Labor Market Information for Strategic Planning

Leadership Working Session 2020

FTCC

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

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Agenda

Review working session goals

Review the worksheet tabs and present homework findings

Preparing for skill and technology requirements

Identifying employers to engage

Next steps: overview of next session and homework assignment

College skills and capabilities required for working with LMI

REVIEW

"understanding how your work connects to the work of others at the college and the ability for individuals and teams to work across functions of the college"

Source:

https://www.pathwaysresources.org/pathways-model/planning/preparation-awareness/engaging-stakeholders-and-making-the-case-for-change/

Observations About LMI at FTCC

REVIEW

Strengths   Weaknesses

Opportunities   Threats

Opportunities

1. Develop a more thorough understanding of how to utilize labor market information
2. Develop storytelling capabilities to inform strategic planning (vs. program review)
3. Create a community of practice
4. Make data broadly available – to Deans, Faculty, Staff, Students, President, etc

College skills and capabilities required for working with LMI

REVIEW

Technical – Research - **Analytical**

- identifying the right questions to ask
- integrating information from different sources and perspectives
- relating local to regional, state and national information and trends
- considering how changes in one factor, such as supply, may affect other factors

Source: Schiorring, 2013

Working Session Goals - Analytical

Understanding what broader trends mean for the college

Getting comfortable with asking data questions

Using data to prepare for strategic employer conversations

Working Session Goals - Technical

Session 1: discuss the criteria for identifying job opportunities for students

REVIEW

Homework: select key industries and occupations that represent potential or emerging opportunities

Session 2: discuss the skills, education and training path for the occupation/career

Homework: prepare for strategic conversation with employer

Session 3: discuss findings and strategic areas of focus

LMI Concepts:
Balancing Supply and Demand to Meet Regional Needs

REVIEW

Labor Supply: (Students and Workers)

People (labor force is aged 16+)

– Students
  • Enrollees
  • Graduates
  • Prospective students
– Other adults (not in school)
  • Employed
  • Unemployed
  • Not in labor force

Labor Demand: (Employers and Jobs)

Jobs (by industry and occupation)

– Employment
– Job openings
– Wages

What we did

Identify NAICS for industries

- Off-the-shelf groupings of industries "clusters"
  - e.g., US Cluster Mapping, Purdue
- Custom definitions
  - Local knowledge / unique local strengths

Examine staffing patterns of industries

- Industry-Occupation Staffing Patterns
  - Available at 2-4 digit NAICS
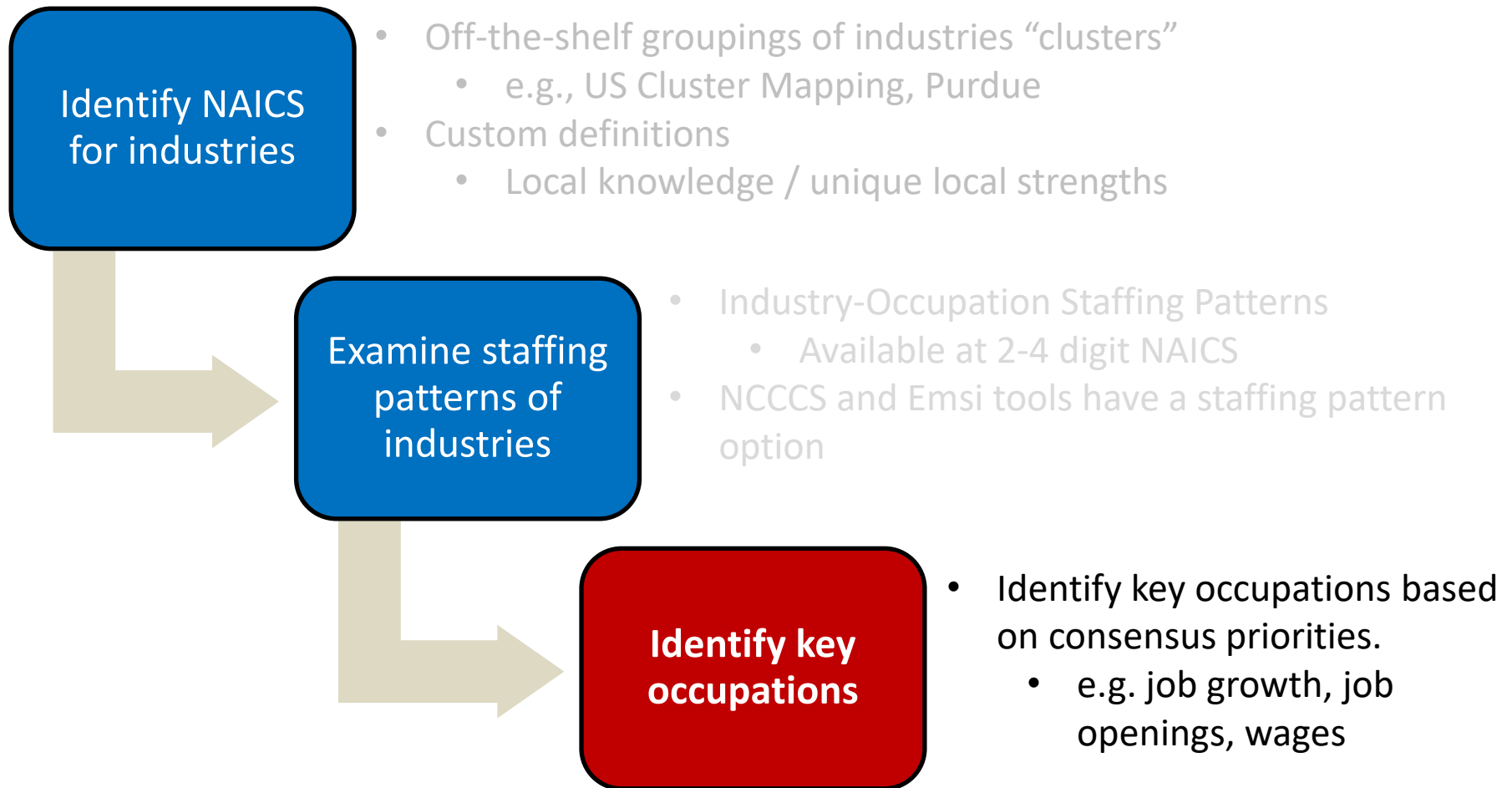- NCCCS and Emsi tools have a staffing pattern option

