational and warfighter needs.
15. The FRN will create the jobs, processes, firms and technology needed to meet emerging commercial market and government needs.
16. The FRN will brand Ohio as the Partner of Choice—Supplier of Choice.
17. Build and expand upon the Professional Science Master's Degree that is currently hosted at 10 institutions of higher learning across Ohio.
18. Build upon the Choose Ohio Fund in order to offer scholarships at State schools for students pursuing State and Federal in-demand occupations in Ohio (certificate, license, associates, bachelors, masters, etc.).
19. Create apprenticeship and internship opportunities in Ohio's in-demand jobs in order to create clear pathways for students interested.
20. Develop a fund or budget line for State-level grant opportunities for colleges and universities to team with industry to create pathways to in-demand occupations.
21. Develop and expand Internship and Co-op programs.

Ohio Development Services Agency

22. Enhance internet presence of Small Business Development Centers and Procurement Technical Assistance Center.
23. Conduct an analysis on the locations of the Procurement Technical Assistance Centers and the Small Business Development Centers.
24. Establish an Small Business Innovation Research Phase II Match Program.
25. Provide technology assessments.

Jobs Ohio

26. Utilize JobsOhio regions to build relevant workforce alliances in different industries within each region.
27. Conduct joint Education and Business planning sessions in every JobsOhio region to allow business needs to inform regional workforce supply (participants: Government, Industry, and Education).
28. Appoint a Regional Workforce Director in every JobsOhio Region.

Ohio Department of Veterans Services

29. Develop statewide policy that provides financial incentives for training for veterans moving to/remaining in Ohio for an in-demand job.
30. Build regional Veteran Support Capability.
31. Work with Ohio Office of Workforce Transformation and Department of Veteran Services to connect Department of Defense Transition Assistance Program to Military.Com and all Transition Assistance Programs around the world.
32. Conduct "Transition to Ohio Employment" sessions for transitioning military members.
33. Create a point of contact in each Jobs Center around the State that can address Veterans questions and assist veterans in their job search.
34. Build Veterans engagement opportunities into each JobsOhio region through the Military Affairs Committees in each region.

OhioMeansJobs

35. Develop social media campaigns for High School and College students exposing them to the job opportunities in Ohio and the career paths for different in-demand jobs across the State.
36. Develop guided student placements to fill in-demand areas and to create pipelines for students in degree programs that meet business demand.
37. Develop systematic data collection and reporting mechanisms to identify the required shift in programming for the State of Ohio.

Ohio Department of Education
38. Continue to build upon the Career Connections Framework Model built through collaboration at the State level.

Ohio Department of Job and Family Services
39. Continue to develop the capacity of the Aerospace Professional Development Center and the ability of the Aerospace Professional Development Center to work with an Aerospace and Defense industry point of contact in each Job Center.
40. Establish an Aerospace and Defense industry point of contact in each Job Center across the State that can work with the Aerospace Professional Development Center on job requirements and fills.

Sample Survey Introductory Letter

Federal Military Affairs Committee POC
Federal Military Affairs Committee Organization Name
Federal Military Affairs Committee Street
Federal Military Affairs Committee City, State, Zip

Dear Federal Military Affairs Committee POC, Federal Military Affairs Committee Facility of Interest
The Ohio Federal-Military Jobs Commission (OFMJC) needs your help to create an accurate and current
picture of the Military Value of Federal Military Affairs Committee Facility of Interest using Base
Realignment and Closure (BRAC) metrics. Please understand that BRAC metrics focus on facilities and
the operating environment rather than the value of the mission performed. That approach reflects the
Department of Defense attitude that the mission can be moved as necessary to the facility with the best
Military Value fit. Attachment 1 is the generalized survey, additional organization specific survey
questions, if applicable, are contained in the follow on organization attachment (Attachment 3).
Attachment 2 portrays the BRAC 2005 community data compared with other locations that have the
same mission as the local organization and specific metrics (if available) from the Federal Retention
Process that analyzed those organizations. We understand that much of the survey can only be
completed by working with the organization leadership in your region.
The intent is to have these surveys completed by the local federal military affairs organization in
cooperation with the organization commander by the end of August 2015.
The OFMJC was signed into law on September 15, 2014. The purpose of the Commission is outlined in
the Ohio Revised Code, Chapter 193.05(A) and states, "the federal-military jobs commission shall be
responsible for the furtherance and implementation of federal-military installation jobs and any
programs under this chapter". There are 16 areas of responsibility outlined within the chapter. Of the
16 areas identified, 12 are related to the analysis of military value of installations within Ohio.
We need your help completing the survey that is attached after you have reviewed the analysis. The
questions in the survey ask you to update the Military Value scores (provided) either qualitatively or
quantitatively. Especially, if your organization has completed the Facility Condition Index (FCI) scoring
process, please provide your facility's FCI ratings.
Your input will help us to refine our overall understanding of areas for potential investment to improve
Military Value. Your input will be used to create an updated state-wide strength and weakness
assessment. That assessment will form a significant part of the prioritization rationale for
recommending any future State investment.
We ask that all input be submitted electronically to the OFMJC support team marked as draft
documents or working papers to encourage a free flow of input. Please submit your input electronically
to **OFMJC email**. That email address will be used to gather and collate all input. Also, please identify
the point of contact for follow up on any questions or comments.

Respectfully,

_____
Gary O'Connell, Chair
Ohio Federal-Military Jobs Commission
Attachment 1: OFMJC Survey Questions
Attachment 2: Community Data for Organizations in Your Region
Attachment 3: Facility Assessment from Previous Studies

Sample Survey Attachment 1 Questions

Having read the summary of your organization from previous studies, the following questions ask you to address the Military Value problem from your perspective

1. Are you in agreement with military value assessment: status, weaknesses, strengths? **Explanation:** Please address specific areas of disagreement in detail. For example, if you disagreed with a 2005 rating regarding ramp conditions, what are the errors in the rating or what has occurred that has affected that rating? We understand that some of the ratings were disputed and resolved in Ohio's favor by the BRAC Commission process, but to be sure, we have correct data, please highlight those areas for our final input.

2. What other weaknesses do you see regarding military value? **Explanation:** It is important for the OFMJC to be able to assess real existing weaknesses as targets for potential investment. Using the ramp condition example above, has the ramp area further deteriorated since the 2005 assessment?

3. Please describe the programmatic changes that have affected your organization since the 2005 BRAC.

   a. New mission?

   b. Change in number/type of primary mission equipment (if applicable)?

   c. New facilities built to support new mission?

4. The cost of operations and the manpower implications.

   a. Do you know the current cost of your operations?

   b. Is your current budget sufficient to meet mission requirements?

   c. Can the cost of operations be reduced by more efficient and or effective use of resources with some investment?

   d. Do you have sufficient manpower skills at all levels to perform your mission?

5. What steps are being taken to improve your organizations Military Value?

   a. Enhanced Use Agreements - EULs (Provide examples tied to the effect on military value, if applicable)

   b. Public-Public, Public-Private Partnerships - P4's (Provide examples tied to the effect on military value, if applicable)

   c. Other (Other plans or actions that will or have aided in Reducing Costs of Operations).

