Economic Impact Assessment of the Contracts for Human Performance with Wright-Patterson AFB

Iryna Lendel
Center for Economic Development
Maxine Goodman Levin College of Urban Affairs
Cleveland State University

July 2017
HUMAN PERFORMANCE RESEARCH DATA:
Federal funding was awarded to 16 projects

- Economic impact is generated by spending of research funding provided by the Federal Government (“good” money coming to Ohio)

- 16 contracts have been awarded by the U.S. Department of Defense to AFRL starting in December 2011

- At least one contract’s financial disbursement is going through 2021

- Economic impact is presented by 5 measures: output, value added, labor income, employment and taxes

- State seed funding is excluded from calculation of economic impact based on the assumption of substitution effect (these are initial state money that could of being invested in a different enterprise/project within the state generating a different economic impact)

- While the State seed funding is excluded from calculations, the economic impact generated by it is not

- In this presentation AHEAD Impact refers to a direct and indirect impact – a summation of direct services and goods and their supply chain
MEASURES

- **Output** – the total $ value of goods and services produced, sometimes referred as Gross Regional Product (GRP)
- **Value added** – the value of goods and services produced, minus the cost of intermediary goods
- **Employment** – number of supported full-time and part-time jobs
- **Labor income** – payroll paid to employees and proprietor’s income
- **Taxes** – state and local taxes generated by increased economic activity

TYPES

- **Direct** impact is the initial value of goods and services
- **Indirect** impact measures the jobs and production needed to provide initial services and manufacture goods – also known as supply chain effect
- **Induced** effect is the increase in spending of local households due to the income received through work as employees or suppliers (not included in calculation of AHEAD Impact)
ECONOMIC RETURNS ON $1 OF SEED STATE INVESTMENT:
RATIO OF FEDERAL TO STATE FUNDING AND AHEAD IMPACT PER 1$ OF STATE FUNDING

- Every dollar invested by the State generated $30 of federal funding for research in Ohio
- Every dollar invested by the State is generating $52 as AHEAD impact
- The impact is produced directly by companies/industries where federal investment was made and by their supply chain (direct and indirect impact)
AHEAD IMPACT =
Direct + Indirect Economic Impact Of Federal Dollars Spending
AHEAD IMPACT CREATED EVERY YEAR:
OUTPUT AND VALUE ADDED

- The federal funding has larger concentration in recent years
- As more funding will be secured from 2017 forward, the AHEAD impact will get back on an upward trend
- The highest AHEAD impact is generated in 2017: $184.6 million
AHEAD Impact Accumulated Over Time

- AHEAD impact will peak in 2029 with $1.4 billion based on the secured funding at hand.

- The upward trends of impact will pick up from 2017 forward as more federal funding will be secured in future years.
AHEAD IMPACT CREATED EVERY YEAR:
EMPLOYMENT AND LABOR INCOME

1,037 jobs
$65.6 M

Employment


Labor Income


Employment

Labor Income

$10M $20M $30M $40M $50M $60M $70M

$1M $2M $3M $4M $5M $6M $7M $8M $9M $10M $11M


$10M $20M $30M $40M $50M $60M $70M

$1M $2M $3M $4M $5M $6M $7M $8M $9M $10M $11M

AHEAD CREATES JOBS AND BRINGS LABOR INCOME

- AHEAD brings employment and creates labor income every year
- The highest employment is created in 2017 with about 1,037 jobs (full-time and part-time)
- These people are employed in 16 federally funded projects and their partnering supply-chain companies
- $65.6 million will be paid to these employees in 2017
- With the federal funding at hand, there are about 700 annual jobs secured in the research projects and their suppliers between 2018 and 2021
- The trends of employment and labor income will pick up starting in 2017, as more federal funding secured in future
- In 2011-2017, the federal funding generated more than $15.9 million in state and local taxes.
- By the end of 2029 it will generate total of $28.2 million in state and local taxes with the secured funding to the date.
APPENDIX
DIRECT ECONOMIC IMPACT
DIRECT AHEAD IMPACT: OUTPUT AND VALUE ADDED

- The federal funding is secured through 2029 with larger concentration in recent years
- As more funding will be secured from 2017 forward, the direct annual impact will get back on an upward trend
- In 2017, the largest direct output impact of $118.2 million was created by the federal funding
DIRECT CUMULATIVE OUTPUT AND VALUE ADDED, M$

Cumulative Direct Value Added  Cumulative Direct Output

- Direct cumulative output and value added are picking in 2029 accounting for federal funding secured by 2017
The trends of direct cumulative output and value added impacts will pick up from 2017 forward as more federal funding will be secured in future years.

$889.9 million of direct cumulative output impact will be generated by 2029 with the secured funding at hand.

$400.3 million in direct cumulative value added impact is secured by 2029.
DIRECT ANNUAL EMPLOYMENT AND LABOR INCOME

• Direct annual employment and labor income are the highest in 2017 with about 600 people being directly employed in 16 federally funded projects on a full-time and part-time basis and $40.6 million being paid to these employees in 2017 as their income while they are working in these projects.

• With the federal funding at hand, there are about 400 full-time and part-time jobs already secured annually between 2018 and 2021.

• The trends of direct annual employment and direct annual labor income will pick up starting in 2018, as more federal funding will be secured forward.
In 2011-2017, the federal funding generated more than $7.6 million in state and local taxes. By the end of 2029 it will generate total of $13.4 with the secured funding to the date.
TOTAL IMPACT
(DIRECT, INDIRECT, INDUCED)
ECONOMIC RETURNS ON $1 OF STATE INVESTMENT:
RATIO OF FEDERAL TO STATE FUNDING AND
TOTAL OUTPUT IMPACT PER 1$ OF STATE FUNDING

• Every dollar invested from the State generated $30 of federal investment into research in Ohio
• Every dollar of invested state funding generating $69 of output produced directly by companies/industries where investment was made, their supply chain, and through the spending pattern of workers employed in all effected industries
ANNUAL TOTAL DIRECT OUTPUT AND VALUE ADDED, MS

$246,987,552

Value Added  Output
CUMULATIVE TOTAL DIRECT OUTPUT AND VALUE ADDED, M$
TOTAL ANNUAL EMPLOYMENT AND LABOR INCOME

$85,135,837
1,486 employees

Employment

Labor Income

$M


Labor Income

$M

TOTAL STATE AND LOCAL TAXES: ANNUAL AND CUMULATIVE

Cumulative Total State & Local Taxes

State and Local Taxes

$28,802,640


$0 $1M $2M $3M $4M $5M $6M $7M $8M

$10M $20M $30M $40M $50M $60M

K