Identify key occupations

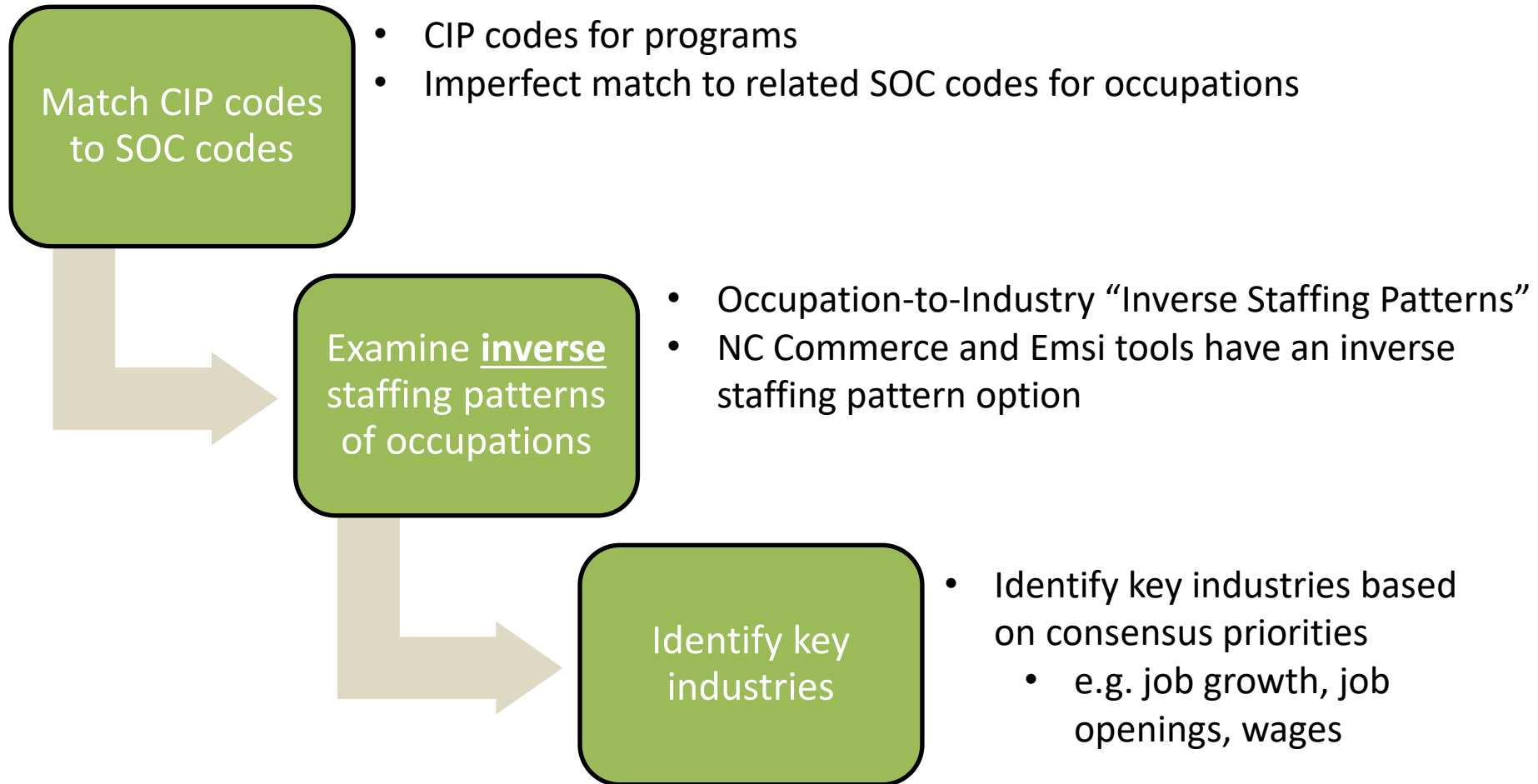- Identify key occupations based on consensus priorities.
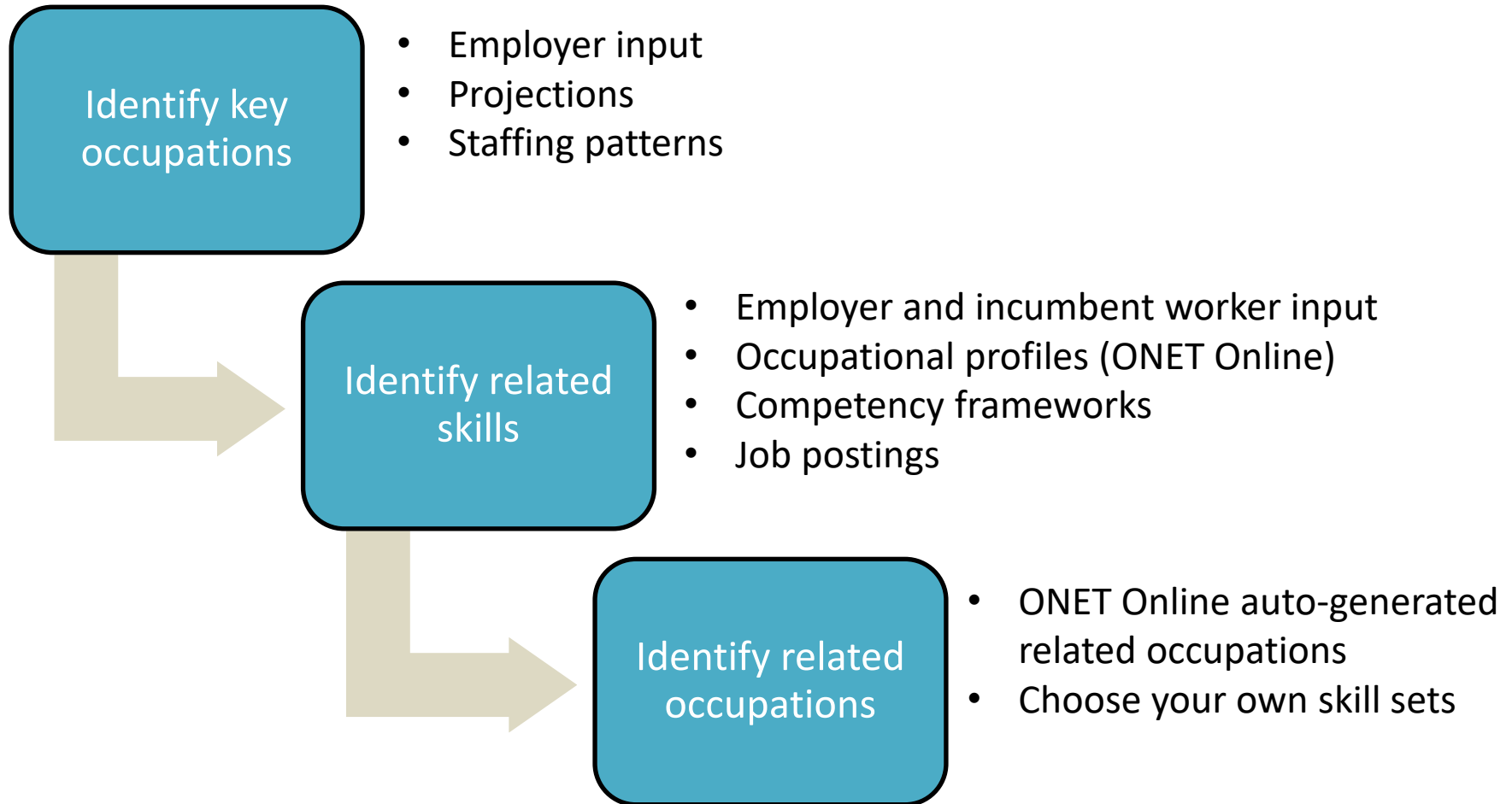 - e.g. job growth, wages, need, etc.

