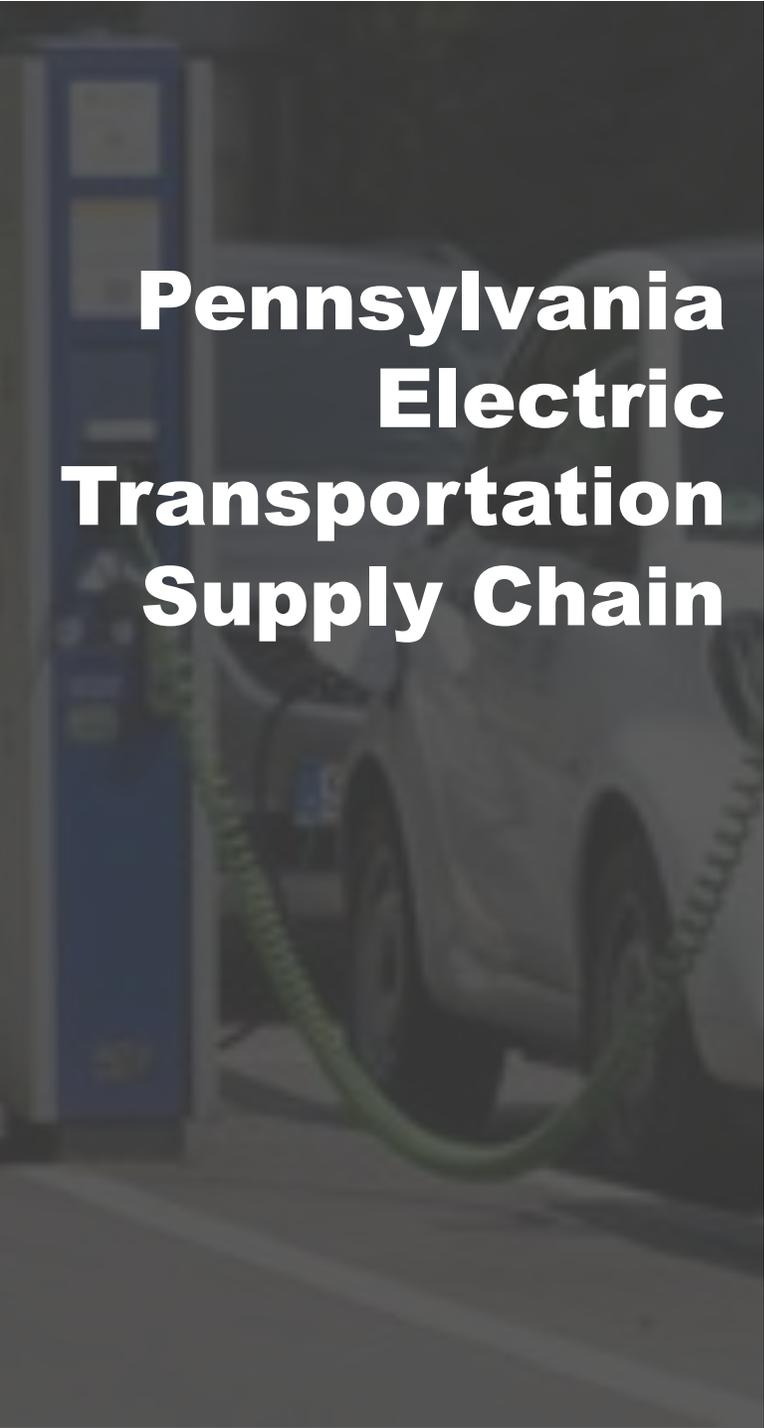


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Pennsylvania Electric Transportation Supply Chain





Pennsylvania Electric Transportation Supply Chain

Any firms involved in the **manufacturing, wholesale distribution, retail sale, installation, research and development, and maintenance** of electric transportation vehicles and equipment, component parts; or the infrastructure necessary for electric transportation

