



THE METROPOLIS
FREIGHT PLAN
DELIVERING THE GOODS

CHICAGO METROPOLIS 2020

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DECEMBER 2004

Few of us spend much time thinking about how the shelves of our grocery stores are always fully stocked or how a package mailed from New York City one afternoon can arrive at our homes and offices before noon the following day.

Too often, we take for granted the efficient delivery of freight into our region, out of our region and throughout our region. Freight is coming and going, sometimes at a snail's pace inside the semi-trailers stuck with us on the Edens Expressway and sometimes on freight cars pulled slowly along the railroad tracks that block the road home to our families.

Trucks move \$572 billion worth of goods in our region each year, and railroads transport \$350 billion in goods. Because of poor regional planning and inadequate infrastructure, the freight often travels very slowly and contributes greatly to traffic congestion in the Chicago region.

By all projections, the situation is going to worsen in the future. If that happens, traffic jams on our highways and side streets will become much, much worse, and shippers are going to look for ways to avoid moving their goods through our region. The impact will make it difficult for businesses that need fast, dependable freight service and will be a blow to freight industry workers, who number more than 87,000 at our railroads and trucking firms today.

Chicago Metropolis 2020, a business-backed civic organization, has spent months looking into this problem and developing solutions that will help the region avoid such a crisis. Aided by generous financial support from the Elizabeth Morse Genius Charitable Trust and guided by a senior project team, we have consulted experts in freight systems. We have used the most modern technical tools for analysis, reviewed freight plans and ideas from around the world, and interviewed a variety of leaders from industry, government and civic organizations.

Our analysis and recommendations are contained in *The Metropolis Freight Plan: Delivering the Goods*.

If enacted, these recommendations can ensure that our region will continue to enjoy thousands of jobs and other benefits of a healthy freight system in the future. But that will only happen if we act now with a coordinated regional approach to solving existing problems, planning for future growth and investing wisely.

Donald G. Lubin
Chairman

George A. Ranney, Jr.
President & CEO



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photos: Terry Evans

The Chicago region would be a different and poorer place without its great capacity to move, store and distribute goods. Freight drives the region's economy. It must not be taken for granted.



FREIGHT DRIVES THE REGION'S ECONOMY

For over 150 years, Chicago, as our region is known to the world, has been the hub for transportation of both people and goods in the United States. Our ability to move people and goods has played a vital role in the founding, growth and prosperity of Chicago.

Economic growth in the United States will nearly double the demand for freight transport by the year 2030, but Chicago already strains to handle current freight volumes. Business, government and civic leaders must make the commitment now to ensure that the region will enjoy the benefits of greater freight volumes and avoid being overwhelmed by freight traffic on our roads and rails.

Following a major study of the freight industry, Chicago Metropolitan 2020 has prepared a freight plan for consideration by government, business and civic leaders. This freight plan builds upon *The Chicago Metropolitan Plan: Choices for the Chicago Region*, released in 2003. A fundamental principle of this freight plan is that for the region to prosper, the freight transportation system must have the brawn to support global trade, and the finesse to foster sound development of our communities.

Freight refers to any goods shipped by truck, railroad, airplane, waterborne vessel or pipeline. The Metropolitan Freight Plan focuses on freight carried on road and rail (89% of total Illinois freight volume, excluding pipeline) and its relationship to the region's development.

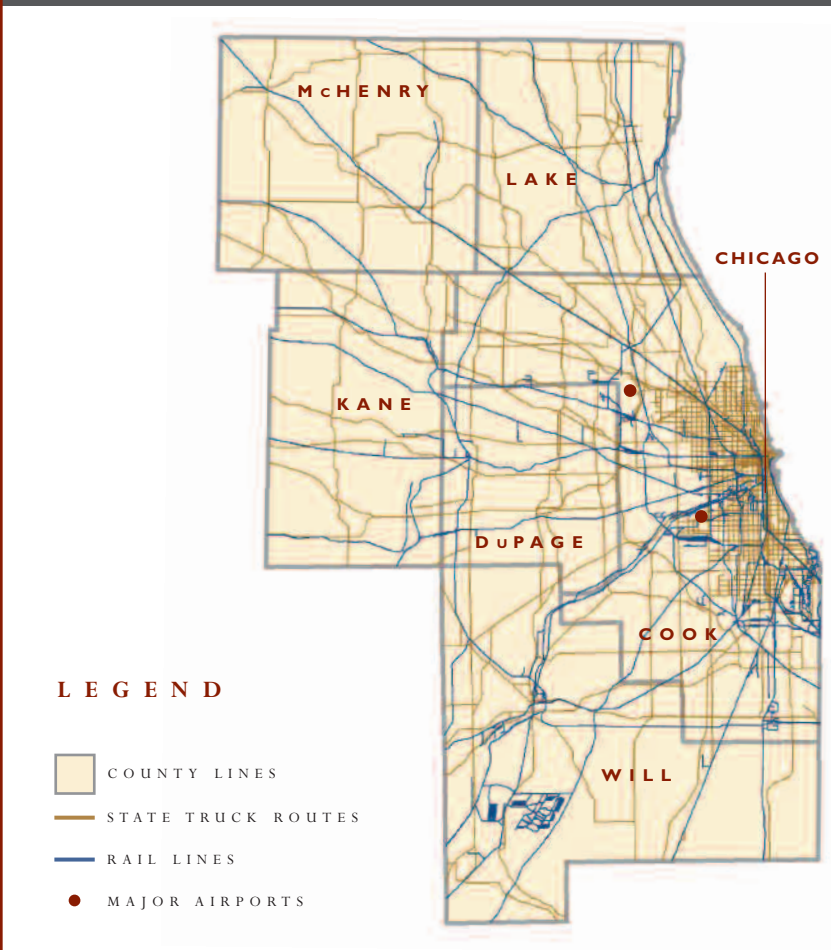
Intermodal refers to movement of goods by two or more modes of transport, typically rail and truck, or steamship, rail and truck.

Chicago is North America’s freight capital. Chicago first grew as the Midwest portal connecting the bounty of the Plains to Eastern markets. By the 1850s, Chicago was the nation’s railroad hub; today it is the only city served by the six largest North American railroads. By the 1950s, Chicago had become the focal point for the trucking industry. Now seven interstate highways enter the region, more than any other metropolitan area.



source: Library of Congress, Prints and Photographs Division

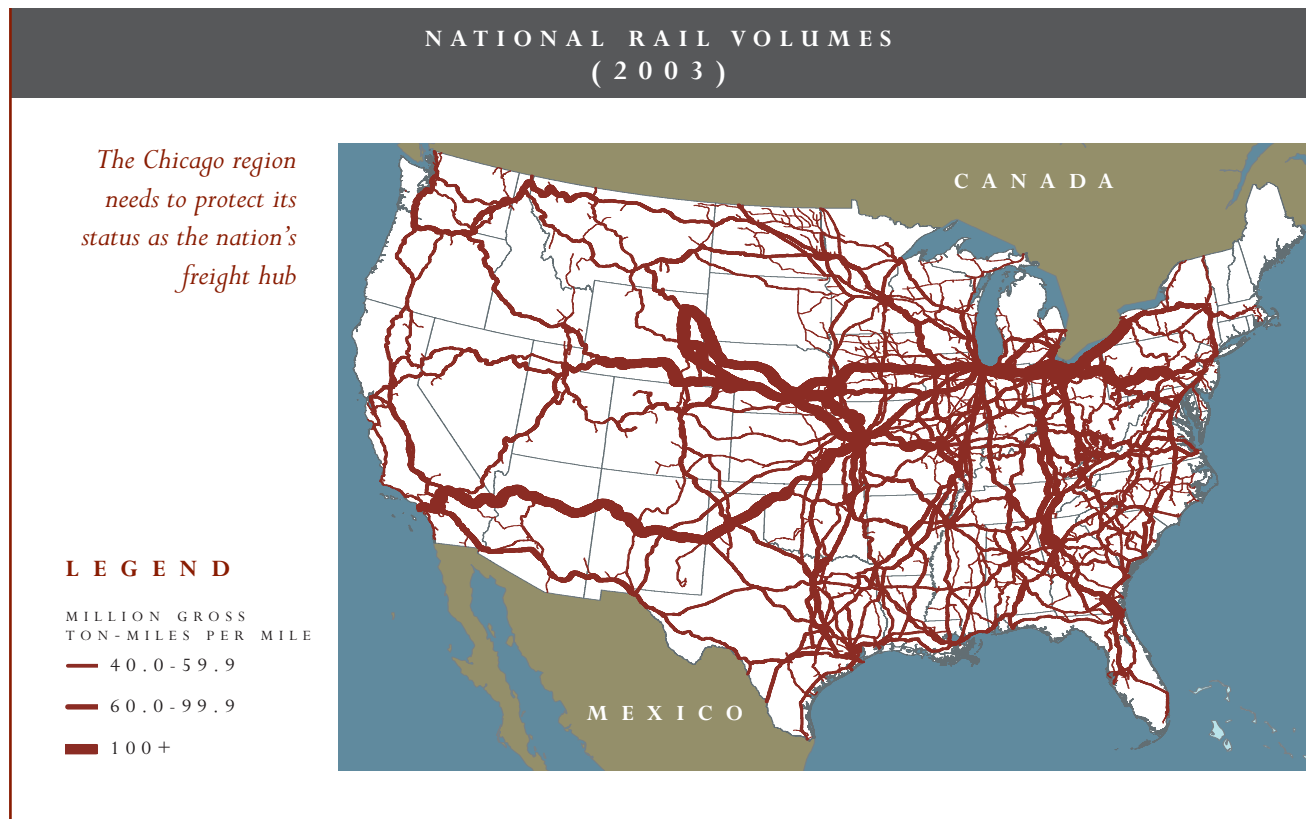
THE CHICAGO REGION



source: Chicago Department of Transportation; Illinois Department of Transportation; Federal Railroad Administration

HOW THE METROPOLIS FREIGHT PLAN WAS PREPARED

The Metropolis Freight Plan is the result of professional analysis, consultation with experts, and guidance by a senior project team. The best available data was gathered and modern Geographic Information System tools were used to better understand the freight system and related development in the region. Freight plans and ideas from around the world were reviewed. Land use, transportation and economic modeling and analysis of freight issues were undertaken by a professional team that included Fregonese Calthorpe Associates (land use), Smart Mobility (transportation), Economic Development Research Group (economic modeling), FAS Consulting Services (transportation finance), and Wilson Consulting (project management). An advisory council of freight experts met periodically to review and critique the work and provide ideas. Extensive interviews were conducted with experts from the freight industry, government and civic organizations.