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- NC Commerce, BLS, and Emsi tools have a staffing pattern option

Identify key occupations

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What we discussed briefly

Match CIP codes to SOC codes

- CIP codes for programs
- Imperfect match to related SOC codes for occupations

Examine _inverse_ staffing patterns of occupations

- Occupation-to-Industry "Inverse Staffing Patterns"
- NC Commerce and Emsi tools have an inverse staffing pattern option

Identify key industries

- Identify key industries based on consensus priorities
  - e.g. job growth, job openings, wages

Another approach that helps with curriculum content and academic advising
(more on skills later today)

Identify key occupations

- Employer input
- Projections
- Staffing patterns

Identify related skills

- Employer and incumbent worker input
- Occupational profiles (ONET Online)
- Competency frameworks
- Job postings

Identify related occupations

- ONET Online auto-generated related occupations
- Choose your own skill sets

Another perspective: Occupational targets can support economic development

Enhancing the regional or community presence of certain skills can…

- Increase productivity and performance of a range of firms and industries
- Contribute to attracting or retaining firms and related jobs

Cross-sector occupational groups

- Information technology

- Business services

- Arts and design

- Repair and maintenance

- Transportation and logistics

- People with entrepreneurial skills

- People with experience in research labs

Potential regional priorities

Good paying jobs:

Look at jobs that pay above the median wage, or a family-sustaining wage.

Middle-skill jobs:

Emphasize jobs that require more than high school, less than a 4-year degree, and some OJT.

Pathway jobs:

Identify jobs that, with incremental education and training, can provide steppingstones to other higher-paying jobs.

High demand jobs:

Focus on jobs that have grown and are projected to grow.

College Customer	College Faculty and Staff Roles	Key Customer Questions	Analytical or Data Need	College Customer Purpose
Students (and Parents)	Student Advisors	How can I help students make more informed career and educational choices?	Career options and requirements	Students or parents forming opinions or making career choices
Students	Placement Counselors	How can I help graduates quickly find jobs in their preferred fields?	Immediate jobs available	Students searching for work
Businesses	Workforce & Corporate Training Coordinators	How can I proactively contact companies likely to need training or education services? How can I more effectively target my outreach efforts?	Identifying companies that are adding or replacing talent	Selecting outreach targets, responding to requests, or planning company visits
College Board, Legislators, Businesses, Students	**Curriculum Planners**	**How can I better assess future demand, and make more informed decision about program investments?**	**Current and future labor market demands (including job/skill requirements)**	**Conducting program reviews or making major investments**
College Board, Legislators	Institutional Researchers & College Executives	How can I assess how the college is doing in delivering well-prepared talent to our community?	Graduate outcomes (e.g., employment, earnings) and future needs	Setting the college's strategic direction and making key investments
Federal, state, local, foundation funders	College grant writers	How can I make a compelling case that the college needs resources to meet student demand, business ed. & training needs?	Current demographic, labor market, and economic trends/ projections	Seeking resources from funders

Key Customer Questions

Placing students in 'good jobs'

Assessing employer talent needs

Targeting prospective student outreach

Ensuring curriculum aligns with economic needs

Evaluating student outcomes

Justifying taxpayer and student investments in the college

Where to start?
Industries, occupations and skills

Students:

Skills, interests → Occupations → Programs of study
Industries, opportunities → Occupations → Programs of study

College board, legislators:

State and national priorities → key occupations or industries
Programs of study → labor market outcomes

Businesses:

Jobs / occupations → Programs of study

Faculty:

Programs of study → Jobs/occupations

A Method for Examining Data: Begin and end with the 'Big Picture'

Understand the Regional Economy

- Growing and Dynamic Industries
  - Add net new jobs
  - Replace workers changing careers or leaving the labor force
- Taking the pulse of change in industries and work

Relate FTCC Programs to the Regional Economy

- Building from existing strengths
- Focusing on areas for improvement
- Recognizing emerging opportunities

Decision Flow Process for Identifying Strategic Opportunities

Where to start?

- Regional workforce needs
- Program-specific employer needs

→

Which key industries need workers?

→

What occupations are in demand?

How do you use this info to engage employers?

→

What do ask those employers?

→

What does info tell you about program gaps?
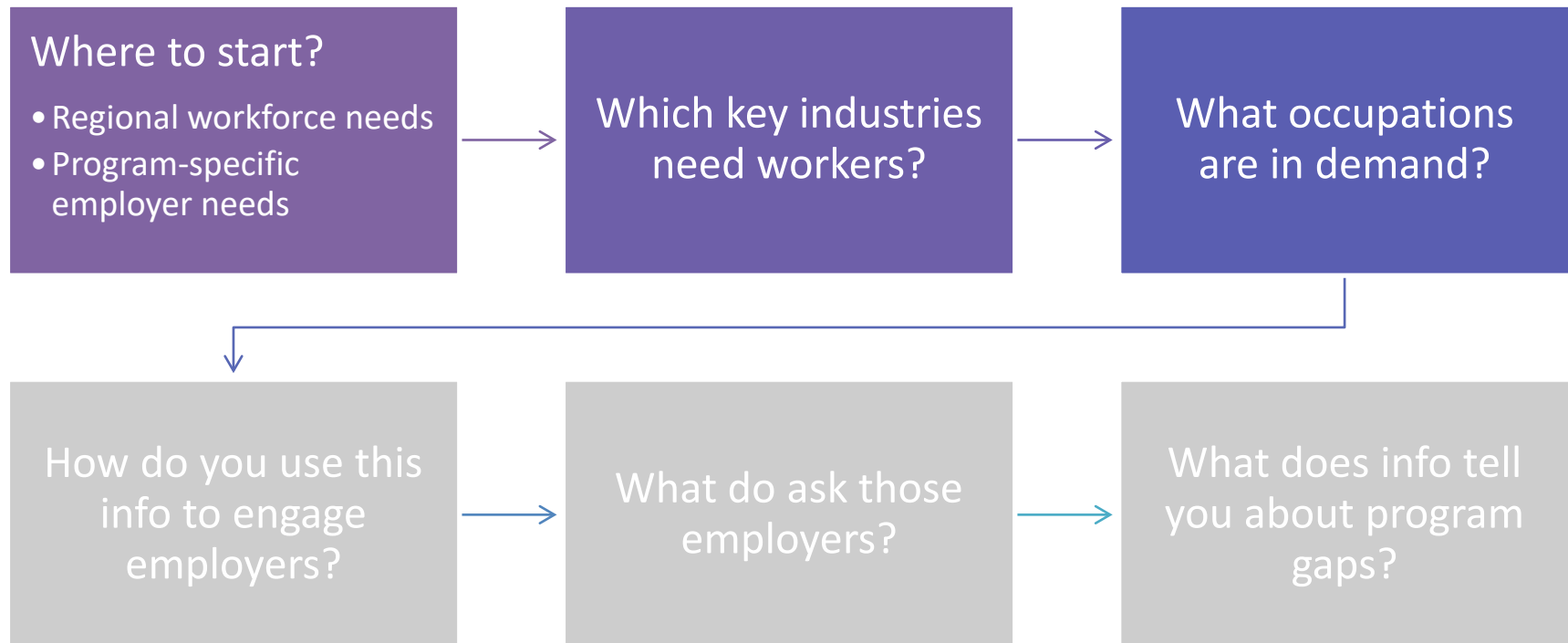
Let's start with what you do
Example: Programs listed on the FTCC 'Public Services' website