4,400 current workers

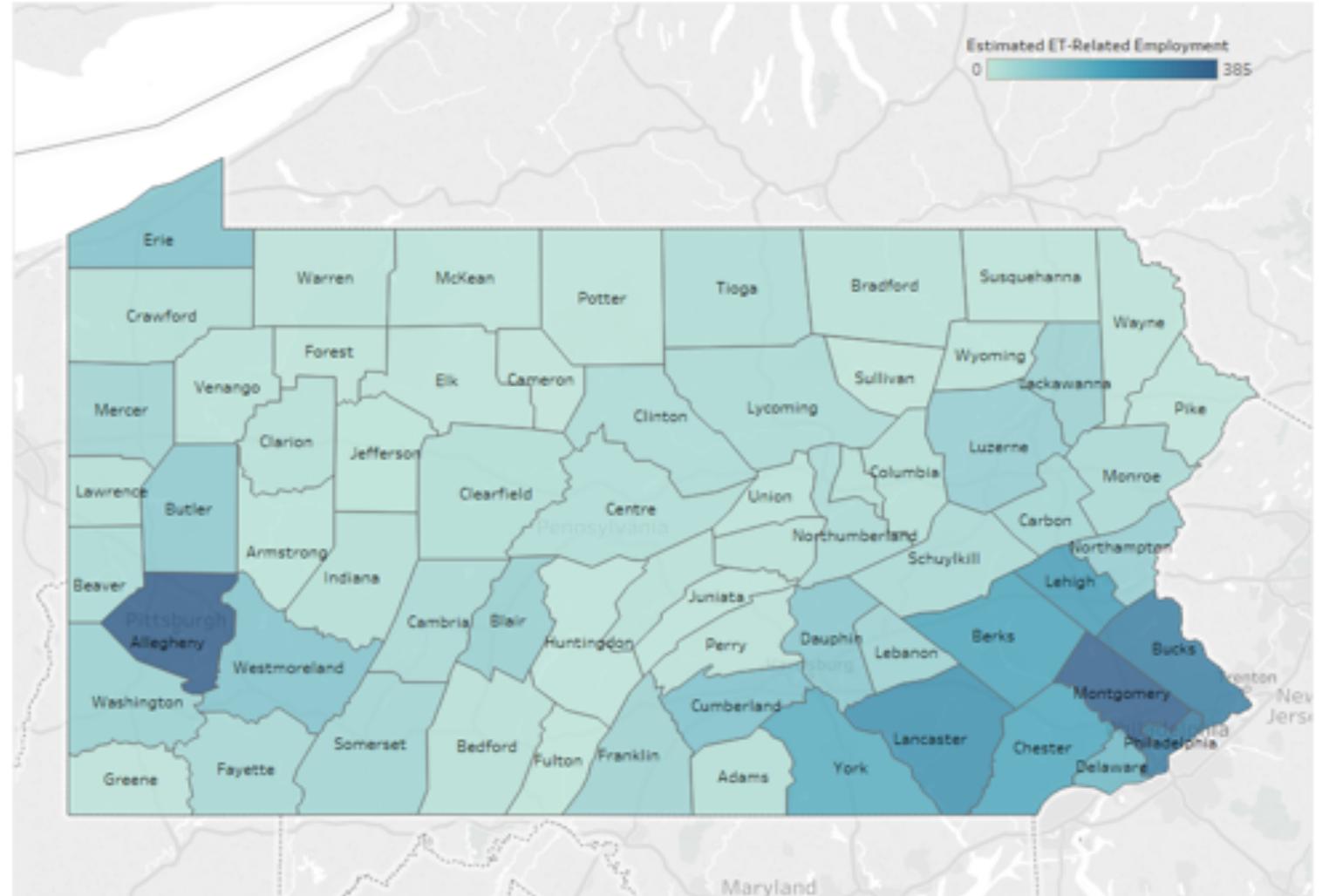
- Equivalent to the number of natural gas extraction workers in the state

ET-related Gross Regional Product (GRP) was estimated to be more than \$434 million in 2019

- Sporting Goods Stores: \$436 million

Nearly 4,400 jobs across 65 Counties

ET-Related Employment (2019)



