Targeted and In-Demand Industries and Occupations:

ALIGNING ECONOMIC, BUSINESS AND JOB SEEKER NEEDS

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PREPARED BY: PINAL COUNTY ECONOMIC AND WORKFORCE DEVELOPMENT

ARIZONA@WORK PINAL COUNTY

135 N PINAL STREET, FLORENCE, AZ 85132

Pinal County Workforce Development

- GOAL:
  - "The Pinal County Workforce Development Board (PCWDB) is responsible for developing a strategy based on the six purposes of WIOA to continuously improve and strengthen the ARIZONA@WORK system through innovation in, and alignment and improvement of, employment, training, and education programs to promote economic growth."

- Strategy: Businesses drive economic growth; starts with business.

Economic Development Strategy: Industry Clusters

- The Strategy of Economic Development is the creation and retention of jobs through targeted recruitment of regional Business Clusters aka Industry Clusters.

- "A business or industry cluster is a geographic concentration of interconnected businesses, suppliers, and associated institutions in a particular field." https://en.wikipedia.org/wiki/Business_cluster

- The cooperation of related industries is considered to increase their productivity and produce a competitive advantage over other industries in the region. An example of an industry cluster is "Silicon Valley".

- Competitive advantage: Entice similar industries and it's suppliers to develop or locate in the region.

Targeted Industries

▶ The Pinal County Board of Supervisors has identified 7 industry clusters for which business recruitment efforts are targeted to aid the economic growth of Pinal County:

  ▶ Natural and Renewable Resources (Agriculture, Mining, Solar)

  ▶ Aerospace and Defense

  ▶ Electric Vehicle Technology and Manufacturing

  ▶ Manufacturing

  ▶ Material Transportation, Distribution and Logistics

  ▶ Health Services

  ▶ Tourism

▶ "The process of identifying, defining, and describing a cluster is not standardized. Individual economic consultants and researchers develop their own methodologies. **All cluster analysis relies on evaluation of local and regional employment patterns, based on industrial categorizations such as NAICS**." https://en.wikipedia.org/wiki/Business_cluster

What are NAICS Codes and Why do we care?

- NAICS: North American Industry Classification System – developed by statistical agencies to provide a standard analysis framework.

- LMI is stored according to NAICS code.

- Businesses are categorized by NAICS code: Each business gets "matched" with a single 6 Digit NAICS code based on the PRIMARY function of the business.

- Hierarchy of Industry definitions: Top Level 2-Digit Codes to 6 Digit(Most Specific) Codes

- There is no official oversight of the assignment process

- It is in the best interest of a business to ensure that they are categorized properly and that information is disseminated properly.

NAICS Code	Title	Number of 6 Digit Codes
11	Agriculture, Forestry, Fishing and Hunting	64
21	Mining, Quarrying, and Oil and Gas Extraction	28
22	Utilities	14
23	Construction	31
31-33	Manufacturing	360
42	Wholesale Trade	71
44-45	Retail Trade	66
48-49	Transportation and Warehousing	57
51	Information	31
52	Finance and Insurance	41
53	Real Estate and Rental and Leasing	24
54	Professional, Scientific, and Technical Services	49
55	Management of Companies and Enterprises	3
56	Administrative and Support and Waste Management and Remediation Services	44
61	Educational Services	17
62	Health Care and Social Assistance	39
71	Arts, Entertainment, and Recreation	25
72	Accommodation and Food Services	15
81	Other Services (except Public Administration)	49
92	Public Administration	29
		1057

Defining Industry Clusters with NAICS codes

▶ **The process of identifying, defining, and describing a cluster is not standardized. Individual economic consultants and researchers develop their own methodologies. All cluster analysis relies on evaluation of local and regional employment patterns.**

▶ Traditional LMI sources rely on NAICS codes to categorize data.

▶ An "Industry Cluster" is defined by grouping 6-Digit NAICS codes which reflect interconnected businesses, suppliers, and associated institutions in that particular field.

▶ Understanding the interconnections of industries (individual NAICS codes) is *essential* to develop accurate and efficient Industry Clusters which are at the core of LMI analyses.

