



## **Employment Numbers:** **Methods Matter**

**ABVE – Nashville, TN**  
**March 29, 2014**

Handouts: [www.skilltran.com/abve\\_2014.htm](http://www.skilltran.com/abve_2014.htm)

Jeff Truthan, MS, CVE  
President – SkillTRAN LLC  
[www.skilltran.com](http://www.skilltran.com)



## **Objectives**

- **Common Public Sources of Occupational and Labor Market Data**
- **Unique Information in Various Sources**
- **BLS – NCS – Occupational Requirements Survey**
- **Current Methods to Estimate Employment**
- **SkillTRAN Industry Context Method**
- **Unskilled Sedentary Occupations & Industries**
- **Role of Employment Numbers in LOEC**

## Handouts

- Slide Notes
- Pocket Guide to the DOT
- Labor Market Information (LMI) Guide
- Technical Discussion of Industry Context Methodology
- Sedentary Unskilled DOT Occupations by DOT Industry and by Frequency

## Processes Change over Time

- `60s & `70s – Printed books – DOT 3<sup>rd</sup> Edition  
Worker Trait Groups – OGA / DPT
- 1977 – DOT 4<sup>th</sup> Edition
  - Many more occupations & variables
  - Coding at the unique DOT level
  - Designed for computerization
- `80s – Evolution of PC and Online Software
- `90s – 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
- 2017/18 – DOT “Replacement” or switch to SOC/O\*NET

## Challenges Facing the US Economy

### Growth vs. Recession

- Business Decisions [Housing / Credit Crunch]
- Imbalance of Imports vs. Exports [Weak dollar]
- Government Debt Burden  
[Defense + SSA + Education + Health + Bailouts]

### Increasing Costs of Doing Business

- Price of Oil / Fuel / Energy / Shipping / Transportation
- Wages
- Benefits – Health Care


## Challenges Facing the US Economy

### Impact of Technology

- Automation – Mechanization of processes
- Computerization
- Displacement of some workers (& Rehab)
- Opportunities for other kinds of workers

### Outsourcing

- RIF/JIT employees – Subcontract / Temp Help  
Manufacturing & Service Sectors
- Offshoring



## Employment Data

Occupation	Employment/Industry
<ul style="list-style-type: none"> <li>• <b>DOT</b></li> <li>• <b>O*NET</b></li> <li>• National Compensation Survey</li> <li>• OOH [National Only]</li> <li>• Career Guide to Industry - CGI</li> <li>• Current Population Survey (Census <b>CPS</b>)</li> <li>• <b>OES</b> - Occupational Employment Survey</li> <li>• Long Term Employment Projections</li> <li>• State Labor Market Information Depts.</li> </ul>	<ul style="list-style-type: none"> <li>• JOLTS</li> <li>• QCEW (ES-202) Quarterly Census of Employment &amp; Wages</li> <li>• County Business Patterns US / State / County / Zip</li> <li>• [Input/Output Matrix]</li> <li>• Employer Listings</li> <li>• Professional Associations</li> <li>• Business Assn/Journals</li> <li>• Manufacturer Guides</li> </ul>



## 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=535)
- [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)

### 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, hours
- 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 (= 841 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 & Non-Metro (Rural) Regions
- Minimum reporting is 50 in an area (if not all at 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 Spring (Archived back to 1998)
- [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 2007/2012**

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.]



## OES – Long Term Employment Projections

- Updated every two years
- Shows projections for occupations by industry
- Uses OES Survey data plus Current Employment Statistics (CES) and the CPS
- 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/home.htm](http://www.bls.gov/emp/home.htm)

### 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)

### NCS – National Compensation Survey

- Employer survey of work levels, salaries, wages and benefits (both F-T & P-T)
- Was reporting by SOC (OES) codes
- Nuances within occupations (work levels)
- [www.bls.gov/NCS](http://www.bls.gov/NCS)

- Now focusing on possible data collection for physical demand elements by SOC/O\*NET code
- Open comment period on new data elements for Physical Demands, Environmental Conditions, and Mental/Cognitive Factors

- <http://bls.gov/ors/>

## BLS – NCS – ORS

### Occupational Requirements Survey

- Cognitive Elements
- Social / Interpersonal Elements
- SVP
- Physical Demands
- Environmental Conditions

## BLS – NCS – ORS

### Occupational Requirements Survey

#### **Cognitive Elements**

- Complexity
- Closely Controlled
- Predictability of Typical Day



## BLS – NCS – ORS

### Occupational Requirements Survey

#### **Social / Interpersonal Elements**

Interaction with Coworkers,  
Familiar Contacts, General Public

- Collaboration
- Talk about work-related topics
- Type of Contact (Structured → Not)

## BLS – NCS – ORS

### Occupational Requirements Survey

#### **Physical Demands**

- |                                 |                      |
|---------------------------------|----------------------|
| • Sit / Stand / Walk<br>At Will | • Lifting / Carrying |
| • Keyboarding                   | • Reaching           |
| • Other Office Tasks            | • Driving            |
| • Hearing / Vision              | • Pushing / Pulling  |
| • Manipulation                  | • Getting Low        |
|                                 | • Climbing           |

## BLS – NCS – ORS

### Occupational Requirements Survey

#### Environmental Conditions

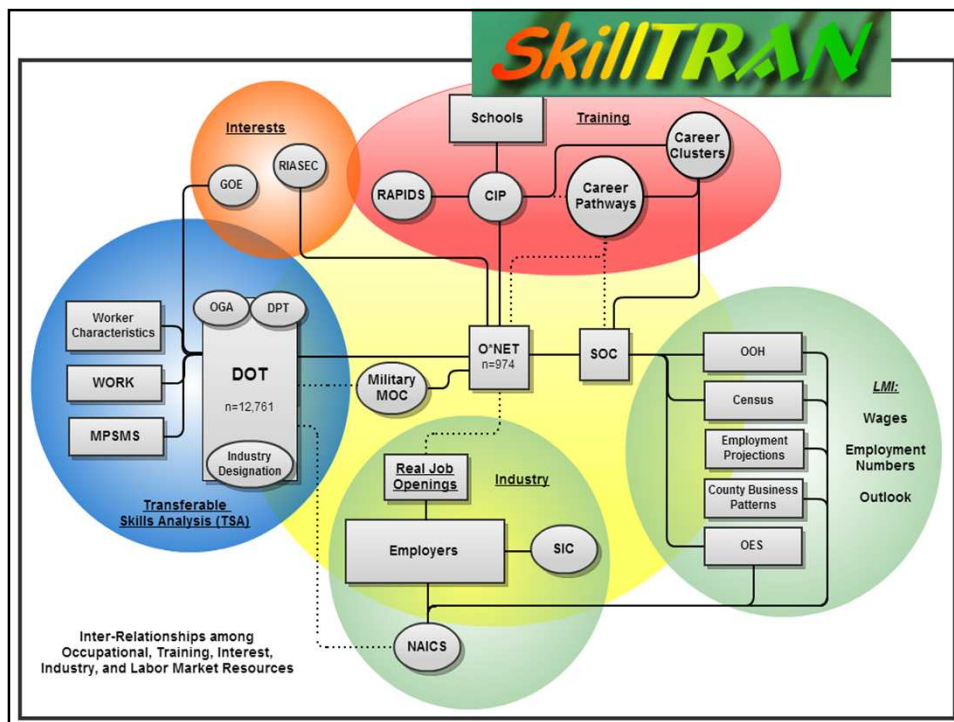
- Noise
- Outdoors
- Extreme Heat
- Extreme Cold
- Wetness
- Humidity
- Heavy Vibration
- Fumes / Noxious Odors, Dusts, Gases
- Toxic / Caustic Chemicals
- Proximity to Moving Mechanical Parts
- High, Exposed Places

## BLS – NCS – ORS

### Occupational Requirements Survey

#### Public Comment Period until 5/10/2014

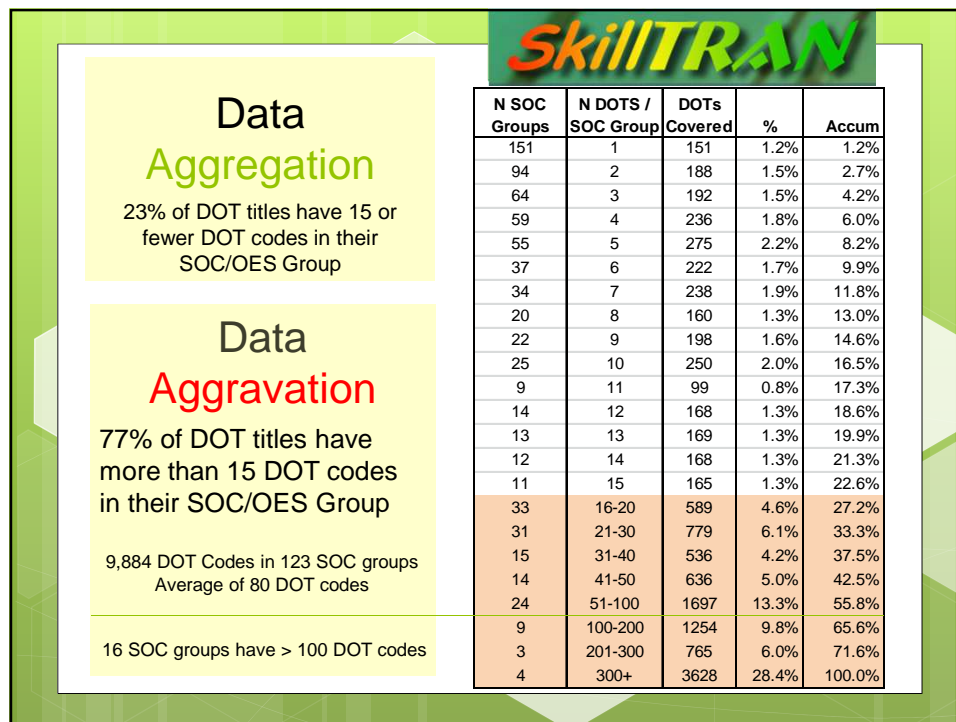
- Get the documents
- Review them (at least the ORS form)
- Prepare and submit comments



## SkillTRAN

### LMI Interpretation Challenges: Employment Numbers

- Data Source Limitations
  - Source of survey responses: Household (CENSUS) Employers (OES)
  - Not available for all industries
- Data aggregated to occupational groups
- Various Methodologies & Assumptions
- Simple Math



## US Publishing

- Uses Census-based data
- [Uses OES-based data] [CBP Data]
- Updated Quarterly using QCEW (?)
- Simple math approach
- Assumes equal frequency distribution of DOT occupations within a statistical group
- Assumes constant, proportionate change in size of the labor force in a given geographic area over time
- [www.uspublishing.net](http://www.uspublishing.net)

## ERI – Economic Research Institute

- Job Availability estimates
- Uses OES, Census & multiple creative sources: Loan applications, Internet inquiries, Workers' Compensation data
- Has identified/defined 700+ new occupations
- Finds “No evidence” for 4,000 DOT occupations, assuming that if an occupation has no inquiries, it no longer exists
- Not all job openings are listed on the Internet
- Inquiries on the web are a convenience sample
- [www.erieri.com](http://www.erieri.com)

## MVQS –MTSP – MTSS - Volcano

- Examined JOLTS data of 15 states
- SESA/SWA data from 1996-2000
- DOT-based coding (SESA/SWA subsequently switched to SOC/O\*NET-based coding after the year 2000)
- DOT employment estimates are proportionate to either local population or to size of the size of a labor force
- Assumes that the old JOLTS staffing patterns apply today
- Assumes that SESA/SWA Staff properly coded by DOT
- Assumes that economic conditions are constant
- [www.vocationology.com](http://www.vocationology.com)

## **Interpretation Pitfalls of Government Data**

- Nearly all government statistics are aggregated for a group of DOT occupations
- Simple math requires this erroneous assumption:  
“All DOT occupations in a given statistical group occur with equal frequency”
- The number of DOT occupations in a CENSUS Group may be different from the number in the similar OES Group

## **Erroneous Assumptions Using Simple Math**

- All DOT occupations in a SOC/OES/CENSUS group occur with equal frequency
- The number of sedentary or light jobs in a given labor market can be determined for a single SOC/OES/CENSUS group independent of the presence/absence of relevant industry and changing economic conditions

