

LABOR MARKET INFORMATION 101

LAST REVISED IN AUGUST OF 2023

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MASSACHUSETTS EXECUTIVE OFFICE OF
LABOR & WORKFORCE DEVELOPMENT





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SECTIONS

- Purpose
- Intro to DER
- LMI Basics
- Definitions and Key Concepts
- Program Details and Links
- Appendix

PURPOSE OF "LMI 101"

- The LMI 101 presentation was originally created to highlight and explain work of DER production staff to the new administration
- This public version was created in response to increased interest
- This resource aims to help our stakeholders understand and access materials from DER's production staff



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LABOR MARKET INFORMATION: INTRO TO DER

- DER Mission Statement
- DER Product Strategy

The Department of Economic Research produces, analyzes, and distributes various data, labor market reports, and other resources related to employment, unemployment, occupations, industries, and other components of the Massachusetts labor market.

Our stakeholders include policy makers in state and local government, workforce development agencies, institutions within academia, employers, jobseekers, and others.



DER PRODUCT STRATEGY

Insights



example: 2021 Annual Economic
Analysis Report

**Slide decks, white papers,
testimony talking points**

coming soon!

**Data stories, maps, blogs,
and videos**



LMI Data Sets

example: LAUS Data

**Data visualizations, summary
tables, infographics,
informational materials**

example: Equity Dashboards





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LABOR MARKET INFORMATION: LMI BASICS

- What is LMI?
- Who uses LMI?
- Why is LMI Important?
- How can LMI from DER support workforce development?
- Questions we can and can't answer with LMI from DER

WHAT IS LMI?

- Labor Market Information includes quantitative and qualitative data and analysis related to employment or the labor force
- Includes information on jobs and people (employed and unemployed); occupations and industries; establishments and households; as well as wages and other factors that impact employment and/or the labor force

WHO USES LMI?

- Policymakers in state, local, and federal government
- Workforce development and training agencies
- Employers and businesses
- Jobseekers
- Students, educators, and academic institutions
- Researchers

WHY IS LMI IMPORTANT?

- LMI encourages data-driven decision making for a wide range of stakeholders
- LMI is important for:
 - Understanding local and regional economies
 - Efficient resource allocation
 - Understanding compensation and wages
 - Guiding policy and strategy



HOW CAN LMI DATA FROM DER SUPPORT **WORKFORCE DEVELOPMENT**?

(OCCUPATIONAL FOCUS)

Source	Data	Benefit
Local Area Unemployment Statistics (LAUS)	Estimates employed, unemployed, and labor force (number of people)	<ul style="list-style-type: none">• Used to calculate Areas of Substantial Unemployment• Aids in understanding how workforce development funding is allocated
Occupational Employment and Wage Statistics (OEWS)	Estimates employment (number of jobs) and wages for occupations	<ul style="list-style-type: none">• Can be viewed at State-level, WDA or NECTA• Can help identify wage rates at specific jobs within specific areas
Short and Long-term Occupational Projections	Estimates employment (number of jobs) over a period of 2 to 10 years	<ul style="list-style-type: none">• Can be viewed at State-level, WDA• Can help identify which jobs will grow within specific areas
Staffing Patterns	The distribution of occupations working within an industry	<ul style="list-style-type: none">• Builds on the OEWS data and further connects the occupations to the industries



Questions we can answer with LMI Data from DER

- How many nursing jobs are currently in Massachusetts?
- What are the average wages for workers in the construction industry in Massachusetts?
- How has the unemployment and labor force participation changed over time in Massachusetts?



Questions we can't answer with LMI Data from DER

- How many licensed nurses live in Massachusetts?
- How does the availability of childcare impact workers in Massachusetts?
- Exactly how many people work for [a specific private company]?
- What will the unemployment rate be next month?



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LABOR MARKET INFORMATION: DEFINITIONS AND KEY CONCEPTS

- Units of Analysis and Framework
- Definitions
- North American Industrial Classification System (NAICS)
- Standard Occupational Codes (SOC)

UNITS OF ANALYSIS AND FRAMEWORK



JOBS

OCCUPATION

- Employment
- Wages
- Projections



PEOPLE

LABOR FORCE

- Employed
- Unemployed
- Demographic Characteristics



ESTABLISHMENTS

INDUSTRY

- Includes publicly and privately owned
- Workplaces



HOUSEHOLDS

- As defined by Current Population Survey (CPS)
- Residences

DEFINITIONS

Note: The labor force only includes those seeking and available for work. It does not include retired people, family caregivers, and others who are not seeking and/or unavailable for work.