The growth in “intermodal” containerized shipping has made the Chicago region the third busiest container-moving port in the world, behind only Hong Kong and Singapore. Seventy-eight rail terminals in the region sort and distribute rail carloads and intermodal containers.

Chicago is a national center for delivering goods. Freight makes business work and provides lots of jobs.

- The six largest railroads in North America, along with 14 smaller railroads, annually move \$350 billion in goods to, from, or through the region. The railroads and their related suppliers directly employ 37,000 workers who receive \$1.7 billion in annual payroll.
- Trucks annually move \$572 billion worth of goods to, from, or through the region. In 2001, the more than 3,000 for-hire trucking firms in the region employed 50,000 workers whose total compensation topped \$1.8 billion.
- In 2000, the region’s top 40 freight centers, where concentrations of manufacturing, warehousing, shipping and related firms have ready access to rail and truck services, accounted for 553,000 jobs and \$131 billion in annual sales.

The Chicago region would be a different and poorer place without its great capacity to move, store and distribute goods. Freight drives the region’s economy. It must not be taken for granted.



photo: Metropolitan Planning Council, Ron Schramm

The impact of increased truck traffic will be staggering – trucks will account for more than half of the additional vehicles on the region’s roads.



THE REGION IS NOT PREPARED TO MEET FUTURE FREIGHT DEMANDS

The Chicago region's role as a national freight transportation center is threatened because the rapidly growing volume of freight is on a collision course with traffic congestion and inefficient infrastructure. If unabated, these challenges threaten the economy of Chicago and the nation.

RAIL AND ROAD TRAFFIC GRINDS TOWARD GRIDLOCK

RAIL

Chicago's freight rail network is chronically congested. The 2,800-mile rail system and 78 rail terminals struggle to process 500 freight trains per day, as well as 700 passenger-carrying Metra and Amtrak trains. By 2030, railroad tonnage is expected to grow by at least 70 percent. The number of railcars moving daily through Chicago could grow to 64,000 from the current 37,500, putting even more stress on the already overburdened system.

The region's old, inefficient and congested rail system almost shut down during the winter storms of 1999. In response, the leading railroads formed the Chicago Transportation Coordination Office (CTCO) to share information and coordinate movement of trains through the system. The CTCO has achieved operational efficiencies, but there is only so much that can be done when much of the infrastructure has been in place for over a century. The system has many inefficient switches and low speed connections, and still has some at-grade track intersections where loaded trains stop and take turns to cross. Today, freight trains creep through the system at an average speed of nine miles per hour.

HIGHWAY

Chicago area highways are also groaning, and the severity of congestion is increasing. The region’s drivers suffer from the third worst congestion in the nation. In 1982, a typical Chicago driver experienced 16 hours of delay annually as a result of congested roads; by 2002 this number had more than tripled to 56 hours. Congestion costs Chicago area businesses, truckers and commuters over \$4 billion per year.

Based on economic trends and federal forecasts, the number of trucks on Chicago area roads is expected to increase by at least 80 percent in the next 25 years. Trucks average twice the road space used by cars. The resulting impact of increased truck traffic will be staggering – trucks will account for more than half of the additional vehicles, and 2/3 of the effective increase in traffic on the region’s roads.

The expected growth in intermodal containerized shipments and airfreight will place added pressure on our roads. Over half of the growth in railroad tonnage is expected to consist of intermodal container freight, almost all of which is transferred to or from trucks. Airfreight tonnage is expected to increase by as much as 200 percent over the next 25 years, and virtually all airfreight begins and ends its journey by truck.

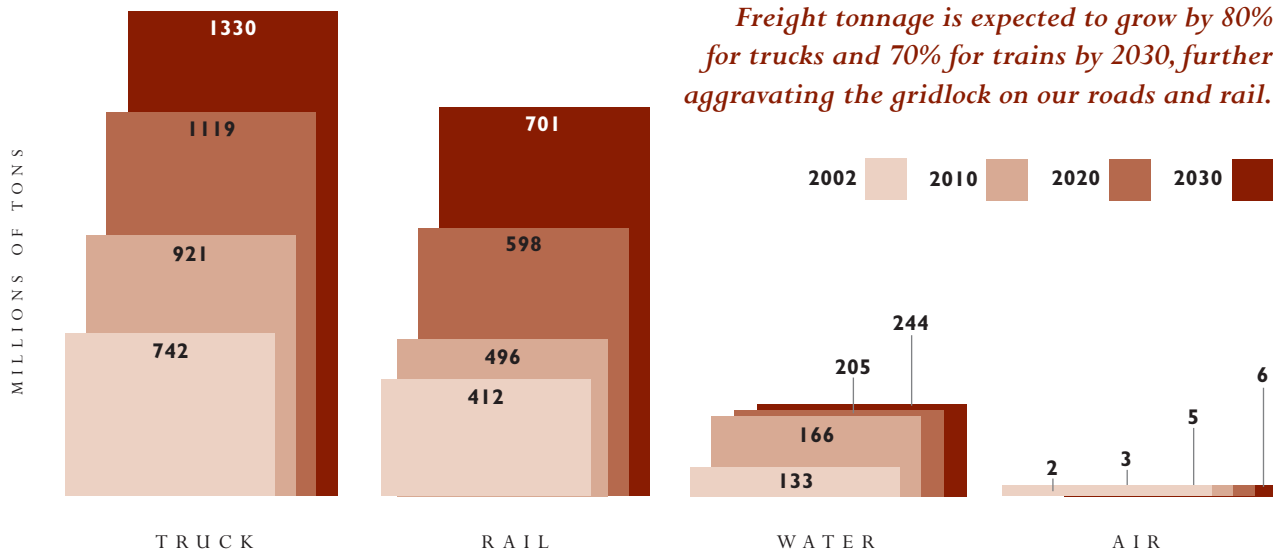


photo: Chuck Allen

Brighton Park

Every train passing through Brighton Park must stop until a switch attendant manually clears a path for it through this four way juncture. This bottleneck causes delays that ripple throughout Chicago’s rail system.

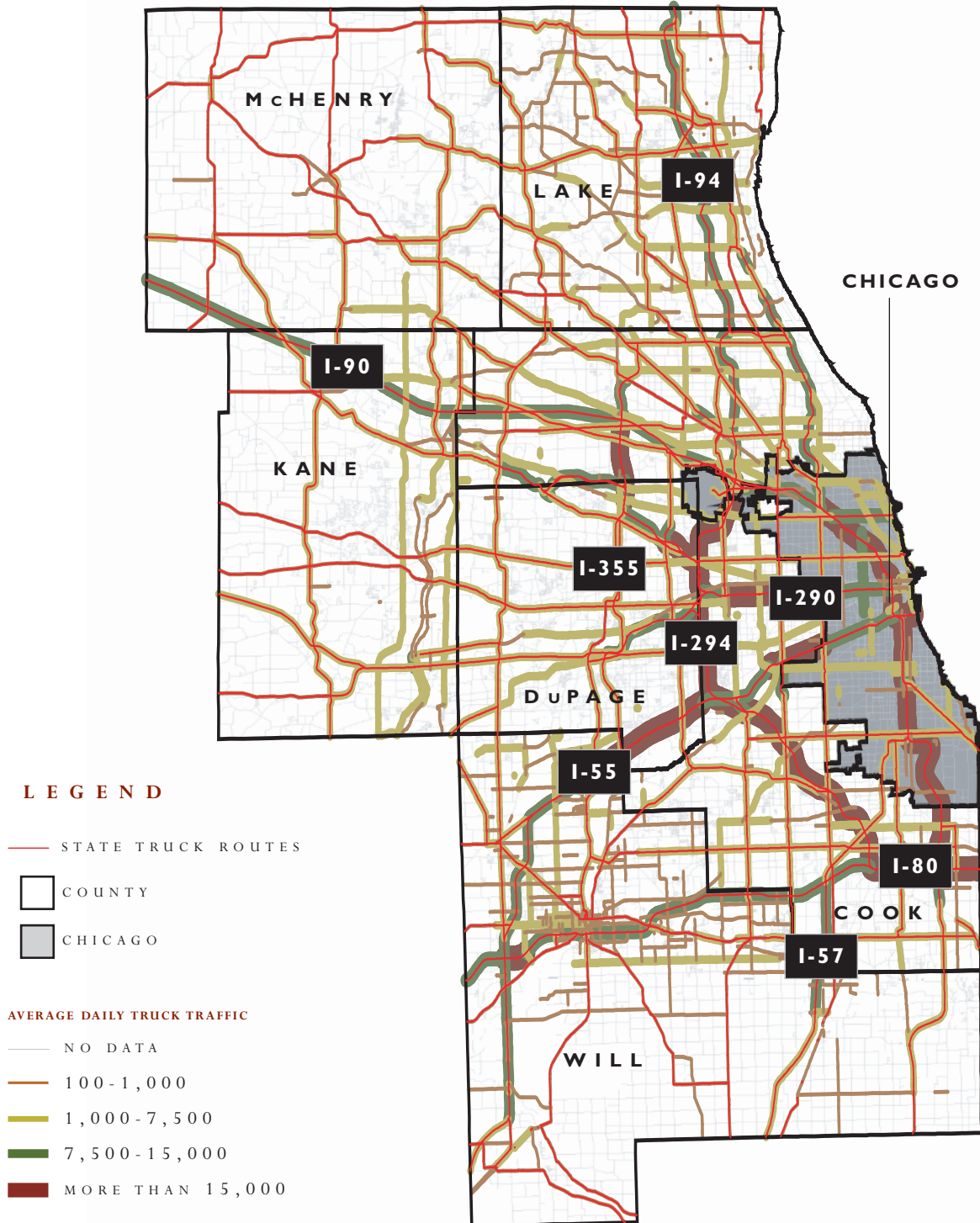
FREIGHT BY WEIGHT ILLINOIS FORECAST



source: FHWA Freight Analysis Framework; Chicago Metropolis 2020 projections

AVERAGE DAILY TRUCK COUNT

Average daily truck counts on several of the region's expressways run as high as 32,000 trucks per day.