▶ In the absence of direct information from businesses, a "best guess" is made using available information to define an Industry Cluster.

Example: Electric Vehicle Technology & Manufacturing Industry

Electric Vehicle Technology & Manufacturing Industry	
NAICS	Industry Description
336111	Automobile Manufacturing
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers
336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing
423130	Tire and Tube Merchant Wholesalers
447190	Other Gasoline Stations
335312	Motor and Generator Manufacturing
335911	Storage Battery Manufacturing
336211	Motor Vehicle Body Manufacturing
336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing
336340	Motor Vehicle Brake System Manufacturing
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing
336360	Motor Vehicle Seating and Interior Trim Manufacturing
336370	Motor Vehicle Metal Stamping
336390	Other Motor Vehicle Parts Manufacturing

Subject to change

- From Google: The NAICS code for Lucid, Nikola and Tesla is 336111. Electric Charging Stations fall under 447190: Other Gasoline Stations.
  - But so does "traditional" vehicle manufacturing
- Other codes included based on "makes sense" logic.
  - The "makes sense" approach works best when the person with the "sense" knows about the Industry.
- Validating Data Models with Real Data is the most important part of Data Analytics: Confirmation from EV manufacturers that this list actually captures the Industry would be amazing!

EV Industry Cluster "Performance"

Electric Vehicle Technology & Manufacturing Industry

NAICS	Industry Description	Pinal 2019 Jobs	Pinal 2021 Jobs	Pinal 2019 Payrolled Business Locations	Pinal 2021 Payrolled Business Locations	Pinal 2019 % of Cluster Employment	2019 National % of Cluster Employment	Pinal 2021 % of Cluster Employment	2021 National % of Cluster Employment
336111	Automobile Manufacturing	0	838	0	1	0.00%	12.16%	75.11%	13.68%
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers	56	68	7	7	20.96%	15.83%	6.12%	16.29%
336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing	8	23	1	1	2.89%	5.88%	2.04%	5.43%
423130	Tire and Tube Merchant Wholesalers	0	20	0	1	0.00%	2.91%	1.83%	2.97%
447190	Other Gasoline Stations	205	166	4	3	76.02%	9.19%	14.89%	9.07%
335312	Motor and Generator Manufacturing	0	0	0	0	0.00%	3.41%	0.00%	3.41%
335911	Storage Battery Manufacturing	0	0	0	0	0.00%	2.54%	0.00%	3.52%
336211	Motor Vehicle Body Manufacturing	0	0	0	0	0.00%	5.29%	0.00%	5.07%
336330	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing	0	0	0	0	0.00%	3.08%	0.00%	3.02%
336340	Motor Vehicle Brake System Manufacturing	0	0	0	0	0.00%	2.34%	0.00%	2.00%
336350	Motor Vehicle Transmission and Power Train Parts Manufacturing	0	0	0	0	0.00%	7.65%	0.00%	7.33%
336360	Motor Vehicle Seating and Interior Trim Manufacturing	0	0	0	0	0.00%	7.35%	0.00%	6.75%
336370	Motor Vehicle Metal Stamping	0	0	0	0	0.00%	8.13%	0.00%	7.57%
336390	Other Motor Vehicle Parts Manufacturing	0	0	1	0	0.13%	14.25%	0.00%	13.89%

- Jobs in 336111 jumped from 2019 to 2021.

- % of National Cluster Employment indicates how much the industry should be expected to contribute to the industry cluster.

- If % of cluster Employment in Pinal is 0%, this means businesses are not in Pinal County, *yet*.

https://lightcast.io/

Subject to change

Occupations

- 798 Occupations defined by the Standard Occupation Classification System (SOC).

- Bureau of Labor Statistics (BLS) produces the National Employment Matrix; a "map" of occupations employed in each industry.

- For each of the 1057 industries determine the % of employment in each of 798 occupations.

