



The Economic Contribution of North Carolina's Supply Chain

An Analysis of Sectors and Emerging Industries

Contributors:

Institute for Transportation Research and Education (ITRE) at NC State University

Steve Bert, MA, AICP
Ryan Hassett, BS
Hannah Smith, MS
Kyra Stash, BS
Lisa Callister, BA
Rob Handfield, PhD
Daniel Findley, PE, PhD

Foreword Written by Dana Magliola, MBA of the North Carolina Chamber Foundation



NCDOT Research
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What is the Supply Chain?



Economic Contribution of North Carolina's Supply Chain

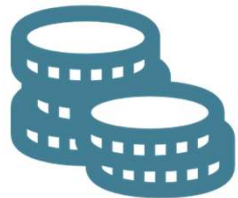
An evaluation of 14 leading sectors in the state

Supply Chain Sector	Jobs	Labor Income (\$B)	Economic Output (\$B)	Value Added (\$B)
Transportation, distribution, & logistics	494,500	\$26.4	\$77.3	\$41.2
Industrial machinery & transportation equipment	213,000	\$16.6	\$74.1	\$31.3
Chemical Manufacturing	137,000	\$10.6	\$56.1	\$20.7
Tobacco & Foodstuffs	105,000	\$6.7	\$47.5	\$24.2
Pharmaceuticals	89,700	\$8.0	\$40.4	\$19.7
Metal Products	76,700	\$5.4	\$24.3	\$9.2
Household Goods & Furniture	74,500	\$4.6	\$17.8	\$7.0
Textiles	69,000	\$3.9	\$17.1	\$5.9
Manufacturing Not Elsewhere Specified	58,800	\$4.3	\$16.7	\$7.0
Electronics	49,500	\$4.3	\$16.0	\$7.2
Wood Products	54,700	\$3.6	\$15.8	\$6.7
Communications & Computers	35,400	\$3.8	\$13.0	\$6.2
Building Materials	42,200	\$3.2	\$12.9	\$5.7
Paper Products	36,100	\$2.6	\$12.5	\$4.2

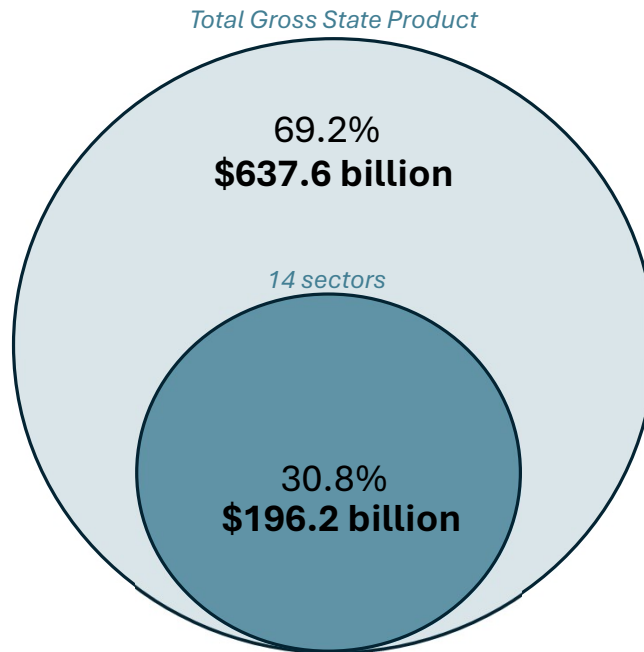
How do these 14 sectors stack up?



