ECONOMIC DEVELOPMENT
RESEARCH PARTNERS

International Economic Development Council

A New Standard:

Achieving Data Excellence in Economic Development

A NEW STANDARD:

ACHIEVING DATA EXCELLENCE IN ECONOMIC DEVELOPMENT


($loop + 1) %
$classes[] = 'last
$image_link = wp_get_attac
(! $image_link)
continue;
= wp_get_attachment_imag
$image_class = esc_attr(implode(' ',
$image_title = esc_attr(get_the_title(
printf(' <a href=
> ', wp_get_attachment_url($att
t_large_thumbnail_size', 'shop_single'
$loop++;

International Economic Development Council

The International Economic Development Council (IEDC) is a non-profit, non-partisan membership organization serving economic developers. With more than 4,700 members, IEDC is the largest organization of its kind. Economic developers promote economic well-being and quality of life for their communities, by creating, retaining and expanding jobs that facilitate growth, enhance wealth and provide a stable tax base. From public to private, rural to urban and local to international, IEDC's members are engaged in the full range of economic development experience. Given the breadth of economic development work, our members are employed in a wide variety of settings including local, state, provincial and federal governments, public-private partnerships, chambers of commerce, universities and a variety of other institutions. When we succeed, our members create high-quality jobs, develop vibrant communities, and improve the quality of life in their regions.

Barry Matherly, CEcD, FM

President and CEO
Greater Richmond
Partnership, Inc
Chair of the Board

JoAnn Crary, CEcD, HLM

President
Saginaw Future Inc.
Immediate Past Chair of the Board

Jeffrey A. Finkle, CEcD

President and CEO
International Economic Development Council

Economic Development Research Partners

The EDRP Program is the "think tank" component of IEDC, designed to help economic development professionals weather the challenges and grab opportunities from economic changes affecting our communities. EDRP members are leaders in the field of economic development, working through this program to improve the knowledge and practice of the profession. IEDC would like to thank the Economic Development Research Partners program for providing the impetus and resources for this project.

Bill Allen
President and CEO
Los Angeles County Economic Development Corporation

Steve Arwood
President and CEO
Michigan Economic Development Corporation

Dee Baird, PhD
President and CEO
Cedar Rapids Metro Economic Alliance

Ronnie Bryant, CEcD, FM
President and CEO
Charlotte Regional Partnership

Larry Burkhardt, CEcD
Economic Development Director
City of Sacramento

Cathy Chambers
Senior Vice President, Strategy and Business Development
JAXUSA Partnership

Tim Chase, CEcD, FM
President
Greater Wichita Economic Development Coalition

Kurt Chilcott, CEcD, FM, HLM
President and CEO
CDC Small Business Finance Corporation

Becky Church
Vice President, Operations
Midland Tomorrow

Amy Clickner, CEcD
CEO
Lake Superior Community Partnership

Andra Cornelius, CEcD
Senior Vice President, Business and Workforce Development
CareerSource Florida, Inc.

JoAnn Crary, CEcD, HLM
President
Saginaw Future, Inc.

Rodney Crim, EDFP
President
Saint Louis Economic Development Partnership

Jim Damicis
Senior Vice President
Camoin Associates

Bryan Daniels, CEcD
President and CEO
Blount Partnerships

Marcos Delgado
Executive Vice President, Operations and Business Development
The Borderplex Alliance

Brett Doney, CEcD
President and CEO
Great Falls Development Authority, Inc.

Julie Engel, CEcD
President and CEO
Greater Yuma Economic Development Corporation

Kurt Foreman
Executive Vice President
Greater Oklahoma City Chamber

Jim Fram, CEcD, FM
Senior Vice President, Economic Development
Tulsa Metro Chamber

Jim Gandy, CEcD, CCIM
President
Frisco Economic Development Corporation

Daniel Gundersen, FM
Chief Operating Officer
Virginia Economic Development Partnership

Quinten Harris
Deputy Director
City of Columbus Economic Development Department

David Hartnett
Senior Vice President,
Economic Development
Division
Metro Atlanta Chamber

Daniel Henderson, CEcD
Director
Office of Ecnomic
Development
Gilbert, Arizona

Darius Irani
Associate Vice President
Innovation and Applied
Research
Towson University

Mark James, CEcD
Vice President, Economic and
Business Development
American Electric Power

Kevin Johns, AICP
Director
City of Austin, Economic
Growth and Redevelopment
Services Office

SeonAh Kendall
Economic Policy and Project
Manager
City of Fort Collins

Mike Kirchhoff, CEcD
President and CEO
Clinton Regional Development
Corporation

Ronald Kitchens, CEcD
President and CEO
Southwest Michigan First

Eloisa Klementich, CEcD, PhD
Director, Business
Development
Invest Atlanta

Birgit Klohs
President and CEO
The Right Place, Inc.

Paul Krutko, FM
President and CEO
Ann Arbor SPARK

Tom Kucharski, CEcD
President and CEO
Buffalo Niagara Enterprise

Michael Langley
President and CEO
Greater MSP

David Maahs
Executive Vice President,
Economic Development
Greater Des Moines
Partnership

Hrishue Mahalaha
Senior Partner
JumpStart Inc.

Emmanuel Manos
President and CEO
Florida Business Development
Corporation

Barry Matherly, CEcD, FM
President and CEO
Greater Richmond
Partnership, Inc

Tracye McDaniel
President and CEO
Texas Economic Development

Kenny McDonald, CEcD
Chief Economic Officer
Columbus 2020!

Kevin McKinnon
Executive Director
Minnesota Department of
Employment and Economic
Development

Michael Meek, CEcD
President
Greater New Braunfels
Chamber of Commerce

Jay Moon, CEcD, FM
President and CEO
Mississippi Manufacturers
Association

Michael Neal
President and CEO
Tulsa Regional Chamber

Christine Nelson
Vice President, Regional
Business Development
Team NEO

Lou Ann Nisbett, CEcD
President and CEO
The Economic Development
Alliance for Jefferson County

John Osborne
President and CEO
Lubbock Economic
Development Alliance

Bob Pertierra
Senior Vice President and
Chief Economic Development
Officer
Greater Houston Partnership

Donald Pierson
Secretary
Louisiana Department of
Economic Development

Lyneir Richardson
Executive Director, Center for
Urban Entrepreneurship and
Economic Development
Rutgers Business School

Courtney Ross
Chief Economic Development Officer
Nashville Area Chamber of Commerce

John Shemo
Vice President and Director of Economic Development
MetroHartford Alliance

Scott Smathers, CEcD
Vice President, Economic Development
GO Topeka Economic Partnership

Joseph A. Snell
President and CEO
Sun Corridor, Inc.

Joe Snell
President and CEO
Sun Corridor, Inc.

Irene Spanos
Director, Economic Development
Oakland County Executive Office

William Sproull, FM
President and CEO
Richardson Economic Development Partnership

Bob Swindell
President and CEO
Greater Fort Lauderdale Alliance

Colby Tanner
Assistant Vice President, Economic Development
BNSF Railway Company

Allison Thompson, CEcD, EDFP
Executive Director
Cedar Hill Economic Development Corporation

Matt Waldo
Manager, Research and Information
JobsOhio

Holly Wiedman
Executive Vice President
Orlando Economic Development Commission

Charles Wood, CEcD
Vice President, Economic Development Chattanooga Area Chamber of Commerce

Authors

Joshua Hurwitz
Associate, International Economic Development Council

Emily J. Brown
Director of Applied Economic Research
International Economic Development Council

Additional Staff Assistance

Lynn Knight
Vice President of Knowledge Management and Development
International Economic Development Council

Akia Ashmond Brew
Director of Marketing
International Economic Development Council

Mishka Parkins
Associate
International Economic Development Council

Eli Dile
Associate Editor, Economic Developer Now
International Economic Development Council

Alissa Soriano
Marketing Coordinator
International Economic Development Council

Julia Zschiesche
Intern
International Economic Development Council

Behzad Taimur
Intern
International Economic Development Council

June 8, 2016

International Economic Development Council

734 15th Street NW, Suite 900

Washington, DC 20005

202.223.7800

http://www.iedconline.org

Acknowledgements

IEDC would like to thank the Economic Development Research Partners (EDRP) program for providing the impetus and resources for this research. We would also like to thank Jeffrey A. Finkle, President and CEO of IEDC for his oversight of this project.

ECONOMIC DEVELOPMENT RESEARCH PARTNERS

International Economic Development Council

Many thanks are due to the EDRP Data Task Force, who provided excellent guidance in the development of this paper; Mark James, chair, and members Julie Engel, Tom Kucharski, Brett Doney, and Cathy Chambers.

THE SITE SELECTORS GUILD

Additionally, we would like to offer our sincere thanks to the Site Selectors Guild for their generous financial sponsorship, as well as for the time and consideration that members Andrew Shapiro, Keith Gendreau, and Philip Schneider provided over multiple calls and meetings. Special thanks to Keith Gendreau and Site Selectors Guild member Don Schjeldahl for joining IEDC in Tulsa at the 2016 Economic Future Forum to participate in a session launching the paper.

Contents

CHAPTER 1: Introduction

Introduction

Key Takeaways:

- ***Users' data needs are rapidly changing***
- ***IEDC's 2002 Data Standards remain an excellent start, but there is so much more to do***
- ***Open, mobile, and big data movements have all increased the availability of information***

The 2002 IEDC Data Standards

In 2002, IEDC developed the Site Selection Data Standards to assist EDOs in presenting relevant data to site selectors, as well as other data consumers. Created by a committee composed of site selectors and economic developers, the standards are meant to guide communities in the collecting, analyzing, and delivering data in a coordinated and consistent manner.

The standards take the form of a template that economic developers can easily fill in to meet site selectors' requirements. They consist of an extensive, 25-tab spreadsheet that comprehensively covers key data points in topics from infrastructure to pollution levels to patent rates. The Site Selection Data Standards remain a straightforward means to guide the collection of statistics that present a comprehensive view of a community. But in a scan of IEDC member organizations, it appears that only about 16 percent of organizations are using the data standards to guide their collection and presentation efforts.[1]

The standards were developed in the beginning of the internet age, before the advent of many of today's tools that allow users to make data accessible and customizable. Sources of data, approaches to presentation, and industry needs have all changed

This research report builds on and significantly expands the study of data for economic development that began with the Site Selection Data Standards. Today, both economic developers and data consumers, including site selectors, have access to data services and powerful tools that reduce the manual labor of collecting data and inputting it into a spreadsheet. Deep knowledge of a community's indicators are essential to economic development today; data helps economic developers make decisions about where to concentrate resources, such as what industry clusters need active support or if certain types of workers are exiting the workforce and need re-training. Rather than continually updating the Site Selection Data Standards template, EDOs now have the choice to automate much of this data collection with software. Similarly, data indicators that influence the decisions of site selectors and other demand users are automatically delivered when a community is investigated with software.

Today, open government data makes it easier to track things like trade, business openings, and foreclosures. Private services are thus able to access these data and aggregate them with proprietary databases to provide even finer-grained analysis. These services benefit both the EDO and the business communities; EDOs are able to quantify their local economies, and site selectors and other data users are able to access information about communities easily. However, when both data providers and consumers use platforms provided by a third party, direct contact can be reduced.

[1] EDRP 100-EDO Scan.

The trouble with automation is that users must trust that data tells the whole story, but oftentimes it does not. We are now in an era when communication between those who are marketing places, and those being marketed to, is increasingly dependent on automated third-party actors, such as software services that scrape federal and other databases for pertinent information. The reports that these services turn out are only as good as the data that makes them, and many times the data are inconsistent, out-of-date, or partial in a handful of other ways. The information collecting systems that feed into larger databases may be too coarse or too granular, or due to human error or motivation, incorrectly reported.

Examples of data discrepancies are common. For small communities within larger metro regions, available data may not be specific enough; for industries with large numbers of contract workers, standardized datasets may not reflect real conditions; and for transitioning communities, information may be out-of-date. For better or for worse, the data that comes out about a community is the first thing that many end users see; this report aims to optimize your approach to data for business attraction and beyond.

Economic developers must be proactive participants in the process of collecting, analyzing, and presenting data. This report is intended to give economic developers a frame of reference as to where to concentrate their energies in providing data that site selectors and other data users, such as incumbent businesses, need most. It also focuses on how to capitalize on the most recent trends in data analysis, and how to track and influence the story that data is telling about communities.

Trends in Data Since the IEDC Data Standards Document

If you look at the rise of America's industrial economy over the last few hundred years, it's clear that economic development has been accompanied by, and aided by, the rise of institutions that provide data.[2]

Since the 2002 Data Standards were published, the economy—including the critical economic development consideration of business location decisions—has become significantly more data-driven.

Big data: Today, organizations in business and government collect vastly more data at more granular levels than ever before, allowing deeper analysis. In 2014, IBM estimated that 2.5 quintillion bytes of data are created every day—enough to fill 60 billion iPads. Moreover, even traditional data sets have become increasingly digitized, creating more opportunities to analyze and disseminate data.

In the realm of economic development, data such as utility utilization rates; export and import data; job postings; resumes; and tax filings have all become digital, allowing a much deeper investigation of local economic and demographic dynamics than ever before. The vast quantities of data available today have opened opportunities for the emergence of new industries, the creation of new types of work, and even for the revitalization of distressed communities.[3]

Mobile data: Data consumers have changed how they access data. Virtually all requests for

[2] Josh Green, "Big Data: The Key to Economic Development," *Wired,* March 2013.

[3] Josh Green, "Big Data: The Key to Economic Development," *Wired,* March 2013.

data today are electronic—whether over the web, email, or mobile apps. This trend has led to a call for faster, more granular data dissemination.

Open data: Open data, per the World Bank-supported Open Knowledge Foundation, is data that "anyone is free to access, use, modify, and share."[4] Governments are increasingly making their data open to businesses, nonprofits, and citizens to promote accountability and transparency. The website www.data.gov/open-gov lists states, counties, and cities that have online open data portals.

Citizens now expect that public agencies, including economic development organizations, will make their data open. For instance, the city-supported Halifax Partnership in Nova Scotia makes both raw data and the software underlying its data analysis available for use by anyone. Today, 11 percent of economic developers comment that their organization has adopted an open data policy, but this number is expected to grow in the future.

The move toward opening public data has an economic impetus--through the innovative and entrepreneurial use of open data, businesses have increased product innovation, improved consumer choice, created groundbreaking research, and increased organizational efficiency. For instance, in Philadelphia, a company that restores historic windows employed open public data to identify potential customers.[5] McKinsey estimates that open data could add as much as $5 trillion per year to global output.[6]

How Have Data Requirements Changed in the Last Ten Years?

An economic development office that isn't providing customized, interactive data that an individual business can analyze on its own is at risk of being irrelevant.–**County EDO, California**

Everyone wants data available at their fingertips. If you don't have it easily available, people will skip over you. **–Regional EDO, Colorado**

Answers need to be available to specialized RFIs in less than 24 hours. For us, that means using software solutions from third-party vendors.

-**Stuart C. Gilbert, CEcD, Economic Development Director, Person County, North Carolina**

Data needs to be collected and updated more frequently--quarterly or even monthly. **Local EDO, Québec**

*Users desire data with more detail than typical government-issued information.***-Regional EDO, Virginia**

Location and expansion decision making is now driven by 'hard data' and less by 'soft data,' such as quality of life. **-Local EDO, Washington**

Methodology

This paper draws on several sources of information to support its analysis.

EDO Survey

A survey of EDOs was conducted to determine how they collect and analyze data, which was transmitted to IEDC's 5,000 members as well as its mailing list of over 25,000 non-members. Over two weeks, 156 responses were received.

---

[4] Open Data Handbook, "What is Open Data." Retrieved March 30, 2016.

[5] Matthew Kassel, "Philadelphia Goes Transparent—With Its Data," *Wall Street Journal,* April 21, 2016.

[6] James Manyika, Michael Chui, Peter Groves, Diana Farrell, Steve Van Kuiken, and Elizabeth Almasi Doshi, *Open Data: Unlocking Innovation and Performance with Liquid Information*, (New York: McKinsey Global Institute, 2013).

Data Consumer Survey

A survey of data consumers was also conducted. A questionnaire was distributed to members of the Site Selectors Guild and the Industrial Asset Management Council. The Site Selectors Guild also provided financial and intellectual support for this paper.

Over two weeks, 60 responses were received, of which exactly 50 percent identified as in-house corporate real estate professionals and 50 percent as site selection consultants.

Web Scan

A scan of the websites of 100 randomly selected EDOs, of which 50 were IEDC members, was conducted by IEDC staff. Each selected website was analyzed to determine whether the EDO had posted one of 20 data points, such as a tally of major employers by number of employees and an up-to-date inventory of buildings and sites.

Interviews

IEDC staff conducted several in-depth interviews with a variety of data users and presenters.

CHAPTER 2: Using Data

Using Data

Data are the cornerstone of economic development. They can be used in at least four ways:

- Data can be used to analyze a community's strengths and weaknesses; plan a comprehensive strategy for both the community and the economic development organization; and to design a programs to advance that strategy
- Data can be used to measure the performance of an EDO
- Data can be used to market a community
- Data can be offered to the business community to assist business decisions

Although these uses for data are overlapping and mutually reinforcing, they are also distinct, and occasionally, at odds. For instance, consider wage rates. Low wage rates in a particular industry may be a selling point (marketing) for attracting that industry.