## U.S. Publishing – Occupational Employment Quarterly II

OES-SOC = 43-5111 Weighers, Measurers, Checkers, and Samplers, Recordkeeping

	Nemployed	Percent of N	Estimated N DOTs	ACTUAL N DOTs	Percent of DOTs
S-Unsk	0	0.0%	0	0	0.0%
L-Unsk	27602	33.3%	11	11	33.3%
M-Unsk	2512	3.0%	1	1	3.0%
H-Unsk	0	0.0%	0	0	0.0%
S-SS	2507	3.0%	1	1	3.0%
L-SS	25093	30.3%	10	10	30.3%
M-SS	15056	18.2%	6	6	18.2%
H-SS	2517	3.0%	1	1	3.0%
S-SK	0	0.0%	0	0	0.0%
L-SK	5019	6.1%	2	2	6.1%
M-SK	2509	3.0%	1	1	3.0%
H-SK	0	0.0%	0	0	0.0%
N	82,807	100.0%	33	33	100.0%

Per OEQII sample page posted at [www.uspublishing.net](http://www.uspublishing.net) for Third Quarter 2007

## Erroneous Example


OES 51-9111 – Packaging and Filling Machine Operators and Tenders

This OES Group has 74 DOT Occupations

The Chicago MSA has 12,050 jobs in this OES/SOC Group (5/2009).  
“Therefore, there are:”

Sedentary	1	1%	121
Light	44	59%	7,109
Medium	19	26%	3,133
Heavy	10	14%	1,687
Very Heavy	0	0%	0
	<hr/> 74		<hr/> 12,050

OCCUPATIONAL GROUP - "CASHIERS"			
	CENSUS GROUP = 4720	OES GROUP = 41-2011	
Retail	Auction	AUCTION CLERK (retail)	AUCTION CLERK
	Retail	CASHIER II (retail)	CASHIER II
	Self-service store	CASHIER, COURTESY BOOTH (retail)	CASHIER, COURTESY BOOTH
	Dept. Store (Old)	CASHIER, TUBE ROOM (retail)	CASHIER, TUBE ROOM
	Retail	CASHIER-CHECKER (retail)	CASHIER-CHECKER
	Retail	CASHIER-WRAPPER (retail)	CASHIER-WRAPPER
Recreation	Gambling	CHANGE PERSON (amusement/recreation)	OES 41-2012 GAMING CHANGE
		CHECK CASHIER (business services)	CHECK CASHIER
	Sales Route	DRIVERS'-CASH CLERK (motor transportation)	DRIVERS'-CASH CLERK
		FOOD CHECKER (hotel & restaurant)	FOOD CHECKER
	Racetrack	INFORMATION CLERK-CASHIER (amusement & recreation)	INFORMATION CLERK-CASHIER
	Racetrack	MONEY COUNTER (amusement & recreation)	MONEY COUNTER
	Racetrack	PARIMUTUEL-TICKET CASHIER (amusement & recreation)	PARIMUTUEL-TICKET CASHIER
	Racetrack	PARIMUTUEL-TICKET SELLER (amusement & recreation)	PARIMUTUEL-TICKET SELLER
	Racetrack	PAYMASTER OF PURSES (amusement & recreation)	PAYMASTER OF PURSES
	Racetrack	SHEET WRITER ((amusement & recreation)	SHEET WRITER
	TELLER (utilities)	TELLER	
	TICKET SELLER (clerical)	TICKET SELLER	
Toll Road	TOLL COLLECTOR (government services)	TOLL COLLECTOR	
	N = 19	N = 18	



### Industry Context Occupational Density

Similar to Population Density:

- Frequency of occurrence of occupation(s)
- Specific Geographic Area  
(ZIP, City, County, MSA, State, Regional, National)

More complex issues:

- Jobs do not exist in a vacuum; need presence of employers
- Employers are categorized by industry (NAICS)
- Staffing pattern for occupations varies by industry and by company size
- Method to estimate data at the DOT level from aggregate data (I.e. OES / SOC)



## Industry Context

### SkillTRAN Core Assumptions

- 1) Jobs exist to fulfill a business activity
- 2) The conduct of a specific business activity requires specific occupations
- 3) Staffing patterns change by industry

## Industry Context

### SkillTRAN Core Assumptions

- 4) Business activity is influenced by various factors:  
Opportunity, Automation, Outsourcing,  
Competition, External Economic Factors,  
Restructuring
- 5) In a specific business activity, there may only be one or a few specific occupations
- 6) A business may need to be of a certain size (N employees) before a specific occupation exists

## SkillTRAN

### Industry Context Method

- Long Term Employment Projections yield an Occupational Density Factor by relevant industry
- Weight for other DOT occupations in each industry
- Sum the Density Factors for relevant industries for a specific DOT
- Multiply the summed density factor by the OES Employment Number to estimate employment at the DOT level
- Estimate minimum size of company
- Adjust for frequency of relevant industries in a regional area (or commuting radius)
- ★ Confirm results with Labor Market Sampling

### Sources of Error

- ESTIMATION process not = ACTUAL
- Greater validity at the national level (for now)
- Long-Term Projections do not reflect Short-Term / Recessionary Impact
- OES sample size will shrink [ SEM will increase]
- Does not consider collapse of several DOTs into one new occupation
- Does not update the DOT. Should help to identify some obsolete/obscure occupations.

## Examples of Employment Number Estimates

- Cashier II
- Parking Lot Cashier | Gas Station Clerk
- Parimutuel Ticket Seller
- Surveillance System Monitor
- Bottle Packer
- Housekeeping Cleaner
- Marker (Retail)
- Collator
- Microfilm Operator

Long Term Outlook

211.462-010 CASHIER II

OUTLOOK INFORMATION  
for OOH Occupation: Cashiers

Overall cashier employment is expected to decline, but job growth will be strong for gaming cashiers. Opportunities for full-time and part-time jobs are expected to be good because of the need to replace the large number of workers who leave this occupation.

**U.S. National Long Term Employment Outlook**  
Related DES Statistical Group: 41-2011 Cashiers, except gaming  
This DES statistical group has 18 specialty occupations (unique DOT occupations)  
All employment projections are for the entire DES Statistical Group, NOT an individual DOT occupation.

# Employed 2008	2013	% Occ. Density	# Employed 2018	% Change	# Change	NAICS	NAICS Industry where employed
3,549,960	3,612,705	100.000	3,675,450	3.53	125,490	TOT001	Total employment, all workers
3,507,960	3,569,670	98.805	3,631,380	3.51	123,430	WSE100	Total wage and salary employment
3,507,010	3,568,750	98.780	3,630,490	3.52	123,470	WSE110	Wage and salary employment, except agricu
2,918,210	2,965,285	82.075	3,012,360	3.22	94,150	440000-450	Retail trade
967,360	964,200	26.690	961,040	-0.65	-6,320	445000	Food and beverage stores
850,050	850,805	23.550	851,560	0.17	1,510	445100	Grocery stores
569,450	634,255	17.525	699,060	22.76	129,610	452000	General merchandise stores

DATA SOURCES: Bureau of Labor Statistics, U.S. Dept. of Labor, *Employment Projections: 2008-2018* (2009).  
Available at <http://www.bls.gov/emp>

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Long Term Occupational Outlook

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All employment projections are for the entire OES Statistical Group, NOT an individual DOT occupation.

# Employed 2008	2013	% Occ. Density	# Employed 2018	% Change	# Change	NAICS	NAICS Industry where employed
569,450	634,255	17.525	699,060	22.76	129,610	452000	General merchandise stores
546,390	527,335	14.605	508,280	-6.97	-38,110	447000	Gasoline stations
546,390	527,335	14.605	508,280	-6.97	-38,110	447100	Gasoline stations
344,190	415,205	11.455	486,220	41.26	142,030	452900	Other general merchandise stores
273,950	273,685	7.570	273,420	-0.19	-530	720000	Accommodation and food services
257,090	256,300	7.095	255,510	-0.61	-1,590	722000	Food services and drinking places
229,090	239,105	6.610	249,120	8.74	20,020	446000	Health and personal care stores

DATA SOURCES: Bureau of Labor Statistics, U.S. Dept. of Labor, *Employment Projections: 2008-2018* (2009).  
Available at <<http://www.bls.gov/emp>>

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Long Term Occupational Outlook

Employment Numbers - 211.462-010 - CASHIER II

OOH Group | CENSUS Group | OES Group | DOT Employment Estimate |

Occupational Employment Survey (OES) - Employment Data - May 2012  
For OES Statistical Group: 41-2011 Cashiers  
Employment numbers below are for the entire OES group, usually NOT an individual DOT occupation  
This OES statistical group has 18 unique DOT occupations

☒ National Statistics Full-Time: 48.3% Part-Time: 51.7% Self: 1.0% Show All DOTs in this OES Group

State: Tennessee Region: Nashville-Davidson-Murfreesboro-Franklin, TN Show Counties

211.462-010 CASHIER II

Related OES Statistical Group: 41-2011 - Cashiers

This OES group has 18 specialty occupations (unique DOT codes). Data below is for the OES Statistical group, usually NOT for a single DOT occupation.

**May 2012 - U.S. NATIONAL Occupational Employment Survey (OES): National Data**  
Estimated total National employment in this OES group = 3,314,010 ± 13,256 CI\*

**May 2012 - STATEWIDE Occupational Employment Survey (OES): Tennessee**  
Estimated total Statewide employment in this OES group = 68,820 ± 1,858 CI\*

**May 2012 - REGIONAL (Metropolitan / Non-Metro / Rural) Occupational Employment Survey (OES): Nashville-Davidson-Murfreesboro-Franklin, TN**  
Estimated total Regional employment in this OES group = 17,120 ± 1,198 CI\*  
Region: Cannon County, Cheatham County, Davidson County, Dickson County, Hickman County, Macon County, Robertson County, Rutherford County, Smith County, Sumner County, Trousdale County, Williamson County, Wilson County

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Show counties in this MSA region

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Employment Numbers- 211.462-010 - CASHIER II

OOH Group | **CENSUS Group** | OES Group | DOT Employment Estimate

**Current Population Survey (CPS) - National Employment Data - 2011**  
**For CENSUS Statistical Group: 4720 - Cashiers**  
 Employment numbers are for the entire CENSUS group, usually NOT an individual DOT occupation  
☒ Men    **This CENSUS group has 21 unique DOT occupations**  
☒ Women  
☒ Combined    [Show All DOTs in this CENSUS Group](#)

211.462-010 CASHIER II

**2011 U.S. NATIONAL - Current Population Survey (CPS) - CENSUS Table A26**

Related CENSUS Statistical Group:  
4720 - Cashiers

This CENSUS group has 21 specialty occupations (unique DOT codes).  
 National Data below is by CENSUS Occupational group, usually NOT a single DOT occupation.

Combined Men and Women - Estimated National Employment in this CENSUS group = **1,343,000**

Men Only - Estimated National Employment in this CENSUS group = **381,000**

Women Only - Estimated National Employment in this CENSUS group = **962,000**

Statistics are obtained from the Current Population Survey (CPS), a monthly survey of households conducted by the Bureau of the Census for the U.S. Department of Labor. This Table A26 data is available only at the National level.

DATA SOURCE: Current Population Survey (CPS) - U.S. Bureau of Labor Statistics - January 2012

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Estimated DOT Employment Numbers

**DOT Employment Estimate for:** 2014    **DOT:** 211.462-010 CASHIER II

ALTERNATE JOB TITLES (Might also be known as):  
 CHANGE-BOOTH CASHIER; CASHIER, PARKING LOT; CASHIER, SELF-SERVICE GASOLINE; BILLING CASH CLERK; C STORE CLERK; C-STORE CLERK; CASH CLERK; CASHIER II; CASHIER, CREDIT; CASHIER, GENERAL; CASHIER, OFFICE; CASHIER, PAYMENTS RECEIVED; CONVENIENCE STORE CLERK; FLOOR CASHIER; GAS STATION CASHIER; GAS STATION CLERK; STORE CASHIER; TICKET CLERK; CAFETERIA CASHIER; DINING-ROOM CASHIER; SERVICE-BAR CASHIER  
 CASH CLERK; CASHIER, GENERAL; CASHIER, OFFICE; TICKET CLERK. Receives cash from customers or employees in payment for goods or services and records amounts received. Recommends or completes bill, itemized list, and tickets showing amount due.

