



**Cargo-
Oriented
Development**



**Delivering Jobs + Capturing the Value
of a More Efficient Freight System**

**WE
ARE
CNT**

What if the greenest,
most efficient way
to move freight to
American cities could
also reenergize
the economies of
American cities?

Could America's freight rail network - with hubs in urban areas - deliver the job growth, economic value, and environmental benefits our cities need to thrive in the global economy?

Absolutely. Through a strategy called *Cargo-Oriented Development*.

Cargo-Oriented Development

builds on market
changes and
investments that are
already underway.

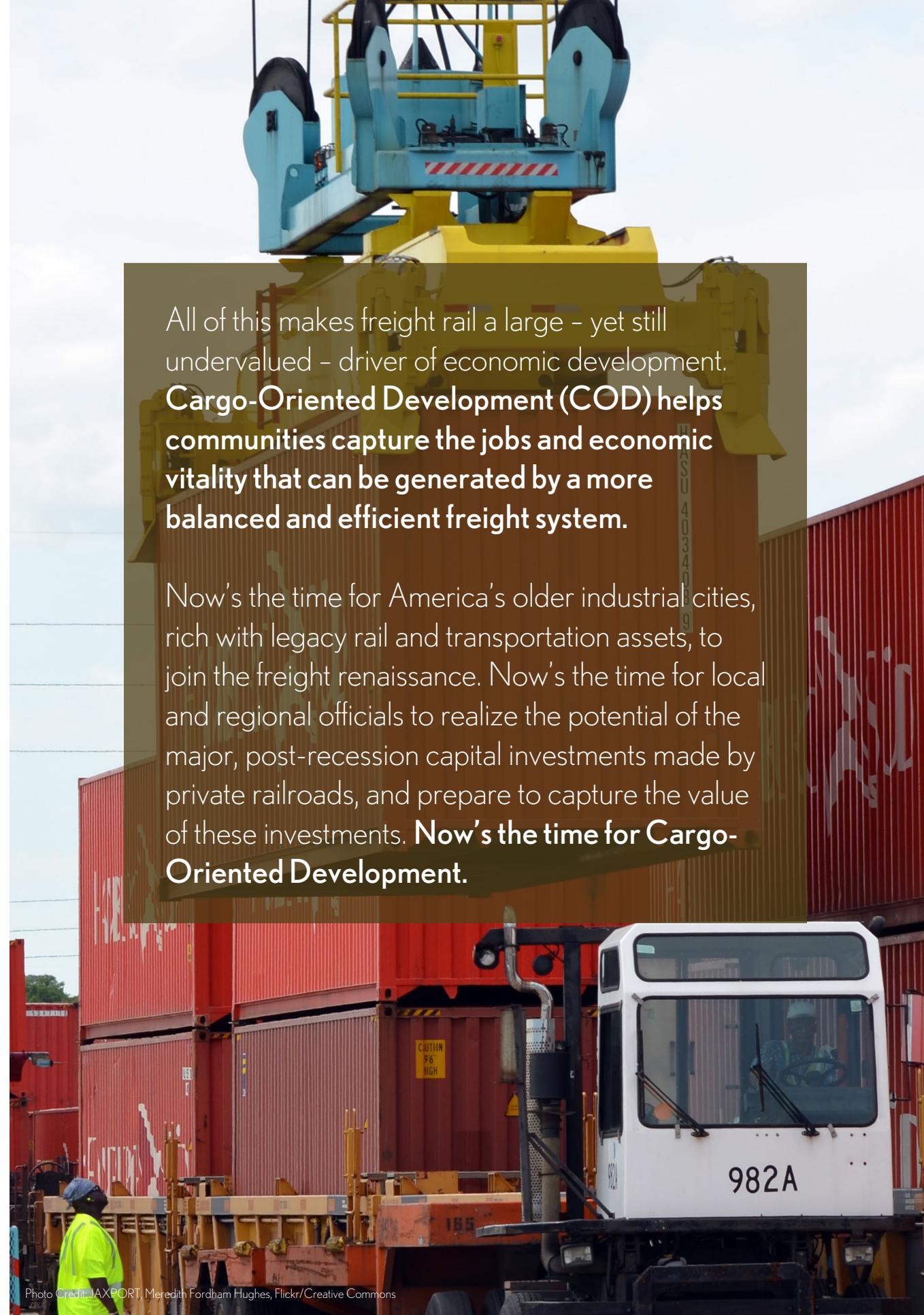
Rising fuel costs and increased competition in the global economy demand that America's freight system become more efficient, reliable, and flexible. An environmentally conscious public demands a greener supply chain. These demands are spurring a resurgence for rail.