Jobs



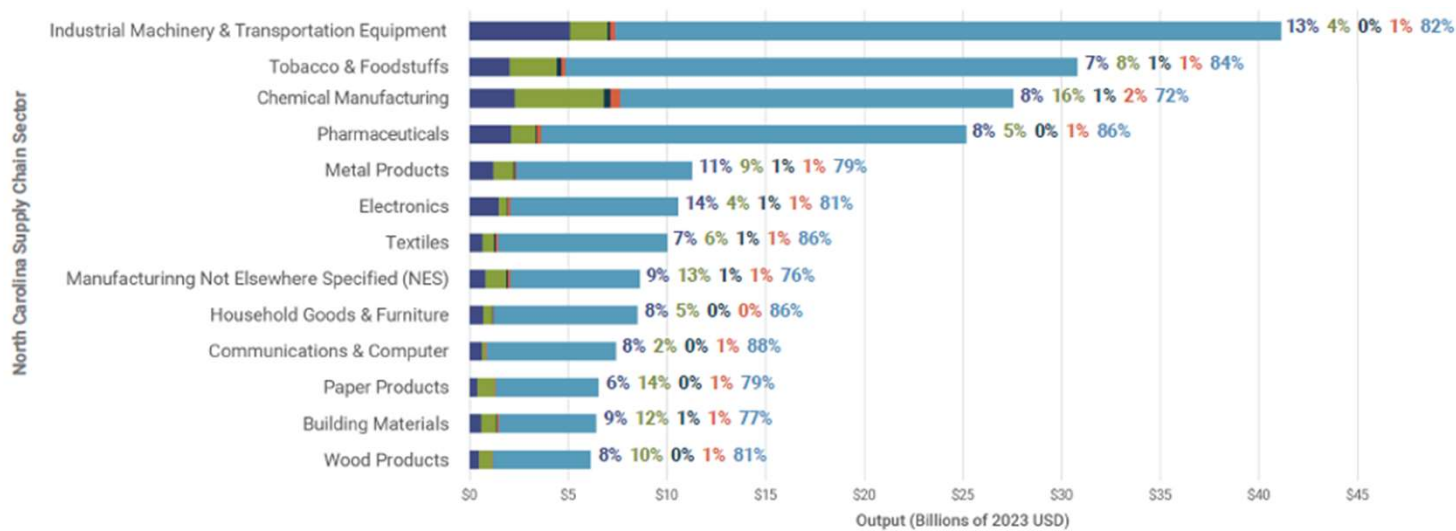
Gross State Product



- Ecuador Economy: \$118.8 billion
- Vietnamese Economy: \$429.7 billion

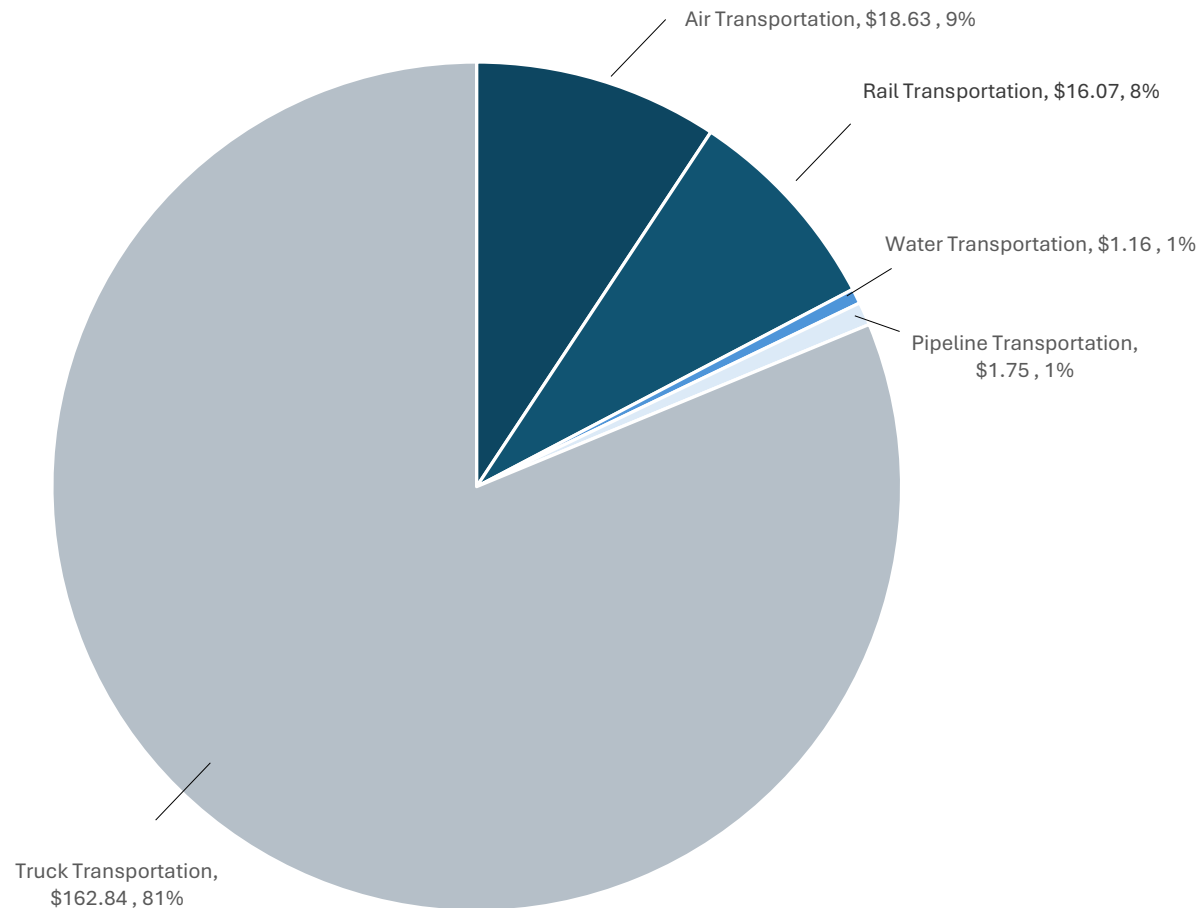
Importance of NC's Transportation Network

Transportation Industry Output Facilitated from Sector Production (Billions of 2023 USD)

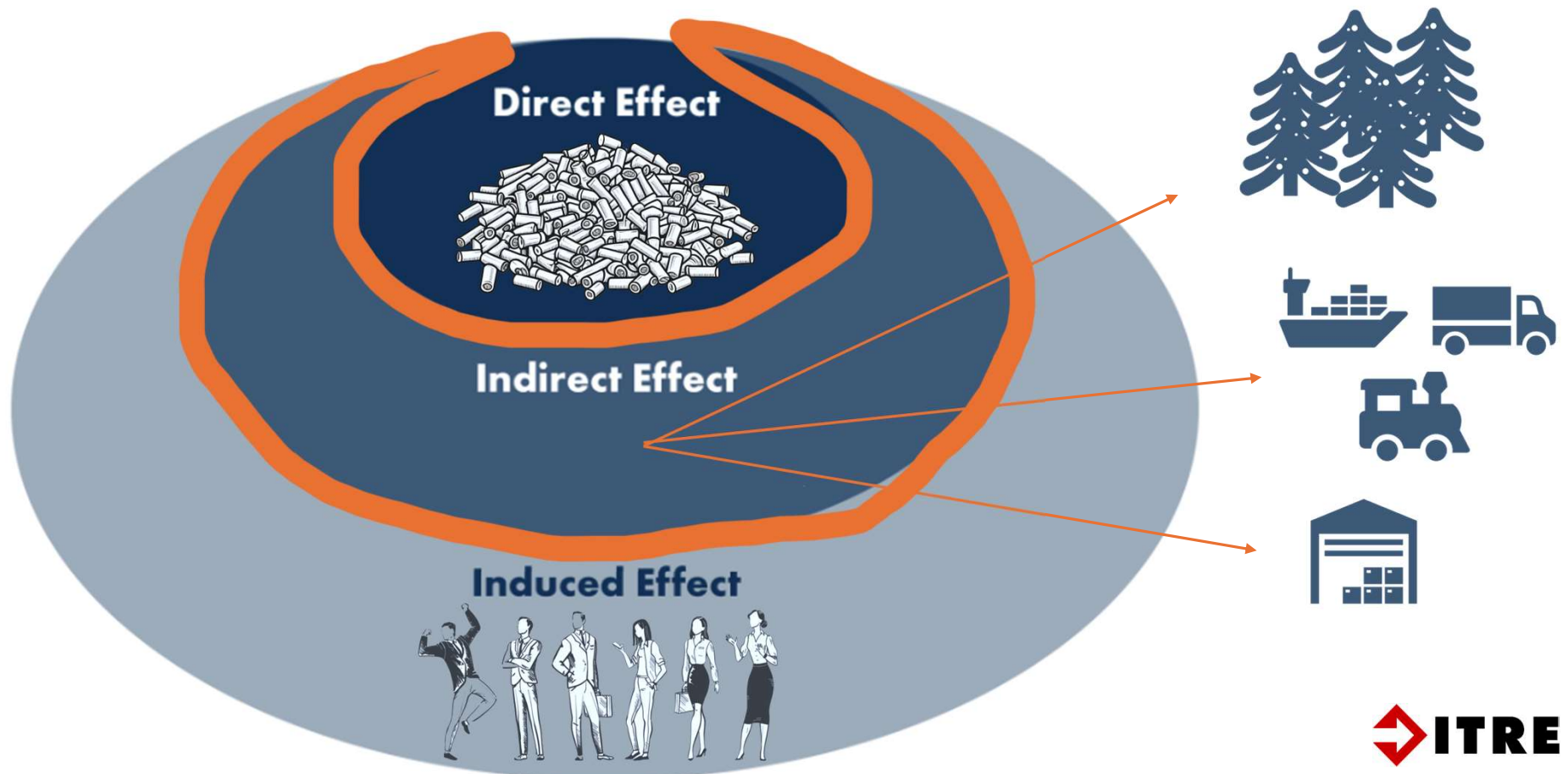


	Wood Products	Building Materials	Paper Products	Communications & Computer	Household Goods & Furniture	Manufacturing Not Elsewhere Specified (NES)	Textiles	Electronics	Metal Products	Pharmaceuticals	Chemical Manufacturing	Tobacco & Foodstuffs	Industrial Machinery & Transportation
Air Transportation	\$0.49	\$0.59	\$0.39	\$0.63	\$0.69	\$0.81	\$0.67	\$1.48	\$1.21	\$2.11	\$2.32	\$2.08	\$5.16
Rail Transportation	\$0.64	\$0.79	\$0.92	\$0.18	\$0.45	\$1.08	\$0.59	\$0.43	\$1.02	\$1.26	\$4.50	\$2.37	\$1.84
Water Transportation	\$0.01	\$0.05	\$0.01	\$0.02	\$0.02	\$0.08	\$0.07	\$0.07	\$0.06	\$0.04	\$0.34	\$0.23	\$0.16
Pipeline Transportation	\$0.05	\$0.07	\$0.04	\$0.04	\$0.04	\$0.09	\$0.13	\$0.09	\$0.08	\$0.20	\$0.46	\$0.21	\$0.25
Truck Transportation	\$4.95	\$4.94	\$5.17	\$6.58	\$7.33	\$6.56	\$8.59	\$8.53	\$8.93	\$21.59	\$19.97	\$25.93	\$33.77