6. What is your long-range construction plan?

   a. How will it improve Military Value? **Explanation:** It is important to identify construction that specifically addresses weaknesses in previous BRAC assessments.

   b. Is the construction plan complete (shovel ready)?

c. Are all aspects of the plan funded? Is the long-range plan funded?

7. What does your organization need to improve its Military Value other than construction (for example: training areas, available land for expansion or to prevent encroachment, security aspects or newly required physical setbacks, etc.)?

8. What local support have you received (existing cooperative agreements that improve Military Value, Military or Community Support Group activities, etc.)?

9. Finally, please list the top 3 projects that could improve the military value of your organization.

Sample Survey Attachment 2 Community Data

This BRAC 2005 data is presented for your consideration as community leaders. BRAC 2005 compared the community environment by using various quality of life statistics (grouped together as Other Considerations or Criteria 7). Criteria 7 data is helpful to focus the community on areas of mutual benefit to the organization and the community.

Criteria 7 – Community Metric Comparison Data

The table below (Table 1) compares those statistics for your community against the other locations that are identified in the assessment section.

		Rank of 6	Min	Max	Average	Deviation from Average
Population	2,250,871	1	302963	4,112,198	1,433,499	57%
Centers per 100000	1.95	3	0.55	5.93	3.74	-48%
Median Household Income	$42,215	3	$36,255	$54,304	$41,895	1%
Median House Value	$117,900	2	$82,200	$147,100	$105,044	12%
GS Locality Pay	13.10%	4	10.90%	14.80%	11.63%	14%
O-3 w/Dependents BAH Rate	$1,088	4	$887	$1,503	$1,141	-5%
Average Pupil/Teacher Ratio	15.1	2	13.1	29.0	19.23	-21%
Average High School Graduation Rate	75.40%	5	81.20%	94.90%	89.45%	-16%
Average Composite SAT I Score	NA	NA	947	1179	1,030	NA
Average ACT Score	NA	NA	19	22	21	NA
Ratio Physicians to Population	462	4	306	600	462	0%
Ratio Beds to Population	472.0	5	242	667	424	11%
Uniform Crime Reports (UCR)	6,233.50	6	2772	6771	4,716	32%

Table 1

In Table 1, the community's graduation rate in the 2005 analysis was 16% worse than scores in other communities that host like missions. Are there ways to positively influence the graduation rate?

Sample Survey Attachment 3 Organization Previous Study Results

The following data describes the competitive position of subject facility from previous studies available to the Ohio Federal Military Jobs Commission. It is critical that local leaders review this information and answer the survey questions in Attachment 1 as completely as possible. Scoring is from BRAC 2005 data. Other data is as of the end of FY13.

DoD Base/Installation Ranking from 2005 BRAC: xx of xx

Cost of Operations and the manpower implications

Organization Name	Payroll	Employees	Active Duty / Active Guard Reserve	Reservist	Civil Servant	Con-tractor	State Employee	Procure-ment
Organization 1	$###,###,##	#,###	###	##	###	###	##	$###,###,###
Organization 2	$###,###,###	#,###	###	##	###	###	##	$###,###,###

Economic Impact on Existing Communities

Organization Name	Unit Name	Total Economic Impact	Payroll	Procurement	Total Annual Budget
Organization 1	Xxxxxxxx	$###,###,##	$###,###,##	$###,###,##	$###,###,##
Organization 2	xxxxxxxx	$###,###,##	$###,###,##	$###,###,##	$###,###,##

Facility Summary

Organization Name	Number of Buildings	Facility Existing Square Footage	Age of Facility or Average Age of Facilities	Military Construction (2005-2012)	Programmed Military Construction (2013-2017)
Organization 1	##	###,###	##	$0	$0
Organization 2	##	###,###	##	$0	$0

Risk Discussion

General description of risk to the organization/facility

Programmatic Risk

Capacity, Infrastructure and Facilities Risk

Competitors: a list of organizations with like type missions

BRAC Vulnerability

Overall assessment of BRAC risk for this organization

<u>Weighting Criteria for Military Value 1 to 4 for the organization:</u>

<u>Military Value 1 to 4 Analyses:</u>

<u>Opportunities to Impact Military Value 1-4 BRAC 2005 Results:</u>

<u>BRAC 2005 Actions Impacting the organization:</u>

BRAC 2005 DoD Recommendation:
BRAC 2005 Commission Recommendation:
BRAC 2005 Summary:

Appendix 2
Public/Public,Public/Private (P4) Background

AF Community Partnership Initiative

Public-Public; Public-Private (P4) The P4 Partnership initiative was introduced in Ohio at Wright Patterson Air Force Base, Dayton, Ohio on January 15, 2014 at a meeting sponsored by SAF/IEI. The driving thoughts for this meeting are italicized below.

"Leveraging military installation and local government capabilities and resources to reduce operating and service costs"

Information from this meeting follows:

Authorities:
    FY13 NDAA: Shared Services Language
- Signed by President Obama on January 3, 2013 (10 USC 2336)
- Key Provisions:
    - Secretary may enter into an intergovernmental support agreement if the Secretary determines the agreement will serve best interests of the department
    - Bases may accept payment for services – "credited to the appropriation or account charged with providing installation support"
    - Bases may not use this authority to revoke, preclude or interfere with existing or proposed mutual aid agreements relating to police or fire protection
    - Secretary concerned shall ensure that this authority is not used to circumvent the requirements of OMB Circular A-76
- Intergovernmental Support Agreements may
    - Be entered into on a sole source basis
    - Be for a term not to exceed five years
    - Use wage grades normal for state or local government providing the service (Davis-Bacon)
    - Only be used when provider already provides such services for its own use

"Leveraging military installation and local community capabilities and resources to reduce operating and service costs in support of the AF mission."

Shared Environment
- Reduced budgets & fiscal challenges
- Manpower cuts; hiring freezes; realignments
- Force structure changes and defense industry reductions
- Innovative partnerships—sparked by new legislation
- Need to make "Every Dollar Count," provide quality services, allocate risk, share value
- AF and Local Community Leadership is key!
- Bring AF leadership and resource support as Installation and Community leaders develop, prioritize and implement community partnership initiatives
- Practice the "Art of the Possible"

Basic theory: Other things being equal, overhead in total and per unit of work can be reduced and labor can be used more efficiently (reducing direct cost per unit of output) through the creation of a single entity that completes both sets of work—that of the installation and that of the local government.