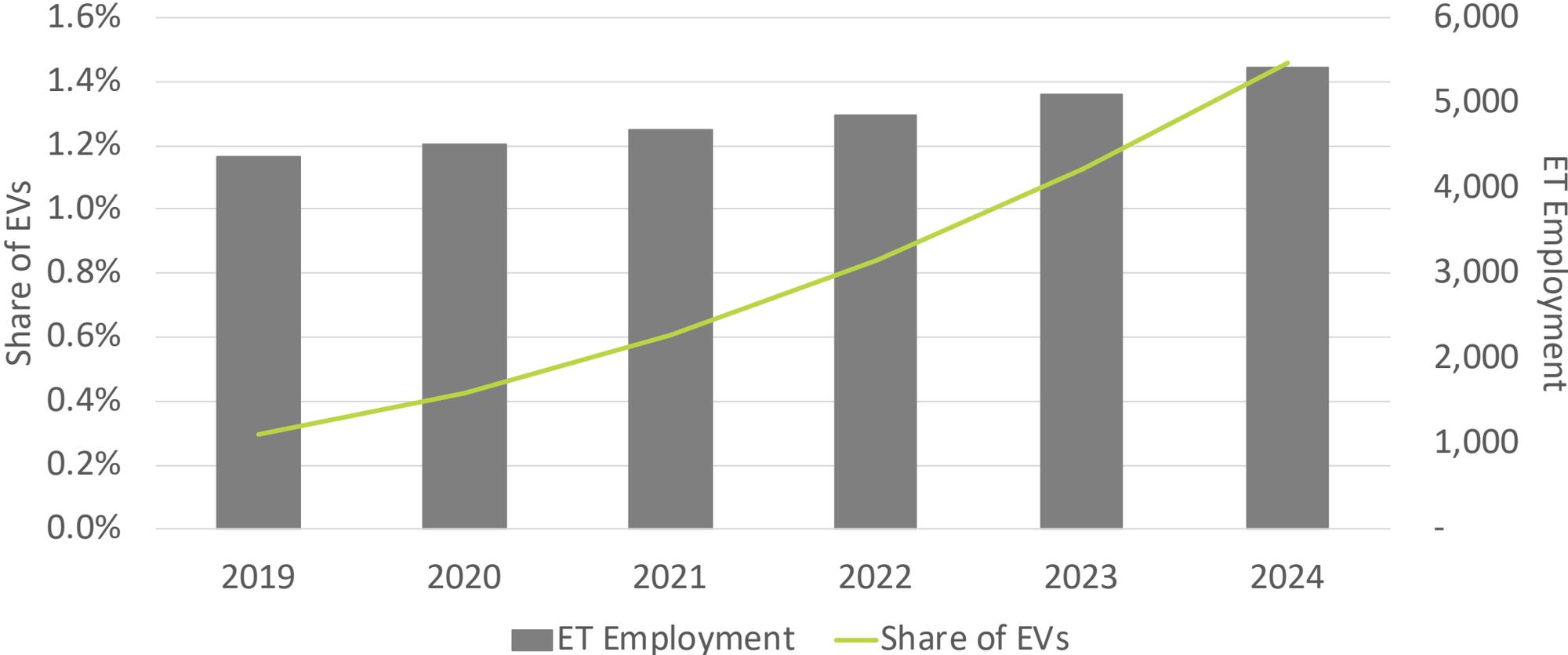
ET-Related Employment by Value Chain

Repair and Maintenance roles account for the largest employment share

Manufacturing accounts for nearly 1,000 jobs, equating to about a fifth of ET employment

	EMPLOYMENT	SHARE OF EMPLOYMENT
REPAIR AND MAINTENANCE	1,842	42%
MANUFACTURING	936	21%
WHOLESALE TRADE AND DISTRIBUTION	801	18%
RETAIL TRADE	580	13%
PROFESSIONAL SERVICES	220	5%
CONSTRUCTION	58	1%

Pennsylvania Electric Transportation Workforce



Occupational Analysis

ET-Related Occupations

Key Occupations	2019 Jobs	Projected 2024 ET Jobs	Average Hourly Earnings
Automotive Service Technicians and Mechanics (including ASE certified technicians and mechanics)	590	718	\$18.72
Assemblers and Fabricators, All Other, Including Team Assemblers	265	332	\$15.72
Automotive Body and Related Repairers	259	306	\$20.72
First-Line Supervisors of Mechanics, Installers, and Repairers	99	116	\$32.37
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	96	106	\$29.52
Welders, Cutters, Solderers, and Brazers	62	77	\$19.59
Parts Salespersons	56	62	\$14.91
First-Line Supervisors of Production and Operating Workers	42	53	\$29.00

Adjacent Industry Analysis



Why Adjacent Industries and Occupations?

Adjacent Industries are **not** currently conducting ET-related work.

Adjacent Industries and Occupations present opportunities for job creation in Pennsylvania because the identified Adjacent Manufacturing Industries are primarily in electric component manufacturing and are producing parts for non-transportation industries.

As a result, increased demand for ET will create new manufacturing jobs in net, rather than displacing existing traditional transportation roles.