**OES Group 41-2011 Cashiers**  
 Estimate OES Industry Employment Numbers for: **National**  
☒ National    ☐ Statewide    ☐ Regional    [Show Counties](#)    [Show All DOTs in this OES Group](#)

**NAICS Industries where this DOT Code is likely to be employed:**

Remove	NAICS	NAICS Title	Estimated % For this OES Group		N	Estimated % For this DOT		N
<input type="checkbox"/>	420000	Wholesale trade	0.604	20.017	1	0.604	20.017	
<input type="checkbox"/>	441100	Automobile dealers	0.560	18,558	1	0.560	18,558	
<input type="checkbox"/>	444100	Building material and supplies dealers	3.008	99,685	2	1.504	49,843	
<input type="checkbox"/>	445100	Grocery stores	23.472	777,864	3	7.824	259,288	
<input type="checkbox"/>	445200	Specialty food stores	1.158	38,376	3	1.158	38,376	
<input type="checkbox"/>	445300	Beer, wine, and liquor stores	1.944	64,424	1	1.944	64,424	
<input type="checkbox"/>	447100	Gasoline stations	14.448	478,808	1	14.448	478,808	
<input type="checkbox"/>	448100	Clothing stores	3.416	113,207	4	0.854	28,302	

**Adjust Estimates by Employment Status**

☒ Full-Time 48.3%

☒ Part-Time 51.7%

☐ Self-Emp't 1.0%

**TOTAL EMPLOYMENT IN THIS OES GROUP**

**3,314,010** National

**68,820** State

**17,120** Region

**Industry Employment of this OES Group**

**84,680%** Percent

**2,806,304** US National

**58,277** State: Tennessee

**14,497** Region:

Nashville-Davidson-Murfreesboro-Franklin, TN

**Estimated # Employed in this DOT Code**

**47.723%**

**1,581,545**

**32,843**

**8,170**

**CPS Estimate:** Men 30.2% Women 69.8%

[Show/Add More Related Industries for this OES Group](#)    [Print](#)    [Help](#)    [Close](#)

Estimated National Distribution

Estimated National Distribution of DOT Employment of:

OES: **41-2011 Cashiers**

Within NAICS **445100 Grocery stores**

Distrib. %	DOT Code	DOT Title	Industry Sort	Strength	SVP	RML	O*NET
33.33	211462010	CASHIER II (clerical)		L	2	322	41-2011.00
33.33	211462014	CASHIER-CHECKER (retail trade)		L	3	322	41-2011.00
33.33	211467010	CASHIER, COURTESY BOOTH (retail trade)		L	4	333	41-2011.00

Help Close

Industries Employing This OES Group

Occupational Density Estimate for: DOT: **211.462-010 CASHIER II**

Industries Reporting Employment of this OES Group:

**41-2011 Cashiers**

(Click the ADD checkbox for each relevant industry row for the specific DOT occupation)

Add	OccDen%	NAICS	Title
<input type="checkbox"/>	0.11	711200	Spectator sports
<input type="checkbox"/>	0.05	711300-400	Promoters of events, and agents and managers
<input type="checkbox"/>	0.01	711500	Independent artists, writers, and performers
<input type="checkbox"/>	0.14	712000	Museums, historical sites, and similar institutions
<input type="checkbox"/>	0.14	712100	Museums, historical sites, and similar institutions
<input type="checkbox"/>	1.14	713000	Amusement, gambling, and recreation industries
<input type="checkbox"/>	0.25	713100	Amusement parks and arcades
<input type="checkbox"/>	0.14	713200	Gambling industries
<input type="checkbox"/>	0.74	713900	Other amusement and recreation industries
<input type="checkbox"/>	0.18	713940	Fitness and recreational sports centers
<input type="checkbox"/>	7.71	720000	Accommodation and food services
<input type="checkbox"/>	0.47	721000	Accommodation, including hotels and motels
<input type="checkbox"/>	0.28	721110.90.	Hotels (except casino), motels, and all other traveler accommodat
<input checked="" type="checkbox"/>	0.16	721120	Casino hotels
<input type="checkbox"/>	0.03	721200	RV (recreational vehicle) parks and recreational camps
<input type="checkbox"/>	7.24	722000	Food services and drinking places

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Estimated DOT Employment Numbers
DOT: 211.462-010 CASHIER II

**DOT Employment Estimate for:** 2014

ALTERNATE JOB TITLES (Might also be known as):  
 CHANGE-BOTH CASHIER; CASHIER, PARKING LOT; CASHIER, SELF-SERVICE GASOLINE; BILLING CASH CLERK; C STORE CLERK; C-STORE CLERK; CASH CLERK; CASHIER II; CASHIER, CREDIT; CASHIER, GENERAL; CASHIER, OFFICE; CASHIER, PAYMENTS RECEIVED; CONVENIENCE STORE CLERK; FLOOR CASHIER; GAS STATION CASHIER; GAS STATION CLERK; STORE CASHIER; TICKET CLERK; CAFETERIA CASHIER; DINING-ROOM CASHIER; SERVICE-BAR CASHIER  
 CASH CLERK; CASHIER, GENERAL; CASHIER, OFFICE; TICKET CLERK. Receives cash from customers or employees in payment for goods or services and records amounts received. Responsibilities or functions not identified here, and job title should be used.

OES Group **41-2011 Cashiers**  
 Estimate OES Industry Employment Numbers for: **National**  
☒ National ☐ Statewide ☐ Regional Show Counties Show All DOTs in this OES Group

**NAICS Industries where this DOT Code is likely to be employed:**

Remove	NAICS	NAICS Title	Estimated % For this OES Group	N	N DOTs	Estimated % For this DOT	N
<input type="checkbox"/>	420000	Wholesale trade	0.292	9,668	1	0.292	9,668
<input type="checkbox"/>	441100	Automobile dealers	0.270	8,964	1	0.270	8,964
<input type="checkbox"/>	444100	Building material and supplies dealers	1.453	48,148	2	0.726	24,074
<input type="checkbox"/>	445100	Grocery stores	11.337	375,709	3	3.779	125,236
<input type="checkbox"/>	445200	Specialty food stores	0.559	18,536	1	0.559	18,536
<input type="checkbox"/>	445300	Beer, wine, and liquor stores	0.939	31,117	1	0.939	31,117
<input type="checkbox"/>	447100	Gasoline stations	6.978	231,264	1	6.978	231,264
<input type="checkbox"/>	448100	Clothing stores	1.650	54,679	4	0.412	13,670

**Adjust Estimates by Employment Status**  
☒ **Full-Time** 48.3%  
☐ **Part-Time** 51.7%  
☐ **Self-Emp.** 1.0%

**TOTAL EMPLOYMENT IN THIS OES GROUP**  

3,314,010 National
68,820 State
17,120 Region

**Industry Employment of this OES Group**  

40.900% Percent
1,355,445 US National
28,148 State: Tennessee
7,002 Region:

**Estimated # Employed in this DOT Code**  

23.050%
763,886
15,863
3,946

CPS Estimate: Men 30.2% Women 69.8%  
 Nashville-Davidson-Murfreesboro-Franklin, TN

Show/Add More Related Industries for this OES Group
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Estimated DOT Employment Numbers
DOT: 211.467-018 PARIMUTUEL-TICKET CASHIER

**DOT Employment Estimate for:** 2014

ALTERNATE JOB TITLES (Might also be known as):  
 MUTUEL CASHIER; PARIMUTUEL CASHIER; PARIMUTUEL-TICKET CASHIER  
 MUTUEL CASHIER; PARIMUTUEL CASHIER. Cashes winning parimutuel tickets for patrons at race track; Posts official race results and value of winning tickets on worksheet to compute payouts; Compares ticket submitted by patron with sample to determine validity. Pays winnings to patron. Summons security personnel to apprehend persons attempting to cash fraudulent tickets, or directs patron to INFORMATION CLERK-CASHIER (amuse. & rec.) or to supervisory personnel to resolve questions of ticket validity. Records number of tickets cashed and amount paid out after each race. Responsibilities: additional cash from MONEY-OUT INTER (amuse. & rec.) is retained.

OES Group **41-2011 Cashiers**  
 Estimate OES Industry Employment Numbers for: **National**  
☒ National ☐ Statewide ☐ Regional Show Counties Show All DOTs in this OES Group

**NAICS Industries where this DOT Code is likely to be employed:**

Remove	NAICS	NAICS Title	Estimated % For this OES Group	N	N DOTs	Estimated % For this DOT	N
<input type="checkbox"/>	711200	Spectator sports	0.056	1,857	6	0.009	309
<input type="checkbox"/>	713200	Gambling industries	0.071	2,337	3	0.024	779
<input type="checkbox"/>	721120	Casino hotels	0.080	2,657	2	0.040	1,329

**Adjust Estimates by Employment Status**  
☒ **Full-Time** 48.3%  
☐ **Part-Time** 51.7%  
☐ **Self-Emp.** 1.0%

**TOTAL EMPLOYMENT IN THIS OES GROUP**  

3,314,010 National
68,820 State
17,120 Region

**Industry Employment of this OES Group**  

0.207% Percent
6,851 US National
142 State: Tennessee
35 Region:

**Estimated # Employed in this DOT Code**  

0.073%
2,417
50
12

CPS Estimate: Men 30.2% Women 69.8%  
 Nashville-Davidson-Murfreesboro-Franklin, TN

Show/Add More Related Industries for this OES Group
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**Estimated DOT Employment Numbers**

DOT Employment Estimate for: 2014 DOT: 379,367-010 SURVEILLANCE-SYSTEM MONITOR

ALTERNATE JOB TITLES (Might also be known as):  
SURVEILLANCE-SYSTEM MONITOR

Monitors premises of public transportation terminals to detect crimes or disturbances, using closed circuit television monitors, and notifies authorities by telephone of need for corrective action. Observes television screens that transmit in sequence views of transportation facility sites. Pushes hold button to maintain surveillance of location where incident is developing, and telephones police or other designated agency to notify authorities of location of disruptive activity. Adjusts monitor controls when required to improve resolution, and notifies supervisor of adjustment malfunctions.

OES Group **33-9099 Protective Service Workers, All Other**  
Estimate OES Industry Employment Numbers for: **National**

☒ National ☐ Statewide ☐ Regional Show Counties Show All DOTs in this OES Group

Remove NAICS	NAICS Title	Estimated % For this OES Group	N	N DOTs	Estimated % For this DOT	N
<input type="checkbox"/>	452100 Department stores	2.510	2,041	1	2.510	2,041
<input type="checkbox"/>	488000 Support activities for transportation	0.300	244	1	0.300	244
<input type="checkbox"/>	561620 Security systems services	1.302	1,058	1	1.302	1,058
<input type="checkbox"/>	930000 Government	12.546	10,199	4	3.137	2,550

Adjust Estimates by Employment Status

☒ Full-Time 34.5%

☐ Part-Time 65.5%

Self-Emp: 0.2%

**TOTAL EMPLOYMENT IN THIS OES GROUP**

81,290 National

1,100 State

300 Region

Industry Employment of this OES Group

16.659% Percent

13,542 US National

183 State: Tennessee

50 Region:

Nashville-Davidson-Murfreesboro-Franklin, TN

**Estimated # Employed in this DOT Code**

7,249%

5,893

80

22

CPS Estimate: Men 58.2% Women 41.8%

Show/Add More Related Industries for this OES Group
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**Estimated DOT Employment Numbers**

DOT Employment Estimate for: 2014 DOT: 920,685-026 BOTTLE PACKER

ALTERNATE JOB TITLES (Might also be known as):  
BOTTLE PACKER; CASER

CASER: Tends machine that inserts filled beer bottles into cardboard cartons: Positions empty carton on platform below automatic packer. Presses pedal to raise platform to packer level and to deposit bottles in carton. Releases pedal and pushes full carton onto conveyor. Straightens or resets partitions in carton.

