Welcome to
Labor Market Information 101!

This presentation is designed to provide an overview of labor market information data and concepts, with an emphasis on data that the Department of Economic Research (DER) publishes in cooperation with the Federal Bureau of Labor Statistics (BLS) and Employment Training Administration (ETA).

MASSACHUSETTS
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ECONOMIC
RESEARCH

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Contents:

Introduction to LMI

This section introduces the Department of Economic Research (DER)'s mission and covers the most basic questions about Labor Market Information (LMI).

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.

What is LMI?

- Labor Market Information includes quantitative and qualitative data and analysis related to employment or the labor force

- LMI 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
- Advocacy organizations

Why is LMI important?

- LMI encourages data-driven decision making for wide range of stakeholders

- LMI is important for:
  - Understanding local and regional economies
  - Efficient resource allocation
  - Understanding compensation and wages
  - Guiding policy and strategy

Contents:

Definitions & Key Concepts

This section introduces terminology, context, and framework for various LMI concepts and ideas.
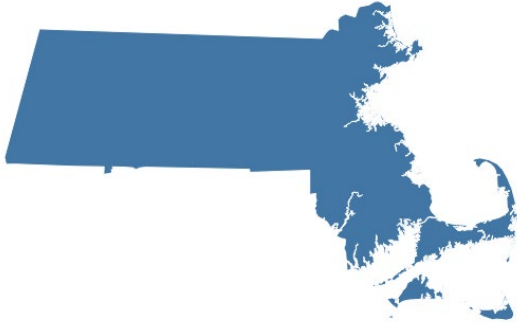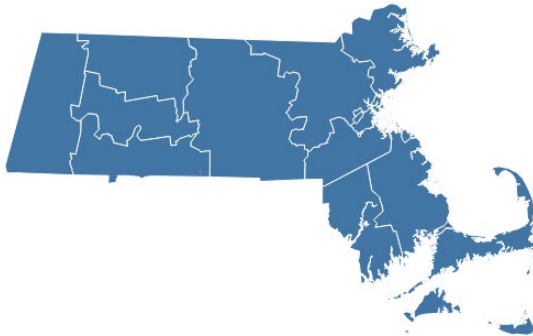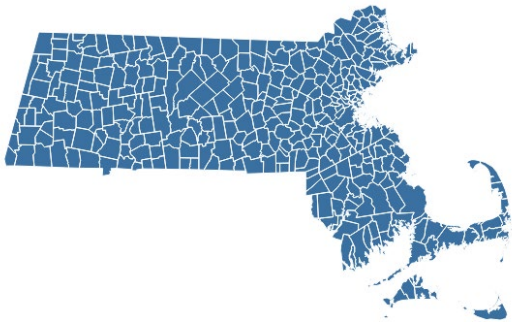
DER

Geographies

Statewide Data
- Most of the data sets mentioned in this presentation include statewide data for Massachusetts.
- Data for other states can be found through the Bureau of Labor Statistics.
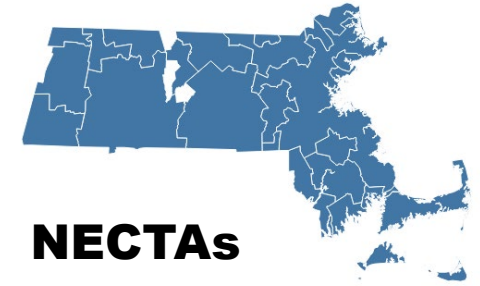

Counties
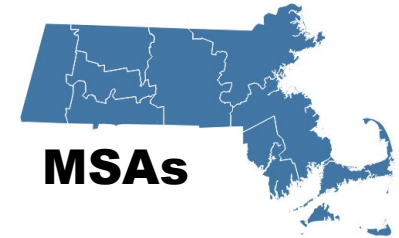- All of Massachusetts's cities and towns fall into one of 14 counties.

Cities & Towns
- Massachusetts has 351 cities and towns that make up counties.
- Not all data is available on a city and town level due to sample sizes and suppression.


