

# What Else Someone Can Do:

## Transferable Skills Analysis (TSA) and Labor Market Research

NASPPR/VEWAA Training  
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Des Moines, IA



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# Objectives

- **Occupations vs. Jobs**
  - **Common Public Sources of Occupational & Labor Market Data**
  - **Unique Information in various Sources**
  - **Skill Definitions – DOT / History vs. O\*NET**
  - **Transferability of Skills Analysis (TSA)**
- 
- **Methods to Estimate Employment**
  - **New Industry Context Method**
  - **Examples – Unskilled Sedentary Occupations**
  - **Existence of Jobs – Labor Market Sampling**

# Introductions

- Who are you ?
- Where are you from ?
- Employer + Work Setting ?
- Why are you here today ?
- Expectations/Needs for this training ?

# Heritage / Evolution

## AIS – Ability Information Systems

VIPS

VARs (CAVE)

## CAPCO – The Capability Corporation

PPS

Pre-Injury/Pre-Post Analysis

EZ-DOT, CCS, JSS

## JobQuest

Job Browser *Pro*

## SkillTRAN

Job Browser *Pro* – Updates & Revisions

Restoration of Classic Online Services

Web-Based Re-Engineering



Acquired VERTEK

1981

1982

1984

1988

1990

1991

1992

1995

1998

2000

2001

2005

2006

2010



## OASYS

1985 - GATB Reporting System

## OASYS Job Match

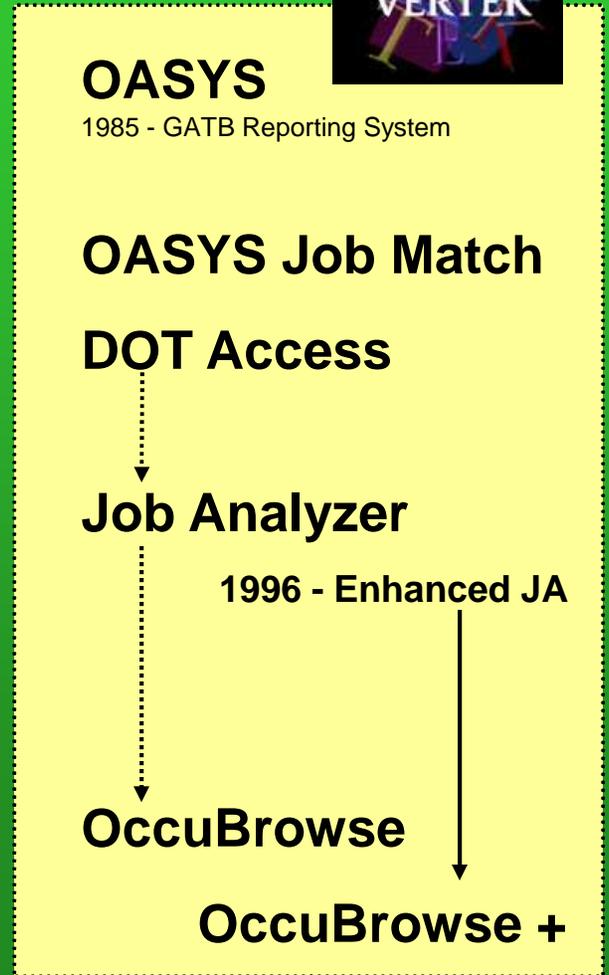
## DOT Access

## Job Analyzer

1996 - Enhanced JA

## OccuBrowse

## OccuBrowse +



# Reference Materials

- Presentation slides
- Pocket Guide to the DOT
- Case Preparation Guide
- Combination Work Fields
- TSA “Levels”
- LMI Guide – Summary of Labor Market Info Sources
- Technical Discussion of Industry Context Methodology
- Sedentary Unskilled DOT Occs by DOT Industry  
and by Frequency
- Chapter 15: Computer-Based Vocational Guidance  
Systems and Job Matching – in new David Strauser book  
*Career Development, Employment, and Disability in Rehabilitation:  
From Theory to Practice*

***All handouts available at [www.skilltran.com/NASPPR-VEWAA-2014.zip](http://www.skilltran.com/NASPPR-VEWAA-2014.zip)***

## Additional Information at:

[www.skilltran.com/links.htm#Articles](http://www.skilltran.com/links.htm#Articles)

- Job Matching Systems: One Difference is the Data – 1989
- 1991 Revised *DOT* – What's New and Different and its Impact on Traditional Evaluation Techniques – 1993
- 1998 DOL Letter – 21 New DOT Occupations Added
- Transferable Skills Analysis and Vocational Information During a Time of Transition - 2003
- **Bibliography – Transferable Skills Articles - 2006**
- A Call to Update the DOT: Findings of the IARP Occupational Database Committee – 2009
- SSA Memo 09-2139 – Use of Electronic Occupational References - 2009
- *SkillTRAN* comments to SSA OIADP about building a new OIS – June, 2010
- *SkillTRAN* document about Reliability, Validity and Peer Review – 2014
- *SkillTRAN* comments to BLS NCS about new data collection instrument – 2014
- *SkillTRAN* comments to OIG about the new NCS data collection instrument - 2014

# Basic Terminology

- ***Job*** (LMI) vs. ***Occupation*** (DOT)
- Transferable Skills Analysis
- Labor Market Information (LMI)
  - Employment Numbers
  - **Wages** (Sources, Mean, Median, Percentile)
  - **Employment Projections**  
by Occupation and by Industry
- Labor Market Area
  - National
  - **Regional** (Multi-State / State / MSA)
  - **Commute Range** (Radius around zip code)

## Common Sources for Occupational & Employment Data

### Occupation

- **DOT**
- **O\*NET - SOC**
- **OOH [National Only]**
  
- Industries at a Glance - IAG
- Current Population Survey (Census CPS)
- OES - Occupational Employment Survey
- National Compensation Survey
- Long Term Employment Projections
- State Labor Market Information Depts.

### Employment/Industry

- JOLTS
- QCEW (ES-202)  
Quarterly Census of Employment & Wages
- County Business Patterns  
US / State / County / Zip
- Business Dynamics Stats
- [Input/Output Matrix]
- Business Listings
- Professional Associations
- Business Assn/Journals
- Manufacturer Guides

# Dictionary of Occupational Titles

- **First Edition** – 1939, 1944 – Entry Requirements/GATB
- **Second Edition** – 1949
- Estimates of Worker Trait Requirements - 1957
- **Third Edition** – 1965 – DPT - OAP
- **Fourth Edition** – 1977  
Supplements – 1982, 1986
- **Revised 4<sup>th</sup> Edition** – 1991
- “Unpublished Changes” – 1998
- Alleged “Replacement” in 1998 by O\*NET

# Dictionary of Occupational Titles

- Detailed description of 12,761 occupations
- Worker Characteristics observed by trained job analysts
- *Revised Handbook for Analyzing Jobs* (1991)
- Strength (Sedentary/Light/Medium/Heavy/Very Heavy)
- Physical Demands (19)
- Environmental Conditions (14)
- General Educational Development – R M L
- Aptitudes (11) – Cognitive / Spatial / Clerical / Motor
- Specific Vocational Preparation
- Temperaments (11) – Interpersonal / Communication / Task
- WORK Fields
- Materials, Products, Subject Matter, Services (MPSMS)

# DOT Description

## **637.664-010 HEATING-AND-AIR-CONDITIONING INSTALLER-SERVICER HELPER**

ALTERNATE JOB TITLES (Might also be known as):

AIR-CONDITIONING-MECHANIC HELPER, INDUSTRIAL; HEATING-AND-AIR-CONDITIONING INSTALLER-SERVICER; **HEATING-AND-AIR-CONDITIONING-MECHANIC HELPER**; HVAC INSTALLER/HELPER

HEATING-AND-AIR-CONDITIONING-MECHANIC HELPER. Assists workers engaged in installing, repairing, and servicing industrial, commercial, and residential environmental-control systems, performing any combination of following duties: Cuts, punches, flanges, shears, and solders sheet metal ducts and parts, using handtools and portable power tools. Cuts threads and packs pipes. Cements insulation in place over finished piping or tubing. Passes electrical wire through conduit, splices wire connections, and tapes wire. Assembles sheet metal components of prefabricated furnaces, using handtools. Replaces exhausted or defective containers of refrigerant with new refrigerant. Lubricates fans, motors, and control units. Installs air and water filters in completed assembly. Performs other duties as described under HELPER (any industry) Master Title. May be designated according to type of equipment serviced as Air-Conditioning-Mechanic Helper, Industrial (any industry).

----- Master Description -----

A worker who assists another worker, usually of a higher level of competence or expertness, by performing a variety of duties, such as furnishing another worker with materials, tools, and supplies; cleaning work area, machines, and equipment; feeding or off bearing machines; holding materials or tools; and performing other routine duties. A HELPER (any industry) Master Title may learn a trade but does so without an agreement with employer that such is the purpose of their relationship. Consequently, the title HELPER (any industry) is sometimes used as synonym for APPRENTICE (any industry) Master Title, a practice that is incorrect technically. A worker whose duties are limited or restricted to one type of activity, such as moving materials from one department to another, feeding machines, removing products from conveyors or machines, or cleaning machines or work areas is not technically a HELPER (any industry) and is classified according to duties performed as MATERIAL HANDLER (any industry); MACHINE CLEANER (any industry); CLEANER, INDUSTRIAL (any industry). A worker who performs a variety of duties to assist another worker is a HELPER (any industry) technically and is classified according to worker assisted as BRICKLAYER HELPER (construction); DRY-CLEANER HELPER (laundry & rel.).



# DOT Characteristics & Other Codes

**WORK code:** 111 ELECTRICAL-ELECTRONIC FABRICATION-INSTALL-REPAIR  
**MPSMS code:** 573 REFRIGERATION AND AIR-CONDITIONING EQUIPMENT  
**DOT Industry:** 271 CONSTRUCTION  
**G O E code:** 05.10.01 STRUCTURAL  
**Holland Code:** RC Realistic - Conventional  
**O O H Page:** 852 Helpers - installation, maintenance, and repair workers

**CENSUS 2000 code:** 761 HELPERS--INSTALLATION, MAINTENANCE, AND REPAIR WORKERS  
**CENSUS 2010 code:** 7610 Helpers--installation, maintenance, and repair workers  
**SOC2000 code:** 49-9098 Helpers--Installation, Maintenance, and Repair Workers  
**SOC2010 code:** 49-9098 Helpers--Installation, Maintenance, and Repair Workers  
**O\*NET code:** 49-9098.00 Helpers--Installation, Maintenance, and Repair Workers  
**ONET2006 code:** 49-9098.00 Helpers--Installation, Maintenance, and Repair Workers  
**ONET2010 code:** 49-9098.00 Helpers--Installation, Maintenance, and Repair Workers  
**CIP2000 code:** 47.0303 Industrial Mechanics & Maintenance Technology  
**NOC2001 code:** 7612 OTHER TRADES HELPERS AND LABOURERS

**CENSUS 1990 code:** 865 HELPERS, MECHANICS AND REPAIRERS  
**O E S OLD code:** 98102 Helpers, Mechanics and Repairers  
**ONET98 code:** 98102 Helpers- Mechanics and Repairers  
**SOC1980 code:** 8637 HELPERS, MISCELLANEOUS MECHANICS AND REPAIRERS

# Occupational Group Arrangement (OGA)

- The first 3 digits of the DOT code
- Identify a particular occupational group of Closely related occupations

0/1 – Professional, Technical, Managerial

2 – Clerical / Sales

3 – Service Occupations

4 – Agricultural, Fishery, Forestry

5 – Processing Occupations

6 – Machine Trades Occupations

7 – Benchwork Occupations

8 – Structural Work Occupations

9 – Miscellaneous Occupations

# Occupational Group Arrangement (OGA)

## **637 – Utilities Service Mechanics and Repairers**

Installing, maintaining, and repairing mechanical equipment and appliances used to supply heat, conditioned air, water, and related utilities in homes and commercial or industrial establishments

## **222 – Shipping, Receiving, Stock and Related Clerical Occs.**

Receiving, storing, shipping, distributing, and issuing supplies, equipment, and merchandise within a stockroom, tool crib, receiving room, shipping room, freight yard, or warehouse environment, but excludes occupations requiring direct contact with materials or products involved. Checking incoming or outgoing shipments by such methods as counting, measuring and weighing, distributing, issuing, and requisitioning items; taking and maintaining inventories, etc.

## **620 – Motorized Vehicle and Engineering Equipment Mechanics and Repairers**

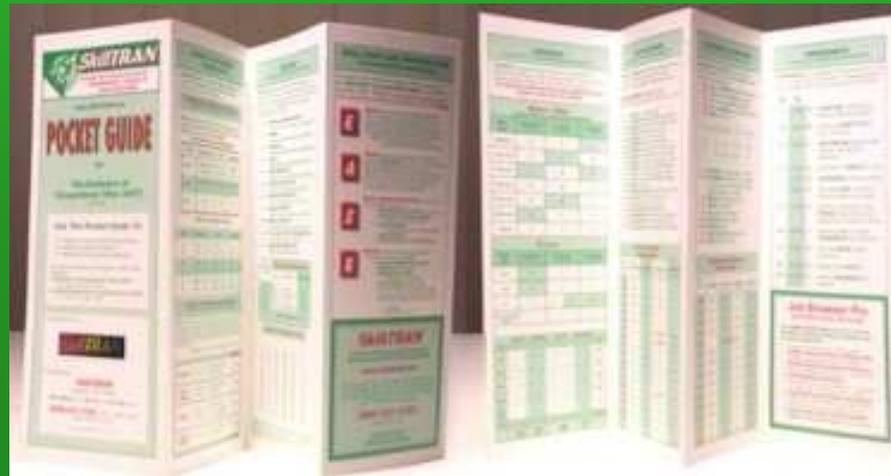
Repairing engines and accessories, power trains, suspension systems, and other mechanical units of automobiles, trucks, tractors, buses, and trackless trolleys; graders, bulldozers, cranes, power shovels, portable air-compressors, and other gasoline- or diesel-powered engineering equipment; motorized materials-handling equipment, ...; and wheeled or tracked military vehicles ...