Data for Strategic Planning, Analysis, and Program Design

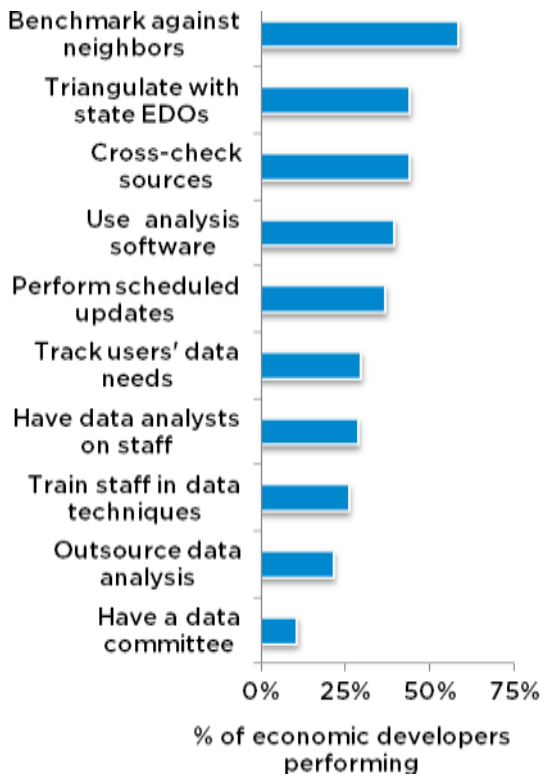
Data are the cornerstone of any economic development program. Long before an organization has begun attraction or marketing efforts, it must have collected data about the community in order to create a strategic plan and design effective programs. Economic developers may collect comparable data at the state or federal levels; competing and neighboring jurisdictions; or benchmark communities that share similar attributes.

Economic developers use accurate, unbiased, up-to-date quantitative data to assess the current state, as well as the likely future direction of the local economy. They may note places where the community is strong or weak; emerging or declining; and competitive or lagging. For instance, location quotient analysis measures the economic concentration of an industry or occupation within a particular geography in comparison with a baseline, such as the state or national average. Cluster analysis identifies industry sectors of strength within a community, using trade, workforce, supply chain, and other information. Supply chain mapping analyzes the local and external patterns of business supply. Software for conducting supply chain analysis include Avention OneSource Solutions.

It is critical to understand that state, regional, municipal, and even sub-municipal data play a role in strategic analysis. For instance, while the biotechnology industry is prominent in San Diego, many jurisdictions in the metropolitan region may have location quotients in this industry below not only the state but also the national baselines and may or may not be suited to this industry.

At larger scales of geography, broad macroeconomic factors, such as the overall industrial mix, economic growth rates, and market size may play the largest role, whereas at the level of relatively small suburban jurisdictions or neighborhood development areas, hyper-local factors such as crime and the property tax bills of individual parcels play a much larger role. Likewise, capital-intensive, export-focused industries, such as jet airplane manufacturing, will be much more focused on state or even national location decisions, with considerably less weight placed on local factors, whereas industries such as retail tend to be considerably more focused on the attributes of individual communities and even particular sites. For this reason, data collection for strategic planning must be sensitive to the geographic scales of target industries and business functions. **Figure 1** discusses in much greater detail the needs of business according to both industry and function.

Figure 1. EDO's Common Data Techniques



While the basic tools of analysis, such as location quotients, will not differ significantly, the follow-ups will differ greatly depending on both the findings of initial analysis, as well as attributes such as organizational resources and intended program offerings. Moreover, because the data supplied by statistical agencies and other common data providers are frequently not granular or current enough, or otherwise do not meet needs of the EDO, many EDOs collect data in-house, for instance, through BRE programs.

It is also important to understand that the data needs for strategic planning are iterative. Initial findings may suggest that a location is attractive for a particular industry, which will then drive further analysis. This follow-up analysis may identify deficiencies that suggest a re-evaluation of strategic priorities or the development of a particular program to address these deficiencies.

IEDC's Strategic Planning course, regularly offered around the country, offers greater instruction on how data is used for strategic planning, benchmarking, and program design.

Cluster Analysis

A cluster is a collection of interrelated industries, business functions, and companies located within a relatively small geography. Companies within clusters benefit from deep labor pools with relevant skills, sharing of ideas, lower logistical costs, local research capacity, the ability to collaborate on major projects such as product innovation, and a productively competitive environment.

Communities can use a data-driven cluster growth strategy to attract and retain companies in certain industries or certain functions. Training and education programs can be strengthened and new programs created to instill the skills needed for the future of a cluster. An EDO may also create a list of suppliers that service the companies within the region in the cluster and identify potential overlaps that could be used to support an attraction strategy.

While there are several ways to identify and measure industry clusters, most follow the steps provided below:

1. Define the region;
2. Determine the cluster criteria;
3. Inventory regional assets;
4. Evaluate economic base industries;
5. Map grouping of key exporting industries;
6. Gather firm input; and
7. Analyze the competition (comparable regions).

There are several tools that are available to measure and analyze industry or sector concentrations and specializations. They include:

- Size of industries within the cluster,
- Regional concentration ,

- Regional competitiveness,
- Wages,
- Exports,
- Jobs supported by the industry, and
- Supply chain connections.

Shift-Share Analysis

Shift share analysis is a means of determining what portions of regional economic growth or decline can be attributed to national, economic, industry, and regional factors. It is a complex analysis that compares growth among industries regionally to growth among industries nationally and then considers how larger economic trends have impacted that growth.

Data for Performance Measurement

We have had difficulty determining a finite set of performance metrics and data upon which local governments, the EDO board, and the public agrees. –County EDO, Kentucky

EDOs use a variety of metrics to measure their performance. The 2014 Economic Development Research Partners report *Making It Count: Metrics for High-Performing EDOs* presents four archetypes of metrics used by EDOs:

- Internal (employee satisfaction, funding sources)
- ED program (business attraction, retention, and creation)
- Relationship management segment (relationships with internal and external stakeholders)
- Community (community well-being in terms of graphics)

The latter type, measurements of local economy performance, are often used as one way to show the effectiveness of economic development efforts. However, it is important to note that economic developers sometimes have little influence on components of local economic growth, such as education and taxation. A publication from the W.E. Upjohn Institute explains that making a noticeable bump in the area's per capita income or employment statistics is nearly impossible and underscores EDRP's message that a dashboard or scorecard should include program-specific indicators as well as broader growth factors.[7] Nonetheless, as the central mission of the economic developer is to increase local economic growth, measures of community growth are a vital part of any overall organizational performance measurement.

Making it Count further listed a number of metrics that were ranked as important by economic developers, but seldom collected. These metrics included:

- Access to broadband Internet;
- Outsiders' impressions of community;
- Export and trade activity;
- Job openings per sector;
- Jobs filled by college graduates in the community;
- Value added per employee;
- Ratio of housing price to income;
- Percent of locally owned businesses; and
- Improvement in region's "competitive position" in the global economy.

Data for Marketing

One of the oldest and most traditional functions of EDOs is to market the community. In this function, EDOs promote the community as a viable, attractive place to do business or visit to entrepreneurs, workers, investors, tourists, and businesses that reside elsewhere in a bid to have them move. They also work to ensure businesses already in the community remain there. EDOs fill this role through advertising,

[7] George A. Erickcek, *Indicators, Dashboards, Benchmarks, and Scorecards in Regional Economic Development: Lessons Learned*, W.E. Upjohn Institute, Feb. 2012.

face-to-face meetings, trade show attendance, and web presence, among others.

This promotional activity has traditionally been extremely data-driven, as economic developers present quantitative information such as information about real estate, taxes, and wages, alongside qualitative considerations, that bolsters the narrative of the community as a place of successful businesses.

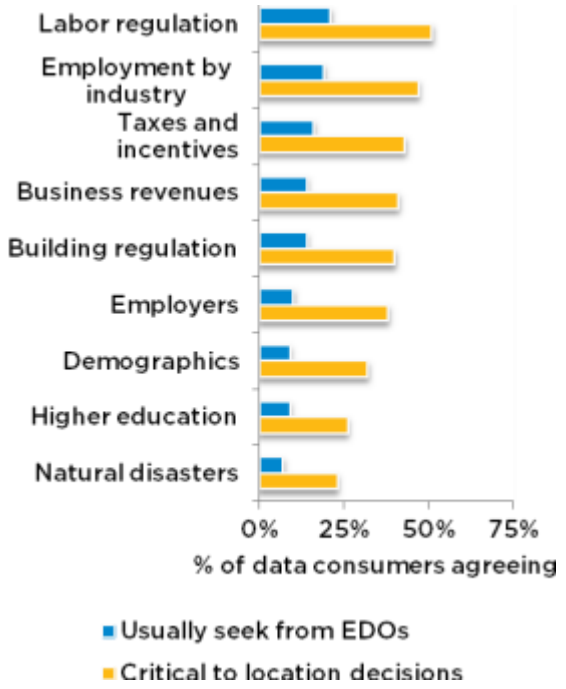
The EDO as a Credible Data Provider

However, a growing number of EDOs have evolved away from their roles as pure marketers. A widely cited book, *The Fall of Advertising and the Rise of PR,* suggests that a growing number of firms have abandoned advertising and other overtly promotional activities due to lack of credibility.[8] A 2016 study conducted by Edelman, a leading public relations firm, found that only 46 percent of respondents trust 'owned media' sources, such as economic development websites, slightly higher than social media but 12 percent fewer than trusted traditional media outlets, such as newspapers, and 17 percent fewer than trusted search engines.[9]

More specifically, within the realm of economic development, it is clear that a large number of site selection professionals and others who might seek information from EDOs do not because they are viewed as marketers, rather than credible data providers. **Figure 2** shows that of the many data points end users consider critical to decision-making, they only sometimes or rarely seek this information from EDOs.

This chart shows factors for which there was a more than 25 percentage point difference between the number of respondents who said that the factor was critical to decisions, and the number of respondents who said they would usually seek that information from EDOs. For many important business location decision factors, EDOs are not the principal source of data.

Figure 2. Critical Data Points Sought From EDOs[10]



Taxpayers expect EDOs receiving public funding to behave honestly, accountably, and transparently in the same way as other government organizations, a message that is reinforced in IEDC's ethics document. Though few on the demand side would hold business development agencies to the same standards of rigor and expectations of ethics as statistical agencies, these users nonetheless require reliable information upon which to make critical investment and operations decisions, and many will not seek information from organizations that they perceive to be selectively presenting

[8] Al Ries and Laura Ries, *The Fall of Advertising and the Rise of PR,* (New York: HarperBusiness), 2004.

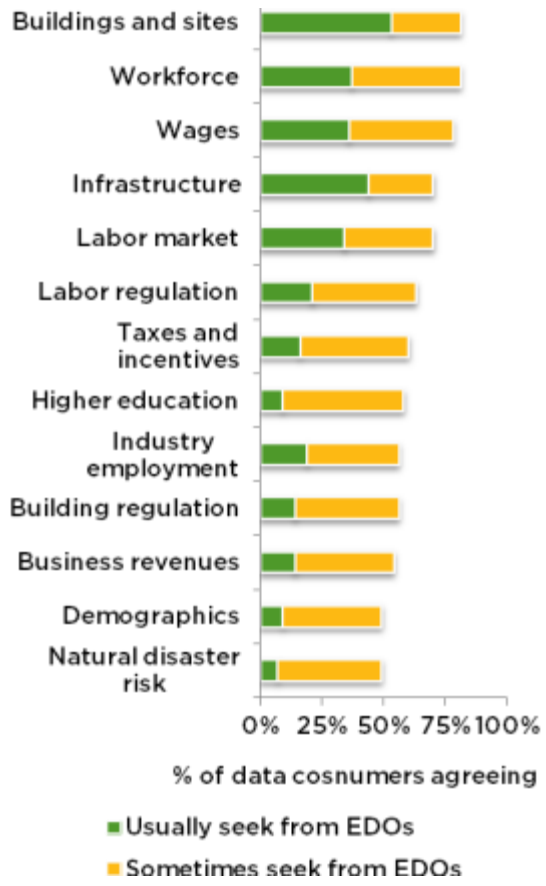
[9] *2016 Edelman Trust Barometer Global Report*

[10] IEDC End Users Data Survey

information, or worse, obscuring important details.

Figure 3 shows how often end users seek information from EDOs. Most often, end users will seek information on buildings, sites, and infrastructure from EDOs. After come inquiries about workforce, wages, and the labor market. Interestingly, information about taxes and incentives only fell in the middle of the results and was not always sought from EDOs.

Figure 3. How Often Data Users Seek Information From EDOs



↘ ***Only 16 percent of data consumers feel that EDOs are open about presenting unfavorable information***

It is extremely important to present data in context. For instance, there is wide variation in the cost of living across states and metropolitan areas, and data such as average wages mean little without this vital context. Likewise, to establish credibility, it is important to be honest about data—especially given how easy it is to verify data with the array of communication and information technologies available today.

How does your organization address data that potentially present your community in an unfavorable light?

Our economic development office is not the only source of data, and anyone can find data about problems in our community and every other community. In fact, because we know that business people are skeptical, we use third-party data to justify our community's advantages. **–County EDO, California**

We present the data relative to communities with similar challenges. **-James Chandler, Director, Community and Economic Development, City of Hyattsville, Maryland**

Provide narratives that accompany data that include possible resolution strategies. **-Jasen Jones, Workforce Innovation Board, Joplin, Missouri**

Explain the data in a story with historical trends toward the positive. **-Stuart C. Gilbert, CEcD, Economic Development Director, Person County, North Carolina**

To become a credible data provider, EDOs should consider adopting the following measures:

- Presenting data that is as comprehensive as possible (even where unfavorable);
- Supplementing local data with relevant comparisons/benchmarks;
- Providing narrative context for data where it is difficult or unclear;
- Maintaining data that is up-to-date;

- Listing sources;
- Highlighting use of objective third-party verification;
- Explaining methodology, assumptions, and other pertinent decisions; and
- Supporting and adopting open data initiatives that simultaneously protect client confidentiality

.

CHAPTER 3: Collecting Data Sources

Collecting Data

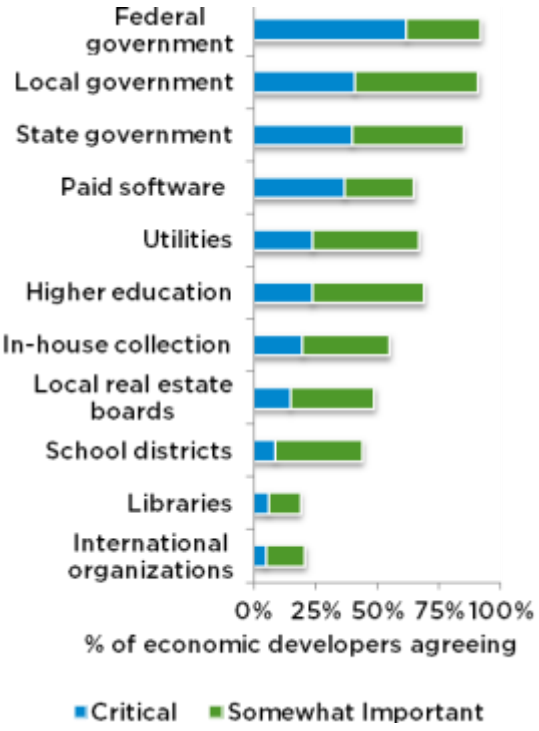
Key Takeaways:

- ***Despite the growth of paid and proprietary software, most data comes from public sources***
- ***A number of new sources of data are available about workforce and labor trends***

A first step in presenting data is collecting data.

Figure 4. Most Important Sources of Data for EDOs**Figure 4** shows the data sources that economic developers report as being critical or very important to their endeavors. Governments at all levels are EDOs' primary sources of external data, followed by utilities and colleges. Many organizations also use paid software and collect further data in-house. Furthermore, EDOs use a variety of other data sources, including school districts, libraries, and even international organizations, although these tend to be only periodic data sources. Appendix A: Data Sources contains a list of many public and private data sources that EDOs can utilize.

Figure 4. Most Important Sources of Data for EDOs[11]



Governments now make vast amounts of both raw data and data analysis digitally accessible, allowing EDOs to collect more comprehensive and up-to-date data. Free online data have benefitted smaller communities that previously struggled to capture data about their communities. Free federal and state datasets allow better comparison between communities. Though government data is now much more accessible, it still suffers from issues such as suppressions and time lags.

Many government agencies now release data via application program interface (API), which allow software developers to easily integrate data into smartphone applications and web widgets. An ecosystem of paid software has

[11]IEDC End Users Data Survey

arisen to distribute government data and correct for errors, often using supplementary propriety databases. These services can be extremely useful to economic developers, as they save time and resources that would otherwise be devoted to a data analyst on staff. However, to make the most use of these services, EDOs must determine the specific data needs the services will fill and identify the most relevant service.

The proliferation of data and software have raised the bar for all EDOs. In a sense, they have made it easier to compete, but competition is also much more intense today. Twenty-four percent of EDO respondents to IEDC's survey reported that they did not use any proprietary databases or paid software tools. Unsurprisingly, these organizations tended to be smaller and with more limited budgets.[12]

Federal Data Sources

- ***Sixty-two percent of economic developers describe federal data as critical[13]***

Federal data sources are some of the most important—and most available—for economic developers and data consumers alike. Most economic development software draws heavily on freely accessible federal government data as well.

Unlike in many other countries where there is a centralized statistical agency, the U.S. federal government has many agencies that conduct data collection and analysis, of which the most important for the economic development profession are the Bureau of Economic Analysis (BEA), Census, and the Bureau of Labor Statistics (BLS). Federal statistics can be accessed through two portals: Fedstats and usa.gov/statistics.

[12]IEDC End Users Data Survey

[13]IEDC End Users Data Survey

Bureau of Economic Analysis

The U.S. Department of Commerce's Bureau of Economic Analysis is one of the federal government's principal statistical agencies, collecting relevant statistics at the international, national, regional, and industry levels. At sub-national scales—such as for states, metropolitan areas, and counties, the BEA collects and publishes the following information:

- GDP by industry
- Real personal income
- Personal consumption
- Regional price data

BEA data is generally available on a quarterly or annual basis. BEA also maintains the Regional Input-Output Modeling System (also known as Make-Use), which can be used to model economic impacts of events such as corporate relocations.