AF Community Partnership Task Force

- A <u>Cross-functional</u> Air Force Community Partnership Task Force, chaired by SAF/IEI helps guide efforts to identify and reduce potential AF-wide operating/service costs, or reduce risks
- Members' expertise assists through the P4 process:
    - Installations
    - Energy
    - Contracting
    - Communications
    - Finance
    - Legal
    - Legislative Liaison
    - Reserve Affairs
    - Public Affairs
    - Services
    - Air Operations
    - Logistics
    - Security
    - National Guard
    - Health
    - Cost Efficiency
    - Small Business
    - Office of Economic
    - Adjustment
    - Base Exchange
    - DoD Schools

Possible Stakeholders

- Local, State & Federal Governments (City Managers, Emergency Management, and Public Works)
- Regional Planning Organizations
- Key Tenant Organizations
- Economic Development Organizations
- Educators and University Organizations
- Non-Governmental Organizations
- Conservation Organizations
- Union Representatives
- Utility Companies
- Community Thought Leaders (e.g., Community Alliances, Chambers of Commerce)
- Non-Profits
- Private sector experts (as appropriate)
- Medical Institutions

Initiatives Under Review

- Environmental mitigation
- Shared use firing ranges (O&M/MILCON avoidance)
- Cooperative police/fire training/support
- Streamlined dormitory mail delivery
- Cooperative medical training and initiatives
- Many AF services-provided Airmen support programs
- Youth programs/library ops
- Shared golf course/athletic field operations
- Community educational center (near front gate)
- Shared food service facilities

- Waste management/recycling/pavements
- Energy Initiatives; Utility Energy Service Contracts (UESC)
- Data center/solar voltaic array EULs
- Shared waste water treatment facilities/other utilities
- Expanded community bus system
- Airport operations and maintenance
- University training of critical-need interns
- Aircraft mechanic training

Roles and Responsibilities

- SAF/IEI Facilitation Team
  - Guide the 7-step AF Community Partnership process
  - Leverage Program Management Office (PMO) and Task Force support
  - Provide admin support: invitation templates, meeting materials, worksheets, workbooks, TTX Situation Manual, Way Ahead Report
- Installation/Community Leaders
  - AF Senior Leaders are the "face" of partnership
  - AF Senior Leaders provide empowered POC with access to Wing leadership to expedite initiative requirements
  - Establish Leadership Committee; guide Work Groups
  - Identify potential partners for meetings
  - Set dates and locations for next meetings
  - By time of TTX, consider "Charter" that outlines enduring relationship

AF and Local Community Leadership is key!

- Public-public and public-private (P4) partnerships offer a means to leverage the capabilities and resources of military installations, local government or commercial entities to reduce operating costs and the cost of services while retaining quality
- Basic theory: Other things being equal, overhead in total and per unit of work can be reduced and labor can be used more efficiently (reducing direct cost per unit of output) through the creation of a single entity that completes both sets of work—that of the installation and that of the local government.
- The AF established a Program Management Office to provide essential Air Staff oversight of Base Realignment and Closure activities that directly impacted communities; requiring interaction with local State and Congressional leaders
- Given the potential for achieving significant AF-wide cost savings requiring direct interaction with community, State and Congressional leaders, the AF should create comparable PMO capability to guide the development and management of P4 activities

P4 Case Studies

- Army-Navy relationship @ Presidio with Monterey County, CA was born out of what started as demonstration language in the 1994 Defense Authorization Bill
  - Achieved 40-50 percent savings by contracting with Municipal Agency for some Base Operations services $3.7M vs Traditional support $6.2M; Fire Protection: $3.9M vs $7.9M
- 2005 Authorization: Army pilot program for two installations (Ft. Huachuca, Ft. Gordon) to procure one or more municipal services:
  - refuse collection, refuse disposal, library services, recreation services, facility maintenance and repair, utilities
  - City provides water & waste water services--Fort Gordon estimates $7.4M savings in capital upgrade costs and cost avoidance and $47.5K annual commodity cost savings

- Fort Huachuca estimates $300K annual savings by using city library services.
- 2012 ANG TTXs: Klamath Falls, OR, Ellington TX, Fairchild, WA
- Massachusetts Military Reservation: Community proposes a land exchange to provide $300M-400M in upgrades to Lincoln Laboratory facilities in exchange for Hanscom AFB property
- Enid, OK proposes $6M expansion of city airport runway; providing a joint use aircraft shelter and in the process support air training operations at Vance AFB
- Ellsworth AFB has implemented creative partnership initiatives
- Community met with Patrick AFB to discuss ways to reduce mutual operating costs/achieve economic development objectives
- San Antonio has requested meeting with JB leadership to discuss potential P4 opportunities
- Enhanced use lease proposals are underway highlighting the need for consistent, cross-functional Air Staff oversight

"Each Installation is Unique"

Mansfield, Rickenbacker, Springfield, Toledo

Lt Col Holly C. Mitchell, Director of Staff – Air, JFHQ-Ohio is the POC for Ohio National Guard Partnership actions. Starting the week of October 26th, 2015 the TAG has secured a SAF/IE assistance team to travel to all Ohio Air Wings to introduce the process already undertaken by WPAFB and the Youngstown ARS. This SAF/IE consultant support team will meet with military and community leadership in each area to determine what opportunities are available based on their unique units, base and surrounding community assets.

Youngstown Air Reserve Station

The following is the current status of the six documented partnering initiatives:

Firing Range/Safety Training Center – MILCON for the firing range was reprioritized and appears secure for FY-16. The base expects to break ground for a 21-lane range in April 2016. The range would be shared with local law enforcement in exchange for access to a yet-to-be-built safety training center at Kent State-Trumbull. The safety center was paused upon arrival of a new dean, but remains a priority.

Airfield Services – The base POC introduced a new Defense Logistics Agency (DLA) website that enables easier sharing of government equipment. The base with assistance from SAF/IEI will attempt to reinvigorate the idea of shared airfield equipment and services.

Enhanced Education Opportunities for Airmen – Youngstown State University offered a speech class to Airmen during UTA weekends this spring and there are plans to offer math and English classes next year. Classes during UTAs and online courses will continue to be expanded and the base sees this as a great opportunity to help Airmen gain credits for career advancement. An education fair occurred at the Youngstown ARS on August 2nd, 2015.

Joint Medical Training – A training affiliation agreement between Youngstown ARS and Mercy Health System is complete and will be implemented early in FY-16. The partners are currently finalizing hours, staff numbers, and certification details. It is estimated that this partnership will save $200,000.00 annually by avoiding distant travel and will provide live training whereas current training is virtual. The base sexual assault response coordinator will be incorporated in the partnership later this fall after the agreement is signed.

Cooperative Blight Removal – The MOU with the City of Youngstown was signed. This partnership generated considerable media attention and the ANG unit in Toledo plans to coordinate on a similar partnership. The cities of Warren and Newton Falls also hope to join the effort. Demolitions started in August 2015 with ten (10) houses identified in the first phase of the project. Per the MOU, the City of Youngstown assumes all liability and provides the equipment; Youngstown ARS offers the manpower and will also assist with repairing street signs in town.

Grain Bin Rescue Training – A second grain bin rescue training event (required for local firefighters) is planned in a Youngstown ARS hanger in February 2016.

Wright Patterson AFB

2014: Learning the basics and getting our feet wet

2015: Drilling into comprehensive change on multiple levels -- what needs to change, how to change it, and by whom

Project Status

- Exploring: Project is being researched for viability
- Active: Project is being worked by active project teams
- Operational: Project has been implemented in real time
- Tabled: Project currently inactive, but future action is predicted within current calendar year
- Closed: Project is no longer being worked and is not being considered for future action

There are two categories of projects being pursued, cooperative purchase and resource exchange.