**LABOR
FORCE**

=

EMPLOYED

+

UNEMPLOYED*

**LABOR FORCE
PARTICIPATION
RATE (LFPR)**

=

LABOR FORCE

**WORKING AGE
POPULATION****

**UNEMPLOYMENT
RATE**

=

UNEMPLOYED*

LABOR FORCE

*Unemployment includes anyone not currently employed but actively seeking and available for work, regardless of whether they are receiving unemployment insurance benefits. Includes people entering/re-entering the labor force

**Civilian, non-institutionalized population 16+ ([Bureau of Labor Statistics](#)) (BLS)

NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM

(NAICS)

"The North American Industry Classification System (NAICS) is the standard used by federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy." ([US Census Bureau](#)). A firm may have multiple establishments with multiple NAICS codes - for example, a firm that has a warehouse and a retail location.



[ABOUT NAICS CODES
\(CENSUS\)](#)

[NAICS FAQ](#)

[2022 NAICS MANUAL](#)



aggregate



granular

NAICS Example: Other Outpatient Care Centers

Digits	Level of Detail	Title
620000	Economic Sector	Healthcare and Social Assistance
621000	Subsector	Ambulatory Health Care Services
621400	Industry group	Outpatient Care Centers
621490	NAICS Industry	Other Outpatient Care Centers
621492	National Industry	Kidney Dialysis Centers

STANDARD OCCUPATIONAL CODES (SOC)

"The 2018 Standard Occupational Classification (SOC) system is a federal statistical standard used by federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 867 detailed occupations according to their occupational definition." (Bureau of Labor Statistics)



[2018 SOC Manual](#)

[ABOUT SOC \(BLS\)](#)

[2018 SOC FAQ](#)



aggregate



granular

SOC Example: Surgical Technicians		
Digits	Level of Detail	Title
<u>29</u> -0000	Major Groups (23)	Healthcare Practitioners and Technical Occupations
<u>29</u> - <u>2</u> 000	Minor Groups (98)	Health Technologists and Technicians
<u>29</u> - <u>20</u> <u>5</u> 0	Broad Occupations (459)	Health Practitioner Support Technologists and Technicians
<u>29</u> - <u>20</u> <u>55</u>	Detailed Occupation (867)	Surgical Technicians



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LABOR MARKET INFORMATION: PROGRAM DETAILS

- [Current Employment Statistics \(CES\)](#)
- [Local Area Unemployment Statistics \(LAUS\)](#)
- [Occupational Employment and Wage Statistics \(OEWS\)](#)
- [Quarterly Census of Employment and Wages \(QCEW\)](#)
- [What is seasonal adjustment?](#)
- [What is benchmarking?](#)
- [Staffing Pattern Data \(Industry and Occupation\)](#)
- [Employment Projections \(Industry and Occupation\)](#)

CURRENT EMPLOYMENT STATISTICS (CES)

“The Current Employment Statistics (CES) program produces detailed industry estimates of nonfarm employment, hours, and earnings of workers on payrolls.” ([Bureau of Labor Statistics](#))

- Also known as the “Payroll Survey,” CES Surveys about 122,000 businesses and government agencies representing 666,000 workers nationally each month (BLS)
- Counts jobs not people, meaning an individual with two jobs is counted twice
- Excludes workers in agriculture, private households, and the self-employed
- “A wide array of public and private policy makers use CES data because it is one of the earliest indicators of economic conditions each month” (BLS)

PROS

- recent data available
- time series

CONS

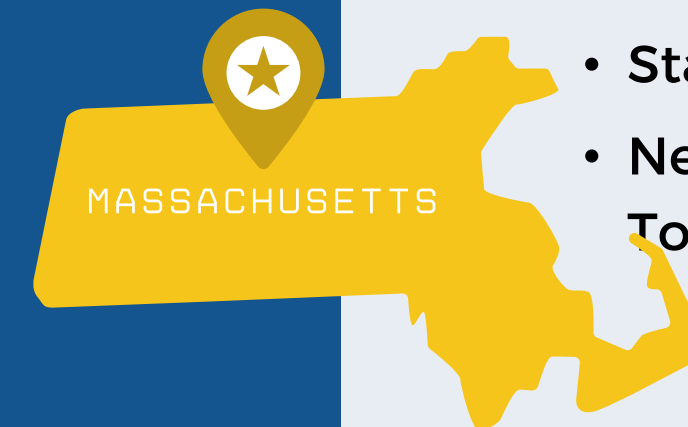
- smaller sample size
- seasonally adjusted data is unavailable at the local level

UNITS OF ANALYSIS & SOURCE



- Estimates employment (**number of jobs**) by industry
- Wages (State level)
- Modeled based on a sample of payroll data