Census Bureau

The U.S. Census Bureau is a federal agency best known for conducting the decennial census, although it also administers a variety of other data products, including:

- The U.S. Economic Census, carried out in years that end in 7 and 2
- The American Community Survey
- Current Population Survey, a monthly survey of unemployment
- Consumer Expenditure Survey
- Census of Governments
- Census of Manufactures
- Census of Business Services
- Census of Wholesale and Retail Trade
- County Business Patterns

The American Community Survey (ACS) is an ongoing survey that provides statistics including education attainment and field; employment and disability status; income; and industry and occupation of workers. While ACS data are published annually for larger communities, they are published less frequently for communities of

fewer than 65,000 people. For instance, 71 percent of micropolitan statistical areas receive only three-year estimates.[14]

While most people are familiar with the ACS Summary products, an important product with which to become familiar is the American Community Survey (ACS) Public Use Microdata Sample (PUMS), which contains untabulated records about individuals and housing. They can be used to analyze data and create customized data products that are not available directly from the ACS.

Produced on an annual basis, County Business Patterns provides information on business size, number of employees, payroll, and sales.

Produced every five years, the Economic Census provides statistics for 20 industry sectors for states, metropolitan areas, micropolitan areas, counties, and Census-designated places.

The Census's Longitudinal Employer-Household Dynamics (LEHD) program combines federal data with state unemployment insurance earnings data to provide statistics on employment, earnings, and job flows at detailed levels of geography, industry, and demographics; these data have been used to create an incredibly detailed map of every job in the United States such as that shown in **Figure 5.** The LEHD program also provides data to show commuting patterns through the On the Map tool.

Figure 5. Map of Jobs in Cleveland from Census Data

Another powerful mapping tool provided by the Census Bureau is the Topologically Integrated Geographic Encoding and Referencing products. The TIGER database contains geographic features such as roads, railroads, rivers, as well as legal and statistical geographic areas. These can be accessed on the web or as shapefiles for use with GIS software.

Because the amount of information collected by the Census is so comprehensive, there are resources available to assist users. The Census Bureau publishes Handbooks for Data Users, oriented to the distinct needs of researchers; state and local governments; businesses; and rural areas.

Additionally, every state has a Census State Data Center with staff well-trained in the use of Census and other socioeconomic data, and most states have Business and Industry Data Centers that focus on economic data and provide assistance to business and economic development agencies.

Bureau of Labor Statistics

The Bureau of Labor Statistics collects many statistics that are of value to economic developers, including monthly employment and earnings; local area unemployment statistics; and occupational and compensation survey.

BLS covers three main types of data of interest to economic developers: labor force status of persons (by place of residence), jobs and wages (by place of work), and prices and living

[14] United States Census Bureau, *A Compass for Understanding and Using American Community Survey Data: What State and Local Governments Need to Know*, (Suitland, MD: Census), 2009.

conditions.

Labor force data are prepared monthly through the Local Area Unemployment Statistics (LAUS) program and describe labor force participation, employment, unemployment, and unemployment rate.

Job and wage (place of work) data are available through a variety of BLS-sponsored programs, including:

- Covered Employment and Wages
- Current Employment Statistics
- Occupational Employment Statistics
- National Compensation Survey
- Mass Layoff Statistics

BLS also covers prices and living conditions:

- Consumer Price Index (CPI)
- Consumer Expenditure Survey

Additional Federal Data Providers

- The Department of Agriculture's Economic Research Service and National Agricultural Statistics Service provides data regarding agriculture and rural development
- The National Center for Education Statistics provides a wealth of information of education, from preschool to adult learning. The NCES's Integrated Postsecondary Education Data System (IPEDS) is one of the most important data sets for postsecondary education.
- The Department of Energy's Energy Information Administration provides information on state energy consumption profiles, and data on energy production and reserves.
- The National Center for Science and Engineering Statistics provides data on STEM education; research and development; and the technical workforce.
- The Federal Financial Institutions Examination Council (FFIEC) reports on Community Reinvestment Act activity around small business and small farm loans.
- The Department of Housing and Urban Development has information about American cities and suburbs, as well as a library of resources.
- The National Center for Science and Engineering Statistics provides information on research and development, the science and engineering workforce, the condition and progress of STEM education, and U.S. competitiveness in science, engineering, technology, and R&D.
- The Department of Labor's O*Net Skills is a dataset containing detailed descriptions of the required and used skills for specific occupations.
- The Bureau of Transportation Statistics has a range of information on infrastructure, logistics, and energy
- The Federal Housing Finance Agency has data on housing prices, interest rates, and mortgages according to various geographies, including rural areas and underserved areas.
- The Small Business Administration has a profile of each state's small business economy.
- The Department of the Treasury's Statistics of Income Division has annual individual tax data for states and counties, as well as state-to-state and county-to-county migration data on a yearly basis.

"We are working with different government departments to try to come up with new and innovative ways to get to that data and keep it updated on a regular basis." -County EDO, Alberta

Software Tools for Public Data

Data USA, a collaboration between Deloitte, the Massachusetts Institute of Technology Media Lab, and Data Wheel, is a free resource that aggregates public-sector data. Data on the site are available for free distribution and use; data are also available as an API, allowing economic developers to build Data USA into their own websites, mobile phone applications, and other software.

State Data Sources

↘ ***Forty percent of economic developers describe state agencies as a critical source of data***[15]

State governments, including their economic development and statistical agencies, are another vital source of information for local and regional EDOs. State government sources include departments of employment security, business development agencies, finance agencies, regulatory agencies, and state universities. Data that may be available from state agencies include tax receipts by industry, property valuations, demographics, and information on employment.

The data provided by state economic development agencies are often vital resources for smaller communities in those states. Some states have also outsourced this function to state universities.

However, states vary in their approach to collecting and disseminating statistics. Some states have statistical agencies that perform supplementary data collection that is nearly on the scale of federal agencies, whereas other states collect very little data. Some states make the data they collect freely accessible to entities such as EDOs, whereas in other states, gaining access to data can be difficult.

In 2014, the Center for Data Innovation evaluated state open data policies on the basis of quality, comprehensiveness, and accessibility, awarding the top grades to Hawaii, Illinois, Maryland, New York, and Oklahoma. These states had extensive catalogs of data that were easy to navigate and machine-readable (able to be processed by computer).[16]

Another potent source of data are government jobs portals. In South Dakota, the state Department of Labor and Regulation has created SDWORKS. In 2016, the site boasted about 15,000 job listings—in a state with a labor force of about 450,000.

Maryland's Open Data Initiative

In 2012, Maryland developed an open data portal to make large amounts of state data public. In 2014, the legislature mandated that all state public data be made available in a machine-readable form.

The data-driven approach, known as StateStat, has made a significant impact in Maryland, from determining the right approach to better air quality to getting unemployed workers back on the job. Compiling information from different agencies has provided new insight and proved the power of data. “StateStat’s success was nothing short of staggering,” said Beth Blauer, who served from 2008 to 2012 as director of StateStat and the Governor’s Delivery Unit for Maryland.

In her contributing chapter to *Beyond Transparency*, a book about open data and the future of civic innovation, Blauer lays out her three basic guidelines:

- Curate data and inform people about the government conversation.
- Let developers access the data and allow the ecosystem to flourish.

[15] IEDC End Users Data Survey

[16] Laura Drees, “State Open Data Policies and Portals,” Center for Data Innovation. Retrieved March 29, 2016.

- Nurture a collaborative environment where data analysts talk with the government and developers, and everyone understands the big picture and feels empowered to take risks and set ambitious goals.

Local Data Sources

Local government sources of information include assessment offices, planning departments, licensing and permitting departments, Regional Planning Organizations, transportation departments, and economic development departments.

Other External Sources of Information

Other sources of information include:

Utilities: Data about utilities are some of the most sought out by data consumers. Utilities can provide rates and service information, but they also sometimes can serve as a source of intelligence about real estate, business conditions, and other information. Broadband access is an increasingly important data point, which may be provided by local internet service providers.

American Electric Power's Interactive Community Profile Maps

American Electric Power allows visitors to its website to create and customize profiles for the 348 counties in 11 Midwestern and Southern states served by the company. These profiles include such information as:

- ↘ Current population, housing, and income;
- ↘ Actual and projected demographics; and
- ↘ Detailed information on businesses and employees by SIC and NAICS codes.

These reports are pulled from ESRI.

Universities and Colleges: Institutions of higher education track their students' progress in a variety of ways. Typical data might include students' hometowns and post-graduation addresses; the numbers of applicants, registrants, and degree completers; and post-graduation employment rates and salaries.

In the 2014 report, *Making It Count,* EDRP noted that economic developers struggled to gain quality data on talent migration. Colleges and universities are an excellent potential source of this information. Public universities and community colleges are more likely to provide free, high-quality data about students and graduates to economic developers. An excellent resource is the Institute for Higher Education Policy's Postsecondary Data Resource List.

Additionally, many public universities maintain data about local and state economies. Most land-grant universities have economic development departments and extension programs that monitor economic indicators.

A resource for seeking out research centers within colleges or universities is the Association for University Business and Economic Research (AUBER).

Additionally, colleges and universities often collect national datasets that are of potential use to economic developers outside a particular geography. For instance, the University of Wisconsin's County Health Rankings (CHR) are one of the most valuable and descriptive county-level health and safety datasets.

Similarly, the University of Minnesota's Minnesota Population Center hosts the Integrated Public Use Microdata Series, a free resource that aggregates and harmonizes data from the Census and Current Population Survey.

Real Estate Boards and Associations: Information about buildings and sites are some of the most sought out data. In fact, 79 percent of demand-side respondents say that lists of available sites and buildings are critical to making location decisions—the most highly cited such factor. Yet only 44 percent say that they count on EDOs to provide this information—a clear gap that EDOs can overcome by forging partnerships with these entities.

School Districts and Boards of Education: Local education institutions are considered an important source of information about local quality of life. Perhaps more importantly, schools often have data about completion rates, attainment, and career paths that can provide business a snapshot of the likely characteristics of the workforce in the longer term.

International Organizations: International organizations include the World Economic Forum, the International Labour Organisation, the Organisation for Economic Cooperation and Development. These organizations provide cross-country analysis, which can be vital for economic developers in border regions, international labor attraction, foreign direct investment attraction, and trade promotion.

Port and airport authorities: Ports and airports can provide detailed data on domestic and international shipments.

Proprietary Private-Sector Data Sources

- ***Sixty-five percent of respondents say that paid software and proprietary databases are critical, very important, or somewhat important***

Though many software packages that are for sale source heavily from publicly available data, there are a number of proprietary databases. These often collect data that is not collected or published by government.

For instance, Economic Modeling Specialists Incorporated (EMSI) is owned by CareerBuilder, which hosts an online job posting board. This allows EMSI to supplement publicly available data with big data drawn from CareerBuilder's job board, potentially providing much more granular data about occupational demand, worker supply, wages, skills, and other workforce data that is simply not collected by relevant state and federal statistical agencies. Investigating local job postings on boards such as Monster, Indeed, LinkedIn, and others may provide excellent data about both demand for workers in individual sectors as well as skills requirements.

Private and proprietary software packages can have the following advantages:

- They may address data suppressions
- They may cross-reference data to provide data at a finer scale or a greater degree of accuracy/confidence
- They may supplement publicly available data with proprietary data that is not otherwise available for sale
- They keep data up-to-date, obviating the user's need for frequent updating
- They often reflect real-time conditions rather than historic information
- They often have on-board customization and data presentation tools
- An off-the-shelf solution that is easily implemented is potentially less expensive than having a data analyst on staff

EDOs with a small budget can sometimes save money by using software rather than hiring a data analyst. However, software can have downsides:

- They can be expensive, yet most are built on public data that is available for free
- Data sources are sometimes obscured
- The mechanisms by which data are combined, corrected, and cross-referenced may be entirely proprietary, making it very difficult for EDOs to understand why certain outputs are as they are

Our best data comes from paid software that is consistently updated from multiple data sources. – County EDO, California

In-House Data Collection

Over 80 percent of EDOs report that they engage in primary data collection.[17] EDOs may collect data through social media polling, focus groups, one-on-one interviews or household surveys. Others contribute to collaborative efforts such as the Council for Community and Economic Research's cost of living survey. Still others may have access to information such as incentive applications or tax data that could provide valuable insight for existing and prospective companies in the area, if only they were analyzed in the right way. By far, the most important form of EDO collection, however, is the business retention and expansion program.

There seems to be less value to end users in EDOs re-packaging public data--which site selectors can find on their own-- and more in EDOs assessing their own communities for indicators and packaging it well. This both corrects and augments the story that public sources of data tell about communities. – Julie Engel, CEO & President, Greater Yuma Economic Development

Business Retention and Expansion Programs

- **Seventy-four percent of EDOs collect data through business visits; 45 percent conduct email or telephone-based surveys of businesses; 20 percent conduct online polls**[18]

Business retention and expansion (BRE) programs are a major part of economic development work. Though primarily regarded as outreach tools, they are also extremely powerful data gathering methods.

BRE programs gather detailed information on businesses' operations, opinions, and challenges. This is an incredibly useful data set for aggregating opinion, identifying common issues, and substantiating the strategic approaches of an organization. Programs such as Executive Pulse and Synchronist provide viable ways to manage this mass of data.

However, due to the level of detail in these surveys, ensuring security and confidentiality when these data are used for marketing and dissemination purposes is an important issue for EDOs that generate data in-house .

According to our survey, the most frequent type of information that EDOs gather directly from businesses are real estate characteristics; business characteristics such as industries; workforce characteristics, including wages; and information about infrastructure and utilities.[19] Yet BRE programs can gather a variety of other types information such as certifications held by a

[17] IEDC End Users Data Survey

[18] IEDC End Users Data Survey

[19] IEDC End Users Data Survey

company, current contracts, square footage occupied, whether a business leases or owns its facility, exporting activity, and labor productivity. In fact, business retention surveys can be used to gather a wide variety of data points that might otherwise be unavailable.

Key considerations using data from BRE include:

- Designing questions effectively to allow aggregation and comparison of data
- Effective management and synthesis of collected data
- Generating representative samples
- Protecting client confidentiality

Monitoring Site Visitors, Applications, and Financing

"EDOs are expected to be able to work with data. EDOs who invest in their research and economic capacity can provide a much greater value-add to site selectors and business planners. For EDOs that know how to use data and communicate it, the future is a very bright place."- Paul Jacob, Economist and Policy Analyst, The Halifax Partnership

Types of Data EDOs Find Difficult to Access

[We have difficulty accessing] employment projections. **- County EDO, Florida**

Job titles that prospective companies provide do not easily match up with Standard Occupational Codes. [It's also] difficult to find college enrollment data by program. **- Regional EDO, Florida**

Our challenge has been in quantifying the number of local, small and minority-owned businesses, and their size by revenue and number of employees. **- County EDO, Maryland**

We have always had trouble finding a decent business listing database. They are all pretty inaccurate so we just have a few and usually check them all. **– Regional EDO, Ohio**

[We have had difficulty] finding detailed statistics and trends for emerging industries. – **State EDO**

Rys. 2| Histogramy przedstawiające
z polskich hut w ramach zakł
żebrowanych EPSTAL o śred
a) R_e – granica plastyczno
b) R_m – wytrzymałość
c) A_{gt} – wydłużenie

CHAPTER 4: Consuming Data

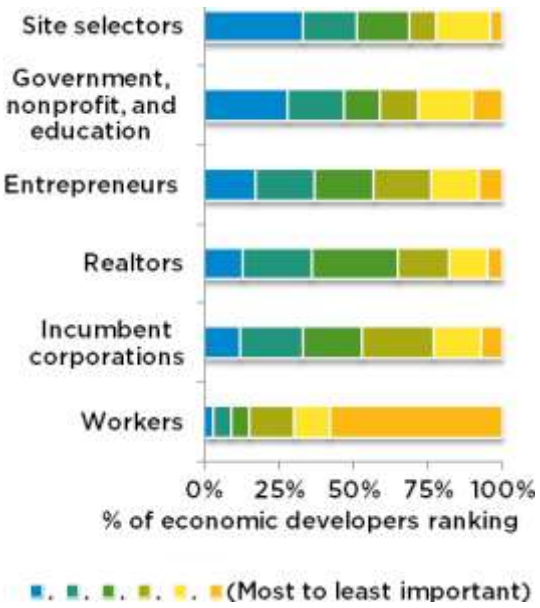
Consuming Data

Key Takeaways:

- ***Site selectors remain the key audience for economic development data***
- ***Site selectors are diverse and have different levels of sophistication, sources, and priorities***
- ***Beyond site selectors, there are a number of other important audiences for data, each with their own needs***

There are a variety of users for the data collected by economic developers. **Figure 6** shows how economic developers rank various users of data in terms of importance, based on EDRP's 2016 survey of more than 150 EDOs.

Figure 6. EDOs' Top Users for Data



Those involved in corporate location decisions—whether in-house or consultant—are the principal audience for economic development data, with a third of respondents listing them as their top audience. Yet, as the survey shows, site selectors and out-of-town corporate managers are by no means the only audience for data. Government, nonprofit, and education-sector organizations form nearly as important an audience, with 28 percent of EDOs listing these sectors as the most important audience for data. Entrepreneurs, representatives from incumbent businesses, and realtors are all important audiences for data as well. Economic developers must know how to tailor data according to the needs, interests, and abilities of their users.

Corporate Data Users

"Consultants and companies already know more about your area than the EDO does." – Neighborhood EDO, Texas

Location Strategist and Site Selection Consultants

Site selectors and location advisory consultants help corporations determine optimum locations for business operations. Some consultants specialize in real estate-based transactions, while others offer site selection as part of a much broader suite of consulting services.[20] For instance, management consultants assess location decisions within much broader discussions of corporate strategy. A site selector comments, "[EDOs] need to understand that not all consultants are the same, and not all

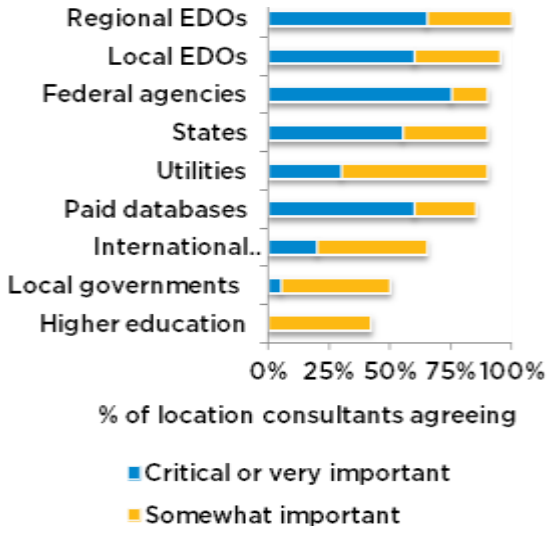
[20] Louise Anderson, *Knowledge is Power: Working Effectively with Site Selectors,* (Washington, DC: IEDC/EDRP), 2012.

consultants have the same interests or level of sophistication with data."