Cooperative Purchase

Intent: Increase buying power using a variety of methods designed to drive down cost for needed resources and services

Managed Services

--Cost-per-Copy (Exploring)
--Data Center (Closed)
--VOIP (Closed)

Inter-Governmental Service Agreements (IGSA)

--Firefighting Foam Alliance (Exploring)
--Strategy for additional projects (Active)

Commodity Purchase

--Step 1: GPC using DAS (Active)
--Step 2: Concurrent Solicitation (Tabled)
--Step 3: State-held contracts (Tabled)
--Third Party Commercial (Closed)

Resource Exchange

Intent: Leverage opportunities to consolidate, exchange and/or share resources

Training Exchanges:

--Sinclair Firefighting/Workforce Development Exchange: (Operational)
--Sinclair ARFF Exchange: (Active)

Shared Resources:

--Shared Pool Facility: (Operational)
--Goodwill/Easter Seals Sand: (Active)
--RTA Joint Programming: (Exploring)

--For Credit Internships: (Tabled)

Strategic Research Projects:

--Resource Exchange Catalog (Exploring)
--Cost Factors Study (Exploring)

CHARTER OFMJC WRIGHT-PATT/GLENN RESEARCH CENTER EXECUTIVE REVIEW BOARD
(Adopted by OFMJC on Sept 11, 2015)

Statement of Purpose

The WP/GRC Executive Review Board ("Executive Review Board") is responsible to oversee the development, funding and performance of the Ohio Federal Research Network (FRN) of the Federal and Military Jobs Commission. The Executive Review Board (ERB) will provide ongoing oversight of a network of research centers of excellence in Ohio organized around the priorities of Wright Patterson Air Force Base and NASA Glenn Research Center to support the research priorities of these federal installations and build capabilities within Ohio to expand and focus research, workforce development and technology commercialization.

Organization and Functioning

Composition

1. The Executive Review Board will function as an independent standing board to support the Wright State Applied Research Corporation charged with the oversight and execution of the statewide research and tech commercialization programs of the Federal and Military Jobs Commission.
2. The Board will be comprised of up to 13 members. These will include 3 Federal Government Liaison and Ex-Officio non-voting members- 1 each from Air Force Research Lab, National Air and Space Intelligence Center and NASA Glenn Research Center; at least 1 member of the Federal and Military Jobs Commission; and up to 5 private industry representatives including reps from small and medium sized firms; 1 representative from JobsOhio, and up to 4 University Representatives from Ohio including a mix of State Assisted Research Universities and State Funded Universities. The University representatives will serve a revolving, non-sequential two-year term.
3. The Members of the Executive Review Board will be appointed by the Federal and Military Jobs Commission with consideration of recommendations from a statewide Nominating Committee formed by the CEO of Wright State Applied Research Corporation.
4. The Federal and Military Jobs Commission will designate one of the Executive Review Board Members as its Chairperson who will be accountable to the Applied Research Corporation and the FMJC.
5. The federal and state non-voting members of the Executive Review Board will be appointed by their respective organizational leadership within the US Air Force, NASIC, NASA and State of Ohio Offices. The primary role of the federal and state non-voting members of the board is to ensure that the state research center network is relevant and focused on the research priorities of the federal agencies and to facilitate collaboration and joint program activities.
6. Members of the Executive Review Board should be recognized thought leaders in research, workforce development and technology commercialization pertaining to the missions of the federal agencies and applicability to the private sector who can provide a national and global view of key challenges and opportunities and serve as effective evaluators of the potential return on investment of proposed research programs to Wright-Patterson AFB, NASA GRC and the State of Ohio.
7. Members of the Executive Review Board will reflect wherever possible a geographic balance of Ohio and strive to promote a culture of collaboration within and between the Federal Research Centers of Excellence, private industry, academia and the federal installations.

Meetings

1. The Board will meet at least quarterly and hold such other meetings from time to time as may be called by its Chairperson or any three (3) members of the Committee. It is anticipated that quarterly meetings will be the normal schedule in year 1.
2. A majority of the voting members of the Board will constitute a quorum.
3. A majority of the voting members in attendance will have authority to decide any question that is brought before any meeting of the Board.
4. The Board will keep minutes of its proceedings that will be signed by its Chairperson and the person whom the Chairperson designates to act as secretary of the meeting. The minutes of each meeting will be approved by the Board at its following meeting and will be filed as permanent records of the FMJC and the Applied Research Corporation.
5. The Chairperson will report on the substantial matters considered in any meeting of the Board as needed to the Applied Research Corporation Board and Federal and Military Jobs Commission which will include at minimum and annual report on progress.

Compensation

Members of the Executive Review Board will not receive any compensation other than for reasonable travel and out of pocket expenses.

Specific Duties and Responsibilities

Defining the Research Portfolio

The Executive Review Board will:

- ensure that the research agenda for the Federal Research Network advances the state of the art, supports the federal missions of Wright-Patterson and GRC, aggressively pursues commercialization opportunities in Ohio, and maximizes productivity through cross program and infrastructure leverage.
- review and approve the Federal Research Network technology framework establishing the context and focus of research programs, highlight relationships between them and map the research activities of other organizations to identify opportunities for synergy and collaboration.
- review and approve roadmaps for core Federal Research Network technologies and programs to support the prioritization of programs, monitor progress and link them to Air Force, NASA and private industry market requirements.
- review key funding opportunities and proposals for Federal Research Network research programs to ensure alignment with federal and state strategic and operational plans.

Enabling Collaboration

The Executive Board will:

- define complementary roles with the local, regional, state and national organizations that support Federal Research Network related research activities, commercialization, and the realization of economic benefits.
- identify a comprehensive suite of collaborative and communication tools, including workshops, conferences, open houses, websites and publications to support the effective engagement of Federal Research Network Centers of Excellence with complementary organizations and state, federal and private sector partners.
- ensure the Federal Research Network COE's business plans are collaborative in nature to include university and industry talent and capabilities.

Establishing the Research Standards

The Executive Board will:

- ensure access to a World Class research infrastructure, including the skill and knowledge of faculty and consultants, labs and other facilities.
- establish an environment that protects inventors, their inventions and successfully brings them to market.
- publish results to maximize funding and commercialization opportunities.
- fully consider recommendations from the FMJC Federal Research Network Technical Review Committee to ensure COE proposals reflect federal research priorities and advance collaboration and the state of the art in core technology areas.

Enabling Technology Transfer

The Executive Board will:

- direct the development and oversight of an effective process to transfer the results of research programs to the commercial market place in collaboration with the Federal Research Center Network Workforce Development and Technology Commercialization COE.

To meet the stated primary objectives of the FMJC, Federal Research Network Center of Excellence projects will be evaluated upon the following criteria:

1. Do the proposed projects of the Center of Excellence meet the applications/user driven requirements derived from emerging mission focus areas of NASA and DoD? Does the project have a government sponsor at one of the national labs? Each project needs to identify their sponsor by name and organization and provide their contact information. **This is a go/no go for each project.**

   The appropriate Federal laboratory will provide the evaluation and feedback as to whether or not the criteria have been met.

2. The number of jobs the project will create (12 months, 24 months, and 36 months respectively). If there is no industry cost share, then the long-term impact to Ohio industry should be considered. What industry/government contracts will subject matter experts, new capability or capacity potentially support? What is the proposed projects degree of alignment with Ohio industries and its potential to impact job creation? Cost share from industry partners would be a measure of alignment. **This is a go/no go for each project.**

   The FRN will utilize best practices adopted by JobsOhio and affiliated regional economic development organizations in the state to evaluate this criteria based on validated data provided by participating companies and organization through the COE's.