NECTAs

MSAs

Eventually, New England Cities and Town Areas (NECTA) will be replaced with Metropolitan Statistical Areas (MSAs)

Geographies - Continued

Every city and town in Massachusetts falls within one of 16 Workforce Development Areas, that then make up 7 Workforce Skills Cabinet Areas

Workforce Skills Cabinet (WSC) Region	Workforce Development Areas (WDA)
1. Berkshire Region	Berkshire WDA
2. Pioneer Valley Region	Franklin/Hampshire and Hampden WDAs
3. Central MA Region	North Central and Central WDAs
4. Northeast Region	Greater Lowell, Lower Merrimack, and North Shore WDAs
5. Greater Boston Region	Boston, Metro North, and Metro South/West WDAs
6. Southeast Region	South Shore, Brockton, Bristol, and Greater New Bedford WDAs
7. Cape Cod & Islands Region	Cape Cod & Islands WDA
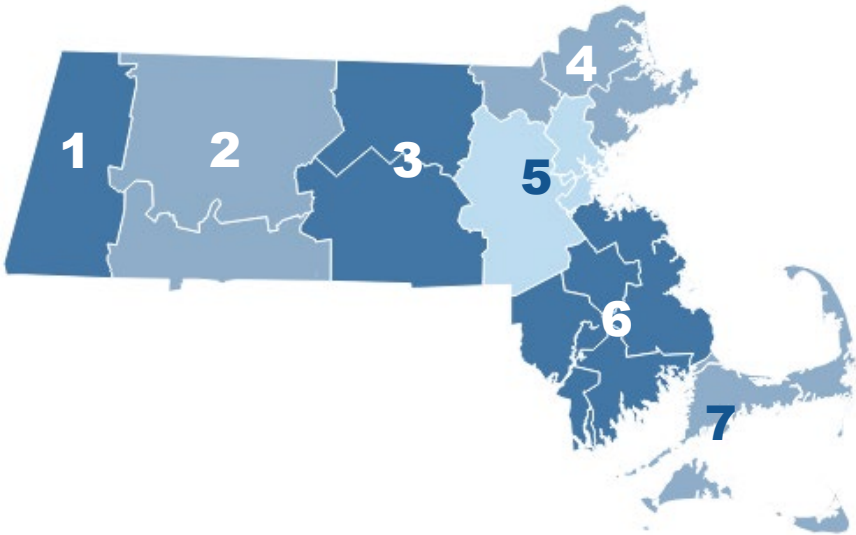
Identify which cities and towns are included in a county, WDA, or WSC region and vice versa using DER's Cities and Towns Tool

DER's Cities and Towns Tool

Units of Analysis & Framework

People

- People are classified as employed, unemployed, or not in the labor force.
- Employed individuals can hold multiple jobs.
- Labor market data often includes demographic information (age, gender, race, education, etc.) to understand workforce composition and trends.
- Labor market data is typically restricted to the civilian, non-institutionalized 16 and older population.

Jobs

- A job represents a specific position held by an individual within an establishment, involving a set of tasks and responsibilities in exchange for compensation.
- Jobs are typically described by a combination of characteristics, including occupation (e.g., teacher, nurse, engineer), industry (e.g., healthcare, education, manufacturing), and wage or salary.
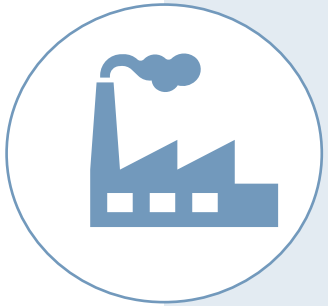
Establishments

- An establishment is a physical location where business is conducted, or services are provided.
- Public and private entities are counted as establishments.
- Jobs are associated with establishments based on the number of people employed at each establishment.
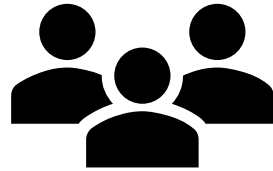
People

- LMI is usually focused on the typical working population, the 16 and older non-institutionalized population

- People can be employed, unemployed, or not in the labor force

Employed
Includes people working part-time and full-time with one or more jobs

Unemployed
anyone not currently employed but actively seeking and available for work; not contingent on UI benefits

People in the Labor Force
The labor force only includes those in work or seeking and available for work.
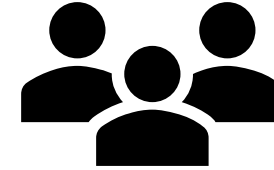
Inactive / Marginally Attached Workers
Retirees
Family Caregivers

People not in the Labor Force
Retired people, family caregivers, and others who are not seeking and/or are unavailable for work.