Adjacent Industry Analysis

Immediate Adjacent Manufacturing Industries

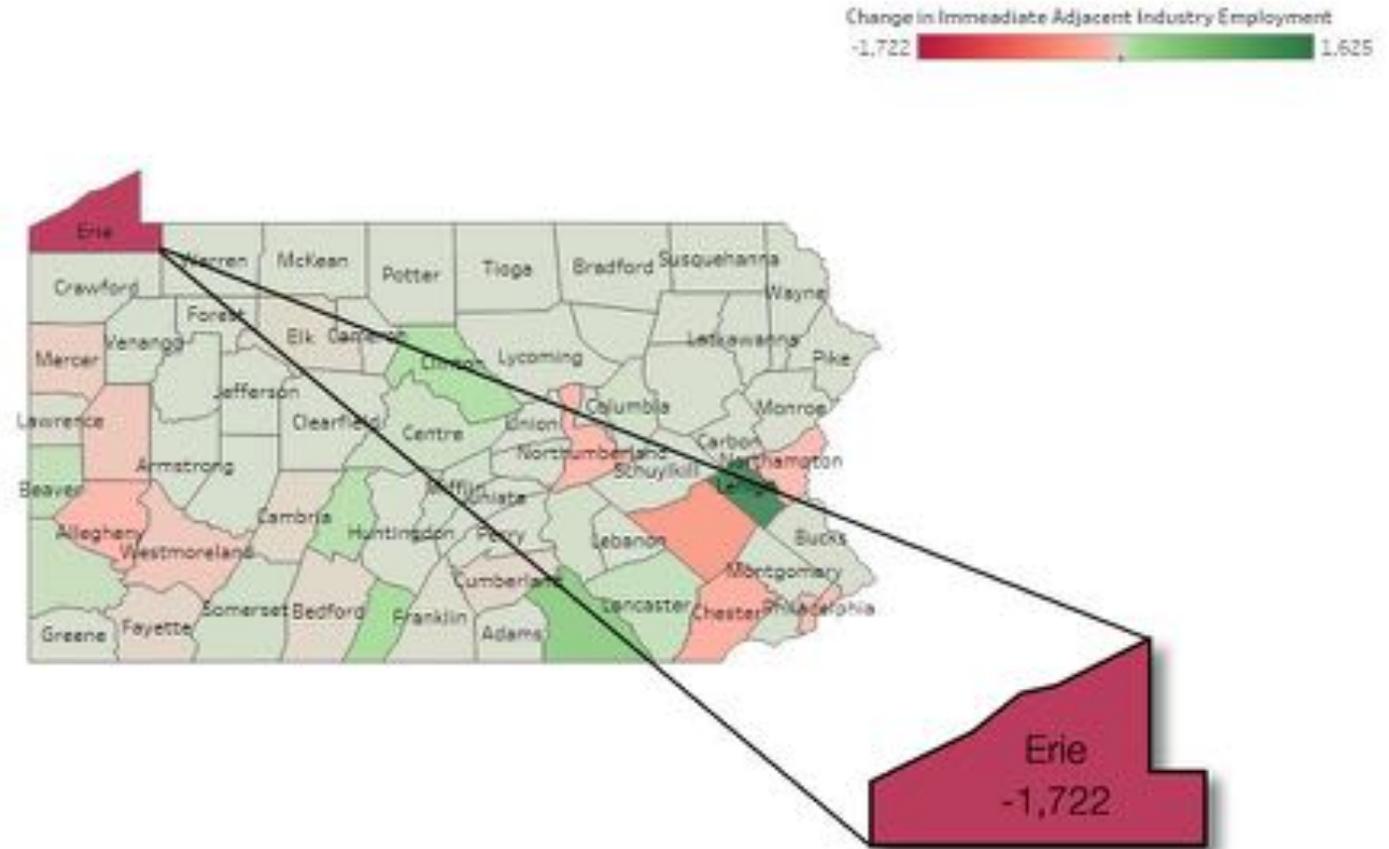
- Includes the industries most closely related to and share a federal industry classification code (NAICS) with ET manufacturing companies
- Transition to ET-related work would be most rapid for these industries
- Examples include
 - Automobile Manufacturing
 - Motor and Generator Manufacturing
 - Other Electronic Component Manufacturing

17,500 jobs currently not involved in ET

ET could be a lifeline for the net 700 jobs eliminated between 2014-2019

Adjacent Industry Analysis

Change in Immediate Adjacent Manufacturing Industries (2014-2019)



351 companies in Immediate Adjacent Manufacturing Industries that could be immediately retooled and retrofitted to supply the ET market

Includes industries that are in the same progression of the supply chain and are classified under the same general industry classifications

Transition to ET work would take more investment and time than Immediate Adjacent Manufacturing Industries

