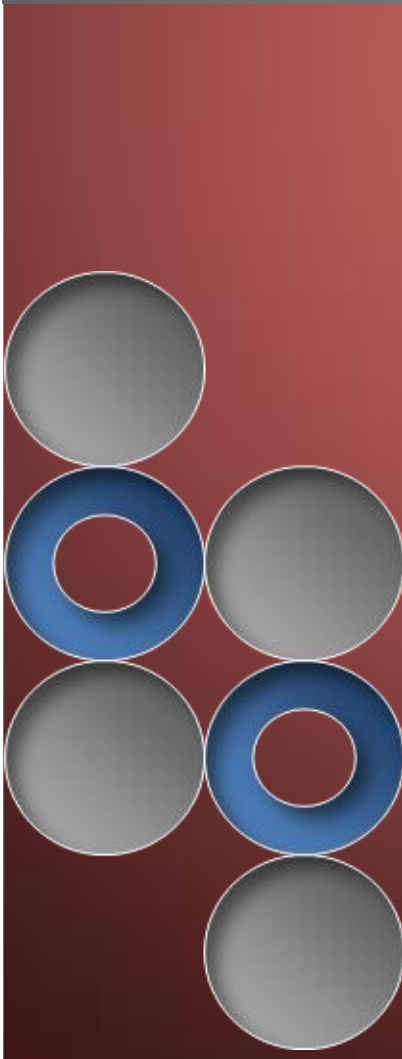




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REAL-TIME LABOR MARKET INFORMATION RESOURCE GUIDE



Prepared by Maher & Maher
in Collaboration with Jobs for the
Future

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JOBS FOR THE FUTURE



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About this Guide

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INTRODUCTION

Real-time labor market information (RT LMI) is a form of labor market intelligence that is drawn from online job postings. Vendors such as Burning Glass, The Conference Board’s Help Wanted OnLine, and Geographic Solutions “scrape” this data from the Internet daily. Duplicate postings are removed and aggregated by occupational category, industry, geographic area, and other relevant classifications. Because it is constantly updated, RT LMI provides valuable insights into: the demand for skills, certifications, or educational requirements for a particular occupation or industry; emerging occupations; and the geographic distribution of employer demand by industry and occupation. While there are limitations to the data—such as the underrepresentation of certain industries and occupations¹— RT LMI is increasingly recognized as a valuable form of labor market intelligence that should be used alongside “traditional” labor market data.

The knowledge and use of RT LMI has expanded in recent years. It is gradually being adopted by states, local workforce investment boards, researchers, and other stakeholders to further inform both their knowledge of their labor market area and strategies to address workforce needs. For the past several years, the U.S. Department of Labor’s Employment and Training Administration (ETA) has spurred this expansion by supporting state research, investment in, and the use of emergent and evolving RT LMI products and tools across the nation. While some states and local workforce investment boards are building state capacity to leverage RT LMI, many are not yet using it to develop workforce solutions.

With this in mind, ETA’s RT LMI Technical Assistance Project seeks to both build state capacity to utilize RT LMI and identify promising models to increase the workforce system’s ability to draw upon this data. To further these objectives, ETA partnered with Maher & Maher and Jobs for the Future to create this resource guide, which highlights both key research and background information on RT LMI, as well as high-quality examples of how this data is used by the public workforce system. The resource guide is divided into three main sections:

1. Background Resources
2. Examples of RT LMI in:
 - Snapshots of State and Local Economies
 - Sector Strategy Initiatives
 - Analyses of Current Vacancies and Predictions of Future Job Market Activity
 - Local and Area Workforce Board Reports
3. Supplemental Resources

¹ For example, lower-skill occupations, those in the skilled trades, and those in the informal economy tend to be underrepresented or absent from job posting data.

Each section offers a set of curated resources that are targeted toward both those new to RT LMI and its applications as well as those who are more advanced users of this data. It is important to note that this guide does not intend to be comprehensive; instead, it aims to give stakeholders in the workforce system a number of in-depth overview documents as well as specific “exemplars” from the field, from which others can learn, adapt to their individual contexts and needs, and expand upon as they develop their capacity to use RT LMI. Throughout this guide, resources are linked directly when possible; those without a link may later be posted to [ETA’s Labor Market Information Community of Practice](#).