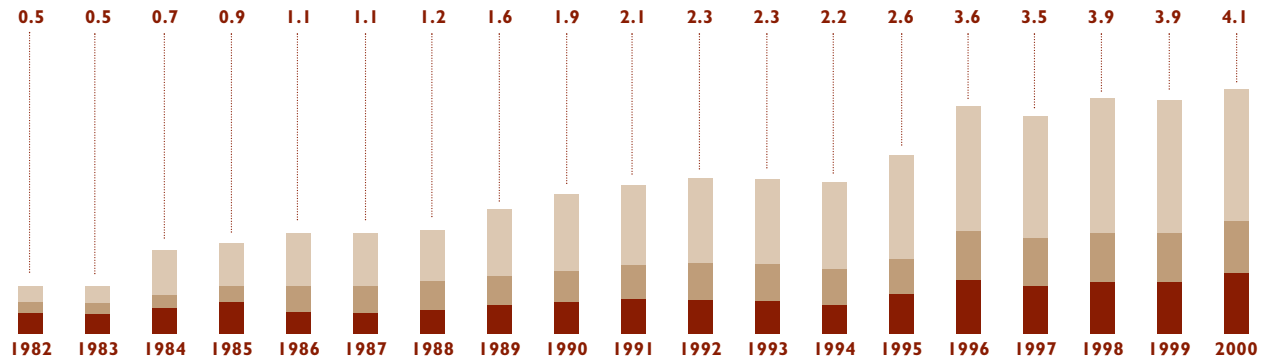


source: Illinois Department of Transportation

ESTIMATED COSTS OF CONGESTION DELAY
IN THE CHICAGO REGION 1982-2000

- COMMUTER DELAY COST
- TRUCK DELAY COST*
- FUEL COST OF DELAY

• Congestion delay costs Chicago businesses, truckers, and commuters over \$4 billion per year



* Cost of operations only, not externalities like air or noise pollution

source: Texas Transportation Institute Urban Mobility Report, 2004

LAND USE PLANNING

To further complicate the problem, new development has been more dispersed, resulting in longer trips between homes and jobs. If development patterns of the 1990s persist as the region’s population grows by the expected 1.9 million new residents between 2003 and 2030, the average resident in 2030 will waste 80 more hours stuck in traffic. Businesses will pay higher costs as truckers crawl along the congested roadways.

The problems related to growth, congestion and freight are not being solved by the region’s planning and transportation agencies. Northeastern Illinois has a fragmented, inefficient structure to develop growth and transportation plans and policies. Regional planning for transportation and land use is divided between two separate bodies, the Northeastern Illinois Planning Commission and the Chicago Area Transportation Study. There is no regional plan that connects land use and investments in roads, public transportation and freight, which is needed to effectively address congestion that slows delivery of goods.



Trucks comprise up to 40% of daily traffic on the Stevenson, Bishop Ford and Dan Ryan expressways.

FREIGHT TRANSPORTATION COST

Freight traffic has increased in part because transportation costs less. Logistics costs declined from 16 percent to 8.7 percent of Gross Domestic Product between 1981 and 2002. The price of shipping goods by truck began declining sharply after Congress loosened regulatory controls on trucking in 1978. Within five years, rates for truckload shipments fell by 25 percent in inflation-adjusted terms. Passage of the Staggers Rail Act in 1980 substantially deregulated the rail industry, leading rail rates to fall by 60 percent in real terms between 1981 and 2002, a period during which rail ton-miles increased by 65 percent.

With lower transportation costs, companies have become more reliant on trucks and airfreight to minimize inventory costs by providing more frequent and timelier deliveries. Between 1980 and 2000, the ratio of inventory to GDP fell from 25 percent to just 15 percent. Cheaper freight transportation has replaced warehouse inventories.

SUBURBAN TRUCK ROUTES

Compounding the congestion is an inefficient network of suburban truck routes that makes truck travel more costly and time consuming. The state, each county and all 272 municipalities can designate or prohibit use of roads they control as truck routes for 80,000-pound semi-trailer trucks. There is no requirement that truck routes be coordinated, even when new development might create additional truck traffic.

The City of Chicago has an efficient grid of truck routes for travel by 80,000-pound vehicles, with spacing of one mile or less between designated routes. But in the suburbs, gaps of up to 12 miles between state-designated truck routes cause trucks to travel unnecessary miles. Many numbered state roads are not designated as routes for 80,000-pound trucks. Other state roads are designated for 80,000-pound trucks except for short sections, requiring circuitous detours. Mismatches between state-designated truck routes and interchanges on the Illinois Tollway force trucks to travel beyond the most direct route and double back on local roads to reach a destination.

Even the most patient trucker will be frustrated by the lack of information about suburban truck routes and conflicting local regulations. No government issued map shows all designated truck routes. Truckers need to call individual municipal governments or police departments to request printed maps, if available, or ask the shipper or receiver for this information. Lack of information frequently can result in inadvertent violations and stiff fines, as local police enforce state laws and local ordinances even though the regulations are not easily known.

Increased freight traffic will have a profound effect on our transportation network. It could offer very positive economic opportunities for the region, but we are not prepared to take advantage of it.

EXAMPLE OF THE REGION'S
INEFFICIENT TRUCK ROUTE NETWORK

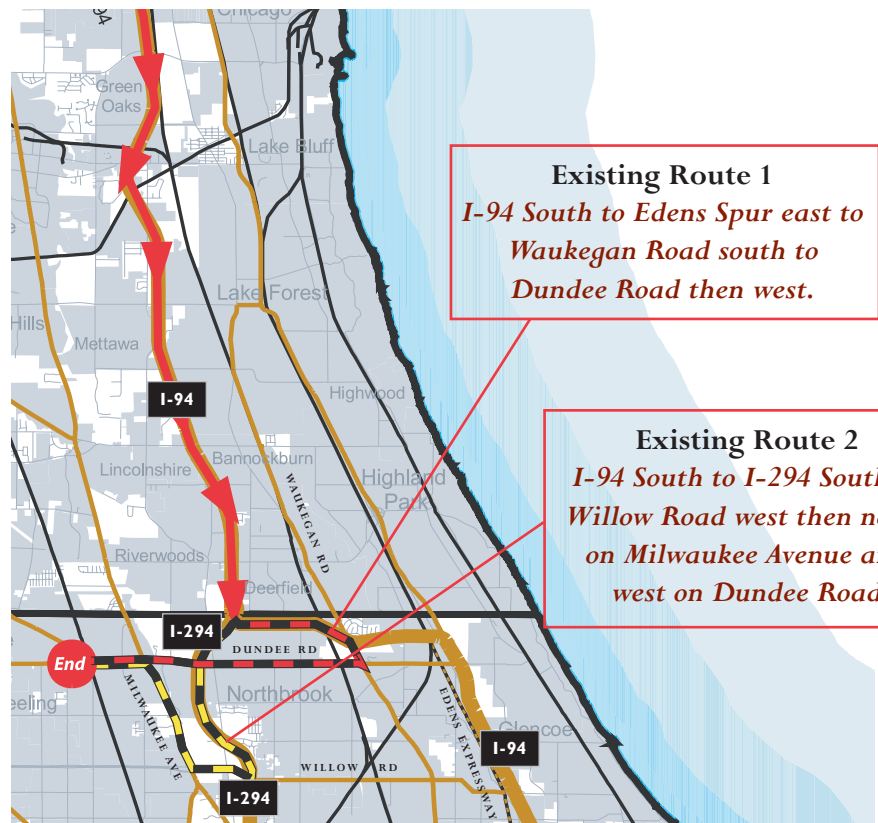
I-294 and Dundee Road are both state designated truck routes but do not connect.

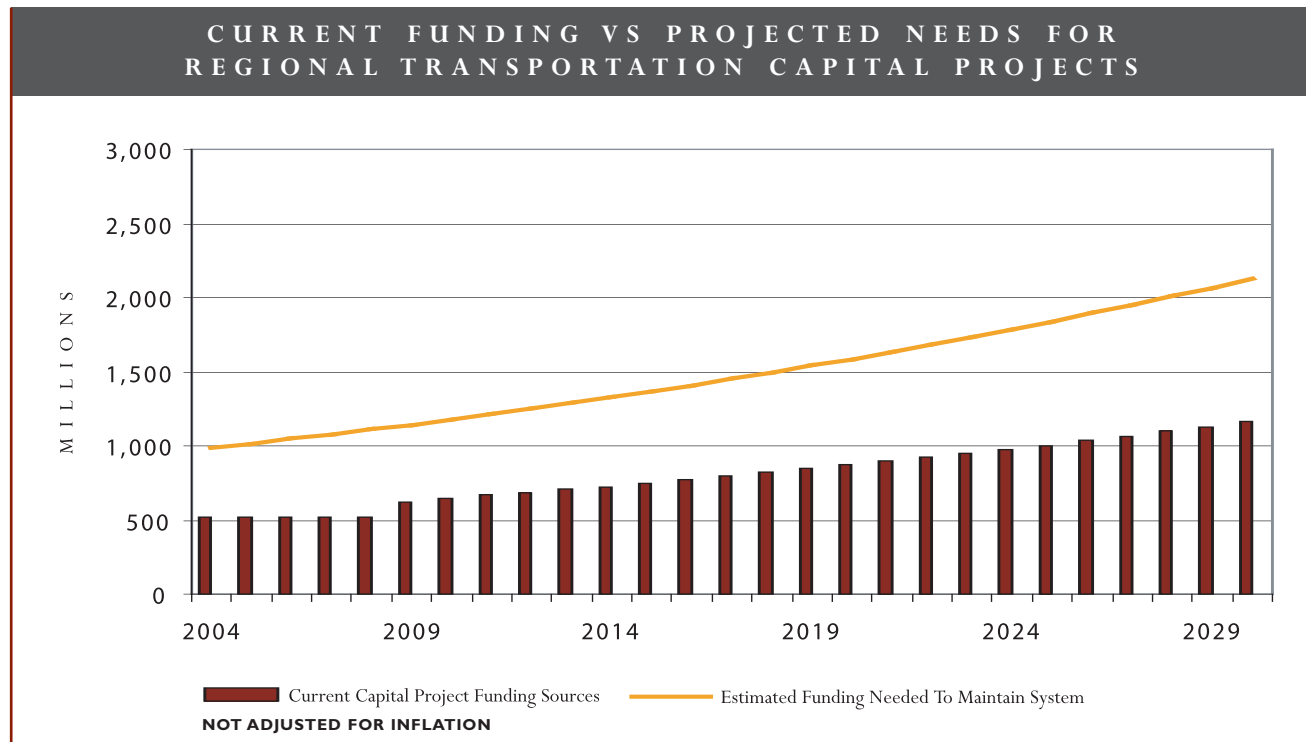
To reach a destination on Dundee Road, a southbound truck on I-294 must choose between using either Existing Route 1 or Route 2, adding over 6 miles to the trip.