While most firms contracting with site selection consultants are large, about a third of site selectors say they work with companies with fewer than 100 employees.[21]

Location advisory consultants rely heavily, though not exclusively, on state, regional, and local governments and EDOs for information. As **Figure 7** shows, most location consultants found EDOs critical or somewhat important to providing data. Federal agencies were found to be most critical to sourcing data, with paid databases a close second. Interestingly, higher education institutions were not found to be critical, which may indicate that information from these organizations is often provided through EDOs.

Figure 7. Sources of Data for Location Consultants



In recent years, site selectors have turned increasingly to software to gather information more comprehensively and quickly than they could by request from EDOs. These tools are especially early in the search process, when site selectors are filtering through thousands of jurisdictions. Didi Caldwell, of Global Location Strategies comments, "We now ask for much less from the EDOs and gather information ourselves from one consistent source where possible. I need more data on sites and utilities than I get from online sources."

On the other hand, according to economic developer Darrell Voelker of Indiana's Harrison County Economic Development Corporation, "There are not nearly as many requests for basic data because people find that on the Internet."

Data in a Typical Site Selection Process

1. Corporations determine objectives and business requirements, prioritizing parameters according to their importance

2. According to the parameters, data are used to filter the universe of available options into a "long list" of alternatives

3. Further, in-depth analysis of candidate locations is conducted based on factors such as incentives; workforce supply and costs; utility available and prices; costs of land. This further analysis narrows the field to a "short list"

4. Corporate representatives visit a community and meet with economic developers, utility representatives, real estate representatives, and workforce developers

5. A likely site is identified, which may entail further detailed discussion and negotiation with local partners[22]

[21] *Area Development,* "10th Annual Survey of Site Selection Consultants: Economy on a More Continuous Growth Track," Q1, 2014.

[22] American Electric Power, "Find Sites and Buildings." Retrieved May 15, 2016.

In-House Real Estate Professionals

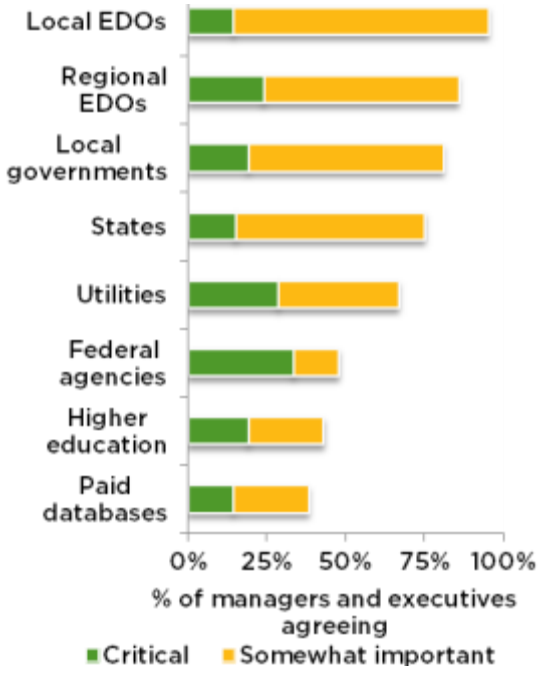
- ***Seventy-seven percent feel that a rapid response from an EDO can favorably influence a location decision***
- ***Fifty-three percent agree that an EDO that fails to respond to data requests may be excluded from consideration***
- ***Seventy-nine percent will only contact EDOs after they have developed a "shortlist" of locations***
- ***Sixty-seven percent agree that EDOs are vital partners in site selection***[23]

Only about 43 percent of corporations use the services of site location consultants.[24] The rest conduct facility location and real estate decisions in-house.

> ***"If EDOs were to standardize data, they would get more users coming to them, instead of [site selectors] utilizing other service providers." - Corporate in-house real estate professional, electronics manufacturing company with annual revenues of $1-10 billion***

Larger companies often employ staff whose role is to manage and optimize facilities. As demonstrated by **Figure 8**, site selection staff tends to rely on utilities and colleges for data to a much greater extent than do consultants, although state, regional, and local EDOs still play an important role in providing data to this constituency. Interestingly, paid databases tend to play a much reduced role in in-house site selection—perhaps because companies have access to a unique dataset that can be used to make site selection decisions, possessing detailed information on their own consumers and suppliers.

Figure 8. Sources of Data for Corporate Location Decision-Makers



Small Business and Entrepreneurs

It is also important to remember that incumbent businesses can be an important consumer of data.

In contrast with larger firms, small businesses generally do not have staff dedicated to making real estate decisions. Nonetheless, small businesses often move between neighboring jurisdictions, and less frequently, move between counties and even states. As they expand, small businesses often consider economic development data in deciding upon new markets.

[23] IEDC Corporate Users Survey.

[24] *Area Development*, "10th Annual Survey of Site Selection Consultants: Economy on a More Continuous Growth Track," Q1, 2014.

Non-Corporate Data Consumers

Governments

As EDOs report on their success, they often use metrics such as the number of jobs created in which they played a role. An important class of metrics consists of local and regional economic performance as measured by, for instance, output growth unemployment, wage growth, and real estate vacancy. Thus, governments and other funders are often major consumers of the data collected by EDOs. In fact, 59 percent of EDOs report that they use macroeconomic statistics and similar information in reports to stakeholders.

Beyond this role, EDOs that collect considerable data in-house or purchase proprietary datasets may be the sole sources for certain types of data within their jurisdiction, and thus can serve as sources of information for local and regional public decision-making on issues such as planning, program design, and budgeting. Federal and state economic development and trade promotion agencies may rely on data analysis, such as cluster measurement, performed by local EDOs to help narrow prospect companies' decisions.

Nonprofits and Education Institutions

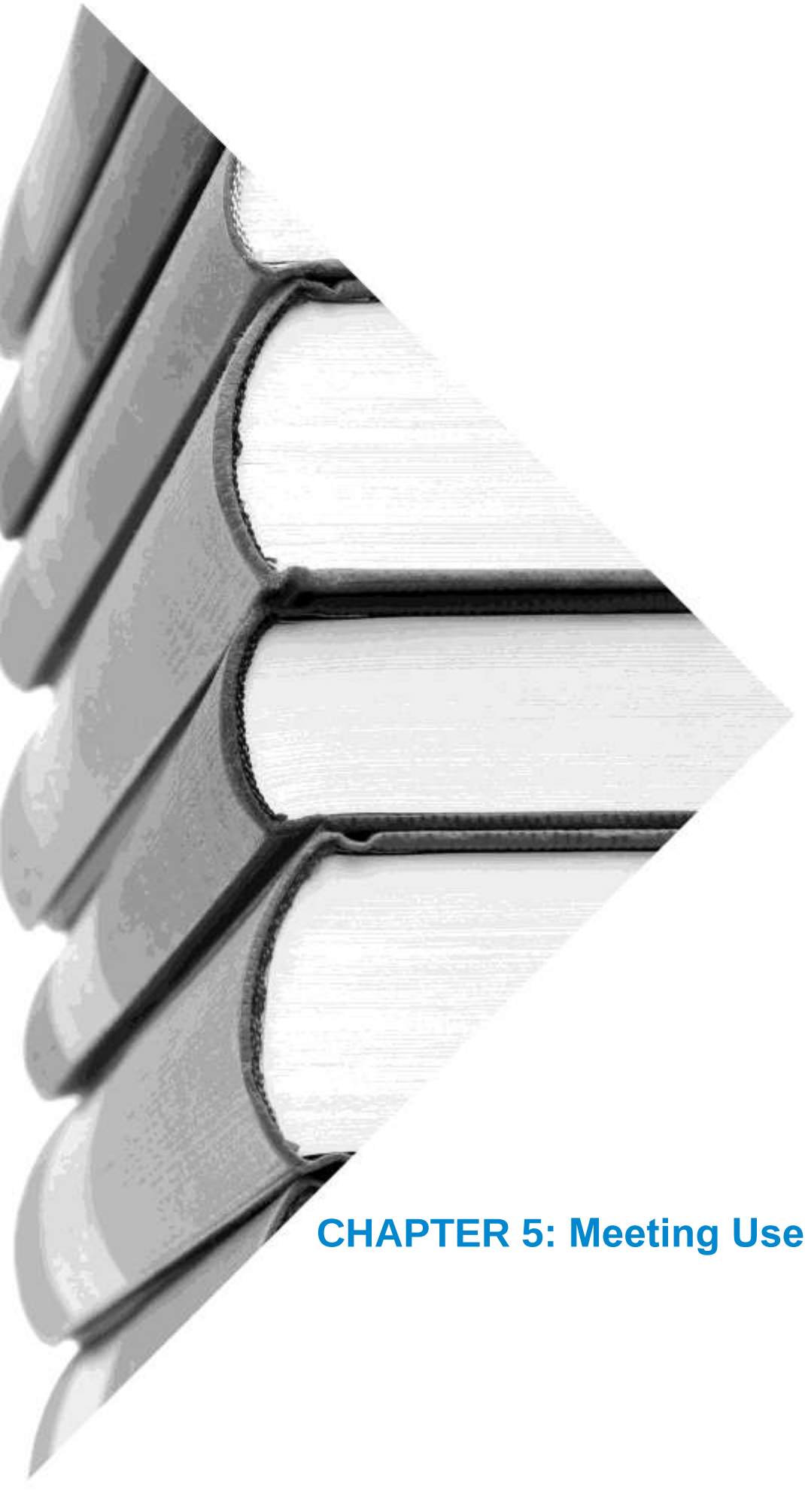
EDOs can provide a wealth of data to local educational institutions as well as other nonprofits. In particular, EDOs often collect valuable datasets about occupational and industry demand that can help training institutions better design curriculum.

Workers

Workers often lack signals about economic conditions, including skills demanded, probable wages, and other data. When EDOs fill this gap, employment rates, wages, and job satisfaction can be increased. Consider Centralina Career Headlight, a joint initiative of the Centralina Workforce Development Board and the Centralina Council of Governments, which provides detailed information about wages, employment, required work experience, and industry growth to job seekers.

Moreover, workers—especially those with specialized skills—are more likely to move in search of locations with a high quality of life and plentiful job opportunities. A growing number of EDOs concentrate on attracting workers, in addition to companies. Quality-of-life data tend to be significantly more important in attracting workers than companies.

The data needed to attract workers are somewhat different than those needed to attract companies. For this reason, many economic developers choose to separate their marketing efforts for labor attraction from their efforts to attract companies, with labor-oriented websites often emphasizing qualitative factors such as recreation, culture, safety, and education.



CHAPTER 5: Meeting Users' Data Needs

Meeting Users' Data Needs

Key Takeaways:

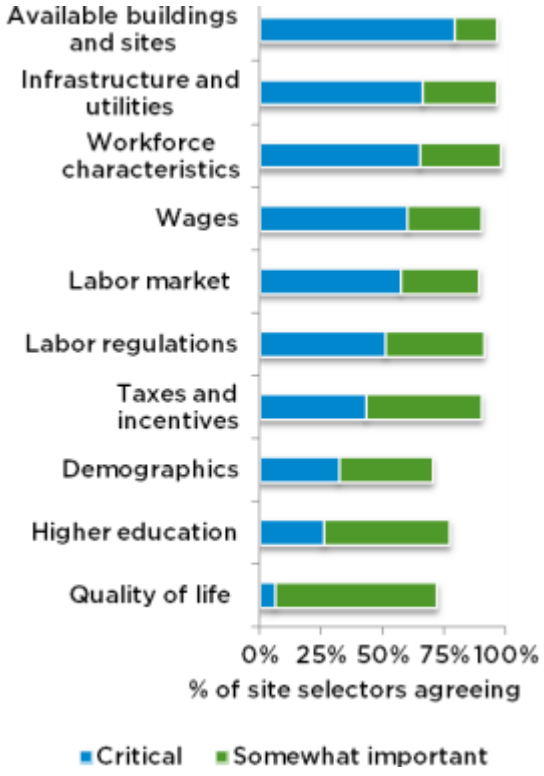
- ***Overall, real estate, tax, and workforce data top the list of consumer needs***
- ***There is a significant mismatch between what data users are looking for and what EDOs are providing/able to provide***
- ***Data consumers often do not ask EDOs for key pieces of information***

Discussed next are the data types most frequently sought by data users and data types most frequently presented by EDOs. These do not always correspond.

Business Location Factors

Figure 9 shows that the factors most influential in making location decisions are available sites and buildings; infrastructure and utilities; workforce characteristics; wages; and labor market characteristics. Some types of data, such as demographics, educational institutions, and quality of life, play a much smaller role in location decisions, despite the fact that they are commonly collected and presented by EDOs.

Figure 9. Most Important Factors in Business Location Decisions



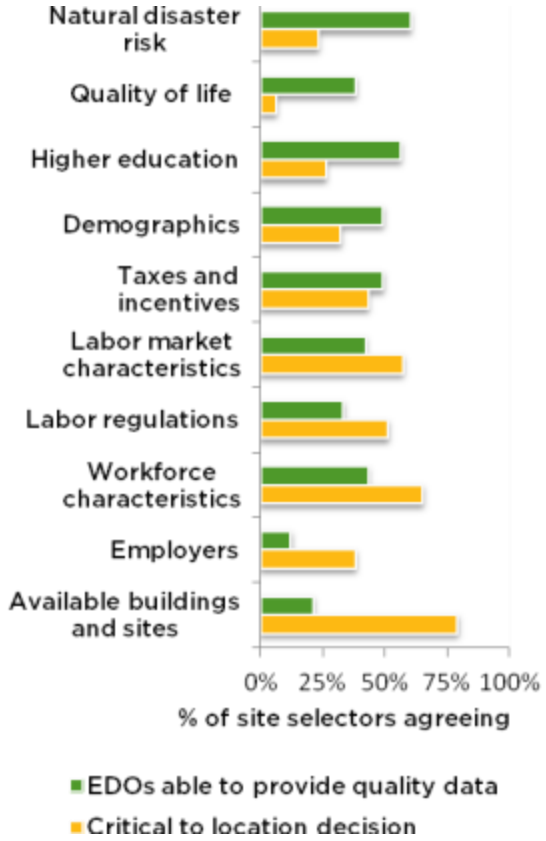
EDOs' Capacity to Provide Quality Data

Some EDOs do a fantastic job at providing data in a clear, concise way. Others provide almost no data at all and expect us to read their minds. Unless we have no other choice, communities that provide incomplete or poorly executed RFIs are eliminated. - Didi Caldwell, Global Location Strategies, based in Greenville, SC

Figure 10 shows data consumers' estimations of how often EDOs are able to provide the data they request at an appropriate level of detail.

The five factors for which EDOs provide the most satisfactory answers, per data consumers, are natural disaster risk; infrastructure and utilities (e.g., electrical reliability, water sources, unit costs); educational institutions (including effectiveness of training programs); wages; and demographics. In-house capacity to present data is further discussed in **Managing Data.**

Figure 10. EDOs' Ability to Provide Data



Yet, EDOs perform less well in providing a number of data types that are both deemed critical to site location as well as frequently requested by data users, such as available building sites (especially parcels suitable for large projects); labor market characteristics (e.g., unionization rates); and workforce characteristics (e.g., skills). EDOs also fail to provide quality information on major employers (often used as a proxy for prospective competitors and suppliers), building regulations, business revenues, and labor regulations upon request; this may explain why most corporate real estate professionals state that they seldom seek this information from EDOs.

As shown in **Figure 11**, EDRP's scan of 100 economic development websites found that the amount of data that EDOs post online varies tremendously. Three-quarters of EDOs post their community's average household incomes and nearby educational institutions on their websites; 65 percent maintain online listings of available sites and buildings. Yet only 31 percent of EDOs maintain up-to-date wage information online. Even fewer organizations post utility rates or data specific to their target industries.[25]

When EDOs do not post data on their websites, data users may infer that the EDO has not collected the data or that it is hiding unfavorable statistics. Both of these can lead to a potential investment prospect avoiding that community.

[25] Findings of 100-EDO web scan.