BACKGROUND RESOURCES

The first set of resources highlighted in this section provide additional context on ETA’s RT LMI technical assistance project and features several of the tools, reports, and presentations that have been generated by project partners. Other resources in this section explore the utility, benefits, and limitations of RT LMI. While several resources in this category offer a significant detail and depth, others are geared to those who might be relatively new to RT LMI and are seeking to better understand the fundamentals of this type of data.

ETA’s Real-Time LMI Technical Assistance Project

- *ETA Real-Time LMI Technical Assistance Project: State Assessment Tool* — This tool guides states in assessing their current and future use of RT LMI, challenges and needs, and plans for next steps.
- *Real-Time LMI Fact Sheet* — This brief fact sheet describes RT LMI, compares it to traditional LMI, and discusses advantages and limitations of RT LMI.
- *Web-Based Tutorial on Real-Time LMI* — This self-paced, web-based tutorial provides an overview of RT LMI and its strengths and limitations, compares RT and traditional LMI, and provides examples of how RT LMI can be integrated to support various strategies and activities.
- *Promising Practices in Leveraging Traditional and Real-Time LMI*: This 2015 report discusses examples of how workforce development stakeholders use both traditional and RT LMI for a variety of different applications, ranging from career counseling with job seekers to identifying career pathways. Developed for ETA by Jobs for the Future and the New York City Labor Market Information Service in collaboration with Maher & Maher.

- [Real-Time LMI: Regional Technical Assistance Project](#) — The slides from this 2014 webinar outline the key activities of the RT LMI Technical Assistance Project. The presenters provide an introduction to RT LMI and highlight RT LMI work being done in both the state of Pennsylvania and New York City. Presented by the Office of Workforce Investment, U.S. Department of Labor, ETA.
- [Real-Time Labor Market Information: An Environmental Scan of Vendors and Workforce Development Users](#) — This comprehensive ETA-funded report provides insight on the RT LMI vendors, their products, and the licensing structure. In addition, it provides examples of state-level implementation of RT LMI and how it can be used by both knowledge centers and intermediaries. Authors: Maher & Maher in collaboration with Jobs for the Future and the New York City Labor Market Information Service (2014).
- [February 2015 Real-Time LMI Environmental Scan Report Webinar](#) — This 2015 webinar discusses the findings of the RT LMI Environmental Scan Report. Presented by the Office of Workforce Investment, U.S. Department of Labor, ETA.
- [Enhancing Labor Market Intelligence with Real-Time LMI](#) — Presented at the 2015 National Association of Workforce Boards Forum, this PowerPoint offers an overview of ETA's RT LMI technical assistance project, and provides the perspectives of several practitioners on their use of RT LMI and other forms of labor market intelligence. Presenters include: Rebecca Rust from the U.S. DOL, Bureau of Labor Statistics; Nick Beleiciks of the Oregon Employment Department, and Lisa Barager Katz of the Workforce Intelligence Network (WIN) of Southeast Michigan.
- [June 2015 Virtual Peer Learning Exchange](#) — This virtual peer learning exchange addresses using traditional and RT LMI to support industry sector strategies. Presenters include: Lesley Hirsch of the New York City Labor Market Information Service and Jeremy Kelley of Jobs for the Future. Hosted by the Office of Workforce Investment, U.S. Department of Labor, ETA.

3. Real-Time LMI Background

- [Brookings Institution LMI Forum: Real Time Labor Market Information](#) — This brief responds to several key questions that those new to RT LMI are likely to have, including: What is it? Why now? What are some potential uses? In addition, it notes how RT LMI could further reemployment and retraining efforts for those who seek unemployment insurance benefits.