Classification of Instructional Program (CIP)

CIP Code	CIP Title
12.0301	Funeral Service and Mortuary Science, General
12.0401	Cosmetology/Cosmetologist, General
12.0409	Aesthetician/Esthetician and Skin Care Specialist
12.0410	Nail Technician/Specialist and Manicurist
12.0413	Cosmetology, Barber/Styling, and Nail Instructor
13.0401	Educational Leadership and Administration, General
13.1202	Elementary Education and Teaching
13.1209	Kindergarten/Preschool Education and Teaching
13.1210	Early Childhood Education and Teaching
13.1211	Online Educator/Online Teaching
13.1212	International Teaching and Learning
13.1213	STEM Educational Methods
13.1214	College/Postsecondary/University Teaching
19.0706	Child Development
29.0201	Intelligence, General
43.0104	Criminal Justice/Safety Studies
43.0107	Criminal Justice/Police Science
43.0201	Fire Prevention and Safety Technology/Technician
43.0302	Crisis/Emergency/Disaster Management

Programs Preparing Workers for Occupations:
CIP to SOC Crosswalk

For each CIP →

Primary potential occupations (by SOC)

43.0107   Criminal Justice/Police Science

25-1111 Criminal Justice and Law Enforcement Teachers, Post

33-3011 Bailiffs

33-3021 Detectives and Criminal Investigators

33-3051 Police and Sheriff's Patrol Officers

33-9021 Private Detectives and Investigators

https://www.onetonline.org/crosswalk/

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Workers Are Employed by Companies: *SOC to NAICS Crosswalk*

For each Occupation →

Primary employing industries (by NAICS)

33-3051 Police and Sheriff's Patrol Officers

9221   Justice, Public Order, and Safety Activities

611100   Elementary and Secondary Schools

6112 & 6113   Colleges, Universities, & Professional Schools

622100   General Medical and Surgical Hospitals

6222 & 6223   Psychiatric, Substance Abuse, and Specialty Hospitals

https://www.bls.gov/emp/tables/industry-occupation-matrix-occupation.htm

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Homework Assignment
Report Out

1. What industries were most relevant to your program?

2. What were your program's five (5) 'key occupations'?

3. How many workers are needed each year and how many is your program currently supplying?

Homework Assignment
Reflection

WHAT WAS THE MOST IMPORTANT TAKE-AWAY FROM THE DATA?

WHAT SURPRISED YOU?

WHAT CHALLENGES DID YOU ENCOUNTER?

WHAT DO YOU WANT TO KNOW MORE ABOUT?

Assessing In-demand Skills

ENSURING RELEVANCE TO INDUSTRY

DRIVING PROGRAM DESIGN AND CURRICULUM CONTENT

Identifying emerging skill requirements

- Technology
- Regulation
- Business Incentives
- Labor availability (location)
- Employer preferences (technology)
- Employer preferences (labor)
- Employer size / industry structure

- "Soft skills" (always emergent/urgent)
- Digital skills
- Re-combination/blending of skills and tasks
- Hiring vs advancing
- Job posting, HR, hiring manager preferences

Skills and credentials data

- [O-NET Online](#)
- [O-NET Resource Center](#)
- [Certifications Finder](#)
- [License Finder](#)
- [IPEDS](#) for Title IV institutions
- Job posting aggregators
  - Burning Glass
  - Emsi
  - JobsEQ
  - National Labor Exchange

O*NET   onetonline.org

Key Variables Examined in O-NET

- <u>Tasks</u>:
  - Work activities that are specific to the occupation, such as "using knowledge of mathematics and instruments such as micrometers and vernier calipers."

- <u>Tools & Technology</u>:
  - Machines, equipment, tools, and software that machinists use for successful performance on the job, such as "calipers" or "computer-aided design CAD software."

- <u>Knowledge</u>:
  - Organized sets of principles and facts that apply to a wide range of situations, such as "knowledge of machines and tools, including their designs, uses, repair, and maintenance."

- <u>Skills</u>:
  - Capacities developed through education or experience that help machinists perform their job, such as "Conducting tests and inspections of products."

- <u>Abilities</u>:
  - Enduring attributes of an individual that influence performance, such as "control precision."

- <u>Work Activities</u>:
  - Tasks that may be performed across multiple occupations, like "controlling machines and processes."

- <u>Work Context</u>:
  - Physical and social factors that influence the nature of work, such as "the amount of time required wearing protective gear."

- <u>Job Zone</u>:
  - Education, related experience, and job training required such as "training involving both on-the-job experience and informal training with experienced workers."

O*NET Online helps…

- Find specific occupations to explore

- Search for occupations that use specific skills

- Identify related occupations

- Summarize occupational requirements

- Provide details about the skills, knowledge, interests, and activities required for an occupation

- Link O*NET occupations to other classification systems

O*NET Online Entry Points

Find occupations by Key Words or SOC Code

Find occupations by Career Cluster, Industry, Bright Outlook, Green Economy Sector, or STEM Discipline

Find occupations by required Abilities, Interests, Knowledge, Skills, Work Activities, Technologies, etc.

ONET measures: education, related work experience, job zone
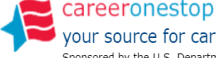
Type of Skill Required	Measurement of Skill Requirement by O*NET	Analysis
Education	Six categories: did not complete high school, high school GED or diploma, some college, bachelor's degree, master's or professional degree, doctoral degree	Percent of occupations requiring more than a high school GED or diploma
Related work experience	Five categories: none, less than 1 year of experience, 1 to 4 years, 4 to 8 years, more than 8 years	Percent of jobs requiring more than 1 year of related experience
Job zone	Five categories: Job Zones 1 (lowest preparation required) to 5 (highest preparation required) for all occupations; production occupations only categorized as 1, 2, or 3	Percent of jobs categorized as levels 3, 4, or 5

A few tips about O*NET descriptions

- Aggregates data derived from worker and employer surveys over multiple years so can be out of date