Figure 11. Information Most Often Listed on EDO Websites

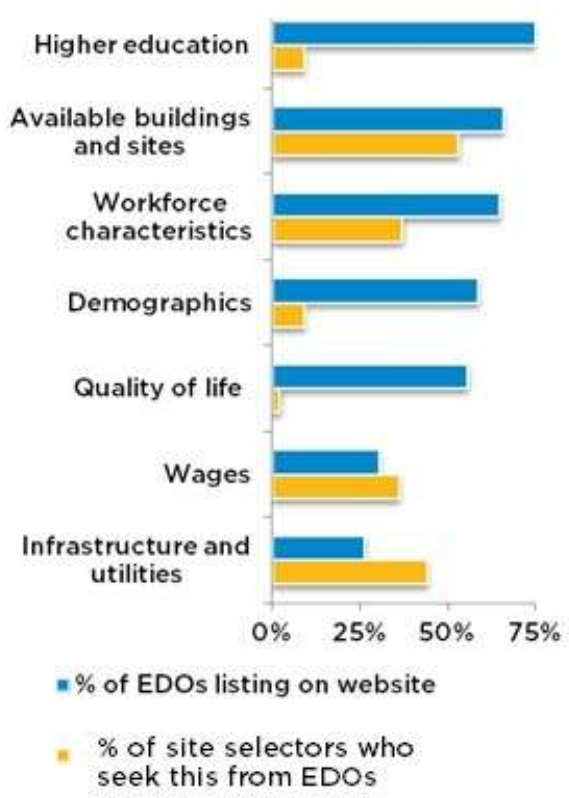
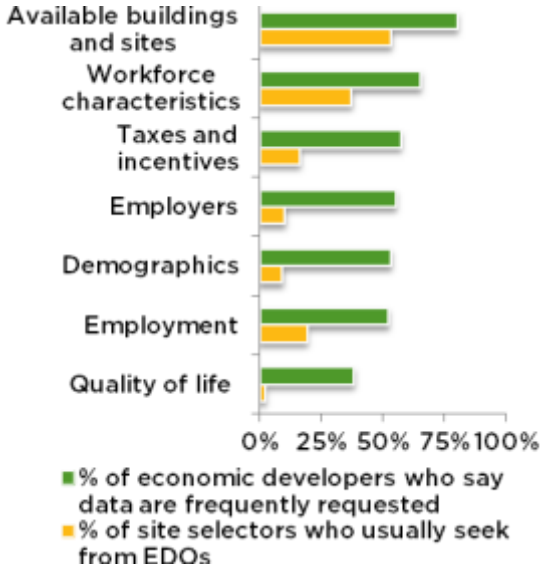


Figure 12 shows that even when site selectors view a datum as critical, they may not seek it from economic developers. One bar shows the types of data that data consumers report they most frequently seek from EDOs, while the other bar shows the type of data that EDO representatives report that end users most frequently consume.

Figure 12. Data Consumers vs. EDOs on Most Frequently Sought Data

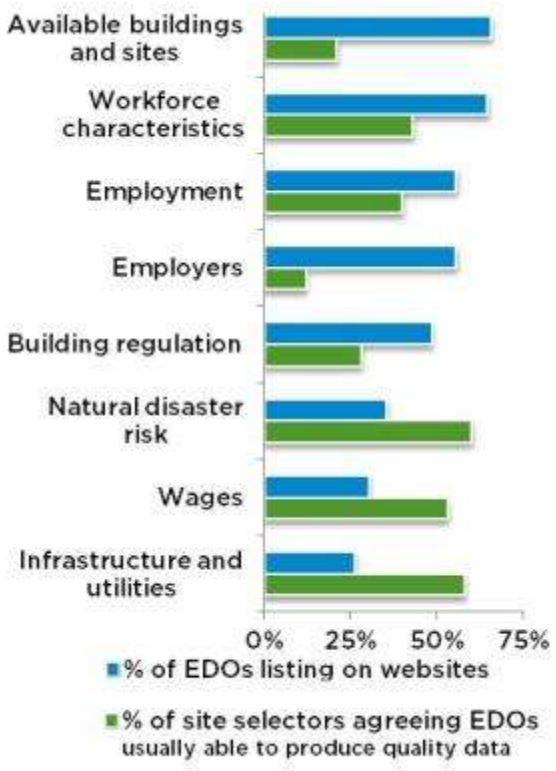


Economic developers report receiving information requests about taxes and incentives; major employers; demographics; higher education; and quality of life far more than data consumers request this information. On the other hand, data consumers report seeking information on natural disaster, business profits, and labor regulations more than EDOs receive these information requests.

Figure 13 draws from EDRP's scan of 50 IEDC members' and 50 non-members' websites. The chart shows that the types of data displayed on EDO websites have little relation to information that site selectors frequently seek from EDOs—namely, data about wages, infrastructure, and utilities.

The chart also illustrates two key places where EDOs, should they choose to present information online at all, need to do better: real estate directories and lists of employers. Clearly, EDOs should present up-to-date information at more granular levels of detail.

Figure 13. Information Most Often Listed on Websites



Critical Types of Data

Available Buildings and Sites

- ↘ Seventy-nine percent of data users rate this data item as “critical or very important”
- ↘ Forty-four percent of data users say they “always or almost always” seek from EDOs
- ↘ Forty-nine percent of end users say that EDOs are “always or almost always” able to deliver this data
- ↘ About two-thirds of organizations currently have building and site listings online

One of the most frequently sought types of data is a database of buildings and available sites. In addition to the location, size, and price of available sites, the database should include:

- Use and zoning;
- Construction method, condition, and age;
- Infrastructure capacity available (e.g., roads, parking, gas, sewer, water, electric, and fiber.

Because real estate transactions occur frequently, a database requires constant updating. The burden of updating this information, however, can often be shared with local commercial realtors. In recent years, a range of software solutions has arisen to facilitate the management of these databases.

Loopnet is a tool that economic developers report that end users are accessing in order to seek information about local real estate offerings. This can be incomplete though. Economic developers must use tools like this, as well as multiple listing services (MLS) and maintain good relationships with brokers to keep on top of real estate offerings in their community.

Maintaining a list of available real estate sites is challenging because there may be a culture of secrecy within the real estate brokerage community. Educate brokers on the important difference between internal operations—those that involved parties in the community—and external operations—those that pertain to users outside the community seeking to relocate.

Taxes and Incentives

- ↘ Forth-three percent of data users rate this data item as “critical or very important”
- ↘ Fifty-three percent of data users say they “always or almost always” seek from EDOs
- ↘ Sixty percent of end users say that EDOs are “always or almost always” able to deliver this data
- ↘ Only about two-thirds of EDOs list any information about tax rates on their websites

Taxes are a significant and highly variable cost of business. EDOs should maintain data on not only the rates of all taxes and fees that apply to business and individuals but also the common exemptions, assessment classes, and regulations.

EDO should also maintain and publish a directory of all the financing programs applicable to companies within the community—including those provided by other agencies, such as state and federal programs. As previous EDRP papers *More than Money* and *Incentives for the Twenty-First Century* have pointed out, incentives cover a much broader swath than merely discretionary grants and tax reductions. These should also be listed in a business assistance directory.

Building Regulations

- Forty percent of data users rate this data item as “critical or very important”
- Thirty-seven percent of data users say that they “always or almost always” seek from EDOs
- Thirty-eight percent of end users say that EDOs are “always or almost always” able to deliver this data
- Fewer than half of EDOs put information about zoning online

Many site selection professionals emphasize the importance of knowing the minimum and average amount of time required to receive necessary public approvals between a site's purchase and the beginning of occupancy. Especially in capital-intensive industries, an additional month of approval time can translate into millions in lost revenues–sometimes sufficient to make second and third choices more attractive than a first choice.

Economic developers should be able to explain the approval process, the required fees, and the range of time that will probably be required to process applications. They may collect critical pieces of information from local and metropolitan planning organizations. Some cities, such as Walnut Creek, California, now offer preliminary review processes that help real estate developers to anticipate approval issues early in the process. Such programs can help clarify the ambiguity of approval processes—providing a unique and very helpful datum for site selectors.

Employers by Industry and Number of Employees

- Thirty-six percent of data users say that they “always or almost always” seek this from EDOs
- Fifty-six percent of data users say that EDOs are “always or almost always” able to provide these data at right level of quality
- About 55 percent of EDOs list this information online

Lists of major employers can serve as a first-glance indicator for a number of important factors to prospective businesses, including potential customers and likely competitors, as well as a ballpark estimate of the depth of the local labor pool and the degree of economic diversification within a community (which is, in turn, a rough measure of a local economy's immunity to shocks). This information can be enriched as a time-series, which serves as a measure of growth by industry.

Site selectors are also sensitive to clustering. When executives observe the presence of other companies in a particular industry, they may take it to indicate that a location is a 'proven' choice.

These data can be collected using state and local tax data; business license data; as well as business surveys.

Infrastructure and Utilities

- Thirty-four percent of data users say that they “always or almost always” seek this from EDOs

- ↘ Forty-nine percent of data users say that EDOs are "always or almost always" able to provide these data at right level of quality
- ↘ Only about a quarter of EDOs put information about utilities and rates online[26]

Infrastructure assets include transportation, energy, telecommunications, and sanitation. EDRP's 2016 report, *Critical Condition: Infrastructure for Economic Development*, explains the key infrastructure resources that economic developers should analyze.

Labor Market Characteristics

- ↘ Sixteen percent of data users say that they "always or almost always" seek from EDOs
- ↘ Forty-two percent of data users say that EDOs are "always or almost always" able to provide data at right level of quality

Labor market characteristics encompass a broad swath of data points, including:

- Unionization rates, labor relations information, and histories of work stoppages;
- Unemployment and labor force participation rates (and historical change);
- Job turnover rates; and
- Amount of on-the-job training as well as re-training for displaced workers.

Sources for such data include federal (e.g., BEA, BLS) and state sources; proprietary sources (especially job boards); educational institutions; and in-house collection, for example, through business retention surveys.

[26] Findings of 100-EDO web scan.

Business Revenues and Profits

- ↘ Forty-one percent of demand-side users report that this information is critical or very important to site location decisions
- ↘ Only 12 percent of EDOs can reliably provide this information
- ↘ Thirty-one percent of corporate clients say that information about prospective competitors in a client market is essential to site selection[27]

Business revenues can be difficult to gather, yet they are valuable to prospective businesses in a number of ways. They indicate market potential and saturation, as well as showcase a place's true business climate, rather than the inferred data usually used as an indicator. Federal rules require that companies listed on stock exchanges publicly disclose financial data. Yet most companies are not publicly traded—and even when they are, attempting to determine a particular facility's sales or production value using annual reports and other disclosure documents can be challenging or impossible. Possible additional resources include Hoovers/Dun & Bradstreet, Standard & Poor's, and the Internal Revenue Service.

Wages

- ↘ Sixty percent of demand-side users report this information is critical or very important to site location decisions
- ↘ Only 28 percent of EDOs can reliably provide this information
- ↘ Only 30 percent of EDOs list information about local wages

[27] *Area Development,* "10th Annual Survey of Site Selection Consultants: Economy on a More Continuous Growth Track," Q1, 2014.

by industry or occupation on their websites[28]

Good regional labor market data is extremely important, but because our region is not a recognized Census division, getting it can be difficult. We have filled in the gap with a comprehensive look at our labor market every three to five years. – Graham Smith, Director of Research, Invest Buffalo Niagara, NY

The average or median wages earned by workers in each industry and occupation should be chronicled. Excellent wage data is available from the Bureau of Labor Statistics, however, these data are not always as granular as users would like. Various proprietary data sets, such as real-time job postings data from websites such as Indeed, Monster, and LinkedIn, are now available to assist economic developers in determining prevailing wages in various occupations and industries.

The most difficult part of any data collection exercise is obtaining accurate data that is specific to the sub-sector in which the project operates (particularly for labor availability, quality, and wages), as well as having these data standardized and comparable across geographies. – Location consultant

Workforce Characteristics

Today, there is a much higher significance placed on workforce data at the sub-regional level. This can be challenging to obtain as many federal sources only report down to a metro or county level for specific occupational codes and industries. - Local EDO, Arizona

- ↘ Sixty-five percent of demand-side users report that this information is critical or very important to site location decisions
- ↘ Only 32 percent of EDOs can reliably provide this information, according to data consumers
- ↘ More than 60 percent of EDOs put information about educational attainment online; slightly fewer posted other workforce demographics[29]

In the future, there will be even more need for multifaceted and granular workforce data. - Andreas Dressler, Terrain Consulting, Berlin, Germany

The workforce is one of the most important considerations for almost any industry. Important workforce characteristic data include:

- Number of workers by industry and occupation, usually measured within the commuter-shed rather than within a particular jurisdiction;
- Worker demographics, especially age, by industry and occupation;
- Educational attainment, by industry and occupation; student pipeline by degree.

[28] Findings of 100-EDO web scan.

[29] Findings of 100-EDO web scan.

CHAPTER 6: Presenting Data to Various Audiences

Presenting Data to Various Audiences

Corporate Data Needs by Industry

As discussed in **Using Data**, economic developers use tools such as cluster analysis and shift-share analysis to guide their priority-setting and decision-making. The results of data-driven analysis are often lists of "target industries"—industries that most closely match community strengths, for which growth would deliver large benefits to the community.

In order to expand such target industries, economic developers must understand the industry's location decisions, the data required to make these decisions, and finally, their communities' position in regards to these requirements. This section describes data needs for the industries most often targeted by economic developers, according to our survey.

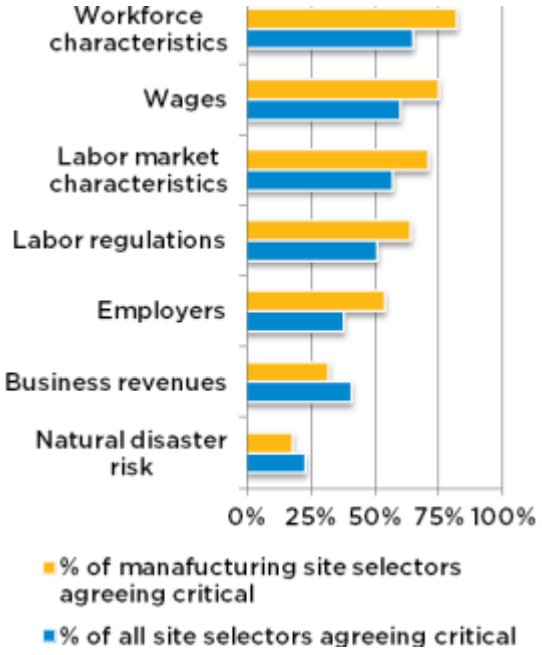
Corporate representatives suggest that economic developers should place greater emphasis on business functions, rather than industry groupings. Business functions are discussed in the following section, **Corporate Data Needs by Function.**

Production Industries

- ↘ ***Forty-one percent of EDOs identify some type of production industry as their top target***
- ↘ ***For every $1 spent in manufacturing, another $1.40 is spent in the larger economy—the highest multiplier of any industry***[30]

- ↘ ***The average manufacturing employee earned $80,000 in pay and benefits in 2014—$15,000 more than the average across all sectors***

Figure 14. Critical Location Factors for Manufacturers



Manufacturing is the industry most commonly targeted by economic developers. The siting of manufacturing facilities is sensitive to labor, real estate, and infrastructure inputs, as shown in **Figure 14**. Given the continued shortage of these workers, manufacturers seek reasonably priced, and productive skilled labor.[31] Manufacturers also benefit from locating along corridors that connect to qualified suppliers and large customer markets, which often are not

[30] National Association of Manufacturers, "Top 20 Facts About Manufacturing." Retrieved May 25, 2016.

[31] Tom Morrison, Bob Maciejewski, Craig Giffi, Emily Stover DeRocco, Jennifer McNelly, and Gardner Carrick, *Boiling Point? The Skills Gap in U.S. Manufacturing*. Deloitte Development LLC, 2011.

located within the jurisdiction.[32] Savvy economic developers maintain detailed data on potential suppliers and customers for target industries within the region and state. Such databases would generally include company names, products, sales figures, and numbers of employees.

As links to customers and suppliers are so vital to manufacturers, proximity to freight infrastructure, such as highways, inland waterways, railways, and transshipment facilities is important. Data about capacity, shipping times, and delays (e.g., at downstream ports) are even more important.

It is important to note, however, that within the broad category of manufacturing, the needs of specific companies vary greatly. The essential needs of a food manufacturer—inexpensive agricultural products, water, inexpensive labor, and local customer base–differ tremendously from that of a steel manufacturer, such as iron supplies, electricity, and long-distance transportation infrastructure. Those, in turn, differ from the needs of electronics manufacturers, which include capital financing, electricity, and highly skilled workers. This variety in needs underscores both the great importance that economic developers must place in employing data-driven analysis of local assets to create specific local strategies, as well as the necessity of collecting data that is relevant to particular manufacturing subspecialties.

Healthcare

- ***Healthcare jobs accounted for a fifth of all new jobs created in the United States in 2015—about 500,000 jobs total[33]***
- ***Thirty-two percent of economic developers report that healthcare is one of their top three targets***

As major employers, healthcare providers have traditionally been focused on identifying geographies that provide deep pools of the semiskilled, skilled, and expert labor required to operate modern health systems. As an industry that primarily serves local and regional needs, the degree of competition and market saturation in the healthcare field has historically driven location decisions as well. At a finer scale, healthcare providers seek sites that provide excellent employee and patient transportation access.[34]

The advent of big data has allowed health systems to factor patient demographics into their location decisions as well. Health systems analyze health care utilization rates, expenditures, sources of payment, and health insurance coverage to determine optimum locations.[35] Economic developers may consult with publicly available sources such as the Centers for Disease Control; the Centers for Medicaid and Medicare Services; HealthData.Gov; Partners in Information for the Public Health Workforce; and the Kaiser Family Foundation to collect the data that may be sought by site selectors working on behalf of hospitals.

[32] Gary P. Pisano and Willy C. Shih. "Restoring American Competitiveness." *Harvard Business Review*, July 1, 2009.

[33] John Commins, "Healthcare Job Growth Set Records in 2015," HealthLeaders Media/ Bureau of Labor Statistics, January 12, 2016.

[34] Christine Guzzo Vickery.

[35] Coy Davidson, "Big Data and Healthcare Selection," *The Tenant Advisor*. Retrieved April 11, 2016.

Finance, Insurance, and Real Estate

- ***The average salary in this industry is $70,000[36]***
- ***Twenty-six percent of respondents listed FIRE as one of their top three target industries***

As with many other industries, financial services firms are attracted to locations with the relevant workforce—in this case, skilled in managerial, clerical, actuarial, statistical, and financial skills. Robin Ronne, former chief of the Tampa Committee of One Hundred comments that the industry requires a "labor force that understands and is versed in the basics of financial transactions and vocabulary, along with having a high level of customer service focus for national and global clients."[37]

As the financial industry workforce is highly mobile, attracting the industry requires a demonstration of a high quality of life. Chris Littlefield, president at Fidelity & Guaranty Life, comments that "arts and culture and family amenities, [a] great educational system and the presence of a strong financial services industry"[38] are all critical site selection factors in insurance.