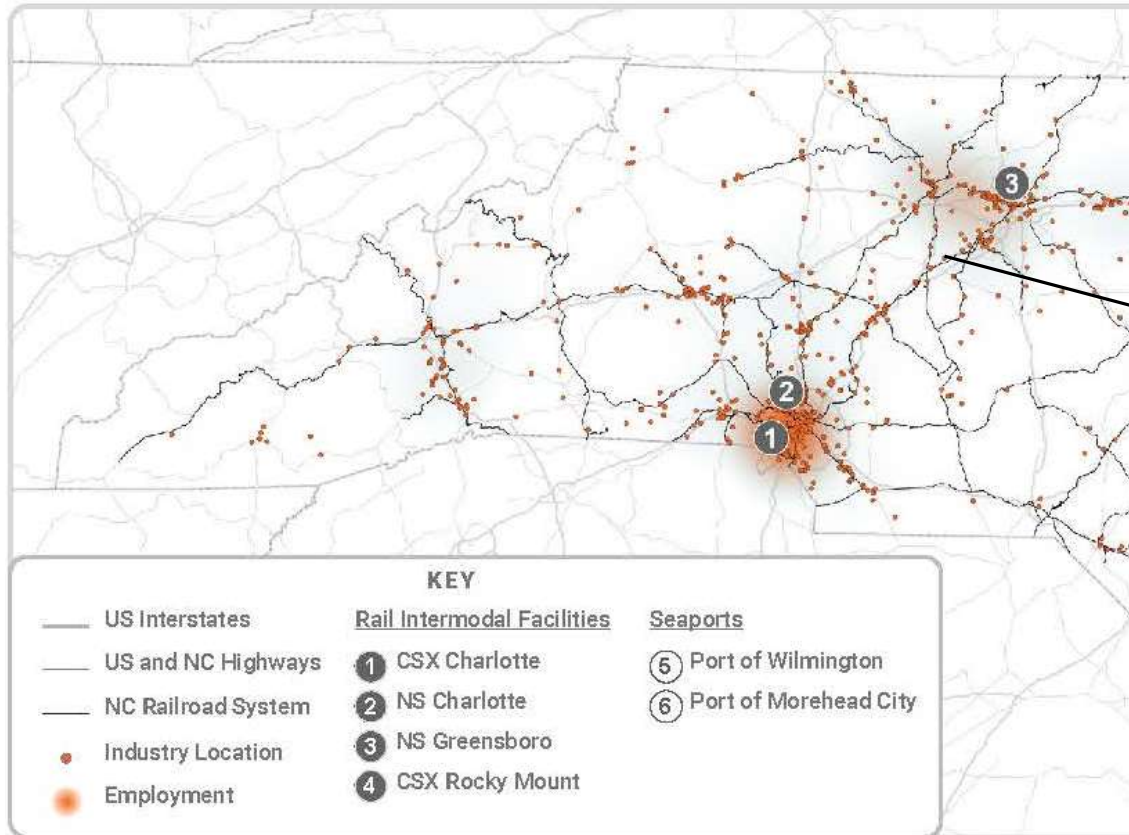
Importance of NC's Transportation Network



Wood Pellets Example



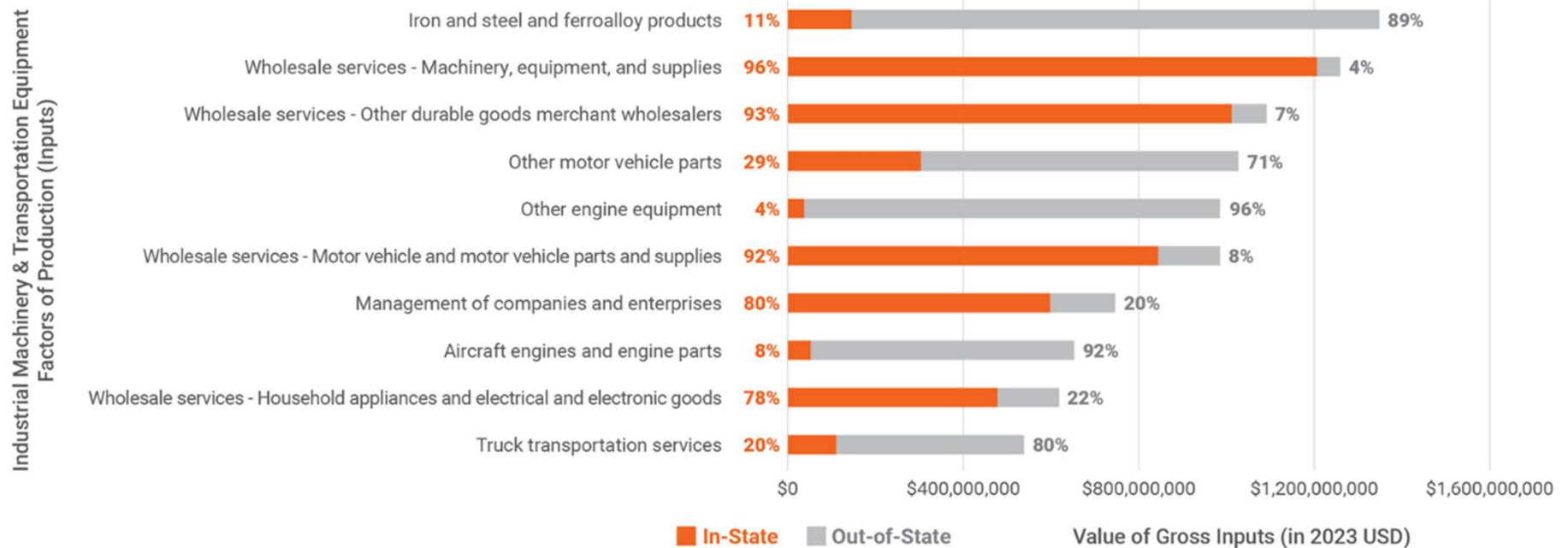
Industrial Machinery & Transport



- Siemens Mobility broke ground in Lexington, NC in August of 2023
- \$220 million train manufacturing facility expansion
- 500+ jobs by 2028
- Grow NC's economy by \$1.2 billion over 12 years