LEGEND

STATE TRUCK ROUTES

ALTERNATIVE TRUCK ROUTES





source: Chicago Area Transportation Study, Chicago Metropolis 2020 projections

FUNDING IS NOT MEETING FREIGHT NEEDS

The combination of current funding methods is not sufficient to fully maintain the existing freight transportation system let alone keep pace with increased demands.

For the Chicago region, projected funding will be \$11 billion less than the cost of planned projects over the next 25 years even if gas taxes and tolls continue to be increased periodically.

For the state, the Illinois Department of Transportation estimates that \$12.1 billion to \$20.3 billion in long-term funding will be needed statewide over the next five years simply to fix deficient roads and bridges. Needed repairs would require funding of at least \$2.5 billion annually, but the IDOT road program for FY 05 is little more than half of that.

These estimates could be low. True capital needs of the region are largely unknown because there is no regional inventory of the condition of the transportation system. Further, no objective criteria have been used to evaluate and compare projects listed in the regional transportation plan.

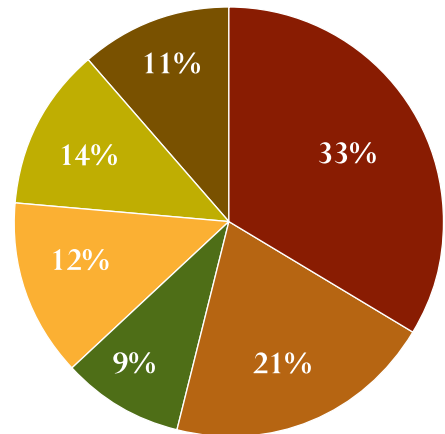
Critical sources of transportation funds are not keeping pace with needs. State motor fuel taxes have not kept up with inflation, and have lagged increased highway use by 20 percent since 1990. Until the Toll Authority recently adopted a series of changes, tolls had remained the same since 1983, while traffic increased nearly 4 percent per year. Overall, State and local governments have increased their reliance on general sales, income and property taxes to fund transportation, since the traditional sources of funding are not keeping up with demand.

While public funding sources built the roadway system, railroad infrastructure has historically been built and maintained with private funding generated by railroad companies. The railroad industry spends the highest percentage of revenue on capital expenditures of any major U.S. industry – an average of 18.8 percent between 1997 and 2001 compared with 3.8 percent for the manufacturing sector as a whole. Yet, investors pressure the railroads to trim capital expenditures due to their inadequate return on capital. In 2003, the combined cost of debt and equity capital for the railroads was 9.4 percent, compared with a 6.3 percent return on investment. Because railroads are failing to earn their cost of capital, they have not invested sufficiently in expanded regional rail system capacity.

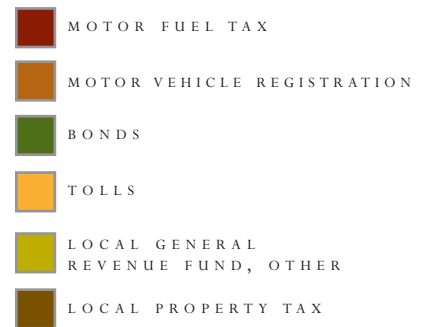
In sum, the Chicago area freight system, the region’s historic economic force, is in a state of peril. Demand for freight service is adding traffic to the region’s roads and rails, but the system is already plagued by inefficiencies and delays. There is no plan that connects development with investments in roads, rail, transit and freight, which is needed to make the freight system work. There is no financial plan to assure that funds are available to meet the increasing demands. Action must be taken now to prevent freight system gridlock.

How can the region’s leaders align public policies and private business decisions to overcome these challenges and make the Chicago freight system the envy of the world?

SOURCES OF HIGHWAY FUNDS IN NORTHEAST ILLINOIS, 2003



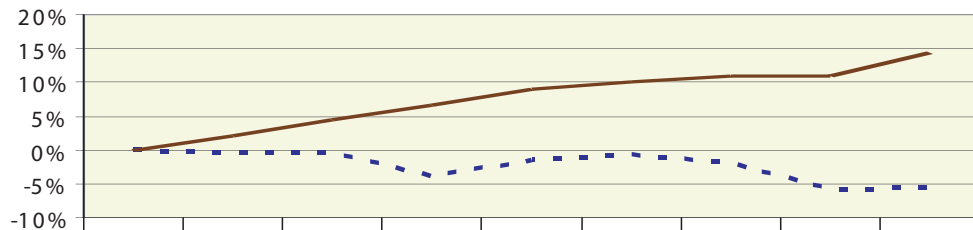
TOTAL REVENUE = \$3.5 BILLION



source: Federal Highway Administration and CM2020 estimates

**MOTOR FUEL TAX (MFT)
CUMULATIVE PERCENT CHANGE**

State motor fuel taxes have not kept up with inflation, and have lagged increased highway use by 20 percent since 1994.



	1994	1995	1996	1997	1998	1999	2000	2001	2002
■ 'MFT Purchasing Power	0	-0.6%	-0.4%	-4.0%	-1.6%	-0.7%	-1.9%	-6.0%	-5.8%
— Vehicle Miles of Travel	0	2.0%	4.4%	6.7%	8.9%	10.1%	10.9%	10.9%	14.3%

source: Illinois Department of Transportation and U. S. Bureau of Labor Statistics

OTHER REGIONS ARE TAKING ACTION

Several other large regions have acted, or are preparing to do so, with coordinated efforts at the state, regional or corridor level to address freight-related issues.

New York Metropolitan Transportation Commission (NYMTC) Regional Freight Plan: This plan has been developed by NYMTC with many stakeholders and covers New York City and five adjacent New York counties, including all of Long Island.

The New York region is highly dependent on truck transportation due to limited rail access to New York City and Long Island. As a result, the plan includes substantial investments in rail infrastructure to allow more freight to enter New York City and Long Island by rail. It also proposes major highway improvements to accommodate forecast increases in truck traffic. Other recommendations include a citywide study of truck route management, assessment of possible sites for new rail-truck intermodal terminals or bulk transload facilities in the region, and raising clearances on major rail routes.

Alameda Corridor: In 1989, the Alameda Corridor Transportation Authority (ACTA), a joint powers authority, was established to design and build the Alameda Corridor, a grade separated rail corridor from the Ports of Los Angeles and Long Beach to inland intermodal terminals. The corridor opened for service in early 2002 and runs largely below ground level in a trench.

The Corridor cost \$2.4 billion and was funded through a combination of bond proceeds, loans, contributions from the Ports, grants administered by the Los Angeles Metropolitan Transportation Authority, other federal and state funding sources, and interest earnings. User fees are collected on a per container basis for traffic moving on the corridor, and will be used to retire the bonds and loans.

FAST Corridor: FAST is a partnership co-sponsored by the Washington State DOT and the Puget Sound Regional Council (PSRC), and includes municipalities, ports and railroads. The Puget Sound area is a focal point for freight activity, with a key passenger and freight rail corridor, I-5, and three major ports (Everett, Seattle, and Tacoma.) The creation of the Freight Action Strategy (FAST) Corridor program in the mid 1990's was a direct response to declining competitiveness of the region's ports, bottlenecks affecting rail and truck movements, and concerns about safety and other impacts of freight on residents. This partnership has developed a phased program plan for 25 projects worth over \$700 million, designed to improve rail and truck access in the region.

These and other regions are planning strategically for freight to capture growth in this sector. Through coordinated effort, they have engaged key stakeholders, identified present and future requirements, developed funding plans, and moved forward with comprehensive freight system improvements. It is crucial to our economy that Chicago catches up.



photo: courtesy of the City of Chicago

The freight transportation system must have the brawn to support global trade, and the finesse to foster sound development of our communities.



THE METROPOLIS FREIGHT PLAN:
CREATING A FREIGHT SYSTEM
AND REGION THAT WORK

Freight clearly plays a pivotal role in our region's economy. But we will forfeit the region's status as the nation's freight hub if we fail to act in a coordinated fashion to plan for, manage, modernize and expand our region's extensive freight infrastructure.

Chicago Metropolis 2020 is recommending a series of actions to create a freight system, and region, that work.