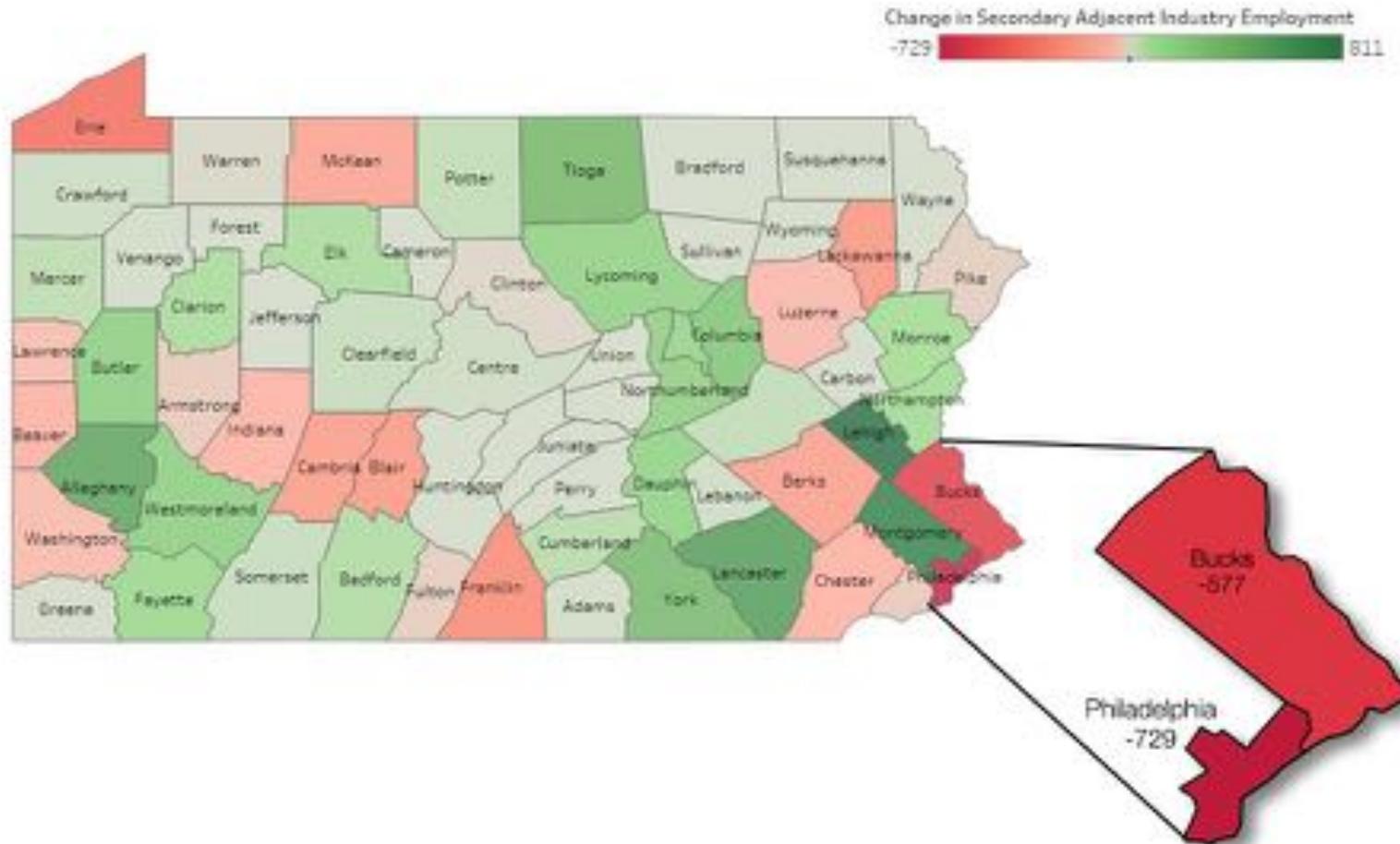
Examples include

- Relay and Industrial Control Manufacturing
- Aircraft Parts and Auxiliary Equipment Manufacturing

**Adjacent
Industry Analysis**

**Secondary
Adjacent
Manufacturing
Industries**

Nearly 35,800 jobs currently not involved in ET



Adjacent Industry Analysis

Change in Secondary Adjacent Manufacturing Industries (2014-2019)

190 firms in Secondary Adjacent Manufacturing Industries could transition to ET activity with slightly more time and investment



**Adjacent
Industry Analysis**

**Support
Industries**

Includes industries that are upstream of the identified Immediate Adjacent Manufacturing Industries, typically involving raw materials extraction and manufacturing

Changes to operations required for growth in the ET market are likely to be minimal