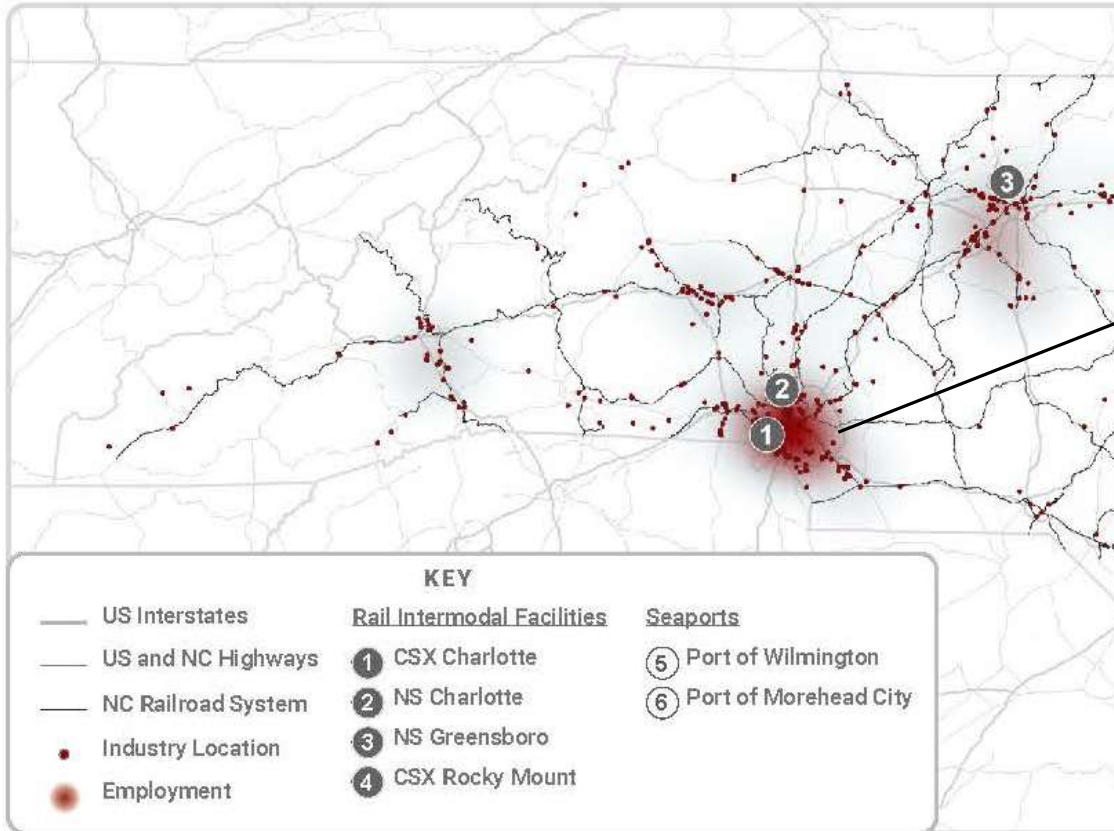
Factors of Production

Top Ten Factors of Production for the Industrial Machinery & Transportation Equipment Sector



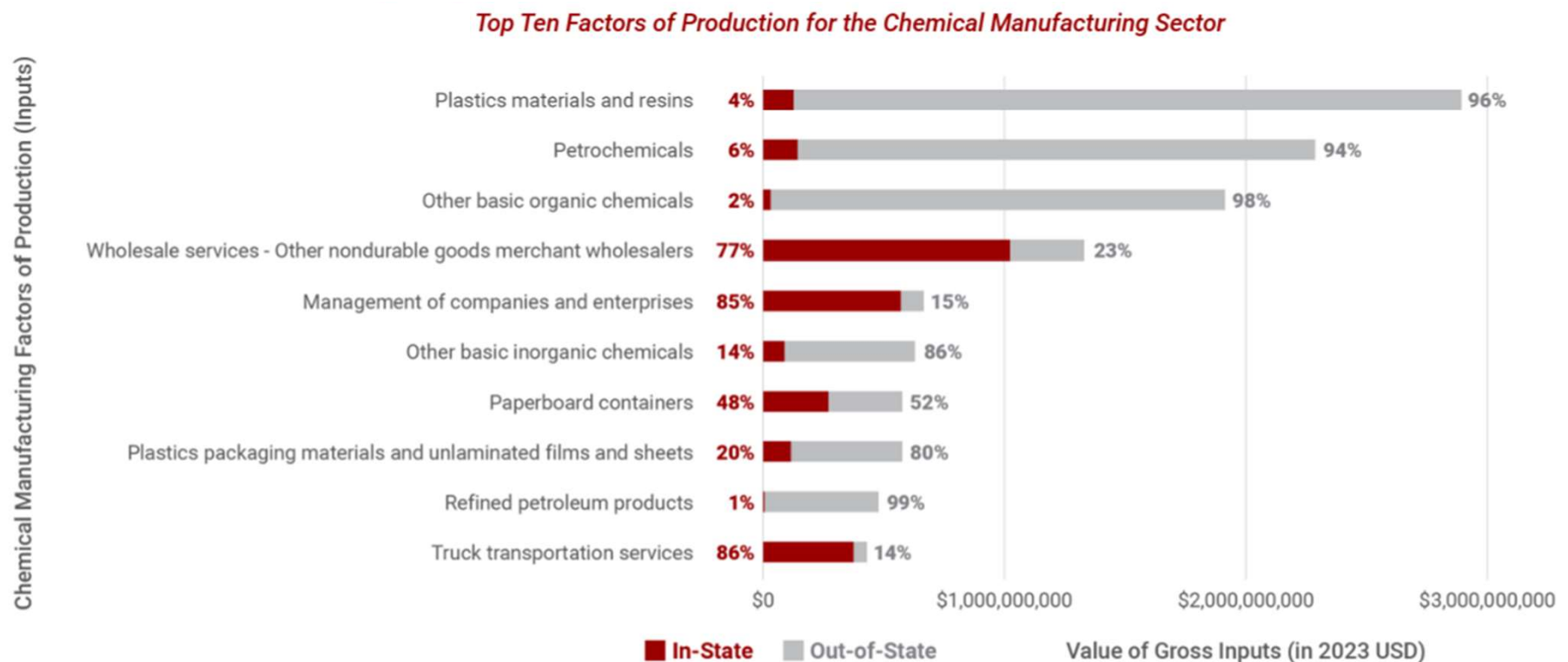
Source: ITRE IMPLAN Analysis.

