


THE CHICAGO TRI-STATE METROPOLITAN AREA
OECD TERRITORIAL REVIEW
SYNOPSIS



U.S. DEPARTMENT OF COMMERCE
ECONOMIC DEVELOPMENT ADMINISTRATION

CHICAGOLAND
CHAMBER OF COMMERCE
The Voice of Business since 1904

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The OECD report on the Chicago region and the new Tri-State Alliance for Regional Development are breaking the psychological and political logjam that has kept this region – from Milwaukee through Chicago into Northern Indiana – from being the true economic region it should be. It is now up to the region and its leaders to seize the opportunity presented by the report and the Alliance. Success could restore this region to the place it once held, as the beating heart of the American economy.

The core idea of the OECD report is that the Chicago economic region is not just a string of cities and towns, strung haphazardly along the Lake Michigan littoral, split by two state lines, divided by a history of petty competition and duplicated services, next door to each other but with nothing much in common. Rather, the report and the Alliance see this region as a single economic engine, a mighty urban metro that hangs together in its history, its economy and its demographics, more than 10 million people massed in a single strand along the greatest freshwater resource on the planet.

Put together, there is no limit to the economic power this region can project or the quality of life it can give its people. Until now, though, we've never put it together, and so we remain much less than the sum of our parts. The OECD report shows us how to leverage our many assets and suggests priorities to ignite this process. The Tri-State Alliance is the vehicle to make this happen.

First, we have to start thinking as a region: the OECD report enables us to do this. Now, we have to start acting as a region: That's the mandate of the Alliance. If this works, we'll actually be a region. There's nothing holding us back but old rivalries and petty politics, left over from an earlier era, out of date in this new global economy. I salute the OECD and the Tri-State Alliance for drawing this roadmap to a new regional future.

Richard C. Longworth
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ALLIANCE FOR
REGIONAL DEVELOPMENT

CHICAGOLAND
CHAMBER OF COMMERCE
The Voice of Business since 1904

The value of the Chicago Tri-State Metropolitan Area OECD Territorial Review cannot be underestimated. The Chicagoland Chamber of Commerce and its funding partners are proud to possess this roadmap for building the regional economy. This Synopsis follows the outline of the six chapters and presents each section's highlights in a reader-friendly manner. This document is meant to showcase key points and invites you to peruse the full OECD Review for a more comprehensive analysis.

Engaging the OECD served three main purposes: First, it assessed the region's competitiveness and performance against other large metropolitan areas around the world; second, it redefined economic opportunity based on the collective assets within the region rather than a single jurisdiction whose boundaries might have been drawn over a century or more ago; and third, it developed a guidepost for public and private sector decision-makers to use as they formulate and evaluate new economic-development policies and investment decisions.

Since the Review's release, the Alliance for Regional Development has formed to evaluate and execute the recommendations provided and to drive growth. The Alliance serves as a neutral platform that gathers the leaders from government, academia and the private sector to enhance the region's economic competitiveness. As the OECD Review maintains, "The purpose of increased collaboration is to articulate common region wide goals and implement regionwide strategic plans to achieve them."

In the midst of economic challenges, this offers a historic opportunity. As America's heartland, we must adapt and exploit our competitive edge. We can lead the country in regional economic development and attract international attention for investment.

Thank you for your interest in this important work. We hope you will join us as we adopt Daniel Burnham's directive to "Make no little plans."

Michael M. Mullen Illinois Chairman	Jim L. Stanley Indiana Chairman	Paul W. Jones Wisconsin Chairman

The Assets and Challenges for the Tri-State Metropolitan Region's Competitiveness

KEY FINDINGS:

- The Chicago tri-state metropolitan region is the third most populous area in theUnited States with an estimated 9.8 million people. Its gross domestic product ranks third behind that of New York and Los Angeles.
- The broad-based regional economy possesses a major transportation hub for both domestic and international passenger and freight traffic. Manufacturing continues to be important in traditional and new sectors such as nanotech, biotech, information and communication technology and green engineering. The region boasts world-class academic and research centers and Chicago regularly ranks near the top in attractiveness among global cities.
- Growth rates are slipping and the productivity of its workforce lags that of other regions.
- A serious mismatch exists between skills demand and supply at all levels of business activity, and it hurts the region's capacity to innovate and grow. This skills divide relates to a racial divide. Training programs are uncoordinated and suffer from petty intra-regional competition to attract business activity.
- The region's hub functions—key to the region's competitiveness—must be addressed systematically. Comprehensive intermodal, regionwide planning with a funding plan is required. Public and private stakeholders need to focus on regional planning to articulate and execute an integrated vision for growth and prosperity for the entire tri-state region and its residents.

INTRODUCTION

Policymakers are focusing on growth, equity and the environment as potential mutually reinforcing policy goals, not as policy trade-offs. Large budget deficits, high public debt and stubbornly high unemployment all limit public investment resources. A new growth model focuses on tapping underused potential in economic areas with integrated development projects that use a mix of soft and hard capital. It concentrates on so-called place-based policies that seek to harness specific strengths and assets of a given geography.

This model also signals a significant opportunity for the Chicago tri-state region since macroeconomic policies are unlikely to generate the robust recovery that might allow the region simply to "rise with the tide" of economic growth. Substantial state or federal financial assistance cannot be expected. Reversing the region's performance will require identifying the best use of limited public resources and maximizing Chicago's human, physical and financial assets. Mobilizing these considerable assets requires both strategic policy vision and effective governance.

This chapter analyzes the trends that characterize the tri-state region's economic performance and:

- Describes the special units of analysis used in the Review.
- Analyses the state of the region's key economic and workforce attributes, with focuses on the state of the region's innovation ecosystems.
- Assesses the policy and governance constraints that face the region, concentrating on lagging output and productivity bottlenecks, factors that affect the region's innovation capacity, transportation infrastructure challenges and workforce-development issues.
- Evaluates its potential for addressing economic and environmental challenges simultaneously through the green economy.
- Identifies the need for a truly regionwide, multisector strategic vision to drive long-term growth.

The Assets and Challenges for the Tri-State Metropolitan Region's Competitiveness

1.1 Chicago: A large metropolitan region straddling three states

An estimated 9.8 million people, 3.1 percent of the U.S. population, consider the Chicago tri-state metro region home. They contribute 3.4 percent to the nation's gross domestic product. The region extends over three states with 90.8 percent of the population residing in Illinois, 7.5 percent in Indiana and 1.8 percent in Wisconsin. Commuting linkages exist: for example, 21,135 Milwaukee residents travel to work in Chicago each day. A counter flow of workers from Chicago to Milwaukee grows 3.3 percent annually.

The report refers primarily to three units of analysis:

- The Chicago Tri-State metro region is the primary unit and corresponds to the Metropolitan Statistical Area (MSA) as defined by the U.S. Office of Management and Budget. It comprises 14 counties -- nine in Illinois, four in Indiana and one in Wisconsin.
- The City of Chicago supplies the data for trends specific to Chicago, including socioeconomic data.
- The 21-county Chicago region or Gary-Chicago-Milwaukee corridor is explored because it is viewed increasingly as a single common economic area by civic, business and political leaders. Each state has seven counties in the 21-county region.

1.2 A wealthy global metro region with key assets

An economic powerhouse with a young population…

With 9.8 million inhabitants, the region ranks No. 10 among the 90 OECD metro regions and No. 3 among urban centers behind New York and Los Angeles. Chicago is the third richest city in the U.S. but the region itself doesn't rank among America's richest. In terms of GDP per capita, the Chicago metro region lags New York, Los Angeles, San Francisco-Oakland, Boston and Houston.

…And a young, large and skilled labor force…

With nearly 5 million people economically active, the Chicago Tri-State metro region has the 10th largest labor market among OECD metro-regions. Top-quality institutions of higher learning produce an educated, skilled and creative labor force.

…And an attractive business environment and quality of life.

Domestic and international firms consider the region attractive. The City of Chicago regularly places at the top of global city rankings, reflecting its infrastructure, research facilities, strong human capital and high network connectivity.

A diversified and globally oriented industrial mix

The region's industrial mix includes manufacturing, a central geographic location that makes it a logistics hub, and knowledge-intensive activities. Manufacturing's share of its employment has been declining, but it still ranks above the national average. As a result, the region still classifies as an industrial center, not a knowledge hub. Despite this, the three sectors that comprise knowledge-intensive services -- financial, professional and educational -- are surging.

The tri-state metro region is well-known for being the freight crossroad of the nation, the largest intermodal container handler in the Western Hemisphere and the world's fifth-biggest intermodal container handler. About half of U.S. rail freight passes through the metro region's yards. The region has become one of the world's most influential financial and business centers. Its educational institutions and health services help attract leading global firms. Leisure and hospitality account for 11.1 percent of employment and the region enjoys abundant natural resources, including parks, open spaces, trails and waterways.

A region with a large volume of innovative activity

So-called innovation indicators – patents, volume of research-and-development investment, participation in global co-invention networks, and the like – are all very strong.