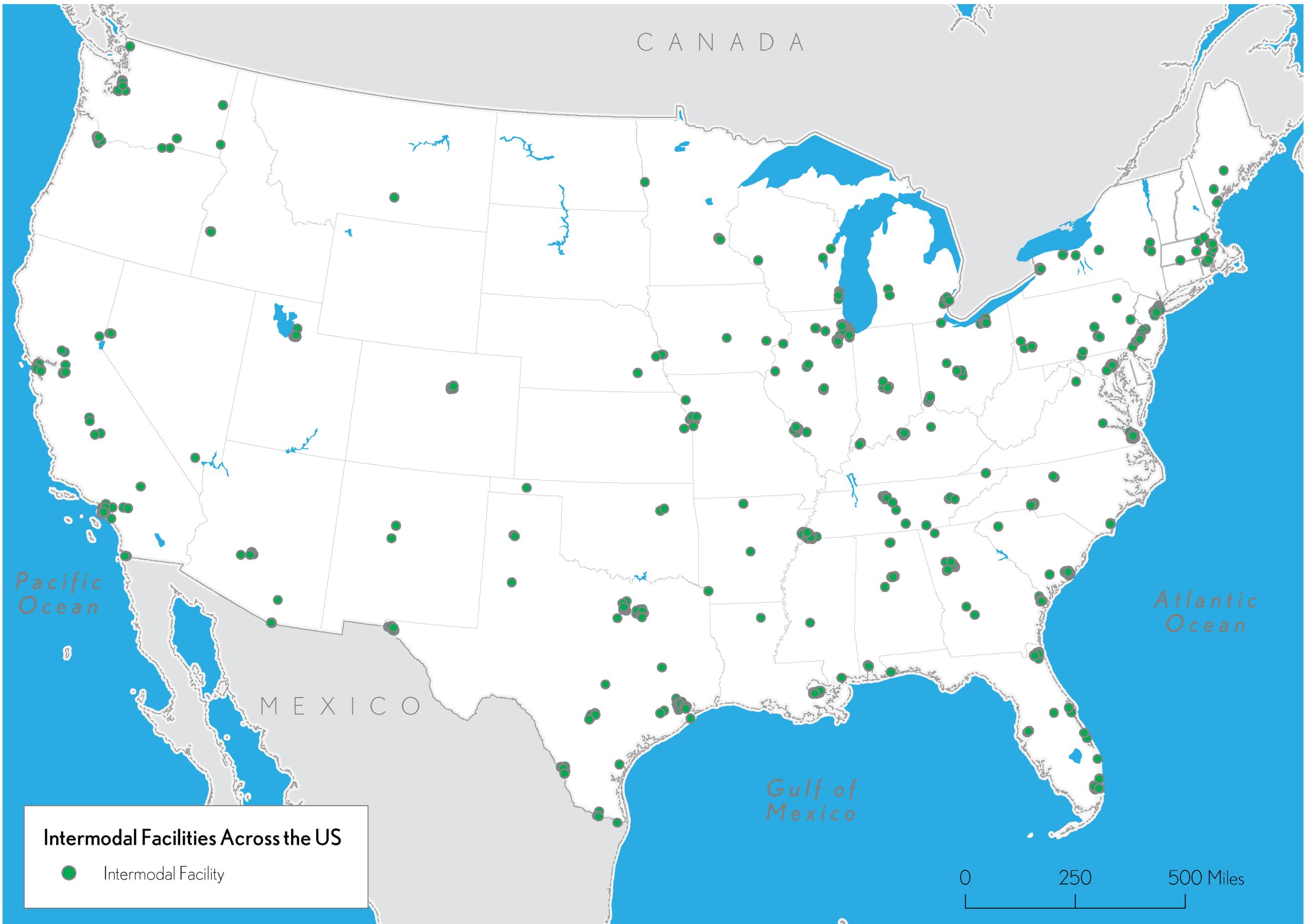
Railroad companies, manufacturers, and shippers are investing billions in new and improved systems, such as direct connections to industrial plants and *intermodal transportation*, where containers from trains or ships are transferred to trucks for local distribution.