# Worker Functions

	DATA	PEOPLE	THINGS
0	Synthesizing	Mentoring	Setting Up
1	Coordinating	Negotiating	Precision Working
2	Analyzing	Instructing	Operating-Controlling
3	Compiling	Supervising	Driving-Operating
4	Computing	Diverting	Manipulating
5	Copying	Persuading	Tending
6	Comparing	Speaking-Signaling	Feeding-Off Bearing
7		Serving	Handling
8		Taking Instructions - Helping	

# Pocket Guide to DOT

- Case Preparation for TSA
- Interpret Vocational Reports
- Reference during Expert Testimony



# Physical Demands

## STRENGTH

Sedentary

Light

Medium

Heavy

Very Heavy

Rating is a combination of:

- Weight / Force Exerted
- Position
- Sliding Scale

# Physical Demands

## Motor

- Climbing
- Balancing
- Stooping
- Kneeling
- Crouching
- Crawling

## Dexterity

- Reaching
- Handling
- Fingering

## Sensory

- Feeling
- Talking
- Hearing
- Tasting / Smelling

## Vision

- Near Acuity
- Far Acuity
- Depth Perception
- Accommodation
- Color Vision
- Field of Vision

## Rated by Frequency

- Not Present
- Occasional: Up to 1/3 day
- Frequent: 1/3 – 2/3 day
- Constant: More than 2/3 day

# Environmental Conditions

## Environment

- Weather Exposure
- Cold Extremes (not weather)
- Heat Extremes (not weather)
- Wetness (not weather)
- Atmospheric (Fumes/Dust)
- Vibration
- Noise

## Hazards

- Moving Mechanical Parts
- Electrical Shock
- High, Exposed Places
- Radiation
- Explosion
- Toxic / Caustic
- Other

Very Quiet

Quiet [ $< 50$  db]\*

Moderate [ $50-80$  db]\*

Loud [ $80-100$  db]\*

Very Loud [ $> 100$  db]\*

\* Interpreted from 1972 HAJ

## Rated by Frequency

- Not Present
- Occasional: Up to 1/3 day
- Frequent: 1/3 – 2/3 day
- Constant: More than 2/3 day

# General Educational Development

<b>GED</b>	<b>Reasoning</b>	<b>Math</b>	<b>Language</b>
<b>6</b>	Intellectual	Adv. Calc.	Graduate
<b>5</b>	Scientific	Statistics	College
<b>4</b>	High School	Algebra	High School
<b>3</b>	7-8	7-8	7-8
<b>2</b>	4-6	4-6	4-6
<b>1</b>	1-3	1-3	1-3

*Vocational Preparation and Occupations (VPO),  
Third Edition. Volume 1 - Reference D – 1982*

# Specific Vocational Preparation

Unskilled	<b>1</b>	Short Demo Only
	<b>2</b>	Up to 30 Days
Semi-Skilled	<b>3</b>	30 Days – 3 Months
	<b>4</b>	3-6 Months
Skilled	<b>5</b>	6 Months – 1 Year
	<b>6</b>	1-2 Years [Cert./AA]
	<b>7</b>	2-4 Years [AA/BA/BS]
Highly Skilled	<b>8</b>	4-10 Years [MA/MS/PhD]
	<b>9</b>	> 10 Years

# Aptitudes

## Intelligence

- General [IQ]
- Verbal
- Numerical

## Perceptual

- Spatial
- Form
- Clerical
- Color Discrimination

## Performance

- Motor Coordination
- Finger Dexterity
- Manual Dexterity
- Eye-Hand-Foot Coordination

APTITUDE LEVEL	Test Score Conversion		
	%ile	Interpretation	GATB
1	90-99	Superior	< 125
2	68-89	Above Average	108-125
3	34-65	Average	92-107
4	1-33	Below Average	56-91
<b>5</b>	<b><u>Minimal Ability / Unable to Perform</u></b>		

# Aptitude Testing of Workers

## LEVELS OF APTITUDES

In job analysis, aptitude estimates are useful as analytical and descriptive tools and can be expressed in terms of the following levels which reflect the amount of the aptitudes possessed by segments of the working population:

1. The top 10 percent of the population. This segment of the population possesses an extremely high degree of the aptitude.
2. The highest third exclusive of the top 10 percent of the population. This segment of the population possesses an above average or high degree of the aptitude.
3. The middle third of the population. This segment of the population possesses a medium degree of the aptitude ranging from slightly below to slightly above average.
4. The lowest third exclusive of the bottom 10 percent of the population. This segment of the population possesses a below average or low degree of the aptitude.
5. The lowest 10 percent of the population. This segment of the population possesses a negligible degree of the aptitude.

Aptitude Levels				
1	2	3	4	5
Extremely High Aptitude Ability	High Degree of Aptitude Ability	Medium Degree of Aptitude Ability	Lower Degree of Aptitude Ability	Markedly Low Aptitude Ability
Top 10%	Highest Third Excluding Top 10%	Middle Third	Lowest Third Excluding Top 10%	Bottom 10%
Percent of Working Population				

# Aptitude Rating of Occupations

## PROCEDURE FOR RATING APTITUDES

Every aptitude factor must be considered independently in the rating process for each job. The analyst estimates the level of each aptitude required of the worker for average, satisfactory performance based on a careful evaluation of the work activities of the job and the specific worker abilities which can be identified in terms of the aptitudes. Then the appropriate aptitude level number is assigned. Certain of the aptitudes can be identified through study of the physical actions which the worker performs, such as Motor Coordination, Finger Dexterity, and Eye-Hand-Foot Coordination; other Aptitudes, such as Spatial, Numerical, and General Learning Ability, are identified by considering worker judgments and other mental processes involved in performing the job satisfactorily. Aptitude levels are determined by comparing the tasks of the job with the aptitude definitions, interpretive information, and the examples of work activities shown for each level which appear in the next section of this chapter.

Note that for each of the eleven aptitudes there are not any examples of job duties for level 5. Level 5 is used to indicate that for the job under study the amount of aptitude required is negligible or the aptitude is not required at all. Since level 5 represents an aptitude level that is not required or is required only in negligible amounts and which, according to the table above, represents job duties which 90 to 100 percent of the working population could perform satisfactorily, examples of job duties for this level are not provided. If there is a doubt as to which of two levels should be assigned, select the lower level. Enter in the box immediately below each Aptitude letter in Item 9 of the JAR a number, one through five, to indicate the estimated Aptitude level required in the job.

*Revised Handbook for Analyzing Jobs, 1991*

# Aptitude Interpretation for DOT

In Item 6, on the job analysis schedule, beside each aptitude factor designation, place the numeral 1 through 4, to indicate the level required for satisfactory performance. Use the numeral 5 if the aptitude is not required. Level 5 should not be assigned to Intelligence (G) as it is assumed that every job requires at least a "4" level of this aptitude.

*Handbook for Analyzing Jobs, 1972. p. 294*

10,288 (80.6%) of the DOT was last updated in 1977

# Temperaments

## Interpersonal

**A** – Working **Alone**

**S** – **Stress** – Worker or Others are in Danger

**U** – Working **Under** specific instructions

## Communication

**D** – **Directing**, Controlling, Planning

**I** – **Influencing** opinions, attitudes

**E** – **Expressing** personal feelings

**P** – Dealing with **People**

## Task-Related

**R** – **Repetitive**, Short-Cycle work

**V** – **Variety** of work

**T** – Attaining precise **Tolerances**

**J** – Making **Judgments** and decisions

# WORK Fields Materials, Products, Subject Matter, Services (MPSMS)

## WORK Fields (WF)

- Categories of technologies that reflect **how** work gets done and **what** gets done as a result of the work activities of a job: the **purpose** of the job
- **MTEWA** – **M**achines, **T**ools, **E**quipment, **W**ork **A**ids
- 3-digit Codes

N = 96  
6 Combination WF

## MPSMS

- Basic **Materials** Processed
- Final **Products** Made
- **Subject Matter** or applied data
- **Services** rendered
- 3-digit Codes

N = 48 Groups  
N = 336 Categories

# Work Fields

## 111 – Electrical-Electronic Fabricating-Installing-

Fabricating, installing, and repairing objects that have electrical and electronic functioning elements by any combination of the following work fields: Abrading (051), Bolting-Screwing (071), Boring (053), Fitting-Folding (061), Nailing (072), Riveting (073), Soldering-Brazing (083), Welding (081), and Winding (163). *Distinguish from Structural Fabricating-Installing-Repairing (102) and Mechanical Fabricating-Installing-Repairing (121).*

## 121 – Mechanical Fabricating-Installing-Repairing

Fabricating, installing, and repairing objects that have moving parts of mechanically functioning elements by any combination of the following work fields: Abrading (051), Bolting-Screwing (071), Boring (053), Brushing-Spraying (153), Chipping (052), Fastening (062), Fitting-Folding (061), Flame Cutting-Arc Cutting-Beam Cutting (082), Gluing-Laminating (063), Immersing-Coating (151), Milling-Turning-Planing (055), Nailing (072), Pressing-Forging (134), Riveting (073), Sawing (056), Sewing-Tailoring (171), Shearing-Shaving (054), Soldering-Brazing(083), and Welding (081).

## 221 – Stock Checking

Receiving, storing, issuing, requisitioning, and accounting for stores of materials and materials in use; involves the physical handling of the materials.

# **MPSMS – Materials, Products, Subject Matter, & Services**

## **573 – Refrigeration and Air Conditioning**

Refrigeration and Air Conditioning Equipment (commercial and industrial refrigeration equipment and systems; air-conditioning units; warm-air furnaces [except electric]; soda fountain and beer-dispensing units; humidifiers and dehumidifiers [except room]; evaporative condensers [heat-transfer equipment]; etc.

## **591 – Motor Vehicles**

Motor Vehicles and Motor-Vehicle Equipment (motor vehicles; passenger car bodies; truck and bus bodies; motor-vehicle parts and accessories including engines and parts [except diesel]; truck trailers; and motor homes).

## **898 – Production Services**

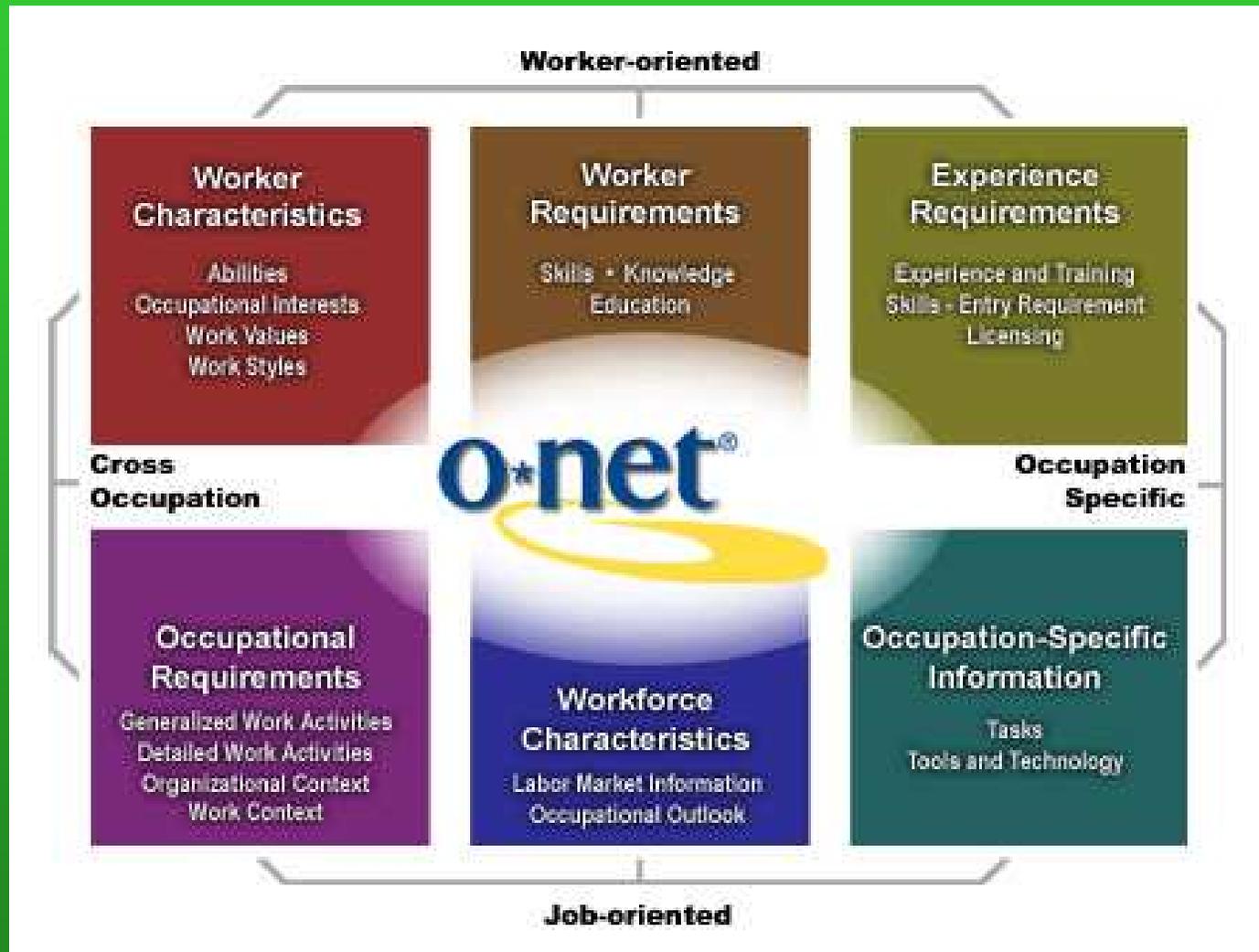
Production Services (stock chasing, timekeeping, etc.)