- Represents a national dataset and can differ based on regional preferences

- Needs local validation from hiring and human resource managers

Career One Stop Tools

License Finder

Certification Finder

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Mixing Your Methods: Combining Quantitative and Qualitative Data
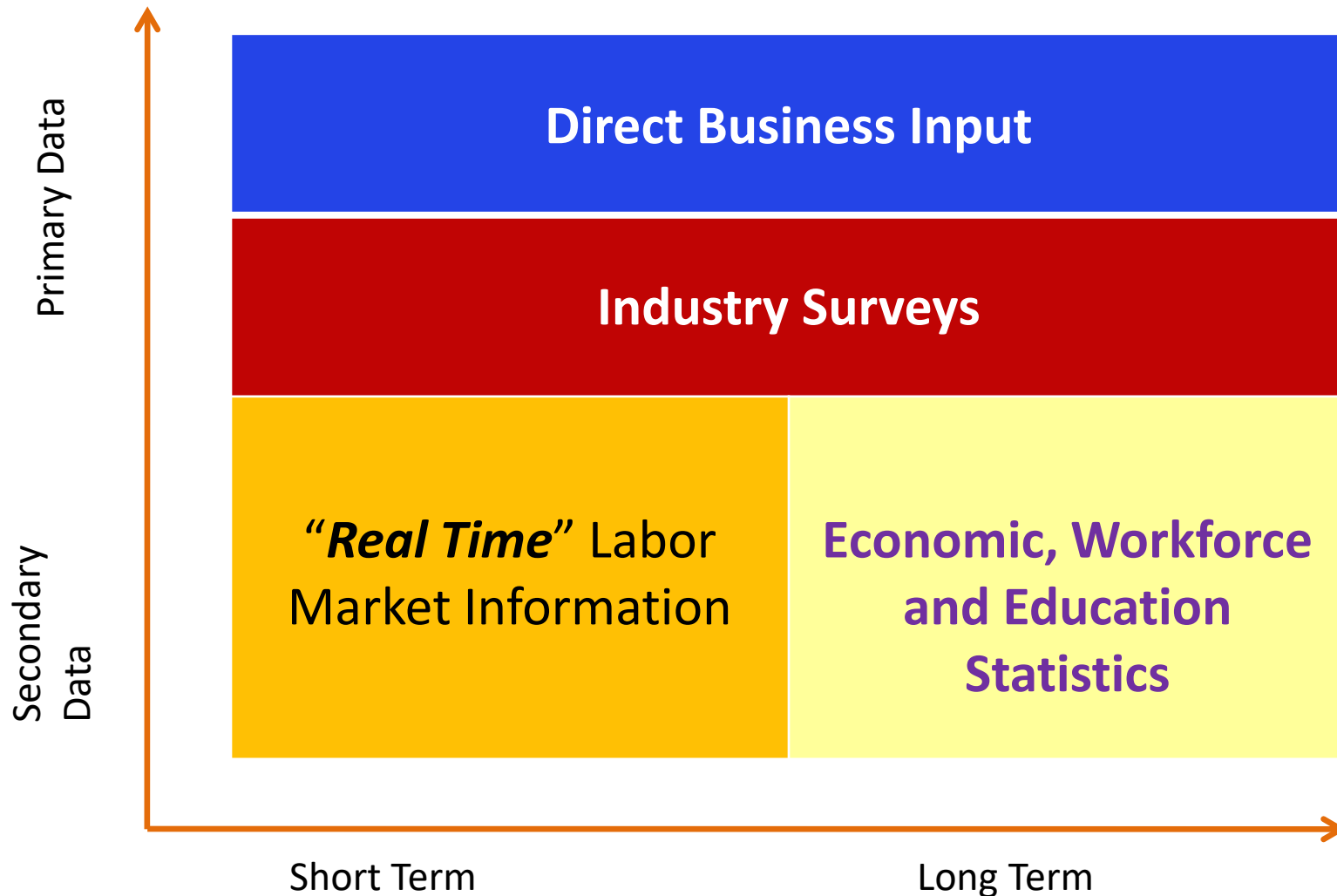
How can multiple methods inform each other?

- Available economic, workforce and education statistics illuminate while raising questions that require:
  - local knowledge,
  - stakeholder input,
  - feedback loops

- Supplemental qualitative data can help *interpret* and *validate* the findings

- Quantitative research can identify *patterns*, qualitative research can uncover the *processes* that create those patterns

- Limiting factors in conducting research include time, resources, willingness of participants

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Within the workforce world, think of the different actors in the *talent pipeline*.

Sector Partnership
The partnership addresses common needs of employers and generates coordinated solutions that benefit workers.

- K–12
- Adult basic education
- Community colleges
- Universities
- Community-based organizations
- Human services organizations
- Organized labor
- Workforce boards, one-stops
- Economic development organizations
- **Convener**
- **Industry members** (Representatives from firms in a single industry)

Strategic partners
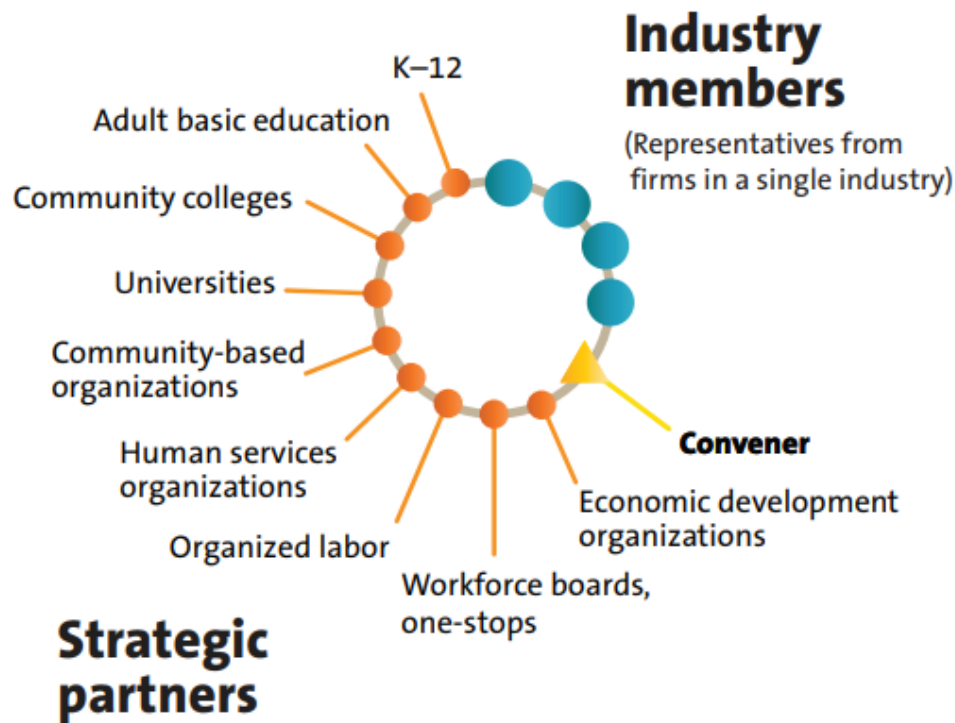
Research can help identify:

- Key employers
- Institutions with relevant programs
- Industry groups with relevant certifications

Source: NGA, CSW, NSC

Consider the results various actors are seeking.