1.3 Constraints to Regional Growth

A more dynamic Chicago Tri-State metro region could contribute to national growth. Before the 2008 economic crisis began, the region's growth rate already lagged the U.S. economy as a whole. The recession hit the region hard. To recover and move forward, it must rely more on innovation than imitation.

Even before the crisis, labor-market performance was unimpressive

The region faces long-term labor market challenges, including a shrinking labor force. The region trailed the average for U.S. metro-regions in the growth of both participation rates and employment throughout most of the 1990-2007 period. When the crisis erupted, it particularly affected African-Americans and Latinos, whose jobless rates more than tripled that of whites in the city and doubled the white rate in the rest of the region.

Most major sectors of the region's economy underperformed the nation in job growth. The manufacturing sector shed jobs even before the crisis, and the services sector, usually more resilient to both cyclical and structural changes, also underperformed the nation and even lost jobs in some key sub-sectors.

Businesses in the region have not kept pace with their national counterparts, which has weakened employment growth over an extended period. If employment had grown at the national rate during 1990-2010, the region would have gained nearly 600,000 more jobs than it has today. The problem isn't that the region specialized in sectors that did not grow; it's that businesses in those sectors did not grow.

Several factors could explain why firms failed to keep up with their counterparts elsewhere, including the tax structure and regulatory environment. Lower participation rates also indicate a problem exists in attracting immigrants from abroad as well as younger, more highly skilled people.

Chicago needs to focus on raising productivity growth.

The region's economy must seize technological change or dynamism if it is to sustain strong growth of GDP per capita over the long term. This means it must raise its innovation performance. It also must increase its human capital stock. It can do this by addressing skills' mismatches and problems with human capital formation in the region. Further, it can attract high human capital individuals to come to the metro region or convince graduates of the region's top universities to remain.

Human capital is the key

Occupations in greatest demand are for computer sciences, engineers, web developers, managers, sales personnel, office/administrative support staff, business, financial and health-care professionals. Skill shortages are reported in several key sectors and a deficit exists in medium-skill segments.

The chart below demonstrates an attractiveness problem, with graduates choosing to pursue their careers elsewhere.

Table 1.10. **Movement of highly educated population age 25 or older into and out of selected US metro-regions (MSAs)**

Bachelor's Degree or Higher, Age 25 or Greater

MSA		2009	2008	2007	2006	2005
Chicago	Moving into MSA	54 709	59 198	56 776	56 015	57 610
	Departing MSA	51 251	51 958	59 731	54 606	49 568
	Net	*3 458*	*7 240*	*-2 955*	*1 409*	*8 042*
Boston	Moving into MSA	51 418	49 873	50 181	47 418	42 314
	Departing MSA	34 571	36 768	49 484	46 476	43 566
	Net	*16 847*	*13 105*	*697*	*942*	*-1252*
Los Angeles	Moving into MSA	131 228	124 482	124 207	119 240	128 092
	Departing MSA	51 889	58 696	59 184	65 919	60 160
	Net	*79 339*	*65 786*	*65 023*	*53 321*	*67 932*
San Francisco	Moving into MSA	118 224	110 522	107 882	117 667	119 674
	Departing MSA	23 750	25 663	25 416	25 504	29 703
	Net	*94 474*	*84 859*	*82 466*	*92 163*	*8 9971*
Philadelphia	Moving into MSA	29 256	28 353	32 576	36 124	31 668
	Departing MSA	31 693	34 814	33 718	40 142	33 717
	Net	*-2 437*	*-6 461*	*-1 142*	*-4 018*	*-2 049*
Houston	Moving into MSA	37 592	38 753	44 296	45 505	35 923
	Departing MSA	25 916	28 497	29 753	30 226	29 700
	Net	*11 676*	*10 256*	*14 543*	*15 279*	*6 223*

Note: Chicago here refers to the Tri-State Chicago metro-region which corresponds to the Metropolitan Statistical Area (MSA).

Source: U.S. Census, Public Use Microdata.

Social exclusion both reflects and reinforces labor-market problems.

Low-income populations in the region are concentrated in pockets of poverty. This makes it hard to connect the local workforce to jobs and the segmentation reduces low-income people's access to employment, given the cost of commuting. Poor neighborhoods typically provide lower-quality education and fewer job opportunities than prosperous areas. Efforts to address these problems can have unintended effects. What's required is a horizontal rather than a sector approach.

The tri-state region can do more to realize its enormous innovation potential.

Given the size of its economy, population and impressive research institutions, the region doesn't rank as highly as it should among U.S. knowledge hubs. Evidence suggests the region isn't realizing its innovation potential. In fact, the region falls within the category of Industrial Production Zones rather than a Knowledge and Technology hub. Improved infrastructure can do much to raise the region's competitiveness. Issues with road congestion and growing inadequacies of its transportationinfrastructure are impairing the region's competitiveness. Road congestion also slows rail freight movement, which undermines the region's position as a logistics hub. It also delays intermodal transfers from rail to truck – a growing share of freight in the region – and transfers from one regional intermodal shipping facility to another. This raises costs. Rail freight movement also slows from the high volume of rail freight and interaction with passenger rail lines. While trains move freight in a truck-competitive two days from the West Coast to Chicago, they can require three days to move across the metropolitan region.

1.4 Responding to environmental and economic challenges through the green economy

The region faces a number of environmental challenges. But they also offer opportunities to develop green technologies and services. While water and air quality have improved, other environmental aspects are substandard: High rates of waste generation, for example, indicate the need for increased recycling.

Greenhouse gas emissions and energy consumption

Elevated greenhouse gas, or GHG, rates among the region's most pressing environmental challenges and relates to electricity consumption. CO2 emissions from transportation, rising over the last decade, account for the second largest cause of emissions.

Water quality and scarcity

Water quality has become an immediate concern and water supply looms as a future challenge. Water management will become increasingly critical for the region, reflecting growing demand combined with dwindling groundwater availability and increasing restrictions on surface water use.

Waste and recycling

Per-capita solid-waste generation is high and the GHG emissions at landfills could be reduced by increasing recycling. Only one waste-to-energy facility operates in the region. Reducing the share of solid waste in landfills and exploring material reuse would benefit the region.

1.5 Conclusion: Toward a regional vision for the Chicago Tri-State metro-region

The Chicago Tri-State region boasts a variety of assets, including specialization in several high-value-added sectors in manufacturing and services, plus a skilled, educated labor force. The region benefits from emerging new clusters in the green sector. These encompass professional environmental and energy services, and wind power. And it plays a crucial role in the U.S. economy as North America's freight and logistics hub. However, the region's assets are not being used fully and the region could lose its global competitive edge. Areas of concern comprise sluggish gross domestic product and labor productivity; a skills mismatch and pockets of unemployment; slow businesses adaptation to the knowledge economy; and an aging transportation infrastructure, among other issues detailed in the Review. A regionwide strategy is necessary to enhance growth prospects and translate the 21-county region's functionality into policy, programmatic and political alignments. It also would address workforce-development issues, innovation capacity and performance of the logistics hub and the green tech sector to improve the long-term quality of life of residents.

Matching Skills to Jobs in the Tri-State Region

KEY FINDINGS:

- The region benefits from a large and well-educated workforce.
- The region struggles to attract and retain high-skilled labor. Reflecting a fragmented workforce-development infrastructure, skills training has been impeded for low- and medium-level labor.
- Race compounds the skills mismatch.
- Innovative and ambitious training and workforce-development initiatives have launched, but they are overly complex and difficult to assess.
- Closing the skill gaps and retraining workers remains an urgent challenge that requires support from both public and private sector stakeholders in the region.
- Input from the private sector, career advice and pathway mapping can generate realistic career aspirations and also ensure that the demand for skills from individuals aligns with the demands for skills from industry.
- The region must articulate and employ workforce-development strategies that respond effectively to its business needs at all levels.

2.1 The Region's Workforce is Aging and Fragmented

Since 2000, the tri-state region's labor force and employment rate have declined. After the financial crisis, between October 2008 and May 2009, Chicago's unemployment rate peaked at 12 percent. But many different factors, including age, education and race, complicate labor market trends in the region. More young people pursue postsecondary education, so their share of the workforce has shrunk over the past 30 years. Employment trends vary widely among white, Hispanic, and black 16—to-18- year olds. In general, minorities, especially African-Americans, are underemployed. This partly reflects barriers to quality education, higher incarceration rates and lower educational attainment. Employment rates among black males are as low as 49.8 percent and remain consistently below those of white and Hispanic males. Hispanic males have maintained the highest employment rates, at or above 75 percent from 1989-2009.

The result: Major elements of the region's talent pool are being wasted. But compared to other metro-regions, Chicago's does not display an education gap in its workforce. The typical worker has enough formal education to do the average job in the region and a balance appears to exist between skills supply and demand for the average job available. Yet this may mask other, less positive realities. The region's labor market includes a large contingent of people without a high school diploma or a quality education and who co-exist with a pool of highly skilled, highly educated workers.