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)

aggregate

| SOC Example: Surgical Technicians		
Digits/Code	**Level of Detail**	**Title**
29-0000	Major Groups	Healthcare Practitioners and Technical Occupations
29-2000	Minor Groups	Health Technologists and Technicians
29-2050	Broad Occupations	Health Practitioner Support Technologists and Technicians
29-2055	Detailed Occupation	Surgical Technicians

granular

Links for more information:

About SOC (BLS)

2018 SOC System

2018 SOC FAQ (download)

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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.
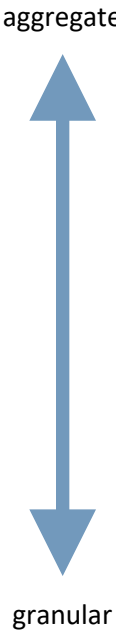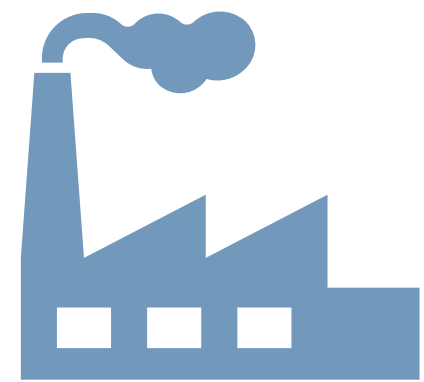
NAICS Example: Other Outpatient Care Centers		
Digits/Code	**Level of Detail**	**Description**
620000	Economic Sector	Healthcare and Social Assistance
621000	Subsector	Ambulatory Health Care Services
621400	Industry Group	Outpatient Care Centers
621490	NAICS Industry	Other Outpatient Care Centers
621492	National Industry	Kidney Dialysis Center

aggregate

granular

Links for more information:

About NAICS Codes (Census)

NAICS FAQ

2022 NAICS Manual (Download)

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Program/Data Details

This section provides an overview of each of the major LMI data sets that DER publishes, including links to download data. It also discusses how these data sets can be used and provides recommendations for additional LMI sources outside of DER.

Contents:

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 119,000 businesses and government agencies representing 629,000 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 makes use CES data because it is one of the earliest indicators of economic conditions each month

- **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 (# of jobs) by industry
- Wages (state level)
- Modeled based on sample of payroll data

Available Geographies

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

Timing of Data

- Monthly, typically 3rd Friday of following month
- Subject to annual benchmarking process

Links for data & more information:

| CES Data on DER Site | CES Data on BLS Site | More info about CES from BLS |

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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 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 number of people employed, unemployed, and in the labor force
- Models use data from CPS, CES, UI Systems, and ACS depending on geography

Available Geographies

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

Timing of Data

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

Links for data & more information:

[LAUS Data on DER Site]   [LAUS Data on BLS Site]

LAUS 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 are unavailable for work.

$$\text{Labor Force} = \text{Employed} + \text{Unemployed*}$$

$$\text{Labor Force Participation Rate (LFPR)} = \frac{\text{Labor Force}}{\text{Working Age Population**}}$$

$$\text{Unemployment Rate} = \frac{\text{Unemployed*}}{\text{Labor Force}}$$

*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)

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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 employer 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, revieing, inputting, and revising data; and re-contacting non-responsive establishments
- Participation is not currently mandatory in Massachusetts
- 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 & Source

- Estimates employment (number of jobs) and wages for occupations
- Source is survey collection of UI covered establishments over several survey panels

Available Geographies

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

Timing of Data

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

Links for data & more information:

| OEWS Data on DER Site | OEWS Data on BLS Site | OEWS for Employer Participants |

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% 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 the Employment and Training Administration (ETA) for the employment security program
- **PROS**: High quality and quantity of data; consistent history; used to benchmark
- **CONS**: Publication lag; not designed to be used for time series analysis

Units of Analysis & 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) (transitioning to MSAs)
- Workforce Development Area (WDA)
- City/Town

Timing of Data

- Quarterly data with delay
- Annual reports released as well
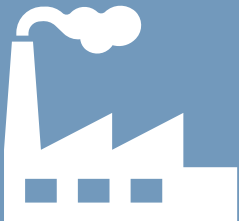
Links for data & more information:

[QCEW Data on DER Site](#)   [QCEW Data on BLS Site](#)

Staffing Patterns

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) → **Occupation (SOC)**

Links for data & more information:

[**Industry Staffing Patterns and Technical Notes**]

[**Occupational Staffing Patterns and Technical Notes**]

Units of Analysis & Source

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

Available Geographies

- State-wide
- Workforce Development Area (WDA)

Timing of Data

- Released annually in spring

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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..." (Employment and Training Administration)

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

Units of Analysis & 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

Links for data & more information:

Short-Term Occupational Projections

Short-Term Industry Projections

Long-Term Occupational Projections

Long-Term Industry Projections

Projections Methodology Information from BLS

Unemployment Claims Data

DER publishes two main types of unemployment insurance data: Unemployment Claims Data and Unemployment Claimants Profile Data.