OES Group **51-9111 Packaging and Filling Machine Operators and Tenders**  
Estimate OES Industry Employment Numbers for: **National**

☒ National ☐ Statewide ☐ Regional Show Counties Show All DOTs in this OES Group

Remove NAICS	NAICS Title	Estimated % For this OES Group	N	N DOTs	Estimated % For this DOT	N
<input type="checkbox"/>	312100 Beverage manufacturing	4.917	18,080	2	2.459	9,040

Adjust Estimates by Employment Status

☒ Full-Time 88.5%

☐ Part-Time 11.5%

Self-Emp: 0.0%

**TOTAL EMPLOYMENT IN THIS OES GROUP**

367,700 National

12,800 State

1,630 Region

Industry Employment of this OES Group

4.917% Percent

18,080 US National

629 State: Tennessee

80 Region:

Nashville-Davidson-Murfreesboro-Franklin, TN

**Estimated # Employed in this DOT Code**

2,459%

9,040

315

40

CPS Estimate: Men 45.9% Women 54.1%

Show/Add More Related Industries for this OES Group
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**Estimated DOT Employment Numbers**

DOT Employment Estimate for: 2014 DOT: 323.687-014 CLEANER, HOUSEKEEPING

ALTERNATE JOB TITLES (Might also be known as):  
 CLEANER, HOUSEKEEPING; HOUSE AID; MAID; MAID/DESK CLERK; NIGHT CLEANER; ROOM ATTENDANT; UTILITY PERSON; MOTEL CLEANER; MOTEL/HOTEL HOUSEKEEPER; MOTEL/HOTEL MAID; SLEEPING ROOM CLEANER; BEAUTY PARLOR CLEANER

MAID. Cleans rooms and halls in commercial establishments, such as hotels, restaurants, clubs, beauty parlors, and dormitories, performing any combination of following duties: Sorts, counts, folds, marks, or carries linens. Makes beds. Replenishes supplies, such as disinfectant, linens, and toilet supplies. Cleans, sorts, and repairs personal assistance linens. Moves furniture, house plants.

OES Group 37-2012 Maids and Housekeeping Cleaners

Estimate OES Industry Employment Numbers for: **National**

☒ National ☐ Statewide ☐ Regional [Show Counties](#) [Show All DOTs in this OES Group](#)

Remove	NAICS	NAICS Title	Estimated % For this OES Group	N	Estimated % For this DOT	N
<input type="checkbox"/>	452100	Department stores	0.006	53	1	0.006 53
<input type="checkbox"/>	530000	Real estate and rental and leasing	1.219	10,910	1	1.219 10,910
<input type="checkbox"/>	531100	Lessors of real estate	0.510	4,563	1	0.510 4,563
<input type="checkbox"/>	561300	Employment services	0.672	6,016	7	0.096 859
<input type="checkbox"/>	620000	Health care and social assistance	9.767	87,406	1	9.767 87,406
<input type="checkbox"/>	621100	Offices of physicians	0.123	1,101	1	0.123 1,101
<input type="checkbox"/>	621400	Outpatient care centers	0.051	459	1	0.051 459
<input type="checkbox"/>	622000	Hospitals, public and private	4.537	40,604	2	2.269 20,302

**Adjust Estimates by Employment Status**

☒ Full-Time 59.7%

☐ Part-Time 40.3%

☐ Self-Emp. 7.1%

**TOTAL EMPLOYMENT IN THIS OES GROUP**

894,920 National

19,290 State

4,440 Region

**Industry Employment of this OES Group**

39.609% Percent

354,465 US National

7,640 State: Tennessee

1,759 Region:

Nashville-Davidson-Murfreesboro-Franklin, TN

**Estimated # Employed in this DOT Code**

25,846%

231,305

4,986

1,148

**CPS Estimate:** Men 15.5% Women 84.5%

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**Estimated DOT Employment Numbers**

DOT Employment Estimate for: 2014 DOT: 209.587-034 MARKER

ALTERNATE JOB TITLES (Might also be known as):  
 MARKER; MARKING CLERK; MERCHANDISE MARKER; PRICE MARKER; TICKET MAKER

MARKING CLERK; MERCHANDISE MARKER; PRICE MARKER; TICKET MAKER. Marks and attaches price tickets to articles of merchandise to record price and identifying information. Marks selling price by hand on boxes containing merchandise, or on price tickets. Ties, glues, sews, or staples price ticket to each article. Presses lever or plunger of mechanism that pins, pastes, ties, or staples ticket to article. May record number and types of articles marked and pack them in boxes. May compare printed price tickets with handwritten merchandise notes for pricing accuracy and verify dimensions of merchandise. May read information on tickets, coupon tickets.

OES Group 43-5081 Stock Clerks and Order Fillers

Estimate OES Industry Employment Numbers for: **National**

☒ National ☐ Statewide ☐ Regional [Show Counties](#) [Show All DOTs in this OES Group](#)

Remove	NAICS	NAICS Title	Estimated % For this OES Group	N	Estimated % For this DOT	N
<input type="checkbox"/>	444100	Building material and supplies dealers	1.573	28,410	3	0.524 9,470
<input type="checkbox"/>	444200	Lawn and garden equipment and supplies stores	0.134	2,424	2	0.067 1,212
<input type="checkbox"/>	445100	Grocery stores	14.508	262,066	4	3.627 65,516
<input type="checkbox"/>	445300	Beer, wine, and liquor stores	0.409	7,393	3	0.136 2,464
<input type="checkbox"/>	448100	Clothing stores	2.350	42,445	4	0.587 10,611
<input type="checkbox"/>	451000	Sporting goods, hobby, book, and music stores	0.713	12,872	2	0.356 6,436
<input type="checkbox"/>	452000	General merchandise stores	19.038	343,878	2	9.519 171,939
<input type="checkbox"/>	452100	Department stores	10.817	191,768	11	0.965 17,433

**Adjust Estimates by Employment Status**

☒ Full-Time 67.1%

☐ Part-Time 32.9%

☐ Self-Emp. 0.3%

**TOTAL EMPLOYMENT IN THIS OES GROUP**

1,806,310 National

46,670 State

14,650 Region

**Industry Employment of this OES Group**

58.561% Percent

1,057,791 US National

27,330 State: Tennessee

8,579 Region:

Nashville-Davidson-Murfreesboro-Franklin, TN

**Estimated # Employed in this DOT Code**

17.702%

319,757

8,262

2,593

**CPS Estimate:** Men 66.8% Women 33.2%

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**Estimated DOT Employment Numbers**

**DOT Employment Estimate for:** 2014 **DOT:** 208.685-010 **COLLATOR OPERATOR**

ALTERNATE JOB TITLES (Might also be known as):  
COLLATOR OPERATOR

Tends machine that assembles pages of printed material in numerical sequence. Adjusts control that regulates stroke of paper pusher, according to size of paper. Places pages to be assembled in holding trays. Starts machine. Removes assembled pages from machine.

**Strength**  
Light

**SVP**  
2

**OES Group 43-9199 Office and Administrative Support Workers, All Other**  
Estimate OES Industry Employment Numbers for: **National**

☒ National ☐ Statewide ☐ Regional [Show Counties](#) [Show All DOTs in this OES Group](#)

**NAICS Industries where this DOT Code is likely to be employed:**

Remove	NAICS	NAICS Title	Estimated % For this OES Group	N	N DOTs	Estimated % For this DOT	N
<input type="checkbox"/>	211100	Oil and gas extraction	0.011	26	4	WT	6
<input type="checkbox"/>	221000	Utilities	0.400	900	5	WT	180
<input type="checkbox"/>	221100	Electric power generation, transmission and distribution	0.252	567	4	WT	142
<input type="checkbox"/>	221200	Natural gas distribution	0.140	315	5	WT	63
<input type="checkbox"/>	334200	Communications equipment manufacturing	0.016	37	6	WT	6
<input type="checkbox"/>	334400	Semiconductor and other electronic component manufactur	0.054	121	6	WT	20
<input type="checkbox"/>	336000	Transportation equipment manufacturing	0.252	567	4	WT	142
<input type="checkbox"/>	336400	Aerospace product and parts manufacturing	0.161	362	6	WT	60

**Adjust Estimates by Employment Status**

☒ **Full-Time** 81.2%

☐ **Part-Time** 18.8%

☐ **Self-Emp.** 6.6%

**TOTAL EMPLOYMENT IN THIS OES GROUP**

225,310 National

3,460 State

980 Region

**Industry Employment of this OES Group**

25.104% Percent

56,561 US National

869 State: Tennessee

246 Region:

Nashville-Davidson-Murfreesboro-Franklin, TN

**Estimated # Employed in this DOT Code**

6,179%

13,922

214

61

**CPS Estimate:** Men 22.8% Women 77.2%

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**Estimated DOT Employment Numbers**

**DOT Employment Estimate for:** 2014 **DOT:** 976.682-022 **MICROFILM-CAMERA OPERATOR**

ALTERNATE JOB TITLES (Might also be known as):  
MICROFILM-CAMERA OPERATOR

Operates microfilm unit camera to film documents. Selects and inserts format disk, turns knobs and flips switches to set controls of unit operation, such as exposure time, margin space, and camera action, according to format instructions. Selects specified camera lens according to document reduction ratios desired on film and slides lens into position on unit. Loads film into camera and splices film to device that facilitates movement of film through unit, using splicing tape. Positions documents on unit feed belt, depresses pedal to facilitate camera, self-advances control manual to monitor unit operation. Advances film or slides documents according to manual folios.

**Strength**  
Light

**SVP**  
3

**OES Group 43-9199 Office and Administrative Support Workers, All Other**  
Estimate OES Industry Employment Numbers for: **National**

☒ National ☐ Statewide ☐ Regional [Show Counties](#) [Show All DOTs in this OES Group](#)

**NAICS Industries where this DOT Code is likely to be employed:**

Remove	NAICS	NAICS Title	Estimated % For this OES Group	N	N DOTs	Estimated % For this DOT	N
<input type="checkbox"/>	511110	Newspaper publishers	0.658	1,482	5	WT	296
<input type="checkbox"/>	522000	Credit intermediation and related activities	2.261	5,093	1		5,093
<input type="checkbox"/>	524000	Insurance carriers and related activities	2.642	5,953	1		5,953
<input type="checkbox"/>	541500	Computer systems design and related services	0.424	955	2	WT	478

**Adjust Estimates by Employment Status**

☒ **Full-Time** 81.2%

☐ **Part-Time** 18.8%

☐ **Self-Emp.** 6.6%

**TOTAL EMPLOYMENT IN THIS OES GROUP**

225,310 National

3,460 State

980 Region

**Industry Employment of this OES Group**

5.984% Percent

13,484 US National

207 State: Tennessee

59 Region:

Nashville-Davidson-Murfreesboro-Franklin, TN

**Estimated # Employed in this DOT Code**

5,246%

11,821

182

51

**CPS Estimate:** Men 22.8% Women 77.2%

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**ESTIMATED EMPLOYMENT NUMBERS USING SKILLTRAN METHODOLOGY** Grouped by OES & Industry  
 BASIS: OES - May, 2006 Data & Long Term Industry Projections (2009-2018), Adjusted for 2010