# O\*NET- 1998 – Present

## The Occupational Network

- Completely Online – No printed material  
[www.onetonline.org](http://www.onetonline.org)
- Now O\*NET 19 (headed to O\*NET 19.1)
- Different Content Model / Purpose vs. DOT
- Different Data Collection Process
- Highly aggregated (vs. DOT)
- Rating Scales:  $n = 277$   
Different Scales + Importance
- Large standard deviations in incumbent ratings

# O\*NET Content Model



# Standard Occupational Classification

SOC – OES – CENSUS – OOH – O\*NET

11-0000 Management

13-0000 Business and Financial Operations

15-0000 Computer and Mathematical

17-0000 Architecture and Engineering

19-0000 Life, Physical, and Social Science

21-0000 Community and Social Service

23-0000 Legal

25-0000 Education, Training, and Library

27-0000 Arts, Design, Entertainment, Sports, and Media

29-0000 Healthcare Practitioners and Technical

31-0000 Healthcare Support

33-0000 Protective Service

35-0000 Food Preparation and Serving Related

37-0000 Building and Grounds Cleaning and Maintenance

39-0000 Personal Care and Service

41-0000 Sales and Related

43-0000 Office and Administrative Support

45-0000 Farming, Fishing, and Forestry

47-0000 Construction and Extraction

49-0000 Installation, Maintenance, and Repair

51-0000 Production Occupations

53-0000 Transportation and Material Moving

55-0000 Military

# Standard Occupational Classification

## SOC – OES – CENSUS – OOH – O\*NET

### 21-0000 Community and Social Service

<b>21-1000</b>		<b>Counselors, Social Workers, and Other Community and Social Service Specialists</b>
21-1010		Counselors
	21-1011	Substance Abuse and Behavioral Disorder Counselors
	21-1012	Educational, Guidance, School, and Vocational Counselors
	21-1013	Marriage and Family Therapists
	21-1014	Mental Health Counselors
	21-1015	Rehabilitation Counselors
	21-1019	Counselors, All Other
21-1020		<b>Social Workers</b>
	21-1021	Child, Family, and School Social Workers
	21-1022	Healthcare Social Workers
	21-1023	Mental Health and Substance Abuse Social Workers
	21-1029	Social Workers, All Other
21-1090		<b>Miscellaneous Community and Social Service Specialists</b>
	21-1091	Health Educators
	21-1092	Probation Officers and Correctional Treatment Specialists
	21-1093	Social and Human Service Assistants
	21-1094	Community Health Workers
	21-1099	Community and Social Service Specialists, All Other
<b>21-2000</b>		<b>Religious Workers</b>
21-2010		Clergy
	21-2011	Clergy
21-2020		<b>Directors, Religious Activities and Education</b>
	21-2021	Directors, Religious Activities and Education
21-2090		<b>Miscellaneous Religious Workers</b>
	21-2099	Religious Workers, All Other

# Standard Occupational Classification \*

SOC	SOC Title	SOC Definition
21-1011	Substance Abuse and Behavioral Disorder Counselors	Counsel and advise individuals with alcohol, tobacco, drug, or other problems, such as gambling and eating disorders. <b>May</b> counsel individuals, families, or groups or engage in prevention programs. <b>Excludes</b> "Social Workers" (21-1021 through 21-1029), "Psychologists" (19-3031 through 19-3039), and "Mental Health Counselors" (21-1014) providing these services.
21-1012	Educational, Guidance, School, and Vocational Counselors	Counsel individuals and provide group educational and vocational guidance services.
21-1013	Marriage and Family Therapists	Diagnose and treat mental and emotional disorders, whether cognitive, affective, or behavioral, within the context of marriage and family systems. Apply psychotherapeutic and family systems theories and techniques in the delivery of services to individuals, couples, and families for the purpose of treating such diagnosed nervous and mental disorders. <b>Excludes</b> "Social Workers" (21-1021 through 21-1029) and "Psychologists" of all types (19-3031 through 19-3039).
21-1014	Mental Health Counselors	Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental and emotional health. <b>May</b> help individuals deal with issues associated with addictions and substance abuse; family, parenting, and marital problems; stress management; self-esteem; and aging. <b>Excludes</b> "Social Workers" (21-1021 through 21-1029), "Psychiatrists" (29-1066), and "Psychologists" (19-3031 through 19-3039).
21-1015	Rehabilitation Counselors	Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life. Coordinate activities for residents of care and treatment facilities. Assess client needs and design and implement rehabilitation programs that may include personal and vocational counseling, training, and job placement.

\* *The SOC has no worker characteristic data*

# O\*NET 2010 Codes

## **49-9098.00 – Helpers--Installation, Maintenance, and Repair Workers**

Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment. Perform duties, such as furnishing tools, materials, and supplies to other workers; cleaning work area, machines, and tools; and holding materials or tools for other workers.

## **43-5081.03 – Stock Clerks- Stockroom, Warehouse, or Storage Yard**

Receive, store, and issue materials, equipment, and other items from stockroom, warehouse, or storage yard. Keep records and compile stock reports.

# O\*NET 1998, 2000, 2006, 2009, 2010

- Designed as a simpler coding system for Employment Services / WFD (vs. DOT)  
N = 1,100 → 812 → 965
- First 7 characters are the SOC code
- Designed for General Population  
(i.e. NOT for people with disabilities)
- Wide range (Std. Dev.) of responses makes interpretation difficult
- Many variables (n=277) are defined with few and poorly worded anchor points
- Survey based on incumbent responses

# Occupational Outlook Handbook [Online Only]

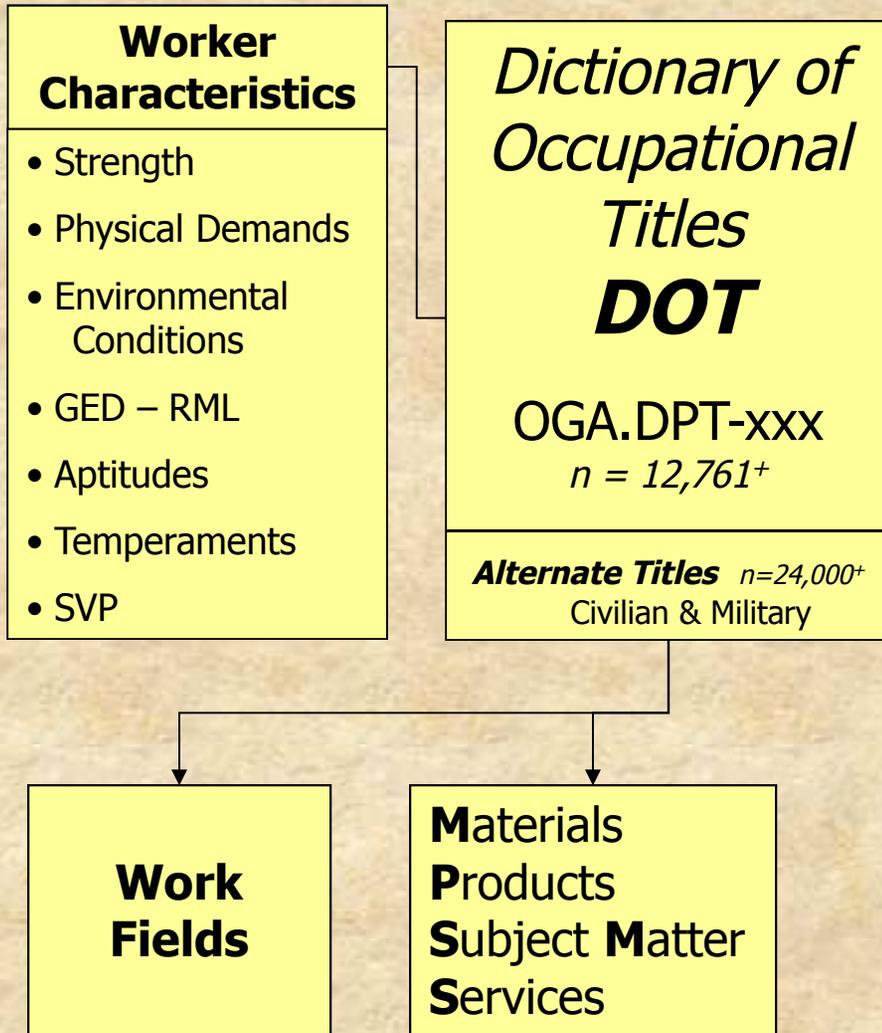
- Available only via internet now
- National Coverage only
- Released every other year
- Detailed Coverage of about 250 occupations
- Minimal details on 150 additional occupations
- Cross references to other sources
- Employment, Earnings, and Outlook Sections
- Helpful narrative supplements statistics
- [www.bls.gov/oco/home.htm](http://www.bls.gov/oco/home.htm)

# Minimum Recommended Library

- *Dictionary of Occupational Titles* – 1991  
(Software or Printed Version with Updates)
- **Worker Characteristics** (Book or Software)  
SCO – *Selected Characteristics of Occupations – US DOL*  
COJ - *Classification of Jobs – Tim Field*
- *Guide for Occupational Exploration* (GOE)
- *Revised Handbook for Analyzing Jobs* (RHAJ - 1991)
- *Transferability Worksheet* (VDARE)
- *Occupational Outlook Handbook* (OOH)  
[www.bls.gov/oco](http://www.bls.gov/oco)
- **O\*NET Online** – [www.onetonline.org](http://www.onetonline.org)

[www.elliottfitzpatrick.com/pcr.html](http://www.elliottfitzpatrick.com/pcr.html)

# Common Data Resources



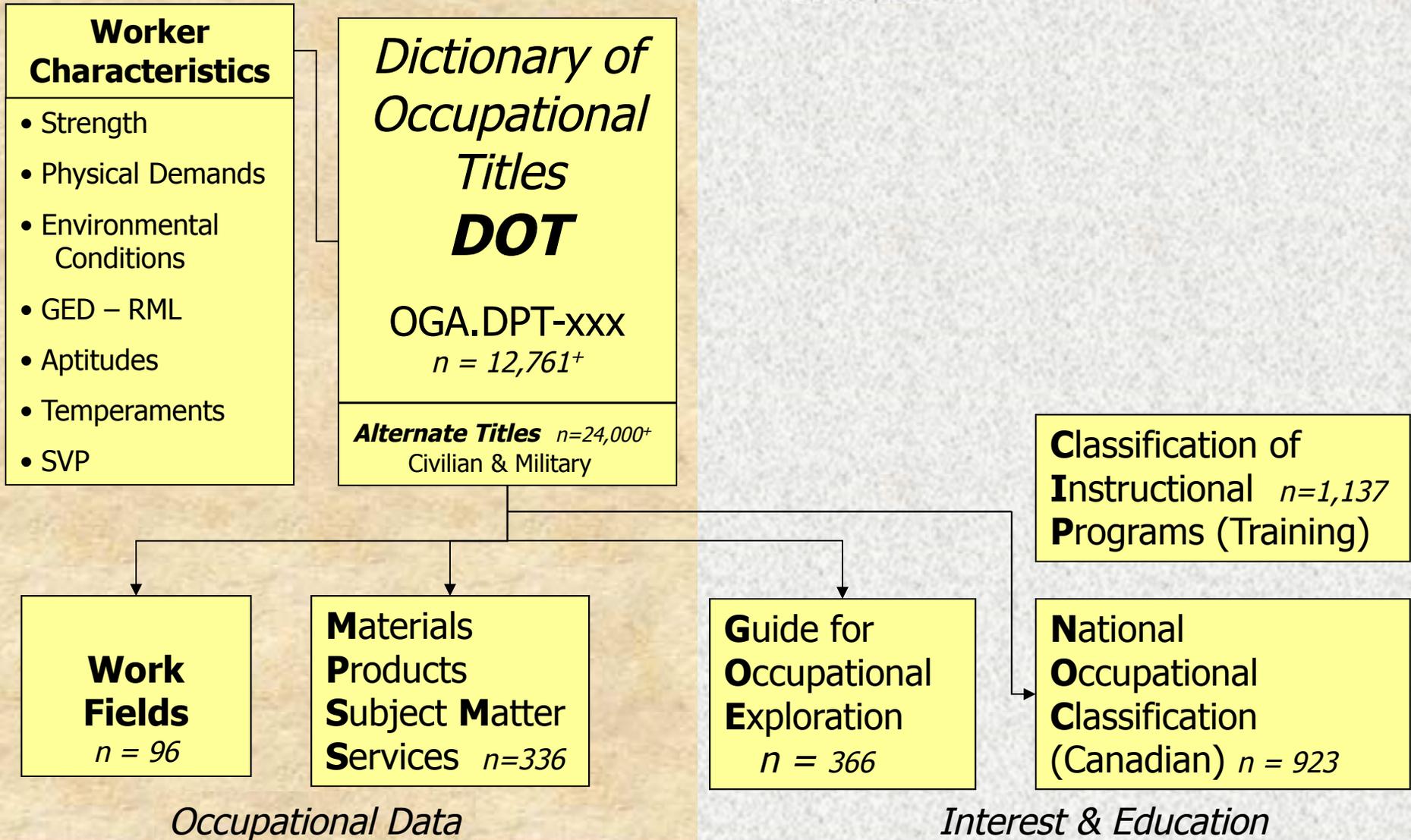
*Labor Market Information*

*Occupational Data*

*Interest & Education*

# Common Data Resources

## Labor Market Information



# Decennial Census (2000, 2010)

- Population count of all U.S. Citizens
- Captures wide range of demographics, including occupation
- Two+ year reporting delay
- Self-reported information
- Occupation reported by Census Occupational Code (n=503)
- [www.census.gov](http://www.census.gov)
- American Fact Finder – [factfinder.census.gov](http://factfinder.census.gov)
- American Community Survey - [www.census.gov/acs](http://www.census.gov/acs)  
(ongoing survey of about 1% of population – 3 million/year)

