Impact Analysis - All Projects

Project	Jobs		Impact	
	Min	Max	Min	Max
Inola	**20,108**	**34,143**	**$3,019,866,919**	**$5,336,317,377**
Initial	7,260	12,993	$918,240,577	$1,606,877,176
Direct	5,239	8,555	$875,703,662	$1,568,836,466
Indirect	2,386	3,913	$330,341,646	$587,542,290
Induced	5,223	8,681	$895,581,035	$1,573,061,445
Robson	**8,303**	**19,024**	**$1,575,038,447**	**$3,615,701,057**
Initial	4,100	9,400	$465,566,439	$1,064,997,324
Direct	1,620	3,704	$485,339,065	$1,116,208,752
Indirect	747	1,712	$175,849,716	$404,501,876
Induced	1,836	4,208	$448,283,227	$1,029,993,105
Hangar	**93**	**121**	**$7,557,040**	**$9,882,283**
Initial	65	85	$4,322,742	$5,652,816
Direct	9	12	$1,145,022	$1,497,336
Indirect	4	5	$411,662	$538,327
Induced	15	19	$1,677,614	$2,193,803
Subtotal: Overall Industrial Parks an	**28,503**	**53,288**	**$4,602,462,407**	**$8,961,900,717**
Flight Corridor	**21**	**21**	**$1,531,129**	**$3,090,353**
Initial	10	10	$349,477	$1,397,906
Direct	5	5	$175,330	$701,319
Indirect	2	2	$62,141	$248,562
Induced	5	5	$185,641	$742,565
LaunchPad Research Center	**221**	**293**	**$101,188,926**	**$168,745,759**
A. Consortium	**43**	**43**	**$4,682,353**	**$7,901,470**
Initial	20	20	$2,118,040	$3,574,192
Direct	10	10	$1,062,605	$1,793,146
Indirect	3	3	$376,609	$635,528
Induced	10	10	$1,125,099	$1,898,604
B. Start-ups	**178**	**250**	**$96,506,573**	**$160,844,289**
Initial	103	145	$37,169,671	$61,949,451
Direct	29	41	$25,895,751	$43,159,585
Indirect	10	14	$10,259,707	$17,099,512
Induced	36	50	$23,181,445	$38,635,741
TOTAL	**28,745**	**53,602**	**$4,705,182,462**	**$9,133,736,829**
Initial	11,558	22,653	$1,427,766,945	$2,744,448,866
Direct	6,912	12,326	$1,389,321,434	$2,732,196,604
Indirect	3,152	5,649	$517,301,481	$1,010,566,096
Induced	7,124	12,974	$1,370,034,061	$2,646,525,263

We used a two-pronged approach to measuring impact

Multiplier-based economic impacts

Initial: What is the immediate effect of the district and its tenants on jobs and GDP?

Direct

What is the effect on suppliers of the initial industries impacted?

Indirect

How is the rest of the supply chain impacted by the direct changes?

Induced

What are the downstream effects on consumer, investment, and government expenditures?

Community impacts

Demographic job impacts

Who stands to gain most from the districts in terms of employment?

Job profiles

What is the quality and resiliency of the jobs being created to long-term economic trends?

Wealth creation

How will the community benefit?

The input-output model measures 4 types of economic impact

Types of Emsi multiplier effects[1]

	Impact	Description	Illustrative examples
	**Initial**	**Input being measured** (e.g., jobs created by anchors and tenants) Does not include ripple effects	Academic anchor builds a research lab on-site and **hires 50 scientists and lab assistants** **Immediate GDP impact** of lab and new R&D
	**Direct**	**Effect of new input purchases** by the initially changed industries (e.g., Tier 1 suppliers) **Supply chain impact** derived from inter-industry effects	**Additional jobs required to service increased demand** (e.g., power consumption, purchased beakers, etc.) Associated GDP impacts of these supply chain impacts
	**Indirect**	**Subsequent ripple effect in further supply chains** resulting from the direct change (e.g., Tier II Suppliers) Put differently, sales change in supply chains as a result of the direct change	**Beaker supplier for academic anchor hires more employees** to service demand to Tier I supplier Subsequent GDP impact for **raw materials suppliers to beaker company**
	**Induced[2]**	**Impact of the new earnings, investment, and government** created by the initial, direct, and indirect changes	**Consumer spending** from academic anchor, power grid, and beaker producer employees Power supplier and beaker manufacturer **invest to grow operations** given increased demand
	Total	**Total jobs and GDP impact project**	