The US has over 200 intermodal terminals. Each one is a magnet for logistics, manufacturing, and other industries that rely on rail transportation.

All of this makes freight rail a large – yet still undervalued – driver of economic development. **Cargo-Oriented Development (COD) helps communities capture the jobs and economic vitality that can be generated by a more balanced and efficient freight system.**

Now's the time for America's older industrial cities, rich with legacy rail and transportation assets, to join the freight renaissance. Now's the time for local and regional officials to realize the potential of the major, post-recession capital investments made by private railroads, and prepare to capture the value of these investments. **Now's the time for Cargo-Oriented Development.**



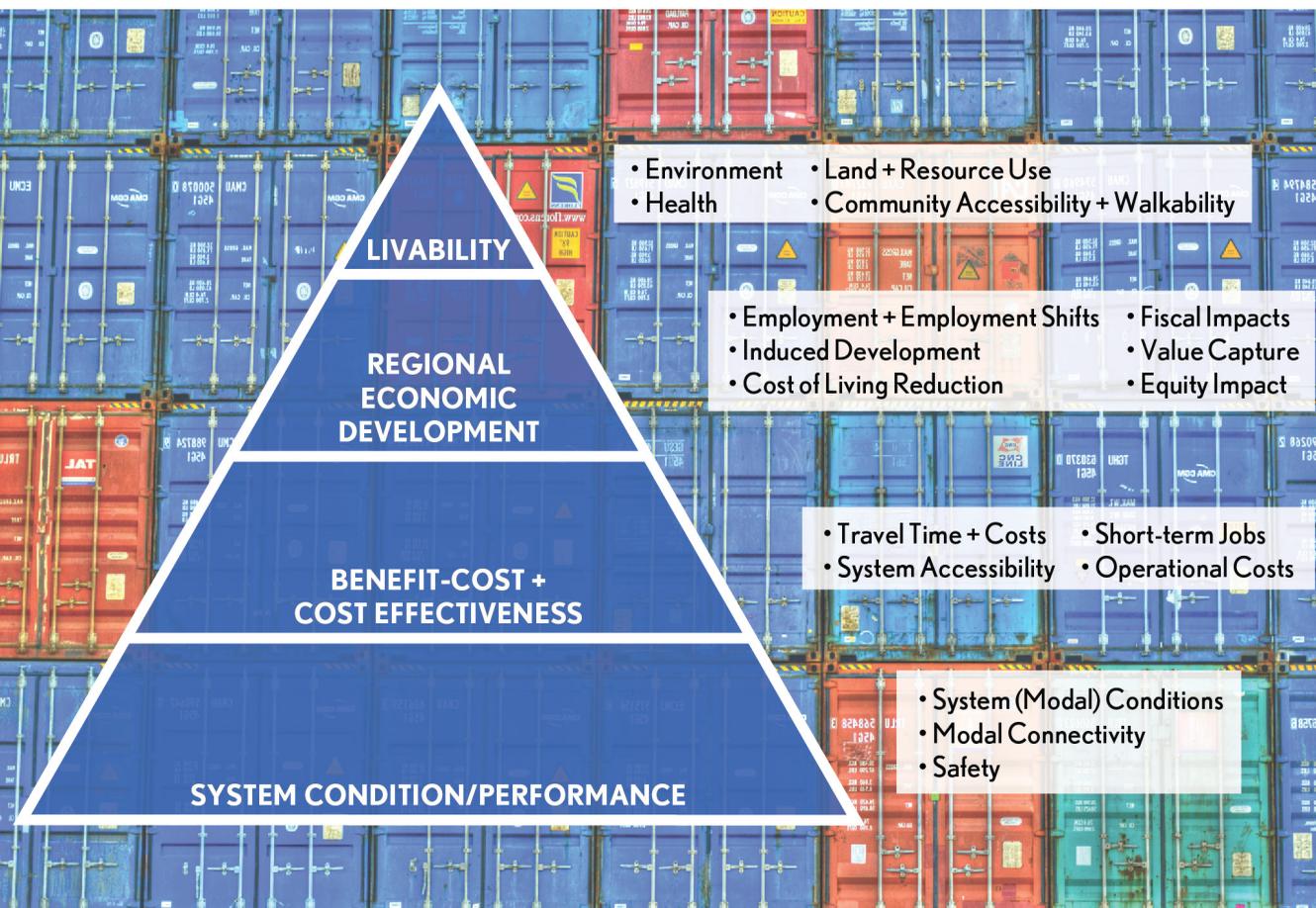


SITUATION + OPPORTUNITY

Over the last several decades, America's urban communities lost important anchor industries to shifts in the global labor market. Meanwhile, cheap fuel and cheap land in exurban areas made it too easy for new industrial facilities to choose greenfield locations, bypassing the existing workforce, assets, and economies of cities.

Today, many city dwellers (and leaders) view rail as a dirty relic of that now-departed industrial past. They recall the noise, congestion, and pollution that prevail where heavy truck traffic meets railheads. But they are often unaware of the anchoring function that freight facilities can play for local and regional economies, and unfamiliar with the current technologies and management systems that can dramatically reduce the environmental impact of freight.

CNT's Cargo-Oriented Development Program aims to turn this around. Using the renewed interest in rail, and the new realities of higher priced fuel and increased rail industry investment, we seek to secure greater economic and social return for communities, as indicated in the Economic Benefits of Transportation pyramid below.



The vitality of the US economy depends in no small part on the efficient movement of goods, but environmental quality also hinges on transportation efficiency: 7.5% of US GHG emissions comes from freight movement. Transportation plays an outsized role in US petroleum consumption (72%), of which fully 30% is for freight (17% heavy truck and 13% all other freight modes). Any strategy to address climate change needs to focus on decreasing the freight system's use of fossil fuels.

We help railroads and the industrial developments linked to them become greener, more land efficient, and better neighbors by adopting more efficient technology and equipment. And we identify effective strategies for urban communities to capture the jobs and economic vitality from freight handling and freight-dependent industry.

A man wearing a white hard hat, glasses, a blue polo shirt, and a high-visibility yellow safety vest is working on a large, complex industrial machine. He is looking towards the camera with a slight smile. The background is a bright, outdoor industrial setting.

THE POTENTIAL OF CARGO-ORIENTED DEVELOPMENT

COD anchors industrial business sectors.

COD can attract and retain logistics and manufacturing operations that depend on proximity to rail lines, transload facilities, or intermodal terminals to minimize transportation costs while gaining ready access to urban markets. These benefits can catalyze the cleanup and reuse of vacant land, restoring jobs to communities eroded by decades of industrial contraction. Enterprises that require convenient access to rail provide a base for a broader range of industrial and commercial businesses that strengthen their regional economies.

COD improves regional competitiveness.

For American businesses, competition in the global economy often boils down to a contest among US regions. A strong multimodal freight transportation system is a prerequisite for the sustainable development of industrial clusters in a region. As these benefits accrue, region by region, COD enables a more effective national freight transportation network to strengthen the American economy.

COD reduces environmental impact.

The pollution and congestion that often stem from the interface of heavy truck volumes with intermodal rail are reduced with COD strategies. COD can reduce noise pollution, improve safety, and lead to more stable property values. Achieving these benefits depends on the introduction of new rail operating technologies, better use of land, control of truck idling and congestion, and more energy-efficient rail and truck equipment. These impacts are felt immediately in communities with intermodal facilities, and like the economic benefits of COD, these improved results aggregate up to regional and national results.

COD creates jobs.

Freight rail, related logistics industries, and the manufacturing businesses served by freight rail offer good entry level jobs with career potential and more skilled jobs for which community colleges are well suited to provide training.

COD empowers cities, railroads, and residents to form a new social contract that can achieve real prosperity and sustainability.

CASE STUDY

CHICAGO'S SOUTH SUBURBS

NEW OPPORTUNITIES FOR OLDER COMMUNITIES

Cargo-Oriented Development (COD) was born as a community development strategy through CNT's engagement with Chicago's South Suburbs. In 2004, while pursuing transit-oriented development (TOD) strategies as a method of sustainable job creation, we found that these traditionally industrial towns were thick with high-volume freight rail lines close to expressways and intermodal freight terminals. These assets were anchoring new industrial parks in exurban areas, but were not leading to the redevelopment of vacant industrial districts. In collaboration with the South Suburban Mayors and Managers Association (SSMMA), we rolled up our sleeves and began to invent ways to bring COD to older industrial communities.

We conducted a GIS scan of the communities and identified over 3,000 acres of vacant industrial land with excellent access to freight transportation assets, in blocks large enough to attract investment. Finding that most of these properties were brownfields, we helped SSMMA connect with USEPA resources to remediate or fully assess over 800 brownfield acres in potential COD sites.

To guide our work with SSMMA, we established the [Green TIME Zone](#), a holistic strategy for using TOD and COD in tandem to bring community development and job growth to disinvested towns. The Green TIME Zone was awarded a federal Sustainable Communities Challenge Grant, which we used to seed a development loan fund and a land bank that now plays an important role in site assembly. **Our advocacy secured over \$30 million in public and private infrastructure investments that are making COD sites more developable and more sustainable.**

In partnership with four community colleges, we established a growing program to train area residents in certified manufacturing and logistics skills in demand by local employers. In 2013, the State of Illinois enacted the [Brownfield Redevelopment and Intermodal Promotion Act \(BRIMPA\)](#), a CNT-SSMMA proposal, which established a \$21 million fund to spur private investments in south suburban COD. To take advantage of these new resources, we created a pipeline of potential COD projects at various stages of site or financing preparation. Several businesses, employing approximately 300 workers, have recently emerged from this pipeline.



CASE STUDY

OHIO

CAPITALIZING ON THE CROSSROADS

Ohio has always been the crossroads of America. Today, 47% of the US population and 52% of its manufacturing capacity are within a day's truck drive of Columbus. And as container traffic increases from East Asia through the Panama Canal and from Southeast Asia through the Suez Canal, Ohio stands to grow again as the inland distribution point for these global connections.

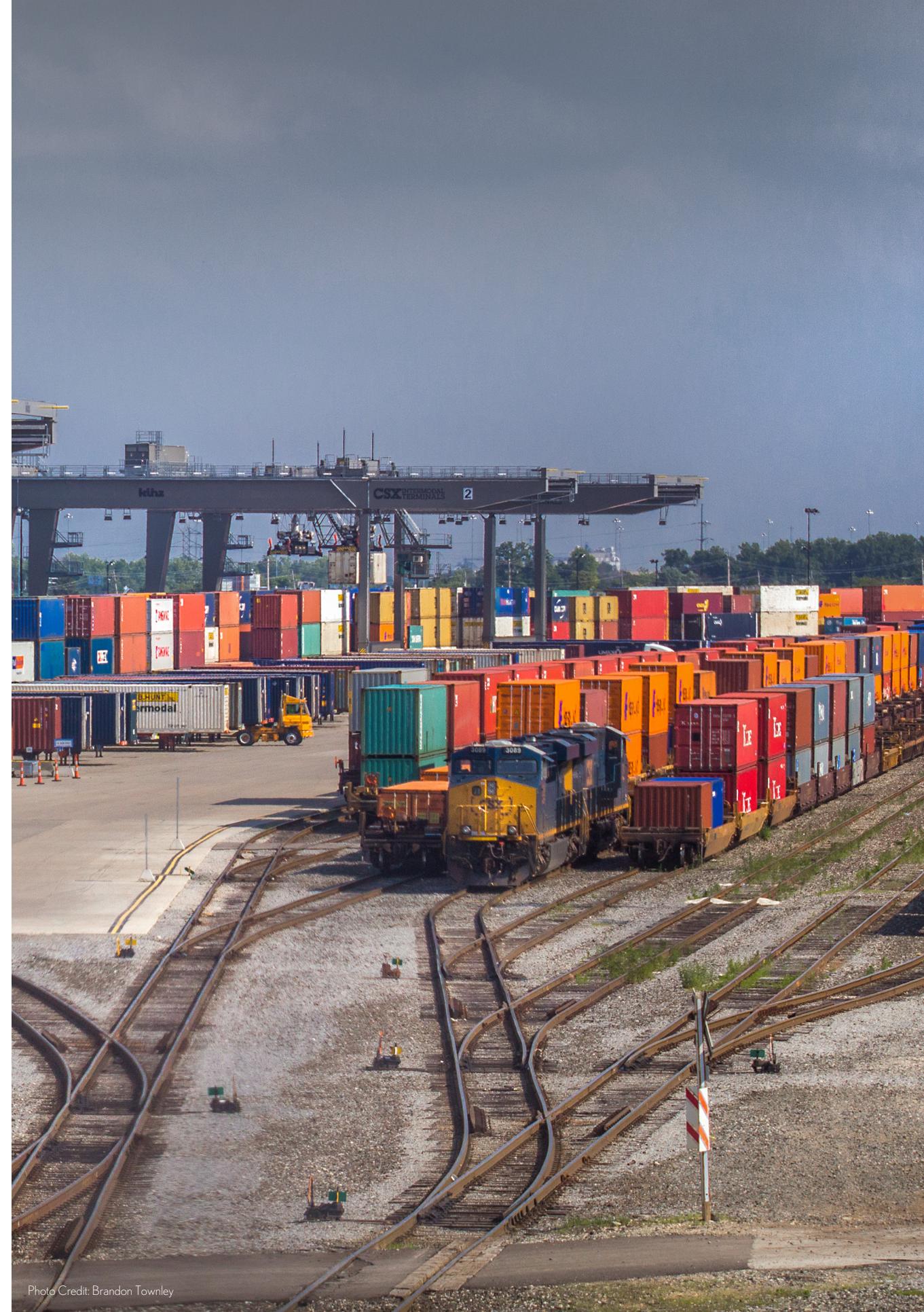
Major investments are underway to capture this opportunity. In 2010, Norfolk Southern (NS) completed the \$290 million Heartland Corridor project to clear bridges and tunnels for double stacked containers from Norfolk to Virginia. NS partnered with public actors in the Columbus region and the state to construct the Rickenbacker Inland Port, including a new terminal and complimentary logistics campus.

As part of its National Gateway expansion, CSX developed a hub for intermodal trains in North Baltimore and a "spoke" for that hub at Buckeye Yard in Columbus. This \$850 million public and private investment will expand bridge and tunnel clearances to allow double stack containers between several Atlantic deep water ports and the Midwest.

CNT helped stakeholders across Ohio understand how and where to unlock the economic development potential of freight rail investments.

CNT was a key partner with former Governor Ted Strickland on the *BUILT (Broadening Urban Investment to Leverage Transit)* in Ohio project, created to develop strategic investment scenarios for COD and TOD in Columbus and Cleveland, as well as TOD in Cincinnati. The COD scenarios analyzed underutilized and environmentally degraded development sites where public action could support reuse as logistics or value-added manufacturing.

More recently, CNT worked with private and public stakeholders in Central Ohio to assess the impact of in-yard technology, public-private planning, and infrastructure upgrades on freight efficiency, economic development, and the environment.



CASE STUDY

MEMPHIS

DELIVERING PROSPERITY

Memphis is a city of contrasting problems and opportunities. While the city struggles with an unemployment rate of 11% and more than a quarter of residents live in poverty, Memphis also boasts an expanding, nationally significant industrial sector, driven by freight transportation.

Widely known as the home and central depot of FedEx, Memphis is also one of the few gateways where the eastern, western, and northern segments of North America's Class I railroad system converge. The five intermodal freight terminals of metropolitan Memphis shift more than a million truck-size cargo containers annually, and their volume is rapidly growing to two million; only Chicago plays a larger role as an inland intermodal port.

Industrial parks are growing up around three of the region's intermodal terminals, creating thousands of jobs, and a recently renovated terminal of the BNSF Railroad sets the current national standard for a highly efficient and environmentally friendly freight terminal in an urban community. However, two terminals stimulating new growth sit in outlying areas, without public transit access for the unemployed workers of the central city. BNSF's terminal serves some of Memphis' premier companies, but in much of its surrounding industrial district land fragmentation, deteriorated buildings, and brownfields discourage redevelopment. This is a situation that cries out for Cargo-Oriented Development!

In 2013, CNT helped Memphis Mayor A C Wharton craft his *Blueprint for Prosperity* – a bold plan to reduce poverty in Memphis by 10% in 10 years. CNT's contributions to the Blueprint include recommendations to connect the city's unemployed to job centers through more robust public transit and to build more consistently on the city's assets. COD is one focus of this strategy. Land use strategies that take advantage of Memphis's freight, logistics, and manufacturing assets can help the city capture the economic value of regional growth. **CNT is conducting a targeted study that will provide the cornerstone for Memphis's COD action plan.**



CASE STUDY

NEW ORLEANS – BATON ROUGE

RENEWAL + RESILIENCE

The Greater New Orleans - Baton Rouge area, home to some two million people, is the latest region to explore Cargo-Oriented-Development strategies with CNT.

New Orleans has been a center of international trade from its earliest days, and recent developments indicate that the role is expanding. The Port of New Orleans is the country's only international port served by six of the seven major US railroads. More than half of American grain exports (not to mention a large share of Canadian) move through the port. But it is the energy and chemical industry that make the port complex between the Big Easy and the state capital one of the largest in the US. And, unlike the Port of Los Angeles, the traffic moves more by water and rail than by less-efficient trucks.

The energy and manufacturing boom that began in 2011-2012 will greatly expand trade and transportation jobs, providing opportunity to put the long-term unemployed back to work. But this opportunity will also challenge the region to make major investments in infrastructure, workforce development, and other services. The Louisiana Economic Development agency expects a \$21 billion investment in new manufacturing facilities in the next five years in the corridor between New Orleans and Baton Rouge. And the Greater New Orleans Data Center tallying up the jobs prospects from these new investments sees 42,000 new jobs in Southeast Louisiana in the next seven years.¹

Despite these exciting prospects for economic renewal, long-time observers are concerned that current residents who are unemployed and underemployed may miss the prosperity wave. Especially in New Orleans neighborhoods such as Hollygrove, the unemployment rate is stubbornly higher than parish or state averages.

To manage the new demand and to minimize environmental impact, investment in new, more efficient rail and water infrastructure is essential. Planned investments for freight and passenger rail over the next five to eight years are estimated in the \$800 million range. Several hundred million in port investment also is on the drawing board. The challenges to plan for an orderly and sustainable growth in this suddenly booming economy are huge.

CNT is working with local partners and a broad range of officials, business and citizen interest groups to help the region develop and capture the long-term community benefits of increased freight movement through Cargo-Oriented Development.

¹ See *The Transformative Possibility of the New "Energy Boom" in Southeast Louisiana* at: http://www.datacenterresearch.org/reports_analysis/the-transformative-possibility-of-the-new-energy-boom-in-southeast-louisiana/



RESEARCH + INFORMATION



BETTER DATA

The US Department of Transportation (USDOT) began to organize data and forecast trends in freight traffic in the 1990s, but the data sets and forecasts are inconsistent with industry data and experience when reviewed on the ground. Nevertheless, this information is currently used in detailed transportation planning and in public investment decisions.

Working with industry and government partners, CNT intends to collect freight and related development data and make it available and actionable for improved transportation analysis and forecasting. A visual user interface, and a communications strategy that helps potential stakeholders utilize the data, can unlock potential for smarter decision-making. CNT's [Transit-Oriented Development \(TOD\) Database](#) is one example of an effective model.