DOT	Title	Strength	SVP	RML	O'NET	DOT Industry	ESTIMATED EMPLOYMENT		
							US	State	Region
915587010	PARIMUTUEL TICKET CHECKER (amusement/recreation)	S	2	333	91-3031.00	amusement/recreation	1,670		
915587010	SCIENCE CENTER OPERATOR (amusement/recreation)	S	2	333	91-3033.00	amusement/recreation	1,747		
762867048	SAUK REPAIRER (any industry)	S	2	211	91-6031.02	any industry	1,077		
690686046	PLASTIC-DESIGN APPLIER (boot & shoe)	S	1	111	91-7063.00	boot & shoe	n/a		
900686066	TOGGLE-PRESS FOLDER-AND-FEEDER (boot & shoe)	S	2	111	91-7063.00	boot & shoe	1,135		
768687022	BUCKLE-AND LATCH (boot & shoe)	S	2	111	91-9199.99	boot & shoe	5		
768687114	SPRINK TAPER (boot & shoe)	S	2	111	91-9199.99	boot & shoe	5		
768687159	WAMP STRAP HONER (boot & shoe)	S	2	111	91-9199.99	boot & shoe	27		
768687166	WHITE-SHOE RAQUER (boot & shoe)	S	2	111	91-9123.00	boot & shoe	30		
607367014	CALCULOT OPERATOR (business services)	S	2	323	43-4041.02	business services	11,999		
900687014	CUTTER-AND PASTER PRESS CLIPPING (business services)	S	2	211	43-9081.00	business services	5,917		
900687018	DOCUMENT PREPARER, MICROFILMING (business services)	S	2	312	43-9081.00	business services	23,195		
900687042	CONVEY-GRINDER OPERATOR (button & notion)	S	2	211	91-9021.00	button & notion	189		
900687194	GRINDING-MACHINE OPERATOR, AUTOMATIC (button & notion)	S	2	212	91-9021.00	button & notion	189		
900687193	PINKING-MACHINE OPERATOR (button & notion)	S	2	212	91-9021.00	button & notion	174		
900687520	STOP ATTACHER (button & notion)	S	2	212	91-9199.99	button & notion	50		
900687569	ZIPPER TRIMMER, MACHINE (button & notion)	S	2	211	91-9032.04	button & notion	99		
734687010	FEATHER SHAPER (button & notion)	S	2	212	91-9199.99	button & notion	6		
734687010	AUTOMATIC-BUTTON PASTER (button & notion)	S	2	111	91-9199.99	button & notion	-		
734687010	ASSCHERER (button & notion)	S	2	111	91-9199.99	button & notion	n/a		
734687034	BUCKLE-WIRE INSERTER (button & notion)	S	1	111	91-9199.99	button & notion	n/a		
734687058	HOT-STONE SETTER (button & notion)	S	2	111	91-9199.99	button & notion	n/a		
734687074	SLIDE-FASTENER-CHAIN ASSEMBLER (button & notion)	S	2	211	91-9199.99	button & notion	n/a		
734687089	SPITTER, HAND (button & notion)	S	2	111	91-9031.00	button & notion	577		
734687090	STICKER (button & notion)	S	1	111	91-9199.99	button & notion	33		
734687094	ZIPPER TRIMMER, HAND (button & notion)	S	2	222	91-9081.05	button & notion	326		
740687010	BUTTON SPINDLER (button & notion)	S	2	111	91-9123.00	button & notion	1,627		
901857010	ALMOND BLANCHER, HAND (canning & preserving)	S	1	111	91-9198.01	canning & preserving	993		
901857056	MAN, SALTHER (canning & preserving)	S	2	111	91-9081.05	canning & preserving	292		
203567014	CHARGE-ACCOUNT CLERK (clerical)	S	2	323	43-4111.00	clerical	2,526		
203567016	ADDRESSER (clerical)	S	2	212	43-9022.00	clerical	16,773		
233687014	TUBE OPERATOR (clerical)	S	2	212	43-5021.00	clerical	5,653		
915687014	DELANCER-OUTER (clock & watch)	S	2	211	91-4031.02	clock & watch	197		
915687010	MUSTER, ALARM MECHANISM (clock & watch)	S	2	212	91-9199.99	clock & watch	32		
715687026	BENCH HAND (clock & watch)	S	2	111	91-9199.99	clock & watch	32		
715687062	DIAL SCREW ASSEMBLER (clock & watch)	S	2	212	91-9199.99	clock & watch	32		
715687138	ALCOHOLER (clock & watch)	S	2	111	91-9123.00	clock & watch	10		
715687144	OLIER (clock & watch)	S	2	211	91-9199.99	clock & watch	46		
715687179	SET-STAFF FITTER (clock & watch)	S	2	211	91-9199.99	clock & watch	46		
715687038	MAINSRING WINDER AND OILER (clock & watch)	S	2	211	91-9199.99	clock & watch	46		
715687050	PRESS OPERATOR, PIERCE AND SHAPE (clock & watch)	S	2	211	91-4031.02	clock & watch	262		
715687010	BAND ATTACHER (clock & watch)	S	2	111	91-9199.99	clock & watch	32		
715687010	CERIAL ATTACHER (clock & watch)	S	2	111	91-9199.99	clock & watch	32		
715687022	DIAL BRUSHER (clock & watch)	S	2	111	91-9199.99	clock & watch	32		
715687028	DIPPER, CLOCK AND WATCH HANDS (clock & watch)	S	2	111	91-9123.00	clock & watch	10		
715687078	MAINSRING FORMER, ARBOR END (clock & watch)	S	2	212	91-9199.99	clock & watch	46		
715687082	MAINSRING FORMER, BRACE END (clock & watch)	S	2	211	91-9199.99	clock & watch	46		

**PRELIMINARY ESTIMATED EMPLOYMENT NUMBERS USING SKILLTRAN METHODOLOGY** Grouped by OES & Industry  
 BASIS: OES - May, 2006 Data & Long Term Industry Projections (2009-2018), Adjusted for 2010

DOT	Title	Strength	SVP	RML	O'NET	DOT Industry	ESTIMATED EMPLOYMENT		
							US	State	Region
939687014	WASHROOM OPERATOR (sugar & confection)	S	2	211	91-9192.00	sugar & confection	n/a		
900687048	PLASTIC-DESIGN APPLIER (boot & shoe)	S	1	111	91-7063.00	boot & shoe	n/a		
713687018	FINAL ASSEMBLER, EYE (optical goods)	S	2	111	91-9199.99	optical goods	n/a		
713687028	LENS INSERTER (optical goods)	S	2	111	91-9199.99	optical goods	n/a		
729687018	DIAL MARKER (electrical equipment)	S	2	222	91-9123.00	electrical equipment	n/a		
723567010	GOLF BALL TRIMMER (toy-sport equipment)	S	2	211	91-9199.99	toy-sport equipment	n/a		
723567062	FISHING REEL ASSEMBLER (toy-sport equipment)	S	2	211	91-9199.99	toy-sport equipment	n/a		
744687010	ASSCHERER (button & notion)	S	2	111	91-9199.99	button & notion	n/a		
734687034	BUCKLE-WIRE INSERTER (button & notion)	S	1	111	91-9199.99	button & notion	n/a		
734687058	HOT-STONE SETTER (button & notion)	S	2	111	91-9199.99	button & notion	n/a		
734687074	SLIDE-FASTENER-CHAIN ASSEMBLER (button & notion)	S	2	211	91-9199.99	button & notion	n/a		
734687089	SPITTER, SHANK (fabrication, nec)	S	2	211	91-9199.99	fabrication, nec	n/a		
734687094	ZIPPER TRIMMER, MACHINE (fabrication, nec)	S	2	211	91-9199.99	fabrication, nec	n/a		
773687034	LEVEL-WIAL SEALER (cutlery-hardware)	S	2	211	91-9199.99	cutlery-hardware	n/a		
916887018	MOONER, HAND (photofinishing)	S	2	211	91-9031.00	photofinishing	n/a		
919687022	ESCORT-VEHICLE DRIVER (motor transportation)	S	2	212	43-3033.00	motor transportation	25,498		
900687018	DOCUMENT PREPARER, MICROFILMING (business services)	S	2	312	43-9081.00	business services	23,195		
203567030	ELECTION CLERK (government services)	S	2	322	43-9081.00	government services	22,779		
203567010	ADDRESSER (clerical)	S	2	212	43-9022.00	clerical	16,773		
237367014	CALCULOT OPERATOR (business services)	S	2	323	43-4041.02	business services	11,999		
900687010	BURNER-LANCE-SYSTEM MONITOR (government services)	S	2	310	91-9099.99	government services	11,735		
837367048	TELEPHONE QUOTATION CLERK (financial)	S	2	323	43-4111.00	financial	6,059		
203567014	CUTTER-AND PASTER, PRESS CLIPPING (business services)	S	2	211	43-9081.00	business services	5,917		
239687014	TUBE OPERATOR (clerical)	S	2	212	43-5021.00	clerical	5,653		
911687014	STUFFER (toy-sport equipment)	S	2	211	91-9111.00	toy-sport equipment	3,661		
914687010	COATER, BRANE LININGS (nonmetallic mineral)	S	2	212	91-9121.02	nonmetallic mineral	3,116		
739687182	TABLE WORKER (fabrication, nec)	S	2	111	91-9081.05	fabrication, nec	2,992		
655687062	LABEL PINKER (narrow fabrics)	S	2	211	91-6092.00	narrow fabrics	2,695		
203567014	CHARGE-ACCOUNT CLERK (clerical)	S	2	323	43-4111.00	clerical	2,526		
719687028	POLISHER, EYEGLASS FRAMES (optical goods)	S	2	211	91-4031.02	optical goods	2,213		
719687038	WAXER (glass products)	S	2	111	91-9199.99	glass products	2,170		
726687010	TOUCH-UP SCREENER, PRINTED CIRCUIT BOARD ASSEMBLY (electronic component)	S	2	212	91-9081.05	electronic component	1,896		
900687528	LAMINATOR (leather products)	S	2	211	91-9041.02	leather products	1,797		
919687010	SCOREBOARD OPERATOR (amusement/recreation)	S	2	323	91-3033.00	amusement/recreation	1,747		
919687010	PARIMUTUEL TICKET CHECKER (amusement/recreation)	S	2	333	91-3031.00	amusement/recreation	1,670		
725687018	SYSTEM MOUNTER (light fixtures)	S	2	211	91-3022.00	light fixtures	1,662		
203567014	ORDER CLERK, FOOD AND BEVERAGE (hotel & restaurant)	S	2	312	43-4151.00	hotel & restaurant	1,627		
740687010	BUTTON SPINDLER (button & notion)	S	2	111	91-9123.00	button & notion	1,627		
900687014	ALCOHOL SEALER (pharmaceuticals)	S	2	211	91-0841.00	pharmaceuticals	1,579		
726687050	FILM TOUCH-UP INSPECTOR (electronic component)	S	2	211	91-9081.05	electronic component	1,492		
713687034	POLISHER, IMPLANT (optical goods)	S	2	211	91-9022.00	optical goods	1,172		
900687066	TOGGLE-PRESS FOLDER-AND-FEEDER (boot & shoe)	S	2	111	91-7063.00	boot & shoe	1,135		
768687048	SAUK REPAIRER (any industry)	S	2	211	91-6031.02	any industry	1,077		
203567030	ORDER, SEMICONDUCTOR DISK (electronic component)	S	2	212	91-9141.00	electronic component	1,010		
726687048	WATER BREAKER, SEMICONDUCTORS (electronic component)	S	2	212	91-9141.00	electronic component	1,010		
901857010	ALMOND BLANCHER, HAND (canning & preserving)	S	1	111	91-9198.01	canning & preserving	993		
723687028	SMOOTHER (pen & pencil)	S	2	211	91-4032.02	pen & pencil	968		
900687048	APPER, BT (fabrication, nec)	S	2	211	91-9199.99	fabrication, nec	863		



## Sedentary – Unskilled Occupations

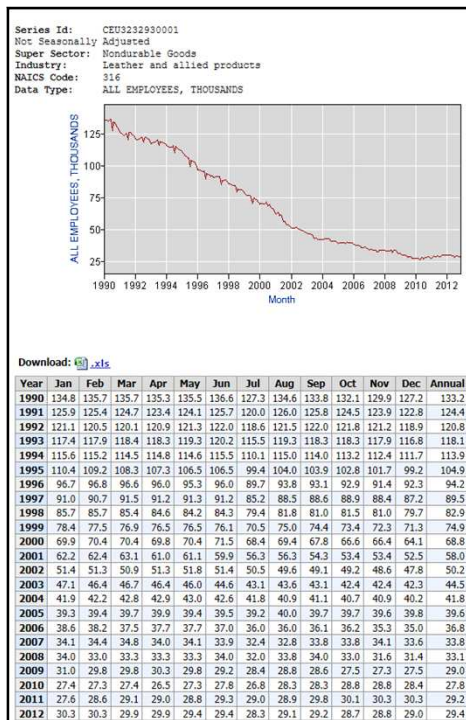
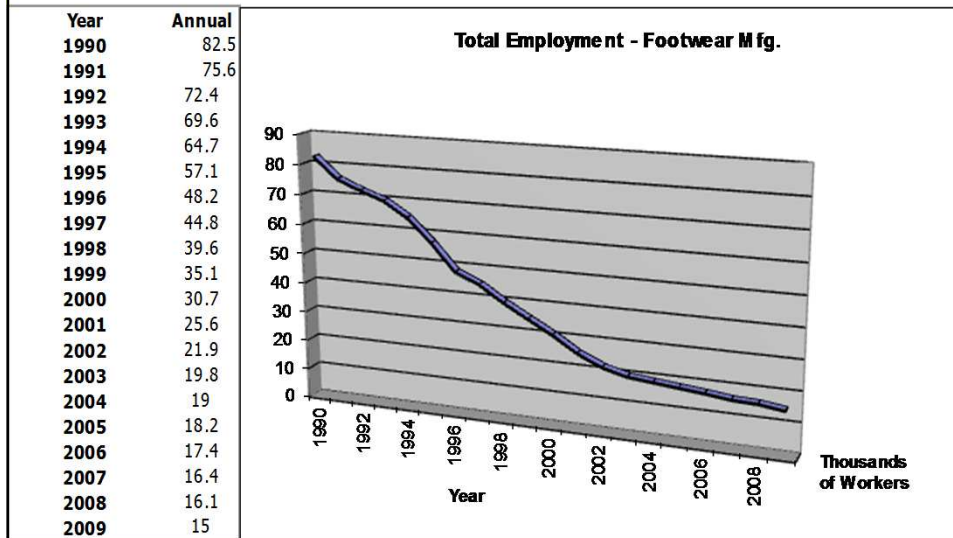
- There are 137 sedentary unskilled DOT occupations
- 113,000 of the estimated employment numbers (60% using the Industry Context method) cluster in 6 DOT occupations:
  - Escort Vehicle Driver (Not really sedentary) - 23%
  - Document Preparer, Microfilming (now digital scanning) – 21%
  - Election Clerk (civil service position – probably 50% P-T) - 20%
  - Addresser (hard to find since mostly automated .. combined) - 15%
  - Call-Out Operator (probably obsolete and automated now) - 11%
  - Surveillance System Monitor (assumes monitoring only) - 10%
- The remaining 73,937 estimated employed were spread across 131 DOT titles (Avg N = 564)
- Influence of rehabbers/occupational health
- See the handout spreadsheet for details –  
By Industry Group and by Frequency