ORGANIZE GOVERNMENT FOR COORDINATED ACTION
ON FREIGHT

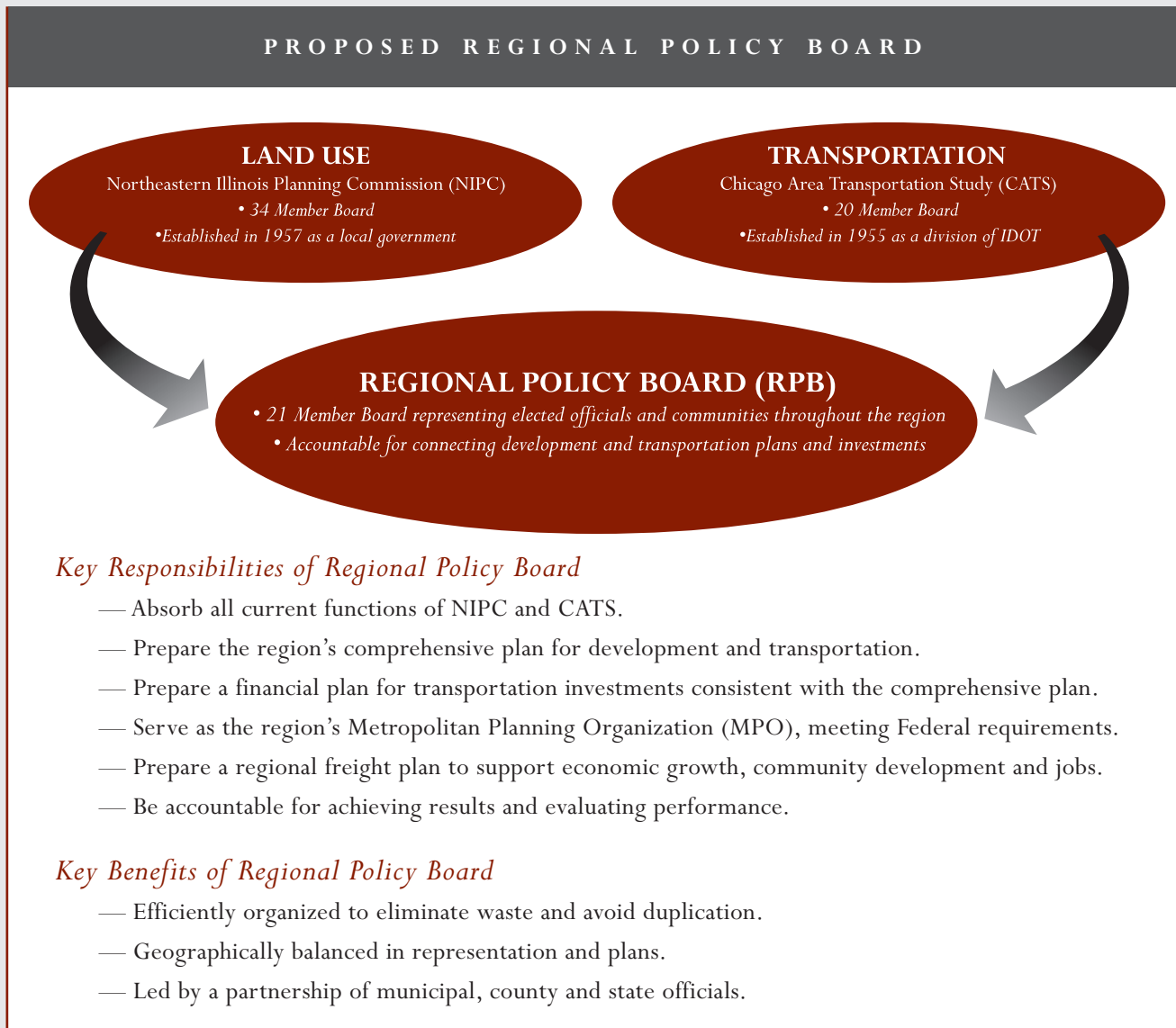
The Chicago metropolitan area needs government organizations with the authority and capacity to prepare and coordinate freight plans and make effective freight transportation decisions. Currently, there is a hodge-podge of separate agencies addressing parts of the problem, but there is no organization that is accountable and responsible for assuring that the region's freight system works. The region has neither a comprehensive freight plan nor the agency needed to assure its implementation.

Within each county, local governments must improve coordination to create an efficient freight system that works in harmony with sound development. Currently, no efficient method exists for a county and its resident municipalities to jointly develop and implement transportation plans and policies.

At the State level, a single point of responsibility is needed for developing and implementing statewide freight plans and policies. Responsibility is currently divided among several agencies.

CHICAGO METROPOLIS 2020 RECOMMENDS:

- ▶ Create a Regional Policy Board (RPB) – a single, accountable transportation and development planning agency that is responsive to the needs of communities across the region. Legislation creating the RPB would merge the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC) to connect transportation and land-use plans and investments. The RPB would prepare and coordinate implementation of a comprehensive regional freight plan that integrates rail, road and other types of transportation with economic development and sound land use plans and policies. It would develop a comprehensive financial plan to assure adequate, stable and equitable funding for freight and other surface transportation infrastructure. It should be given powers similar to those of California’s Alameda Corridor Transportation Authority to issue bonds, charge fees to pay for improvements, and coordinate public and private actions to plan and build needed freight facilities.



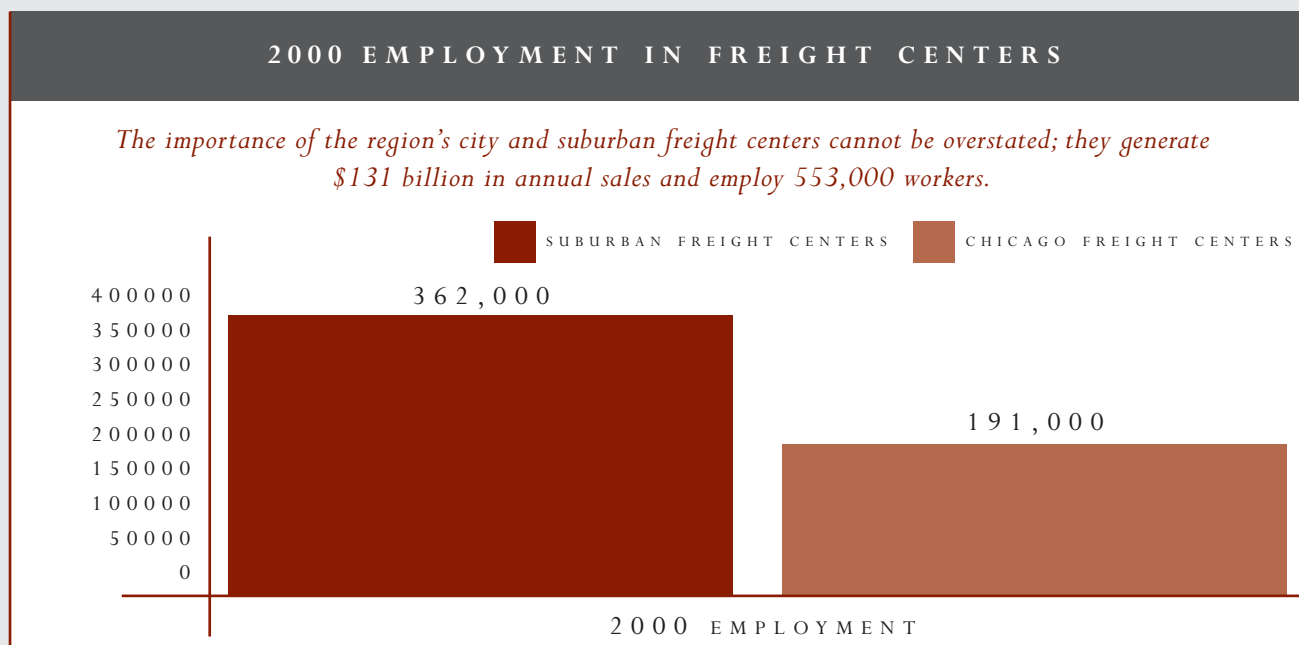
- ▶ Create County Planning Organizations (CPO's), governed by equal partnerships of county and municipal officials, to coordinate transportation and development plans and policies within each suburban county. Legislation would authorize CPO's to develop, fund and coordinate implementation of countywide freight plans and designate an efficient system of truck routes. CPO's should be given authority to influence transportation spending by state and regional transportation agencies within the county. Coordination between counties and municipalities can assure facilities are in place to support convenient, efficient and safe movement of people and goods.

- ▶ Designate the Illinois Department of Transportation (IDOT) as the State agency responsible for coordinating statewide freight policies and programs. Merge the rail functions of the Illinois Commerce Commission into IDOT. IDOT should also serve as a central clearinghouse of information regarding local and state truck routes and regulations.

PRESERVE THE REGION'S FREIGHT CENTERS

Industrial activity tends to cluster in freight centers that serve as magnets for freight activity. Such freight centers typically offer easy access to arterial highways, rail and mass transit. Growth in population brings pressures for incompatible residential and commercial developments that encroach upon such areas.

The City of Chicago has provided leadership in preserving freight centers by establishing 24 industrial corridors, a designation that commits the City to continue compatible land use and maintain infrastructure that facilitates industrial activity in those corridors. Chicago's express purpose in designating such corridors is to protect its industrial base and attract new industrial development to these areas where businesses already record an estimated \$44 billion in annual sales and employ 191,000 workers. Chicago has taken the further step of designating ten of its industrial corridors as Planned Manufacturing Districts, areas with even stricter zoning that prevents non-manufacturing use.



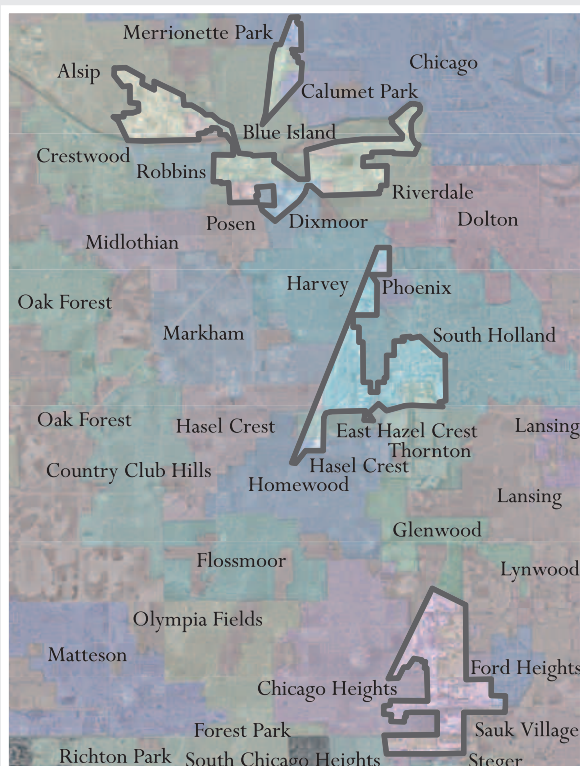
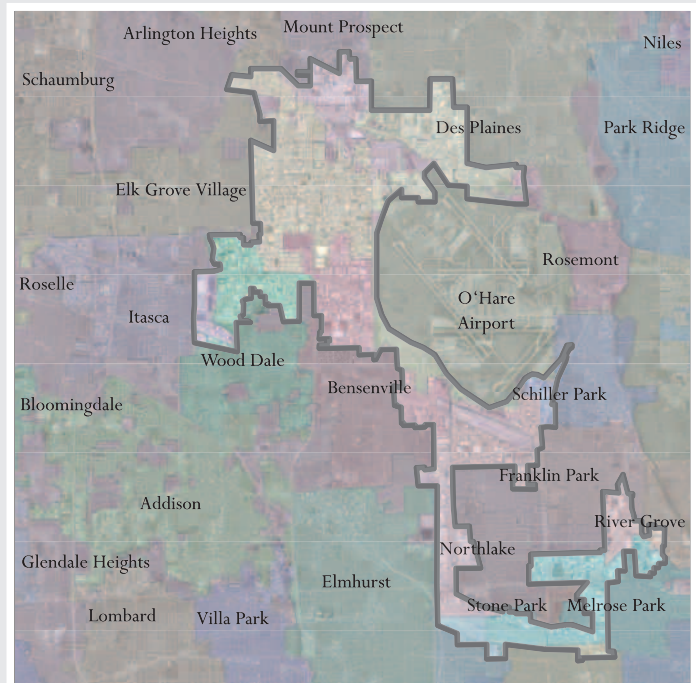
source: ARCGIS® - Business Analyst