Reduced Vacancy Rate of Invasive Cardiovascular Technicians in Tacoma-Pierce County

100% REDUCTION IN VACANCY RATE, SAVING MULTICARE AN ESTIMATED $300,000 ANNUALLY
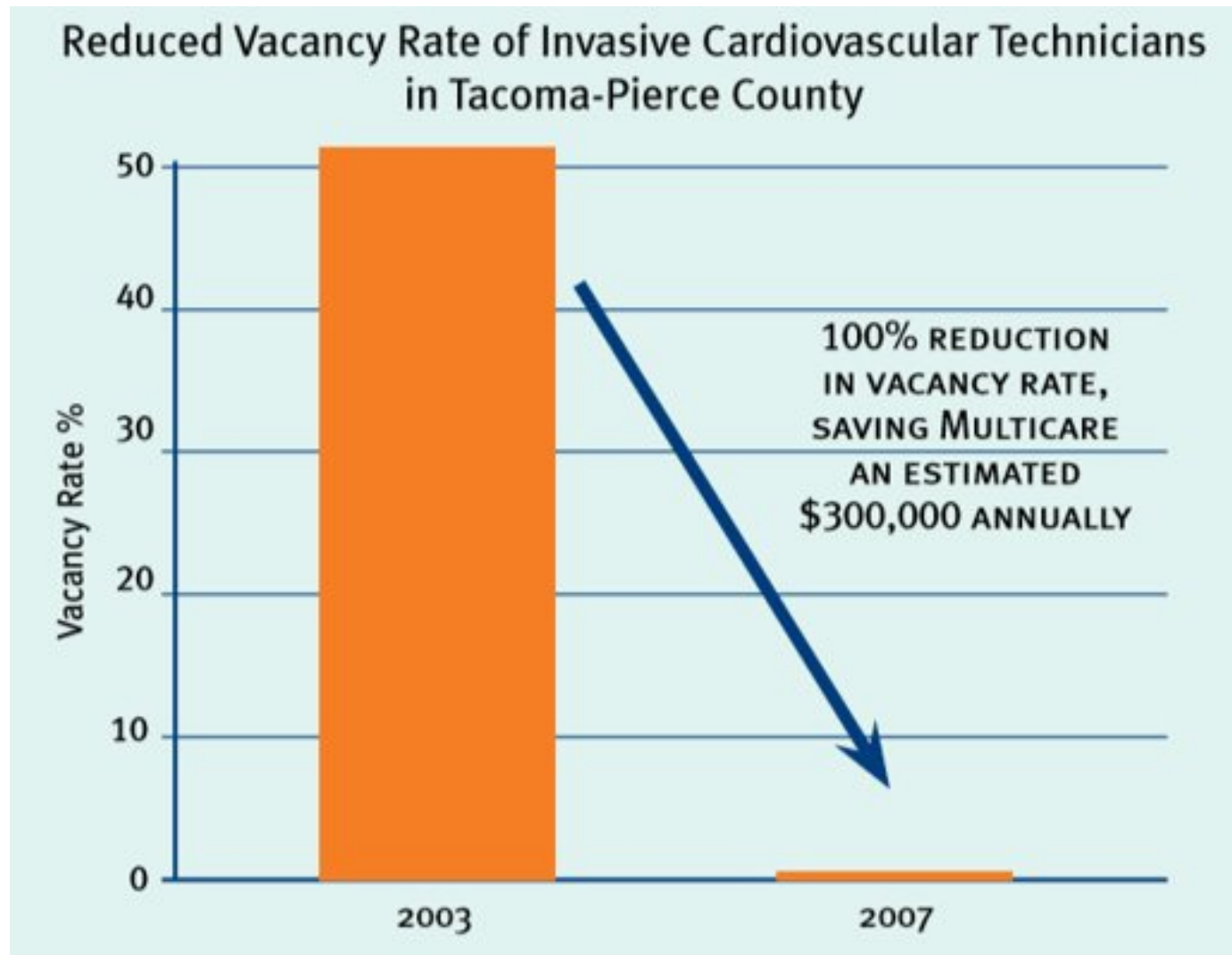
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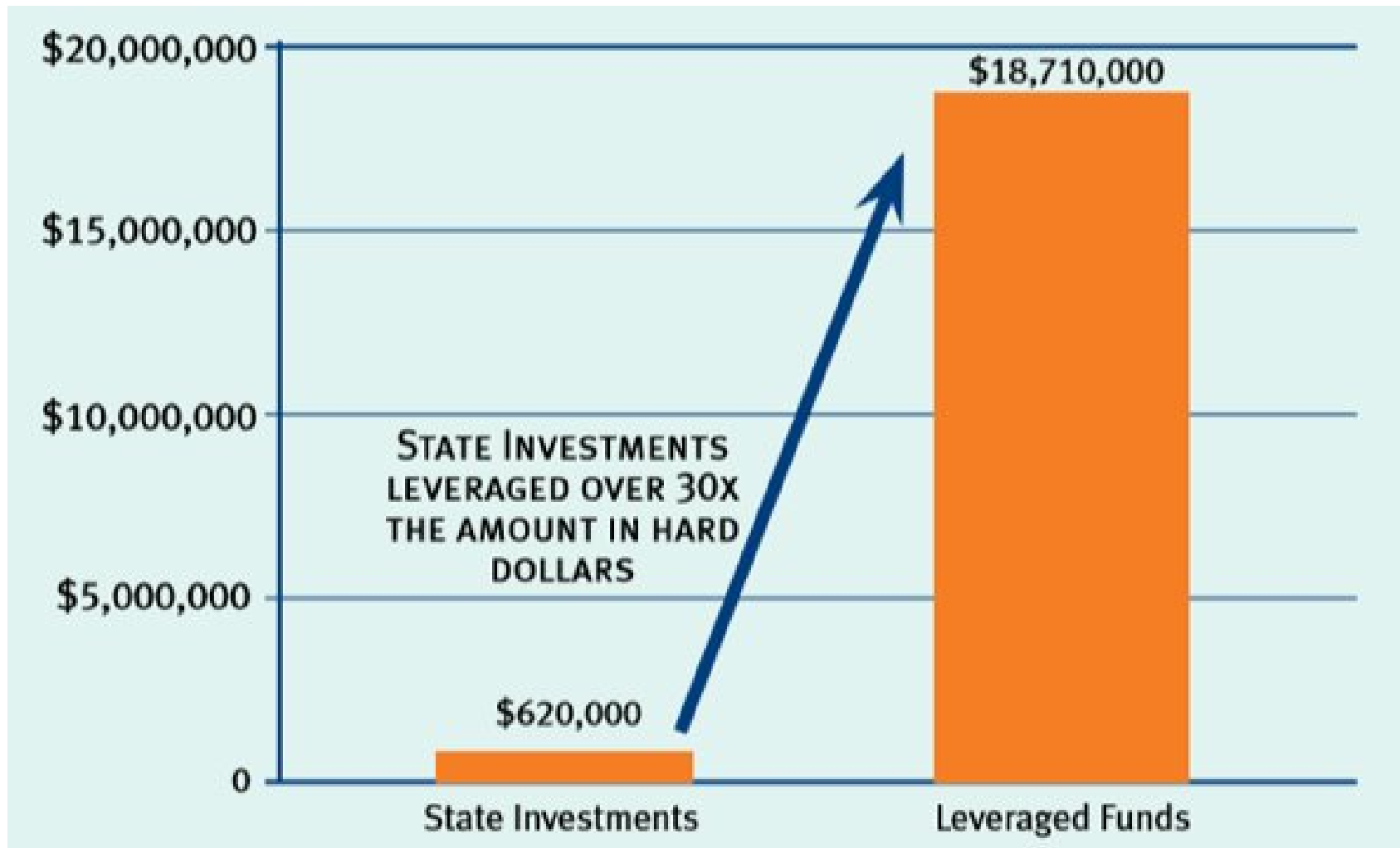
US Chamber's Talent Pipeline Management (TPM): employers lead supply chain management approach to workforce challenges