1. Type Emsi multipliers are typically used for long-term regional scenarios, as they include induced effects and household spending, as well as additional amortized investment and government spending (mostly captured in induced effects)
2. 50% of the projected induced effects were removed to define the lower bound of all reported impacts

Source: Emsi

The jobs and GDP impact are calculated using EMSI input-output model multipliers for selected industries based on the projects. GDP is calculated using jobs to sales multipliers in addition to direct, indirect, and induced value multipliers. The induced multiplier has a 50% haircut to normalize effect.

Industries/Jobs by project below:

Project	Sub-cluster	NAICS	Industry
Hangar	MRO	811219	Other Electronic and Precision Equipment Repair and Maintenance
Robson and Inola	Assembly & manufacturing of components	336411	Aircraft Manufacturing
	Assembly & manufacturing of components	336412	Aircraft Engine and Engine Parts Manufacturing
	Assembly & manufacturing of components	336111	Automobile Manufacturing
	Assembly & manufacturing of components	336112	Light Truck and Utility Vehicle Manufacturing
	Assembly & manufacturing of components	336120	Heavy Duty Truck Manufacturing
	Assembly & manufacturing of components	336211	Motor Vehicle Body Manufacturing
	Assembly & manufacturing of components	336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing
	Assembly & manufacturing of components	336340	Motor Vehicle Brake System Manufacturing
	Assembly & manufacturing of components	336350	Motor Vehicle Transmission and Power Train Parts Manufacturing
	Assembly & manufacturing of components	336360	Motor Vehicle Seating and Interior Trim Manufacturing
	Assembly & manufacturing of components	336370	Motor Vehicle Metal Stamping
	Assembly & manufacturing of components	336413	Other Aircraft Parts and Auxiliary Equipment Manufacturing
	Assembly & manufacturing of components	336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing
	Assembly & manufacturing of components	336390	Other Motor Vehicle Parts Manufacturing
	Assembly & manufacturing of components	335911	Storage Battery Manufacturing
	Assembly & manufacturing of components	335912	Primary Battery Manufacturing
Inola	Raw material production	325199	All Other Basic Organic Chemical Manufacturing
	Raw material production	325211	Plastics Material and Resin Manufacturing
	Raw material production	331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel
	Raw material production	331221	Rolled Steel Shape Manufacturing
	Raw material production	332111	Iron and Steel Forging
	Raw material production	331410	Nonferrous Metal (except Aluminum) Smelting and Refining
	Raw material production	331491	Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding
	Raw material production	325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing

Robson	Data Centers	518210	Data Processing, Hosting, and Related Services
LaunchPad and Flight Corridor	R&D	541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotec
LaunchPad startup GDP impact calculation			We considered all the transportation industries (NAICS starting with 48) and took an avera

For workforce data:

Target occupation wage data pulled from Economic Modeling Specialists Intl. (EMSI) for SOC Codes occupations as follows: Certifications: 51-2028, 51-2031, 15-1256, 17-3024, 17-2011, Pathways: 15-1256, 17-2199, 51-2028, and Apprenticeships: 51-2031, 51-4081. Tulsa MSA demographic data is pulled from ESMI.

Workforce Program	**SOC**	**Description**
TT Certificate	51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers
TT Certificate	51-2031	Engine and Other Machine Assemblers
TCC SWE Cert	15-1256	Software Developers and Software Quality Assurance Analysts and Testers
TCC Elec Cert	17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians
Aero drafting	17-2011	Aerospace Engineers
TCC - OSU-Tulsa Pathway	15-1256	Software Developers and Software Quality Assurance Analysts and Testers
TCC - OSU-Tulsa Pathway	17-2199	Engineers, All Other
Apprenticeships	51-2028	Electrical, Electronic, and Electromechanical Assemblers, Except Coil Winders, Tapers, and Finishers
Apprenticeships	51-2031	Engine and Other Machine Assemblers
Apprenticeships	51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic