Labor Market Intelligence for Decision Making

Tim O’Neill
Regional Labor Market Analyst
Labor Market Information Office
Session overview

• Overview of labor market information
• Current employment trends
  – What is the state of the local economy?
• Online tools for jobseekers
  – Where are the job openings right now?
  – What do occupations in my local area pay?
• Forecasting future trends
  – Where will the job openings be in the future?
• Skills gaps and hiring difficulties
• Target your market
• Other career exploration resources
Bureau of Labor Statistics

• Some labor market data collections are federal-state cooperative programs between the Bureau of Labor Statistics (BLS) and state agencies.
  – Employment by industry
  – Labor force, unemployment rates
  – Employment and wages by occupation
  – Employment projections

• Consistent methodologies mean data are comparable across states and metropolitan areas.
Labor Market Information Office


- LMI includes employment statistics, unemployment rates, wages and salaries, job projections and more.

- LMI is the foundation for informed, market-responsive planning.
Meet the Regional Analysis and Outreach Team

TIM O’NEILL
Twin Cities

LUKE GREINER
Central & Southwest

MARK SCHULTZ
South Central & Southeast

CHET BODIN
Northwest

JAN SAXHAUG
Northeast
What is labor market information?

Labor market information is any information about people, work and the job market:

- Geographic area – where people work
- Industry or business – who people work for
- Occupation – what people do
- Wages – how much they earn
How do we get this information?

**From businesses**

- There are over 165,000 employers in Minnesota.
- Over 388,000 people are self-employed, own their own micro-business, or work as contractors.

**From households**

- Minnesota’s population is 5.3 million.
- Labor force tops 3 million workers in Minnesota.


**Labor market areas**

- Labor market areas include where people live and where they work.

- The labor market is defined as the area in which employers compete for labor.

- Commuting patterns
  - Labor shed = where local employers find their workers
  - Commute shed = where area residents commute to
Know your LMI geography

- Economic Development Regions (EDRs)
- Planning Regions
- Metropolitan Statistical Areas (MSAs)
Know your LMI geography
What is the state of the local economy?
Perception vs. Reality

- How many total jobs are in St. Paul? 174,400 jobs
- What is the largest employing industry in St. Paul? Healthcare
- Behind retail salespersons, what is the largest employing occupation in the Twin Cities region? Customer service representatives
What do the data tell us?

• Employment is growing
  – 41,900 more jobs compared to last April
  – Regained the 159,000 jobs lost during the Great Recession and 26,900 more
  – Private sector jobs recovered nationally in March

• Labor force participation is on the rise
  – Minnesota’s labor force surpassed 3 million for the first time
  – 70.6% of the population (age 16+) is engaged in the labor force
  – Labor force growth drives long-term job projections
Current Employment Statistics (CES)

- **Description**: Monthly survey of nonfarm businesses for estimating industry employment, hours and earnings for the 50 states and 250 Metropolitan Statistical Areas.

- **Data source**: The CES program is a federal-state cooperative program between the BLS and state agencies. This program is the largest survey of its kind, consisting of 400,000 businesses nationwide and 5,900 businesses in Minnesota.

- **What it provides**: A look at the health of the economy through industry employment numbers, earnings trends and other data.

- **Data limitations**: Not available for small, local areas, and data are revised monthly and benchmarked annually.

http://mn.gov/deed/CES
## Regional Trends, April 2014

<table>
<thead>
<tr>
<th>Metropolitan Statistical Area (MSA)</th>
<th>Numeric Employment Change</th>
<th>Percent Employment Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minneapolis-St. Paul MN-WI</td>
<td>28,735</td>
<td>1.6%</td>
</tr>
<tr>
<td>Duluth-Superior MN-WI</td>
<td>706</td>
<td>0.5%</td>
</tr>
<tr>
<td>Rochester</td>
<td>288</td>
<td>0.3%</td>
</tr>
<tr>
<td>St. Cloud</td>
<td>2,906</td>
<td>2.9%</td>
</tr>
<tr>
<td>Mankato</td>
<td>1,671</td>
<td>3.1%</td>
</tr>
<tr>
<td>Minnesota</td>
<td>41,934</td>
<td>1.5%</td>
</tr>
<tr>
<td>United States</td>
<td>2,377,000</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

Data are April 2013 to April 2014.
Minnesota Industry Trends

- Education and Health Services: 9,244
- Manufacturing: 7,748
- Construction: 7,158
- Trade, Transportation, Utilities: 5,873
- Professional and Business Services: 5,256
- Leisure and Hospitality: 4,396
- Government: 1,764
- Other Services: 1,161
- Information: 427
- Logging and Mining: 232
- Financial Activities: -1,325

Data are April 2013 to April 2014.
Quarterly Census of Employment and Wages (QCEW)

- **Description:** Quarterly census of employers for compiling employment and wage statistics. Data are available by industry, ownership type, states, regions, counties and minor civil divisions.

- **Data Source:** All establishments covered under the Unemployment Insurance (UI) program are required to report wage and employment statistics.

- **What it provides:** Industry employment and wage information at the state, regional, county and minor civil division levels. These data are used for state revenue forecasting, employment density studies, and economic planning and development.

- **Data limitations:** Six month time lag and some data confidentiality.

http://mn.gov/deed/qcew
How is this useful?

• LMI informs us on the state of the local economy
  • What industry sector’s are growing/declining?
  • What are distinguishing industries?
  • What are high growth/high wage industries?

• LMI doesn’t give us a potential list of targets
  • Where can you find lists of businesses?
    • ReferenceUSA (need a valid Twin Cities library card)
    • Career OneStop Employer Locator

http://mn.gov/deed/qcew
Metro area employment

<table>
<thead>
<tr>
<th>Year</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>1,556,322</td>
</tr>
<tr>
<td>2004</td>
<td>1,574,812</td>
</tr>
<tr>
<td>2005</td>
<td>1,601,756</td>
</tr>
<tr>
<td>2006</td>
<td>1,617,259</td>
</tr>
<tr>
<td>2007</td>
<td>1,626,067</td>
</tr>
<tr>
<td>2008</td>
<td>1,616,359</td>
</tr>
<tr>
<td>2009</td>
<td>1,530,204</td>
</tr>
<tr>
<td>2010</td>
<td>1,541,458</td>
</tr>
<tr>
<td>2011</td>
<td>1,569,789</td>
</tr>
<tr>
<td>2012</td>
<td>1,594,105</td>
</tr>
<tr>
<td>2013</td>
<td>1,619,188</td>
</tr>
<tr>
<td>Industry Title</td>
<td>Employment</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total, All Industries</td>
<td>1,619,188</td>
</tr>
<tr>
<td>Education &amp; Health Services</td>
<td>346,045</td>
</tr>
<tr>
<td>Trade, Transportation, Utilities</td>
<td>302,492</td>
</tr>
<tr>
<td>Professional &amp; Business Services</td>
<td>272,351</td>
</tr>
<tr>
<td>Leisure &amp; Hospitality</td>
<td>164,867</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>163,608</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>137,744</td>
</tr>
<tr>
<td>Public Administration</td>
<td>68,957</td>
</tr>
<tr>
<td>Construction</td>
<td>63,634</td>
</tr>
<tr>
<td>Other Services</td>
<td>54,589</td>
</tr>
<tr>
<td>Information</td>
<td>40,794</td>
</tr>
<tr>
<td>Natural Resources &amp; Mining</td>
<td>4,043</td>
</tr>
</tbody>
</table>
Health care trends, 2003 – 2013

- Total, All Industries
- Health Care and Social Assistance


Bar Chart: Health Care and Social Assistance
- 2003: 181,769
- 2004: 190,000
- 2005: 205,958
- 2006: 216,572
- 2007: 239,235

Line Graph: Total, All Industries
- 2003: 1,520,000
- 2004: 1,540,000
- 2005: 1,560,000
Construction trends, 2003 – 2013

Minnesota Department of Employment and Economic Development
Metro area in-depth industry trends
Q3, 2009 to Q3, 2013

Largest Growing Industries
- Administrative & Support Services (+13,655)
- Professional, Scientific, & Tech Services (+9,157)
- Ambulatory Health Care Services (+8,325)
- Food Services & Drinking Places (+8,027)
- Management of Companies (+7,342)
- Social Assistance (+5,491)
- Nursing & Residential Care Facilities (+4,929)
- Specialty Trade Contractors (+4,449)
- Real Estate (+4,340)
- Hospitals (+3,918)

Fastest Growing Industries
- Water Transportation (525%)
- Animal Production & Aquaculture (47%)
- Mining (except oil and gas) (35%)
- Private Households (28%)
- Textile Mills (22%)
- Primary Metal Manufacturing (21%)
- Pipeline Transportation (20%)
- Real Estate (20%)
- Apparel Manufacturing (17%)
- Administrative & Support Services (17%)
A note on industries

- LMI categorizes employers using the North American Industrial Classification System (NAICS).
- Each business is assigned one industry code that represents the primary product/service of the business.
- As a rule of thumb, two businesses in the same industries are likely to view each other as competitors.
- Some industries do not exist in this typology, like biotech or green.

www.census.gov/naics
Local Area Unemployment Statistics (LAUS)

- **Description:** Monthly estimates of labor force, employment and unemployment for state and local areas.

- **Data source:** LAUS is a federal-state cooperative program between the BLS and state agencies. Models use both current and historical data from the CPS, the CES program and the UI statistics program to provide estimates of employment and unemployment.

- **What it provides:** Helps state and local governments make planning and budgetary decision; determines needs for employment and training services.

- **Data limitations:** Not available for small cities, and data are revised monthly and benchmarked annually.

http://mn.gov/deed/laus
Unemployment rates are low...

- U.S. (Apr-14) 6.3%
- Minnesota (Apr-14) 4.7%
Unemployment trends Not seasonally-adjusted

- Seven-County Metro
- Minnesota
## Regional Unemployment Rates

### April 2014

<table>
<thead>
<tr>
<th>County</th>
<th>Unemployment Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anoka</td>
<td>4.4%</td>
</tr>
<tr>
<td>Carver</td>
<td>4.2%</td>
</tr>
<tr>
<td>Dakota</td>
<td>3.9%</td>
</tr>
<tr>
<td>Hennepin</td>
<td>3.8%</td>
</tr>
<tr>
<td>Ramsey</td>
<td>4.1%</td>
</tr>
<tr>
<td>Scott</td>
<td>4.0%</td>
</tr>
<tr>
<td>Washington</td>
<td>3.8%</td>
</tr>
<tr>
<td>Metro Area</td>
<td>4.0%</td>
</tr>
<tr>
<td>Minnesota</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Not Seasonally Adjusted
What do unemployment rates measure?

• The unused and available resources in the labor force – in this case, people who want to work, are available to work, and actively seeking work

• Unemployment rates do not include people who are not engaged in job-seeking behavior
  – Discouraged job seekers
  – Individuals with a temporary barrier

• A business can’t tell us who is unemployed, so we measure unemployment rates through household surveys
Unemployment up-close
Some groups are still struggling

Source: Current Population Survey, 12-month moving averages
Finding more unemployment rates

• Employment Situation Report (national, monthly)
  – www.bls.gov

• Geographic Profile of Employment and Unemployment (state, annual)
  – www.bls.gov/gps

• Disability Statistics, Cornell University (state, annual)
  – www.disabilitystatistics.org
Job Vacancy Survey (JVS)

- **Description:** A semi-annual survey of employers to estimate hiring demand and job vacancy characteristics by industry and occupation.

- **Data Source:** Information is gathered through the survey of a stratified sample of about 10,000 firms in 13 regions of Minnesota. Firms excluded include private households, personnel service industry establishments and businesses with no employees.

- **What it provides:** A measure of hiring demand for workers and an analysis of the characteristics of job vacancies, including wages and benefits, education and experience requirements, and the location of openings.

- **Data limitations:** Point-in-time survey.

[http://mn.gov/deed/jvs](http://mn.gov/deed/jvs)
MN: Job openings expanding

<table>
<thead>
<tr>
<th>Year/Quarter</th>
<th>Number of Job Vacancies</th>
<th>Number of Unemployed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2, 2001</td>
<td>120,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Q4, 2001</td>
<td>90,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Q2, 2002</td>
<td>100,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Q4, 2002</td>
<td>90,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Q2, 2003</td>
<td>100,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Q4, 2003</td>
<td>90,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Q2, 2004</td>
<td>100,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Q4, 2004</td>
<td>90,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Q2, 2005</td>
<td>100,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Q4, 2005</td>
<td>90,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Q2, 2006</td>
<td>100,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Q4, 2006</td>
<td>90,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Q2, 2007</td>
<td>100,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Q4, 2007</td>
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<td>60,000</td>
</tr>
<tr>
<td>Q2, 2008</td>
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<td>80,000</td>
</tr>
<tr>
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</tr>
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</tr>
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<tr>
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<td>100,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Q4, 2013</td>
<td>90,000</td>
<td>60,000</td>
</tr>
</tbody>
</table>
MN: Openings by industry

- Health Care & Social Assistance, 20%
- Retail Trade, 15%
- Manufacturing, 11%
- Accommodation & Food Services, 9%
- Educational Services, 6%
- Construction, 6%
- Professional & Technical Services, 4%
- Finance & Insurance, 5%
- Wholesale Trade, 4%
- All Other Industries, 21%
MN: Top 12 occupations with the most openings

- Retail salespersons (2,292)
- Customer Service Representatives (2,204)
- Personal Care Aides (1,766)
- Nursing Assistants (1,702)
- Cashiers (1,693)
- Laborers of Freight, Stock, and Material Movers, Hand (1,615)

- Combined Food Prep & Serving Workers (1,473)
- Registered Nurses (1,468)
- Construction Laborers (1,406)
- LPNs (1,204)
- Heavy and Tractor-Trailer Truck Drivers (1,196)
- Stock Clerks & Order Fillers (1,027)

12 occupations above represent 32 percent of total openings in MN
Online tools for job seekers
Online tools for jobseekers

• Three labor market information tools:
  – Know what’s in demand now
    http://mn.gov/deed/oid
  – Know how your skills transfer to other jobs
    http://mn.gov/deed/jobstat
  – Know how much your job pays
    http://mn.gov/deed/oes
Occupations in Demand (OID)

• Lists of currently available career opportunities in a local labor market as determined by local labor market data.

• Regional occupations are ranked by a Current Demand Indicator, which measures short-term demand for jobs.

• Data updated twice a year.

http://mn.gov/deed/oid
Occupations in Demand (OID)

- There are 13 EDRs and 6 planning regions in the state. A high number of job vacancies in either geography will increase the occupation's demand score.

- A high number of jobs in a given region increases the demand score for that occupation.

- A high number of UI weeks claimed by workers who have been permanently separated from their employers in the region will reduce the demand score because it indicates re-employment difficulty in the field.