3. What is the proposed level of collaboration between the university partners? Is the project a collection of independent sub-projects or is it truly an integrated approach to meeting a technical objective of a federal agency or company?

4. As the state funds are an investment intended to attract additional federal, foundation or industry funding – what are some of the key procurement targets each project has to secure additional funding? Targets should be called out by name and agency/organization. How does the project improve the long-term competitiveness of Ohio's universities, federal labs or industries? Success of the COES will be measured by:

a)   More research funding coming to Ohio from AFRL, NASIC and NASA GRC because we are building a more competitive environment in the state, not a handout or give away.

b)   More federal research committed to Ohio through collaboration with AFRL, NASIC and GRC that brings additional work to Ohio from out of State. In this collaboration, AFRL, NASIC and GRC execute federal research work outside their normal POM budget cycle.

c)   More federal research to Ohio because the COEs proactively respond to outside federal proposals that relate their core business focus areas for other agencies.

All of these successes above create jobs in Ohio from expanded research activities. These successes either keep more federal competitive contract research dollars in Ohio or import additional federal research funds from outside Ohio. Additional success metrics for job creation and economic impact in Ohio include:

a)   Pathway to success is by transitioning the federal research to and with a private sector collaborator in federal research or tech transition who will conduct research or provide a product or service directly related to the federal contract. Jobs created will be predominantly in the private sector.

b)   Technology from the federal contract work in Ohio will be transitioned to commercial applications outside the original federal requirement. Pathway to success is from transitioning the federal research and IP to other market applications through new starts or existing companies within Ohio or relocating/expanding to Ohio. In either case, new jobs are created outside the original federal investment.

Additional considerations for COE's for job creation include:

a) Research projects that train and equip participating individuals for jobs going unfilled in Ohio at federal installations or private enterprises by creating the talent pool necessary to gain or keep the business operations.

b) Creation of graduate students supported through the federal research projects should be considered a progress milestone. When the Graduates stay in Ohio and go to work in a full time job that is also a measurable success.

Note: These overall criteria will also be used to evaluate detailed proposals in Phase II
The Executive Review Board established in the FMJC strategic plan will be tasked with developing the final criteria utilized to evaluate COE funding proposals consistent with the intent and rationale above. This evaluation criteria and related funding process will link to clear objectives and provide a uniform approach to evaluate projects that is dependable and well understood. These criteria will be put in place by Sept 30, 2015 and reviewed with the COE leads as well as with the federal agency leads before becoming finalized.

CHARTER OFMJC WRIGHT-PATTERSON/GLENN RESEARCH CENTER TECHNICAL Review COUNCIL
(Adopted by OFMJC on Sept 11, 2015)

Statement of Purpose

The Wright-Patterson/Glenn Research Center (WP/GRC) Technical Review Council (TRC) operates in conjunction with the Executive Review Board (ERB) and is responsible to the Ohio Federal and Military Jobs Commission (FMJC) for comprehensive oversight of the portfolio of technologies that are used and developed by the Federal Research Network (FRN) Centers of Excellence (COE) in the execution of their programs. The FRN and COEs have been established to support the research priorities of Wright Patterson Air Force Base (WPAFB), National Air and Space Intelligence Center (NASIC) and NASA Glenn Research Center and to provide the necessary capabilities to expand existing research, workforce development and technology commercialization efforts within Ohio.

Organization and Functioning

Composition

1. The TRC will operate in function as an independent standing board to support the Wright State Applied Research Corporation charged by the FMJC with oversight and execution of its statewide research and technology commercialization programs.

2. Members

    a. The Board will be comprised of 9 voting members, including

        i. 4 representatives from Ohio universities, either the Vice Presidents of Research or Deans of Colleges of Engineering,
        ii. 4 representatives from private industry, either Chief Technology Officers or Directors of Engineering,
        iii. 3 federal ex-officio (non-voting) members from WPAFB and GRC.
        iv. 1 Third Frontier Representative

3. Qualifications

    a. Members of the TRC should be recognized thought leaders in the deployment of technologies that support the research programs of the FRN and the evaluation of the technical merit and commercialization potential and broader applicability within the public and private sectors for technologies developed in the course of these research efforts. They should provide a national and global view of the key technological challenges and opportunities within the COEs, identify opportunities for synergy and leverage of technologies between centers, ensure that architecture and roadmaps for COE technologies are effectively aligned with WPAFB, NASIC, and GRC missions, and evaluate technology alternatives in terms of their effect on the potential return on investment for proposed FRN research programs to Wright-Patterson AFB, NASA GRC and the State of Ohio.

    b. Members of the TRC should reflect a geographic balance across Ohio to the fullest extent possible, and

    c. Members should strive to promote a culture of collaboration within and between the Federal Research Network Centers of Excellence, private industry, academia and the federal installations.

4. Appointment to the TRC

    a. The voting members of the TRC will be appointed by the FMJC based on recommendations from a statewide Nominating Committee formed by the CEO of Wright State Applied Research Corporation.

      b. Their respective organizational leaderships within the US Air Force and NASA will appoint the federal non-voting members of the Review board.

5. Term of service

      a. The members of the TRC will serve for 2 years.

      b. In the event a member resigns, a replacement will be appointed by the TRC Chair in conjunction with the ERB to serve the balance of the term.

6. The FMJC will designate one of the TRC as its Chair who will be responsible for organizing and reporting on the council's activities to the Wright State Applied Research Corporation and the FMJC.

Meetings

1. **Frequency** - The TRC will meet at least quarterly and hold such other meetings from time to time as may be called by its Chair or any three (3) members of the Committee. It is anticipated that quarterly meetings will be the norm in year 1 and may change to semi-annual after year 1.

2. **Quorum** - A majority of the voting members of the TRC will constitute a quorum.

3. Voting - A majority of the voting members in attendance will have authority to decide any question that is brought before any meeting of the TRC.

4. **Minutes** - The TRC will keep minutes of its proceedings that will be signed by the Chair and the person whom the Chair designates to act as the secretary of the meeting. The minutes of each meeting will be approved by the TRC members at its following meeting and will be filed as permanent records with the FMJC and the Wright State Applied Research Corporation.

5. **Reporting to FMJC** - The Chair will provide an annual progress report to the ERB and FMJC and as deemed necessary, specific supplementary reports on any substantial matters considered during a meeting of the TRC.

Compensation

Members of the TRC will not receive any compensation other than for reasonable travel and out of pocket expenses.