AVAILABLE GEOGRAPHIES



- State-wide
- New England City and Town Areas (NECTA)

TIMING OF DATA



- Monthly, typically 3rd Friday of following month
- Annual benchmarking process

LOCAL AREA UNEMPLOYMENT STATISTICS (LAUS)

“The Local Area Unemployment Statistics (LAUS) program produces monthly and annual employment, unemployment, and labor force data...” ([Bureau of Labor Statistics](#))

- LAUS estimates for various geographies take different inputs into account including the Current Population Survey (CPS), Current Employment Statistics (CES), local unemployment insurance systems, and the American Community Survey (ACS)
- Estimates are considered key indicators of local economic conditions, used by:
 - federal program eligibility determinations and resource allocations
 - planning and budget in local/state government
 - assessing and comparing labor market development and status and by private industry/researchers/media etc.

PROS

- recent data available
- time series

CONS

- smaller sample size
- seasonally adjusted data is unavailable at the local level

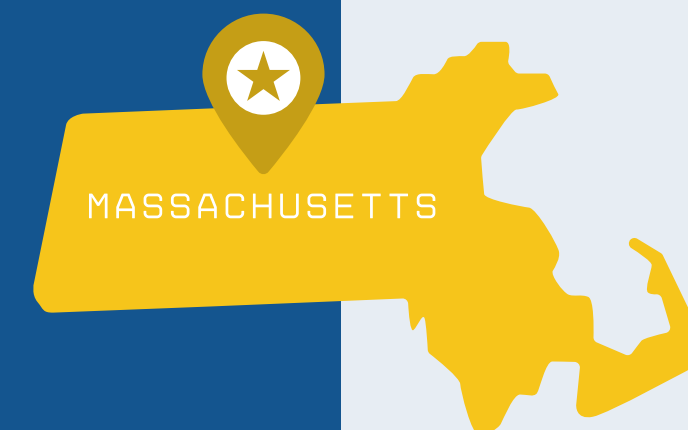
UNITS OF ANALYSIS & SOURCE



- Estimates **employed, number unemployed, and labor force (number of people*)**
- Models use data from CPS, CES, UI Systems, and ACS depending on geography

*Civilian, non-institutionalized 16+

AVAILABLE GEOGRAPHIES



- State-wide
- New England City and Town Areas (NECTA)
- Workforce Development Areas (WDA)
- City/Town
- County

TIMING OF DATA



- Monthly, typically 3rd Friday of the following month
- Annual benchmarking process

OCCUPATIONAL EMPLOYMENT AND WAGE STATISTICS (OEWS)

“The Occupational Employment and Wage Statistics (OEWS) program produces employment and wage estimates annually for nearly 800 occupations.” ([Bureau of Labor Statistics](#))

- Occupation and wage data is requested from 3,500 employers every three years, all establishments with a UI tax account including local governments and non-profits
- Does NOT include gig workers, military, private households, religious establishments
- Several month process includes verifying contacts, collecting data via phone/email/web, reviewing, inputting, and revising data, and re-contacting non-responsive establishments
- Participation is not currently mandatory in Massachusetts
- Response Rate Goals for May Survey: 7/1 (35%), 8/1 (45%), 9/1 (55%), 10/1 (60%), 11/1 (75%)
- Data is published in a way that protects identifiable information of respondents

PROS

- important source of wage data
- large sample size
- lower error ranges

CONS

- publication lag
- not a time series

UNITS OF ANALYSIS AND SOURCE



- Estimates **employment (number of jobs)** and **wages** for **occupations**
- Source is survey collection of Unemployment Insurance Covered establishments over several survey panels

AVAILABLE GEOGRAPHIES



- State-wide
- New England City and Town Areas (NECTA)
- Workforce Development Area (WDA)

TIMING OF DATA



- Annual publication (usually April)
- Two panels of survey collection (May-November and November-May)

QUARTERLY CENSUS OF EMPLOYMENT AND WAGES (QCEW)

"The Quarterly Census of Employment and Wages (QCEW) program publishes a quarterly count of employment and wages reported by employers covering more than 95 percent of U.S. jobs at the county, state, and national levels by industry." ([Bureau of Labor Statistics](#))

- Excludes unincorporated self-employed, certain farm and domestic workers, proprietors, and railroad workers covered by the railroad UI program
- Also excludes members of the armed forces, federal, state, and local elected officials
- Data is published in a way that protects identifiable information of respondents
- QCEW data is used to benchmark CES and LAUS data and is used by the Bureau of Economic Analysis (BEA) base for developing the wage and salary component of personal income. Also used by Employment and Training Administration for employment security program

PROS

- quality and quantity of data
- consistent history
- used to benchmark

CONS

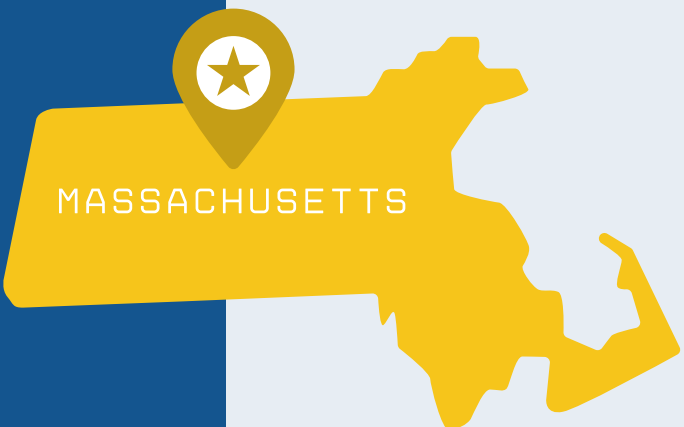
- publication lag
- not a time series

UNITS OF ANALYSIS AND SOURCE



- Estimates **employment (number of jobs), wages, and number of establishments by industry**
- Census of all establishments subject to Unemployment Insurance tax in Massachusetts

AVAILABLE GEOGRAPHIES



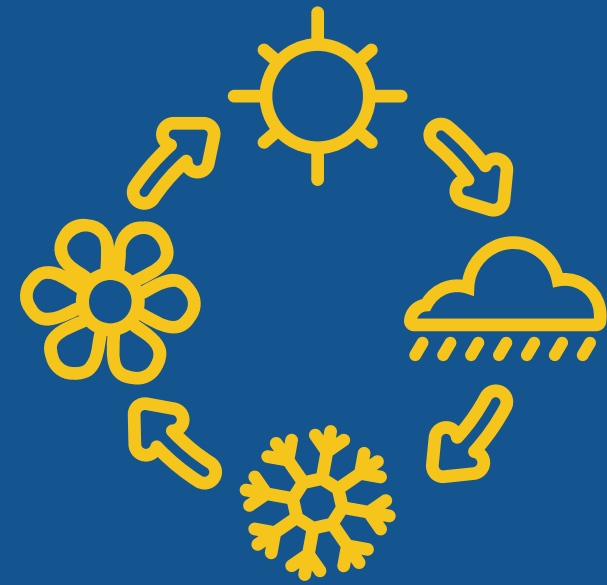
- State-wide
- County
- New England City and Town Areas (NECTA)
- Workforce Development Area (WDA)
- City/Town

TIMING OF DATA



- Quarterly Data with delay

WHAT IS SEASONAL ADJUSTMENT?



- "Seasonal adjustment is a statistical technique that attempts to measure and remove the influences of predictable seasonal patterns to reveal how employment and unemployment change from month to month..." (Bureau of Labor Statistics)
- Labor force, employment, and other measures of labor market activity can be affected by changes in weather, holidays, harvests, school schedules, etc.
- Since seasonal events follow trends, they can be accounted for using seasonal adjustment, making it easier to observe cycles and underlying trends in the series

WHAT IS BENCHMARKING?



- At the start of each year, Current Employment Statistics (CES) and Local Area Unemployment Statistics (LAUS) data series go through a benchmarking process
- Benchmarking takes into consideration data inputs, historical updates, late tax filings, and other figures that call for revision ([Bureau of Labor Statistics](#))
- CES publishes preliminary and revised estimates each month and revised annual estimates at the beginning of each year
- LAUS publishes annual revisions at the beginning of each year
- BLS issues benchmarking reports on their website

STAFFING PATTERN DATA

Industry staffing pattern data includes the distribution of occupations working within an industry. Occupation staffing pattern data includes the distribution of an occupation across industries. Both types of staffing patterns include mean, median, entry, and experienced wages; annually and hourly.