Chemical Manufacturing



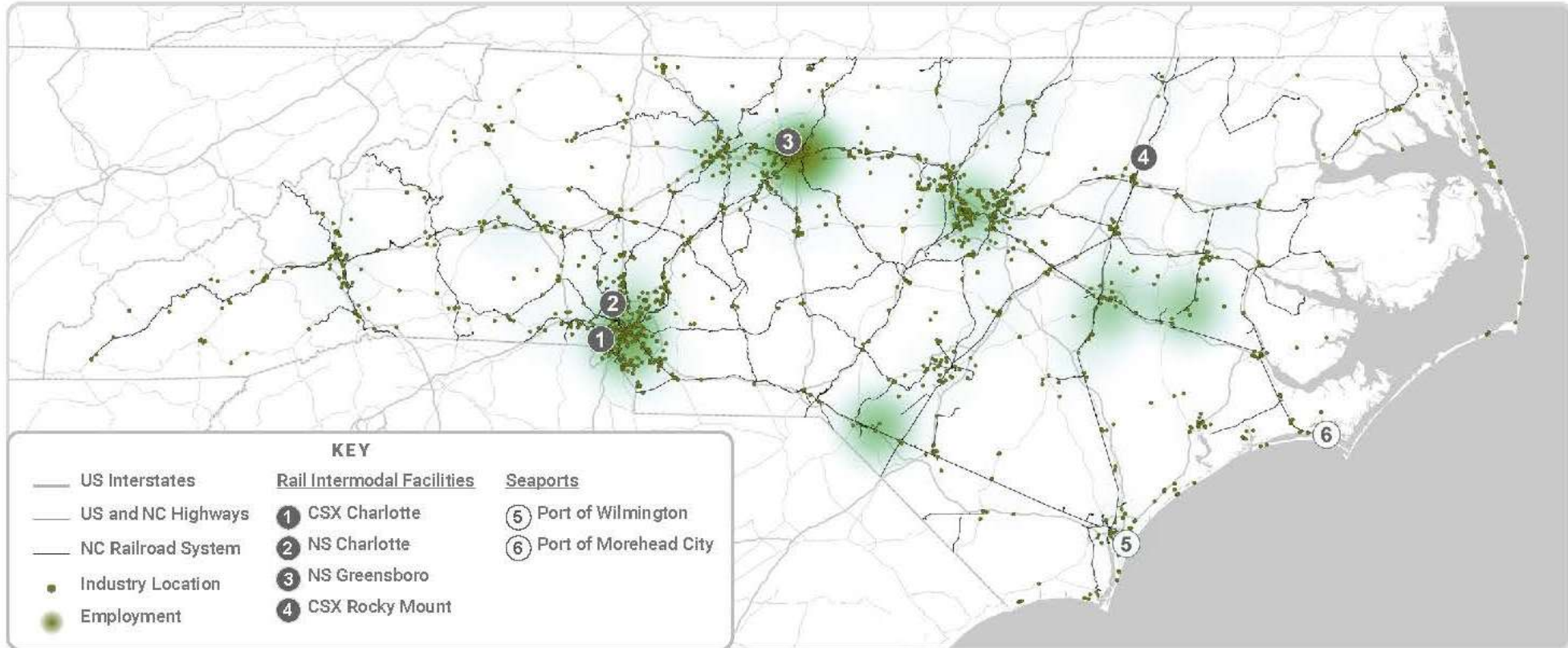
- 344 jobs in Charlotte, North Carolina
- Three main office buildings in the region
- Charlotte Technical Center is the headquarters for the Americas Dispersions business and is the regional site for the global Resins and Additives business

Factors of Production



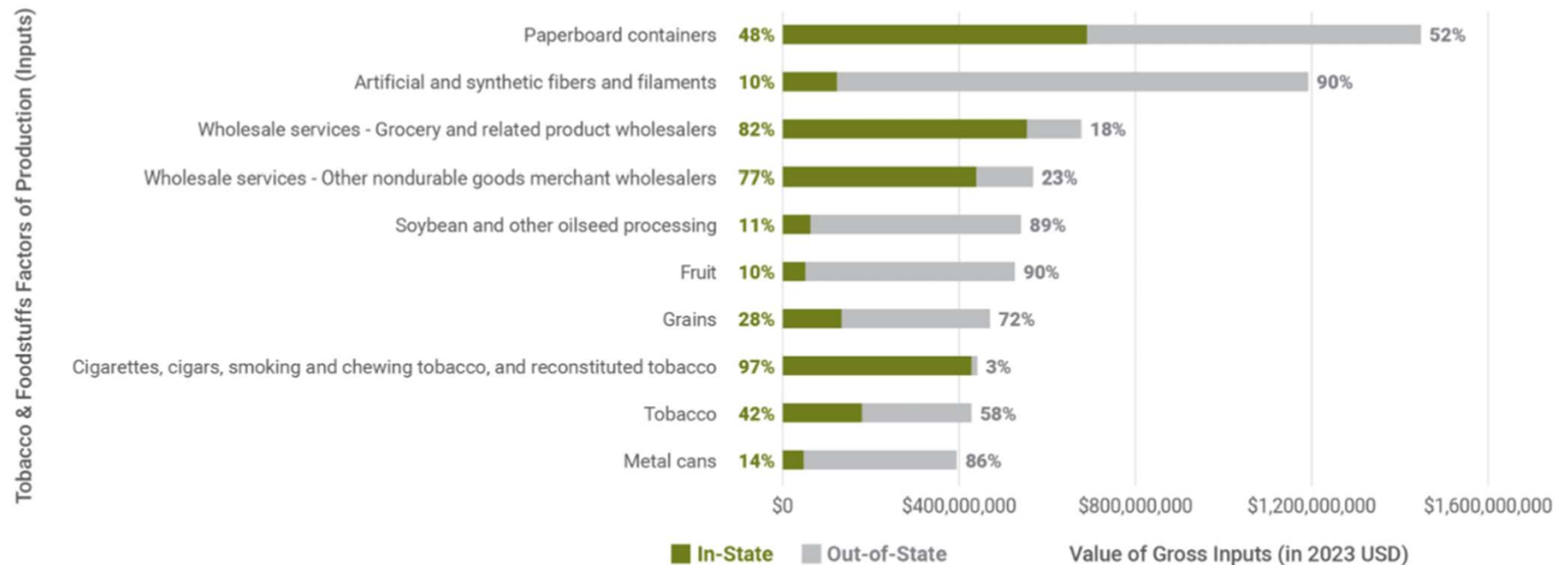
Source: ITRE IMPLAN Analysis.