2.2 The training system: multiple programs and players with little policy coordination

The region's workforce-development infrastructure possesses a wide variety of public and private programs that focus on preparing youth and adults to enter the workforce or to upgrade their skills. While federal and state policy often establishes participation criteria, flexibility remains at the local level. Program participants vary greatly.

A multiplicity of programs

The federal Workforce Investment Act targets three population groups – disadvantaged adults, dislocated workers and youth – and seeks to help them land and keep jobs, raise earnings and receive quality education. Its funds go to states that send them to Workforce Investment Boards. In turn, these boards administer programs in their areas and contract with local organizations. Thirteen boards operate within the tri-state region, each contracting with their local community colleges and other organizations to provide training.

In addition, the state can contract with similar organizations to aid the training for high-demand occupations. With many players in this field, the region's workforce-development programming "ecosystem" is complex and fragmented (Figure 2.3). This hampers trainers and those who should benefit from the training program. For example, the City of Chicago offers 83 separate programs; it administers 39 of them. The State of Illinois administers another 41 programs and the U.S. Labor Department administers the other three, either directly by federal employees or through contractors. In addition, many private entities offer programs, especially at the local level and most rely on foundation funding. These entities tend to focus on local needs and access and aren't necessarily connected to government-funded programs.

These multiple and layered programs prove costly and many rely on dwindling federal funds. State and local governments cannot make up the difference. In an economic crisis, workforce training and job-search programs are essential. But budget cuts risk paring the number of those who get such assistance. Cuts in government funding also hurts public education at all levels.

The Labor Department has given local workforce investment boards increasing autonomy to design the workforce strategy and the delivery of services. It also sets effective policy outcomes relevant to the local workforce.

This provides flexibility, unlike many OECD countries where policy execution is highly centralized and renders local partnerships and strategies as largely meaningless.

In Illinois, the nine boards work together through a consortium, the Workforce Boards of Metropolitan Chicago. The three southeast Wisconsin workforce boards have not established a comparable consortium, but have collaborated in receiving grants. The State of Indiana has aligned local workforce areas with regional economic-development areas. Local boards are, to some extent, held accountable through Labor Department performance measures. These include audits of selected programs. For each program year, the state negotiates goals for each board on such key measures as entered employment rate, retention rate and earnings level.

Limited policy coordination; limited regionwide performance indicators

Few coordinated workforce and economic development initiatives exist. State lines block some coordination. In addition, the tri-state region possesses an overwhelming number of governmental jurisdictions. Even within single states, workforce and economic-development systems don't match up seamlessly. In the Milwaukee area, for example, the misalignment of jurisdictions across related functions –such as planning, economic development, workforce development and higher education– hinders development of a cohesive economic and workforce-development strategy.

This lack of coordination inhibits efficient spending of scarce regional resources. Just as important, data and performance indicators are virtually nonexistent. This prevents a true regionwide snapshot of workforce-development issues and the impact of programming for addressing them.

2.3 The result: a mismatch between skills supply and demand

A marked deficiency of coordination and communication exists among the vast number of training institutions that include community colleges, technical schools, and public and private universities. This fragmentation prevents employers and employees from getting what they need from the system. It also may contribute to significant dropout rates at both secondary and post-secondary level.

Poor quality of mid-level skills

Within the tri-state region, community/technical colleges provide two-year courses. In the Chicagoland region, 13 independent suburban community colleges and seven Chicago City Colleges operate. In Wisconsin, four technical colleges serve the six-county region. Several Ivy Tech campuses reside in northwestern Indiana. These schools also offer a large number of nondegree certificates. Illinois colleges offer programs for adults to earn their high school equivalency degree while the Wisconsin technical colleges administer that state's apprenticeship programs.

In the Chicagoland region, Career and Technical Educational, or CTE, programs provide industry-focused technical instruction and work-readiness preparation. About one-in-five Chicago Public Schools students participates in the program. Students who do participate have a slightly higher graduation rate and lower drop-out rate compared to others. The area also offers 300-plus vocational programs spread across 70 Chicago public schools. An overhaul is under-way of the career and technical educational programs. Hopefully, these changes will prepare graduates to enter those "middle-skill" careers that face labor shortages. In Milwaukee public schools, 85 percent of CTE participants graduated in 2009, a higher rate that the districtwide 67 percent. But only one-in-four Milwaukee public school students participate in the program.

The tri-state region needs a greater streamlining of curricula offerings and seamless transitions across the different educational levels.

Skills demand not being met

Only 36 percent of residents ages 25 to 64 in the tri-state region possess a bachelor's degree. Yet by 2018, an estimated 64 percent of jobs in Illinois and 31.5 percent in Wisconsin will require a post-secondary degree In addition, jobs requiring a graduate degree are growing at 14 percent, 10 percent and 7 percent annually in Illinois, Wisconsin and Indiana, respectively. Still, low- and medium-skilled jobs that don't require a post-secondary degree will account for 26 percent, 27 percent and 16 percent of new jobs in Illinois, Wisconsin, and Indiana, respectively (see Figure 2.8).

Other data reveal the mismatch between businesses' talent needs and college output. This holds true especially in the health and manufacturing cluster and other fast-growing industries. Why? Because education and workforce-development programs don't adapt quickly enough to changing business needs. Key regional stakeholders must compare business demands with workforce providers' supply, employ a regional policy for going forward and coordinate across a host of critical industry clusters.

To address these issues, the Greater Milwaukee Committee has launched the "Milwaukee Talent Dividend" initiative that gathers businesses, higher and secondary education, economic and workforce-development agencies, chambers of commerce and not-for-profit organizations to collaborate on talent-development initiatives that address the region's skill gaps.

Matching supply and demand – initial efforts

With rapidly changing labor market demand and imprecise occupational projections, simply upgrading training won't ensure that workers' skills meet job requirements. The content of the training must accurately reflect business needs across the region at all levels of business activity (Figure 2.9).

In Wisconsin, the governor's Council on Workforce Investment has gathered input from key stakeholders to better align workforce-development efforts around industry growth sectors. A cluster-based strategy has identified advanced manufacturing, health care, data centers/distribution, and food processing. The Northern Illinois Workforce Coalition, comprising community colleges and workforce boards, has focused on raising the number of post-secondary degrees and certificates awarded over the decade. The City of Chicago seeks alignment between the city's workforce-development program and business hiring needs. Moreover, the Chicago Workforce Investment Council tries to tailor workforce programs to the needs of Chicago's businesses.

However, literacy must be addressed and achieved before relevant occupational skills can be fine-tuned. Academics and policymakers agree on the basic competencies needed. They comprise literacy and numeracy; higher-level cognitive skills, such as problem-solving and analytic reasoning; interpersonal skills, including communication skills; working in teams and ability to negotiate; ability to use technology, particularly information communications technology; and knowing how to learn.

The region has invested in training and skills upgrading, but low- and medium-skilled workers don't profit readily from this because they lack access to basic education and possess deficient basic cognitive and behavioral tools. In addition, the advanced-training services offered often don't reflect the skills needed by the private sector across the region. In short, a skills-training mismatch persists.

2.4 A way forward: greater coordination and deeper private-public engagement

This mismatch reflects a shortage of skills in the high- and medium-skilled sector coupled with unemployment among low-skilled workers. Each aspect of this disequilibrium requires different policy responses. Workers with too few skills need a second chance at education. Workers displaced by restructuring need retraining. Students with basic skills and incumbent workers need encouragement to pursue high levels of technical training to meet employers' demands for higher skills.

Addressing these difficulties will require coordination, cooperation and creativity. That is, coordination around coherent goals, supported by transparent indicators of progress; cooperation to foster a dynamic relationship between academia, government and industry; and creativity to achieve these goals in the context of tightened budgets.

Coordination to define goals and indicators

To some extent, each state within the tri-state region has developed a regional comprehensive workforce-development plan. The Chicago Metropolitan Agency for Planning launched the "GO TO 2040" comprehensive regional plan in October 2010. A similar plan called the Plan 2040 for Northwest Indiana was initiated. In the Milwaukee region, Milwaukee 7 (M7) adopted a strategic framework for workforce development in 2007.

Developing single regionwide workforce-development activities throughout the tri-state region represents an ambitious task. In the meantime, enhanced clarity, coordination and information flows serve as regional priorities to ensure the region capitalizes and expands on its successes and eliminate unsatisfactory projects. Consolidation across the tri-state region proves challenging as many subregional labor markets exist that require highly targeted services.

Refocus training programming and services to meet business needs

Internationally, technical and vocational training institutes have achieved interaction between industry and institutes and created relevant curricula, equipment and facilities. They also provide career guidance, introduce new programs and fashion cost-effective delivery approaches. As a result, training institutes know the skills in demand and employers provide input into the curriculum. Employers are more likely to provide education and training if they understand and are part of the system as it's designed.

Public support for universal basic education; private support for advanced training

While all governments face tight budgets, the public sector still must play a central role in training the labor force. Additionally, the region needs to harness market forces. Governments should provide incentives for financial investments and investments of effort from potential employees and employers. Small- and medium-sized enterprises, or SMEs, have a particularly hard time accessing education and skills-development programs. Other OECD countries, analysis shows, find that the lack of customized training proves to be an important obstacle for SMEs to participate in skills and training activities. Public support for apprenticeship programs at these firms can address this challenge. Training on the job enables a similar sense of career ownership and progress for workers. It also can provide a route through which low-skilled workers who demonstrate their reliability can gain the skills to move up the job ladder.