# Full-Time vs. Part-Time

- Full time is 35 hours or more per week
- Part time is 1 to 34 hours per week.
- <http://www.bls.gov/cps/lfcharacteristics.htm#fullpart>

# Current Population Survey - CPS

- Conducted by Bureau of the Census
- Gender; Full-Time; Part-Time; Self-Employed workers
- 60,000 contacts/month among pool of 210,000 households
- Gathered monthly; aggregated and reported annually in January for the prior year
- Published data vs. “unpublished” Table A26
- Occupation, industry, unemployed reason,
- **Survey of Households [not employers]**
- National Data only – Captures gender data
- [www.bls.gov/cps](http://www.bls.gov/cps)

# OES – Occupational Employment Survey

- 840 SOC (= 820 OES) occupations (F-T & P-T)
- Survey based on responses by 1.2 million non-farm employers
- Does not include self-employed or agricultural industry
- National, State, Metropolitan/Micropolitan, & Non-Metro Regions
- Minimum reporting is 50 in an area (if not all in one firm)
- Data collected during a 3 year survey cycle of 450 industries
- Reported using a rolling average of employment & wage ranges
- > 70% response rate required for publication
- Released once per year in May
- Budget cuts will reduce sample size and increase error rates
- Just released new series by Ownership [including State/Local Govt]
- [www.bls.gov/oes](http://www.bls.gov/oes)

# Industry Classifications

## SIC - 1987

0x – Agriculture  
10-14 – Mining  
15-17 – Construction  
2x-3x – Manufacturing  
4x – Transportation, Utilities  
50-51 – Wholesale  
52-59 – Retail  
6x – Finance, Insurance, Real Estate  
7x-8x – Services  
9x - Public Administration [Govt.]

[www.bls.gov/bls/naics.htm](http://www.bls.gov/bls/naics.htm)

## NAICS 2007

11 – Agriculture  
21 – Mining, Quarrying, Oil-Gas Extraction  
22 – Utilities  
23 – Construction  
31-33 – Manufacturing  
42 – Wholesale Trade  
44-45 – Retail Trade  
48-49 – Transportation / Warehousing  
51 – Information  
52 – Finance / Insurance  
53 – Real Estate / Rental / Leasing  
54 – Professional / Scientific / Technical  
55 – Management of Companies  
56 – Administrative / Support / Waste Mgmt  
61 – Educational Services  
62 – Health Care and Social Assistance  
71 – Arts, Entertainment, Recreation  
72 – Accommodation / Food Services  
81 – Other Services  
92 – Public Administration [Fed/State/Local Govt.]

# Industries at a Glance

- Derived from multiple BLS surveys/programs
- Released every other year
- Covers 100 industry groups National data only
- Breaks out some OES occupations within each industry group (more prevalent occs)
- Average work week length, hours, earnings, union membership, Fatalities, unemployment
- Narrative format with some tables
- [www.bls.gov/iag](http://www.bls.gov/iag)

# Input-Output Matrix

- Built using OES, CPS, and CES data
- Constructed for long-term occ. Projections
- Covers 300+ NAICS industries and 700+ occupations
- Considers: Labor Force, aggregate economy, final demand (GDP), industry output, employment by industry, employment by occupation
- Peer-reviewed by multiple govt. economists
- [www.bls.gov/emp/ep\\_data\\_input\\_output\\_matrix.htm](http://www.bls.gov/emp/ep_data_input_output_matrix.htm)

# Factors Affecting Industry Output & Employment [ By Industry Sector]

## Example:

### **334400** - Semiconductor and other electronic component manufacturing

Output is used as an input in communications equipment, computers, and numerous other consumer goods and manufacturing industries. It is also exported. Output is projected to increase significantly faster than GDP, assisted by steady export growth.

**Productivity growth is expected to continue at a high pace as processes continue to be automated. Productivity growth, combined with the movement of some research and development overseas, is expected to result in a decline in employment.** This industry is one of the fastest growing, in terms of output, over the projection period.

# OES – Long Term Employment Projections

- Updated every two years
- Shows national projections for occupations by industry (NAICS 2007)
- Uses OES Survey data plus Current Employment Statistics (CES) and the CPS and the I/O Matrix
- Cites 300+ NAICS industries for 700+ OES groups
- Data suppressed if < 50 workers in an industry
- 10 year projection model uses labor force, aggregate economy, final demand (GDP), industry output, employment by industry, and employment by occupation
- [www.bls.gov/emp](http://www.bls.gov/emp)

# Fastest Growing and Declining Industries

Employment Projections – Bureau of Labor Statistics

[http://www.bls.gov/emp/ep\\_table\\_103.htm](http://www.bls.gov/emp/ep_table_103.htm)

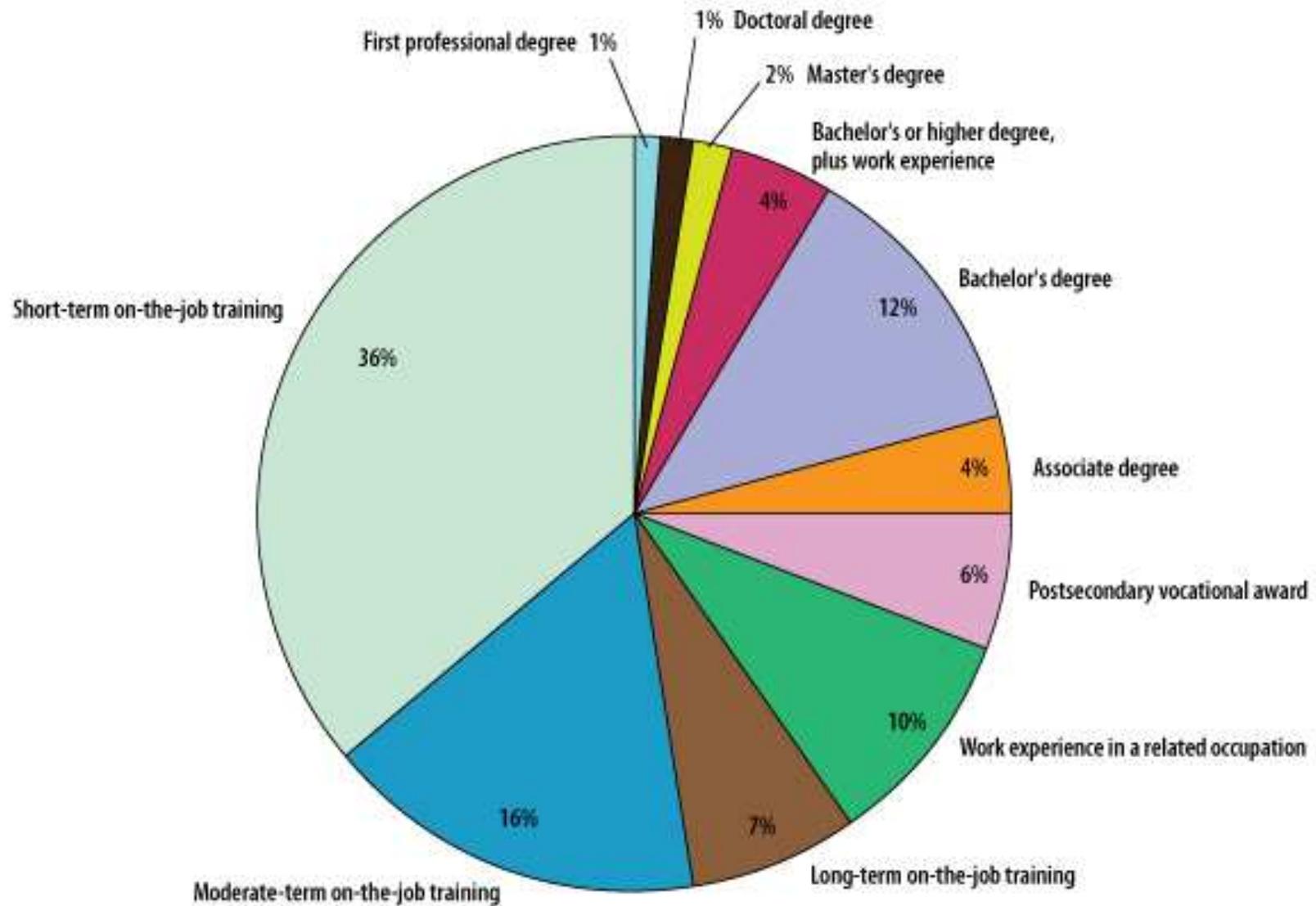
List of all NAICS Codes & Titles

<http://www.bls.gov/bls/naics.htm>

# Occupational Projections and Training Data (OPTD)

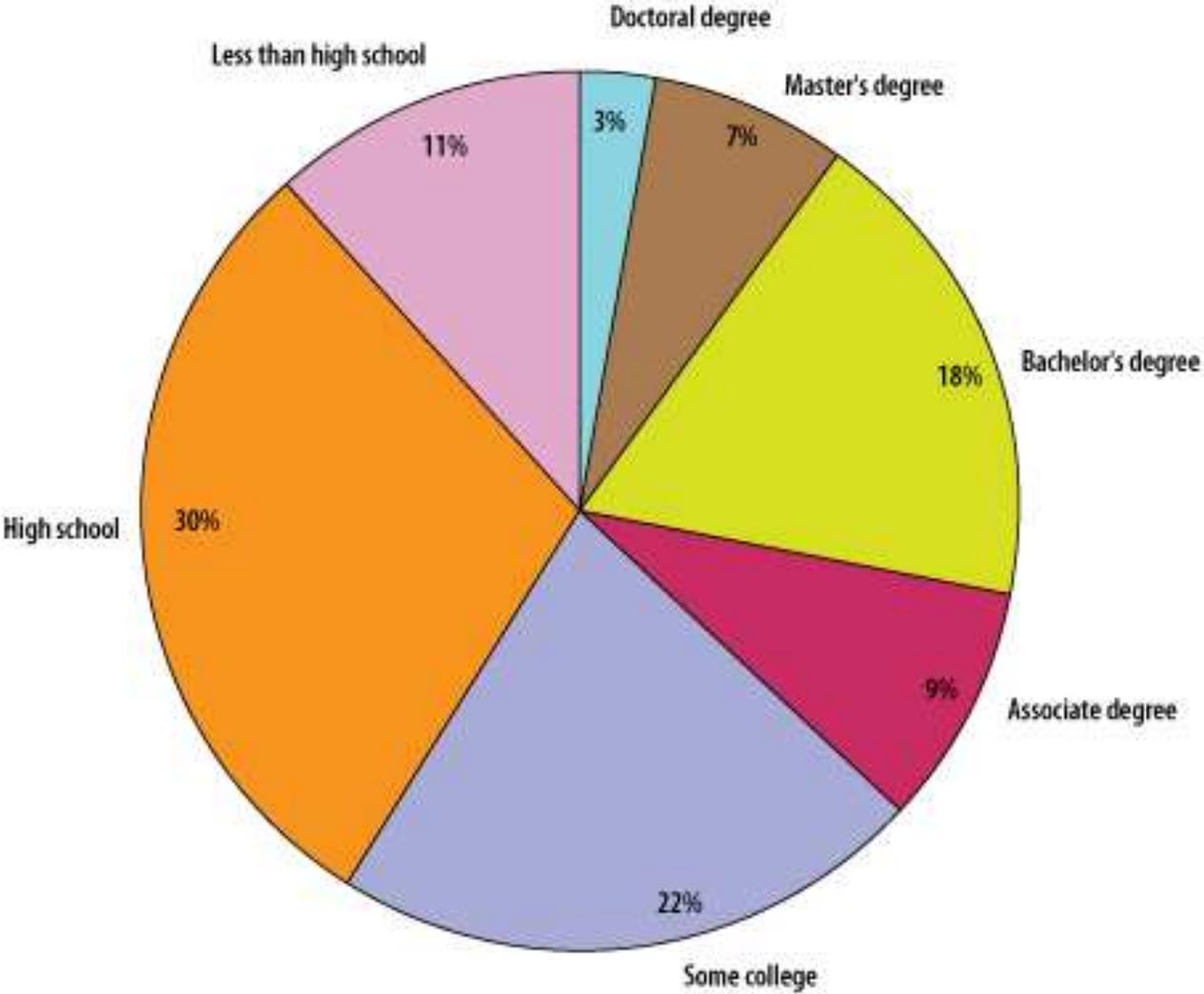
- Now discontinued – no longer available on its own  
[www.bls.gov/emp/optd](http://www.bls.gov/emp/optd)
- Was updated every other year
- Full-Time % vs. Part-Time %; Self-Employed %
- Long Term Projections for Occupations, by NAICS
- Education Level by 11 categories for Occupations
- Educational Attainment in 7 Groups (using ACS)
- Education & Training Statistics: Completions, by field of study