- Produced as part of the WIGS (Workforce Innovation Grant)
- The Local Employment and Wage Information System (LEWIS) is used to provide the staffing patterns for sub-state projections



INDUSTRY
(NAICS)



OCCUPATIONS
(SOC)

INDUSTRY STAFFING PATTERNS
AND TECHNICAL NOTES

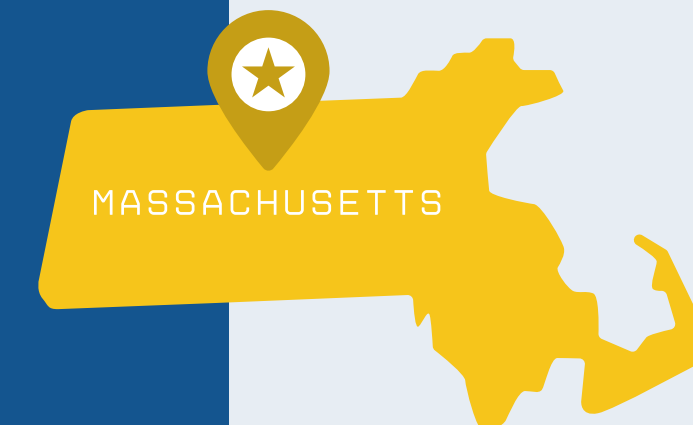
OCCUPATIONAL STAFFING
PATTERNS AND TECHNICAL NOTES

UNITS OF ANALYSIS AND SOURCE



- Estimates **employment (number of jobs)** and **wages** (mean and median experienced, entry, hourly, and annual)
- Uses OEWS Data

AVAILABLE GEOGRAPHIES



- State-wide
- Workforce Development Area (WDA)

TIMING OF DATA



- Current staffing data is based on May 2020
- May 2022 staffing pattern data will be released in 2023

EMPLOYMENT PROJECTIONS

"Projections are used to identify in-demand industries and occupations for career guidance; to plan employment, education and training, and economic development programs; as supporting documentation to apply for Federal grants; and for many other purposes...The U.S. Bureau of Labor Statistics (BLS) funds national employment projections, but WIGS fund the state and local (sub-state) projections produced by the states with assistance from ETA and BLS." ([Employment and Training Administration](#))

***Although produced using BLS projections methodology, these are not official BLS estimates**

**SHORT-TERM
OCCUPATIONAL PROJECTIONS**

**SHORT-TERM
INDUSTRY PROJECTIONS**

**LONG-TERM
OCCUPATIONAL PROJECTIONS**

**LONG-TERM
INDUSTRY PROJECTIONS**

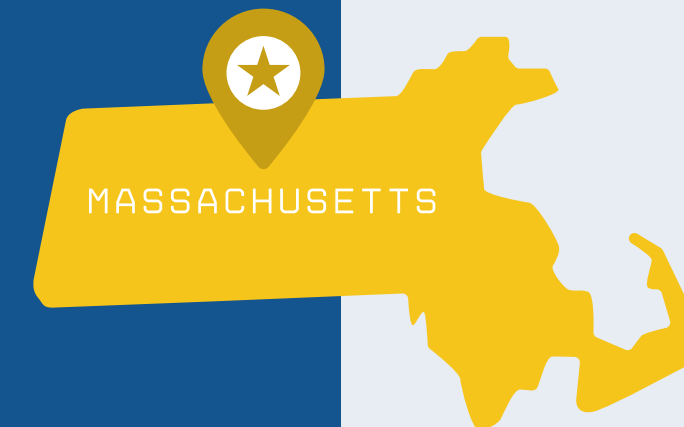
PROJECTIONS METHODOLOGY INFORMATION FROM BLS

UNITS OF ANALYSIS AND SOURCE



- Estimates **employment (number of jobs)**
- Identifies fastest growing occupations and industries
- Uses OEWS Data/Staffing Patterns

AVAILABLE GEOGRAPHIES



- State-wide
- Workforce Development Area (WDA)

TIMING OF DATA



- Semi-annual releases, typically in spring/summer
- Short-term projections cover 2 years
- Long-term projections cover 10 years



Photo: Adobe Stock

LABOR MARKET INFORMATION: APPENDIX

- [Mass.gov/EconomicResearch](https://www.mass.gov/EconomicResearch)
- Popular Data Visualizations
- Popular Resources
- [Acronyms](#)

mass.gov/economicresearch

Additional Resources

MassHire Career Centers : The MassHire Department of Career Services provides job seekers with a variety of job assistance including working with experienced career counselors, attending workshops and training, accessing up-to-date local, state, national job listings, developing resume cover letters, and more.

MassHire JobQuest : Find jobs, locate explore workshops, and more.

Mass Career Information System (MAIS) : MassHire's career planning tool.

O*Net Online : A national database of occupational characteristics and needs.

My Next Move : An interactive tool to help you explore career options.

Job Projections

Industry Projection Data
Industry projections relate to industry categories that may include a variety of occupations. You can sort these data sets by area, industry, and sub-industry.

Short Term Industry Projections

Long Term Industry Projections

Occupational Projection Data
Occupational projections are sorted by industry. You can sort these data sets by area, number of listings, growth, and required education / training.