Create regionwide capacity to match skills supply with demand

This Review suggests the following for key public and private actors in the tri-state region who desire to broaden and deepen the ongoing dialogue that seeks to match skills supply and demand effectively:

- The region's key stakeholders should lead an effort to define a common, strategic approach to workforce development that focuses on issues of common, regionwide concern (see Chapter 6) by priority business clusters. GO TO 2040 and others already have identified core issues. Discussion could center on broadening and deepening the scope of the analysis to cover the tri-state or 21-county region where it makes particular sense. The approach should address the skills needed in key future-oriented business clusters as well as in the region's major legacy clusters. It also should articulate policy outcomes for the region along with the strategies and plans to achieve them.

- Together, they should approach the state governments to work together to increase regional planning to ensure that education and training-service providers reflect the actual needs of businesses across the region.

- Key public and private stakeholders should seek resources, including from foundations and the private sector, to set up arrangements that will sustain this dialogue between business and training-service providers and also institutionalize regionwide skills-mapping capacity in established and emerging business sectors of strategic importance to the region.

- This approach requires data and the measurement of performance indicators to assist policy design and execution. Stakeholders should stress to state and federal governments, particularly the Labor Department, the crucial importance of regional performance-measurement data to ensure effective strategic planning and execution. This might best be done by a university center dedicated to this task and to advising key regional public and private stakeholders on policy design and execution.

This advice mirrors that at the end of the next chapter on Innovation (see section 3.4). At issue in the tri-state metropolitan region is not the what or even the why of workforce development but the how. This holds true for any of the policy issues covered in this Review.

What is needed is the will to engage key actors at the federal, state and metropolitan levels to unite on common, regional workforce-development issues. As in the past in the region, the private sector and nongovernmental actors may be positioned best to lead this effort and to convince public authorities to act for the tri-state region's common good.

Innovation and Entrepreneurship in the Tri-State Region

KEY FINDINGS:

- The region possesses significant technology-based innovations and should use them to develop a global knowledge and technology hub.
- Human capital lies at the core of any innovation ecosystem.
- The region's stakeholders must identify clusters that can generate innovation-driven growth and capitalize on them by forging cluster-specific growth strategies.
- Economic-development approaches at the state and municipal levels that center on tax breaks to large firms are ill-suited to a knowledge economy.
- Innovation support in the region should recognize that inventiveness goes beyond fundamental scientific R&D.
- The private and non-profit sectors better articulate, promote and pursue a regionwide vision for innovation-sparked growth than do government authorities. The region needs to develop a common understanding of its innovation ecosystem, its key challenges, common goals for action and relevant regional data and performance indicators. These will help guide efforts to enhance the region's performance in innovation-driven business clusters.
- Instead of the current "race-to-the-bottom" competition between local and state authorities, the region's public sector needs greater collaboration and a pooling of scarce public resources, all aimed at supporting innovation.

Introduction

"Innovation" describes scientific discoveries as well as "thinking outside the box" through creativity and design. The OECD considers innovation in firms to embrace:

- Introduction of a new or significantly improved product (good or service) or process
- A new marketing method or organizational method in business practices, workplace organization or external relations

To remain globally competitive, the tri-state region's lagging growth requires accelerated innovation in the economy. For metro regions with advanced economies such as the Chicago tri-state area, the most sustainable factors for growth are those that contribute to a strong knowledge economy with innovative firms. These influences include:

- Fostering human capital
- Building on strong research assets and promoting their access to risk capital
- Mobilizing regional clusters of expertise
- Promoting entrepreneurship from startups to high growth
- Reinforcing private financing of innovation
- Taking a broader approach to innovation that extends beyond science and technology

3.1 The tri-state region's innovation ecosystem and policies

Human capital: the basis of a strong knowledge economy

Skilled employees comprise the core of any innovation ecosystem. The tri-state region ranks below the top of OECD metro regions. Why? A notable segment of the labor force possesses low skills. Manufacturing firms report a lack of basic math skills to address the sector's increasing complexity. In short, the region requires the skills demanded by advanced-knowledge regional economies.

Building on strong research assets to generate regionwide benefits

Partnerships between universities and public labs

The tri-state region contains several strong research assets that can contribute more to its innovation ecosystem. The region could promote more effectively its various areas of technology and research excellence. For example, other universities, regions and countries around the OECD maintain directories or mapping of research competence that help attract firms.

University-based strategic alliances can drive R&D. Some ad hoc cooperation exists among the region's laboratories and universities, but a more deliberate, strategic focus would help. Universities should embrace regionally based committees and councils as one way to link university research to regional initiatives that can be marketed nationally and abroad.

The role of intermediaries or "brokers" in maximizing research results

The region's universities promote patenting, licensing and startups. Yet the potential impact of these efforts on the regional and national economies can be limited. Often, the spinoffs do not grow because researchers lack the skills and networks to commercialize research.

The aim involves achieving greater regionwide effectiveness and maximizing national and global markets for the goods and services that effective technology-transfer processes spark.

Private-sector intermediary organizations, or "brokers," can help convey research expertise and business needs. Business service professionals with strong networks among inventors, transformers and financiers often prove to be the most effective brokers. Regional leaders should identify and support innovation brokers to strengthen enhance inventive capacity in priority business clusters.

Mobilizing the region's clusters of expertise

Job creation and innovation conditions improve when a strong cluster of linked competencies exist in firms, universities, the workforce and other related sectors. The Chicago tri-state region is a global hub for corporate headquarters. Its advanced business services offer tremendous potential to support innovation. However, they possess limited impact in terms of the research required to drive innovation. The region should consider recruiting business functions best suited to innovation and its commercialization.

Even small increases in the productivity levels of the largest sectors in the economy could impact the region's economic performance significantly.

Entrepreneurship: key to innovation-driven, high-growth potential

The tri-state region's economy is shifting toward smaller firms. The challenge rests with helping these firms grow and innovate. Small and "second stage" firms and the self-employed have generated an estimated 440,000 jobs recently, while medium-size and large firms have shed about 375,000 jobs.

Fiscal incentives to large firms do not work

Much government effort to support firms concentrates on large firms through tax incentives at the state and municipal levels. Too little focus is paid to entrepreneurs who drive innovation by creating new products or services.

Family-owned firms: the next level

The region's manufacturing sector possesses a significant family-owned component of small- and medium-size enterprises, or SMEs, which requires tailored strategies to move them to the next level of productivity and market reach.

Private financing of innovation

The region is an important national banking center, but access to venture capital by the region's startups and SMEs is limited. Venture capital ranks among the measures of the dynamism of an innovation system. Funds tend to be sector-based and require a critical mass of companies and skilled talent. Venture capital is important, but firms also can use other forms of innovation investment -- in skills, management practices and external R&D absorption capacity.

3.2 Broaden the innovation focus

Non-science-and-technology-based innovation

The region is a global hub for knowledge-intensive business services such as transportation and logistics, legal, consulting, accounting and advertising industries where innovation is critical. More than three-fourths of the region's economy resides in service sectors. The region has been an innovator in financial services, design and creative media.

Box 3.7. **Nontraditional forms of innovation support**

Beyond the different tools to promote innovation via R&D spending and technology transfer, newer forms of innovation support are being promoted at national and regional level in OECD countries, including those regions with a strong industrial tradition.

Building on creative sectors: Baden-Württemberg in Germany has recognized for more than 15 years that there are important synergies between culture and the creative industries with its technology base. The agency created by the region is focused on linking the IT, software and telecommunications sector with the creative industries.

Using design: As innovation through design can result in significant commercial value, there are many programs to promote design. Many countries have created agencies to support industrial design, including France, the United Kingdom and Canada. The province of Quebec (Canada), for example, offers incentives to firms for design-led innovations to groups of three or more firms that engage in design-led innovation projects in manufacturing, ICT and services. Others have promoted regional branding with design, such as regions in Italy.

Promoting business and organisational innovation: The Basque Country, Spain, has supported programs and institutions that promote excellence in management, such as Euskalit, the Basque Foundation for Excellence, as a driver for innovation.

Developing new skill sets for the future workforce: The province of Guipuzcoa in the Basque Country, Spain, has recognized that culture change is important for its future in the knowledge society. One of the initiatives has been to adapt Daniel Goleman's work on emotional intelligence to educational modules for school children as well as the workplace and other civil society actors such as sports teams. The province has also promoted entrepreneurship initiatives in schools to raise awareness at an early age.

Establishing universities as a core actor of regional innovation system. The NURI (New Universities for Regional innovation) was planned to strengthen the innovation capacities of provincial universities in Korea. Major strategies of NURI includes i) attracting good students and retaining talents in the regions, ii) improving educational conditions and developing workforce education and develop programs, iii) building productive partnerships with local authorities and business and to providing skilled workers and advanced technologies to the industrial clusters in the regions and iv) playing a leadership role in developing and maintaining effective regional innovation systems.