- [Understanding Online Job Ads Data: A Technical Report](#) — This report examines the relative benefits and limitations of real-time LMI. The authors make the case that because of these limitations, real-time LMI data should be used *in conjunction with* traditional data sources. Authors: Anthony Carnevale, Tamara Jayasundera, and Dmitri Repnikov, Georgetown Center for Education and the Workforce (2014).²
- [Innovations in Labor Market Information and their Application](#) — This report explains the difference between real-time and traditional LMI and provides insight into how this data can be applied to assess employer engagement, to gauge demand, and to maximize skill transferability. Authors: Myriam Milfort and Jeremy Kelley, Jobs for the Future (2012).
- [Aligning Community Colleges to their Local Labor Markets: The Emerging Role of Online Job Ads for Providing Real-Time Intelligence about Occupations and Skills in Demand](#) — This report by Jobs for the Future highlights how community colleges can use RT LMI to address the workforce needs of local employers and features several examples from the field. Author: David Altstadt (2011).
- [Using Real-Time Labor Market Information: Lessons from the NYC Labor Market Information Service](#) — This PowerPoint outlines the differences between “traditional” and RT LMI; highlights several uses for RT LMI; provides guiding questions for its use in educational alignment, workforce development, and career counseling; and gives criteria for choosing an RT LMI vendor. NYCLMIS is also a partner in the ETA technical assistance project. Webinar conducted by C2ER/LMI Training Institute (2013).
- [Innovations in the Use of Traditional and Real-Time Labor Market Information](#) — The slides from this 2014 webinar highlight how peer leaders within the learning exchange are using traditional and real-time LMI to: understand industry sector and employer needs; identify hiring, occupational, and other trends; address supply and demand mismatches; inform education and training; and map career pathways. Presented by Lancaster County Workforce Investment Board and the Florida Department of Economic Opportunity. Sponsored by ETA.
- [Effective Use of Labor Market Information](#) — This research brief presents the findings from a study on the skills and competencies that community college administrators and faculty need to effectively use LMI resources. It also includes a framework practitioners can use to guide LMI research. Author: Eva Shiorring, the Research and Planning Group for California Community Colleges.

² A condensed version of this report was presented as a webinar in 2014.

- *Burning Glass: Comprehensiveness of Real-Time Data* — This report from the RT LMI vendor Burning Glass examines how representative and comprehensive its online jobs postings data is and classifies types of occupations with both strong and weak representation online (2015).

REAL-TIME LMI IN PRACTICE: EXAMPLES FROM THE FIELD

States, workforce boards, colleges, and researchers have already leveraged RT LMI in a variety of ways. The examples in this section showcase some innovative applications of this and how RT LMI can be used to further workforce development priorities and initiatives. As noted earlier in this report, the following section highlights the application of RT LMI in a number of different contexts, including:

- Snapshots of state and local economies
- Sector strategies initiatives
- Analyses of current vacancies and predictions of future job market activity
- Local workforce investment board reports

Examples are drawn from diverse stakeholders across the nation to highlight the breadth and depth of this work.

1. Real-Time LMI in Snapshots of State and Local Economies

A number of states and cities regularly draw upon RT LMI resources to highlight local or regional labor market trends. These “snapshots” often include information on the number of occupations with the most job postings, ad duration, geographic distribution of postings, employers with the most ads, number (or ratio) of unemployed workers for every job ad, and comparisons between the local/state and national trends in supply and demand.

- [*Pennsylvania Fast Facts*](#) — This is a comprehensive report on the Pennsylvania economy and draws upon a variety of labor market data sets, including both traditional LMI and job postings data drawn from Help Wanted OnLine (HWOL). Produced by the Pennsylvania Department of Labor and Industry, Center for Workforce Information and Analysis (May 2015). *See pages 22-26, in particular.*
- [*Michigan Online Job Demand Analysis*](#) — This monthly state snapshot draws upon data from Help Wanted OnLine to summarize trends in job postings. From Michigan’s Department of Technology, Management, and Budget’s Bureau of Labor Market Information and Strategic Initiatives (April 2015).

