

Future Ready

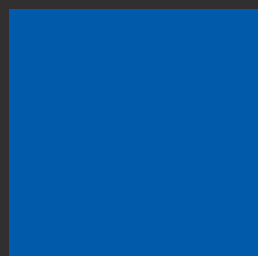
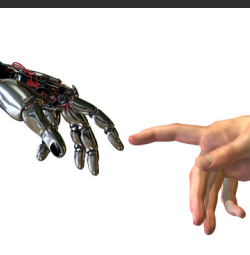
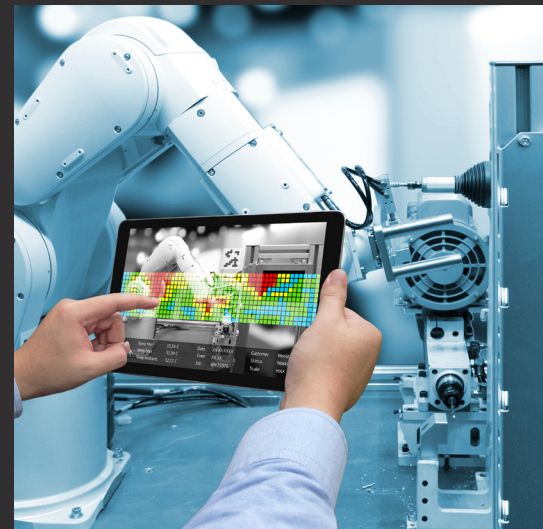
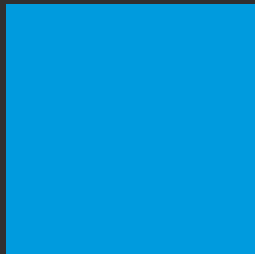
Preparing for Tomorrow's Economy



ECONOMIC DEVELOPMENT
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*International Economic
Development Council*

Executive Summary



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Executive Summary

Thinking about the future

The genesis of this report, sponsored by the Economic Development Research Partners (EDRP) program, lies in the recognition that economic development leaders need to periodically retreat from their everyday tasks and scan the horizon for emerging trends that will significantly affect their communities in the future. Technological advancements, globalization, and climate change are just a few examples. It is critical that economic development organizations (EDOs) identify potential opportunities and threats arising from such changes in a timely manner to be more resilient to future shocks – whether natural or manmade.

The most striking finding of this research is just how little such futures exercises take place in the economic development profession. This finding, however, confirmed the value of undertaking the research.

EDOs will also need to evaluate and adapt their practices in response to these rapid changes. Tomorrow's economy will bring jobs and prosperity for those that can correctly spot the likely growth areas and skill sets necessary to succeed as well as adapt their practices in support.

The aim of this report is to inform economic developers of the various changes that are likely to emerge as trends in the next five-to-fifteen years and outline an approach they can use to make their communities 'future ready.' This approach – encapsulated in the Future Ready Framework – will outlive the inevitably time-limited findings in these pages. The report does not attempt to predict the future. It is meant to ensure that economic developers are thinking strategically about different eventualities.

Manufacturing; healthcare and personal care; food preparation and serving-related occupations; retail; and transportation are examined in detail in the report. These were selected on the basis of employment size now, projected employment change (rate and size), and a preference to examine industry sectors rather than cross-cutting job functions (e.g. a focus on sectors such as manufacturing and retail rather than cross-cutting jobs such as 'management'). The report further evaluates the anticipated changes in these focus sectors from an economic development lens – the research findings section is broken up into the following categories: workforce, technology development and commercialization, infrastructure, promotion and connecting, and how the economic development profession itself might change.