## Sedentary – Unskilled Occupations

- Span 35 CENSUS Groups
- Span 38 OES Groups
- Span 44 DOT Industries
- 94 of the 137 (68.6%) are found in 13 NAICS
- Overall size of the workforce in these 13 NAICS industries during the last 22 years
- Data obtained directly from data.bls.gov
- Certain slides derived by subtraction

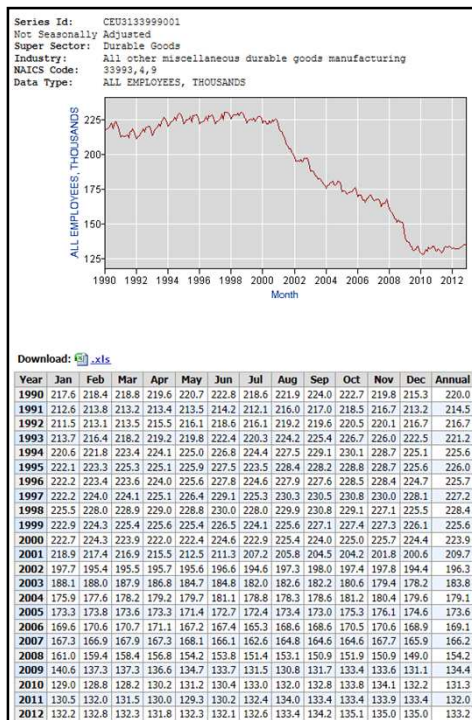
# Employment, Hours, and Earnings from the Current Employment Statistics survey (National)

Industry: Footwear  
NAICS Code: 3162  
Data Type: ALL EMPLOYEES, THOUSANDS  
Years: 1990 to 2009



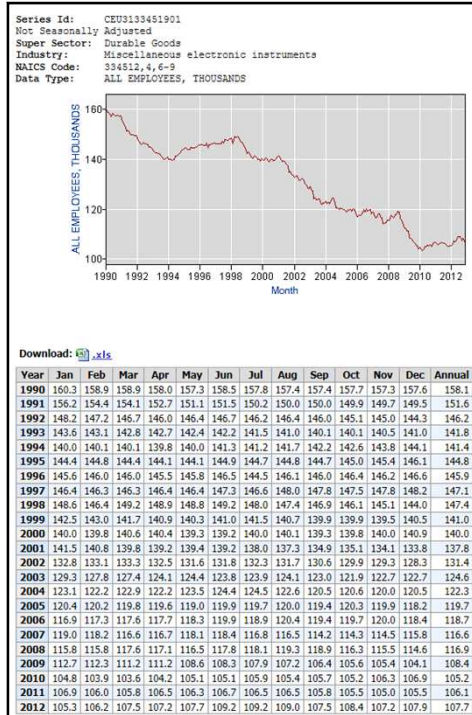
Employment in the DOT  
“Boot & Shoe Manufacturing”  
industry – NAICS 3162 fell  
below the BLS threshold of  
15,000 workers nationally, so  
it is now rolled up into NAICS  
316 – Leather and Allied  
Products

There are 7 DOT occs. in this  
industry that are Sedentary  
Unskilled (including 1 DOT in  
the “Leather Products” DOT  
industry



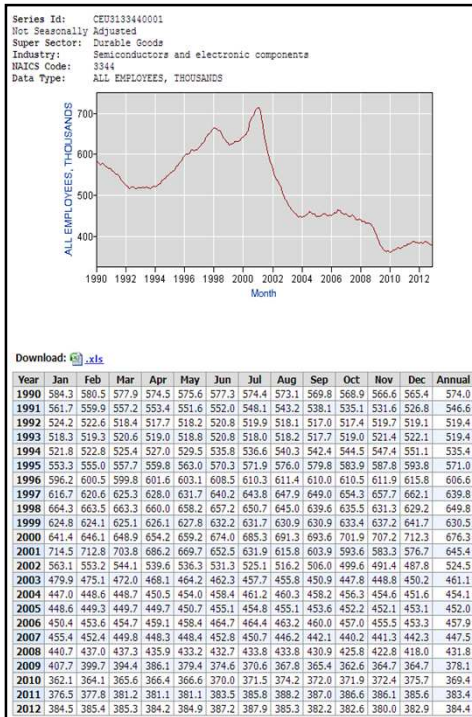
Employment in the DOT  
"Button & Notion  
Manufacturing" industry –  
NAICS 339993 fell below the  
BLS threshold of 15,000  
workers nationally, so it is  
now rolled up into NAICS  
33993,4,9 – All other  
miscellaneous durable goods  
manufacturing

There are 15 DOT occs. in  
this industry that are  
Sedentary Unskilled



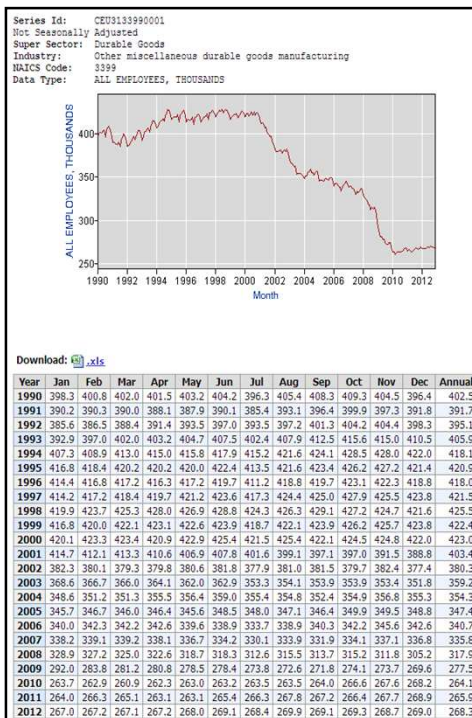
Employment in the DOT  
"Clock & Watch  
Manufacturing" industry –  
NAICS 334518 fell below the  
BLS threshold of 15,000  
workers nationally, so it is  
now rolled up into NAICS  
334512,4,6-9 –  
Miscellaneous electronic  
instruments (manufacturing)

There are 21 DOT occs. in  
this industry that are  
Sedentary Unskilled



Employment in the DOT  
“Electronic Component  
Manufacturing” industry –  
NAICS 3344 fell below the  
BLS threshold of 15,000  
workers nationally, so it is  
now rolled up into NAICS  
3344 – Semiconductors and  
electronic components  
(manufacturing)

There are 6 DOT occs. in this  
industry that are Sedentary  
Unskilled



Employment in the DOT  
“Fabrication, nec” industry is  
NAICS 3399– Other  
miscellaneous durable goods  
manufacturing

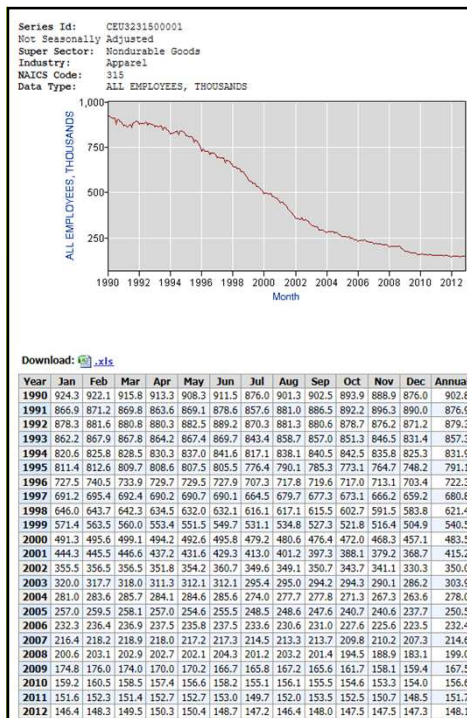
There are 9 DOT occs. in this  
industry that are Sedentary  
Unskilled





Employment in the DOT  
“Glass products” industry is  
NAICS 327211,2– Flat glass  
and other pressed and blown  
glass and glassware

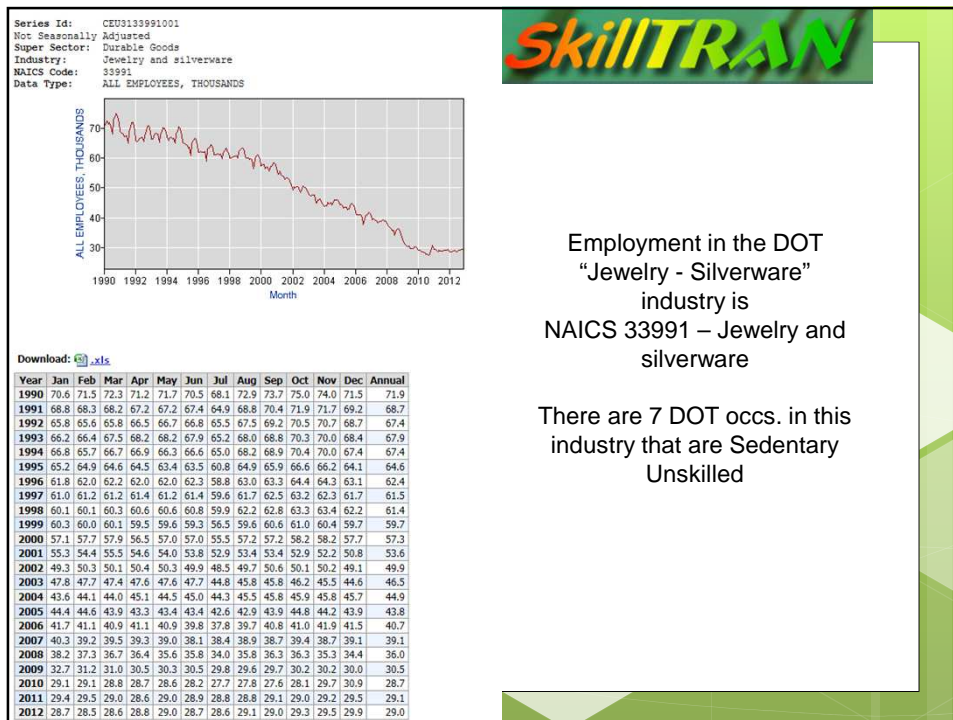
There are 3 DOT occs. in this  
industry that are Sedentary  
Unskilled



Employment in the DOT  
“Glove & Mitten”, “Hat &  
Cap”, and “Knitting”  
industries are  
NAICS 315 – Apparel