Short Term Occupational Projections

Long Term Occupational Projections

LMI Resources for Jobseekers

Full list of available data sets and descriptions

Department of Economic Research Data Index

Find economic data and labor market information for Massachusetts, including employment and wage rates, unemployment rate, percent workforce statistical information by race/ethnicity, and more.

TABLE OF CONTENTS

- Unemployment and Labor Force Data
- Employment Information by Industry
- Employment Information by Occupation
- Information on Massachusetts Employment
- Location Data

Unemployment and Labor Force Data

Labor Force and Unemployment Data (LAUS) +
Information on the labor force, employment, unemployment, and unemployment rates for the United States, Massachusetts, and for each city/town and county in Massachusetts. Information is also available by Workforce Development Area (WDA) and Labor Market Area (LMA).

Unemployment Insurance Claimant Profiles +
Demographic summaries on MA residents claiming unemployment insurance benefits. Includes information on age, education, industry, occupation, and wage.

Workforce Development Area Unemployment Rate Reports +
Information on the labor force, employed, unemployed and unemployment rate estimates for each Workforce Development Area (WDA) by month and year.

Unemployment Rates & FAQ

Unemployment and Labor Force Participation - US vs MA

How is the unemployment rate calculated and who is considered unemployed?
The unemployment rate is calculated by dividing the number of unemployed people by the labor force.

Unemployed people in this case includes anyone not currently employed but actively seeking and available for work, regardless of whether they are receiving unemployment insurance benefits. This includes people entering the labor force for the first time and re-entering the labor force.

Department of Economic Research Data and Resources

Labor Market Information for Job Seekers +

List of Interactive Data Visualizations from DER +

Index of Available Data from DER +

Unemployment Rates for Massachusetts +

DER Equity Dashboards +

Department of Economic Research Popular Resources

Labor Market Information for Employers +

Labor Market Information 101 +

DER Reports & Releases +

Find monthly press releases, Unemployment Insurance Trust Fund information and more

Department of Economic Research
Commonwealth of Massachusetts | Boston, Massachusetts, United States

Department of Economic Research Interactive Data Visual Index

Click here to view all available interactive data visualizations on one page.

TABLE OF CONTENTS

- Short Term Industry / MA & WDAs
- Department of Economic Research
- Labor Market Statistics by Area
- Employment and Jobs
- Demographics

Unemployment and Labor Force Participation - US vs MA

Monthly Job Postings - MA

MA Unemployment Insurance (UI) Trust Fund

Labor Market Statistics - MA

Full list with descriptions of data visualizations and link to Tableau Public

Equity Dashboards and frequently asked questions

Equity Dashboard Frequently Asked Questions

Are there plans for additional dashboards such as ones representing Pacific Islanders, Indigenous people, people with disabilities, LGBTQ people, and others?

The current Equity Dashboards serve as a starting point and the Department of Economic Research welcomes feedback on how we can improve these dashboards and to inspire future projects. If you have suggestions about representation for a specific group, please let us know at economicresearch@mass.gov.

Asian American Equity Dashboard

Welcome to the Equity Dashboard: Asian American Residents

Commonwealth of Massachusetts
Executive Office of Labor and Workforce Development
Department of Economic Research

Why does the Women in Workforce dashboard exist?

The availability and accessibility of data have increased when compared to the other dashboards released, which highlights the need for additional data collection.

How are race, ethnicity, and sex determined?

The Equity Dashboards use data from multiple sources, and gender identity is self-reported by respondents. More information can be found below.

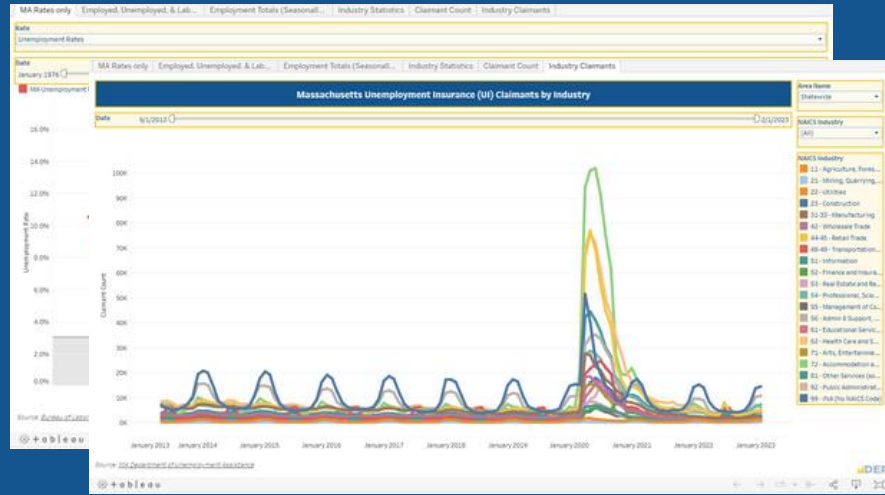
The U.S. Census Bureau includes information on race and ethnicity in the American Community Survey. Demographic information is available on the American Community Survey, Demographic Statistics website.