# Chart 1. 2008 employment by education or training category



Source: U.S. Bureau of Labor Statistics

**Chart 2. 2008 employment by educational attainment**



Source: U.S. Bureau of Labor Statistics

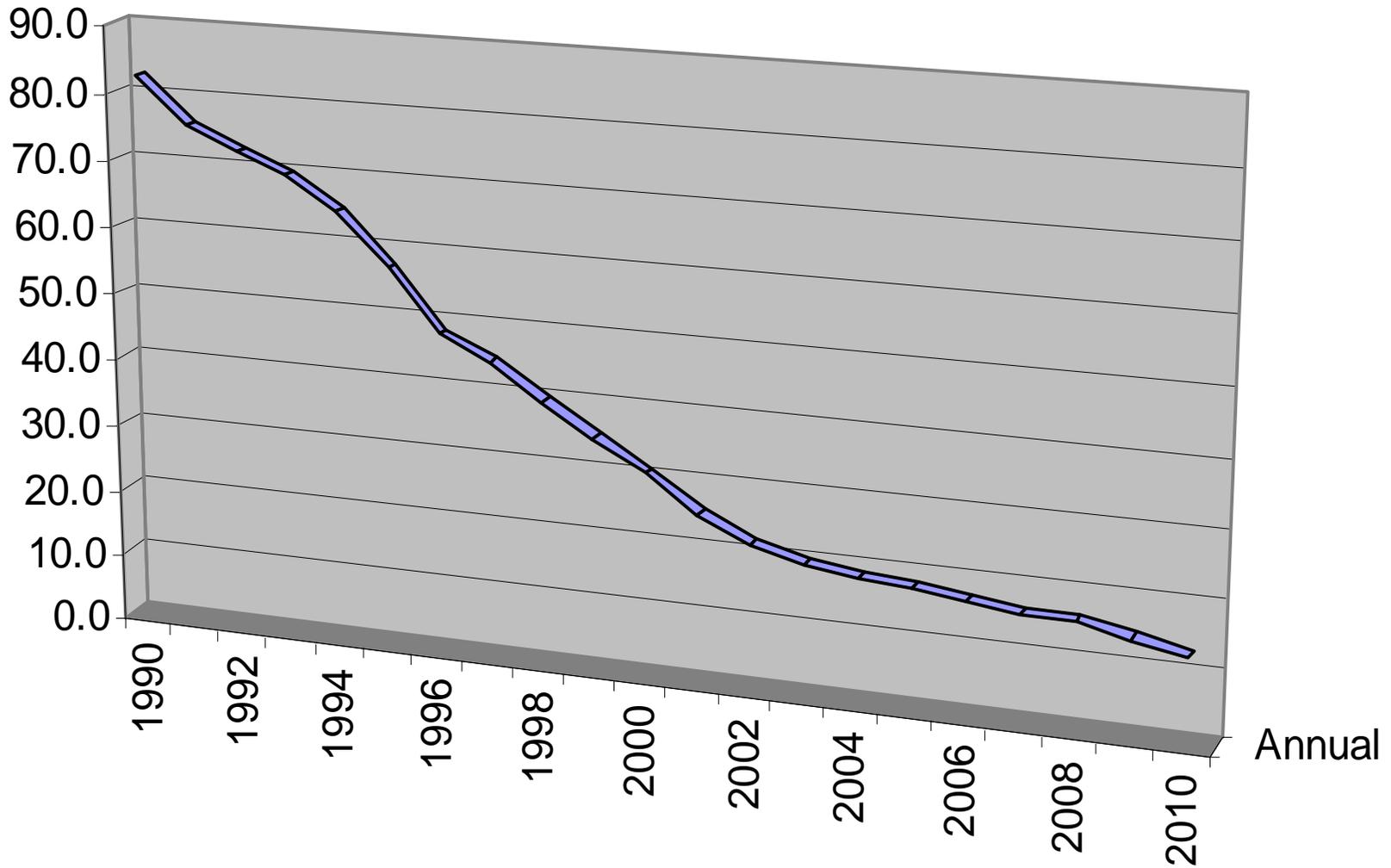
# JOLTS – Job Openings and Labor Turnover Survey

- Job Openings, Hires, and Separations
- Overall openings by NAICS supersector and select NAICS sectors and by region
- Employment, job openings, hires, quits, layoffs and discharges, and other separations
- Number of unfilled jobs
- Gross employment – **not by occupation group**
- Sample size: 16,000 establishments from the 8 million employers registered for UI
- [www.bls.gov/jlt](http://www.bls.gov/jlt)

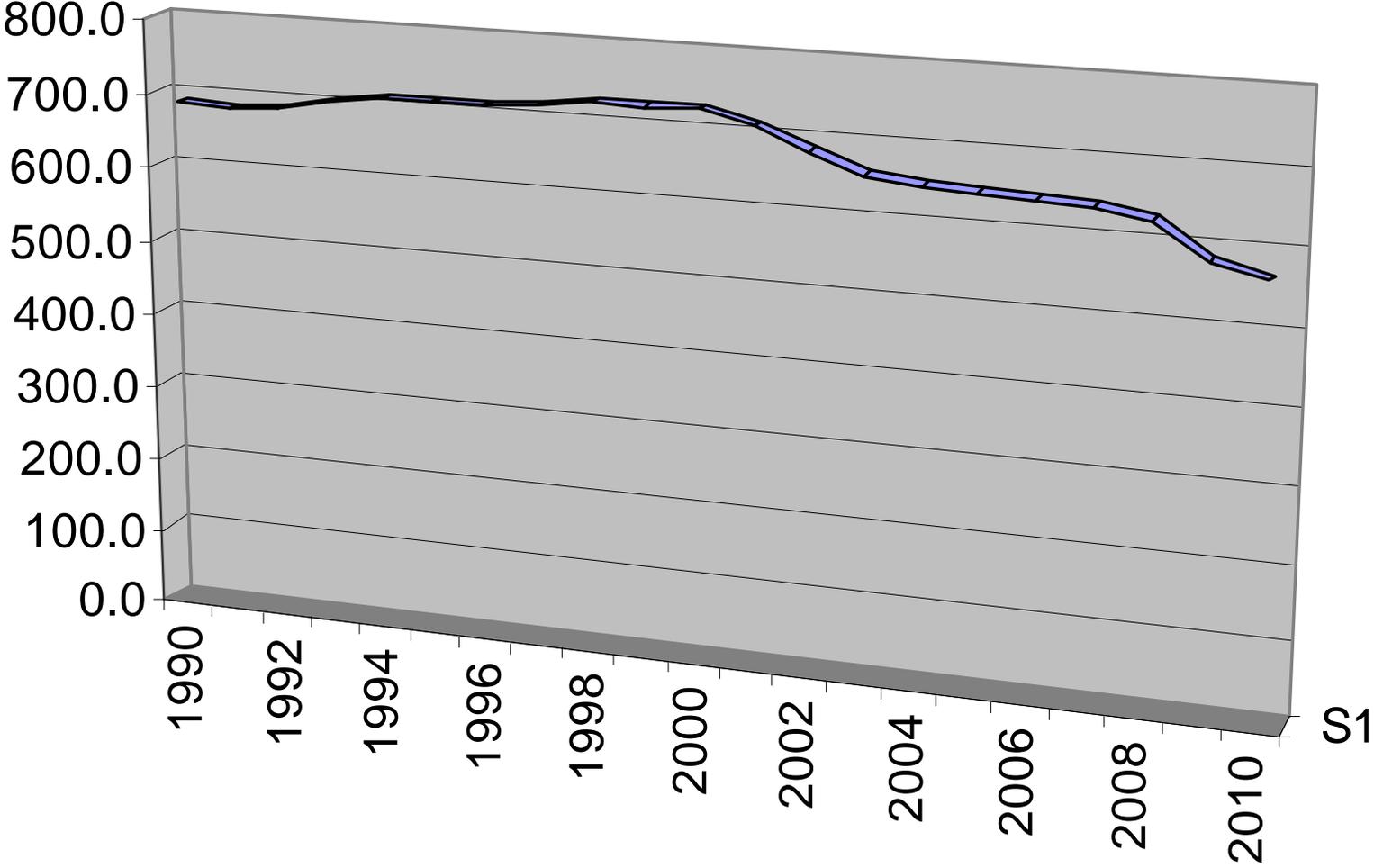
# Current Employment Statistics

- Monthly survey by SWA for BLS – full/part-time workers
- Covers 90+% of employment
- Gross employment numbers by NAICS Industry
- Nonagricultural payrolls (employed workers)  
[Counts number of persons employed who pay into the UI system – 8 million employers]
- [Average earnings data for the industry ... **not by occupation**]
- Quarterly employment numbers by 6 digit NAICS –  
Reconstructed to go back to 1990 – [QCEW]  
CEW = Census of Employment and Wages
- Available for US, States, Counties, MSA/CBSA
- [www.bls.gov/ces](http://www.bls.gov/ces)

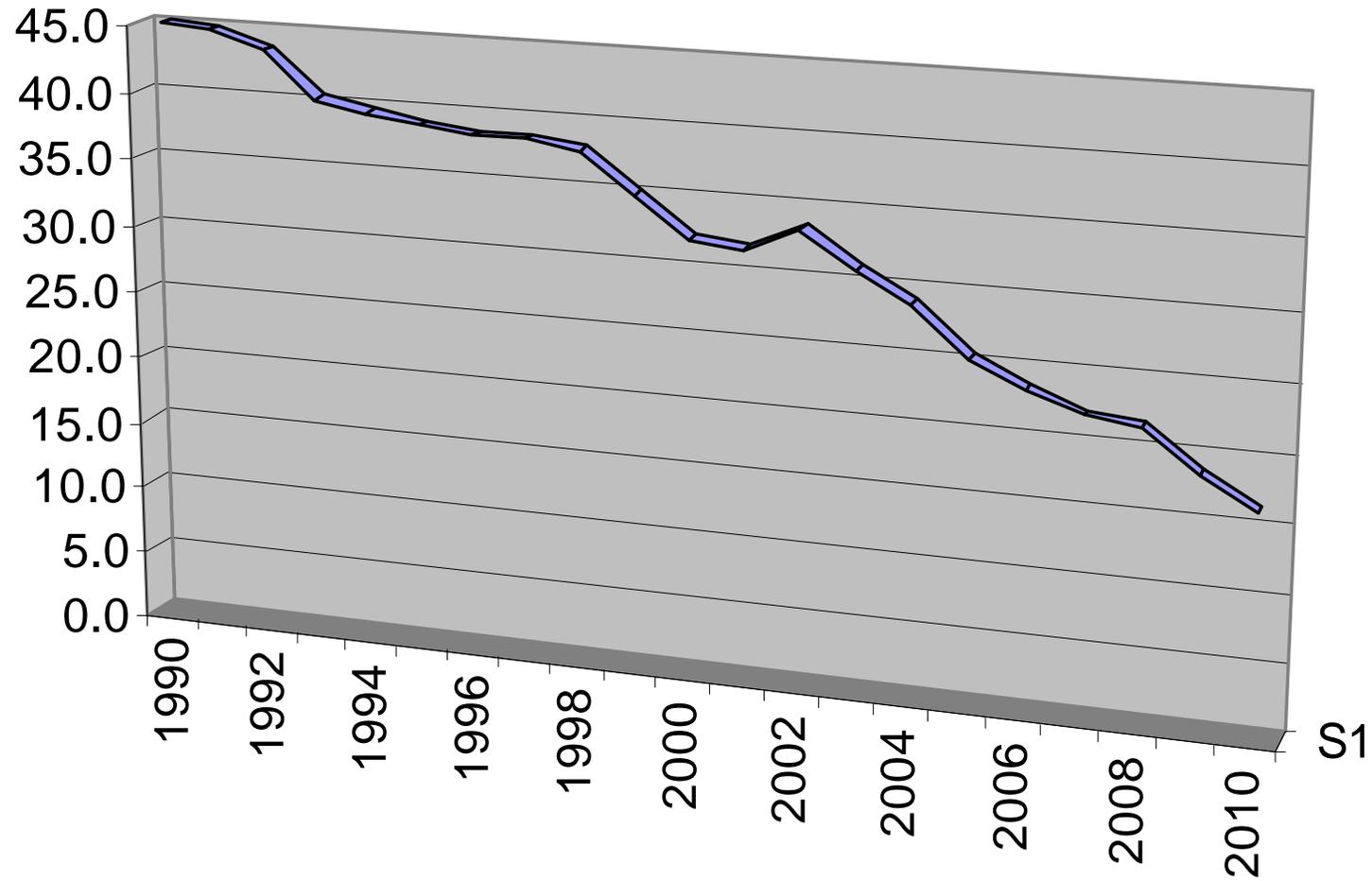
## Total Employment - Footwear Mfg Industry