- [*Missouri: Southwest Region Labor Market Analysis*](#) — This report uses Burning Glass data to provide an overview of the supply and demand in a seven-county region of the state. Produced by the Missouri Economic Research and Information Center (March 2015).
- [*NYC October RT Jobs Report*](#) — This report presents postings solely featuring job postings data and includes information on monthly ad trends, ads by sector, occupational group and occupation, and top employers. Produced by the New York City Labor Market Information Service (November 2014).
- *Florida Help Wanted OnLine Statewide Summary* — A summary report that draws upon data from Help Wanted OnLine. It provides information on hiring demand at both the state level and the regional workforce board level. Produced by the Florida Department of Economic Opportunity (June 2014).
- *Insights: South Carolina Department of Employment and Workforce* — This monthly report draws on a number of traditional and real-time labor market information from Help Wanted OnLine to provide an overview of the South Carolina economy.

2. Incorporating Real-Time LMI into Sector Strategy Initiatives

RT LMI can be a useful tool to examine key characteristics in the demand for a particular industry or industry sector; findings may inform sector- or industry-based workforce development strategies. The resources referenced here fall into two main categories: general sector-based research conducted on a national level; and, targeted labor market research that is conducted for a specific geographic locale. While the latter may be most useful in developing specific workforce strategies or programs, the former can help stakeholders to understand broader labor market trends that may impact local economies.

National Real-Time LMI Research on Sectors

IT and Technology

- [*Job Market Intelligence: Report on the Growth of Cybersecurity Jobs*](#) — This Burning Glass report provides an overview of the cybersecurity sector, highlights cities and states with the greatest growth, and identifies the credentials and experience level employers are seeking to fill these roles (2014).

- [*Where the Jobs Are: The App Economy*](#) — The authors of this report examine the geographic landscape of the “app economy,” its growth, and the number and types of jobs associated with this sector. Author: Dr. Michael Mandel, South Mountain Economics, LLC (2012).
- [*An Examination of the Information Technology Job Market*](#) — In this report, Jobs for the Future draws upon RT LMI to explore: hiring trends; skills and certifications sought by employers; employers with the largest number of job ads; and emerging IT job titles, skills, and certifications. Author: Myriam Milfort (2012).

Science, Technology, Engineering, and Math (STEM)

- [*Still Searching: Job Vacancies and STEM Skills*](#) — This report uses data from Burning Glass and other sources to analyze the skill requirements and the advertisement duration for job openings in the STEM sector. Findings include: (1) Job openings for STEM positions take longer to fill than openings in other fields; (2) There are high-value skills common in STEM occupations that are particularly scarce relative to demand; and (3) The regional supply of workers in an occupation affects the length of vacancy advertisements. Author: Jonathan Rothwell, Brookings Institution (2014).
- [*Real-Time Insight Into the Market for Entry-Level STEM Jobs*](#) — This Burning Glass report provides evidence that the demand for STEM talent is significantly greater than commonly reported and that there is a gap between the demand of STEM college graduates and employers’ needs for those skills (2014).

Other

- [*LMI Practitioner Brief Where the Jobs Are: Using Real-time Labor Market Information for Green Jobs*](#) — This Mathematica brief provides insight on how grantees used real-time labor market information to explore the green economy, including lessons learned and cautions (2013).
- [*The Skills Gap in Production Roles*](#) — This brief examines the skills gap in production roles across the nation and identifies the states where it poses the greatest challenge. Burning Glass (2014).
- [*A Growing Job Sector: Health Informatics*](#) — This report from Jobs for the Future uses Burning Glass data to provide an in-depth look at the health informatics sector to consider: the factors driving the growth; the changing profile of health informatics jobs; relevant career ladders; and, the implications for education and training (2012).