Tobacco & Foodstuffs



Factors of Production

Top Ten Factors of Production for the Tobacco & Foodstuffs Sector

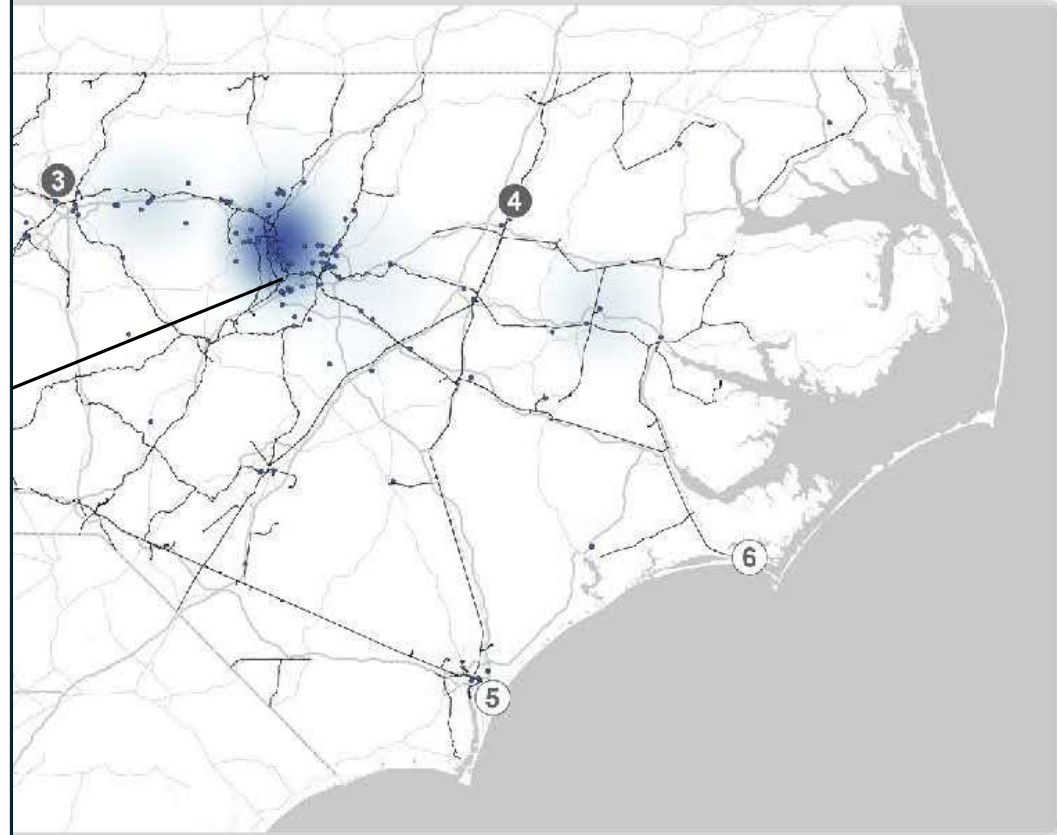


Source: ITRE IMPLAN Analysis.

& medical products

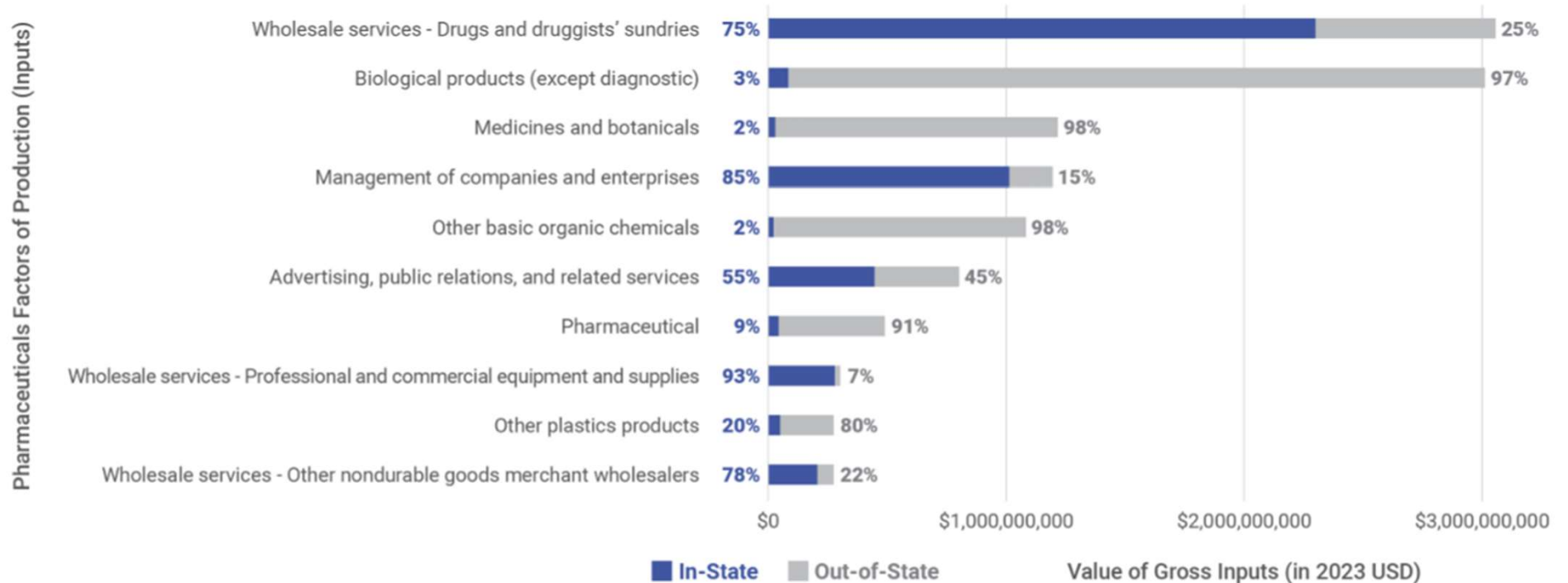


- Amgen is investing \$1.5 billion in two manufacturing facilities in Holly Springs
- Just completed a \$550 million drug manufacturing facility
- Amgen expects to employ over 700 workers in Holly Springs by 2032



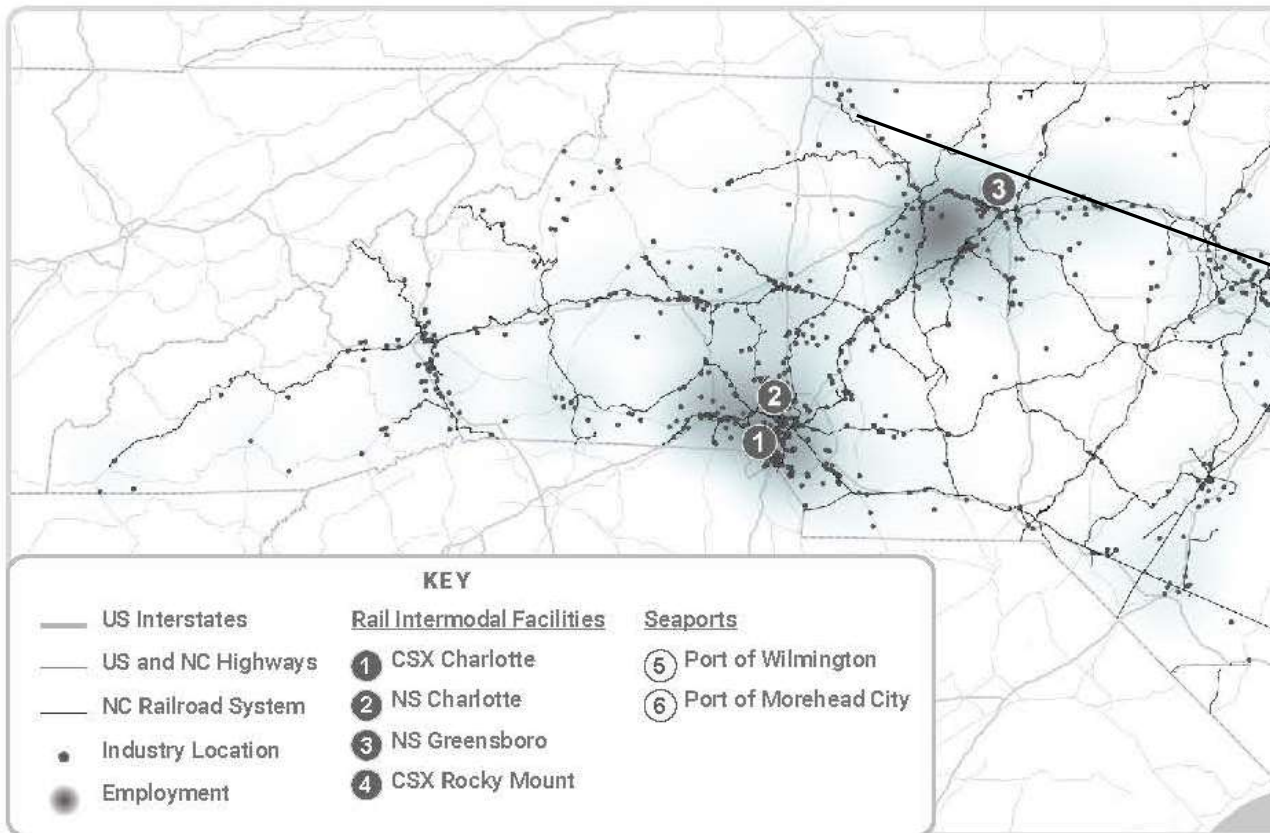
Factors of Production

Top Ten Factors of Production for the Pharmaceutical, Biologics, & Medical Products Sector



Source: ITRE IMPLAN Analysis.