- **Unemployment Claims Data** includes information on initial and continued unemployment insurance claims.

- Does not include any identifying information (a * indicates suppression)

- Does include demographic information like sex, race, ethnicity, and educational attainment

- Also includes information about the occupation, industry, and wage of the worker prior to making the claim

- **PROS**: Provides information on unemployment insurance claims

- **CONS**: Only available back to 2020

Units of Analysis & Source

- Anonymized data from the Department of Unemployment Assistance
- Demographics, NAICS Industry, SOC Occupation, and Wage prior to claim

Available Geographies

- City/Town
- County

Timing of Data

- Weekly data, usually available a few weeks after

Links for data & more information:

Download Weekly Claims Data

Unemployment Claimants Profile Data

DER publishes two main types of unemployment insurance data: Unemployment Claims Data and Unemployment Claimants Profile Data.

- Unemployment Claimant Profiles Data are demographic summaries of individuals receiving unemployment benefits during a survey week each month

- The data can be accessed for the state and WDAs

- Does not include identifying information

- Includes occupation, industry, and wages prior to UI claim, as well as demographic breakdowns including age and educational attainment

- **PROS**: Includes helpful indicators, graphs and charts to help users better understand over-the-year and over-the-month trends in the data; data spreadsheet available going back to January 2015

- **CONS**: each PDF only covers one month

Units of Analysis & Source

- Anonymized data collected by DUA during a survey week each month
- Demographics (age and educational attainment), NAICS Industry, SOC Occupation, and Wage prior to claim

Available Geographies

- Statewide
- Workforce Development Areas

Timing of Data

- Issued monthly

Links for data & more information:

[Download Unemployment Insurance Claimant Profiles](#)

How can LMI Data from DER support workforce development?

Source	Data	Benefits
Local Area Unemployment Statistics (LAUS)	Estimates employed, unemployed, and labor force (number of people)	• Used to calculate Areas of Substantial Unemployment (ASUs) • Aids in understanding how workforce development funding is allocated
Occupational Employment and Wage Statistics (OEWS)	Estimates employment (number of jobs) and wages for occupations	• 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	• Can help identify which jobs are likely to grow within specific areas
Staffing Patterns	The distribution of occupations working within an industry	• Provides a breakdown of industry employment by occupations

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Additional Data Sources

Below are some additional labor market information data sources that are published by other organizations.

- The American Community Survey (ACS): Detailed population, demographic, and housing information from the US Census Bureau.

- Longitudinal Employer-Household Dynamics (LEHD): Links data from employers and households to explore the interactions between workers and firms; from the US Census Bureau.
  - Job-to-Job (J2J) Flows: Includes statistics on the job-to-job transition rate; hires and separations to and from employment; earnings changes due to job change; and the characteristics of origin and destination jobs for job-to-job transitions
  - Quarterly Workforce Indicators (QWI): Includes economic indicators like employment, job creation, earnings, and employment flows. Includes detailed firm characteristics and worker demographics information.

- Federal Reserve Economic Data (FRED): An online data base with hundreds of thousands of economic data points from multiple sources. Also includes tools to help understand the data.

- Bureau of Economic Analysis: Publishes statistics like US Gross Domestic Product (GDP) as well as additional statistics on foreign trade and investment and industry data.

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Contents:

Technical Notes

This section covers some of the common technical and statistical concepts related to LMI.

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

- When trying to observe cycles and underlying trends, **use seasonally adjust data**

- When try to observe seasonal cycles and trends, use **non seasonally adjusted data**

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

What is a reference week?

- The week which includes the 12th of the month during which the Current Population Survey (CPS) and Current Employment Statistics (CES) survey are administered. Information collected from this survey informs employment, unemployment, and jobs estimates.

Contents:

Regional Planning Resources: Data Tables

Regional Planning Resources: Data Visualizations

DER Data by Geography Quick Reference Guide

Appendix

This section includes additional resources and reference materials.