Examples:

- Greater Houston Partnership
  - Focus on trades-related careers in petro-chemical and trades

- Vermillion (IL) Advantage
  - Employer Collaboratives around Adv. MFG, Logistics, Tech. Services, & HC

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TPM talent supply chain or "pipeline"

Figure 4: Value Stream Map

EXTERNAL TALENT PIPELINE (i.e., new hires)

SUPPLIER RESPONSIBILITY

ROLES

CAREER AWARENESS & GUIDANCE

CAREER EXPLORATION

CAREER PREPARATION & PRE-EMPLOYMENT TRAINING

ONBOARDING

TPM talent supply chain or "pipeline"

INTERNAL TALENT PIPELINE (i.e., upskilling existing workers)

EMPLOYER RESPONSIBILITY

N & IENT · ONBOARDING · CAREER COACHING · UPSKILLING · RETENTION
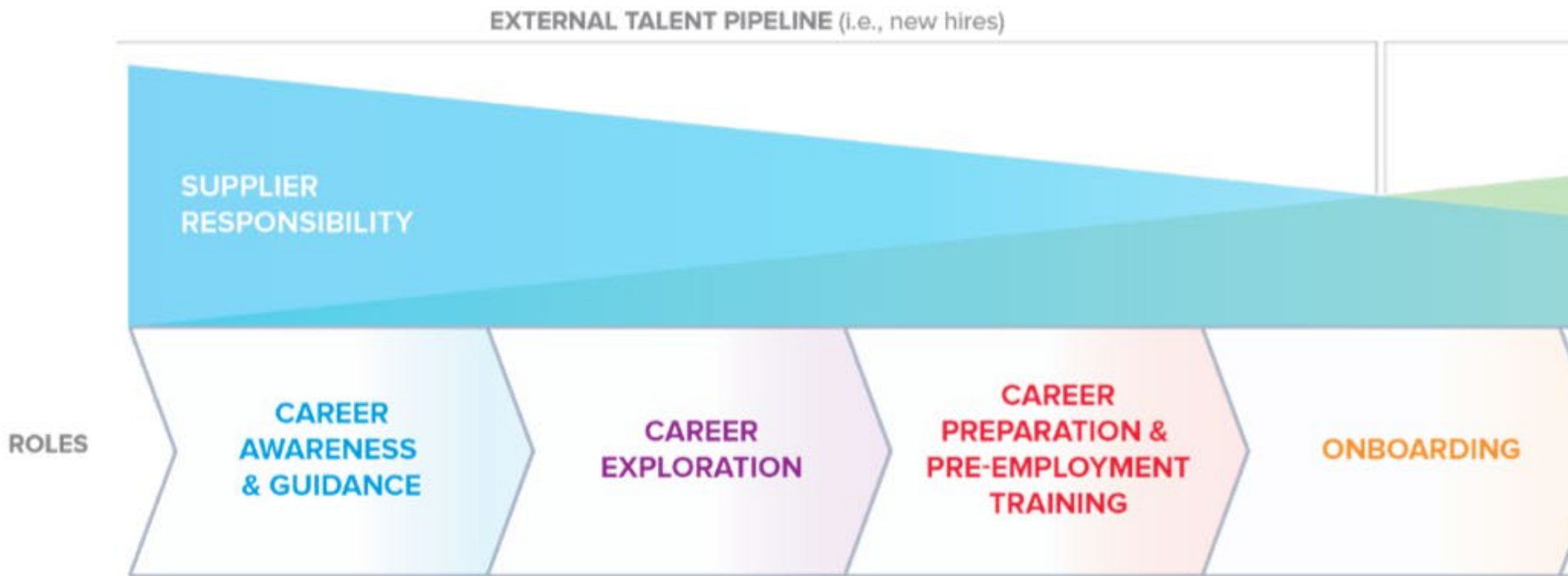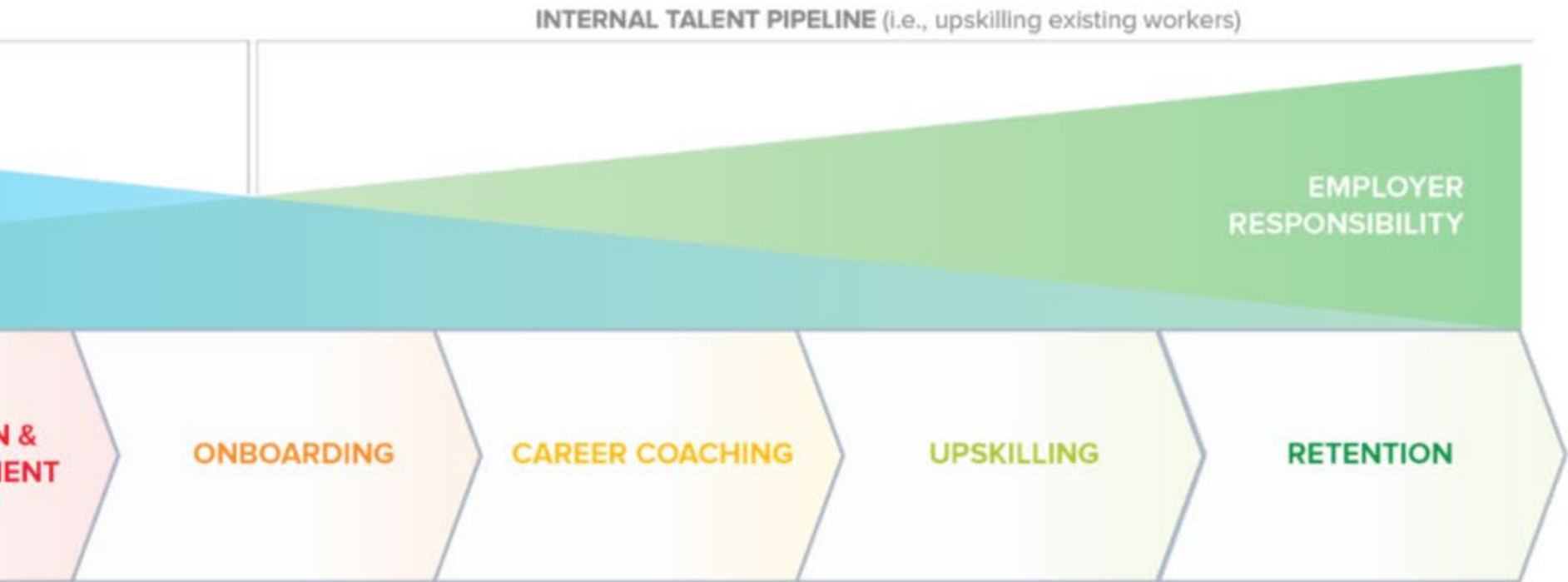
TPM Employer Demand Estimates