For the best experience, use full screen mode by clicking the icon in the lower right corner of the dashboard. Hover your cursor over the information icon on each tab for more details about the data visualizations and how you can interact with them. [View this dashboard on Tableau Public](#)

POPULAR DATA VISUALIZATIONS

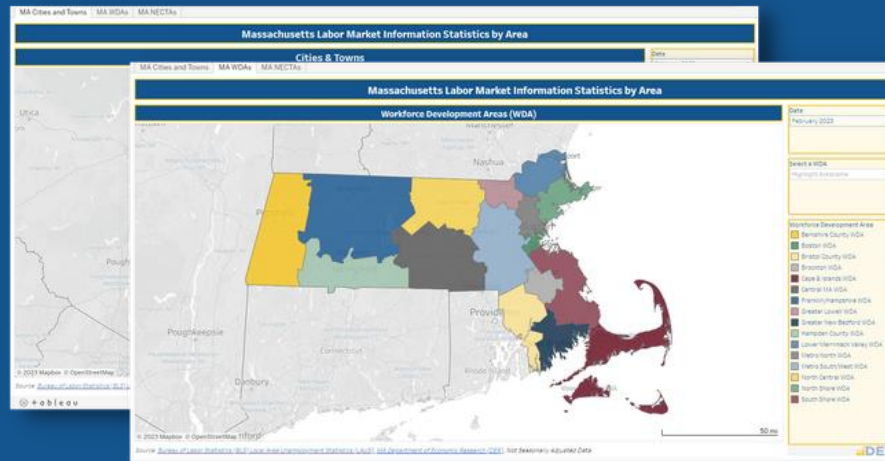
LABOR MARKET STATISTICS - MASSACHUSETTS

Displays state-wide unemployment, employment, and labor force statistics and comparisons to United States' statistics over time. Also includes a breakdown of state-wide unemployment by NAICS industry. Monthly data.



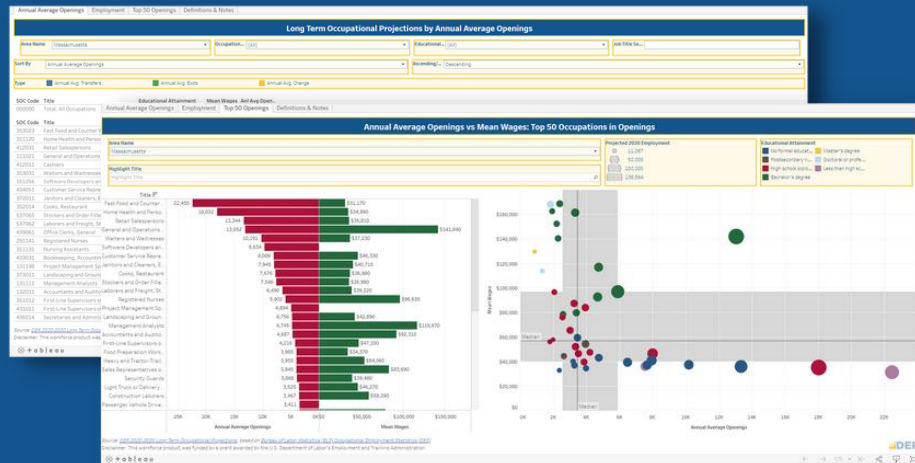
LABOR MARKET STATISTICS - WDA, NECTA, AND CITY/TOWN

Displays employment, unemployment, and labor force statistics for various geographic areas. See information by Workforce Development Area (WDA), New England City and Town Area (NECTA), and/or City/Town in Massachusetts. Monthly data.