Regional Planning Resources from Department of Economic Research: Downloadable Data Tables

Resource Name	Resource Type	Description	Link
All Data from DER	**Downloadable data tables**	**View descriptions and links for all of DER's downloadable data tables.**	**https://www.mass.gov/lists/department-of-economic-research-data-index**
Local Area Unemployment Statistics	Downloadable data tables	Estimates of how many people are in the labor force, employed, and unemployed plus the unemployment rates for Massachusetts and for each city/town and county in Massachusetts. Information is also available by Workforce Development Area (WDA).	Labor Force and Unemployment Data
Occupational Employment and Wage Statistics	Downloadable data tables	Information on employment and wages by occupation, for the state of Massachusetts, New England City and Town Statistical Areas (NECTA) and Workforce Development Areas (WDA).	Occupational Employment and Wages
Quarterly Census of Employment and Wage Statistics	Downloadable data tables	Information on employment and wages is available by industry for cities/towns, counties, labor market areas, Workforce Development Areas (WDA) and state-wide.	Industry Employment and Wages
Employment Projections	Downloadable data tables	Industry and occupation employment projections use current and historical data to project how employment in various industries and occupations will change over time. These projections include information on employment and growth state-wide and by Workforce Development Area (WDA).	Short Term Occupation, Long Term Occupation, Short Term Industry, and Long Term Industry available state-wide and by WDA
Staffing Patterns	Downloadable data tables	Staffing patterns provide information about employment, wages, and education typically required for different occupations by industry. This data can be used to understand what occupations are typically employed in different industries for a specific geography. Available state-wide and by Workforce Development Area (WDA).	Occupational Staffing Patterns and Staffing Patterns by Industry
Unemployment Insurance Claimant Profiles	Downloadable data tables plus graphs	Demographic summaries on MA residents claiming unemployment insurance benefits. Includes information on age, education, industry, occupation, and wage. Available state-wide and by Workforce Development Area (WDA).	Unemployment Insurance Claimant Profiles

Regional Planning Resources from Department of Economic Research: Interactive Data Visualizations/Dashboards

Resource Name	Resource Type	Description	Link
All Interactive Data Visualizations	**Interactive Data Visualizations / Dashboards**	**View descriptions and links for all of DER's interactive data visualizations.**	**https://www.mass.gov/lists/department-of-economic-research-interactive-data-visual-index OR https://public.tableau.com/app/profile/maeconomicresearch/vizzes**
NEW Regional Unemployment Statistics Explorer	Interactive Data Visualizations / Dashboards	This dashboard, updated monthly using BLS Local Area Unemployment Statistics (LAUS), provides at-a-glance current and historic LMI including Labor Force (#), Employment (#), Unemployment (#) and Unemployment Rate (%). Includes data on individual cities and towns; counties; WDAs, WSCs, and state-wide for Massachusetts.	Regional Unemployment Statistics Explorer
Labor Market Statistics by Demographic – Statewide for MA	Interactive Data Visualizations / Dashboards	View 12-month moving averages of unemployment rate and labor force participation rate by race and ethnicity, by sex, and by age group. The data in this visual is 12-month moving averages of Current Population Survey (CPS) data compiled by DER staff. State-wide data only.	Unemployment Rates by Demographics in Massachusetts
People with Disabilities Equity Dashboard	Interactive Data Visualizations / Dashboards	A collection of data visualizations and analysis related to People with Disabilities in the Massachusetts Labor Force. Most data in the dashboard is state-wide, but the Geography tab does include some further geographic information.	People with Disabilities in the Massachusetts Labor Force

Quick Reference Guide – Geographies

Program / Data Source	State-wide for MA	WDA	NECTA	City/Town	County	Other
Current Employment Statistics (CES)	**yes**	no	**yes**, but only seasonally unadjusted	no	no	?
Local Area Unemployment Statistics (LAUS)	**yes**	**yes**, but only seasonally unadjusted	**yes**, but only seasonally unadjusted	**yes**, but only seasonally unadjusted	**yes**, but only seasonally unadjusted	no
Occupational Employment and Wage Statistics (OEWS)	**yes**	**yes**	**yes**	no	no	no
Quarterly Census of Employment and Wages (QCEW)	**yes**	**yes**	**yes**	**yes**	**yes**	no
Staffing Patterns	**yes**	**yes**	no	no	no	no
Employment Projections	**yes**	**yes**	no	no	no	no

[Click here to identify cities/towns in a specific area (WDA, county, etc)](#)

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