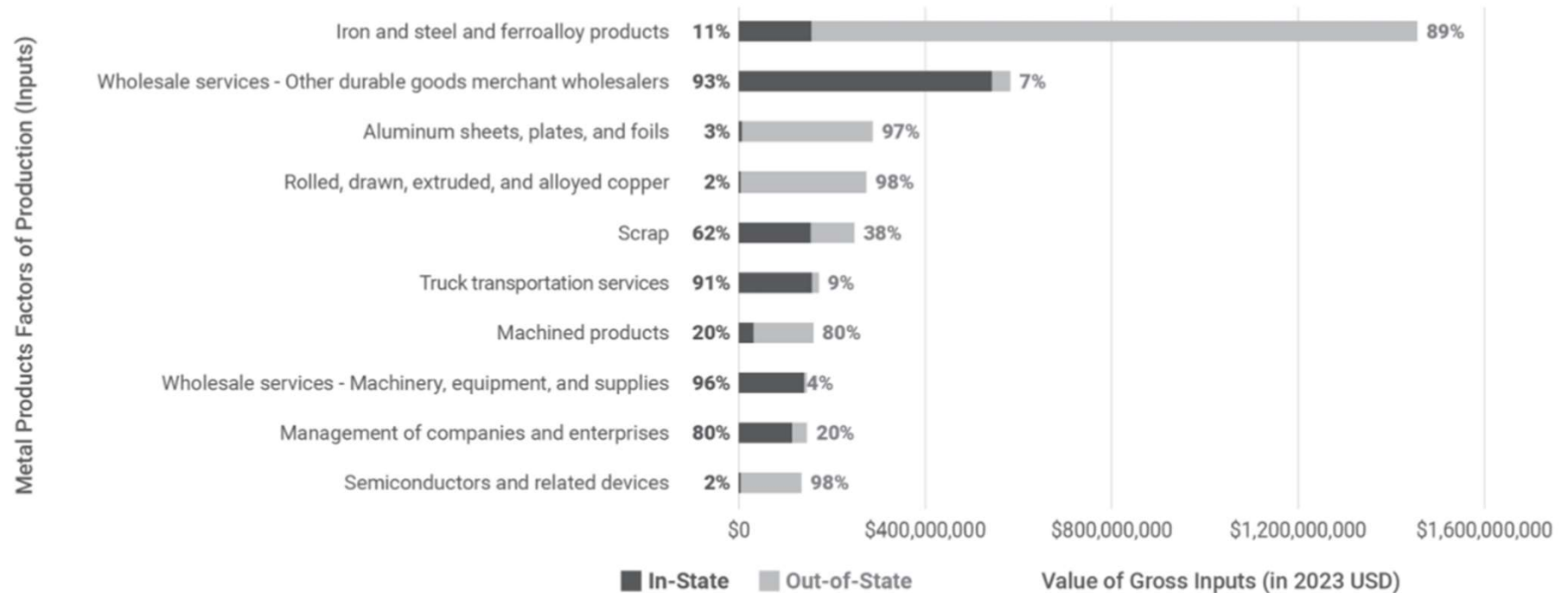
Metal Products



- 300+ employees
- Storage sheds & buildings
- Cargo & utility trailers
- Vehicle accessories

Factors of Production

Top Ten Factors of Production for the Metal Products Sector



Source: ITRE IMPLAN Analysis.

Emerging Industries & Growing Sectors

- Offshore Wind
- Semiconductors
- Aerospace Manufacturing

Offshore Wind

- RPSs in 38 states & DC
- Create favorable environment for offshore wind industry
- NC TOWERS
- Competitive advantage for NC with access to the coast and marine highway 95

Monopiles Being Transported by Barge

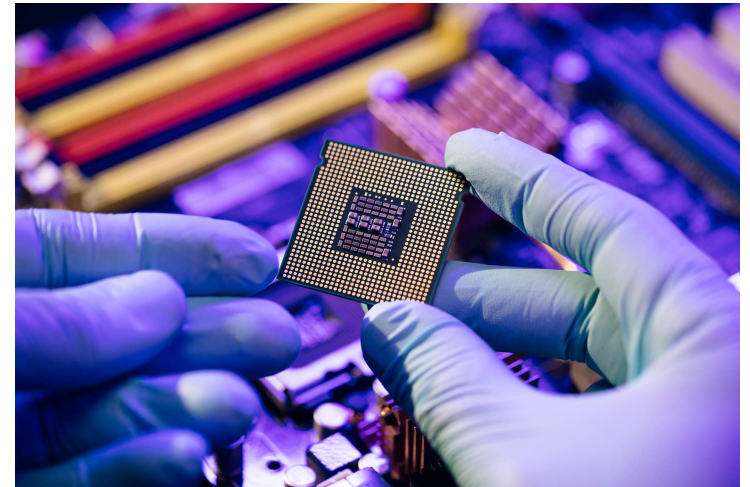


Nacelles (lower right) Staged for Barge Transport



Semiconductors

- Sibelco and the Quartz Corp
- An estimated 70-90% of the crucibles used worldwide are made from Spruce Pine quartz
- With increasing global demand, Sibelco announced last year that it would invest \$200 million to double capacity at Spruce Pine.