Suburban freight centers also need to be identified and protected. Businesses in 16 proposed suburban freight centers generate an estimated \$87 billion in annual sales and employ 362,000 workers. But Chicago’s suburban jurisdictions do not provide any special protection for these areas that recognizes their economic importance. Chicago’s suburbs also lack any means of ensuring that public and private industrial development investments are targeted to and coordinated in such corridors.

Because many of the suburban freight centers span several municipal jurisdictions, coordinated intergovernmental action will be needed to gain maximum regional and community benefits from these irreplaceable economic resources. The proposed O’Hare area freight center, where industrial activity spreads across 13 municipalities and major transportation improvements are planned, exemplifies both the need and the difficulty of establishing joint policies to protect and preserve industrial corridors. The proposed south suburban freight centers present a unique opportunity to build upon that area’s historic freight-oriented economy, major transportation facilities and readily available workforce. Three south suburban freight centers spanning over a dozen municipalities boast a concentration of freight businesses and a convergence of several rail lines, intermodal yards and expressways.

Proposed O’Hare Freight Center

The O’Hare area alone employs a third of all workers in the identified city and suburban freight centers. Suburban freight centers need the same protections and coordinated management that Chicago’s industrial corridors receive.




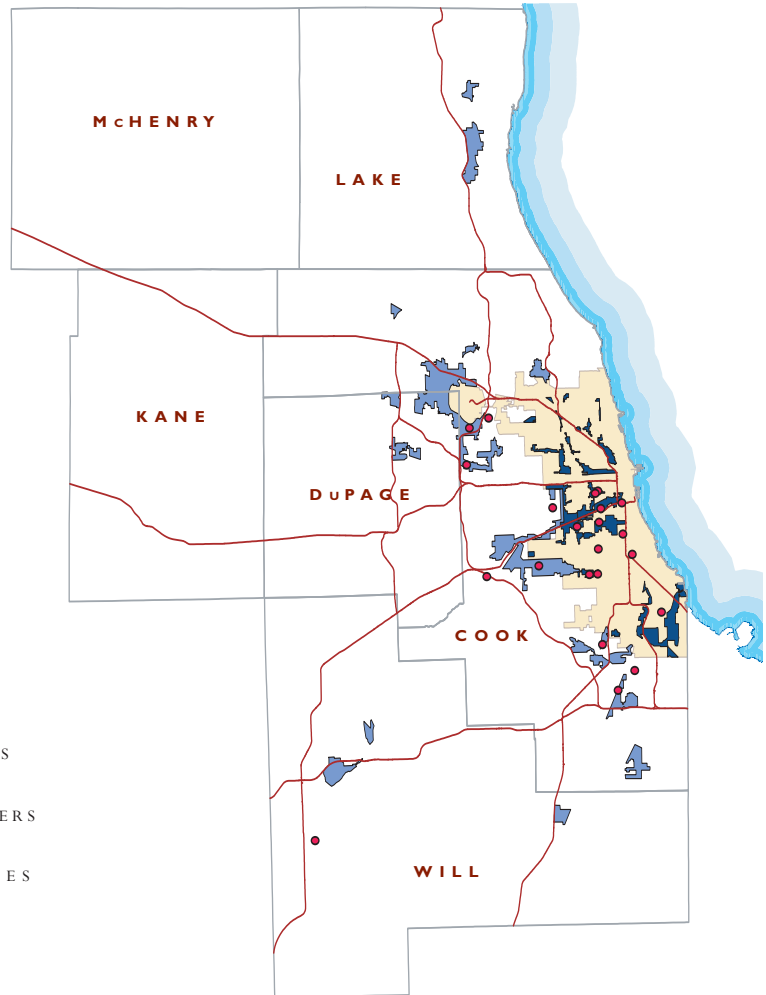
Proposed South Suburban Freight Centers

The south suburbs account for one quarter of the region’s economic activity in the Motor Freight industry. South suburban freight centers boast a concentration of freight businesses and a convergence of several rail lines, intermodal yards and expressways.

EXISTING AND PROPOSED FREIGHT CENTERS

The location of intermodal facilities within or adjacent to freight centers leads to efficiencies by reducing the distances trucks must travel to access intermodal trains.

-  CITY OF CHICAGO
-  COUNTY BOUNDARIES
-  EXPRESSWAYS
-  EXISTING CHICAGO FREIGHT CENTERS
-  PROPOSED SUBURBAN FREIGHT CENTERS
-  EXISTING INTERMODAL FACILITIES



CHICAGO METROPOLIS 2020 RECOMMENDS:

- ▶ Develop coordinated strategies to protect the region’s freight centers and target freight-related development to them. These efforts should begin with the proposed O’Hare and south suburban freight centers. The proposed Regional Policy Board should work with State agencies and local governments to assure that these vital economic resource areas are protected. Within each county, the proposed County Planning Organizations could provide needed intergovernmental coordination. Other alternatives include using existing councils of governments or creating new intergovernmental planning councils or local development authorities.

CREATE A RATIONAL, EFFICIENT ROAD NETWORK

The region is not prepared to manage the huge and growing impact of trucks on our roads. Aggressive action is needed to accommodate truck traffic that is necessary to support economic growth, eliminate truck traffic that is not needed, and minimize the impact of trucking on the region’s roadways.

CHICAGO METROPOLIS 2020 RECOMMENDS:

▶ Create an efficient system of truck routes. Counties, or County Planning Organizations, should designate an efficient system of truck routes. They should identify gaps in the region’s truck route network, and work in cooperation with the State, regional and local governments to remove artificial restrictions that foster inefficiencies in freight movements. When new links are added to achieve efficient and connected truck routes, they must be designed to minimize negative impacts on adjacent communities. State funds should be targeted for acquisition of additional right of way when needed to reduce community conflict due to truck route expansion.

▶ The region’s transportation agencies should develop a system of direct user fees on the region’s most congested roads to reduce delay and achieve more efficient use of the roads. The user fee system should include variable pricing using barrier-free “open road” toll collection technology, and it should be designed to be fair and equitable to all vehicle types and users. The Illinois State Toll Highway Authority has taken leadership by adopting variable pricing for trucks, with lower tolls at non-peak travel times. New York, Houston, San Diego and California’s Orange County, along with London and Singapore, are among the growing number of regions that have instituted some form of variable pricing.

— Variable pricing reduces congestion by providing an economic incentive for drivers to use highways in non-peak periods. User fees can and should reduce reliance on general taxes to fund transportation.

— The reduced congestion resulting from variable pricing can have a substantial economic impact. Studies done for this plan show that a shift of 20 percent of morning and afternoon truck traffic and ten percent of mid-day truck traffic to the 7 PM to 6 AM period could reduce total truck travel times by 5.5 percent, yielding regional economic benefits of \$2.1 billion per year in direct savings, \$4.6 billion in increased sales and creation of over 9,300 jobs.



photo: Illinois State Toll Highway Authority

Barrier Free Tolling

Today’s technology makes barrier free tolling and variable pricing straightforward to implement and an effective way to reduce congestion by shifting traffic from peak to off-peak times.

- ▶ Strengthen the arterial highways that are critical to freight movements by targeting \$120 million per year, or \$3 billion of the region's planned \$63 billion in transportation improvements over the next 25 years, to add lanes and redesign intersections on the truck route system. The addition of 1,585 lane miles to strategic arterial roads could reduce total truck travel time by six percent, yielding annual savings of \$3.9 billion, \$8.5 billion in increased sales, and 17,314 new jobs. Currently planned lane additions on the region's expressways should also be completed, including I-294, IL-394, I-80 and I-90. The I-355 South extension and a western access to O'Hare that connects I-294 to I-90 should also be built.

VARIABLE PRICING

Shifting some truck and car traffic from peak to off-peak times should be part of any solution to reduce road congestion. Road capacity is most scarce, and therefore most valuable, during peak travel periods. At off-peak times, excess roadway capacity exists and travel should be priced more cheaply. Variable pricing would use higher tolls during peak travel periods and lower tolls at off-peak times to spread the flow of traffic more evenly over the course of the day. Depending upon the roadway, the peak charges may be limited to peak direction in a peak period. A system of variable pricing needs to be implemented on the region's existing expressways and any future additions to the expressway system.

The Illinois State Toll Highway Authority (ISTHA) recently approved a new capital plan that includes the use of variable pricing for the first time. Truck tolls will be highest during the 6 to 9 AM and 3:30 to 6:30 PM weekday peak travel periods, and will be discounted at other times. Barrier-free "open road" toll collection will be implemented to enable all I-PASS users to avoid stopping to pay tolls, significantly reducing congestion and dropping travel times by as much as 20 minutes. The Toll Authority is to be applauded for producing a financially sound, creative plan that addresses major system needs.