- A high share of vacancies that are reported as temporary will tend to pull the score down because it indicates seasonality and/or the predominance of short-term job opportunities in the field.

http://mn.gov/deed/oid
<table>
<thead>
<tr>
<th>Some College and High School or Equivalent</th>
<th>Post-Secondary Award and Associate's Degree</th>
<th>Bachelor's Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Service Representatives ($36,959)</td>
<td>LPNs ($43,900)</td>
<td>Registered Nurses ($74,170)</td>
</tr>
<tr>
<td>Computer User Support Specialists ($50,883)</td>
<td>Hairdressers, Stylists, and Cosmetologists ($24,051)</td>
<td>Software Developers, Applications ($93,694)</td>
</tr>
<tr>
<td>Office Clerks, General ($31,696)</td>
<td>First-Line Supervisors of Production and Operating Workers ($57,999)</td>
<td>Computer Systems Analysts ($79,896)</td>
</tr>
<tr>
<td>Heavy and Tractor-Trailer Truck Drivers ($46,375)</td>
<td>Electrical and Electronics Drafters ($54,409)</td>
<td>Accountants and Auditors ($62,722)</td>
</tr>
<tr>
<td>Social and Human Service Assistants ($29,508)</td>
<td>Diagnostic Medical Sonographers ($74,461)</td>
<td>Market Research Analysts ($66,562)</td>
</tr>
<tr>
<td>Secretaries and Administrative Assistants ($39,958)</td>
<td>Surgical Technologists ($51,323)</td>
<td>Financial Managers ($113,678)</td>
</tr>
</tbody>
</table>

Prerequisite educational levels from the Bureau of Labor Statistics
Using OID - ISEEK

- Job title is a link to the occupational description page on ISEEK.
  - Overview
  - Wages & Outlook
  - On the Job
  - Education & Training Skills
  - Tools & Technology
  - Licensing & Certificates
  - Jobs
  - View All
  - Other Similar Careers
  - Related Industries
  - Video Descriptions
Job Skills Transfer Assessment Tool (JobSTAT)

- Help job seekers explore occupations that are a good match to their previous work experience.

- JobSTAT identifies where gaps exist, offers a career profile, training information, and provides links to job postings on MinnesotaWorks.

http://mn.gov/deed/jobstat
MySkillsMyFuture

1. Tell us a job you’ve had.
2. We’ll find careers with similar skills.
3. Pick a career and explore!

Build a bridge to your new career.

Enter your current or past job.

FIND MY CAREER MATCHES

www.MySkillsMyFuture.org

Watch Help Video

Tell Us What You Think

New to the Workforce?
Go to MY NEXT MOVE
Occupational Employment Statistics (OES)

- **Description:** A semi-annual survey designed to produce employment and wage estimates for about 800 occupation classifications. Comparable statistics are available in every area, Metropolitan Statistical Areas and substate regions.

- **Data Source:** OES is a federal-state cooperative program between the BLS and state agencies. OES samples 6,000 employers in Minnesota, drawn from the universe of non-farm employers covered by the UI program.

- **What it provides:** Employment, average wage and wage distribution estimates (10th, 25th, 75th, 50th, and 90th percentiles) by occupation. Wages are updated quarterly in Minnesota.

- **Data limitations:** Not a time series.

http://mn.gov/deed/oes
A note on occupations

• LMI categorizes jobs using the Standard Occupational Classification (SOC) system.

• Each occupation is assigned one occupation code that represents the primary function of the job.

• There are about 800-nationally defined job titles.

• Some occupations do not exist in this typology, like project manager.

www.bls.gov/soc
Forecasting future trends
Age and Labor Force Participation

- Youth under 25 made up 13.1 percent of Minnesota's labor force in 2012.
- Baby boomers made up 40.2 percent of Minnesota's labor force in 2012.
- Although labor force participation drops notably at 60, most people wait to leave work until age 65.
Expectations for future job growth

• Recovery from the steep job losses experienced between 2008 and 2010 will boost job growth in Minnesota during the next few years, but job growth will slow.

• Job growth over the next decade will average 1.3% a year, a pace similar to job growth experienced in 2011.

• The key macroeconomic assumptions driving the 2010-2020 national industry projections are:
  – GDP growth will average 3.0 % annually
  – Productivity growth will slow
  – U.S. labor force growth will slow
  – Unemployment will average 5.2% in 2020
Forecasting future job trends

- Minnesota’s economy will grow by 13%, or 368,000 new jobs, between 2010 and 2020.
  - MN gained 549,000 jobs between 1990-2000.
  - MN lost 43,706 jobs between 2000-2010.
  - 55%, or 202,060 new jobs within the metro region.

- Over 663,000 new workers will be needed to take jobs left vacant through retirements and replacements.
  - 392,050 replacement workers will be needed in the metro region.

- Employment changes depend on the demand for goods and services, productivity advances, technological innovations, and shifts in business practices.
Healthcare will add the Most New Jobs in the Metro between 2010 and 2020

- Health Care and Social Assistance: 66,569
- Professional and Technical Services: 19,885
- Construction: 17,932
- Administrative and Waste Services: 13,030
- Retail Trade: 11,188
- Wholesale Trade: 10,432
- Educational Services: 10,224
- Accommodation and Food Services: 8,259
- Finance and Insurance: 8,237
- Transportation and Warehousing: 6,719
- Other Services, Ex. Public Admin: 6,639
- Management of Companies and Enterprises: 4,036
- Real Estate and Rental and Leasing: 3,079
- Arts, Entertainment, and Recreation: 2,499
- Manufacturing: 1,627
- Mining: 25
- Agriculture, Forestry, Fishing & Hunting: -61
- Utilities: -301
- Information: -391