Duties and Responsibilities

The TRC is responsible to the FMJC and the ERB for comprehensive oversight of the portfolio of technologies that are used and developed by the Research Centers of Excellence (COE) as part of the Ohio Federal Research Network (FRN) in the execution of their programs, including the following specific duties and responsibilities:

- Assessing proposed architectures and roadmaps for technologies used by the COEs are effectively aligned with WPAFB and GRC missions and priorities
- Collaborating with COE technology teams to establish common capabilities to support collaboration across the FRN and its public and private partners
- Reviewing proposals for technology investments by COEs to realize opportunities for synergy and leverage of technologies and other resources between centers
- Ensuring that a consistent level of security and compliance is achieved across the FRN and in engagements with outside organizations
- Evaluating the technical merit, broader applicability and commercialization potential for the technologies developed through COE research programs within both the public and private sectors.
- TRC will review the COE proposals and they will be evaluated using the following criteria, listed in descending order of importance:

(a) Potential Contribution and Relevance to the DoD and NASA Mission;

- The potential contributions of the proposed effort are relevant to the national technology base. Specifically, the DoDs mission is to maintain the technological superiority of the U.S. military and prevent technological surprise from harming national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their application. NASA on the other hand advances research and technology to address its mission requirements and to provide critical technology advances of value to DoD and US commercial interests. It is critical that DoD and NASA be able to transition this technology to the warfighter rapidly, industry, and the high tech community rapidly and economically. The TRC will review and assess the proposer's concept, development approach, and initial demonstration plan in the context of whether the proposed solution has a clear transition path, including the proposer's ability to implement the upgrades needed to the
- In addition, the evaluation will take into consideration the extent to which the proposed intellectual property (IP) rights will potentially impact the Government's ability to transition the technology to the research, industrial, and operational military communities.

(b) Overall Scientific and Technical Merit;

- The proposed technical approach is innovative, feasible, achievable, complete, and supported by a detailed program plan and a proposed technical team that has the expertise and experience to accomplish the proposed tasks.

(c) Proposer's Capabilities and/or Related Experience;

- The proposer's prior experience in similar efforts clearly demonstrates an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described, including identification of other Government sponsors. This criterion will also consider the proposer's facility and personnel clearances to appropriately conduct mission level analyses.
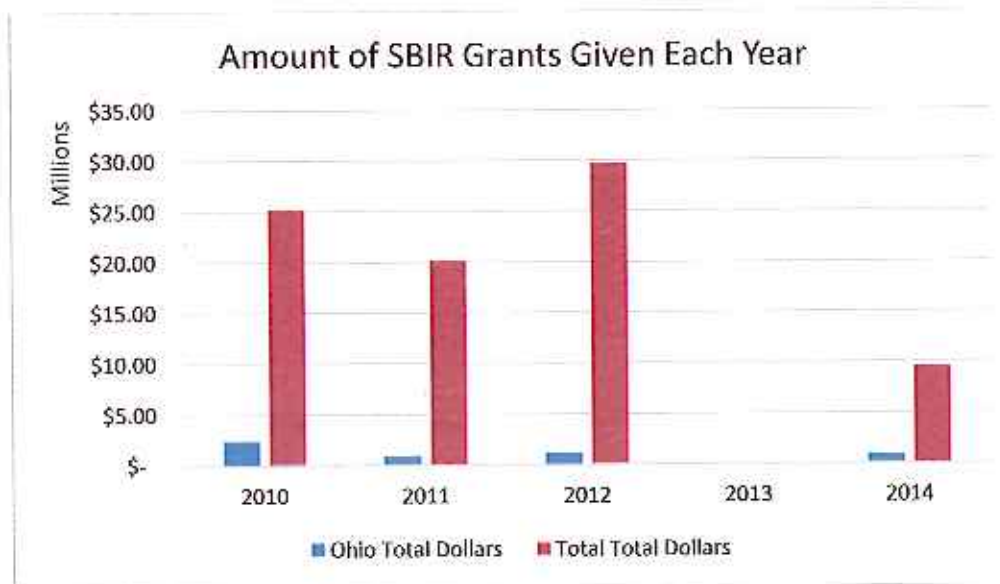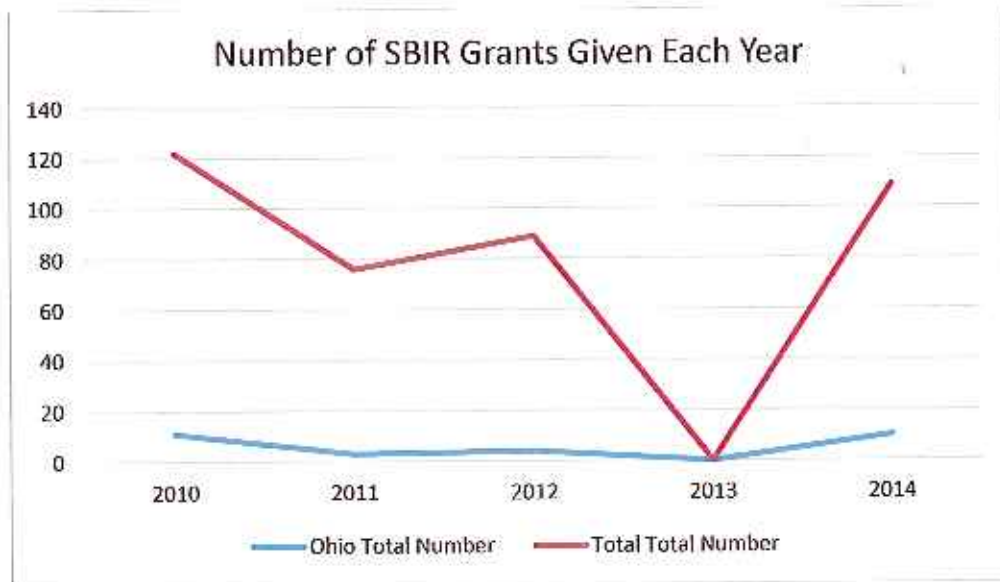
(d) Technology Demonstration Plan;

- The proposer's Demonstration Plan will be evaluated to assess the proposer's approach to developing an affordable technology demonstration system and risk reduction plan and achieving compelling and rapid capability demonstrations for transition. The degree to which the plan adequately retires high-risk elements from the development systems and has a clear path to integrate third party efforts will be evaluated.
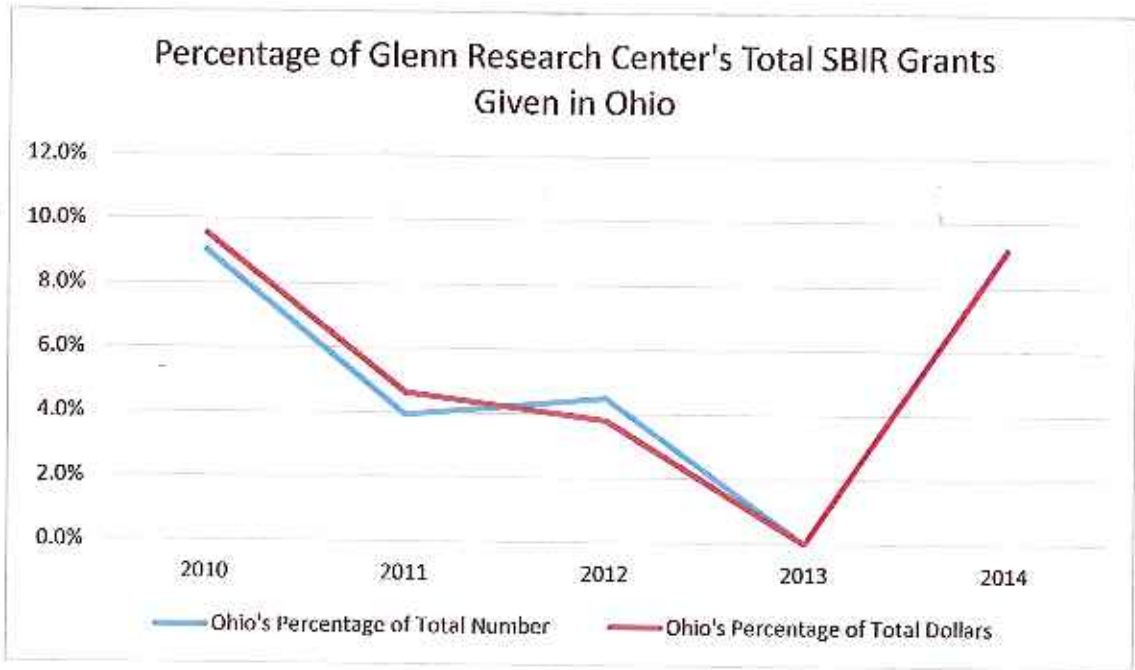
(e) Cost Realism;