Expertise pooling: The Plato initiative: The concept of expertise pooling is based on learning by interaction among participating SMEs on the one hand and between SMEs and large well-established companies playing the role of tutors on the other hand. Typically, Plato is a two-year program addressing the managerial needs of regional network of small firms. Small-business owners and managers are forming groups of 8-12 members. Each group has usually two leaders representing large local parenthood companies. The Plato experience started in the Flemish region but is now replicated in many European countries including Denmark, France, Germany, the Netherlands, Sweden and the United Kingdom.

Strengthening social innovation Stanford University's highly ranked Graduate school of Business hosts a large Centre for Social Innovation that has the mandate to build and strengthen the capacity of individuals and organizations to develop innovative solution to social problem. Stanford defines social innovation as a novel solution to a social problem that is more effective, efficient, sustainable than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals.

Source: OECD (2011), OECD Reviews of Regional Innovation: Basque Country, Spain, OECD Publishing; OECD (2010) Higher education in Regional and City development: Amsterdam, the Netherlands OECD publishing ;and OECD (2010), Higher Education in Regional and City Development: the Autonomous Region of Andalusia, Spain OECD Publishing.

Meeting social challenges through innovative service delivery

The tri-state region suffers societal problems that innovative solutions in the delivery of basic public services could address. Philanthropists and civic institutional leaders can help drive this innovation through helping develop better delivery of public services to these neighborhoods.

The region's efforts to support innovation and clusters in health care, water and clean energy exemplify market-based efforts that address societal challenges. Public authorities can form strategic partnerships with civic and philanthropic organizations to use procurement and regulations to encourage innovation.

3.3 Public-Private-Partnership for innovation: adapting to the knowledge economy

The three states in the region, like so many OECD regions, concentrate on traditional economic-development approaches that employ financial incentives to lure businesses from one part of the region to another. Their impact is short term at best. This competition between municipalities and states fuels a "race to the bottom" that neither creates jobs nor economic growth. These states need a cultural change toward innovation-driven growth. Many OECD regions, even those with relatively higher taxes, remain competitive because they emphasize innovation.

3.4 Capitalizing on federal innovation-support programs

Generally, innovation policy falls under state-level economic development. But several federal programs support innovation, including new cluster-related initiatives. Many programs, including those with a regional dimension to them, come from the Department of Commerce, the National Science Foundation and the Department of Labor.

The tri-state region does not secure a strong share of these prominent federal programs. Stakeholders in the region should engage federal and state centers of innovation-support programming to coordinate their investments more systematically. These centers also could tie these investments to the innovation potential of the region's established and emerging business clusters.

Networking to overcome barriers

To place the region more squarely within global networks, certain sectors and clusters must build greater critical mass. Illinois' innovation assets dominate the region, both in volume and performance. Therefore, it requires deliberate political will to integrate the other two state's innovation assets, and this requires recognizing the common regional interest in supporting out-of-state assets.

Despite administrative boundaries, key public and private sector stakeholders must sustain strategic alliances to encourage innovation and expand domestic and international market-penetration opportunities for the region's innovation-driven enterprises.

Achieving regionwide benefits

Several actions could prompt regional public and private sectors to promote more strategic regional thinking to support innovation.

Other, more successful U.S. regions recognize that moving to collaborative advantage from competitive disadvantage requires regional leaders, joint actions, ongoing intermediary organizations, identities and a story to tell. Some actions the region could take to achieve a stronger regional innovation system include:

- Create interstate and inter-municipal dialogue to reduce competitions that don't produce progress.
- Expand the types of stakeholders involved in building regional innovation actions by involving non-R&D-based activities and nonprofit, civic and academic groups.
- Produce regional data on innovation, a step that will help raise awareness that underpins more regional thinking.
- Provide incentives for collaboration and for program-related investments to support startups. Federal agencies and philanthropic foundations could provide such incentives. The Economic Development Administration already has provided a grant to support the regional strategy of the three counties in Northeast Indiana. These counties also depend on the health of the tri-state region, so other incentives could encourage collaboration with the entire economic area.
- Critically review economic-development programming for cost-neutral, innovation-driven growth. Even without additional public expenditure, a reorientation of existing approaches toward more durable sources of economic development could occur. Public procurement and regulation, cost neutral to public budgets, can serve as tools to spur innovation.
- Consider a long-term investment strategy for innovation-supported economic development. While many steps to support the regional innovation ecosystem can develop without significant expenditure, public investment remains an important option to consider.

Transportation and Logistics in the Tri-State Region

KEY FINDINGS:

- The Chicago tri-state region is North America's premier transportation and logistics hub.
- This distinction contributes not only to regional growth, but also to national performance.
- The hub faces serious challenges: space constraints, congestion, financing issues and poorly integrated regionwide planning.
- Key stakeholders must work together to drive interstate collaboration that integrates the various state-level intermodal plans into a comprehensive tri-state intermodal plan.
- Chronic underinvestment exists in rail- and road-based mass public transit.
- A strategic focus would sequence public investment and identify new sources of funds for the region's infrastructure.
- Regionwide data collection and sharing should be a major priority.

4.1 The economic potential of the Tri-State Region's hub

Air Passenger

The Chicago tri-state region ranks as the major North American hub for passenger air travel, air cargo, railways and trucking. The region's concentration of warehousing and intermodal facilities contributes considerable impact. However, transit and roadcongestion issues hamper economic development and performance and quality of life. Air passenger service is particularly important in attracting and retaining hightechnology employment.

Air Cargo

The region's airports are centers for continental and intercontinental connections. Only New York City's airports command more diverse destinations. The region is less central to air cargo, but still possesses one of the most diverse air-cargo networks on the continent.

Freight

The region also ranks as North America's most important rail and truck freight hub. It lies at the center of high-density rail freight networks, with some 500 freight trains pulling 37,500 cars that pass through every day: that's half of all U.S. rail freight movement. The region is also a major trucking hub. In 2007, 1.5 billion tons of freight moved in the region, with trucks carrying just over half. Trucks also carried about 73 percent of the regional freight by value. In the past, the region was a major waterborne transportation hub. That traffic has declined, even though the region still maintains three important commercial ports.

The hub's economic impact

About 20 percent more people work in transportation-related specializations (air, water, rail, etc.) than the U.S. average. This specialization has been relatively stable over the past decade. But the regional position in warehousing has declined. This may reflect the relative lack of intermodal integration across the tri-state region and the relative lack of industrial real-estate developments served by rail.

Transportation and logistics as job providers

Jobs in transport and logistics represented about 160,000 jobs in the region in 2010, about 4.5 percent of total direct employment. About 7 percent of total U.S. employment in air transportation is based in the region, so this is a major factor. This sector has suffered more severe job losses than on average in the U.S., with air transportation employment dropping by 23 percent from 2002 to 2010 and warehousing by 6 percent during that period. Trucking is doing better than the national average despite job losses of 4 percent from 2002 to 2010.

Transport as a source of Innovation

The tri-state region is considered one of the world's two leading regions for inventions in logistics-related applications. It doesn't seem to have a similarly preeminent position in other transportation sub-sectors.

4.2 Main challenges facing the hub

The continued strength of the region in transportation and logistics will depend on its ability to address key challenges: land use planning; space constraints and congestion; infrastructure financing; enhancing hub-based, value-added activities; and the implications this enhancement has for skills supply in the region.

Space constraints and congestion

Reflecting land use constraints, a chunk of logistical activity has moved from Chicago's urban center. Large-scale intermodal activity requires large pieces of flat land, most of which are in suburban and rural areas where access and/or availability of workers often proves more challenging. The concentration of logistical activity in the tri-state region contributes to congestion, in part because of the legacy of nonintegrated road and rail infrastructure and a significant number of infrastructure deficiencies. Texas Transportation Institute studies indicate that regional congestion costs amounted to $8.2 billion in 2010.

Truck congestion alone generated an estimated loss of $2.3 billion, the highest among very large U.S. metropolitan areas.

Limitations of current infrastructure financing

A need emerges to locate resources to address the most immediate infrastructure challenges to the logistics base and to assure the infrastructure network can be maintained and developed over the long term as a sustainable regionwide transportation system.

Limited integrated, regionwide, cross-modal planning

If the region's transport hub is crucial to the national economy, little evidence exists that federal and state policymakers either recognize it or are acting on it. The Chicago Region Environmental and Transportation Efficiency Program, or CREATE, exemplifies successful cooperation between the public and private sectors in developing and launching a viable package of transportation infrastructure projects. But it focuses almost exclusively on five rail corridors in the western and southern sections of Chicago and concentrates almost exclusively on alleviating longstanding issues. Little emphasis is placed on the linkage between rail and road, air or water transportation planning objectives. A lack of performance measurement indicators or outcomes-related data to assess the impact of employing CREATE is of concern. Air freight capacity appears to be adequate for some time, but the need exists for a regional airport capacity strategy that addresses both passenger and freight.