Source: MN Dept of Employment & Economic Development
Office and Sales Occupations will need the Largest Numbers of Workers

Source: MN Dept of Employment & Economic Development
Metro region fastest growing occupations, 2010 – 2020

- Helpers—Carpenters (65.6%)
- Veterinary Technologists and Technicians (65.3%)
- Reinforcing Iron and Rebar Workers (62.6%)
- Biomedical Engineers (62.3%)
- Personal Care Aides (58.9%)
- Industrial-Organizational Psychologists (54.4%)
- Home Health Aides (48.9%)
- Veterinarians (46.7%)
- Insulation Workers, Mechanical (45.9%)
- Emergency Medical Technicians and Paramedics (43.2%)
- Marriage and Family Therapists (43.1%)
- Glaziers (42.4%)
- Brickmasons and Blockmasons (40.7%)
- Helpers—Electricians (39.8%)
- Physical Therapist Aides (39.0%)
- Diagnostic Medical Sonographers (38.9%)
- Plumbers, Pipefitters, and Steamfitters (38.8%)
- Biochemists and Biophysicists (38.5%)
- Meeting, Convention, and Event Planners (36.3%)
- Electricians (35.8%)
- Sawing Machine Setters, Operators, and Tenders (34.6%)
- Pipelayers (33.9%)
- Cost Estimators (33.8%)
- Medical Secretaries (33.7%)

Source: MN Dept of Employment & Economic Development
Metro Region largest growing occupations, 2010 – 2020

- Personal Care Aides (17,174)
- Home Health Aides (8,073)
- Registered Nurses* (7,429)
- Retail Salespersons (6,519)
- Office Clerks, General (4,384)
- Combined Food Preparation and Serving Workers (3,835)
- Customer Service Representatives (3,259)
- Childcare Workers (3,021)
- Business Operations Specialists (2,910)
- Sales Representatives, Wholesale and Manufacturing (2,873)
- Heavy and Tractor-Trailer Truck Drivers (2,840)
- Receptionists and Information Clerks (2,434)
- Laborers and Material Movers, Hand (2,380)
- Nursing Aides, Orderlies, and Attendants* (2,355)
- Market Research Analysts and Specialists (2,228)
- Carpenters (2,156)
- Accountants and Auditors (2,082)
- Janitors and Cleaners (2,025)
- LPNs (1,957)
- Software Developers, Applications (1,937)
- Bookkeeping, Accounting, and Auditing Clerks (1,871)
- Landscaping and Groundskeeping Workers (1,799)
- Electricians (1,694)
- Social and Human Service Assistants (1,649)

Source: MN Dept of Employment & Economic Development
Education
Two ways to measure what education/training is needed for jobs

• Education/training typically required to do the job

• Education/training of people who currently hold the job
Total openings in Minnesota by typical education needed for entry, 2020

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>833,577</td>
<td>270,170</td>
</tr>
<tr>
<td>High school diploma or equivalent</td>
<td>1,393,007</td>
<td>952,141</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>165,367</td>
<td>801,498</td>
</tr>
<tr>
<td>Associate's degree</td>
<td>176,690</td>
<td>381,595</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>492,506</td>
<td>807,626</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>119,470</td>
<td>387,714</td>
</tr>
</tbody>
</table>

Educational attainment computed for the adult (age 25 and over) population.
What about claims of a growing skills (i.e. educational) gap by 2020?

• In *Recovery: Job Growth and Education Requirements Through 2020*, the Georgetown University Center on Education and the Workforce claim that:
  – By 2020, we will need 26 million new workers with college degrees—but will fall short of that number by at least 5 million postsecondary degrees.
  – 74% of all jobs in Minnesota (2.3 million jobs) will require some postsecondary training beyond high school in 2020.
Compare “needs” to current educational attainment of MN adults, 2012

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>147,180</td>
<td>270,170</td>
</tr>
<tr>
<td>High school diploma or equivalent</td>
<td>680,180</td>
<td>952,141</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>706,150</td>
<td>801,498</td>
</tr>
<tr>
<td>Associate's degree</td>
<td>444,940</td>
<td>381,595</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>864,910</td>
<td>807,626</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>357,170</td>
<td>387,714</td>
</tr>
</tbody>
</table>

Educational attainment computed for the adult (age 25 and over) population.

Source: U.S. Census Bureau, American Community Survey
What about underemployment?

• In 2012, 26.3% of adult (age 25+) workers in Minnesota were employed in a job two or more steps below their educational attainment level.
Skills gap and hiring difficulties
How can Minnesota employers have difficulty finding good workers?

Minnesota ranks:

- 3rd highest labor force participation rate (2013)
- 9th lowest unemployment rate (2013)
- 2nd highest percentage of the population with a high school diploma or higher (2012)
- 11th highest percentage of the adult population with a Bachelor’s degree or higher (2012)
Skills gap debate

• A skills gap is the difference between the skill levels of the available workforce and the skills necessary to meet job requirements.

• Skills gaps are not synonymous with hiring difficulties.
  – Hiring difficulties may be a lack of qualified candidates who apply for a job.
  – Aside from lacking skills, there may be many reasons why qualified candidates don’t apply for jobs.
“Difficult to fill” stems from...