Example for 1 Industry…

NAICS	Industry Description	SOC	Occupation Description	% of Industry Employment
336111	Automobile Manufacturing	51-2098	Miscellaneous Assemblers and Fabricators	57.8%
		51-1011	First-Line Supervisors of Production and Operating Workers	3.3%
		51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	3.1%
		53-7062	Laborers and Freight, Stock, and Material Movers, Hand	2.3%
		47-2111	Electricians	2.2%
		51-9124	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	2.2%
			…	
		19-1011	Animal Scientists	0
		31-9011	Massage Therapists	0
		53-3054	Taxi Drivers	0

Subject to change: Example Only

Targeted Industry to Targeted Occupation

- The Targeted Industries:
  - Natural and Renewable Resources (Agriculture, Mining, Solar)
  - Aerospace and Defense
  - Electric Vehicle Technology and Manufacturing
  - Manufacturing
  - Material Transportation, Distribution and Logistics
  - Health Services
  - Tourism
- Each Industry Cluster consists of one or more Industries (6 Digit NAICS codes)
- Each NAICS code is "mapped" to one or more occupations.
- Cut out the "middle man": For each occupation, sum up the employment contribution to all Targeted Industries. If the sum is greater than 50%(33%)(?) of the total occupational employment then the occupation is a Targeted Occupation.

Example: Targeted Occupations

- A Targeted Occupation is one in which 50%(33%)(?) of the total occupational employment is in Targeted Industries.

- The idea is that growing Employment Targeted Occupations means that targeted industries and thus businesses are being supported.

- **A Targeted Occupation is NOT the same as an "In-Demand" Occupation and vice versa.**

Example for a few of the 798 occupations…

SOC	Description	% of Occupational Employment in Targeted Industries	Targeted Occupation? (Based on 50% Criteria)	Targeted Occupation? (Based on 33% Criteria)
51-2098	Miscellaneous Assemblers and Fabricators	75%	yes	yes
51-1011	First-Line Supervisors of Production and Operating Workers	77%	yes	yes
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	86%	yes	yes
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	35%	no	yes
47-2111	Electricians	8%	no	no
51-9124	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	74%	yes	yes

Subject to change: Example Only

Defining In-Demand Occupations

▶ PCWDB Local Plan: An In-demand occupation is "*an occupation that currently has or is projected to have a number of positions (including positions that lead to economic self-sufficiency and opportunities for advancement) in an industry sector so as to have a significant impact on the State, regional, or local economy, as appropriate.*"

▶ 2 Primary Characteristics of an In-Demand Occupation

    ▶ Has significant employment opportunities

        ▶ Employment opportunities are within the "Pinal County Region"

    ▶ Leads to economic self-sufficiency

        ▶ Provides a "living wage": https://livingwage.mit.edu/counties/04021

        ▶ Provides opportunity for advancement

Defining In-Demand Occupations

▶ Data can capture…

- ▶ For a LMI Analysis -- Metrics:
  - ▶ Regional Employment level
  - ▶ Historical growth
  - ▶ Historical Wages.

▶ Data are not as efficient at capturing…

- ▶ Future employment opportunities – We are unaware of new or expanding opportunities until they are "announced." Working closely with business is paramount.
- ▶ Identifying, understanding and conveying career pathways to job seekers – Highly dependent on an individual's circumstances. Career counselors are paramount.

Utilizing "In-Demand" Status

- "In-Demand" status is meant to inform career counselors and job seekers about the likelihood that an occupation will provide employment opportunities.

- "In-Demand" status is also meant to aid in determining the need for training and education programs.

- All cases should be handled on an individual basis and no job seeker should be refused services based on the "in-demand" status of their preferred occupation.

- An occupation may not be considered "in-demand" based on LMI data thresholds alone but may be considered "in-demand" depending on the individual job seekers circumstances.

  - E.g. Someone with alternate income may be a prime candidate to take a position which does not provide a living wage but is considered a stepping stone to gain skills and experience, with the plan to move into a higher paying, self-sustaining position in the near future.

Utilizing "Targeted" Status

- Types of Job Seekers
  1. Know what they want to do and their plan is sustainable.
  2. Think they know what the want to do but their plan is not sustainable.
  3. Don't know what they want to do.

- Types 2 and 3 need guidance -- Enter Career Counselors.
  - Given a list of suggested occupations, those that hold both "In-Demand" and "Targeted Status" could be given priority.