More needs to be done. Variable pricing measures are still not being applied to vehicles other than trucks thereby limiting the ISTHA plan's impact on congestion. Cars are charged the same tolls in peak congested periods as low traffic periods. Severe road congestion at peak times is a natural result absent pricing or other regulatory incentives to balance traffic volume.

The gas tax has some elements of pricing, in that drivers feel a cost whenever they fill their tanks. But it does not take into account the costs associated with the route and time of day a trip is made. In contrast, variable pricing can achieve more efficient utilization of roadways by adjusting tolls by route, lane or time of day. Today's technology is fully capable of supporting variable pricing using barrier-free toll collection on any heavily traveled roadway.

Truckers are always attempting to minimize travel times, but they are also constrained by the hours of their customers. To achieve a substantial shift in truck travel from daytime to nighttime, changes in business practices by trucking industry customers would be needed. Further study is needed on incentives or inducements that might be needed to achieve the desired shift from peak to off peak times.

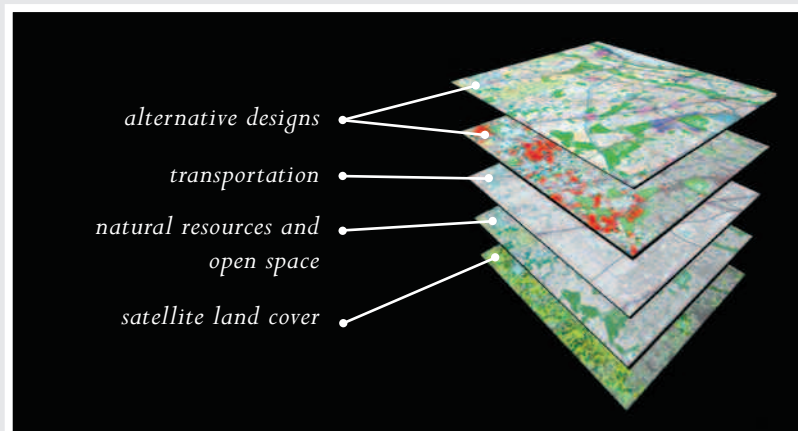
MODELING ALTERNATIVE TRUCK ROUTES AND TRUCK CORRIDORS

The transportation model used in preparing the Metropolis Plan released in 2003 was modified for this freight study. The Metropolis Truck Transportation Model, as the new model is called, relies on truck count data from the Illinois Department of Transportation to estimate the number and length of truck trips for four time periods of the day: morning (6-9 a.m.) and afternoon (3-7 p.m.) peak periods, mid-day (9 a.m. – 3 p.m.) and overnight (7 p.m. – 6 a.m.). The model was then applied to seven different scenarios to gauge their impact on truck volumes. The tested scenarios include: 1) business as usual (i.e., extrapolation of current trends without interventions); 2) application of the principles of the Metropolis Plan to extrapolated trends and application of the Metropolis Plan principles along with: 3) variable pricing; 4) variable pricing and new truck routes; 5) and 6) variable pricing and two different sets of arterial improvements; and 7) a shift of truck traffic to off-peak periods. The recommendations contained in *The Metropolis Freight Plan: Delivering the Goods* are those that showed the most congestion relief and that seemed most feasible.

Of the two modeled sets of additional arterial improvements, one set made improvements simply where large numbers of trucks travel on congested roads to illustrate what might be possible if those routes were all designated truck routes, which they are not. The strategic addition of one lane in each direction on these arterials, for a total of 230 additional lane miles, could reduce total truck travel time by 1.4 percent, yielding a regional benefit of \$560 million in direct savings, \$1.2 billion in increased sales, and the addition of over 2,500 jobs.

The second, and recommended, alternative set of improvements focuses on arterials that are designated as State truck routes and strategic regional arterials by the Illinois Department of Transportation. This package added 220 lane miles to selected arterials and would be considered more achievable under current truck route restrictions, although it leaves out some more congested routes. These improvements could reduce total truck travel time by 0.7 percent, resulting in savings to businesses of \$216 million annually, \$470 million in increased sales, and 963 additional jobs.

The model builds upon The Metropolis Plan: Choices for the Chicago Region, released in 2003. The plan evaluated scenarios using multiple layers of data.



EXPAND RAIL'S CAPABILITY TO MOVE FREIGHT

To prevent incapacitating congestion on our roadways, the rail system must be made capable of carrying a greater share of the freight load, not less. Increasing the portion of freight carried by rail would reverse recent trends, but those trends result from a combination of market forces and public policies. Government created the road system that enabled the trucking industry to grow, but then government acted to fund vital mass transit when road travel made transit unprofitable. Similar government action is needed now to ensure that rail freight not only remains viable, but also grows to meet the region's freight needs and relieve the road system of strangling congestion. Current public policies regarding freight must be reconsidered – they do not support an efficient regional freight transportation system.

Projections suggest that intermodal containerized shipping will double between 2000 and 2020. To accommodate this growth the region must identify and target key sites for future freight oriented development. There are very few locations in the six county region where large tracts are available on major rail lines and close to Interstate expressways. The limited number of appropriate sites in the region for new intermodal terminals heightens the need for planning and zoning regulations or acquisition to protect those sites from other types of development.

In the last five years, two new intermodal facilities have been built in the Chicago region in response to continuing increases in intermodal demand. The Burlington Northern Santa Fe Logistics Park facility in Elburn, near Joliet, opened in October 2002 on the site of the former Joliet Arsenal. Union Pacific opened its Global III facility just west of Rochelle in August 2003. Both facilities benefit from ready access to nearby Interstate highways and adjacent industrial parks with complementary uses that will attract firms wanting to reduce transportation costs by eliminating the need for trips. Both use relatively large amounts of land (more than 600 acres) to accommodate tracks long enough to hold a full train (up to 2 miles), more parking and storage areas, a larger number of entry and exits gates for trucks and better maneuverability.

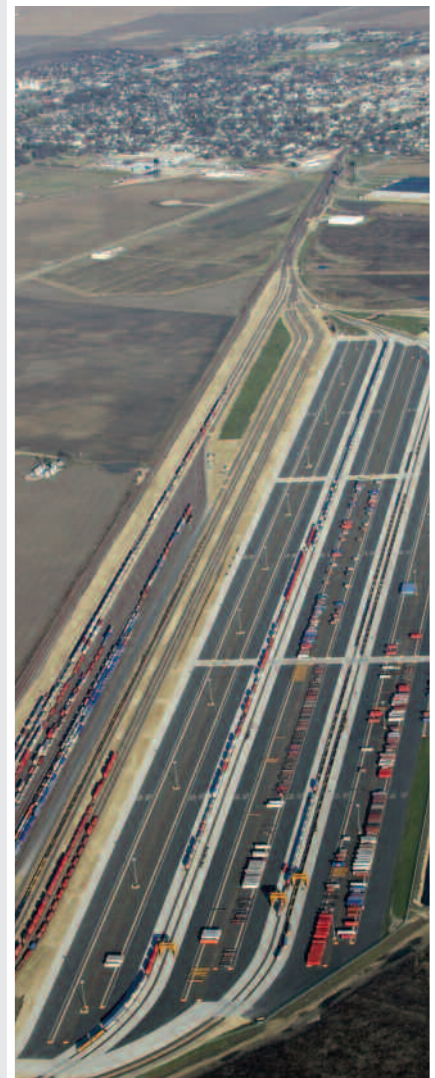


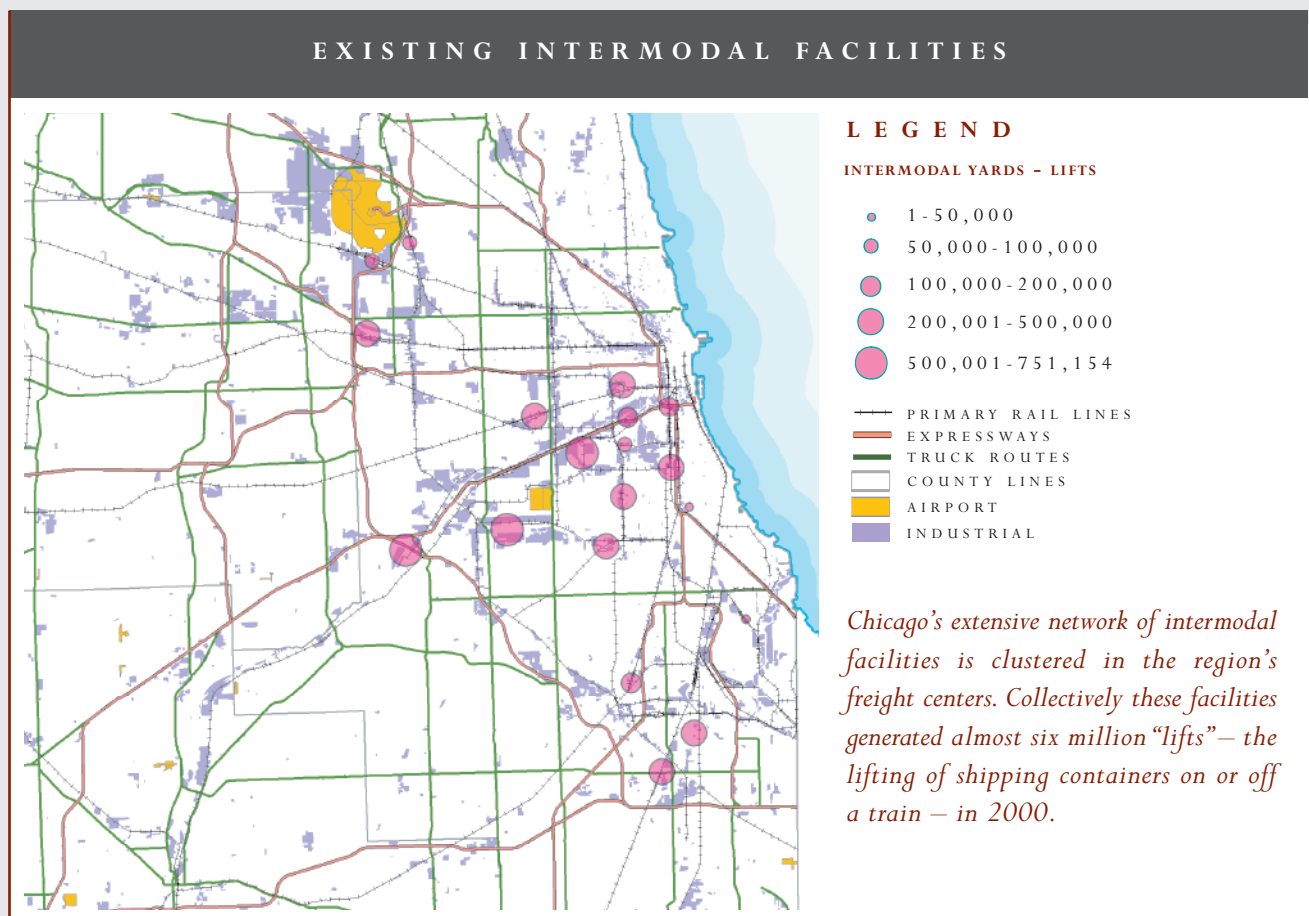
photo courtesy of CenterPoint

Rochelle Intermodal Facility
Opened in 2003, the CenterPoint intermodal facility in Rochelle occupies 700 acres and is located along the Union Pacific line and I-88. Intermodal shipments originate and terminate here and trains are loaded for transfer to in-city intermodal terminals. This allows shipments with Midwest or suburban destinations to move directly to their destinations. The rest are carried into Chicago for customers in or near the city.