Mapping of Sectors within a Region

- [Exploring Green in Real-Time: A New Hampshire Perspective](#) — In this 2012 report, New Hampshire examines the role of RT LMI can play in providing information about green jobs and the green economy. Produced by New Hampshire Employment Security and the Economic and Labor Market Information Bureau.
- [HireUp Indy! Supporting our Wealth-Driving Sectors: Demand for Technical Talent in Central Indiana](#) — Real-time labor market data from Burning Glass are used in this extensive report to describe the area's key sectors and emerging clusters. Findings include: (1) Healthcare and manufacturing remain important to the economy; (2) These sectors and clusters rely heavily on technically skilled talent; and (3) Together, these sectors account for 40% of the region's private-sector job growth (2012).
- [Texas State Technical College: Mobile App Development](#) — From 2011, this report highlights in-demand IT skills during the early days of the app economy. Pages 2-3 highlight the utility of job postings data as a leading indicator for new and emerging trends. Written by Eliza Evans and Michael Bettersworth. TSTC Forecasting conducted a similar report on the demand of unmanned aircraft systems and their anticipated impact on the Texas economy, which is also available on the site.
- Massachusetts Department of Higher Education — Using Real-Time Labor Market Information to Create STEM Profiles for Community College Planning: This folder contains resources from the Massachusetts Department of Higher Education, including a synthesis of how the Department has used real-time LMI, a sample regional STEM profile, and a PowerPoint that compares the ratio of job postings to graduates in high-demand fields (2014).
- [Connecticut Health Care Workforce Assessment](#) — This report from Jobs for the Future uses data from Burning Glass to analyze the supply and demand of Connecticut's health care workforce and the strengths and gaps in the current system, and makes recommendations for relevant stakeholders (2011).
- [Delaware's Energy Industry Labor Market Landscape](#) — This study draws on Burning Glass data to identify employers and skill clusters in demand for Delaware's energy industry. It is a good example of how to incorporate posting data, qualitative employer feedback, and traditional LMI in an analysis of a traditionally "difficult to define" sector. Pages 26-28 provide RT LMI findings for the energy sector. Written by Delaware Tech's Center for Industry Research & Workforce Alignment (2011).

- [*Working Smarter: Understanding Jobs and Talent in Southeast Michigan*](#) —This report identifies three growth sectors in the local labor market and recommends how educational providers and the corporate sector can collaborate to meet this burgeoning demand. The authors draw upon posting activity alongside traditional indicators, such as wages and total employment (see pages 30-31, 36-37). Produced by the Workforce Intelligence Network of Southeast Michigan (2013).
- [*New York City Skills Gap Report*](#) — Produced by JP Morgan Chase, this report examines how New York City can meet employer demand in the healthcare and technology sectors. Similar reports are available for other cities across the nation, including Detroit, Columbus, Houston, Dallas, Los Angeles, and San Francisco (the particular sectors for each city vary) (2014).

4. Exploring the Utility of Real-Time LMI as an Indicator of Current Job Vacancies and a Predictor of Future Job Market Activity

The resources in this section explore the relationships between RT LMI and other economic indicators or trends. For example, the research highlighted below explores the extent to which job postings are statistically predictive of actual hiring by employers and the relationship between postings and unemployment, and compares RT LMI data to that gleaned from employer surveys.

- [*Do Online Ads Predict Hiring?*](#) This report explores the correlation between posting and hiring activity; the authors found that there is a very high correlation between the volume of job ads and hiring over the next quarter. Since the authors ran the data on a national level, but not on a state level, this could be a model for the focus of a state project. Produced by the New York City Labor Market Information Service (2013).
- [*The Conference Board's HelpWantedOnline Index Shows Growing Demand for Labor in the Rogue Valley \(OR\)*](#) —This report highlights trends in online job postings by occupation group and specific occupation across time periods and occupational groups. Author: Guy Tauer (2014).
- [*Comparing Job Vacancy Surveys and Real-Time LMI Job Openings in Arizona*](#)— In this report, the Council for Community and Economic Research (C2ER) compared the findings from an employer survey and real-time LMI on the state's green jobs and examined the respective benefits and tradeoffs of each data source (2011).