Table A: Example by Total New and Replacement Positions

Job	New	Replacement	Total
CNC Machinists	65	100	165
Welders	70	90	160

Table B: Example of New and Replacement Positions by Level

Job	New	Replacement	Total
CNC Machinists	65	100	165
Entry Level	30	87	117
Mid-Level	25	10	35
Senior Level	10	3	13
Welders	70	90	160
Entry Level	50	65	115
Mid-Level	20	25	45
Senior Level	0	0	0

POSITIONS

CNC MACHINISTS
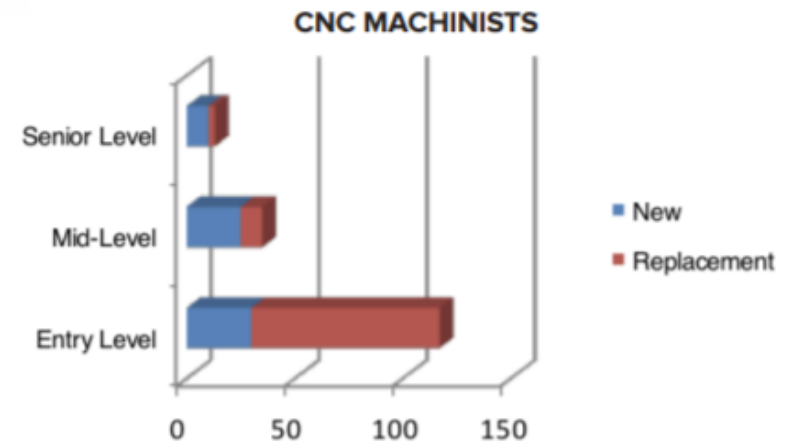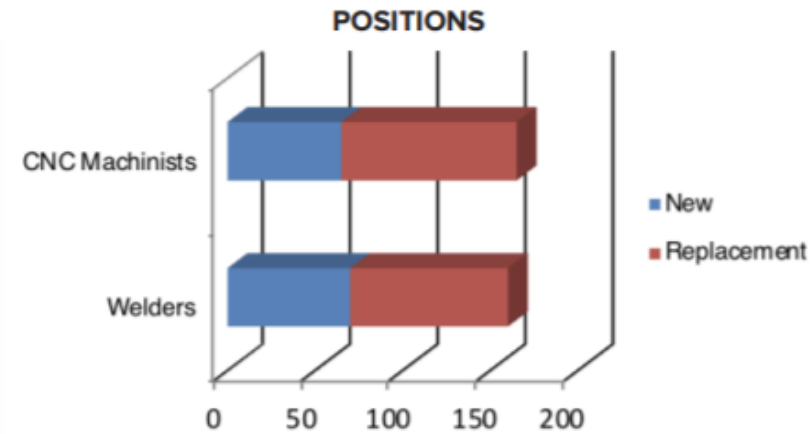
TPM Employer Hiring Requirements

Table B: Results by Academic Level and Credentials

Academic Level and Credential	Aggregate Employer Responses (Total Employers = 10)		
	Required	Preferred	Neither
High School Diploma	10	0	0
Associate Degree	1	2	7
Bachelor's Degree	0	0	10
Community College Warehousing and Distribution Certificate	2	2	6
International Warehouse Logistics Association Certified Logistics Professional	0	1	9

Table C: Results by Experience

Experience	Aggregate Employer Responses (Total Employers = 10)	
	Required	Preferred
Less than One Year of Experience	0	5
Two to Three Years of Experience	0	2

Table D: Results by Other Requirements

Other Requirements	Aggregate Employer Responses (Total Employers = 10)	
	Yes	No
Pass a Drug Test	10	0

How does this tend to play out in practice?

Although we emphasize the value of research in identifying target sectors and occupations, the extent to which this research is well received varies from place to place.

– Not all workforce actors value research ('Go with Gut', Go with what they already 'know' to be true).

– Proceed with coalition of the willing, or the employers who are willing to participate.

The strength of the back-end evaluation also varies.

– Not everyone collects outcome metrics, or the right outcome metrics. This is a broader issue for all sorts of economic and workforce development activities.

Discussion

WHERE DO YOU FIND EMPLOYERS?

HOW DO YOU IDENTIFY LEADERS AND DIVERSIFY YOUR EMPLOYER CONTACTS?

Identifying Employers

NC Commerce tool

https://accessnc.nccommerce.com/business/business_custom_search_infogroup.html

Who is Posting Jobs, by Employer

Company	Unique Postings from May 2019 - May 2020	Median Advertised Salary	Salary Observations Count	Avg. Unique (May 2019 - May 2020)
City of Fayetteville	68	$51,584	61	11
Dept of Veterans Affairs	26	$71,424	13	4
United States Dept of the	24	$86,912	14	3
United States Dept of the Air Force	10	Insf. Data	Insf. Data	2
Unifirst Corporation	7	Insf. Data	Insf. Data	2
Army Installation Management Command, US	6	$30,264	6	2
Veterans Health	6	$78,592	3	1
United States Dept of the	5	Insf. Data	Insf. Data	1
Massage Envy	5	$50,000	1	1
Supercuts, Inc.	4	Insf. Data	Insf. Data	0
INA Alaka Foundation	4	Insf. Data	Insf. Data	1
Action Pathways, Inc.	4	$24,320	3	0
American Heart	4	$86,930	3	1
Young Life	3	Insf. Data	Insf. Data	1
North Carolina Dept of Public Safety	3	$67,241	3	0

Note: Includes All Jobs Requiring An Associate Degree

Skills data homework exercise

Explore ONET Online for Cybersecurity Analyst
- "Find Occupations" and "Advanced Search"
  - Identify key Knowledge, Skills, Abilities for cybersecurity analyst
  - Find related occupations for cybersecurity analyst
  - Recommend talent development/recruitment options for a regional hospital that needs to improve its IT system security
- Try out this tool for another position of particular interest….

www.onetonline.org

Homework Assignment: Reviewing Key Skills for Key Occupations

- Identify one occupation important to your program
- Identify the five most critical skills from O*NET
- Select a company to interview
    - Ask about the five most critical skills.
    - Review O*NET (including job postings) to see if new skills mentioned are listed.
- Are any of these skills currently taught in the program?
    - If so, at what point?
    - How would you find out if they are taught in any other programs at the school?