- Targeted industries could be made a priority for Business Services.

- Targeted Status allows tracking of placements which in turn allows evaluation of the degree to which business and job seeker needs are in alignment.
  - Have come full circle back to the goal…

    A goal of the PCWDB is the … "**alignment and improvement of, employment, training, and education programs to promote economic growth**."

Summary

- One of the goals of the PCWDB is to "continuously improve and strengthen the ARIZONA@WORK system through innovation in, and alignment and improvement of, employment, training, and education programs to promote economic growth."

- Understanding the connections between businesses is an essential component of this goal.

- Defining "Targeted" and "In-Demand" Industries and Occupations allows a framework within which to provide and evaluate services to businesses and job seekers.

- Any business that would like to provide information about their company or just chat for any reason please reach out to me!

Contact:
Laura Loiacono

Data Analyst

Pinal County Economic and Workforce Development

ARIZONA@WORK Pinal County

Laura.Loiacono@pinal.gov

Backups

Where does a business get it's NAICS code(s)?

▶ NAICS Codes are self-assigned based on an establishment's primary activity (the activity that generates the most revenue for the establishment).

▶ Individual establishments are assigned NAICS codes by various agencies for various purposes using a variety of methods.

▶ Generally, the U.S. Census Bureau's NAICS classification codes are derived from information that the business establishment provided on administrative, survey, or census reports. (e.g. when a company applies for an Employer Identification Number (EIN), information about the type of activity in which that business is engaged is requested in order to assign a NAICS code).

▶ Various other government agencies, trade associations, and regulation boards adopted the NAICS classification system to assign codes to their own lists of establishments for their own programmatic needs. **If you question the NAICS code contained on a form received from an agency other than the U.S. Census Bureau, you should contact that agency directly.**

https://www.naics.com/ufaq/who-assigns-naics-codes-to-businesses-and-how/

"Living Wage" : 2021 Pinal County

▶ The living wage shown is the hourly rate that an **individual** in a household must earn to support his or herself and their family based on estimates of "typical expenses".

▶ Provides the basics aka self-sufficiency

	1 ADULT				2 ADULTS (1 WORKING)				2 ADULTS (BOTH WORKING)			
	0 Children	1 Child	2 Children	3 Children	0 Children	1 Child	2 Children	3 Children	0 Children	1 Child	2 Children	3 Children
Living Wage	$18.08	$33.52	$41.01	$54.78	$27.45	$32.94	$38.53	$43.52	$13.73	$18.53	$23.38	$27.93
Poverty Wage	$6.19	$8.38	$10.56	$12.74	$8.38	$10.56	$12.74	$14.92	$4.19	$5.28	$6.37	$7.46
Minimum Wage	$12.15	$12.15	$12.15	$12.15	$12.15	$12.15	$12.15	$12.15	$12.15	$12.15	$12.15	$12.15

https://livingwage.mit.edu/counties/04021

Analyzing In-Demand Occupations

Example "In-Demand" Analysis: Employment Level, Wage, Potential for Advancement

Data Reference: https://lightcast.io/

SOC	Description	Pinal 2019 Jobs	Pinal 2021 Jobs	2019 - 2021 Change	2019 - 2021 % Change	Median Hourly Earnings	Pct. 75 Hourly Earnings	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training	Targeted Occupation? (Based on 50% Criteria)	In-Demand Occupation?
51-1011	First-Line Supervisors of Production and Operating Workers	209	227	18	8%	$26.75	$34.31	High school diploma or equivalent	Less than 5 years	None	yes	yes
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	19	28	9	46%	$16.50	$16.57	High school diploma or equivalent	None	Moderate-term on-the-job training	yes	no (unless we know of future growth)
47-2111	Electricians	185	205	20	11%	$20.85	$26.41	High school diploma or equivalent	None	Apprenticeship	no	yes

Subject to change: Example Only

▶ "In-Demand Status" based on historical LMI only!

▶ Current Information from local business could change things!

▶ An occupation can be "In-Demand" but not "Targeted" and vice versa.