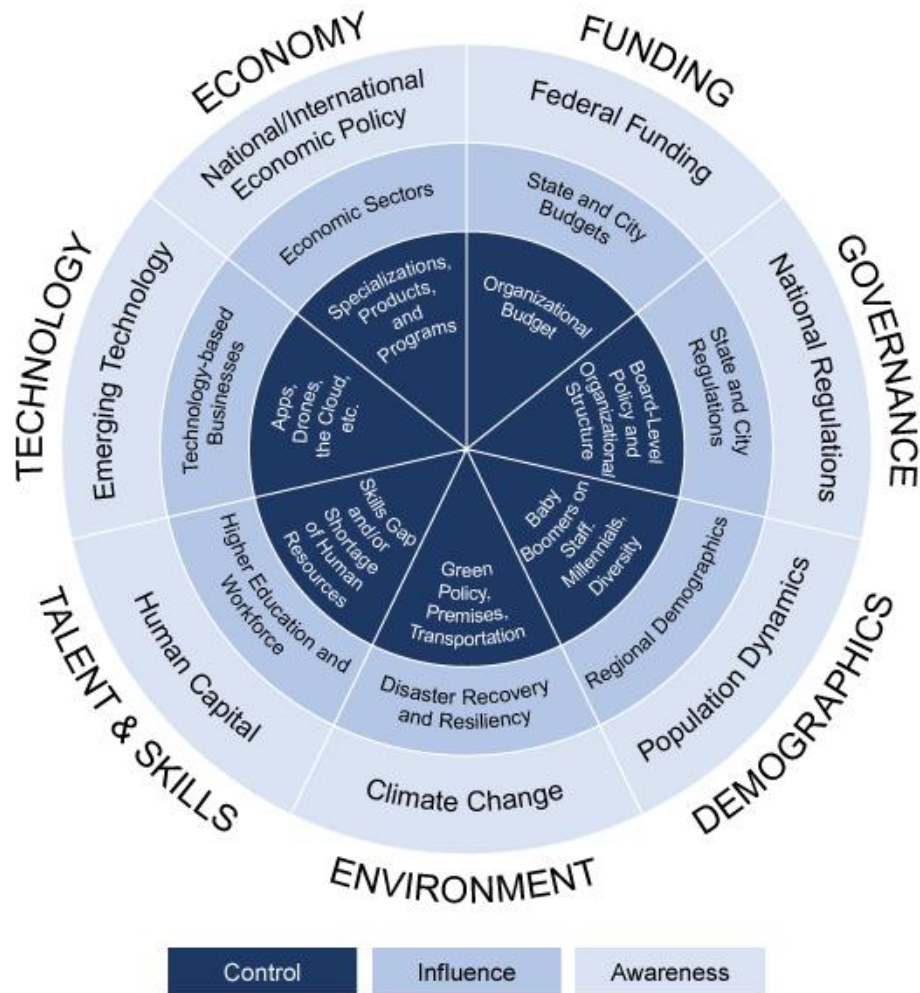
How economic developers are thinking about the future

Though far from a common practice, some EDOs are making future preparedness a priority. Methods include: tasking staff members with horizon scanning; events to discuss the future of key sectors and technologies; and expert advisory groups, consultancy studies and *pro bono* research. Not all EDOs will have the economic base and budget to warrant investment in such efforts but all EDOs can benefit from magazines, newspapers, journals, and events to stay abreast of future developments.

The Future Ready Framework

The Future Ready Framework (Figure 1) attempts to outline the key issues likely to be of relevance to EDOs in coming years and the different levels at which they can address these issues. Accompanying the framework is a questions-based guide that can serve as a starting point for conversations about the future of a community or EDO.

Figure 1: The Future Ready Framework



The three concentric circles represent the different levels of control and influence:

- Control: The innermost circle is the EDO;
- Influence: The middle circle is the community in the EDO’s sphere of influence;
- Awareness: The outermost circle represents the larger national and international forces at play.

The framework also comprises seven themes that cut across each circle or level: economy, technology, talent and skills, environment, demographics, governance, and funding. The report focuses on the first three (economy, technology, and talent and skills) due to their strong linkage with the work of economic developers.

Making practical use of the framework will involve different strategies for each theme and level. The conversation at each level will need to be with the stakeholders most invested in the betterment of that level, ranging from the EDO board of directors (control) to working with partner organizations such as big business, universities, and community colleges (influence), and by engaging with congressional representatives (awareness). EDOs can amend the framework according to their local context, timelines, and resources.