- Supply-side factors: Hiring difficulties caused by a mismatch between job requirements and the training, skills, and experience of applicants.

- Demand-side factors: Hiring difficulties caused by problems that are unrelated to candidates’ qualifications, such as unattractive work hours, inadequate compensation, geographic location of position, and ineffective recruiting.
Employers Speak

Employers Speak: Minnesota Workforce Needs

Find out what Minnesota employers are looking for in today's workers.

Choose at least one industry and topic to get started.

<table>
<thead>
<tr>
<th>Industry (select all that apply)</th>
<th>Topic (select all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>General Skills</td>
</tr>
<tr>
<td>Engineering</td>
<td>Occupation-Specific Skills</td>
</tr>
<tr>
<td>Health Care</td>
<td>Experience &amp; Credentials</td>
</tr>
<tr>
<td>Information Technology (IT) (Coming Soon)</td>
<td>Current Continuing Education</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Needs &amp; Challenges in Continuing Education</td>
</tr>
<tr>
<td>Transportation</td>
<td>Workforce Trends &amp; Challenges</td>
</tr>
<tr>
<td></td>
<td>Industry Trends</td>
</tr>
<tr>
<td></td>
<td>Educational Partnerships</td>
</tr>
</tbody>
</table>

www.MnWorkforceNeeds.org
Share of vacancies reported as “difficult to fill” by occupation group
Factors perceived by employers as contributing to hiring difficulties

- Not hard to fill: 57%
- Hard to fill: 43%
- Only skills mismatches: 15%
- Only demand issues: 7%
- A mix of skills mismatches and demand issues: 21%
Factors contributing to hiring difficulties, by occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Only Skills Mismatches</th>
<th>Only Demand Reasons</th>
<th>Mix of Skills Mismatches and Demand Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURSING</td>
<td>18%</td>
<td>27%</td>
<td>55%</td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>12%</td>
<td>32%</td>
<td>57%</td>
</tr>
<tr>
<td>IT</td>
<td>0%</td>
<td>32%</td>
<td>32%</td>
</tr>
<tr>
<td>PRODUCTION</td>
<td>37%</td>
<td>32%</td>
<td>51%</td>
</tr>
</tbody>
</table>
Factors contributing to hiring difficulties, by education level

- **High school or less**: 15% ONLY SKILLS MISMATCHES, 27% ONLY DEMAND REASONS, 57% MIX OF SKILLS MISMATCHES AND DEMAND REASONS
- **Associate's or vocational**: 13% ONLY SKILLS MISMATCHES, 28% ONLY DEMAND REASONS, 58% MIX OF SKILLS MISMATCHES AND DEMAND REASONS
- **Bachelor's or higher**: 22% ONLY SKILLS MISMATCHES, 32% ONLY DEMAND REASONS, 46% MIX OF SKILLS MISMATCHES AND DEMAND REASONS
Factors contributing to hiring difficulties, by experience level

![Bar chart showing factors contributing to hiring difficulties by experience level.](image-url)
Finding good skilled workers

• What makes an employee “good”?

• At what phase of the hiring process is a good worker recognized?

• How many good workers make it to the interview?

• Do employees want to be good (productive) or do they need to be motivated to be good (productive)?

• How do employers evaluate good?
Or do workers have difficulty finding good jobs?

- Two in five job openings in Minnesota are part-time.
- Average weekly hours only gradually increased post-recession and finally reached pre-recessionary levels in late 2013.
- Small gains in average earnings are wiped out when adjusted for inflation.
Are the shortages perceived or realistic?

- 61% of positions described as hard-to-fill were filled in five months or less.

- What price does delaying a filled position have?
  - Increased costs due to the need to hire contractors or pay overtime (82%)
  - Inability to expand (38%)
  - Inability to meet customer demand (38%)
  - Staff overload and/or stress (12%)
Employer strategies to respond to hiring difficulties

• Make demand more attractive
• Enhance internal training
• Make qualification requirements less stringent
• Collaborate with high schools and technical colleges
• Improve recruitment and retention strategies
Graduate outcomes
Graduate employment outcomes tool

- Brand new labor market tool!
- https://apps.deed.state.mn.us/lmi/etd/default.aspx
Who will use the tool?

- **Prospective students**, to set realistic expectations for employment and wages following graduation
- **Parents and career counselors**, to help prospective students plan their education
- **Education program planners** interested in aligning program offerings to market demand
- **Policy makers** interested in evaluating the state’s returns on investments in higher education
3 Key Aspects of Employment

1. **EMPLOYABILITY**
   (in-state employment rate)

2. **FULLTIME AND YEAR-ROUND STATUS**
   (job quality and job stability)

3. **EARNINGS**
**Major Matters**

**Figure 2**

*Top 10 Associate Degree programs with the highest employability in Minnesota, class of 2011*