4.3 A way forward: a planning and financing toolkit for the region's hub

What's the most important principle in the region's future as a mega-logistics hub? It's a clear understanding by public and private stakeholders that this hub is vital to national economic performance. This understanding should frame regional integrated planning. It should focus public, private and joint investments on improving the long-term efficiency of the hub as an engine of regional and national economic growth with many components, not just an amalgam of disconnected infrastructure projects to alleviate congestion.

A scarcity exists of interstate, regionwide planning, especially to address:

- Connectivity between and among air, road, and rail transportation
- The design and employment of new sources of revenue from excise taxes or tollbased user fees
- Absence of a federal voice in articulating and leading a vision for the hub's growth over the long term, by working with state and local authorities to integrate state-level intermodal development plans

That the region straddles three states legitimizes federal leadership on these issues.

A more strategic focus to sequencing transportation infrastructure projects

Much of the region's surface transportation infrastructure handles a multiplicity of purposes. But limited consideration has been given to what effect this can have on the region's logistical capability. The region's public and private transportation agencies should make clear their priorities for freight transportation, not only over passenger transportation but other forms of land-use. Local and state authorities should expand the use of existing mechanisms to finance maintenance, refurbishment and upgrading of infrastructure, including levying user charges and engaging the private sector in providing transportation. A "polluter pays" principle should be used when applying environmental-assessment regulations to infrastructure projects. Planning authorities should assure that the development of intermodal and other logistics facilities meet high environmental standards and that land is sufficient for their successful development.

Stakeholder leadership to encourage regionwide interstate planning and federal-state engagement

The federal government appears to be all but absent from the policy design process for the long-term sustainability of the tri-state region's logistics hub. No policy framework exists for these investments that focuses on integrated, long-term policy outcomes for the hub's performance. These outcomes reflect the national importance of the region's hub activity; the federal government should play a vital part in assuring they are achieved.

No coordination exists among the three states to develop and execute multimodal long-term plans as they affect the region. Given the economic importance of the region's hub, and its key role in interstate commerce, the federal government should encourage the state governments to cooperate to sustain the hub's long-term dynamism. This cooperation could include more strategic, long-term integrated regionwide planning or more coordinated infrastructure investments to compensate for scarce financial resources on how well the region's transportation infrastructure networks perform.

Federal engagement should focus on three key initiatives:

- Facilitating dialogue between key private and public stakeholders in the region. The federal government needs to provide the means to sustain this dialogue, to define key regional objectives for the hub and to find strategies to reach these objectives.

- Applying policy conditions to its funding programs, notably to leverage greater interstate cooperation in integrating infrastructure plans.

- Working with the region's stakeholders to develop regional data and performance indicators that define infrastructure needs more coherently against the long-term strategic objectives for the hub's performance.

The region's stakeholders--perhaps led by the metropolitan planning organizations or by a partnership between them, foundations and key private-sector transportation and logistics firms--could drive a process that would include:

- Work with the region's universities to establish a network of research centers that debate policy, gather data an develop performance measures. The goal: a coherent evidence base on the economic importance of the hub, on the challenges it faces and on the impact of these challenges on the country if addressed ineffectively.

- Articulate why the state governments must integrate their multimodal strategic transportation plans to embrace the functionality of the region and to explain why transportation policy, planning and infrastructure investments must reflect this functionality.

- Include in this policy rational the need for federal engagement to encourage interstate cooperation in policy design, strategic planning and infrastructure investment pooling to address passenger and freight transportation issues in an integrated fashion.

Increasing the Tri-State Region's Competitiveness Through Green Growth

KEY FINDINGS:

- Green jobs are growing in the tri-state region, with the largest share of jobs in transportation and building-related activities.
- The region specializes in the green sectors of:
  - Professional energy services
  - Air and water purification technologies
  - Lighting
  - Green architecture and construction services
- Reducing the environmental impact of the built environment should be a priority.
- Sustainable financing mechanisms are needed for energy-efficient retrofits and energy audits, which will reduce energy consumption, create jobs and build a regional specialty.
- The emerging wind energy sector needs technical assistance to strengthen its regional supply chain.
- Congestion charges on roadways and value-capture taxes should be considered to finance the public transit system.
- Changing water and waste fees to better reflect consumption and cost-of-service delivery would encourage water conservation and recycling, and could add revenue.
- Green-related R&D activities should be linked more closely to green firms in the region, which could benefit from technology transfers.
- Information-sharing and common energy-efficiency programs across the region would help provide a more stable business environment for its green clusters.
- Federal policy can foster green growth by supporting green R&D, removing legislative obstacles and delivering clear signals on carbon pricing.

The 21-county Chicago area possesses strong potential for growing green. Chicago aspires to be the nation's most environmentally friendly city and Milwaukee boasts an important water cluster. Today's green growth strategy focuses on increasing economic competitiveness through addressing environmental challenges.

Two planning documents, Chicago Metropolitan Planning Agency's GO TO 2040 Comprehensive Regional Plan and the City of Chicago's Climate Action Plan, are starting points for identifying green growth opportunities.

Opportunities exist to grow key green clusters and scale the City of Chicago's green ambitions to the metro-regional level.

5.1 The growth potential of the green economy

The tri-state region ranks among the top five metro regions in the U.S. for specializations in professional energy services, air and water purification technologies, lighting, green architecture and construction services, according to Brookings Institution calculations.

The City of Chicago has the most of LEED-certified square footage and Milwaukee has the nation's strongest specialization in water-efficient technologies. Both present opportunities for strengthening supply chains with firms engaged in related activities. The region has become the country's largest green exporter with exports estimated at $2 billion annually, and this sector can grow.

To enhance the region's attractiveness, it must set green roofs, alleys and public transport as priorities and increase the scale of existing green efforts.

Job growth across a range of green sectors

The growth of the green sector has triggered a significant number of green sector jobs. The Chicago ranks among the top five regions in the U.S. for a range of green sector jobs, demonstrating the diversity of the green economy. The region is home to more jobs in air and water purification technologies than any other U.S. metro area and is the second-largest employer in green chemical products, green architecture and construction, and public mass transit. Moving forward, building retrofits are estimated to drive the highest number of new jobs during the 2009-2020 period.

5.2 Sectoral opportunities for green jobs, green firms and urban attractiveness

Increasing the Tri-State Region's Competitiveness Through Green Growth

Strong potential for green growth includes the built environment, green building design, energy-efficiency retrofits, green roofs, permeable alleys, wind energy and water technology.

Boosting jobs and a regional specialization through energy-efficiency building retrofits and design

Energy consumption by buildings accounts for 63 percent of the metro region's greenhouse gas emissions. Too much energy is used to compensate for aging buildings and poor insulation. Retrofitting involves a relatively high demand for low- and semiskilled labor. Design and construction of new green buildings call for medium- to-high-skilled labor. Green activities can help reduce vulnerabilities to potential climatechange impacts.

Energy efficiency retrofitting

Long-term funding sources are still needed for energy-efficiency retrofit programs. Federal legislation to remove impediments to the Property-Assessed Clean Energy program could benefit retrofit activity.

New green building design

Green building codes and incentives provide an opportunity to strengthen the region's architectural and professional energy-services firms. Green building-design standards for new construction could ensure that the built environment will be energy efficient ahead.

Green roofs and permeable pavement

The City of Chicago supported the deployment of more than 72 green roofs from 2005-2007 and transformed more than 100 alleys around the city between 2006-2010, replacing pavement with more permeable surfaces and plantings.

Enhancing the potential of wind and other renewable energies

A tiny share of the metro region's energy supply comes from renewable energy sources. The region's strategic geographical position makes it an important center for the wind energy industry. It has one of the highest concentrations of wind energy component suppliers in the U.S. The region ranks sixth among U.S. metro regions for wind energy jobs, with a 39 percent average annual job growth between 2003-2010.

Although each state has renewable-energy targets, comparatively low energy prices hurt renewable-energy innovation.

Expanding public transportation and reducing congestion to increase jobs and competitiveness

The growing inadequacy of the region's transportation infrastructure undermines its competitiveness. This is most clearly seen in its road congestion. While the tri-state region possesses the nation's second-largest public transportation system, most of its workers cannot use it to commute to work because of the region's sprawl and the lack of connectedness between public transport, homes and jobs.

Fostering the potential of the water and waste sectors

Future water availability is a growing concern, and the water-pricing system doesn't encourage conservation.

Water and wastewater services

The U.S. Supreme Court has limited the amount of water that can be withdrawn from Lake Michigan, indicating that water supply will suffice only until 2030. Areas that rely on groundwater and inland water sources expect shortages even sooner. In addition, some wastewater-treatment facilities are approaching their expected operating life. This poses a threat to water quality in communities lacking funds to upgrade.

Solid Waste

Comparatively, the region has high solid-waste generation rates. Opportunities exist for waste-to-energy and energy plants as clean and cost-effective alternatives to landfills. But a comprehensive waste composition inventory is needed. Construction and demolition debris remains the largest component of the local waste stream. Improvements in the local recycling rate would increase employment.