Examples include

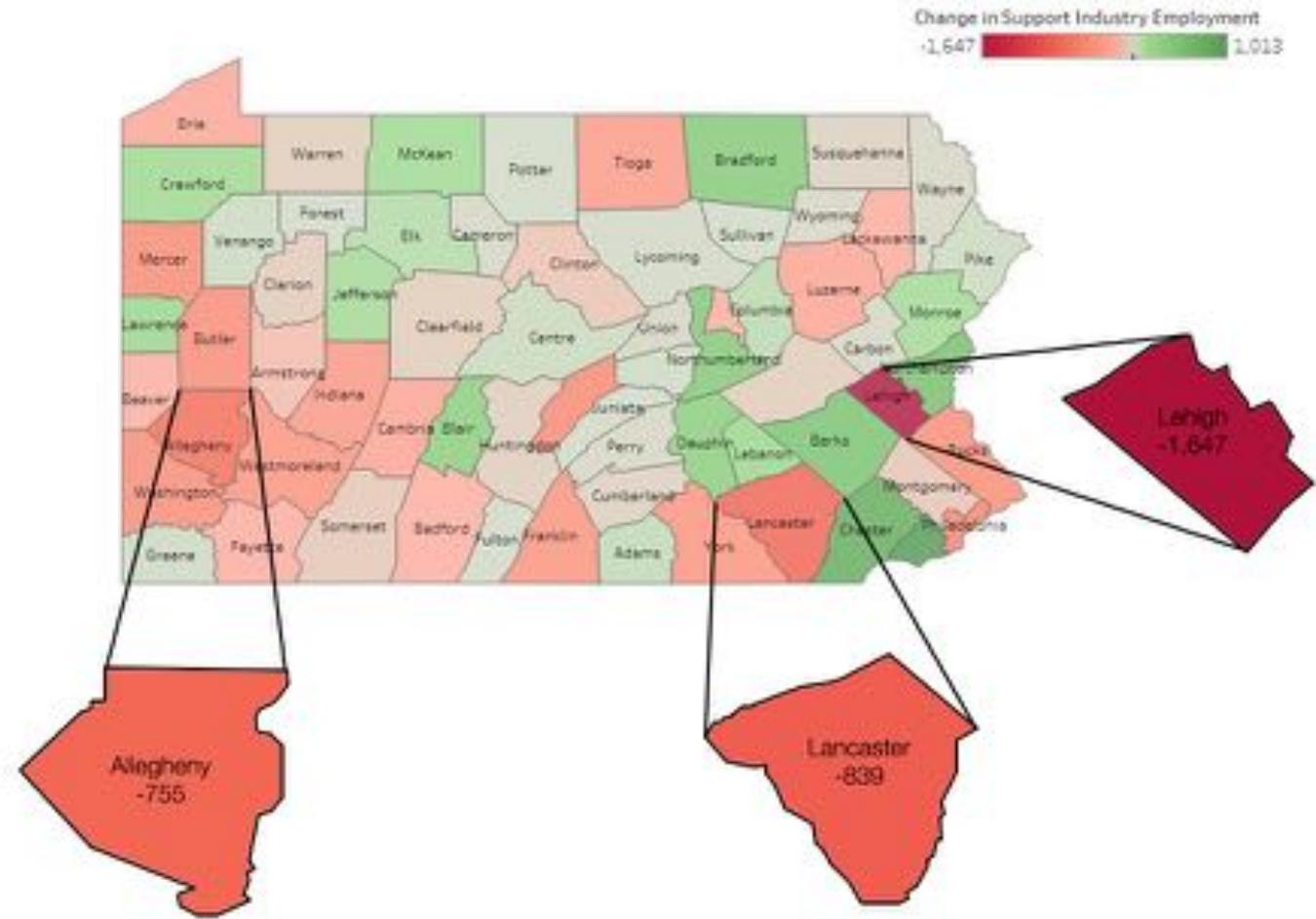
- Plate Work Manufacturing
- Iron and Steel Mills and Ferroalloy Manufacturing
- Machine Shops

201,800 jobs largely not involved in ET

ET could be a lifeline for the net 5,100 jobs eliminated between 2014-2019

**Adjacent Industry
Analysis**

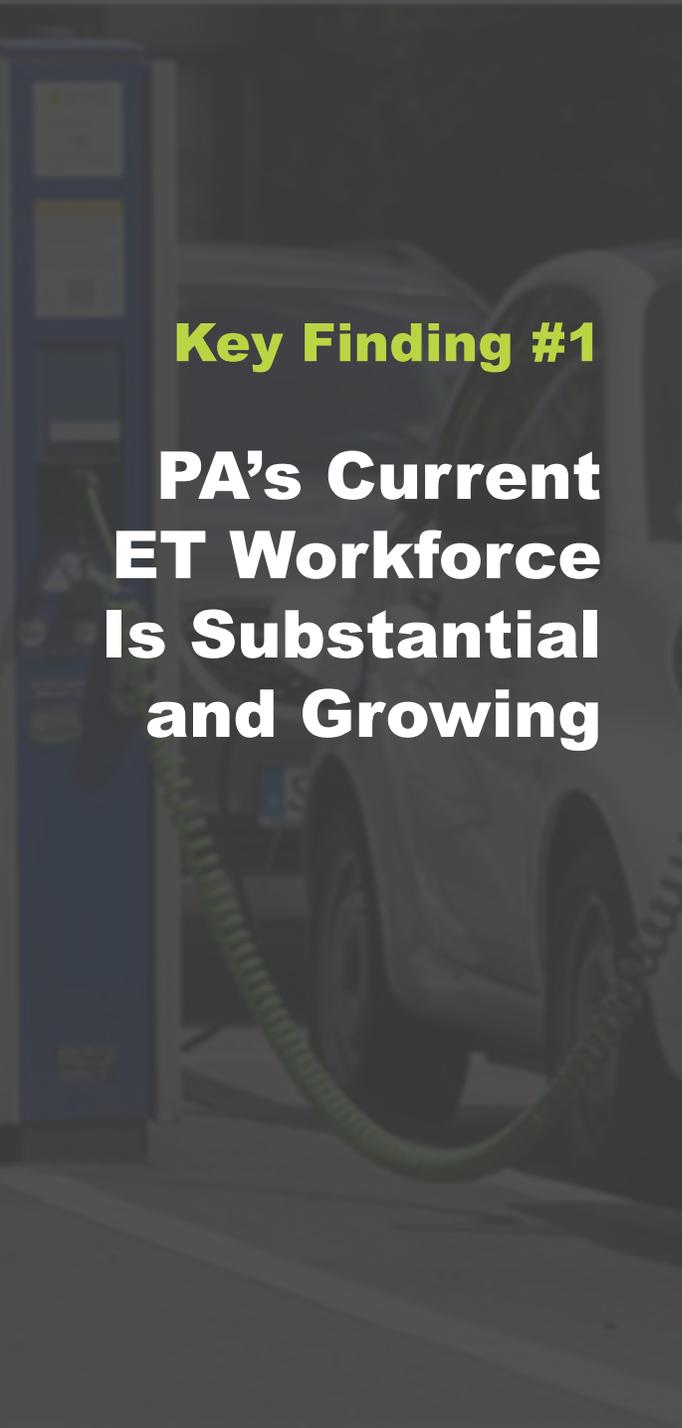
**Change in
Support
Industries
(2014-2019)**