<table>
<thead>
<tr>
<th>Program</th>
<th>Full-time Employed</th>
<th>Part-time Employed</th>
<th>Median Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electromech. Instrum. &amp; Maint. Technologies/Technician</td>
<td>60%</td>
<td>30%</td>
<td>$44,196</td>
</tr>
<tr>
<td>HVAC Maintenance Technology/Technician</td>
<td>47%</td>
<td>42%</td>
<td>$32,138</td>
</tr>
<tr>
<td>Management Information Systems and Svcs.</td>
<td>50%</td>
<td>38%</td>
<td>$35,613</td>
</tr>
<tr>
<td>Marketing</td>
<td>49%</td>
<td>40%</td>
<td>$28,994</td>
</tr>
<tr>
<td>Computer Engineering Technologies/Technicians</td>
<td>55%</td>
<td>33%</td>
<td>$33,602</td>
</tr>
<tr>
<td>Precision Metal Working</td>
<td>57%</td>
<td>30%</td>
<td>$40,669</td>
</tr>
<tr>
<td>Criminal Justice and Corrections</td>
<td>37%</td>
<td>50%</td>
<td>$24,544</td>
</tr>
<tr>
<td>R.N, Nursing Administration, Research &amp; Clinical Nursing</td>
<td>33%</td>
<td>53%</td>
<td>$45,790</td>
</tr>
<tr>
<td>Civil Engineering Technologies/Technicians</td>
<td>44%</td>
<td>42%</td>
<td>$28,618</td>
</tr>
<tr>
<td>Clinical/Med. Laboratory Science and Related Professions</td>
<td>57%</td>
<td>29%</td>
<td>$36,595</td>
</tr>
</tbody>
</table>

- **Percent employed full-time year-round**
- **Percent employed part-time or intermittently during the year**
- **$ Annual Median Earnings**
Major Matters

Figure 1: Top 12 majors with highest employment rates: Sub-baccalaureate Certificates*, class of 2011

<table>
<thead>
<tr>
<th>Major</th>
<th>Percent employed full-time year-round</th>
<th>Percent employed part-time or intermittently during the year</th>
<th>No MN wages</th>
<th>Annual Median Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy/Industr. Equipment Maint. Technologies</td>
<td>71%</td>
<td>56%</td>
<td></td>
<td>$49,320</td>
</tr>
<tr>
<td>Medical Assisting Svs. (pharmacy, radiology, etc)</td>
<td>35%</td>
<td>70%</td>
<td></td>
<td>$22,384</td>
</tr>
<tr>
<td>Practical/Voc. Nursing &amp; Nursing Assistants</td>
<td>20%</td>
<td>44%</td>
<td></td>
<td>$24,429</td>
</tr>
<tr>
<td>Computer/IT Administration &amp; Management</td>
<td>46%</td>
<td>34%</td>
<td></td>
<td>$27,977</td>
</tr>
<tr>
<td>Business Admin., Management &amp; Operations</td>
<td>55%</td>
<td>44%</td>
<td></td>
<td>$35,150</td>
</tr>
<tr>
<td>Health Diagnostic and Treatment Professions</td>
<td>45%</td>
<td>42%</td>
<td></td>
<td>$35,716</td>
</tr>
<tr>
<td>Plumbing and Related Water Supply Svs.</td>
<td>45%</td>
<td>43%</td>
<td></td>
<td>$41,229</td>
</tr>
<tr>
<td>Child Care Provider/Assistant</td>
<td>23%</td>
<td>64%</td>
<td></td>
<td>$15,682</td>
</tr>
<tr>
<td>Dental Support Svs.</td>
<td>22%</td>
<td>65%</td>
<td></td>
<td>$22,038</td>
</tr>
<tr>
<td>HVAC Maint. Technology/Technician</td>
<td>47%</td>
<td>39%</td>
<td></td>
<td>$30,302</td>
</tr>
<tr>
<td>Drafting/Design Engineering Technol./Technicians</td>
<td>51%</td>
<td>35%</td>
<td></td>
<td>$32,597</td>
</tr>
<tr>
<td>Precision Metal Working</td>
<td>45%</td>
<td>40%</td>
<td></td>
<td>$33,487</td>
</tr>
</tbody>
</table>

*Programs with less than 50 graduates were excluded
**Major Matters**

*Figure 4: Majors with the highest median wages during the second year after graduation by degree level, class of 2011*

<table>
<thead>
<tr>
<th>UNDERGRADUATE CERTIFICATES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy/Industrial Equipment Maintenance Technologies</td>
<td>$49,320</td>
<td></td>
</tr>
<tr>
<td>Plumbing and Related Water Supply Services</td>
<td>$41,229</td>
<td></td>
</tr>
<tr>
<td>Electromech. Instr. &amp; Maint. Technologies/Technicians</td>
<td>$36,697</td>
<td>$36,218</td>
</tr>
<tr>
<td>Building Maintenance and Inspection</td>
<td></td>
<td>$35,716</td>
</tr>
<tr>
<td>Surgical Technologist/ EMT paramedic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASSOCIATE DEGREE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RN, Nursing Administration, and Clinical Nursing</td>
<td>$45,790</td>
<td>$44,196</td>
</tr>
<tr>
<td>Electromech. Instr. &amp; Maint. Technologies/Technicians</td>
<td></td>
<td>$40,669</td>
</tr>
<tr>
<td>Precision Metal Working</td>
<td></td>
<td>$40,347</td>
</tr>
<tr>
<td>Industrial Production Technologies/Technicians</td>
<td></td>
<td>$38,636</td>
</tr>
<tr>
<td>Electrical Engineering Technologies/Technicians</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BACHELOR’S DEGREE</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical, Electronics and Communications Engineering</td>
<td>$57,722</td>
<td></td>
</tr>
<tr>
<td>Business/Commerce, General</td>
<td>$57,227</td>
<td></td>
</tr>
<tr>
<td>RN, Nursing Administration, and Clinical Nursing</td>
<td></td>
<td>$56,952</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td></td>
<td>$56,900</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td></td>
<td>$55,384</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POST-BACCALAUREATE DEGREES AND CERTIFICATES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy, Pharmaceutical Sciences, and Administration</td>
<td></td>
<td>$82,057</td>
</tr>
<tr>
<td>Engineering-Related Fields</td>
<td></td>
<td>$79,254</td>
</tr>
<tr>
<td>RN, Nursing Administration, Research, and Clinical Nursing</td>
<td></td>
<td>$77,565</td>
</tr>
<tr>
<td>Computer Science</td>
<td></td>
<td>$76,607</td>
</tr>
<tr>
<td>Applied Mathematics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