The finance and insurance industry is also sensitive to the costs of high-quality office space. The industry seeks locations that balance affordable square footage with the transit and highway links that allow its specialized workforce to get to work.

Finally, banks and insurance companies are highly reliant on quality telecommunications and airport infrastructure.

[36] Data USA, "Finance & Insurance, and Real Estate, Rental & Leasing." Retrieved May 15, 2016.

[37] Ron Starner, "Capitalizing on Cost-Friendly Sites." *Site Selection*, Nov. 2016.

[38] Ron Starner, "Risk Insurance." *Site Selection*, May 2011.

Primary Resources

- ***Twenty-four percent of respondents indicated that the primary resources sector is one of their top-three target industries***

Many economic developers concentrate on the agricultural, forestry, and mining sectors, as well as the equipment, construction, and logistics sectors that support these activities. Data points needed to attract these sectors include:

- The availability of a workforce with the relevant technical skills;
- Proximity of downstream consumers; and
- Capacity of energy, water, and transportation infrastructure.

APEX, an EDO in Duluth, Minnesota, has prioritized attracting support services companies for the region's mining industry. Rob West, former CEO of APEX, commented that support services for the primary resources sector "are interested in skilled labor, logistics and dealing with supply-chain support, technology and fiber optics."[39]

Software and Information Technology

- ***Twenty-three percent of respondents listed software as one of their top-three target industries***

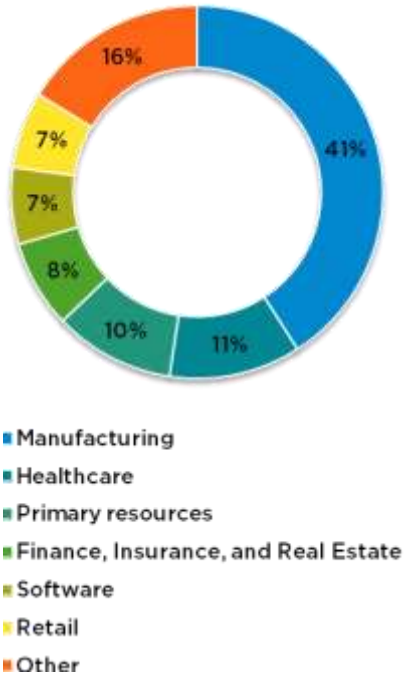
Firms in the information technology (IT) industry tend to prioritize excellent pipelines of computer science and engineering graduates from local universities and colleges. Even established IT companies tend to flock to areas with robust ecosystems of IT entrepreneurship, and they often use data about venture capital and startup rates as proxies for areas of well-established IT entrepreneurship.

[39] Ron Starner, "Iron in the Fire." *Site Selection,* Nov. 2009.

Corporate Data Needs by Function

Although many economic developers think in terms of target industries, site selectors are apt to think less about industrial sectors and more about business functions.

Figure 15. EDO's Top Targets



Management Functions

↘ ***Fifty percent of respondents listed headquarters as their top facility type target***

Management functions include such facilities as headquarters, regional offices, shared services centers, and trading floors. Site selectors working to locate corporate headquarters and regional headquarters tend to value the following factors:

- A strong pool of managerial labor;
- The quality of healthcare, cultural amenities, and public schools;
- The cost of living;
- The cost of office space, especially buildings with amenities such as LEED certification, conference space, and gyms;
- Proximity to major airports; and
- Transportation access for employees.

Research and Development

Research and development (R&D) facilities include laboratories, think tanks, and pilot plants. R&D centers tend to locate near major research universities, federal laboratories, and other commercial research facilities to take advantage of deep pools of engineering and scientific research. Recently, companies tend to partner more with local universities to conduct research. Clustering effects can also drive research facility location.

Warehousing, Distribution, and Logistics

The location of both manufacturing and primary resources production facilities is a major influence on the location of inbound distribution centers. Raw materials, in particular, are expensive to transport relative to their value, so distribution centers must be placed strategically. For outbound distribution centers, the major influence is the location of consumer markets—and of various subsets of consumers (e.g., domestic users versus business users).

Transportation costs can easily amount to two-thirds of the costs of distribution, meaning that they tend to dictate the location of distribution centers. The location and quality of transport infrastructure assets, as well as transportation providers, are thus important data needed to attract this type of investment. Size and weight restrictions, as well as special levies and taxes on motor carriers, can also heavily influence logistics costs.[40]

[40] Perry A. Trunick, "Site Selection Decisions: A Matter of Data," *Inbound Logistics*, July 2011.

Data Centers

Data center site selection tends to be focused on the costs of infrastructure and taxes. They are also greatly influenced by the reliability and resiliency of local power infrastructure, and by environmental factors such as temperature and humidity, which affect the cooling of servers. Another important factor is natural disaster risk.

Intel lists its three most-important site selection criteria for data centers as environmental conditions, communications infrastructure, and power infrastructure.[41] Economic developers must be equipped not only with accurate statistics for these cost factors in their own community but also those of competing communities.[42] A valuable resource for further information on the priorities for data centers is the trade publication *Mission Critical.*

[41] Marissa Mena, John Musilli, Ed Austin, Jeff Lee, and Paul Vaccaro, *Selecting a Data Center Site: Intel's Approach*, (Santa Clara, CA: IT@Intel), 2014.

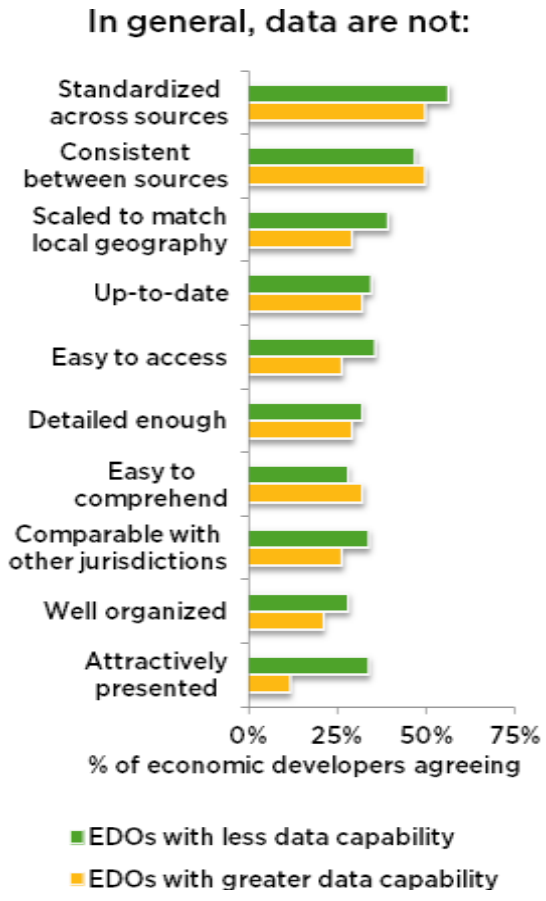
[42] Chris Engle and John Rees, "Site Selection Trends in the Information Technology Industry," *Trade & Industry Development,* July 16, 2014.

CHAPTER 7: Analyzing Data

Analyzing Data

As discussed earlier in the document, there has been a proliferation of data in recent years. Yet, available data are troublesome in some way. **Figure 16** summarizes the results of a poll of economic developers regarding their greatest frustrations with outside data.

Figure 16. Economic Developers' Frustration with Data



Lack of Data Standardization and Consistency

The most commonly expressed frustration with external datasets is that they are not standardized. For instance, jurisdictional boundaries frequently differ between data sets.

Similarly, Standard Industrial Classification codes, which were used to classify businesses until the late 1990s, do not correspond well with the new system known as North American Industry Classification System (NAICS codes).I In other words, they lack what are commonly known as 'crosswalks'—although resources such as the National Crosswalk Service Center, can help.

Statistical agencies may report differently or use different methodologies. For instance, the high school completion rate is not the same as the dropout rate—and so it is important to be accurate and compare like-to-like when showing data. Other times, agencies may not adjust for seasonal variations (e.g., in employment, sales), or they may report nominal (e.g., sample-year) dollars rather than real (e.g., inflation-adjusted) dollar figures. All these factors can lead to data that do not seem to be consistent between sources, another common source of frustration.

Solutions to Non-Standardization

- ↘ Wherever possible, use the same data source to construct time-series
- ↘ Train staff in statistical methodologies
- ↘ Monitor statistical agencies and other data providers for notes on changed methodology
- ↘ Avoid using non-standard or non-established data sources or definitions for well-established, commonly requested data points
- ↘ Facilitate comparisons with comparable jurisdictions using standardized metrics and sources
- ↘ Be as specific as possible about sources, methodologies, definitions, and metrics being used
- ↘ Where multiple sources diverge, present the range of data

Geographic Mismatch

Many EDOs also find that data is rarely presented at the geographic scale required. For instance, metropolitan statistical areas are not fully reflective of potential labor or consumer markets--workers and shoppers pay little attention to local borders but much attention to commuting time. Other times, data are required at a more granular scale than is available through, for instance, federal data releases. As David Cox, an economic developer with the City of Hazelwood, Missouri, comments, "We're a suburb of a metro area. It's hard to get data for just our city alone."

When data are only available for a larger unit of measurement than required, they can obscure large variations at the lower level. A Texas economic developer, meanwhile, comments, "Our community is too small to get good, current data, but our region is not fully indicative of local patterns."

Solutions to Geographic Mismatch

- ↘ Supplement federal and state data with locally collected data
- ↘ Interpolate missing data from comparable geographic units
- ↘ Cross-reference data wherever possible

Datedness

Economic conditions are constantly changing. By the time information is collected and published, it *may not reflect* the true information about a community. As a representative from a regional EDO in Colorado comments, "everything moves so fast, but data lags quite a bit."

Datedness is particularly problematic in smaller areas or when conditions are changing rapidly through population decline, migration, growth, mass layoffs, or new infrastructure.

Solutions

- ↘ Sign up to receive word of data releases from major federal and state stats agencies
- ↘ Design a schedule for regular data collection and updating
- ↘ Re-evaluate metrics and data needs (taking into account data downloads and requests for information) as part of a regular strategic planning exercise
- ↘ Note when data were last collected or updated on documents and websites—and put this note in a prominent location to emphasize regular updating
- ↘ Communicate to users that a source referenced is the most up-to-date available, even if the source itself is dated

Lack of Representation

Even when data are accurate, they can skew a community's narrative in a variety of ways. For example, in communities with prisons, population statistics will show a high level of young male inhabitants with relatively low educational attainment, which serves to mask the true qualities of the available workforce. A similar effect can be seen in college towns, which show high rates of household poverty, low college graduation rates, and abnormal seasonal variation in employment.

Other times, one-time events such as a natural disaster or major plant opening can create spikes in time-series that are not representative of a longer-term trend. In other communities, statistics may not reflect large 'hidden' populations, such as undocumented workers, those not looking for work, part-time workers, discouraged workers, and the self-employed.

Solutions

- ↘ Employ smaller scales of analysis, or aggregate data at the micro-level into a regional portrait
- ↘ Supplement federal and state data with locally collected data

- ↘ Interpolate missing data from comparable geographic units
- ↘ Cross-reference data wherever possible against other sources and years

Sampling Issues

Whenever data is based on samples, the associated statistics will have a margin of error. Error is particularly acute when sample sizes are small or when populations are consistently missed, double-counted, or mischaracterized.

Another issue with sampling is that, by law, government agencies must maintain confidentiality. When all the information that is collected about a certain region or sub-population is aggregated, then confidentiality is not breached. But, when the data set is smaller, whether in number or area, statistical agencies must remove those outliers from the local count.

This most often impacts the publication of information about businesses when an NAICs category would include fewer than three firms, or when the employment contribution of any single firm exceeds 80 percent of total employment. For small geographic areas with one major employer, this can significantly skew local data.

Solutions:

- ↘ Compare with neighboring jurisdictions as well as larger geographies (counties, states)
- ↘ Present ranges of data based on margins of error
- ↘ Maintain data on major employers, and monitor whether this is being represented by government statistical agencies

When Data Effects Funding

Data that is incorrectly tabulated leads to communities being represented incorrectly not just in business attraction efforts but also when resources are being allotted by state and federal governments.

For example, Census results often show fewer minority, immigrant, and low-income households. Collection methods are partly to blame; telephone calls and mailings may not reach populations with lower educational levels or difficulty with the English language, and additionally, these populations may fear contact with the government. Conversely, the Census often over-counts the wealthy, by sending a form to all of the homes that they own.

When low-income and minority populations are not counted, then they are not represented, and lack of representation leads to inadequately funded education and other programs, thereby contributing to already existing problems.

Another type of data that impacts opportunity if incorrectly reported is NAICS codes. NAICS codes classify businesses in a certain sector. If a business is assigned the wrong NAICS code, it could be disqualified for federal contracts, certain kinds of financing, and specific tax deductions.[43]

Solutions:

- ↘ Census data is improved when all citizens understand the process; work with your local groups to educate uniformed populations about the importance of participating in the Census
- ↘ Alert new businesses to the importance of NAICS codes; the window of time for changing them after registering as a business is very short.

Case Study: Nashville Region's Vital Signs, Nashville Area Chamber of Commerce

The website, built on the Headlight platform, presents key data in drop-down menus. Users are able to customize data according by county,

[43] *Lydia Roth,* "NAICS Codes: Why you Should Triple Check Them." *Nav,* December 16, 2015.

year, and industry. National comparison data is presented side-by-side. The site is also aesthetically pleasing, maintaining a consistent color palette throughout its many charts and graphs.

Now in its fourth year, Nashville Region's Vital Signs provides a slate of metrics that monitor and communicate the area's economic strength and quality of life. Led by the Nashville Area Chamber of Commerce, Vital Signs' production and analysis is a collaborative process that allows policymakers to identify what's working in the region and to forecast emerging issues and challenges.

The idea for Vital Signs came from one of the chamber's leadership missions to Toronto several years ago. There, chamber representatives learned about Toronto's Vital Signs, a data model now recognized, and franchised, the world over. A year and a half later, the Nashville Chamber adopted and tweaked the model for the Central Tennessee Region.

Vital Signs is always included in literature presented to companies considering locating or expanding in the region.

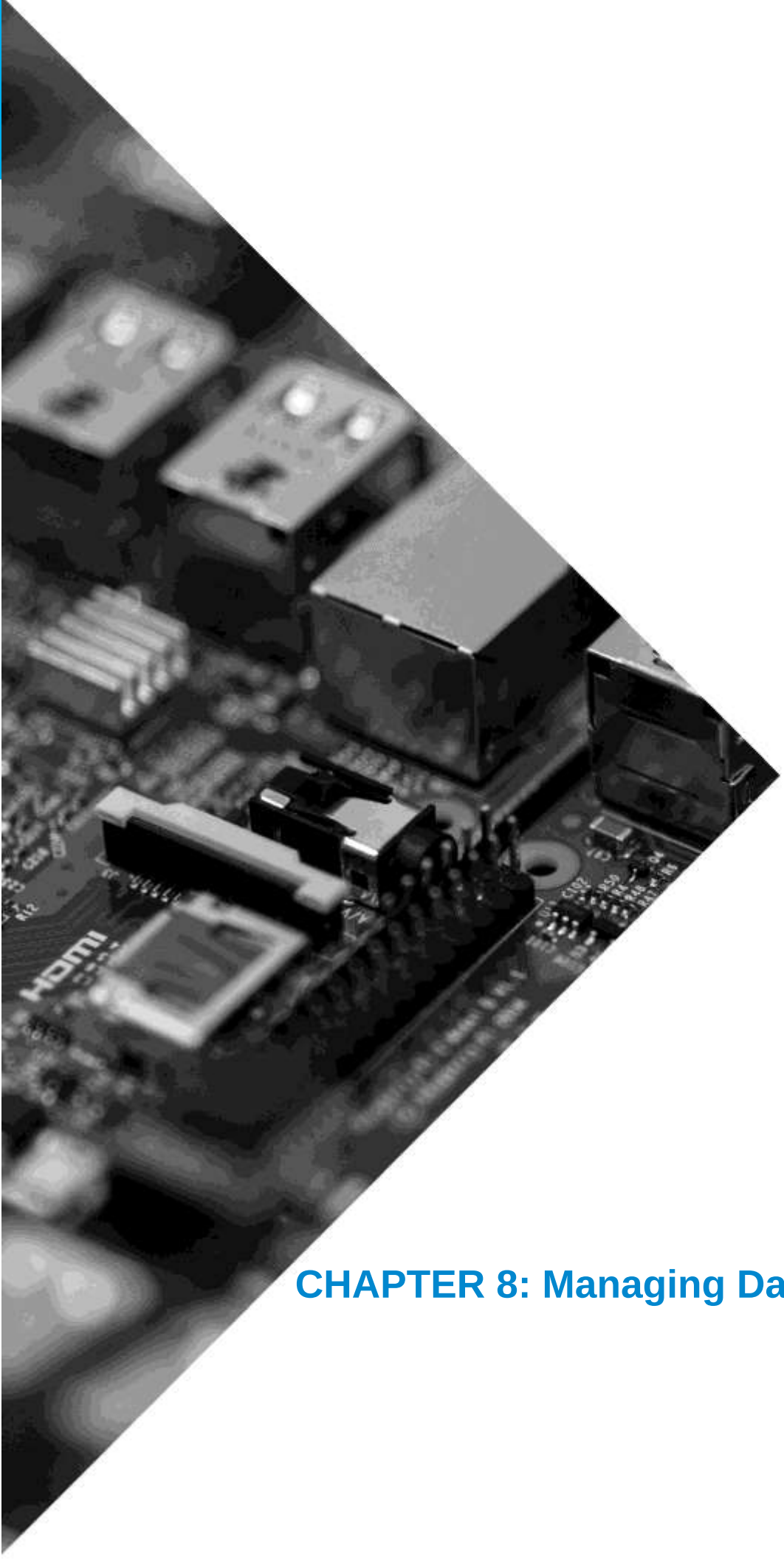
"The amount of data and resources we have is impressive and helps play a role in the location decision process," said Courtney Ross, chief economic development officer.