Workforce

The Bureau of Labor Statistics (BLS) employment projections for 2016-26 suggest that today’s biggest sectors, in employment terms, will remain important. The table below outlines the big projected growth areas in absolute terms – i.e. growth of at least a million jobs.

Table I: Sectors with million-plus projected employment growth 2016-26

Sector	Nature of the sub-sectors	Projected growth
Food preparation and serving related	Food and drink servers; cooks and food prep, supervisors	1,232,000
Healthcare practitioners and technical	Registered Nurses and therapists	1,336,600
Personal care and service	Personal care aides; and cosmetic and other personal appearance	1,227,700
Healthcare support	Nursing assistants, medical assistants, and Home Health Aides	1,019,600

The largest growth within these sectors are food and drink servers (828,000), personal care aides, (778,000), and home health aides (431,000). These are jobs with low pay and generally unappealing working conditions.

In terms of noticeable projected growth rates, the only one that is also significant in absolute terms is the software sector (255,000 jobs at 31 percent growth). There are also some rapidly growing

environmental occupations – solar photovoltaic installers and wind turbine service technicians – but both would be below 25,000 in terms of overall jobs in 2026.

The projected job losses are mainly in manufacturing (400,000 nationally over the decade) and secretarial/office administration. In addition to job losses, manufacturing is also set to see skill shortages and is not alone in this regard. Most of the focus sectors examined in this report are also likely to see skill shortages in the coming years.

The key themes under workforce are:

1. **Automation:** Research on job automation shows change may be more severe than BLS job projection data suggests. Indeed, skill shortages may hasten automation. Several major studies on the U.S. economy – notably those by Oxford University (2013) and McKinsey Global Institute (2016) – suggest that large numbers of jobs are at risk from automation. They stress that this will depend on time and costs of technology development and deployment; supply and demand of labor (i.e., if labor is cheap and effective, automation will slow); economic benefits of automation (whether it improves performance); and regulatory and social acceptance (whether people want it and will politicians allow it).

Automation is being extensively piloted in the report's focus sectors. Health and personal care seem to be the only sectors that are relatively safe from automation.

2. **Training and retraining:** Economic development practitioners need to evaluate their economies' potential for automation. Retraining and finding work for those who lose their jobs to automation could be a major challenge. Encouraging people to undertake training in sectors with high projected automation but good-paying jobs in the short term, such as trucking, is likely to be a bigger challenge.
3. **The gig economy** – defined as short-term jobs brokered via an internet platform – has several implications for economic development. Such jobs can be a route back into the workforce. Workers also use it as a temporary way to fund their goals, whether it is launching a business or paying for college. For employers too, the system offers the flexibility to recruit for a short-term assignment.

Economic developers need to understand and support the gig economy workforce, including providing information around the legal and administrative practicalities of operating in the sector, encouragement to workers to provide for their insurance and retirement, and supporting such work as a route into training and full-time employment.

4. **Changing reward mechanisms:** As automation proceeds and the gig economy disrupts how jobs are created (or even what constitutes a job), economic incentives that traditionally rewarded job creation may need to be rethought.

Technology Development and Commercialization

The commercialization of knowledge remains a key driver of economic development.

1. **R&D investments** – EDO's must be aware of their economies' R&D strengths and funding streams behind them, including private foundations, businesses, military facilities and universities. These institutions will be key to new product development, transferring technology, establishing new businesses, and training tomorrow's workers.
2. **Incubation** – Where technology incubation is viable, EDOs will decide whether they play a lead or supporting role. The report outlines several examples of economic development input in efforts to incubate new technologies. These include:
 - Atlanta's fintech ecosystem;
 - digital health entrepreneurs in New York City;
 - Montreal's multi-pronged support for a branch of artificial intelligence known as deep learning;
 - Indiana's first Internet of Things incubator;
 - products for elderly health in Louisville;
 - drone traffic management systems in New York State;
 - various cities' efforts to test autonomous deliveries and autonomous vehicles;
 - efforts in Phoenix to capitalize on the circular economy.
3. **Technology hubs** – There is also evidence of major tech companies creating presences, through mergers and acquisitions and establishing new offices, in larger R&D-intensive cities to draw on local research strengths and recruit talented staff. EDOs should understand this process and look to see if that model could be something they could help to promote in their own areas.