2,616 firms in Support Industries that could transition to supporting ET activity



Key Findings and Conclusions



Key Finding #1

PA's Current ET Workforce Is Substantial and Growing

The Electric Transportation (ET) sector employment in Pennsylvania spans:

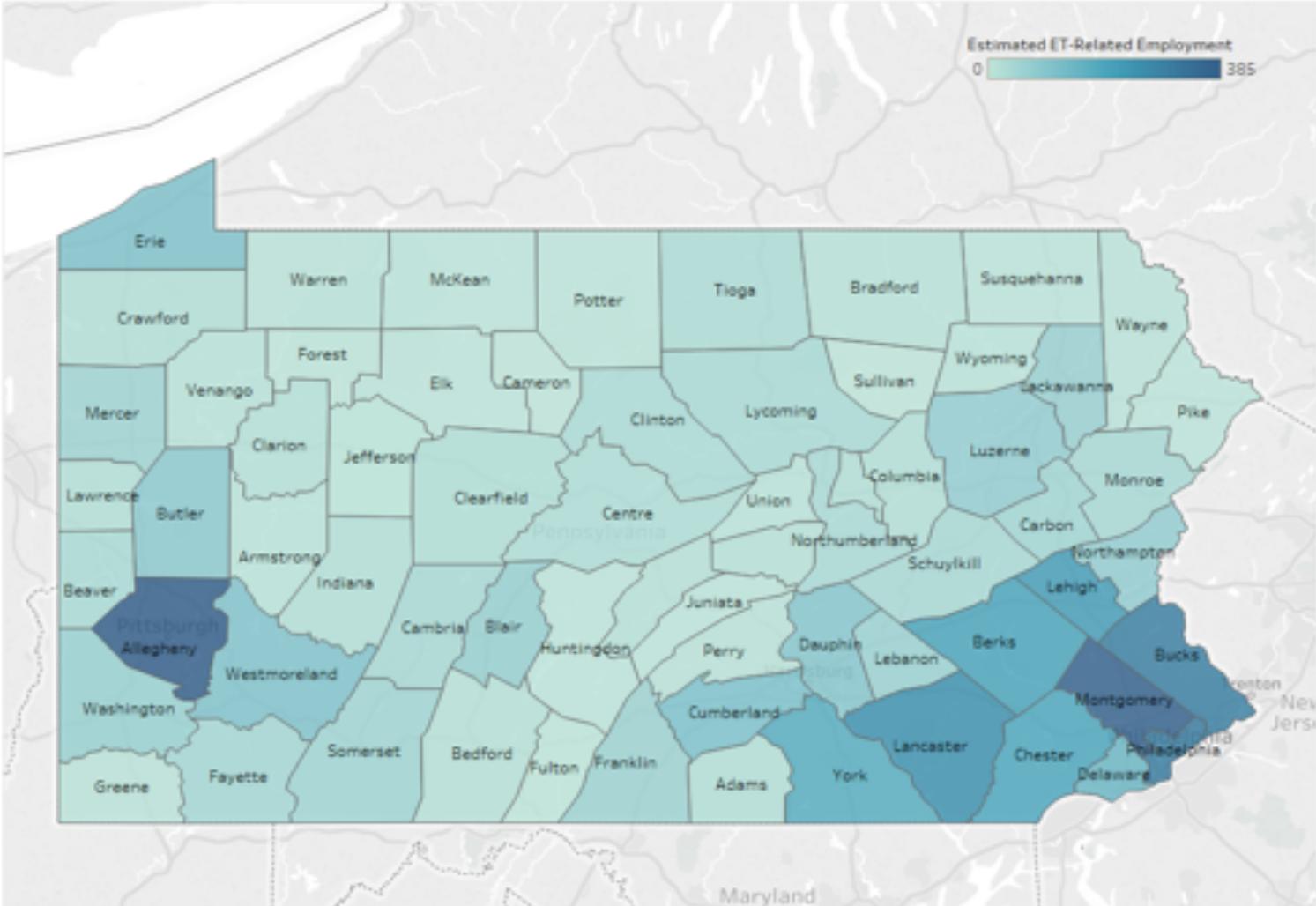
- 4,400 jobs
- 151 companies and 177 locations
- 65 different counties