5.3 Making workforce and innovation policies work for green growth

Workforce training

Workforce in the renewable-energy sector ranges from high- to low-skilled jobs. Worker training may not meet green sector labor demand. Renewable-energy development creates jobs primarily in sales, finance, operations and engineering. A comprehensive and standardized workforce-development strategy would develop and coordinate related training programs. This strategy should offer training for multiple entry points into the sector.

Innovation

The 21- county region has strong green research-and-development assets that contribute to green innovation. Strategic alliances among stakeholders will help fuel R&D and fulfill the potential of existing assets. Creating greater critical mass will help the region compete for national resources and global recognition. But the region's R&D has dropped and venture capital for energy-related startups remains low.

This section concludes with reports on the Water Council in Milwaukee and the Illinois Clean Energy Trust.

5.4 Multilevel governance mechanisms to increase green growth

A more coordinated effort between municipal and regional institutions will increase green growth activity. In addition, national policies impact many aspects of green growth directly in the tri-state region.

A regional shortage doesn't exist of people or institutions engaged in measuring performance in various policy areas. But the region lacks the capacity to harness this information and present it in a rational, integrated fashion that "tells the story." It also needs a mechanism to track progress toward green growth goals. Ultimately, attracting and supporting green firms is essential to regional green growth.

Effective Institutional Arrangements in the Tri-State Region

KEY FINDINGS:

- This chapter proposes a roadmap for tri-state collaboration to forge growth.
- The region must articulate and employ plans to address workforce development, innovation capacity, transportation and logistics and green growth. Key public and private stakeholders recognize what needs to be done and why if the region is to drive national growth and global competitiveness. The hang-up: how to develop these action plans' meaning fully, put them into place effectively and monitor progress and measure success over time.
- Execution of regional plans will depend on engaging stakeholders in collaboration and on scaling assets in a way that recognizes the region must work together to compete effectively in a global marketplace.
- A major challenge facing the region is institutional fragmentation. The region contains more than 1,700 distinct units of government, different systems of local government and service duplication. They limit the region's capacity to think and act regionally. A focus is needed on long-term issues and on appreciating the true nature of the region's competitors, both nationally and internationally.

6.1 Main Challenges

Institutional Fragmentation

The tri-state region comprises more than 1,700 distinct units of government, each with its own set of revenue and service provision responsibilities and authorities. Local government divides into:

- General Purpose Governments (County, municipal and township)
- Special Purpose Governments (Airport authorities, the Chicago Transit Authority, conservation districts, fire protection districts, water and sewer commissions)
- School Districts

Adding complexity are the different systems of local government in Illinois, Indiana and Wisconsin. The greatest number of governments in most categories can be found in Illinois. Townships are found in Illinois and Indiana but not in Wisconsin. The village form of municipal government is used frequently in Illinois, rarely in Wisconsin and never in Indiana.

With so many jurisdictions, public services are undoubtedly duplicated. Multiple administrative structures operating in a single functional region exact a high cost. This duplication hampers the tri-state region's growth, competitiveness and economic vitality through over-taxation and inefficiencies.

Coordination and cooperation exists within each state, but engagement across state lines seems to be more difficult. This is a huge problem. The current approaches to economic development, which lack coordination among the states, cannot focus on growing the region in a way that attracts physical, financial and human resources from around the world.

Fiscal constraints

All three states and their local governments confront operating deficits and high structural debt. Illinois faces the most significant fiscal constraints, Indiana's recent budget deficits are more modest and Wisconsin's fiscal condition lies between that of Illinois and Indiana.

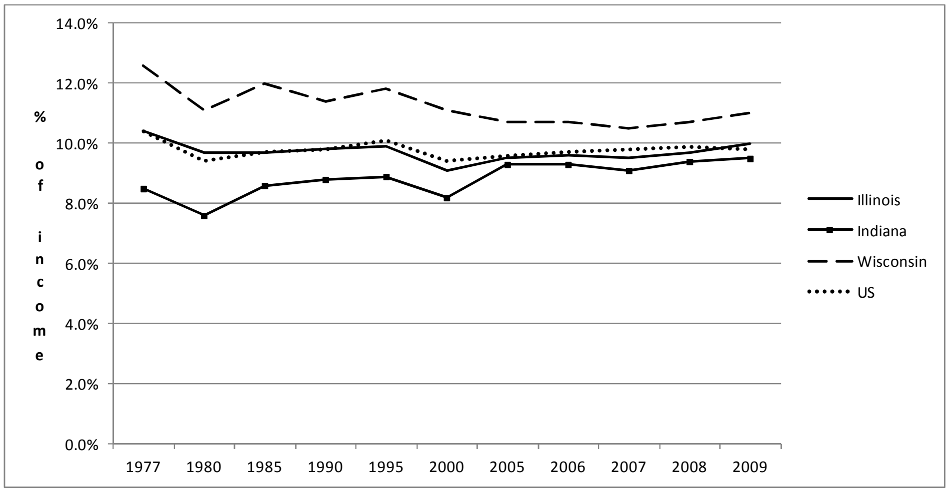
Each state possesses sizable unmet infrastructure needs. The most recent infrastructure "report cards" prepared by the American Society of Civil Engineers to measure the state of infrastructure give overall grades of D+, D+, and C to Illinois, Indiana and Wisconsin. Serious deficiencies exist in bridges, roads, water infrastructure and other key public sector capital assets.

Tax competition

Illinois, Indiana and Wisconsin rank very differently by several measures related to tax burden and business tax climate. The Tax Foundation ranks Indiana 10th in terms of best business climate, Illinois 23rd and Wisconsin 40th. The Tax Foundation's index reflects state taxes on corporate income, personal income, sales and property and unemployment insurance (payroll) taxes. The combined state and local tax burden places Wisconsin's rates consistently higher than the U.S. average, Illinois at about the U.S. average and Indiana slowly converging toward Illinois.

Neighboring jurisdictions create unnecessary rivalry by using tax rebates, tax credits and other financial incentives to lure businesses. Squabbling among municipalities and other public stakeholders only hurts the ability to increase the region's overall level of investment and economic activity.

Figure 6.2. **State and local tax burdens, 1977-2009**



Source: Robyn and Prante (2011), "State -Local Tax Burdens Fall in 2009 as Tax Revenues Shrink Faster than Income".

Addressing fiscal constraints

The tri-state region needs to pursue budgetary and tax reform at the state and local levels as well as explore municipal service-delivery consolidation. It also needs to design a new economic-development strategy that dramatically increases the number of new and high-wage jobs.

6.2 Tri-State collaboration to drive growth

Stakeholders already exhibit the capacity to collaborate and coordinate projects across agencies and jurisdictions. Regional leaders should build on these successes, but efforts must be consistent with present overall regional plans. Creating an integrated vision can position the region as a dynamic, competitive area driving America's national economic growth and international performance.

Cross-jurisdictional collaboration to drive growth: the need for tri-state level planning

For planning purposes, the functional geography of the tri-state region embraces the area's three Metropolitan Planning Organizations: The Chicago Metropolitan agency for Planning (CMAP), South Eastern Wisconsin Regional Planning Commission (SEWRPC) and Northwestern Indiana Regional Planning Commission (NIRPC). Their leaders, by law, have limited geographic mandates. But these organizations could offer a good starting point for synthesizing multiple plans that deliver better collaboration.

Box 6.2. **Three metropolitan planning agencies, three regional plans within the tri-state region**

Within the Tri-State Region, three major metropolitan planning agencies – one from each state – exist and are tasked with developing a comprehensive plan for their jurisdiction:

- The Chicago Metropolitan Agency for Planning (CMAP) is the official regional planning organization for the seven counties in northeastern Illinois: Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will. CMAP developed GO TO 2040 (CMAP, 2009), a comprehensive regional plan that offers a blueprint for the seven counties and 284 communities in northeastern Illinois on how to address the Chicago region's needs in the areas of transportation, density and land use, human capital, natural resources, and governance. This plan builds in part on an ambitious and wide-ranging plan prepared by the Commercial Club of Chicago in 1999 (Johnson (1999)). In terms of governance, the plan singles out three specific issues: (i) reforming state and local tax policy; (ii) pursuing coordinated investments; and (iii) improving communications.

- In the Milwaukee area, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) is the official metropolitan planning organization (MPO) for the seven counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha in Wisconsin. The Commission's comprehensive plan for Southeastern Wisconsin includes coordinated plan elements of land use, housing, transportation (including public transit, bicycle and pedestrian facilities, systems management, demand management, arterial streets and highways, and airports); water supply, water quality management, including sanitary sewerage facilities and non-point source runoff, flooding mitigation; parks and open space; and natural resource preservation. SEWRPC was also actively involved in the recently discontinued initiative to provide commuter rail service between Kenosha and Milwaukee (the KRM project, described above).