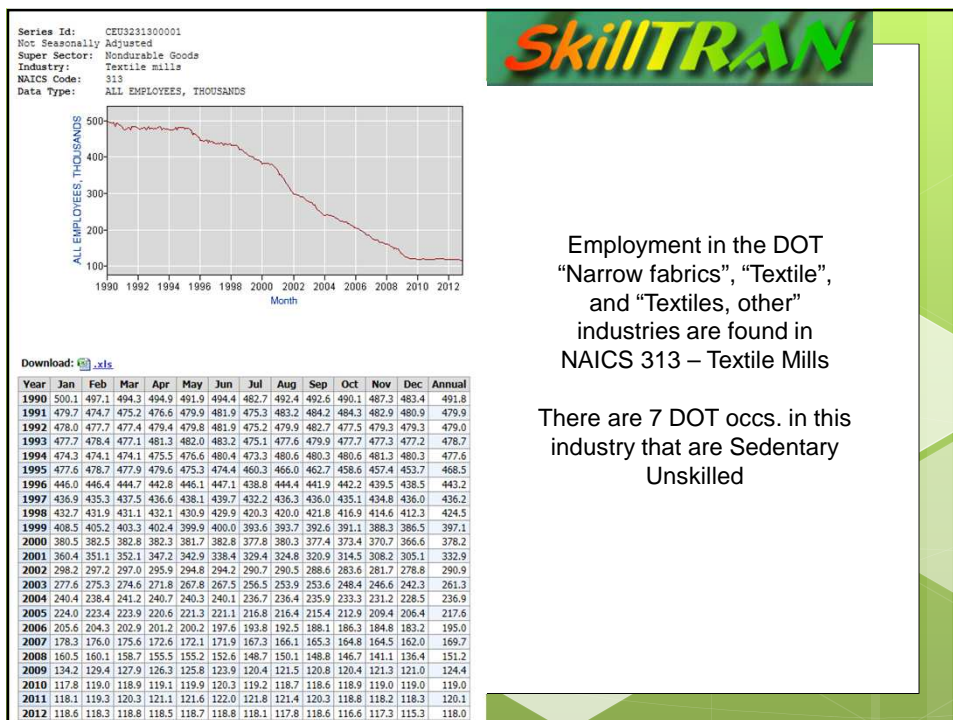
There are 7 DOT occs. in this  
industry that are Sedentary  
Unskilled





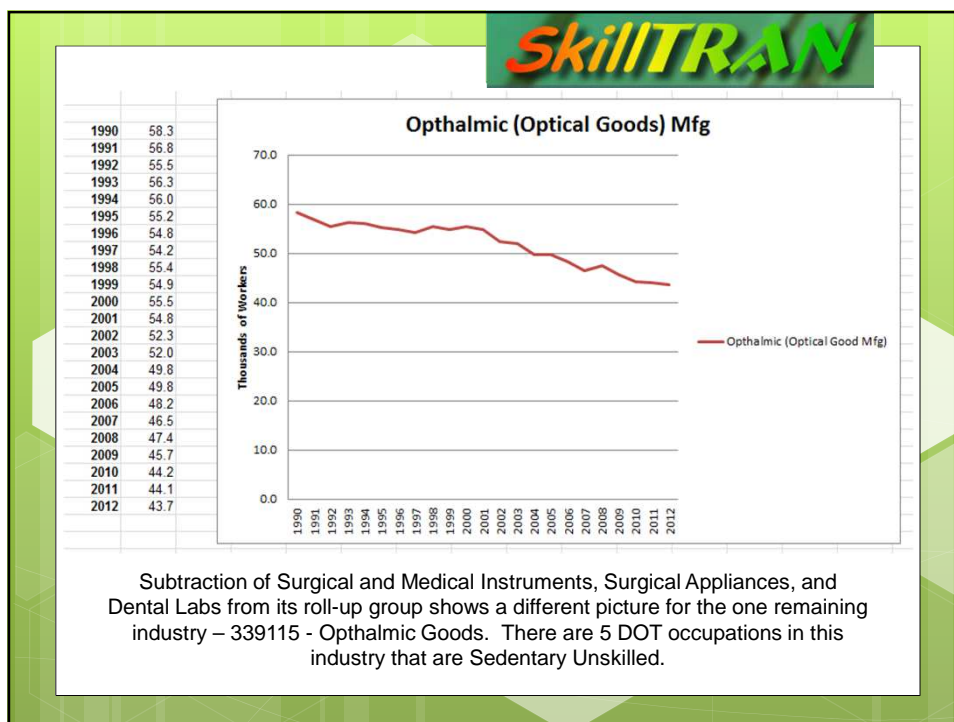
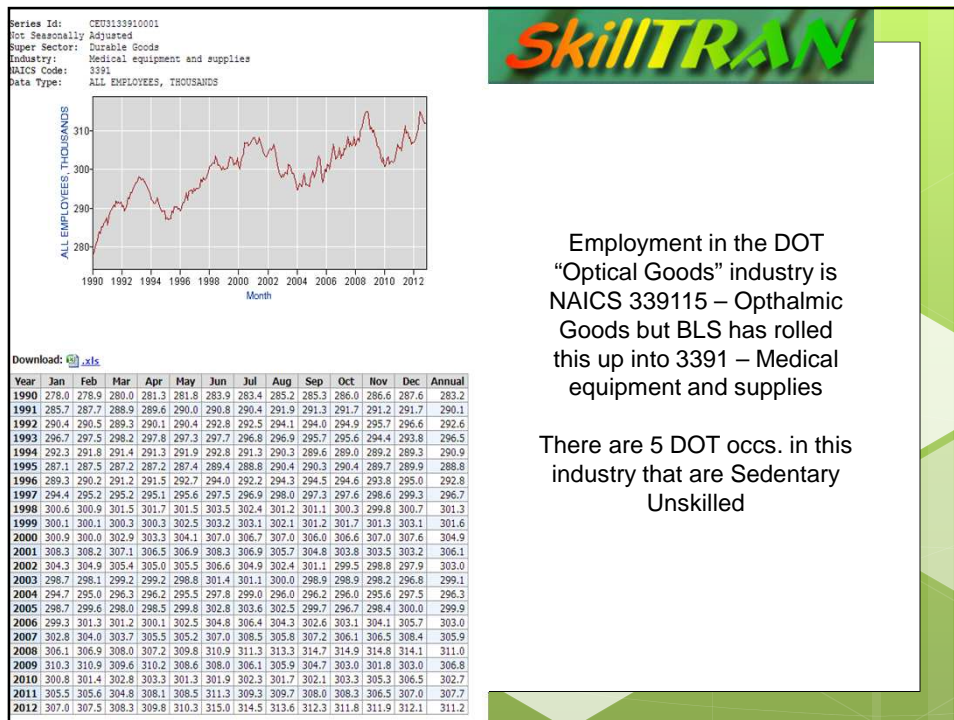
Employment in the DOT  
"Jewelry - Silverware"  
industry is  
NAICS 33991 – Jewelry and  
silverware

There are 7 DOT occs. in this  
industry that are Sedentary  
Unskilled



Employment in the DOT  
"Narrow fabrics", "Textile",  
and "Textiles, other"  
industries are found in  
NAICS 313 – Textile Mills

There are 7 DOT occs. in this  
industry that are Sedentary  
Unskilled



Series Id: CEU33299401  
Not Seasonally Adjusted  
Super Sector: Durable Goods  
Industry: Small arms, ammunition, and other ordnance and accessories  
NAICS Code: 332992, 31, 4  
Data Type: ALL EMPLOYEES, THOUSANDS



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Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1990	77.9	77.8	78.0	77.6	76.3	75.0	74.5	73.9	73.9	73.5	73.1	73.2	75.4
1991	72.7	69.3	71.9	71.1	69.9	69.7	69.8	69.6	69.5	70.0	69.6	69.7	70.2
1992	68.9	68.1	67.8	66.8	67.0	66.5	65.5	65.1	65.2	63.9	63.7	63.8	66.0
1993	63.1	62.5	61.7	60.9	60.2	59.7	58.7	57.5	57.7	57.0	56.3	56.2	59.3
1994	55.4	55.1	55.2	55.0	54.5	54.3	53.8	53.2	53.0	53.2	53.2	53.1	54.1
1995	52.6	52.5	52.5	52.0	51.3	51.4	50.9	50.7	50.3	50.2	49.9	49.8	51.2
1996	49.7	49.3	49.0	48.4	48.4	48.3	47.5	47.9	47.8	46.9	46.8	45.7	48.0
1997	45.8	45.1	44.6	44.1	43.4	43.6	43.3	43.4	43.5	43.2	42.9	42.9	43.8
1998	42.5	42.5	42.6	42.6	42.4	42.4	41.9	42.2	42.3	42.3	42.1	42.1	42.3
1999	42.1	42.1	41.7	42.1	41.8	41.9	41.3	41.3	41.1	41.4	41.0	41.3	41.6
2000	40.2	39.4	39.5	39.0	39.1	39.1	38.2	38.6	38.4	38.1	38.2	37.5	38.8
2001	37.4	38.8	38.8	39.2	39.2	39.9	39.4	39.2	39.2	39.5	39.7	39.5	39.2
2002	39.2	39.1	39.3	39.3	39.0	39.4	39.7	39.8	39.8	39.9	39.8	39.9	39.5
2003	39.6	39.6	39.6	39.8	39.2	39.7	39.1	39.0	39.0	39.2	39.0	39.9	39.4
2004	39.7	39.4	39.6	40.1	40.4	40.7	41.1	40.9	41.0	41.4	41.6	41.8	40.6
2005	41.3	41.6	41.7	41.8	41.9	42.0	42.3	42.3	42.0	42.2	41.9	41.9	41.9
2006	42.0	42.0	41.9	41.7	41.7	41.9	41.8	41.8	41.8	42.1	42.1	42.3	41.9
2007	42.4	42.7	42.3	42.2	42.1	41.9	41.7	41.7	41.6	41.7	42.1	42.2	42.1
2008	41.8	42.0	41.6	41.7	42.1	42.2	42.7	42.1	42.4	42.4	42.4	42.3	42.1
2009	41.8	42.0	42.4	42.6	42.6	42.9	43.0	42.7	42.3	42.3	42.4	42.5	42.5
2010	42.3	42.0	42.1	42.3	42.5	42.5	42.7	42.5	42.5	42.3	41.7	41.7	42.3
2011	41.3	40.8	41.1	41.0	41.0	40.8	41.6	41.5	41.4	41.3	41.3	40.6	41.1
2012	40.4	41.1	42.0	41.9	42.6	42.8	42.4	42.9	43.2	43.5	43.9	43.5	42.5

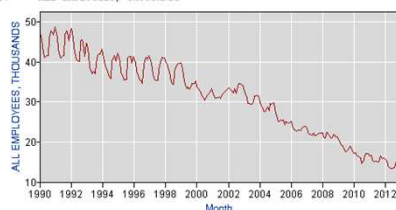


Employment in the DOT  
“Ordnance” industry is  
NAICS 332994 – Small arms,  
ammunition, and other  
ordnance and accessories

There are 4 DOT occs. in this  
industry that are Sedentary  
Unskilled

**Note:** Domestic/sport  
demand for ammo is less  
due to higher cost and  
indefinite shelf life. About  
80% of ammo is produced in  
the US; 20% foreign source.  
The US Govt. owns its own  
ammo manufacturing  
facilities, but they are often  
managed by the private  
sector.