The collection and analysis is done in-house and is headed by the chamber's research and information services team. Each year, the chamber issues a much-anticipated update to Vital Signs data. Vital Signs offers an exhaustive set of metrics but also simplifies its findings (PDF) in key takeaways. Because some indicators do not vary widely each year, the chamber will occasionally take a year off from data collection and focus instead on acting on the weaknesses and opportunities discovered in previous years' data.

"One of the values of Vital Signs is its ability to take something that could be a stand-alone metric and weave it together with other indicators to identify their interconnectedness," said Garrett Harper, vice president of research and information services.

For example, one of the Nashville region's top competitive advantages is a low cost of living. But after digging deeper into various related indicators, the chamber noticed that central Tennesseans' commuting costs were disproportionately high compared to other cities, thereby undermine this advantage. This realization helped vault transit improvements to the region's number one policy priority.

The region's other top priorities – workforce and talent, health, and affordability issues – are also guided by Vital Signs. One such program that was informed by Vital Signs data is the Tennessee Promise – an ambitious state program that aims to provide free tuition to all Tennesseans who enroll in community and technical education programs



CHAPTER 8: Managing Data

Managing Data

Organizations representing jurisdictions of larger populations do not necessarily have more information online. In our scan of 100 EDO websites, we found:

- Out of 16 critical data points, organizations representing areas of fewer than 25,000 people tended to put about eight of the data points online—the same score as organizations representing more than 200,000 people.
- Smaller jurisdictions are much likelier than their larger counterparts to post information online on the cost of housing, workforce demographics, zoning, and utility rates.
- Larger jurisdictions are more likely to post sector-specific (including target industry-specific) information, such as wages.
- Larger jurisdictions are also more likely to use display software, offer downloadable reports, and other such improvements.

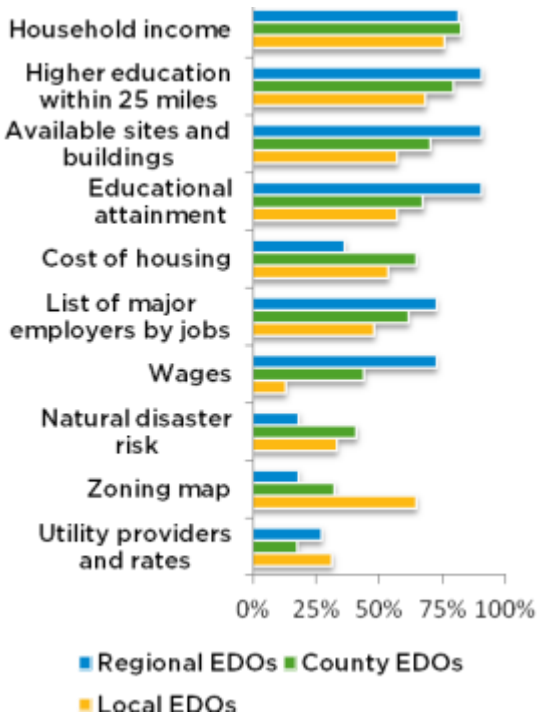
However, small jurisdictions only rarely place certain types of data online. For instance, only 28 percent of jurisdictions with populations of fewer than 50,000 present data on average local wages by industry or occupation, perhaps reflecting the difficulty of gathering this information at the local level for small areas. By contrast, two thirds of communities of more than 200,000 post this information online.

Likewise, larger areas are about four-times more likely to present data specific to identified target industries or clusters. On the other hand, larger jurisdictions are significantly less likely to post information about housing costs, zoning, or utility rates than smaller jurisdictions, perhaps reflecting the relative complexity of presenting this information for larger communities.

EDOs representing local jurisdictions such as a town or city tended to have the least information online. Entities representing counties, multi-county regions, and state EDOs tended to have the most information online.

IEDC members outperform non-members in presenting data in essentially every category. IEDC members are much likelier than non-members to present info on average wages by industry, utility rates, and even educational institutions. Economic development organizations in the Southeastern states tend to post the most information on their websites, according to our scan.

Figure 17. Web Scan Results



CHAPTER 9: Communicating Data

Communicating Data

Key Takeaways:

- ↘ ***Economic developers view websites and site visits as the most important way of communicating data about their community***
- ↘ ***Data consumers view direct correspondence and formal requests more importantly than economic developers***

Economic development organizations convey data to users in a variety of ways. Our survey considered seven common ways that EDOs communicate data to data consumers, as shown in **Figure 18**. The most important channels of communication between producers and audiences overall are websites; in-person visits; direct correspondence between EDOs and data consumers; and formal requests for information (RFIs).

Figure 18. The Importance of Various Media Channels

Websites

- ↘ ***Seventy percent of EDOs say their website is one of the most important channels of data communication***

Websites rank highly among the tools that economic developers use to communicate data to various audiences, with 70 percent of EDOs ranking their website as the first, second, or third most-important channel of communication. The data demand side also relies heavily on the Internet; a 2014 survey of executives found that 63 percent said that they were likely to refer to EDOs' websites during their next site location search.[44]

To be effective tools of data communication, websites must emphasize content instead of marketing, helping users to easily retrieve and

[44] Development Counsellors International, *Winning Strategies in Economic Development Marketing,* (New York: DCI), 2014.

download pertinent information. According to *Government Technology,* the best websites are:

- Responsive to user needs;
- Simple to use;
- Searchable; and
- Mobile-phone capable.[45]

Application program interfaces (APIs) allow EDOs to enrich website content with databases, maps, and graphics; many APIs allow users to interact with content--for instance, by generating customized graphics or reports.

As discussed in **Consuming Data,** the various important users of EDO websites require different types of data. One strategy to address this need is to create different websites or paths within the website for different audiences, maximizing the visitor's experience.

Google Maps

Google Maps is also available as a free API, allowing economic developers to embed customized maps into their websites.

Geographic Information Systems (GIS)

Geographic Information Systems (GIS) allow data to be mapped, viewed, customized, and downloaded using a layered map interface. GIS applications allow the overlaid presentation of the location of available buildings and sites; jurisdiction boundaries; zoning; infrastructure assets; public facilities; and competing or supplying businesses. ESRI's ArcGIS, GIS Analyst, and LocationOne Information Services are some commonly used GIS platforms.

Individual GIS files are widely available from local and state government for use with various platforms. One commentator writes, "EDOs are ideally positioned to take on this challenge and champion new [GIS] initiatives. However, they need the full support of other senior managers and elected officials at city hall in order to make this a reality. GIS is not just about technology, but should also be embraced as an integral part of a comprehensive business development strategy."[46]

Organizing Data in Action: Des Moines Regional Research, Stats, and Data Hub

Des Moines Regional Research, Stats, and Data Hub (**www.desmoinesmetrodata.com**) is a project of the Greater Des Moines Partnership supported by the Des Moines Area Metropolitan Planning Organization (MPO), the Tomorrow Plan, MidAmerican Energy, Capital Crossroads, and Cultivation Corridor.

The website, built on the Headlight platform, presents key data in drop-down menus. Users are able to customize data according to county, year, and industry. National comparison data is presented side-by-side. The site is also aesthetically pleasing, maintaining a consistent color palette throughout its many charts and graphs.

[45] *Government Technology*

[46] John Spencer, "How Smart Cities Are Boosting Economic Development Using GIS." *Digital Communities,* June 24, 2015.

Figure 19. A typical page from the Des Moines Regional Research Stats & Data Hub, which presents statistics in a well-organized, customized manner.

Correspondence by Email or Telephone and Formal Requests for Information

Although users often conduct preliminary research by web, their next step is usually to contact an economic development organization directly. Site selectors rank this form of communication as highly important. However, four-fifths of data consumers say that they will not contact an economic development organization until they have compiled a shortlist of potential communities.

Site Visits

Site visits often occur near the end of a location search. Site visits add contextual richness to the data that data consumers have already acquired through other means.

During a site visit, prospects are presented with informational materials briefing the site selector on issues such as business climate, incentives, and educational institutions. A team of economic developers, elected officials, regional officials, utility representatives, and workforce development representatives is also on hand to verbally communicate essential information to site selectors. It is essential that representatives on the team be prepared to answer questions on a range of subjects applicable to the prospect company. Training of the team conducted in advance should emphasize company-specific information gleaned from research. After a site visit, follow-up messages should reiterate key information presented during meetings and provides any additional data that was requested.[47]

In recent years, site visits have become significantly shorter, often lasting less than a day.[48] Many expect that virtual site visits and interactive modeling may entirely replace in-person site visits in the near future.

---

[47] Nancy Bowen-Ellzey, CEcD, "Hosting a Successful Prospect Visit," Ohio State University Extension. Retrieved April 11, 2016.

[48] Louise Anderson, *Knowledge is Power: Working Effectively with Site Selectors,* (Washington, DC: IEDC/EDRP), 2012.

CHAPTER 10: Conclusion

Conclusion

There is a story being told about every community through data. The consequences of this story are enormous—data affect funding, business location, business retention, and whether workers stay or leave. But whether that story is complete or incomplete depends on engaged community representatives like economic developers monitoring the narrative.

New tools, from improved government data to other public and private sources have put this control at the fingertips of economic developers. But with this new power comes new conundrums. Data is often used to make decisions, but making decisions about data can be difficult. Economic developers must decide how much to invest in staff, software, reports, and consultants. And then, they must decide what to do with the information they have; would it be prudent to invest in the inklings of a new cluster, or should resources be directed toward improved website engagement?

From the survey of end data users, including site selectors and corporate location consultants, it is clear that economic developers' ability to provide data is still essential, even in light of new technology. In some ways, old-fashioned customer service is more important than ever—picking up the phone, and responding to requests with alacrity go a long way toward a favorable impression. On the other hand, EDOs must be even more dedicated to providing a deep breadth of knowledge about their community. End users can find basic information about communities on their own, but it can be the detailed information on the local level—which is only available from sources like EDOs— that make or break a deal.

Therefore, it is essential that EDOs familiarize themselves with all available data sources and develop a strategic approach to data management. Establish the resources available to analyze data, and match it with the most requested information. If there is data that does not tell the whole story about a community, economic developers must take action by analyzing available data. Perhaps data about population or unemployment needs to be cross-referenced with other sources. If the error is in the data set itself, then the economic developer can seek to correct it at the source.

How does an EDO make sure their data is up to the new standard? By constant monitoring, ongoing collection, and excellent packaging, combined with a service mentality toward end users.

Appendix A: Data Sources

Federal Sources

U.S. Census Bureau | www.census.gov
The Census Bureau conducts more than 130 surveys each year. Their many data products include:

- American Community Survey
- American Housing Survey
- Annual Capital Expenditures Survey
- Annual and Monthly Retail Trade Surveys
- Annual Survey of Entrepreneurs
- Annual Survey of Manufactures
- Annual Survey of State and Local Government Finances
- Annual and Monthly Wholesale Trade Surveys
- Business Dynamics Statistics
- Business R&D and Innovation Survey (in partnership with the National Science Foundation)
- Census of Governments
- Current Population Survey
- County Business Patterns
- Decennial Census of Population and Housing
- E-Commerce Statistics
- Economic Census
- Export and Import Statistics
- Local Employment Dynamics
- Longitudinal Business Database
- Nonemployer Statistics
- Population Estimates Program
- Small Area Income and Poverty Estimates
- Statistics of U.S. Businesses (in partnership with SBA)
- Survey of Business Owners
- Survey of Income and Program Participation
- Quarterly Workforce Indicators

Bureau of Economic Analysis (BEA) | www.bea.gov
The BEA compiles the National Income and Product Accounts (NIPA), which includes gross domestic product at the national, state, and metropolitan-area levels. Most NIPA data come from other federal sources like the Census Bureau, Bureau of Labor Statistics, or the IRS. BEA prepares the Regional Economic Accounts, which estimates local area personal income, personal consumption expenditures, and regional price parities. Other BEA data programs include industry accounts, consumer spending, corporate profits, and regional input-output multipliers, among others.

U.S. Bureau of Labor Statistics (BLS) | www.bls.gov
BLS prepares information on labor force, jobs and wages, and prices. It also prepares estimates of consumer expenditures, worker productivity, and workplace injuries. BLS data programs include:

- Business Employment Dynamics
- Consumer Expenditure Survey
- Consumer Price Index
- Current Population Survey
- Current Employment Statistics
- Employment Projections
- Job Openings and Labor Turnover Survey
- Local Area Unemployment Survey
- National Compensation Survey
- Occupational Employment Statistics
- Quarterly Census of Employment and Wages

U.S. Equal Employment Opportunity Commission (EEOC) | www.eeoc.gov/eeoc/statistics
The EEOC maintains statistics on job patterns for minorities and women in private industry, local unions, state and local government, and public schools, in addition to other special reports and statistics on EEOC enforcement.

National Center for Educational Statistics | https://nces.ed.gov
The National Center for Education Statistics is part of the Department of Education and is the primary federal entity for collecting and analyzing data related to education in the United States. They produce the National Assessment of Education Progress, National Assessments of Adult Literacy, International Activities Program, Early Childhood Longitudinal Study, National Household Education Survey, Career/Technical Education Statistics, Common Core of Data, and other data on secondary and postsecondary education.

Employment and Training Administration (ETA) | www.doleta.gov/programs/onet
The ETA, part of the Department of Labor, maintains the Occupational Information Network (O*NET), a database of occupational requirements and worker attitudes. It describes occupations in terms of the skills and knowledge required, how the work is performed, and typical work settings.

Social Security Administration | www.ssa.gov/policy
The Social Security Administration publishes data on earnings and employment for workers covered under Social Security and Medicare by state and county. Other topics include sources of income and spending patterns for those aged 65 or older.

Congressional Budget Office (CBO) | www.cbo.gov
CBO regularly publishes data on the federal budget and economic outlook, including budget, revenue, and economic projections.

U.S. Small Business Administration (SBA) | www.sba.gov
SBA compiles state and local information about business establishments, designed to assist small business owners. It prepares small business profiles for each state with data on firms by size, industry, and employment. It also includes establishments by county.

Internal Revenue Service (IRS) | www.irs.gov
The IRS publishes a wide range of tables and data that measure elements of the U.S. tax system. Topics include tax statistics for businesses, charitable organizations, individuals, IRS operations, statistics of income, and projections.

Federal Reserve | www.federalreserve.gov/econresdata
The Federal Reserve Board's statistical releases include data on consumer credit, industrial production and capacity utilization, bank assets and liabilities, business finance, foreign exchange rates, financial accounts of the United States, household finance, interest rates, and money stock.

Federal Deposit Insurance Corporation (FDIC) | www.fdic.gov/bank/statistical
The FDIC provides access to comprehensive financial and structural information about every institution it insures, such as bank financial reports, summary of deposits, and statistics on depository institutions. They also publish quarterly and historical data on industry and FDIC trends.

International Trade Administration | http://trade.gov/data.asp
The International Trade Administration publishes statistics on exports and imports, competitiveness, and trade. Statistics are available at the national and state level as well as by industry.

U.S. Department of Agriculture (USDA) | www.usda.gov
Data sources at the USDA are the Economic Research Service, Foreign Agricultural Service, National Agricultural Statistics Service, Rural Development, and the World Agricultural Outlook Board. They provide key indicators, outlook analysis, and other data on the U.S. and global agricultural system.

U.S. Patent and Trademark Office | www.uspto.gov
The Patent Office's open data portal includes information on patent grants, published patent applications, patent assignments, trademark applications, and trademark assignments. They also offer several data visualization and research tools.

Department of Housing and Urban Development (HUD) | www.huduser.gov
HUD's Office of Policy Development and Research publishes an array of housing research, data, and policy analysis on the HUD User Clearinghouse. Data sets include the American Housing Survey, HUD median family income limits, small area fair market rents, and microdata on topics such as housing discrimination, HUD-insured multifamily housing stock, and the public housing population.

Federal Housing Finance Agency (FHFA) | www.fhfa.gov/DataTools
FHFA publishes data on the current housing market, federal home loan bank members, the housing price index, monthly interest rates, and Fannie Mae and Freddie Mac borrowers.

Bureau of Transportation Statistics | www.rita.dot.gov/bts
The Department of Transportation's Bureau of Transportation Statistics administers data collection, analysis, and reporting for all modes of transportation in the United States. Information is available on airlines and airports, highways, maritime transportation, rail, transit, pipeline and hazardous materials, and multimodal sources at the national, state, and local levels. It reports monthly the movement of passengers and freight in the United States and government expenditures on transportation.

National Center for Health Statistics | www.cdc.gov/nchs
The National Center for Health Statistics is the principle health statistics agency and is part of the Centers for Disease Control. Data publications include the National Health Interview Survey; a compendium of health status, health care resource use, and vital statistics; and life expectancy data.

U.S. Energy Information Administration (EIA) | www.eia.gov
The EIA collects, analyzes, and disseminates information on the energy sector, including on the sources, uses, and consumption of petroleum, coal, natural gas, renewable energy, nuclear, and electricity.

Private Sources

IEDC Members Providing Software Solutions

310 Marketing Ltd., Richmond, VA
www.310ltd.com | (804) 422-0310
310 Ltd.'s lead generation intelligence system (LGIS) is a do-it-yourself prospecting system designed for economic development organizations that combines CRM-like data capture fields and calendaring, plus script prompts for in-house telephone prospecting. LGIS is fully customizable and utilizes a Microsoft Access platform.

Accrinet Corporation, Charlotte, NC
www.accrinet.com | (888) 965-3330
The Accrisoft Freedom is a web-based software solution that consists of five applications: website (content management system), operations (association management software), sales (customer relationship management), marketing, and finance. Data and content provided by EDOs is connected across the five applications.