EDUCATION + INFORMATION

CNT is working to identify and develop advanced web-based tools, including:

- Land use planning and design principles to minimize negative externalities of freight and capture the triple bottom line benefits of COD
- Models to assess location efficiency for siting improvements
- Financial analysis to determine more equitable funding methods for transportation improvements
- Economic analysis to identify the full benefits and costs of intermodal rail transportation and to determine strategies to capture local benefits and integrate freight with economic development investments
- Transportation analysis to link transit, intercity passenger rail, and other mobility strategies to the jobs created in these developments

POLICY ADVOCACY



NATIONAL GOALS + PERFORMANCE METRICS

Through a grant from the Ford Foundation, CNT started work in 2013 with the Obama Administration and Congress to identify consistent goals and performance metrics for more efficient freight movement and freight-linked development patterns. CNT will refine and test the most promising metrics for tracking improved efficiency (energy, location, and land) of freight performance and local economic results from COD for use in national and state freight plans.

FINANCIAL INCENTIVES

CNT is working in Washington to incentivize freight efficiency, adoption of green technology, and integration of rail-linked development with sustainable land use planning. We seek public policy that rewards private involvement in economic and environmental innovation reflecting the numerous public benefits of this investment.



Photo Credit: Wally Gobatz, Flickr/Creative Commons

CNT'S CARGO-ORIENTED DEVELOPMENT PROGRAM
STRATEGIC DEMONSTRATIONS



ECONOMIC DEVELOPMENT BEST PRACTICE

CNT is building on a decade of experience in freight and economic development practices in the Chicago region to assess the current state of practice and document best practices in other communities. We identify how well public agencies are ensuring community, economic, and environmental benefits from new rail investments and related services. We promote logistics, manufacturing, and other job-creating economic development activities in building freight and COD strategies in other regions.

REGIONAL FREIGHT + COD STRATEGIES

CNT collaborates with industry and community leaders to develop regional COD strategies that integrate freight efficiency with economic development. Work is already in progress in four regions with high levels of freight activity: Chicago, IL; Memphis, TN; Columbus, OH; and New Orleans-Baton Rouge, LA. Other regions with high potential include Los Angeles - San Bernardino, CA; Minneapolis/St. Paul, MN; Detroit, MI; and Laredo, TX. Our on-the-ground experiences in these places informs next steps on national performance measures of interest to federal policy makers.

FREIGHT TECHNOLOGY BEST PRACTICE

CNT works with private sector partners to identify and demonstrate new high-efficiency methods, technologies and equipment that extend the economic life of older intermodal facilities in urban communities.

CNT'S CARGO-ORIENTED DEVELOPMENT PROGRAM
NETWORKING + CONVENING



COLLABORATION

CNT encourages and supports feedback loops among national and regional organizations and media, and among freight, industrial development, and shipper industries, to break down institutional and knowledge barriers. Establishing leadership advisory groups at the regional level can help us expand the community of best practice.

NATIONAL CONVENING

CNT convenes regional leaders with national experts to refine business strategies and document national implications of adopting COD strategies and related policies. Sharing results of these collaborations with industry and policy decision makers will be critical. The results of these meetings will be broadly communicated to expand awareness and understanding of COD opportunities in hundreds of communities with existing intermodal facilities.



Photo Courtesy of Mi-Jack

Partnerships for Cargo-Oriented Development

CNT seeks partners who share our commitment to optimizing the economic and environmental benefits of Cargo-Oriented Development. Through research, data-driven decision-making, and smart public policy, we can develop businesses, create jobs, and enhance the quality of life around America's urban freight rail facilities.

Let's work together.

worktogether@cnt.org

ABOUT CNT

CNT is a nonprofit innovations hub for urban sustainability. CNT's research, strategies, and solutions are implemented across America and around the world to create more equitable and resilient communities. Our 35-plus years of work in transportation and community development, water, energy, and climate have inspired a generation of new approaches and earned the highest of honors.

2014



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