- [Minnesota Employment Review: Raising the Curtain on the Hidden Twin Cities Job Market](#) (see pages 1-4 in particular) — In this 2013 report, Minnesota’s Department of Employment and Economic Development explores three measures of job openings: the MN job vacancy survey; the MinnesotaWorks.net job bank; and Help Wanted OnLine data to make the case that up to 75% of new hires to regional firms were “hidden” (2013).
- *Texas Job Posting Activity*—This slide examines the relationship between posting activity and unemployment across the state.
- *South Carolina’s Labor Supply versus Labor Demand Report*—A brief on the monthly supply and demand in South Carolina that draws upon Help Wanted OnLine data and is broken down by state workforce area. Produced by the South Carolina Department of Employment and Workforce, Business Intelligence Department (December 2014)³.
- [The Shift Back to a Job-Seeker Market in Central Oregon](#)—This brief analysis makes the case that Help Wanted OnLine data can be used as a leading economic indicator for future job growth. The author compares the number of unemployed to the ratio of job postings to show that there has been a tightening of the labor market in Central Oregon. Author: Damon Runberg (2014).

5. Area/Local Workforce Investment Board Reports on Job Ads

RT LMI is proving to be a valuable resource for local workforce investment boards to inform strategic planning and investment and support programming based upon the needs of the local economy. Resources in this section provide examples of how WIBs have drawn upon RT LMI to communicate information about the local labor market to regional stakeholders.

- [State of the Louisville Regional Labor Market: Labor Market Quarterly Report](#) —This report draws upon Burning Glass and EMSI Analyst data to examine labor market trends in the Louisville, Kentucky metropolitan statistical area. It highlights in-demand local jobs for the Louisville region, the “best” jobs (those with the highest number of online postings that pay at least a living wage), top industry cluster, in-demand skills, in-demand career pathways, and other labor market indicators. This is an excellent example. Produced by KentuckianaWorks (2015).

³ The South Carolina Department of Employment and Workforce also produced a more in-depth supply and demand comparison for STEM-related occupations. See the full report: [An Analysis of STEM Supply and Demand in SC](#) (2014).

- [*Regional Focus – North Jersey*](#)—This resource is similar to the snapshots highlighted in Category 1, but with an emphasis on two labor market areas in Northern New Jersey. Produced by the New Jersey Department of Labor and Workforce Development (February 2015).
- *Bossier Parish (Louisiana) IT Data* —This folder contains two reports produced for a TAACCCT consortium partner located in Northwest Louisiana. One report contains a gap analysis for the region using traditional labor market information, and the other report summarizes key observations from area IT job postings. Produced by EMSI and Jobs for the Future.
- *Missouri Labor Supply and Demand Analysis* — This report uses Burning Glass data to provide a statewide overview of labor supply and demand; it also highlights the supply and demand by workforce region. Produced by the Missouri Department of Economic Development (April 2014).
- *Indiana Real Time Job Demand Reports*— This folder contains three reports from various economic growth regions of Indiana. The reports draw upon data from Help Wanted OnLine and Burning Glass to highlight frequent job openings for the region (including number of postings, salary, and minimum education requirements), top skills in demand, and the top certifications in demand. Produced by Indiana Workforce Development (May/June 2014).

OTHER RELEVANT RESOURCES

Massasoit Community College — Help Wanted OnLine reports that Massasoit Community College (Massachusetts) developed to guide new programming and access funding streams based upon employer demand for two IT certifications.

[*Crunched by Numbers: The Digital Skills Gap in the Workforce*](#) — Burning Glass (2015).

[*A Guide for Using Labor Market Data to Improve Student Success*](#) — The Aspen Institute (2014).

[*Moving the Goalposts: How Demand for a Bachelor's Degree is Reshaping the Workforce*](#) — Burning Glass (2014).

[*Manufacturing is Not Dead: How to Track its Reemergence*](#) — Ron Kelley, Center for Regional Economic Competitiveness (2012).

[*Real-Time Data Analytics Into Action — Centers of Excellence \(California\)*](#).

CONCLUSION

This guide showcases a variety of promising practices in the application of RT LMI to support workforce development efforts across the nation. Taken together, these resources demonstrate that stakeholders in the public workforce system increasingly draw upon RT LMI as an important tool to understand local employer demand, develop sector strategy initiatives, and inform how workforce investment boards allocate resources. The research community is also conducting important analyses to deepen stakeholders' understanding of RT LMI and its relation to other forms of labor market intelligence. As the knowledge of RT LMI grows and stakeholders in the public workforce system expand their capacity to draw upon it, these resources can be built upon and further refined by the field in the coming years.