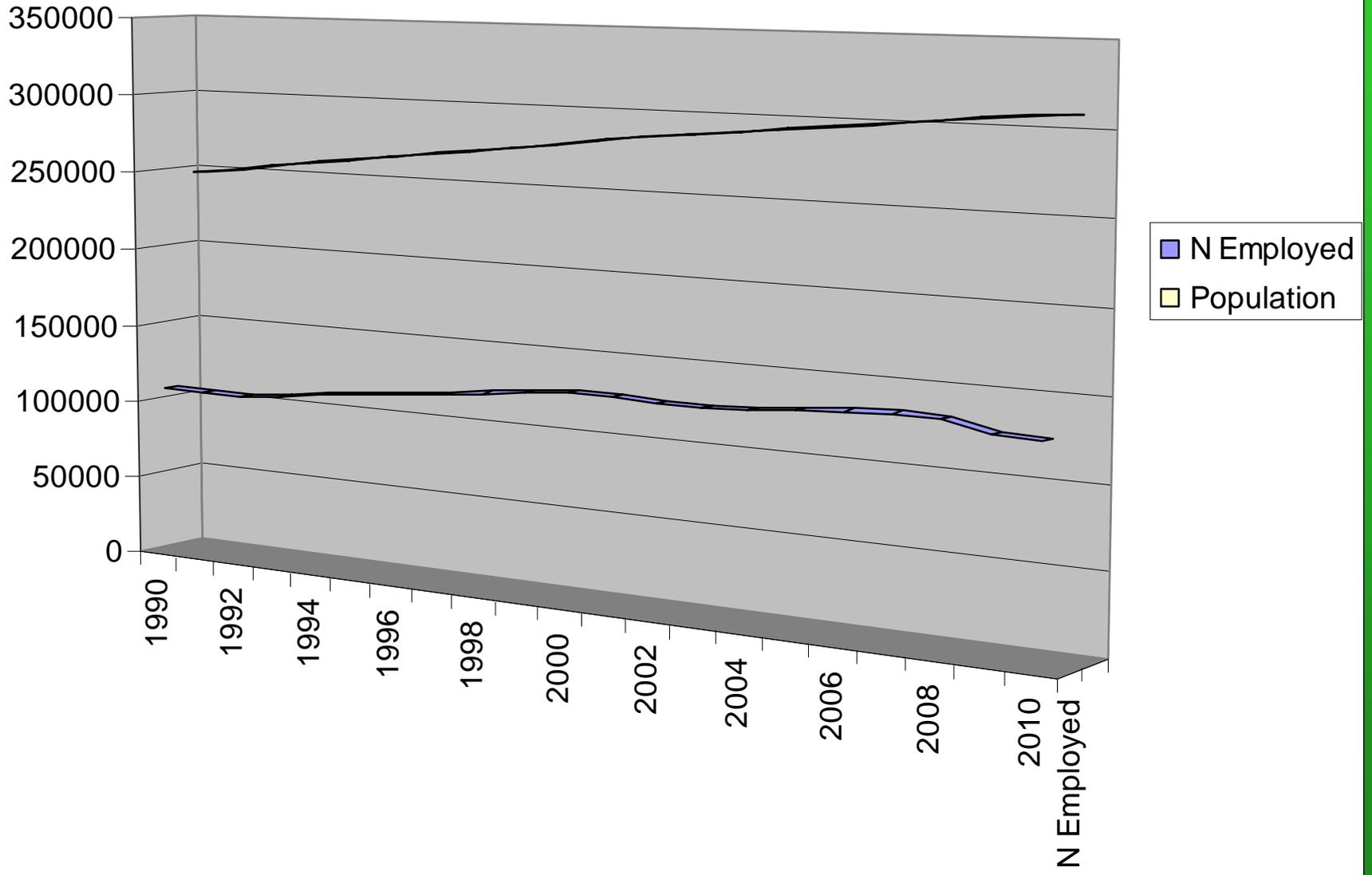
# Total Employment - Fabrication, NEC



## Total Employment - Tobacco Mfg.



### Population Growth vs. Labor Force (Thousands)



# County Business Patterns

- Counts of business by NAICS – 6 digits
- Gathered from income tax data:
  - Excludes the self-employed, farm workers, government workers, railroad workers
- Not a sample – this is all firms with employees
- Breakouts by size classes (N employees)
- Available for US, County, MSA, Zip Code
- Two year lag time in availability (mid-year)
- [www.census.gov/econ/cbp/index.html](http://www.census.gov/econ/cbp/index.html)

# Business Dynamics Statistics

- New tool –Investigates a changing economy
- Reports firm age and firm size using longitudinal data
- Public-use data
- # Establishments / Openings & Closings
- Employment (not by occupations)
- Job Creation-Expansion / Destruction-Contraction
- Annual data 1992-2013
- NAICS-based Industries
- [www.bls.gov/bdm](http://www.bls.gov/bdm)

# NCS – National Compensation Survey

- Employer survey of salaries, wages and benefits (F-T & P-T)
- Now reported by SOC (OES) codes
- Nuances within occupations (work levels)
- National, selected metropolitan and nonmetropolitan areas (n=227)
- [www.bls.gov/ncs](http://www.bls.gov/ncs)

# State Labor Market Information Sources

- Should be available on web for most states
- Check here for your state:  
[www.bls.gov/bls/ofolist.htm](http://www.bls.gov/bls/ofolist.htm)

# Labor Market Information - Resources Guide

Courtesy of SkillTRAN LLC - 2014

	OOH	IAG	CPS	OES	NCS	I-O Matrix	LTEP	OPTD	JOLTS	CES	CBP	BDS
Coverage	US	US	US	US, State	US Metro				US	US, State	US, State	
N Occupations	400	75%	503	Regional	Non-Metro				Regional	County, MSA	County	
Update Frequency	2 yrs	2 yrs	10 yr / 1 yr	801	800	US	US	US	0	0	0	
				Varies		2 yrs	2 yrs	2 yrs	1 yr	12x/yr	1 yr	
<b>Orientation</b>												
Client	X	X										
Professional	X	X	X	X	X	X	X	X	X	X	X	X
Cross References	O*NET	O*NET NAICS	SOC / OES	SOC/OES NAICS	SOC/OES	SOC/OES NAICS	SOC/OES NAICS	SOC/OES NAICS	NAICS	NAICS	NAICS	NAICS
Related Sites	X	X										
<b>By Occupations</b>												
Employment Numbers	X	X	X	X		X	X	X				
Wages	X	X	X	X	By Occ Level			Median				
Long Term Outlook	X	X				X	X	X				
<b>By Industry</b>												
Employment Numbers		X		X		X	X	X	X	X	X	X
Wages		X		X	X					Payroll	Payroll	
Long Term Outlook		X				X	X	X				
Long Term History												X
Education Requirements	X	X						X				
Age Distribution		X										
Full-Time / Part-Time / Self-Employment		X	X		X			X		X		
Hours Worked	X	X			X							
Gender				X								
Union Affiliation		X	X		X							
Employee Absence			X									
Benefits					X							
Job Openings								X	X			
Job Creation / Destruction												X
Business Estimates (N establishments)					X						X	X
by N employees in size ranges												X
by Firm Age (N years in business)												X

Resource	Web URL:	Comments:
OOH <i>Occupational Outlook Handbook</i>	<a href="http://www.bls.gov/oooh">www.bls.gov/oooh</a>	Narrative Format - Also see OOO
IAG <i>Industries at a Glance</i>	<a href="http://www.bls.gov/iag">www.bls.gov/iag</a>	Covers 100 Major Industry Groups
CPS <i>Current Population Survey</i>	<a href="http://www.bls.gov/cps">www.bls.gov/cps</a>	Self-Reported Data by large occupational groups
OES <i>Occupational Employment Survey</i>	<a href="http://www.bls.gov/oes">www.bls.gov/oes</a>	Employer-Reported Comprehensive Data
NCS <i>National Compensation Survey</i>	<a href="http://www.bls.gov/nsc">www.bls.gov/nsc</a>	Occupational Levels - Employer Cost & Trends
I-O Matrix <i>Input-Output Matrix</i>	<a href="http://www.bls.gov/emp/ep_data_input_output_matrix.htm">www.bls.gov/emp/ep_data_input_output_matrix.htm</a>	Bureau of Economic Analysis
LTEP <i>Long Term Employment Projections</i>	<a href="http://www.bls.gov/emp">www.bls.gov/emp</a>	10 Year Occupation/Industry Projections
OPTD <i>Occupational Projections and Training Data</i>	<a href="#">discontinued</a>	Excellent info re: Education Attainment
JOLTS <i>Job Openings and Labor Turnover Survey</i>	<a href="http://www.bls.gov/jlt">www.bls.gov/jlt</a>	? Reliability vs. CES
CES <i>Current Employment Statistics</i>	<a href="http://www.bls.gov/ces">www.bls.gov/ces</a>	No occupational detail - workforce size
CBP <i>County Business Patterns</i>	<a href="http://www.census.gov/econ/cbp">www.census.gov/econ/cbp</a>	2 year reporting lag - Universe not sample
BDS <i>Business Dynamics Statistics</i>	<a href="http://www.census.gov/ces/dataproducts/bds/">www.census.gov/ces/dataproducts/bds/</a>	Up to 5 year reporting delay - new universe data set
Statewide Occupational Projections	<a href="http://www.projectionscentral.com">www.projectionscentral.com</a>	Some reporting delays (older data)



# Occupational Information Development Advisory Panel (OIDAP)

- Provide advice and recommendations to SSA for replacing the *DOT* with a new OIS suitable for SSA disability programs
- Broad, varied expertise of panel members
- Up-to-date & legally defensible new Content Model
- Established Dec. 2008 by SSA Commissioner
- Initial set of 700+ pages of recommendations submitted in Sept. 2009 for Continuing Discussions / RFPs / Meetings
- Initial research begun – new data collection methods likely
- Near final content model – May 2011 ?
- **\$100 Million committed by SSA x 4 years**
- **[www.ssa.gov/oidap](http://www.ssa.gov/oidap)**

Break

10 minutes please !

# VDARE

## Transferability of Skills Worksheet

- Vocational Diagnosis and Assessment of Residual Employability (VDARE)
- Process evolved from 1977 joint effort by McCroskey, Wattenbarger, Field, & Sink
- Field & Sink published training manual 1980
- Method became very popular through training
- Solid methodology – Arduous manually!
- Foundation for all automated methods

# Typical Case Process

**Enter Work History**

**Adjust Worker Profile**

**Search Strategy**

**Supplement Search Results**

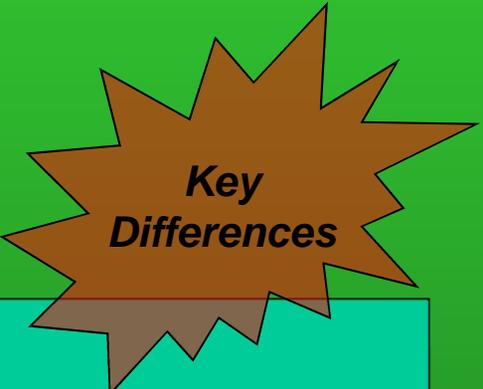
Wage Information / Employment Numbers

Long Term Outlook

Feasibility – Employment Survey

Real Job Openings –

Job Search / Placement



*Key  
Differences*

Web-Based

# Transferable Skills

## Strategies to Implement

### VDARE

- **OGA** – Occupational Group Arrangement
- **DPT** – Data, People, Things
- **GOE** – Guide for Occ. Exploration
- **WORK** Field (MTEWA)
- **SVP** – Specific Vocational Preparation
- **DOT Industry**

### Classic TSA Model

- **WORK** Field (MTEWA)
- **SVP** – Specific Vocational Preparation
- **MPSMS** – Materials, Products, Subject Matter, and Services

### O\*NET

- **Tasks**
- **T2 – Tools & Technologies**

# Processes Change over Time

- **60's & 70's** – Printed books – DOT 3<sup>rd</sup> Edition  
Worker Trait Groups – OGA / DPT / OAP
- **1977** – DOT 4<sup>th</sup> Edition
  - Many more occupations & variables
  - Coding at the unique DOT level
  - Designed for computerization
- **1980's** – Evolution of PC and Online Software
- **1990's** – Evolution of LMI resources & Internet
  - Reduction of DOL commitment to occupations
- **2000+** - Convergence of multiple resources for better interpretation of available data
  - Increasing availability of web-based data from govt.
- **2008** – SkillTRAN Industry Context Method
- **2017-2018** – “DOT Replacement” – New OIS – O\*NET

# **SSA Definition of Transferability of Skills**

## **20 CFR 404.1568(d)**

**(d) Skills that can be used in other work (transferability)—(1) What we mean by transferable skills.** We consider you to have skills that can be used in other jobs, when the **skilled or semi-skilled work activities** you did in past work can be used to meet the requirements of skilled or semi-skilled work activities of other jobs or kinds of work. This depends largely on the similarity of occupationally significant work activities among different jobs.