- The proposed costs are realistic for the technical management approach offered and demonstrate the proposer's practical understanding of the effort. The costs proposed are based on realistic assumptions, reflect a sufficient understanding of the technical goals and objectives COE research, and are consistent with the proposer's technical approach (to include the proposed Statement of Work and the level of completeness and details of the BOE).
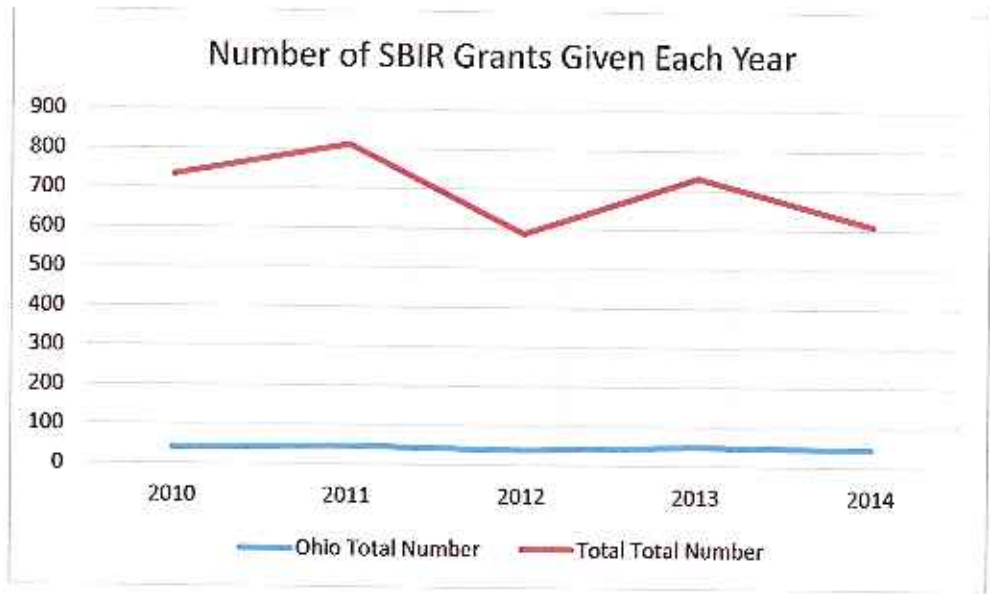
- At a minimum, the COE proposer and proposed sub-awardees substantiate the proposed costs with the type and number of labor hours proposed per task as well as the types and kinds of materials, equipment and fabrication costs proposed; the degree to which the effort will leverage all available relevant prior research and hardware in order to obtain the maximum benefit from the available funding; and the level of reasonableness of any recurring or non-recurring license fees for software elements included in the technical solution.
- For efforts with a likelihood of commercial application, appropriate direct cost sharing will be a positive factor in the evaluation.
- The FRN recognizes that undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture. The FRN discourages such cost strategies.

Number of SBIR Grants Given Each Year

Ohio Total Number — Total Total Number

Amount of SBIR Grants Given Each Year

Ohio Total Dollars — Total Total Dollars

Percentage of Glenn Research Center's Total SBIR Grants Given in Ohio
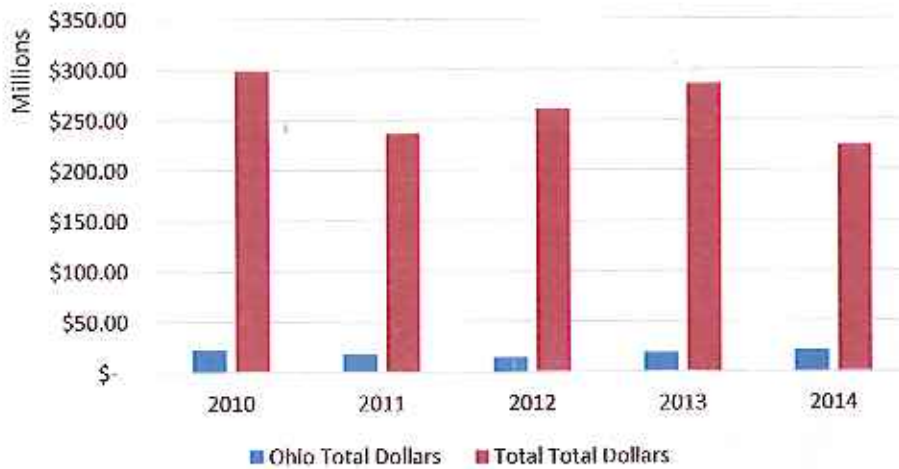
AFRL SBIR Data