Series Id: CEU332920001  
Not Seasonally Adjusted  
Super Sector: Nondurable Goods  
Industry: Tobacco and tobacco products  
NAICS Code: 3122  
Data Type: ALL EMPLOYEES, THOUSANDS



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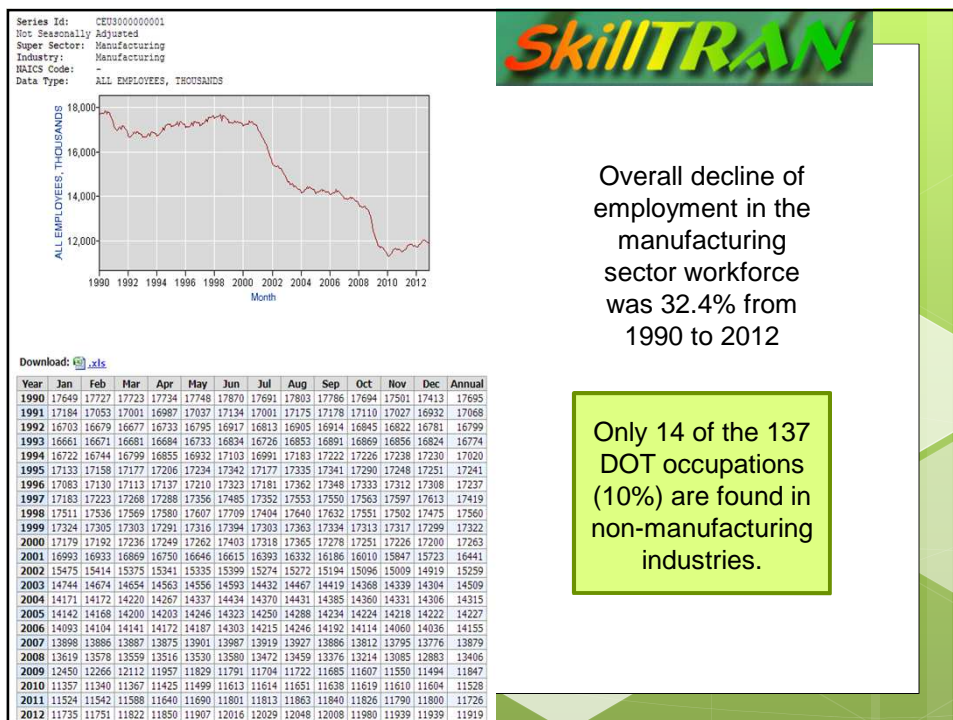
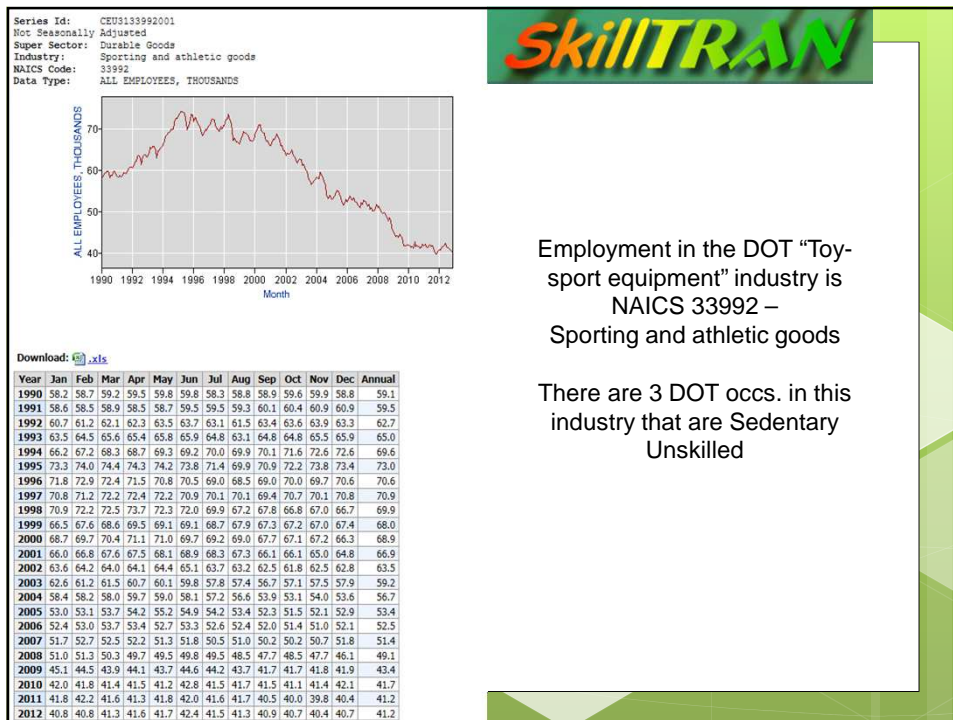
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1990	47.2	45.8	43.8	41.2	41.2	41.7	41.7	46.2	47.8	47.5	46.7	48.9	45.0
1991	47.8	46.3	43.0	41.4	41.0	41.4	41.6	46.7	47.8	47.3	45.4	48.0	44.8
1992	48.3	46.1	43.6	41.5	40.5	40.3	40.2	45.2	45.6	44.9	41.3	44.6	43.5
1993	44.2	41.8	38.6	37.7	37.0	37.6	37.0	39.8	41.8	42.0	42.0	43.3	40.2
1994	42.1	40.2	39.0	38.1	36.9	36.3	35.8	40.4	41.2	41.7	40.1	42.2	39.5
1995	41.7	40.1	37.2	36.6	35.4	35.7	35.7	41.0	41.4	41.3	39.7	41.3	38.9
1996	40.5	40.0	37.5	36.6	35.4	35.4	34.5	37.5	40.5	41.1	40.6	41.6	38.4
1997	40.9	39.8	38.1	36.1	35.4	35.4	35.5	38.1	40.0	41.1	41.0	40.9	38.5
1998	40.1	39.6	38.2	37.4	35.2	34.6	34.3	37.7	39.0	39.6	39.5	39.8	37.9
1999	39.8	38.2	35.3	34.3	33.3	33.7	33.2	33.7	34.5	34.5	34.7	35.3	35.0
2000	33.8	33.4	32.7	32.4	31.3	31.2	30.4	31.6	31.8	32.2	32.5	33.4	32.2
2001	32.2	31.6	30.9	31.2	31.0	31.3	30.9	32.0	32.2	32.5	32.8	33.1	31.8
2002	33.5	33.3	32.9	32.5	32.3	33.3	32.2	34.0	34.6	34.6	34.4	34.1	33.5
2003	32.5	32.1	31.1	29.7	29.7	29.5	29.4	30.3	31.5	31.6	31.7	31.5	30.9
2004	29.8	29.1	28.7	27.9	27.5	28.2	28.9	27.9	29.7	29.5	29.9	29.4	28.9
2005	27.0	26.6	25.2	25.2	25.6	25.4	25.5	24.4	25.2	24.9	24.8	24.9	25.4
2006	25.2	23.9	23.1	23.1	22.7	22.9	23.0	22.9	23.2	23.6	23.9	23.9	23.5
2007	23.5	22.3	21.8	22.0	21.7	22.2	21.6	21.7	21.9	22.0	22.2	22.3	22.1
2008	22.2	21.3	21.1	22.4	22.1	21.7	21.2	21.1	21.8	21.9	21.2	21.4	21.6
2009	20.6	20.0	19.3	19.2	18.5	17.8	17.6	17.9	18.5	19.0	18.3	17.7	18.7
2010	17.1	17.3	16.6	16.5	16.3	16.0	14.7	15.1	16.4	17.2	17.2	17.1	16.5
2011	16.5	16.6	15.4	15.2	15.0	15.3	15.0	15.1	16.4	16.0	15.9	16.1	15.7
2012	15.7	15.2	14.1	13.7	13.5	13.5	13.5	13.7	15.1	15.1	15.1	15.0	14.4



Employment in the DOT  
“Tobacco” industry is  
NAICS 3122 –  
Tobacco and tobacco  
products

There are 4 DOT occs. in this  
industry that are Sedentary  
Unskilled





## Industry Context for DOT Industries

DOT Industry	N DOTs	NAICS	N 1990	N 2012	N Change	Percent
Boot & Shoe; Leather Products	7	3162	134.8	29.0	-105.8	-78.5%
Button & Notion	15	339993	217.6	135.0	-82.6	-38.0%
Clock & Watch	21	334518	160.3	107.9	-52.4	-32.7%
Electronic Component	6	33441	584.3	382.9	-201.4	-34.5%
Fabrication, nec	9	3399	398.3	269.0	-129.3	-32.5%
Glass Products	3	332711,2	55.0	24.3	-30.7	-55.8%
Glove & Mitten; Hat & Cap	3	3152	924.3	147.3	-777.0	-84.1%
Jewelry & Silverware	7	33991	70.6	29.9	-40.7	-57.6%
Narrow Fabrics; Textile; Textile Products	7	313	500.1	115.3	-384.8	-76.9%
Optical Goods	5	339115	58.3	43.7	-14.6	-25.0%
Ordnance	4	332994	77.9	43.5	-34.4	-44.2%
Tobacco	4	3122	47.2	15.0	-32.2	-68.2%
Dolls, Toys, Games	3	33993	58.2	40.7	-17.5	-30.1%
<b>TOTAL (employment # in thousands)</b>	<b>94</b>		<b>3,287</b>	<b>1,384</b>	<b>-1,903</b>	<b>-57.9%</b>
<b>All Manufacturing Sectors (in thousands)</b>		<b>31-33</b>	<b>17,649</b>	<b>11,939</b>	<b>-5,710</b>	<b>-32.4%</b>

94/137 = 68.6% of the Sedentary Unskilled DOT occupations are found in these 17 DOT industry groups  
 These 17 industry groups map to 13 NAICS groups  
 Overall 57.9% reduction of the overall workforce in these 13 NAICS groups - 1,903,000 workers overall in the last 22 years  
 The remaining 43 DOT occupations are spread across 27 other DOT industries  
 These 13 NAICS groups total 33.3% of all employment losses in the mfg sector in the last 22 years  
 The overall rate of decline for industries where sedentary unskilled occupations are found is  
 nearly twice the rate for the entire manufacturing sector

## Sedentary – Unskilled DOT Occs. Simple Math vs. Industry Context

- SkillTRAN Industry Context method estimates less than 200,000 employed (and shrinking)
- Simple Math estimates about 700,000
- Simple Math overestimates the employment of Sedentary Unskilled Occupations by about 350%

## **Determining Existence of Occupations**

1. Review available LMI for specific occupations. This may include some industry suggestions.
2. Determine which industries might hire for the occupation(s) in question.
3. Identify businesses in those industries within the client's personal Labor Market Area.
4. Do a Labor Market Sampling.

## **Labor Market Sampling**

- o Establishes existence / frequency of jobs
- o Clarifies complex disability/cultural issues
- o Can validate hiring history / future hiring / turnover rate for that occupation
- o Can establish starting / average wages
- o Adequate random sampling can be extrapolated to reasonably estimate industry employment in a given labor market area
- o Builds a more reliable, defensible foundation upon which to develop an opinion or plan

## Impact

- SSA
  - More standardized methodology for VEs
  - Numbers better reflect current economy
  - Continuously peer-reviewed process
- Other Rehab & Litigated Venues (Work Comp)
- Lost access to labor market

## Lines of Questioning re: Vocational Testimony

- What data source(s) are being used for employment numbers (CENSUS, OES, ?)
- Are these estimates or actual numbers?
- Are the numbers quoted for the DOT cited or for an occupational group?
- Have the numbers been reduced in some way from the group numbers? How?
- Is this a commonly followed practice?
- Is this method an accurate reflection of the labor market?

### Lines of Questioning re: Vocational Testimony

- What is the percentage of reported employment in each relevant industry?
- Are there other DOT occupations in this OES/CENSUS group in this industry? If yes, how many? How does that impact the estimate? Could this hypothetical person perform all of those other DOT occupations in that OES/CENSUS industry group?
- How does the ALJ define “significant number” ?
- How does the ALJ define a “region”?

### Lines of Questioning re: Vocational Testimony

- If simple math is the method, is it reasonable to assume that all of the DOT occupations in each occupational group occur with exactly the same frequency.
- Full-time &/or part-time numbers quoted?
- Ask for examples of the industries in which the cited DOT occupation is likely found.



## Future Evolution

- Examine suggestions sent via customer review
- Conduct LMS to confirm the estimates
- Confirm no / low frequency DOTs
- Establish minimum company size likely needed for employment to be found for a DOT
- Establish method to properly distribute high frequency occupations
- Calculate Lost Earning Capacity using this continuous customer-reviewed foundation

## Loss of Earnings Capacity (LOEC)

### **Pre-Injury Elements:**

- Past Relevant Work History (PRW)  
Education & Training
- Maximum Demonstrated Capacities from PRW  
(and possibly leisure / hobby activities)
- Pre-Injury Occupations possible  
(TSA &/or "Possible")
- Number of jobs in a specific labor market
- Wages paid for those jobs

## Loss of Earnings Capacity (LOEC)

### Post-Injury Elements:

- Additional skills development (Education/Training)
- Residual Functional Capacity (RFC) & testing
- Post-Injury Occupations possible (TSA &/or "Possible")
- Number of jobs in a specific labor market
- Wages paid for this more limited set of jobs
- Long Term Employment Projections (LTEP)

## Sources of Variation in LOEC

- Definition of Past Relevant Work (PRW)
- Differences in RFC (Interpretation of data)
- Search Methods for identifying alternate occupations
- Methodology for estimating employment numbers
- Methodology for estimating wages
- Consideration of LTEP
- Calculations



**Thank You**

**Jeff Truthan**

**[jtruthan@skilltran.com](mailto:jtruthan@skilltran.com)**

**[www.skilltran.com](http://www.skilltran.com)**

**(800) 827-2182**