ET related jobs are projected to increase by 24% between 2019 and 2024, while statewide employment is projected to grow 3% during this time

Growth in ET could support and grow 54 Adjacent Industries and 422,300 Adjacent Occupations around the state

Key Finding #2

ET Growth Can Combat Declines and Support Growth in Adjacent Industries and Occupations





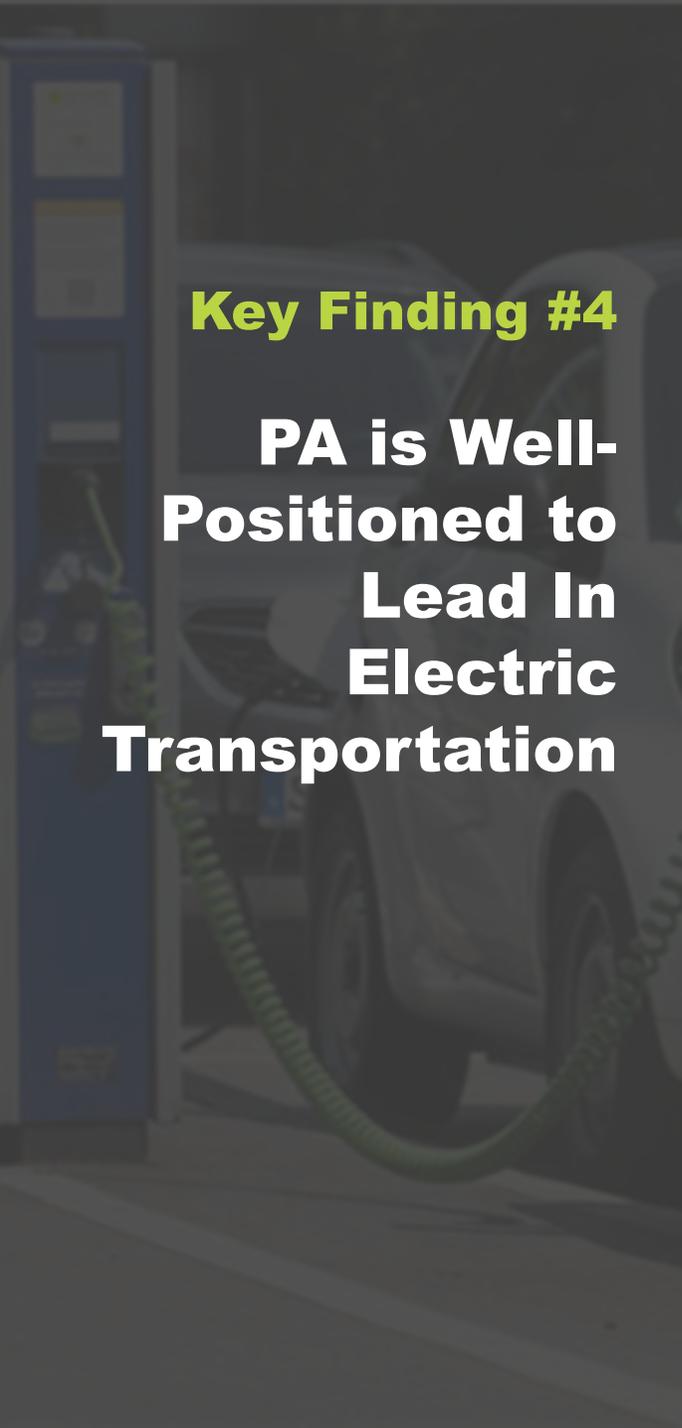
Key Finding #3

Vulnerable Manufacturing Occupations Can Transition to ET

More than a fifth of current ET workers are involved in manufacturing

ET could provide an alternative for Adjacent Occupations that have seen recent statewide declines in employment include:

- Assemblers and Fabricators
- Cutting, Punching, and Press Machine Setters, Operators, and Tenders



Key Finding #4

**PA is Well-
Positioned to
Lead In
Electric
Transportation**

351 Immediate Adjacent Manufacturing companies that could be immediately retooled and retrofitted to supply the ET market

An additional 190 Secondary Adjacent Manufacturing firms in Pennsylvania that could transition to ET activity with only slightly more time and investment

Potential to help support and increase demand for goods and services from 2,616 Support Industry businesses

Questions?

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