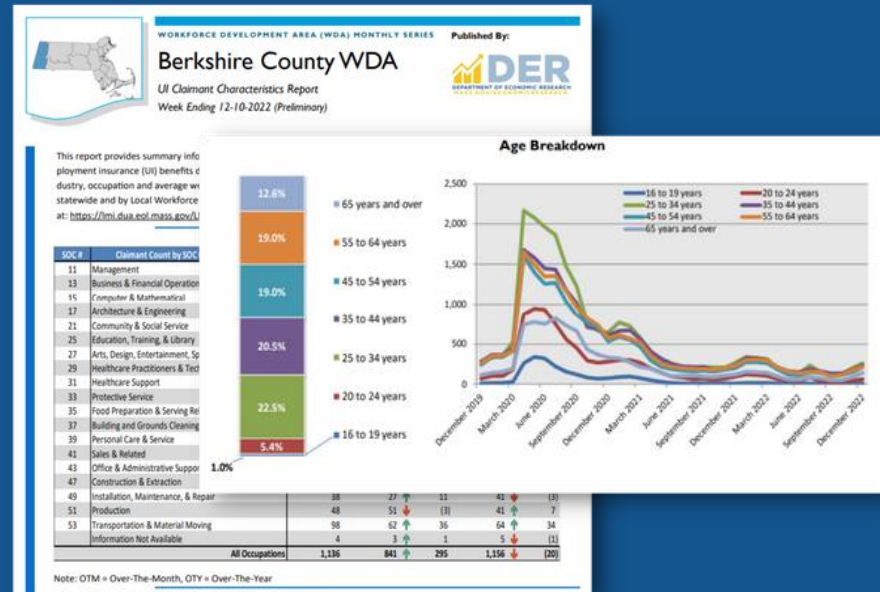


LONG-TERM OCCUPATIONAL PROJECTIONS - MA AND WDAS

Displays long-term occupational (SOC) projections state-wide and by Workforce Development Area (WDA). Also includes information about transfers, exits, openings, education required, and wages.



OTHER POPULAR RESOURCES



UI CLAIMANT CHARACTERISTIC PROFILES

Demographic summaries on MA residents claiming unemployment insurance benefits. Includes information on age, education, industry, occupation, and wage.

Department of Economic Research
(DER)

Occupation Search

To search for an occupation, enter the keywords below and click the 'Search' button to view a list of occupations.

Refine your Search:

OCCUPATION SEARCH

Search for occupation names, descriptions and Standard Occupation Code (SOC) by keyword.

Find the cities and towns in an area

To find the cities and towns in an area
make your selection from the list at the right...

- Select an Area -

Find the areas

To find the areas a city or town is in make your selection from the list at the right...

- Choose a town -

FINDING CITIES AND TOWNS IN AN AREA

Determine what geographic groupings a city/town is included in (Workforce Development Area / WDA, New England City and Town Area / NECTA, etc.) and vice versa.

FREQUENTLY USED ACRONYMS

Acronym	Meaning	More Info
ACES	Annual Capital Expenditures Survey (Census)	census.gov/programs-surveys/aces.html
ACS	American Community Survey (Census)	census.gov/programs-surveys/acs
BLS	Bureau of Labor Statistics	bls.gov/
CES	Current Employment Statistics (Bureau of Labor Statistics)	bls.gov/ces/
CPS	Current Population Survey (CPS)	census.gov/programs-surveys/cps.html
EDBs	Equity Dashboards	mass.gov/equitydashboards
ETA	Employment and Training Administration	dol.gov/agencies/eta
HWOL	Help Wanted Online	conference-board.org/topics/help-wanted-online
JOLTS / JLT	Job Openings and Labor Turnover Survey (Bureau of Labor Statistics)	bls.gov/jlt/
LAUS / LAU	Local Area of Unemployment Statistics (Bureau of Labor Statistics)	bls.gov/lau/

FREQUENTLY USED ACRONYMS

Acronym	Meaning	More Info
LMA	Labor Market Area	lmi.dua.eol.mass.gov/lmi/CitiesAndTowns
LMI	Labor Market Information	
NAICS	North American Industry Classification System	census.gov/naics/
NECTA	New England City and Town Area	census.gov/geographies/reference-maps/2020/geo/nectas.html
OEWS / OES	Occupational Employment and Wage Statistics (Bureau of Labor Statistics)	bls.gov/oes/
QCEW / CEW	Quarterly Census of Employment and Wages (Bureau of Labor Statistics)	bls.gov/cew/
SIC	Standard Industrial Classification	osha.gov/data/sic-manual
SOC	Standard Occupational Codes	bls.gov/soc/
WDA	Workforce Development Area	lmi.dua.eol.mass.gov/lmi/CitiesAndTowns

THANK YOU

Special thanks to our fellow government LMI agencies:

Maine Department of Labor

New York State Department of Labor

Nevada Dept of Training, Education and Rehabilitation - Research and Analysis Bureau

United States Bureau of Labor Statistics

United States Census Bureau

Vermont Department of Labor - Economic and Labor Market Information Division