**(2) How we determine skills that can be transferred to other jobs.**

Transferability is most probable and meaningful among jobs in which—

- (i) The same or a lesser degree of skill is required;**
- (ii) The same or similar tools and machines are used; and**
- (iii) The same or similar raw materials, products, processes, or services are involved.**

**(3) Degrees of transferability.** There are degrees of transferability of skills ranging from very close similarities to remote and incidental similarities among jobs. A complete similarity of all three factors is not necessary for transferability. However, when skills are so specialized or have been acquired in such an isolated vocational setting (like many jobs in mining, agriculture, or fishing) that they are not readily usable in other industries, jobs, and work settings, we consider that they are not transferable.

# Classic TSA Model

## Work Field - SVP / MPSMS

### WORK Field (WF)

“...categories of technologies that reflect how work gets done and what gets done as a result of the work activities of a job: the purpose of the job.” *RHAJ* p. 4-1

### SVP – Specific Vocational Preparation

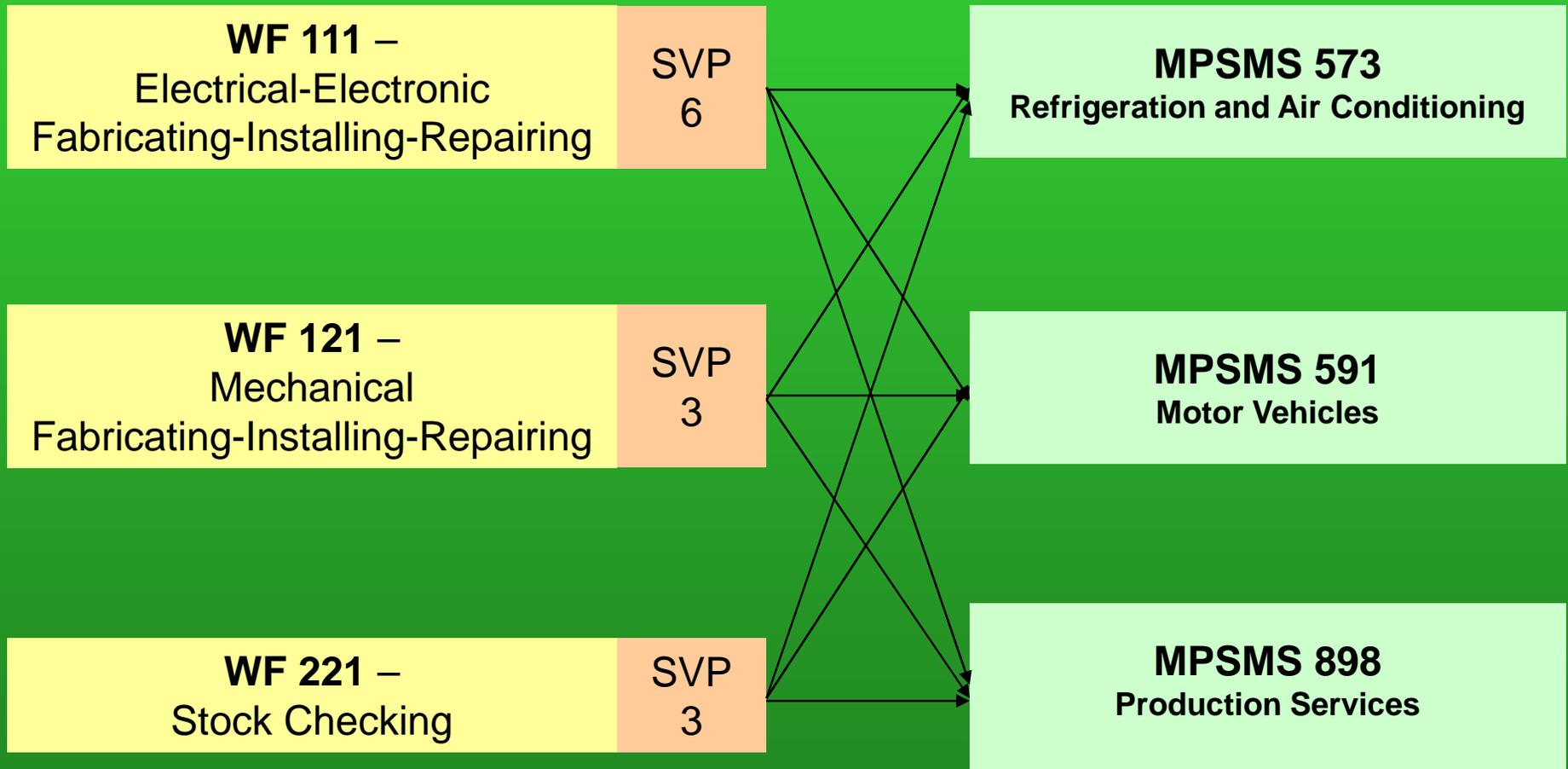
“...the amount of lapsed time required by a typical worker to learn the techniques, acquire the information, and develop the facility needed for average performance in a specific job-worker situation.” *RHAJ* p. 8-1

### MPSMS

“... basic Materials processed, .... final Products made, ...  
Subject Matter or data dealt with, Services rendered.”  
*RHAJ* p. 5-1



# Transferable Skills Analysis Classic Model



## Combination Work Fields

COMBINATION WORK FIELDS						U.S. Department of Labor (1991). <i>The Revised Handbook for Analyzing Jobs.</i> Washington, DC: US Government Printing Office. Page 4-7.		
Machining	Upholstering	Structural Fabricating-Installing-Repairing	Electrical-Electronic Fabricating-Installing-Repairing	Mechanical Fabricating-Installing-Repairing	Processing-Compounding	WF	Title	
057	101	102	111	121	147			
051	054	051	053	051		051	Abrading	
052		052		052		052	052	Chipping
053		053		053		053	053	Boring
054		054		054		054	054	Shearing-Shaving
055		055		055		055	055	Milling-Turning-Planing
056		056		056		056	056	Sawing
	063	061	061	061		061	Fitting-Folding	
		062		062		062	062	Fastening
		063		063		063	063	Gluing-Laminating
	071	071	071	071		071	Bolting-Screwing	
	072	072	072	072		072	Nailing	
		073	073	073		073	Riveting	
		081	083	081		081	Welding	
		082		082		082	082	Flame Cutting-Arc Cutting-Beam Cutting
		083		083		083	083	Soldering-Brazing
		091				091	Masonry	
		092				092	092	Laying-Covering
		094				094	094	Caulking
		095				095	095	Paving
					131	131	Melting	
					133	133	133	Heat Conditioning
					134	134	134	Pressing-Forging
					136	136	136	Molding
					141	141	Baking-Drying	
					143	143	143	Mixing
					144	144	144	Distilling
					145	145	145	Separating
		151		151		151	Immersing-Coating	
		152		152		152	Saturating	
		153		153		153	Brushing-Spraying	
			163			163	Winding	
			171			171	171	171
6	5	22	9	19	7	Total N		

Per 1972 *Handbook for Analyzing Jobs*, p. 111 - Example of definition of WF 102 - Structural Fabricating-Installing-Repairing:

"Fabricating and installing-repairing structures or objects, the elements of which are static (i.e. involve mechanisms no more complex than hinges, links, or catches) and may require shaping by any combination of *Abrading, Bolting-Screwing, Boring, Brushing-Spraying, ....* Jobs involving only one of these work fields are listed thereunder. Distinguish from *Mechanical Fabricating-Installing-Repairing and Machining.*"

**Bill Sample  
Combo  
Work Fields**

**SKILL *TRAN* - Handling of Multiple Combination Work Fields**

637.664-010 HVAC Helper		620.684-014	Auto Mechanic Helper		
Electrical- Electronic Fabricating- Installing- Repairing	6	3	Mechanical Fabricating- Installing- Repairing		
<b>111</b>	<b>SVP</b>	<b>SVP</b>	<b>121</b>	<b>WF</b>	<b>Title</b>
051	6	3	051	051	Abrading
		3	052	052	Chipping
053	6	3	053	053	Boring
		3	054	054	Shearing-Shaving
		3	055	055	Milling-Turning-Planing
		3	056	056	Sawing
061	6	3	061	061	Fitting-Folding
		3	062	062	Fastening
		3	063	063	Gluing-Laminating
071	6	3	071	071	Bolting-Screwing
072	6	3	072	072	Nailing
073	6	3	073	073	Riveting
081	6	3	081	081	Welding
		3	082	082	Flame Cutting-Arc-Butting-Beam Cutting
083	6	3	083	083	Soldering-Brazing
		3	134	134	Pressing-Forging
		3	151	151	Immersing-Coating
		3	153	153	Brushing-Spraying
163	6			163	Winding
		3	171	171	Sewing-Tailoring

Skill *TRAN* always retains 3-Digit Combo Work Fields

**SkillTRAN  
TSA Process  
with Combo WF**

**WF 111 –**  
Electrical-Electronic  
Fabricating-Installing-Repairing

- Abrading – 051
- Boring - 053
- Fitting-Folding - 061
- Bolting-Screwing – 071
- Nailing – 072
- Riveting – 073
- Welding – 081
- Soldering-Brazing – 083
- Winding – 163

SVP  
6

**WF 121 –**  
Mechanical  
Fabricating-Installing-Repairing

- Chipping – 052
- Shearing-Shaving – 054
- Milling-Turning-Planing – 055
- Sawing – 056
- Fastening – 062
- Gluing-Laminating – 063
- Flame Cutting-Arc Cutting-Beam Cutting – 082
- Pressing-Forging – 134
- Immersing-Coating – 151
- Brushing-Spraying – 153
- Sewing-Tailoring – 171

SVP  
3

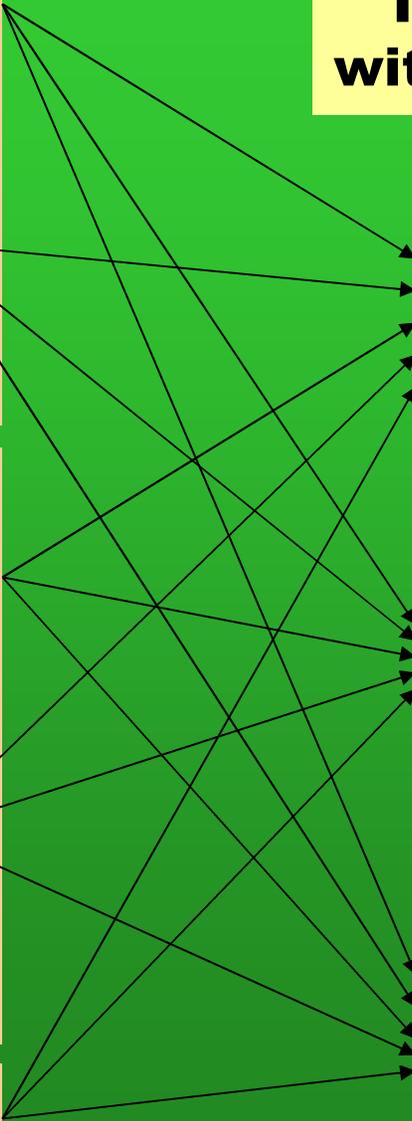
**WF 221 –**  
Stock Checking

SVP  
3

**MPSMS 573**  
Refrigeration and Air  
Conditioning

**MPSMS 591**  
Motor Vehicles

**MPSMS 898**  
Production Services



# Skill *TRAN* Post-Injury TSA Results

Skilled / Semi-Skilled		S	T
		V	S
		P	A
221.387-026	Expediter Clerk	3	1
222.367-070	Expediter, Service Order	3	1
229.587-014	Quality-Control Clerk	3	1
815.380-010	Welder Setter, Electron-Bea	6	2
724.684-018	Armature Winder, Repair	4	2
813.685-010	Brazer, Controlled Atmosph	4	2
710.381-046	Tester, Electronic Scale	6	3
701.684-030	Tool Filer	5	3
709.382-010	Sewing-Machine Tester	5	3
729.381-014	Pin-Game-Machine Inspectr	5	3
770.381-018	Diamond Driller	5	3
770.381-022	Diamond-Die Polisher	5	3
692.662-022	Wire-Wrapping-Machine Op	4	3
710.684-010	Agate Setter	4	3
222.587-026	Laboratory Clerk	3	3
637.684-014	Quality-Control Technician	3	3
706.684-038	Bearing-Ring Assembler	3	3
706.685-010	Type-Soldering-Machine Te	3	3
706.687-034	Roller-Bearing Inspector	3	3
709.684-082	Stab Setter and Driller	3	3
723.684-010	Assembler	3	3
724.685-010	Element Winding Machine	3	3
729.384-026	Electrical Assembler	3	3
731.684-010	Coin-Machine Assembler	3	3
739.684-134	Needle-Board Repairer	3	3
617.682-018	Hobbing-Press Operator	4	3
649.685-090	Perforating-Machine Operat	4	3
699.362-010	Automated Cutting Machine	4	3
709.684-090	Tube Bender, Hand I	4	3
829.684-010	Battery Inspector	4	3
706.587-010	Cleaner-Touch-Up Worker	3	3