Number of SBIR Grants Given Each Year
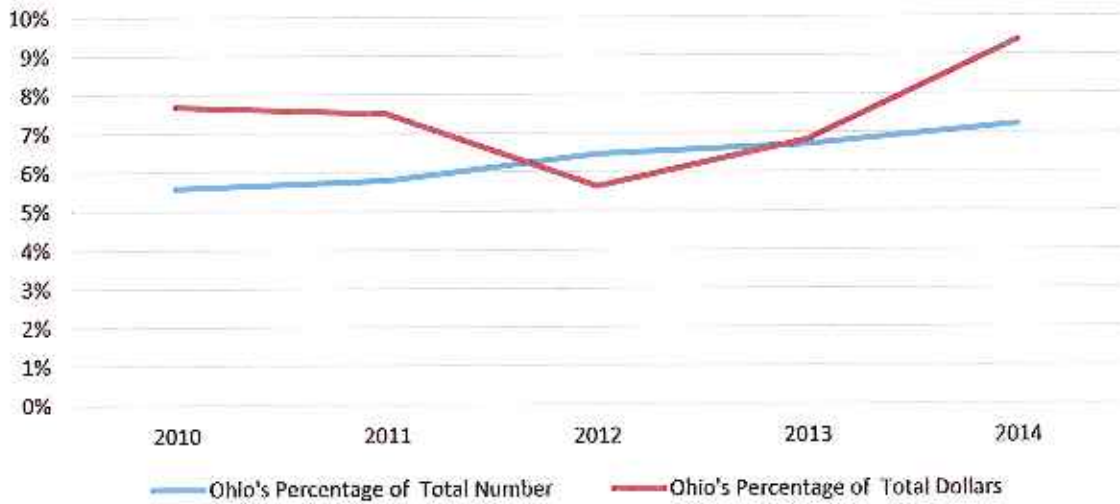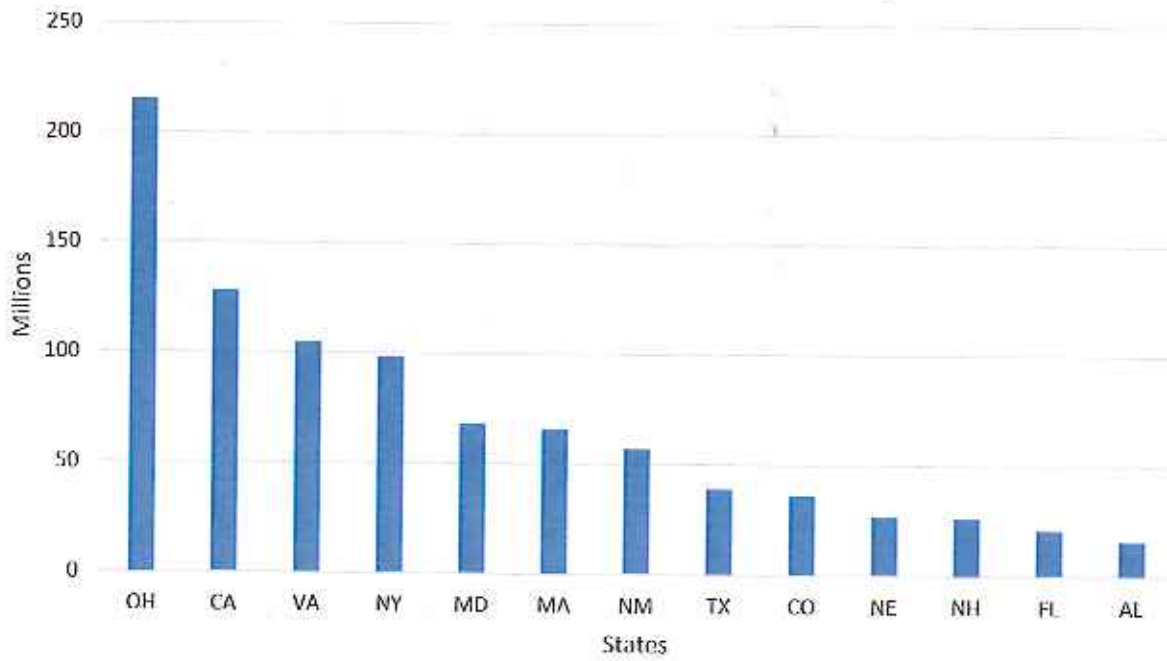
Amount of SBIR Grants Given Each Year

Percentage of Air Force Research Laboratory's Total SBIR Grants Given in Ohio

FY14 AFRL Small Business Dollar Obligations by State

Small Business Innovation Research Matching Grant Program Examples

State	Summary
Connecticut	The SBIR Phase I Matching Grant initiative is designed to help recent Connecticut SBIR Phase I winners advance their federal Phase I feasibility studies to million-dollar Phase II research awards. It encourages collaborations, especially with Connecticut universities. These grants were created to help bridge the funding gap between Phase I and subsequent awards. The matching grant may be increased if a company subcontracts with a Connecticut research university.
Florida	This program is designed to expand the research activities of a university industry partner by providing assistance in obtaining a Phase II SBIR/STTR award. Approximately $500K is allocated for the SBIR/STTR Phase II Industry External Investment program.
Hawaii	The Hawaii Small Business Innovation Research Grant Program was established in 1989 to provide grants to Federal Phase I SBIR awardees (up to 50%) of Phase I Award. The grant maximum is $25,000, and can only be used for research that is performed in the State of Hawaii.
Kansas	Funding is available under this program to match technology development awards to encourage commercialization of new products and technologies. The program can match up to 50 percent of such awards, proportionate to the amount of work performed in Kansas.
Kentucky	The Kentucky SBIR-STTR Matching Funds Program matches all Phase I federal awards received by Kentucky businesses after January 1, 2006 and all Phase II federal awards received after January 1, 2007. This includes matching awards of up to $100,000 to support Phase 1 exploration of the technical merit or feasibility of an idea or technology. Phase II federal awards, which support full-scale research and development, can be up to $750,000, and are matched by the Commonwealth up to the first $500,000.
Massachusetts	The Massachusetts Life Sciences Center operates a Small Business Matching Grant Program to provide grants to commercialization-ready life sciences and technology companies that have received at least the equivalent of a Phase II Small Business Innovation Research or Small Business Technology Transfer grant from federal agencies such as the National Institutes of Health, National Science Foundation, Department of Defense, etc. The Center is targeting an FY12 investment of $3 million in the Small Business Matching Grant Program.

Michigan	The Michigan Emerging Technologies Fund will match 25% of Phase I SBIR/STTR awards up to $25,000 and 25% of Phase II SBIR/STTR awards up to $125,000. ETF awards will come in the form of grants and do not need to be paid back; however, ETF Funds must be used to help bring Michigan SBIR/STTR projects to commercialization in at least one of the Four Technology Sectors supported by the ETF. These sectors are: advanced automotive, manufacturing, materials, information and agricultural processing; alternative energy; homeland security and defense; and life sciences.
Montana	Grants to Montana companies that have been awarded a Small Business Innovation Research Program or Small Business Technology Transfer Program (Federal SBIR/STTR Program) Phase I award and that, if the opportunity to do so is available, intend to apply for a Federal SBIR/STTR Program Phase II award.
Nebraska	The Nebraska Small Business Innovation Research ("SBIR") Initiative establishes a financial assistance program to individuals and businesses with a principal place o f business in Nebraska to support applications to the Federal SBIR Program (Phase 0) and the matching of successful applications (Phase I and II) by the state of Nebraska. The total funds available through this initiative will be a maximum of $1 million.
New Jersey	The purpose of the SBIR Bridge Grant program is to increase the success and maximize the growth of small New Jersey companies in moving from Phase I to Phase II. The program supports New Jersey's technology industry by awarding grants to entrepreneurs who have both applied for Phase II funding and who have been identified as potential Phase II SBIR/STTR awardees. This program will sustain small businesses through the funding gap, which occurs between completion of the Phase I grant and the initiation of a Phase II award. Awards amount is $50,000.
North Carolina	The North Carolina SBIR/STTR Phase I Matching Funds Program is designed to award matching funds to North Carolina firms who have been awarded a Small Business Innovation Research Program or Small Business Technology Transfer Program Phase I award. Awards may be made for up to 100 percent of the Federal award, up to a maximum of $100,000.
Oklahoma	The OCAST SBIR Matching Funds Program is designed to award matching funds to Oklahoma firms who (1) have been awarded a federal SBIR Phase I award and (2) have submitted a qualified Phase II proposal to a participating federal government agency.
South Carolina	The SC Launch SBIR/STTR Phase I Matching Grant Program provides up to 100 percent of the Federal SBIR/STTR Program Phase I award, not to exceed $100,000. It is designed to provide support funds to South Carolina companies stepping through the development process, especially companies attempting to

| Virginia | The Virginia SBIR Match Program provides anywhere from $50,000 to $500,000 in match funds for SBIR or STTR awards depending on various factors such as state funding levels and company eligibility requirements. The program will be operated by the Center for Innovative Technology. |