• Choice of major is the main driver of economic success after graduation

• There are more opportunities in MN for people with degrees that are technical (focused on analytical/quantitative skills) or geared towards growing sectors (HC & Social Assistance, Education). This is true at every award level

• The evidence demonstrates the importance of choosing a major with an eye towards career paths and labor market trends in Minnesota
Target your market
Labor market is helpful, but...

• We can only track and measure what we know.

• Data does not always equal individual experience.

• New, emerging jobs and specialty trends in an occupation may not be easily identified.

• Networking with key industries and professionals will provide important insight and help uncover the hidden job market.
Why would a job be hidden?

- The employer needs to (confidentially) replace someone
- Public company may fear news of a hiring will hurt stock prices
- Employer does not want to reveal future plans to competitors
- Employer wants referrals before publicizing the opening and receiving many resumes from unqualified candidates
- The employer uses a search firm or recruiter
- The employer uses social media to recruit candidates
- A small employer may lack the resources to advertise the opening
- There’s an opening and a hiring freeze, so the job can’t be publicized

Source: Katharine Hansen, Quintessential Careers
Career OneStop Employer Locator

- Online business directory
- Search by industry, occupation or location
- Very basic information, so firms may require additional research
  - Contact info for firm

www.CareerOneStop.org
ReferenceUSA

- Online business directory
- Search by name, industry, region, size
- Information includes:
  - General info about firm
  - Industry information
  - Executive directory

Access through the library’s website
Other economic & career exploration resources
U.S. Census Bureau’s FactFinder

Paths to get to Census and American Community Survey data

Fast Fact Profiles
  ❖ Select the state, county or city

Data Sets — the greatest level of customization
  ❖ Select the data source
  ❖ Drill-down into geographic area and specific tables
Population trends & forecasts

U.S. Data
www.census.gov/popest/estimates
www.census.gov/population/www/projections/popproj

Minnesota Data
www.demography.state.mn.us/estimates
www.demography.state.mn.us/projections
(including population projections by race and ethnicity)

Twin Cities
www.metrocouncil.org/Reports/index.htm
www.metrocouncil.org/metroarea/stats
Online resources for career and skills identification

- I*SEEK – www.iseek.org
- Career OneStop – www.CareerOneStop.org
- O*Net – http://online.onetcenter.org
Specialty career sites

• **MyMnCareers, [www.MyMnCareers.org](http://www.MyMnCareers.org)**
  – Helps working learners take the steps needed to pursue and advance in a career pathway.

• **STEP AHEAD, [www.ISEEK.org/exoffender](http://www.ISEEK.org/exoffender)**
  – Helps job seekers with felony convictions and other criminal charges be successful in their job search.

  – Helps Minnesota adult students create career and training plans that will prepare them for a fulfilling career.
Other LMI products and publications

Minnesota Economic TRENDS
- Quarterly magazine on economic topics
- Subscriptions available free of charge or on-line

http://mn.gov/deed/trends

Minnesota Employment REVIEW
- Monthly magazine on economic data and regional trends
- Includes Minnesota business development
- Available exclusively on-line

http://mn.gov/deed/review
O*NET OnLine

- National occupational research website
- Search by abilities, interests, knowledge, skills, etc...
- Information includes:
  - Occupational description
  - Tools & technology
  - Knowledge, skills, and abilities, work context, etc...
  - Wages & employment trends
- Link to BLS Occupational Outlook Handbook
More database resources available through the library

- **Business and Company Resource Center** – Includes company profiles, brand information, rankings, investment reports, company histories, chronologies and periodicals

- **Business Source Premier** – Browse and search for country economic data, company profiles, industry information and market research

- **ProQuest Newspapers** – Access current and historical articles from 350 state, national and international newspapers

- **Regional Business News** – Find articles from 75 business journals, newspapers and newswires from all metropolitan and rural areas within the United States
LMI Helpline

- LMI experts are available to answer your questions weekdays from 9 AM to 3 PM
- Telephone 651-259-7384, or toll free at 888-234-1114
- Send questions by e-mail to deed.lmi@state.mn.us
Let me know how I can help

Tim O’Neill
Twin Cities Labor Market Analyst
Phone: (651) 259-7401
Timothy.oneill@state.mn.us