N = 31

Unskilled (SVP =2)		S	T
		V	S
		P	A
221.587-018	Odd-Piece Checker	2	1
222.567-018	Slot-Tag Inserter	2	1
222.687-010	Checker I	2	1
222.687-022	Routing Clerk	2	1
620.684-018	Brake Adjuster	2	1
640.565-010	Paper Cutter	2	1
209.687-026	Mail Clerk	2	3
239.567-010	Office Helper	2	3
290.477-010	Coupon-Redemption Clerk	2	3
654.687-014	Pager	2	3
689.687-034	Drop-Wire Builder	2	3
689.687-054	Pegger, Dobby Looms	2	3
689.687-078	Threader	2	3
731.687-010	Assembler	2	3
809.687-026	Mold Preparer	2	3
806.687-010	Assembler, Bicycle II	2	3
689.587-010	Numberer and Wirer	2	3
703.684-018	Template Cutter	2	3
706.684-042	Bench Assembler	2	3
706.684-102	Vending-Machine Assembl	2	3
706.687-010	Assembler, Production	2	3
739.687-154	Polishing-Pad Mounter	2	3
208.685-014	Folding-Machine Operator	2	3
208.685-018	Inserting-Machine Operator	2	3
208.685-022	Microfilm Mounter	2	3
208.685-026	Sealing-and-Canceling Mac	2	3
249.587-014	Cutter and Paster, Press C	2	3
249.587-018	Document Preparer, Microfil	2	3
922.687-018	Bobbin Sorter	2	3
976.487-010	Photograph Finisher	2	3
976.684-026	Splicer	2	3
976.685-022	Mounter, Automatic	2	3

N = 32



# Result Comparison

	<b>SVP &gt; 2</b>	<b>SVP=2</b>	<b>Total</b>
<b>LifeStep</b> =	14	+ 12	= 26
<b>OASYS</b> =	38	+ 24	= 62
<b>SkillTRAN</b> =	31	+ 32	= 63
<b>MTSP</b> =	45	+ 11	= 56

# Result Comparison Lists

## LifeStep

Lifestep		S	T
		V	S
		P	A
221.387-026	Expediter Clerk	3	1
222.367-070	Expediter, Service Order	3	1
229.587-014	Quality-Control Clerk	3	1
710.381-046	Tester, Electronic Scale	6	3
729.381-014	Pin-Game-Machine Inspectc	5	3
692.662-022	Wire-Wrapping-Machine Op	4	3
222.587-026	Laboratory Clerk	3	3
637.684-014	Quality-Control Technician	3	3
729.384-026	Electrical Assembler	3	4
865.684-022	Refrigerator Glazier	4	2
710.381-014	Balancer, Scale	6	4
710.381-010	Assembler II	5	4
706.684-094	Subassembler	4	4
710.584-010	Scroll Assembler	3	4

N = 14

## OASYS

OASYS		S	T
		V	S
		P	A
221.387-026	Expediter Clerk	3	1
222.367-070	Expediter, Service Order	3	1
229.587-014	Quality-Control Clerk	3	1
710.381-046	Tester, Electronic Scale	6	2
701.684-030	Tool Filer	5	2
709.382-010	Sewing-Machine Tester	5	2
729.381-014	Pin-Game-Machine Inspect	5	2
770.381-018	Diamond Driller	5	2
770.381-022	Diamond-Die Polisher	5	2
692.662-022	Wire-Wrapping-Machine Op	4	2
710.684-010	Agate Setter	4	2
222.587-026	Laboratory Clerk	3	2
637.684-014	Quality-Control Technician	3	2
706.684-038	Bearing-Ring Assembler	3	2
706.685-010	Type-Soldering-Machine Te	3	2
706.687-034	Roller-Bearing Inspector	3	2
709.684-082	Stab Setter and Driller	3	2
723.684-010	Assembler	3	2
724.685-010	Element Winding Machine	3	2
729.384-026	Electrical Assembler	3	2
731.684-010	Coin-Machine Assembler	3	2
739.684-134	Needle-Board Repairer	3	2
865.684-022	Refrigerator Glazier	4	3
007.362-010	Nesting Operator, Numeric	6	4
626.381-018	Hydraulic-Press Servicer	6	4
710.381-014	Balancer, Scale	6	4
626.381-010	Case-Finishing-Machine Ad	5	4
683.381-010	Chain Builder, Loom Contro	5	4
706.361-014	Assembly Inspector	5	4
710.381-010	Assembler II	5	4
630.684-014	Belt Repairer	4	4
632.380-010	Inspecting-Machine Adjuste	4	4
651.384-010	Platen Builder-Up	4	4
706.684-094	Subassembler	4	4
628.684-038	Wire Repairer	3	4
709.484-010	Silk-Screen-Frame Assem	3	4
710.584-010	Scroll Assembler	3	4
739.684-150	Screen Maker	3	4

N = 38

## SkillTRAN

SkillTRAN		S	T
		V	S
		P	A
221.387-026	Expediter Clerk	3	1
222.367-070	Expediter, Service Order	3	1
229.587-014	Quality-Control Clerk	3	1
815.380-010	Welder Setter, Electron-Bee	6	2
724.684-018	Amature Winder, Repair	4	2
813.685-010	Brazer, Controlled Atmosph	4	2
710.381-046	Tester, Electronic Scale	6	3
701.684-030	Tool Filer	5	3
709.382-010	Sewing-Machine Tester	5	3
729.381-014	Pin-Game-Machine Inspect	5	3
770.381-018	Diamond Driller	5	3
770.381-022	Diamond-Die Polisher	5	3
692.662-022	Wire-Wrapping-Machine Op	4	3
710.684-010	Agate Setter	4	3
222.587-026	Laboratory Clerk	3	3
637.684-014	Quality-Control Technician	3	3
706.684-038	Bearing-Ring Assembler	3	3
706.685-010	Type-Soldering-Machine Ter	3	3
706.687-034	Roller-Bearing Inspector	3	3
709.684-082	Stab Setter and Driller	3	3
723.684-010	Assembler	3	3
724.685-010	Element Winding Machine	3	3
729.384-026	Electrical Assembler	3	3
731.684-010	Coin-Machine Assembler	3	3
739.684-134	Needle-Board Repairer	3	3
617.682-018	Hobbing-Press Operator	4	3
649.685-090	Perforating-Machine Operat	4	3
699.362-010	Automated Cutting Machine	4	3
709.684-090	Tube Bender, Hand I	4	3
829.684-010	Battery Inspector	4	3
706.587-010	Cleaner-Touch-Up Worker	3	3

N = 31

## MTSP

MTSP		S	T
		V	S
		P	A
221.387-026	Expediter Clerk	3	44
222.367-070	Expediter, Service Order	3	44
229.587-014	Quality-Control Clerk	3	80
222.587-026	Laboratory Clerk	3	45
222.387-034	Material Clerk	5	96
222.387-062	Storekeeper	5	88
222.367-014	Cut-File Clerk	4	88
229.367-014	Parts Lister	4	83
229.367-010	Field Recorder	4	82
222.487-014	Order Filler	3	72
219.387-030	Stock Control Clerk	5	71
710.684-034	Meter-Repairer Helper	4	70
222.387-054	Sorter-Pricer	5	68
219.367-018	Merchandise Distributor	3	67
219.387-026	Space-and-Storage Clerk	3	64
222.587-034	Route-Delivery Clerk	3	63
222.587-018	Distributing Clerk	3	61
221.367-022	Industrial-Order Clerk	4	60
222.387-022	Gun-Repair Clerk	3	60
222.167-010	Metal-Control Coordinator	6	58
216.567-010	Ticket Marker	3	53
222.587-042	Sampler, Wool	3	51
222.387-010	Aircraft-Shipping Checker	5	50
221.167-014	Material Coordinator	6	48
221.387-030	Tallier	3	46
221.387-018	Control Clerk	6	45
221.387-010	Back-Shoe Worker	4	45
221.167-018	Production Coordinator	6	44
219.367-030	Shipping-Order Clerk	4	44
221.387-046	Order Detailer	4	44
222.367-010	Cargo Checker	4	44
214.587-014	Traffic Clerk	4	43
222.367-018	Expediter	6	42
221.387-034	Job Tracer	4	42
221.367-010	Alterations Workroom Cler	3	42
221.367-090	Formula Clerk	3	42
221.387-054	Batch-Records Clerk	3	42
221.482-010	Fabric-and-Accessories Es	3	42
221.587-038	Ticket Scheduler	3	42
221.367-014	Estimator, Printing	6	41
219.367-022	Paper-Control Clerk	5	41
221.387-050	Production Assistant	4	41
221.467-010	Bin Clerk	3	41
248.362-010	Incoming-Freight Clerk	5	40
248.367-014	Booking Clerk	5	40

N = 45

N = 45

Spreadsheet

N = 14

N = 38

N = 31

SkillTRAN

**Bill Sample –  
OASYS 2-Digit  
Combo  
Work Fields**

## OASYS Handling of 2-Digit Combo Work Field Levels 3 & 4 – “Similar Work Field”

All-around fabricating, installing, and repairing of structures, interior fittings, and electrical, electronic, and mechanical units.

**SVP**

- 10** – Upholstery
- 10** – Structural Fabricating-Installing-Repairing
- 6** { **11** – Electrical-Electronic Fabricating-Installing-Repairing
- 3** { **12** – Mechanical Fabricating-Installing-Repairing

# Interest-Based Search (GOE)

GOE Interest List		SVP
222.137-014	LINEN-ROOM SUPERVISOR	6
222.137-034	STOCK SUPERVISOR	6
222.137-046	TOOL-CRIB SUPERVISOR	6
222.167-010	METAL-CONTROL COORDINATOR	6
229.137-010	SACK-DEPARTMENT SUPERVISOR	6
849.137-010	DISPATCHER	6
952.367-010	LOAD CHECKER	6
222.387-062	STOREKEEPER	5
712.381-010	ARCH-SUPPORT TECHNICIAN	5
779.684-058	STONE REPAIRER	5
222.367-014	CUT-FILE CLERK	4
229.367-014	PARTS LISTER	4
630.684-014	BELT REPAIRER	4
710.684-034	METER-REPAIRER HELPER	4
732.684-102	ROLLER-SKATE REPAIRER	4
733.684-014	PEN-AND-PENCIL REPAIRER	4
074.382-010	PHARMACY TECHNICIAN	3
209.387-026	LIBRARY CLERK, TALKING BOOKS	3
221.587-030	TALLIER	3
222.367-030	FLOOR-SPACE ALLOCATOR	3
222.387-022	GUN-REPAIR CLERK	3
222.487-014	ORDER FILLER	3
222.587-026	LABORATORY CLERK	3
222.587-030	MAILER	3
222.587-032	MAILER APPRENTICE	3
349.680-010	TICKET-DISPENSER CHANGER	3
709.684-034	CIGARETTE-LIGHTER REPAIRER	3
221.587-018	ODD-PIECE CHECKER	2
222.387-074	SHIPPING-AND-RECEIVING WEIGH	2
620.684-018	BRAKE ADJUSTER	2
628.684-042	SPINDLE REPAIRER	2

Of these 31 occupations, notice that only two (marked in blue and both at the SVP = 2 level) are in common with either of the two preceding lists of occupations identified through the SkillTRAN approach to TSA.

**No occupations identified as transferable (i.e. SVP > 2) using the SkillTRAN approach for TSA are on this interest-based list.**

That the GOE-based list is vastly different from the WF/MPSMS-based list is continuing evidence of the strong independence of each of these constructs – i.e. GOE is very different from WF and MPSMS.

This case provides continuing support for earlier analysis done by author Jeff Truthan, citation below.

Truthan, J.A. (1989). Job Matching Systems: One difference is the data. In R. Fry (Ed.), The Issues Papers: Fourth National Forum on Issues in Vocational Assessment (pp 133-139). Menomonie, WI: University of Wisconsin-Stout, Materials Development Center.

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# Search Examples

- Job Title – Assembler, Assembly, Assembl
- Group: DOT Industry, O\*NET, Census
- DPT
- Interest: GOE / Holland
- [Canadian NOC]
- Top Jobs
- CIP / Career Pathways / OAP
- Industry (NAICS)

# TSA Methods TakeAway

- Not all software programs search the same way.
- Each program can generate a different set of results.
- There can be substantial variation between similar methods.
- Search strategy matters !
- How you define “skill” / “skills analysis” may vary with the venue.
- Your search strategies should match the needs of your client and referral source.

# SkillTRAN – OASYS TSA Searches

## TRANSFER

Same  
3-digit  
Match

Similar  
2-digit  
Match

<u>SkillTRAN</u>	<u>WORK</u>	<u>LEVEL</u>	<u>MPSMS</u>	<u>OASYS</u>
Directly	Same	1	Same	Closest
	Similar	2	Same	Good
Closely	Same	3	Similar	Good
Generally	Similar	4	Similar	Good
	Same	5	Not Used	Fair
	Similar	6	Not Used	Fair
	Not Used	7	Same	Fair
	Not Used	8	Similar	Fair
Within Basic Capacities	Not Used	9	Not Used	Potential

## TRAINING

Minimal



Minor

Moderate



Substantial

# Pre-Injury/Post-Injury Analysis (PREPOST)

PRE-INJURY / POST-INJURY OCCUPATIONAL SERVICE	PRE-INJURY OCCUPATIONAL ACCESS (PRE)	POST-INJURY OCCUPATIONAL ACCESS (POST)	LOSS *
DIRECTLY TRANSFERABLE OCCUPATIONS	14	3	78.6%
CLOSELY TRANSFERABLE OCCUPATIONS	9	3	66.7%
GENERALLY TRANSFERABLE OCCUPATIONS	146	25	82.9%
TOTAL	169	31	81.7%
UNSKILLED OCCUPATIONS	3100	890	71.3%

\* OCCUPATIONAL LOSS is the percentage of occupations which the worker is no longer able to perform due to injury. CAUTION should be exercised in generalizing from this figure, since this calculation assumes that occupational titles occur with equal frequency.

# Thank You !



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