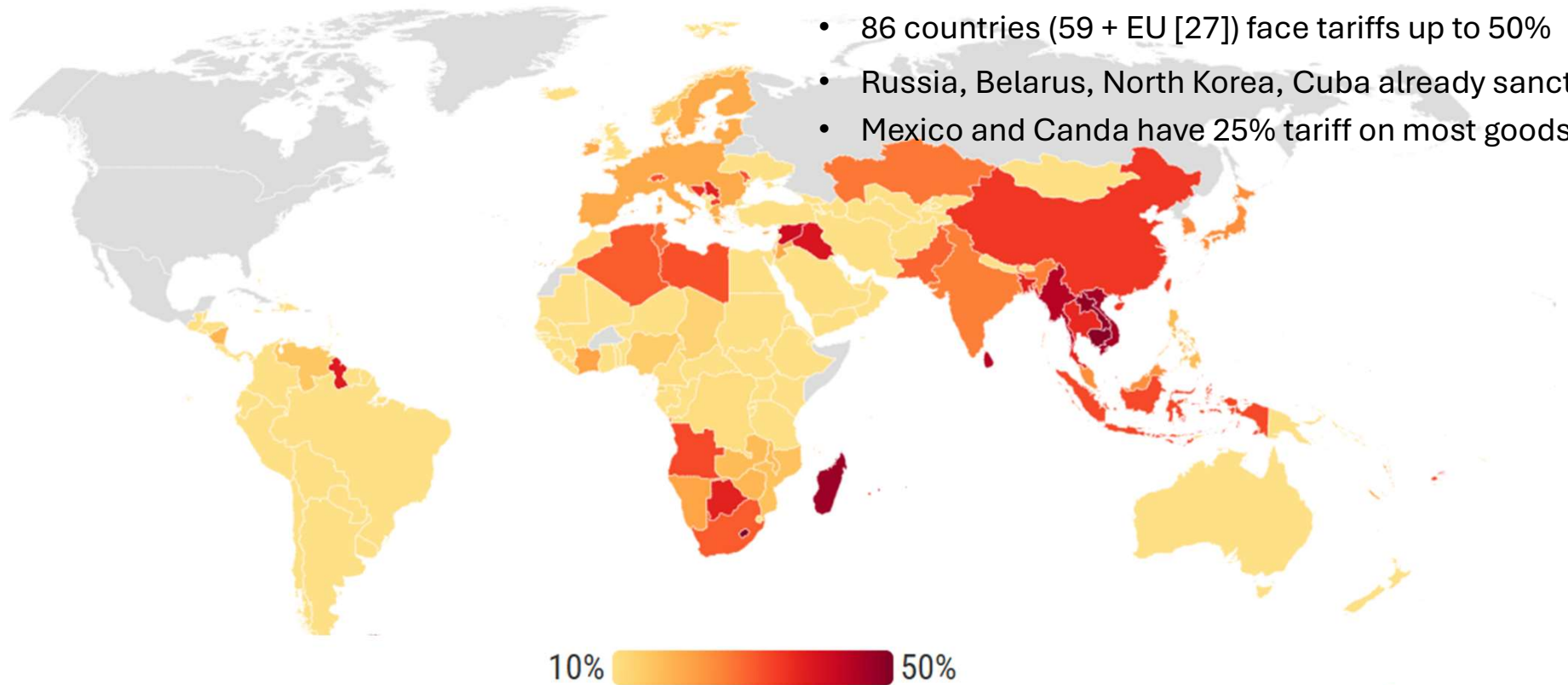
Aerospace Manufacturing

- NC ranks 3rd in aerospace manufacturing and attractiveness
- Aerospace manufacturing employs more than 5,600 workers
- More than 400 companies that are integral to the aerospace supply chain



Tariffs and the Supply Chain

- 123 countries and territories face base tariff of 10%
- 86 countries (59 + EU [27]) face tariffs up to 50%
- Russia, Belarus, North Korea, Cuba already sanctioned
- Mexico and Canada have 25% tariff on most goods



- Goods within HTSUS, Section 301, Section 232, and Section 201 are case-specific

Tariffs and the Supply Chain

Harmonized Tariff Schedule of the United States (HTSUS)

- Forms the baseline tariffs levied on goods
- **New tariffs** are applied in addition to these rates (surcharge)

Section 301

- Targets China for unfair trade practices

Section 232

- On steel and aluminum for national security reasons

Section 201

- On solar cells, panels and washing machines to safeguard domestic industries

Handbags, Effective Tax Rate Example

Product	HTSUS Duty Rate	New Tariff	Total Tariff Applied
Leather handbags	8.50%	10% (Typical Nation)	18.5% total
Leather handbags	8.50%	20% (EU)	28.5% total

Steel Bolts, Effective Tax Rate Example

Tariff Layer	Rate	Explanation
HTSUS	3.9%	Base duty for steel bolts (MFN)
Section 232	25%	For steel products
Section 301	15%	China-specific trade retaliation tariff
General Country Tariff	34%	This replaces the 10% and applies to all Chinese goods
Total Applied Tariff	~77.9%	If all are applied and stack (depends on product category)

Impacts on NC's Supply Chain

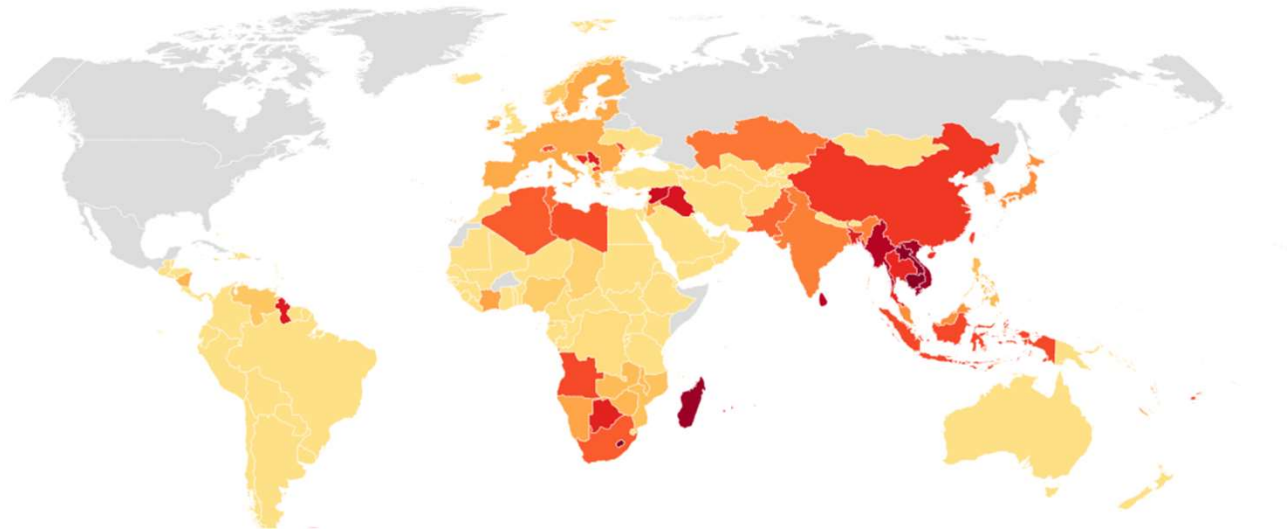
DEPENDS

- How long will the tariffs remain in place?
- Will any exemptions or new trade deals emerge?
- Which sectors or industries are likely to be most impacted?

Those with supply chains integrated with Asia, the Middle East, Africa, or Europe.

Those impacted by Sec 301, 232, and 201 tariffs

- Automotive Industry
- Furniture Manufacturing
- Tobacco and Livestock
- Agriculture
- Renewable Energy



Summary

1. Study Context & Overview
2. Economic Contribution of the Supply Chain
3. The Role of Transportation
4. NC's Leading Supply Chain Sectors
5. Emerging Industries & Growing Sectors
6. Tariffs and the Supply Chain

<https://connect.ncdot.gov/projects/research/pages/ProjDetails.aspx?ProjectID=2023-09>





go.ncsu.edu/NCSupplyChain

Questions?

Primary Contacts

- Steve Bert, stevebert@ncsu.edu, 919-263-4062
- Ryan Hassett, ryan_hassett@ncsu.edu, 919-515-9351
- Daniel Findley, Daniel_Findley@ncsu.edu, 919-515-8717



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