Most towns and cities will not be at these cutting edges, however. There, the EDOs must nevertheless understand these technologies and then ask how local businesses can apply them.

Infrastructure

The infrastructure needs of business in emerging technology sectors, as well as established industries, is changing. The key themes are:

1. **Access to broadband internet networks** will be essential for many industries – examples include businesses in big data, fintech, and autonomous vehicles. Economic developers can partner with other experts such as land use and transportation planners to determine placement of high capacity fiber networks that benefit businesses.

Hospitals may also become increasingly virtual, changing their infrastructure needs. In suburban St. Louis, the Mercy Virtual Care Center is a bed-less, patient-less hospital. The

doctors and nurses on staff monitor patients online in other parts of the country. Any building space with fast broadband in a community that is attractive to skilled medical staff could host such a facility.

2. **Retail stores and malls are being re-envisioned.** In mid-2017, Credit Suisse estimated that a quarter of U.S. malls would close by 2022. Hundreds of malls have already closed, and economic developers need to understand what options exist to revive or repurpose such places (community college space, medical centers and Amazon fulfillment centers are examples already in use). Retail store layouts are also changing – with both changed use (more showroom and experiential retail) and reduced use (Internet of Things-type retail and less space for parking and wide store aisles).
3. **Changing space requirements** – Advanced manufacturing will move to modern (possibly smaller) buildings. For some businesses in this sector, such as robotics and additive manufacturing (3D printing), 'legacy buildings' may work well. The testing of autonomous vehicles has also used legacy spaces.

Autonomous vehicles will also require a rethinking of transportation infrastructure. The report highlights some of the infrastructure put in place for autonomous vehicles in southeast Michigan. More generally, the likely advent of inter-city driverless trucks will create a need for loading and unloading depots on the edges of cities and near highways.

Promotion and connecting

Communities and EDOs use several tactics to promote places to workers and businesses. One tactic is to promote not just affordability and an area's assets but the opportunity to tackle an industry's greatest challenges to highly skilled mobile workers. For example, Pittsburgh promotes how it offers the opportunity to work on some of the most complex problems and achieve breakthroughs in the robotics industry.

Other tactics include:

- clever names for business clusters that achieve wider recognition of an area's pre-eminence (or aspired pre-eminence);
- promoting excellent vocational high schools such as the Lehigh Career & Technical Institute in Pennsylvania that uses a fully-functional distribution center to prepare students for jobs in the booming local logistics sector;
- securing politicians to promote a sector – especially if they have a business or technology background;
- taking a metropolitan approach to marketing; and
- attendance at high profile events such as South by Southwest (SXSW) that promote both place and technology.

There are various mechanisms for promoting an emerging technology to business, workers, investors, and politicians:

- working with national organizations can forge wider partnerships aimed at luring inward investment;
- securing business support for an initiative is useful;
- events such as the Maryland Cybersecurity Roundtable, New York's Blockchain Week, and Pittsburgh's Automated Vehicle Summit.

EDOs can and should broker connections in emerging technology sectors because many of these sectors are so new, businesses do not always know about other firms in their industry. There are also examples of local business ecosystems coming together to collaborate (such as the New Jersey Big Data Alliance that involves academia, industry and government).

How might economic development change in the future?

As communities grapple with more complex issues, economic developers will likely need to expand their scope beyond traditional economic development activities. Technology could help with some of those shifts.

- **Environmentally focused** – The environment will figure prominently. Economic developers, will need to understand proactive and reactive measures to address extreme weather. The profession is also likely to forge deeper partnerships with waste management departments and manufacturers that can recycle waste into new products and materials.
- **Technology usage** – Economic developers must become more technology-literate to understand businesses' wants and needs. Also, as information about places becomes easily available online, place marketing is likely to incorporate drones and virtual reality or augmented reality technologies. Some Bay Area EDOs have been liaising with start-up in residence-type arrangements to develop apps, products, and processes that help EDOs do their work more efficiently.