Applied Economics, Phoenix, AZ
www.aeconomics.com | (602) 765-2400
Metrocomp is a database application that contains comparative business climate information at the metropolitan area level for more than 300 variables, as well as interactive operating cost comparisons. Data is preloaded and customized to the specified metro area(s). Applied Economics also offers a Regional Economic and Revenue Impact Model that can be used to measure the return on investment from economic development programs over a single year or multi-year time period.

Atlas Advertising/Community Systems, Denver, CO
www.atlas-advertising.com | (303) 292-3300
Atlas Advertising and partner Community Systems offers Atlas InSite Geographic Information Systems (GIS), which allows EDO users to manage available properties, local business data, and amenity details. It is designed to be integrated into EDO websites to be utilized by prospects. Their Prospect Response System for economic developers is designed to organize and manage information on projects and integrates with the Atlas InSite GIS database.

Avalanche Consulting, Inc. & Headlight Data, LLC, Austin, TX
www.avalancheconsulting.com | www.headlightdata.com | (512) 695-0100
Avalanche Consulting's award-winning software, Headlight Data, helps EDOs stand out against their competition by providing websites that automate data management, analysis, and updates from end-to-end. Headlight serves many needs, from enhancing marketing content to informing public policy and workforce development. Contact Headlight LLC for a demo.

Blane, Canada Ltd., Wheaton, IL
www.blanecanada.com | (630) 462-9222
The Synchronist Business Information System's online software provides organization, management, analysis, and reporting tools for business retention & expansion, workforce development, and project management. It incorporates business retention strategies, interview design, assistance tracking/service delivery management, competitive intelligence, intranet and database software, and an economic development resource library.

Chmura Economics & Analytics, Richmond, VA
www.chmuraecon.com | (804) 554-5400
JobsEQ is an online access point for local labor market data on employment, wages, and demographics at the zip code level. It models project-specific staffing and payroll, allows comparisons with other regions, and provides industry cluster analyses and other decision tools. LaborEQ brings together data on labor supply, labor cost, and economic climate data for location decisions. Curated labor data is also available for bulk purchase.

Cloud Nine CRM (by PA Group), Chattanooga, TN
www.economicdevelopmentcrm.com | (423) 954-3007
Cloud Nine Economic Development is a high-powered EDO application built on the Microsoft Dynamics CRM platform. In addition to the core customer relationship management functions – sales, marketing, customer service – the Cloud Nine app adds in the exact features EDOs need to be successful like events, projects, incentives, sites, and BRE. Cloud Nine makes it easy to manage the moving parts of economic development projects and marketing campaigns in one place. Create, promote, track, and report on economic development efforts and integrate directly with Outlook and the Microsoft Office 365 Cloud.

Community Attributes Inc., Seattle, WA
www.communityattributes.com | (206) 523-6683
Community Attributes Inc. has created a suite of web applications to target key demographics and understand communities' attributes for jurisdictions nationwide, using U.S. Census and other public data. They can also build custom maps, apps, and dashboards around your data.

Deloitte, New York, NY
www2.deloitte.com/us/en.html | (212) 492-4000
Data USA is a collaboration among Deloitte, MIT Media Lab's Macro Connections Group, and Datawheel. The platform combines publicly accessible data from multiple U.S. government sources and organizes, analyzes, and visualizes it. Topics include labor and job markets, higher education, regional demographics, health care, industry trends, and transportation.

Economic Development Research Group, Inc., Boston, MA
www.edrgroup.com | (617) 338-6775
The Local Economic Assessment Package (LEAP) includes a web-based software system and data service that helps EDOs to assess competitive strengths and weaknesses, identify critical factors affecting economic growth, and prioritize business attraction targets and other investments. It is designed around three modules: economic base assessment, targeting and diagnosis, and policy scenarios.

Economic Incentives Services, LLC, Houston, TX
www.edincentives.com | (713) 665-7200
IncentiSys provides a central repository for archive/retrieval, research, analysis, implementation, and compliance with domestic and international incentives. Company-specific facts regarding business locations, employee data, taxes, local government contacts, supporting documents, and other pertinent information can all be maintained and accessed through the online system.

Economic Modeling Specialists International (Emsi), Moscow, ID
www.economicmodeling.com | (208) 883-3500
Emsi Developer is designed for economic and workforce development professionals and provides local labor market analytics at the zip code level. Developer can provide data and visualizations for business attraction and retention, workforce availability, and strategic planning. Emsi's labor market database combines data from multiple sources on industry and occupational trends with job posting analytics.

Esri, Redlands, CA
www.esri.com | (909) 793-2853
Esri's ArcGIS software is used to create maps, analyze and manage spatial information, and discover and share geographic data. It has a number of integrated components and extensions that can be utilized for specific GIS functions. ArcGIS Online makes Esri's demographic data accessible through basemaps, tools, templates, and datasets to design maps, charts, and reports. Esri Demographics includes datasets on the American Community Survey, tapestry segmentation, consumer spending, market potential, retail marketplace, business data, major shopping centers, crime indexes, and traffic counts.

ExecutivePulse, Erie, PA
www.executivepulse.com | (866) 397-8573
ExecutivePulse's cloud-based CRM system is designed to support business retention and expansion, business recruitment, entrepreneurial development, and workforce initiatives. It includes database, communication, collaboration, and analytical tools that can be customized to EDOs' needs.

GIS Planning, Inc., San Francisco, CA
www.GISplanning.com | (415) 294-4775
ZoomProspector Enterprise is a web application that integrates into an EDO's website and provides information to help new, expanding, and relocating businesses select their location. It uses patented GIS software and provides real estate search, demographic analysis, industry reports, and mapping tools. It is part of a larger site selection ecosystem, including the national portal, ZoomProspector.com. Available "Intelligence Components" include community infographics, demographics, dynamic maps, business data, and community comparisons. Data is updated automatically by GIS Planning. EDOs can also add local GIS layers with information on land use, incentive areas, schools, or other assets.

Impact DataSource, Austin, TX
www.impactdatasource.com | (800) 813-6267
Impact DataSource licenses and supports customized economic and fiscal impact software. The models allow users to enter data on prospective projects and incorporate other assumptions to generate a complete analysis. Both Impact Dashboard (web-based) and Total Impact (desktop) can calculate a rate of return and payback period on economic development incentives.

IMPLAN Group, Huntersville, NC
www.IMPLAN.com | (651) 439-4421
The IMPLAN economic model empowers economic developers to examine national, state, county, and city level economies to assess the total economic impact of an expansion or relocation, consequences of natural disasters, or the value of a business to a regional economy. IMPLAN helps state and local governments to: estimate the potential revenue generation of new businesses for tax abatements, study the impacts of tourism and conventions, evaluate infrastructure and industry investment, identify supply chain weaknesses, and determine the impacts of potential business loss from the local economy.

LocationOne Information System (LOIS), Kansas City, MO
www.locationone.com | (816) 654-1644
LOIS is a customizable web-based database for site selection that provides mapping, search, and reporting capabilities. LOIS gives EDOs the ability to add demographic and employer data, customize map layers, highlight community assets, as well as gather information on site activity and end user interest. State, county, and metro data is typically imported directly into LOIS, while community data is the responsibility of the local EDO.

McSweeney & Associates Consulting Inc., Ottawa, ON
www.mcsweeney.ca | (855) 300-8548
The EDTools Data & Profile Report Generator presents current community and site data, supplied by a data mining company and updated automatically. Reports can be downloaded by site selectors as a PDF or Excel file. McSweeney is also a licensed reseller of Manifold Data Mining, which provides geo-demographic, household spending, consumer purchase behavior, and lifestyle data in Canada.

OCO Global, Belfast, UK
www.ocoglobal.com | (646) 350-3490
Velociti, from OCO Global, is a corporate intelligence platform which drives results in lead generation activities and provides robust business intelligence. An algorithm modeled from extensive research on business attraction trends coupled with the use of predictive analytics makes Velociti an attractive tool for trade and investment professionals. Velociti scores companies based on their propensity to invest, export, and innovate. The results can be used to identify the most attractive trade and investment prospects by market and sector and prioritize pipeline and targets. Data is updated every 24 hours.

Regional Economic Models, Inc. (REMI), Amherst, MA
www.remi.com | (413) 549-1169
PI+ generates year-by-year estimates of the total regional economic and demographic effects of any specific policy initiative. Historical and forecast data from a variety of data sources is aggregated for the model. The primary data source is the Bureau of Economic Analysis. REMI's Metro-PI provides economic and demographic forecasting for sub-county geographies (municipal, TAZ, or census tract level). Metro-PI

incorporates local land use characteristics and regulations through cooperation with local experts. REMI also offers the Tax-PI tool for evaluating the total fiscal effects of tax and other policy changes.

SizeUp Local Business Intelligence (LBI), San Francisco, CA
www.SizeUp.com/LBI | (931) 538-5575
SizeUp LBI, a product of GIS Planning, Inc., is an automated online BRE service for an EDO's website that helps local businesses grow and succeed. SizeUp LBI offers entrepreneurs the business intelligence they need to make key decisions. SizeUp's groundbreaking and award-winning technology helps area businesses remain competitive by enabling them to benchmark performance; assess competitiveness; find the best places to advertise; and analyze demographics, labor force, and consumer expenditures. All information is customized to a service area, and SizeUp LBI includes advanced demographics.

StateBook International, Kingston, NY
www.statebook.com | (845) 383-1991
StateBook has standardized the data required for site selection decision making and aggregated more than 63,000 data points from more than 50 sources that is comparable and customized for each community across the U.S. EDOs are able to access this data, create reports, save custom user settings, and add available sites and buildings to a nationally searchable database and GIS map. They can also utilize the content management system to add editorial content, photos, maps, links, future conditions, and other details to showcase their region to site selectors and business around the globe.

SVAM International, Great Neck, NY
www.svam.com | (800) 903-6716
ProTRACKPlus is designed to provide EDOs with the capability to analyze data and business processes. It can track investments and returns, manage workflows, and analyze project performance. Features include cost-benefit analysis, incentive management and reporting, contact management, a performance dashboard, and management reports, among others.

Synergos Technologies, Inc. (STI), Austin, TX
www.synergos-tech.com | (512) 343-1963
STI offers data products for market research. Topics include quarterly population estimates (with more than 1,200 variables), subsections of census block groups, a neighborhood segmentation system, business and employee estimates, consumer spending patterns, retail expenditures and market outlook, and multiple macroeconomic indicators. STI combines open data like that from the U.S. Census, U.S. Postal Service, or Bureau of Labor Statistics with its own methodology to calculate estimates.

Willdan Financial Services, Alameda, CA
www.willdan.com | (800) 755-6864
MuniMagic, a municipal administration and government information coordinator, is used to maintain parcel data, calculate special taxes and fees, maintain bond related information, and provide customized reporting. Users can access limited parcel-specific data on the web, all MuniMagic data, or use it to administer special districts.

Woods & Poole Economics Inc., Washington, DC
www.woodsandpoole.com | (800) 786-1915
Woods & Poole's database contains more than 900 economic and demographic variables by state, region, county, and metropolitan and micropolitan area from 1970 to 2050. The database is updated annually, and is available electronically in spreadsheets as well as in print form.

Other Software Solutions

Public Sources

National Association of Counties
http://www.naco.org/ | (202) 393-6226
National Association of Counties focuses on finding transformational and cost effective solutions to public policy challenges, and improving the quality of public leadership and service.

National Association of Regional Councils
http://narc.org/ | (202) 986-1032
National Association of Regional Councils generates information and research on national policy issues, federal policy developments and best practices. It conducts trainings, conferences, workshops and webinars for regional councils, and metropolitan and regional planning and development agencies and organizations.

U.S. Conference of Mayors
http://www.usmayors.org/ | (202) 293-7330
US Conference of Mayors works to develop effective national urban and suburban policy, provide mayors with leadership and management tools and facilitate networking and sharing of ideas.

Private (For profit) Sources

Alteryx
http://www.alteryx.com/ | (888) 836-4274
Alteryx provides self analytics tools to businesses which may help them use demographic and market data to improve business performance and investment activity.

Burning Glass Labor Insight
http://burning-glass.com/labor-insight/ | (617) 227 4800
Burning Glass Labor Insight mines data from thousands of job postings, and provides information about education, experience, specific skills and work activities required for posted jobs.

CB Insights
https://www.cbinsights.com/ | (212) 292-3148
CB Insights is a venture capital database which provides information, analyses, and expert advice to businesses and investors.

Dow Jones VentureSource
http://www.dowjones.com/products/pevc/ | privatemarkets.sales@dowjones.com
Dow Jones VentureSource is a global database of companies backed by venture capital and private equity. It provides in-depth company profiles, angel investor data, real-time news, and multiple streams of relevant data and insights.

Dun and Bradstreet

http://www.dnb.com/ | (877) 596-9524
Dun and Bradstreet offers consultancy and advisory, providing data and analytics on building and effectively utilizing networks, and using and managing data to improve business performance.

Hoover's Inc.
http://www.hoovers.com/ | (855) 273-1451
Hoover's Inc. provides proprietary business information and workflow solutions. It provides data and analytics useful for sales and marketing cycle acceleration, including leads generation, corporate linkages, et al.

PriceStats
http://www.pricestats.com/ | (617) 577-3908
PriceStates uses internet data to measure inflation, PPP, and other economic indicators, on a daily basis, which is available in thematized series, including US series, Eurozone series, et al.

S&P Global Market Intelligence Capital IQ
https://www.spcapitaliq.com/ | (877) 863-1306
S&P Global Market Intelligence Capital IQ offers numerous tools to help its clients track performance, identify investment ideas, understand industry dynamics, perform valuations, and assess credit risk.

Venture Deal
http://www.venturedeal.com/ | (650) 924-9239
Venture Deal is a capital and startup database which provides information on technology startup companies, venture capital firms, and company transactions.

WISERTrade
http://www.wisertrade.org/home/portal/index.jsp | (413) 282-8182
WISERTrade provides data on international trade flows and analytics aimed at supporting strategic decision-making and problem-solving.

Private (Not for profit) Sources

American Bankruptcy Institute
http://www.abi.org/ | (703) 739-0800
American Bankruptcy Institute provides reports and analyses of bankruptcy regulations, laws and trends.

Brookings Institution
http://www.brookings.edu/ | (202) 797-6000
Brookings Institution is a think tank that produces in-depth reports and analyses of national and international public policy issues. Its research and knowledge production encompasses a wide variety of subject matters, including business and finance, economics, global economy, international development, foreign policy, social policy, fiscal policy, among numerous others.

Council for Community and Economic Research
https://www.c2er.org/ | 703-522-4980
Council for Community and Economic Research is a membership organization focusing on improving community and economic research. It focuses on improving data availability, improving data quality, and promoting learning about regional economic analytic methods.

Impactstory
https://impactstory.org/ | team@impactstory.org
Impactstory helps researchers explore impact of their research work by gathering data on frequency with which an item of research is tweeted, saved, downloaded, bookmarked and saved.

Institute for Supply Management
https://www.instituteforsupplymanagement.org/ | (480) 752-6276
Institute for Supply Management works to improve supply management through education, research, information distribution and industry certification.

Moody's Analytics
http://www.moodysanalytics.com/ | (212) 553-1653
Moody's Analytics provides tools and best practices to manage risk through credit analyses, economic research and financial risk management.

National Association of Realtors
http://www.realtor.org/ | 800-874-6500
National Association of Realtors provides facilities for professional development, conducts research relevant to the real estate sector and facilitates exchange of information within its membership, and outward towards the public and government.

National Association of State Budget Officers
https://www.nasbo.org/ | (202) 624-5382
National Association of State Budget Officers conducts research and policy analyses on fiscal issues and budget processes, and facilitates exchange of ideas and best practices between members, through annual meetings and trainings.

National Bureau of Economic Research
http://www.nber.org/ | (617) 868-3900
National Bureau of Economic Research provides comprehensive research for both the public and the government, including on subjects like corporate finance, development economics, environment and energy, et al.

NORC General Social Survey
http://www3.norc.org/GSS+Website/ | (773) 256-6288
NORC General Social Survey gathers data on attitudes, behaviors and attributes of contemporary American society. It gathers data on demographics, behavior, attitudes, psychological well-being, social mobility, intergroup tolerance, civil liberties, and national spending, among others.

Population Reference Bureau
http://www.prb.org/ | (202) 462-2726
Population Reference Bureau is an information database providing data and analyses on population, health and environment. Focus areas such as gender, youth, family planning and reproductive health, migration and urbanization and, population and environment, among others, enjoy special attention.

PWC MoneyTree
https://www.pwcmoneytree.com/ | https://www.pwcmoneytree.com/ContactUs/ContactUs

PWC MoneyTree is a large database on venture capital activity in the US and various other countries around the globe. Data is available in multiple formats, and is disaggregated by multiple categories, including number of deals, stage of development of enterprise, historical data, regional data, et al.

The Conference Board
https://www.conference-board.org/ | (212) 759-0900
The Conference Board gathers detailed and in-depth data and analyses on corporate leadership, human capital and, economy and business environment. It conducts public-private forums to facilitate exchange of ideas and best practices.

The Economist Intelligence Unit
http://www.eiu.com/home.aspx | (212) 698-9717
The Economist Intelligence Unit is an online tool which provides economic and financial data on cities and countries around the globe to facilitate business and investment.

Urban Institute
http://www.urban.org/ | (202) 833-7200
Urban Institute conducts research program evaluations to solve public policy issues surrounding urban development and associated challenges.

Youreconomy.org
Youreconomy.org is an online tool which provides information on business activity across the US. The tool can track organizations by type, size and activity, and provide information of several indicators, including impact of an organization in selected area.

Public- Private Partnerships

Innovation in American Regions
http://www.statsamerica.org/innovation/ | ibrc@iupui.edu
Innovation in American Regions provides tools to support strategic economic development planning primarily, but not only, in rural regions. It helps planners assess a region's comparative strengths and weaknesses with respect to fostering innovation-based growth.

StatsAmerica
http://www.statsamerica.org/ | http://www.statsamerica.org/Contact.aspx
StatsAmerica provides data for economic development practitioners which may be used in site requests, metrics development, grant writing and strategic planning