- The portions of northern Indiana within the Chicago Tri-State Region (Lake, Porter, and LaPorte counties) are served by the Northwestern Indiana Regional Planning Commission (NIRPC). NIRPC has developed a draft of its Comprehensive Regional Plan 2040, which, like CMAP's GO TO 2040, lays out an overall vision for land use, transportation, the environment, and economic development in the region. Indiana's plan articulates several governance-related goals, such as"efficient and coordinated local government." Specific objectives include: "Facilitate the consolidation of redundant local government services; Promote coordination of land use and corridor planning across jurisdictional boundaries; Foster better communication, cooperation, and co-ordination to better leverage resources; Promote the sharing of benefits, burdens and costs among governments."

Source: NIRPC (2011).

Effective Institutional Arrangements in the Tri-State Region

The two-state Greater Philadelphia Area offers an example of interstate coordination that could serve as a model for the tri-state region. The Delaware Valley Regional Planning Commission handles land use and transportation planning for nine counties (Bucks, Chester, Delaware, Montgomery and Philadelphia in southeastern Pennsylvania; and Burlington, Camden, Gloucester and Mercer in southern New Jersey). The commission's strategic plan emphasizes that the region's economic competitiveness depends on making comprehensive and coordinated investments.

Integration of the tri-state region's planning would show the three state governments that such integration is key to the region's long-term competitiveness. It would bolster arguments for more cooperation through legislation or Compact-type agreements.

Integrated, regional targeted planning could focus on:

- Economic development, including cluster building, business productivity and innovation capacity in legacy and emerging clusters, particularly in the green economy; international market projection and branding; and attracting foreign direct investment and technological advancements to the tri-state region.
- Workforce development, including human capital formation, attraction and retention; matching skills supply with demand across the tri-state region at all levels of economic activity; and enhancing labor productivity and innovation capacity across the region.
- Transportation and logistics development, including integrated, intermodal, regionwide plans that enhance the fluid, seamless mobility of people, goods and services into, through and out of the tri-state region.

Integrated, Tri-State, regionwide economic development

Attitudes toward economic development differ dramatically across areas within the tri-state region. Some progress has been made in building intrastate partnerships among local governments to enhance regional economic development. But interstate cooperation on regional economic development should be a priority.

The Oresund region linking parts of Denmark and Sweden serves as an example of how comprehensive regionwide economic-development strategy can straddle borders. Oresund planners bring together university, government and private-sector leaders to identify key business sectors and develop a targeted branding strategy for the region. The goal: to attract talent and people into the region and maximize export market opportunities for its products and services.

Box 6.4. **The Oresund region as a inter-state economic development strategy**

In 1997, the Øresund University Network was created to coordinate cooperation between 12 universities in the two-country Zeeland-Copenhagen-Malmo-Skane region, which today count 165,000 students and 10,000 researchers, with a mandate to facilitate information sharing, research collaboration, network activities and cluster building (Oresund, 2011b). At the same time the Øresund Medicon Valley Academy (MVA) was created to coordinate, network and promote local research and business in the human life sciences in the region in order to improve knowledge exchange and innovation between the private and public sector and to make the region attractive to foreign stakeholders. In recent years the MVA has shifted its focus from academia toward business and today Medicon Valley is recognized as one of the most attractive bioregions in the world.

An important first step for the cross-border region's success was its branding as the Øresund Science Region (ÖSR). Oriented by a 'double triple-helix' model that involved regional authorities, businesses and universities in both countries, the Øresund University Network acts as the umbrella organisation for seven research and innovation platforms that bundled research and innovation cooperation in the sectors of health and pharma (MVA), IT, environment, food, logistics, digital entertainment and nano-technology. The University Network:

- Took over the coordination of eight higher education institutions in the trans-border region and admits students to any of the Øresund Network institutions enabling them to move and take part in the many educational opportunities offered by the other institutions without physical and administrative hindrances.
- Enabled researchers and teachers to share knowledge, tools and ideas with colleagues in cross-border networks; enabled technical staff and administrators to compare practices on how to address challenges in inter-university collaboration.
- Some of the Network's innovation platforms include the following:
  - *Oresund IT* is a nonprofit organisation that provides knowledge and contacts among ICT actors in the Øresund Region. Its goal is to brand the ICT cluster of the region to attract more investments, talent and research, and to deliver a unique value by combining Swedish and Danish best-practices. Partners include 90 ICT companies, education and research institutes, and companies with large ITdepartments that benefit from the network, as well as other members providing various services and investments to the industry.

Box 6.4. **The Oresund region as a interstate economic development strategy** *(cont.)*

- *Øresund Logistics* is a Danish/Swedish nonprofit network organization developing and supporting logistics in the Øresund Region. Øresund Logistics works with the "Double-Triple Helix"-model, working cross borders for the purpose of bringing regional authorities, industries and universities together in an in-depth cooperation. It identifies initiates and coordinates research and development projects in the Øresund Region; facilitates network activities, seminars, workshops and conferences for the interested stakeholders; disseminates knowledge on advanced logistics and supply-chain management; acts as a knowledge provider for branding the Øresund Region as a hub for efficient, innovative and environmentally sustainable logistics and transport processes.
- The *Øresund Materials Innovation Community (ØMIC)* is a triple helix partnership established to ensure the best possible support for research and innovation in and around the scientific facilities, and to make Northern Europe the central hub for research and innovation in hard, soft and biological materials with a focus on Grand Challenges (from clean tech, green energy and supercomputing to structural biology and pharmaceuticals). It focuses on maximizing collaboration and coordinating activities in community development, education, early business planning, knowledge sharing in sciences parks, regional branding, bibliographical investigation, and future planning, grounded in the Øresund region but open to Northern Europe, Europe and the World.
- *Øresund Environment* provides a regional forum for businesses, universities and local governments for networking and knowledge exchange, and facilitates and promotes new sustainable ideas and projects within energy, building processes, clean-tech, eco-mobility, green healthcare, CSR and environmental leadership education.
- *Øresund Entrepreneurship* is a cross-border organization that promotes entrepreneurship education in higher education and focuses on a thematic approach toward entrepreneurship at universities.

Source: Streijffert, B. (2008), "Øresund Science Region: Cross-border triple helix collaboration", Briefing to the European Commission, Øresund University, Lund; www.oresund.org; www.mva.org.

Coherent Tri-State, regionwide workforce development

Human capital remains critical to sustaining innovation-driven economic performance across the tri-state region. The region needs to match skills supply to demand. At the moment, training service providers don't coordinate curricula and training services offerings sufficiently to meet business needs in the emerging innovation-driven clusters. Basic skills for both children and youth and for adults in stressed neighborhoods also aren't met effectively.

This represents both a resource-allocation and a governance issue. Addressing them effectively requires the development and execution of integrated and targeted regional plans to match skills supply and demand across every level of economic activity. The region also needs to enhance labor and business innovation and productivity capacity to develop, attract and retain talent and investment and to maximize its competitive advantages in the global marketplace.

Key information on regional workforce development plans, including metrics of success must be shared with stakeholders that develop and employ region-wide economicdevelopment planning, and vice versa. Interdependence between economic development and workforce development planning will require an ongoing and sustained two-way information exchange between key stakeholders involved in both exercises.

Integrated, Tri-State, regionwide inter-modal transportation planning

The tri-state region, a national transportation and logistics hub, clearly needs a long-term, cross-border regional transportation plan. The lack of one has led to a piecemeal approach to infrastructure funding.

Transportation investments will require greater vertical coordination and reforms at the state and federal level, with priority given to projects with the greatest regional return. At the state and local level, project priorities should be made based on expected returns and benefits at the regional level, so that the most effective and value-generating projects occur.

6.3 Employing the vision: ongoing institutional capacity and political engagement

These policy chapters have underscored repeatedly the need for data and indicators to monitor performance and measure progress toward regional strategies and plans. Data are required to define challenges and metrics of performance and to understand whether the strategies achieve their objectives. Performance metrics allow stakeholders to change course if strategic decisions don't deliver these policy outcomes.

Building the evidence base to benefit the tri-state region

The tri-state region measures performance, but lacking is the capacity to harness this information and present it in a rational, integrated fashion that "tells the story" coherently. A central clearinghouse would provide a sound, up-to-date evidence base for developing and employing policies that address the region's strategic issues.

Civic and political engagement

Traditionally, the tri-state region has generated significant civic leadership in the private and nonprofit sectors. It could benefit from leveraging these considerable business and civic resources. Historically, they have advocated the need to increase the region's competitiveness through a regionwide approach.

Leadership is needed to educate area policymakers about matters of cross-jurisdictional and regional importance and to advocate for policies that would make the region more livable, competitive and successful. As a bonus, this activity could create a regional identity that could integrate into the advanced branding strategies recommended in the economic-development section.

Leading by example will prove critical to demonstrating the relevance of the tri-state region to state and federal authorities. Today, the region lacks collaboration between the three state administrations and attention from the U.S. government for high-level strategic planning. Planning that recognizes the region as a functional, integrated economic engine of the nation's economic performance.

With attention, these deficiencies could transform into active engagement. To do that, though, the region's stakeholders must demonstrate the region's economic importance by putting into place truly integrated plans to address regional issues. The potential impact on state and federal decisionmakers to such bottom-up leadership in the region shouldn't be underestimated. As Chicago's great city planner Daniel Burnham said, "Make no little plans."

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