CHICAGO METROPOLIS 2020 RECOMMENDS:

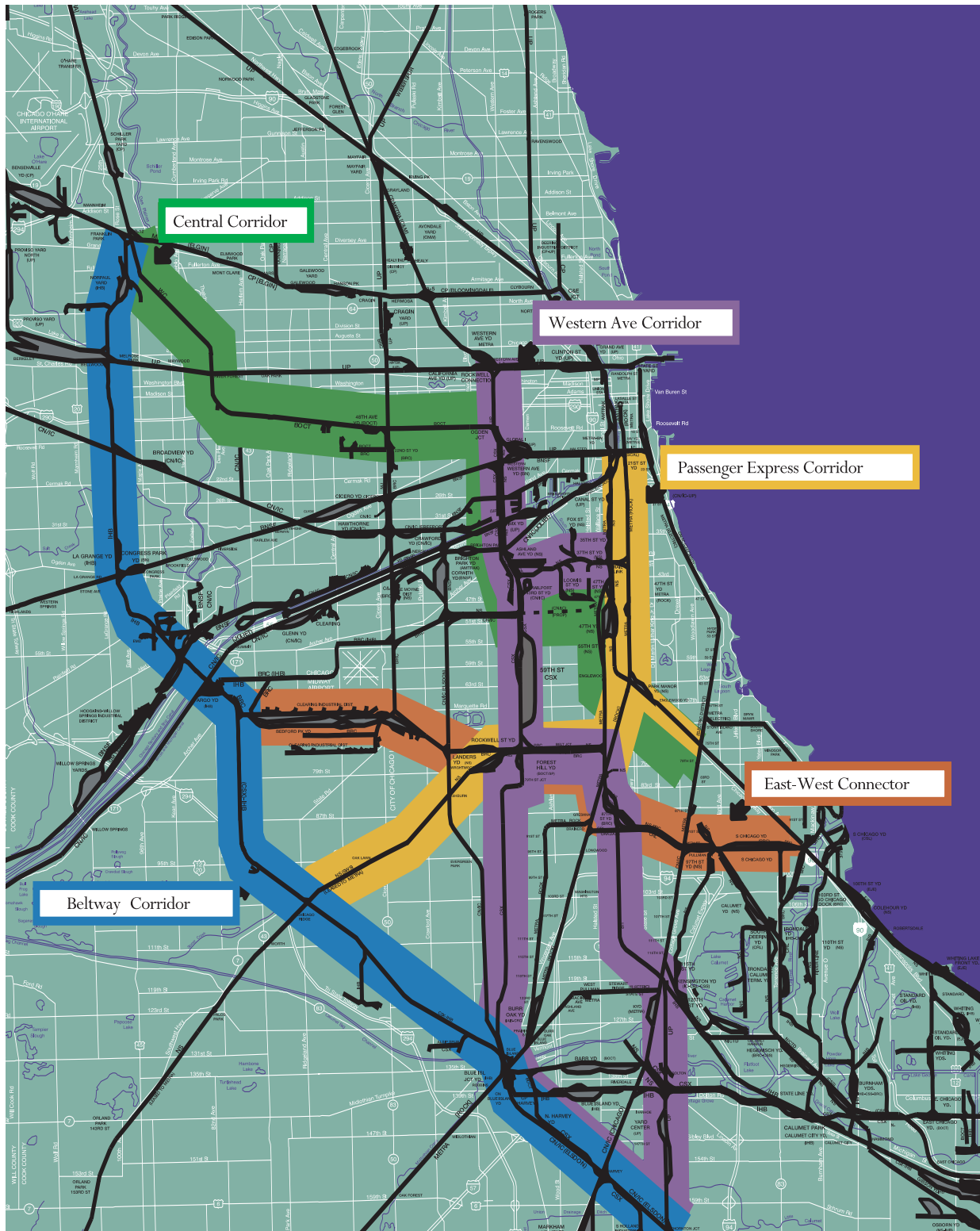
- ▶ Complete the \$1.5 billion CREATE rail infrastructure improvement program over the next 10 years, using a combination of public and private funds. The CREATE program is a seminal achievement in cooperation by the State, City and the railroad industry. It includes upgrading antiquated track and signals, eliminating dozens of rail bottlenecks, upgrading track on three Metra lines and modernizing 25 intersections where track crosses a street at grade. Based on estimated direct benefits, the railroads have committed \$212 million to complete the CREATE program. Recognizing that private capital would be insufficient and the value of the public benefit great, the City of Chicago, Metra and the State have committed funds, and federal funding is being sought to cover a majority of the cost to complete this nationally important project. The CREATE program must be completed. Without it, our railroads will decline, leaving trucks to carry more of the load on the region’s congested roads.

- ▶ Preserve land for future intermodal terminals and rail corridors. This will require cooperative efforts of the freight industry, State, proposed Regional Policy Board, County Planning Organizations and local governments. The region needs a logical network of intermodal terminals, with efficient connections among those terminals and from those terminals to customers. Integrated multi-modal freight solutions are needed for Chicago to continue as a vital link in the increasingly global economy.



source: Chicago Area Transportation Study, May 2001

CREATE PROGRAM RAIL CORRIDORS

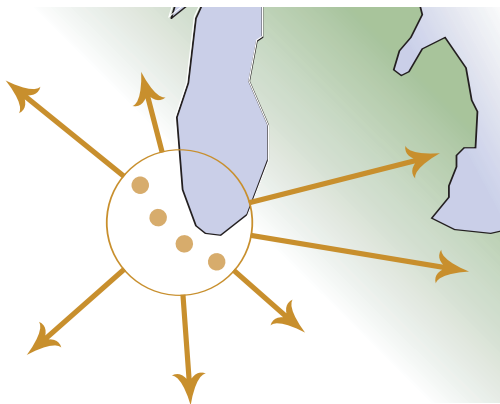


source: CREATE Partners

- ▶ Public policies and incentives must be developed to assure that rail is utilized to the greatest extent possible in carrying the region’s freight load. The best opportunities for rail expansion will involve greater use of intermodal carriage, which combines the economic benefits of long-haul rail movement with the convenience of delivery and pick-up by truck.
 - Intermodal bypass service should be developed to shuttle trucks 100 to 400 miles through and around the region (an example of this service is pictured on the opposite page.)
 - New types of rail service should be created to attract short-haul movements of less than 700 miles that currently funnel through Chicago by highway.
 - Increased use of rail for short-haul movements of bulk commodities like sand and gravel would also shift some traffic from local highways.
 - Expanded incentives should be used to encourage businesses to use direct rail access instead of relying on highways for deliveries.

Diversion of such movements from highway to rail may require the development of new technologies that facilitate the transfer of trucks and trailers between rail and highway. It may also require more cooperative arrangements among railroads to eliminate delays that occur when trains move from one railroad to another.

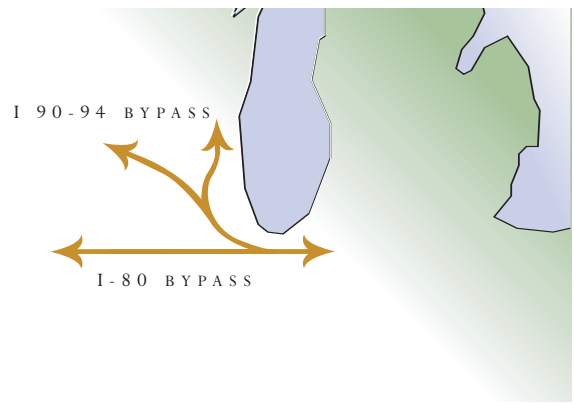
RAIL SHORT-HAUL INTERMODAL DIAGRAM



● SHORT-HAUL INTERMODAL TERMINALS
 — SHORT-HAUL INTERMODAL LANES

Short haul intermodal service represents one way to shift freight volume from roads to rails. With public start-up assistance, these trains could attract trucks serving destinations less than 700 miles away.

INTERMODAL BYPASS SERVICE DIAGRAM



— INTERMODAL BYPASS CORRIDOR

Intermodal bypass service would reduce congestion on the highways by reducing through traffic. Under this scenario trucks are driven on to waiting trains and then shuttled through or around the region from 100 to as much as 400 miles. Using I-80 as an example, bypass service could run from northwest Indiana to central Illinois or perhaps Iowa.

THE METROPOLIS FREIGHT PLAN

Freight is an essential component of the region’s economy. Keeping the Chicago region’s freight system competitive must become a top economic development priority for the State and our region.

This region, and the State, face serious current and future freight challenges that threaten our economy and quality of life. Some of those challenges are known. Others are not yet known. Global trading patterns will continue to evolve. Competing national freight centers might flex their muscle. The rail and/or trucking industries may consolidate further. Fuel costs and related taxes could change. National security concerns will come into play. And regulatory actions affecting hours of work and truck size and weight limits will have an impact.

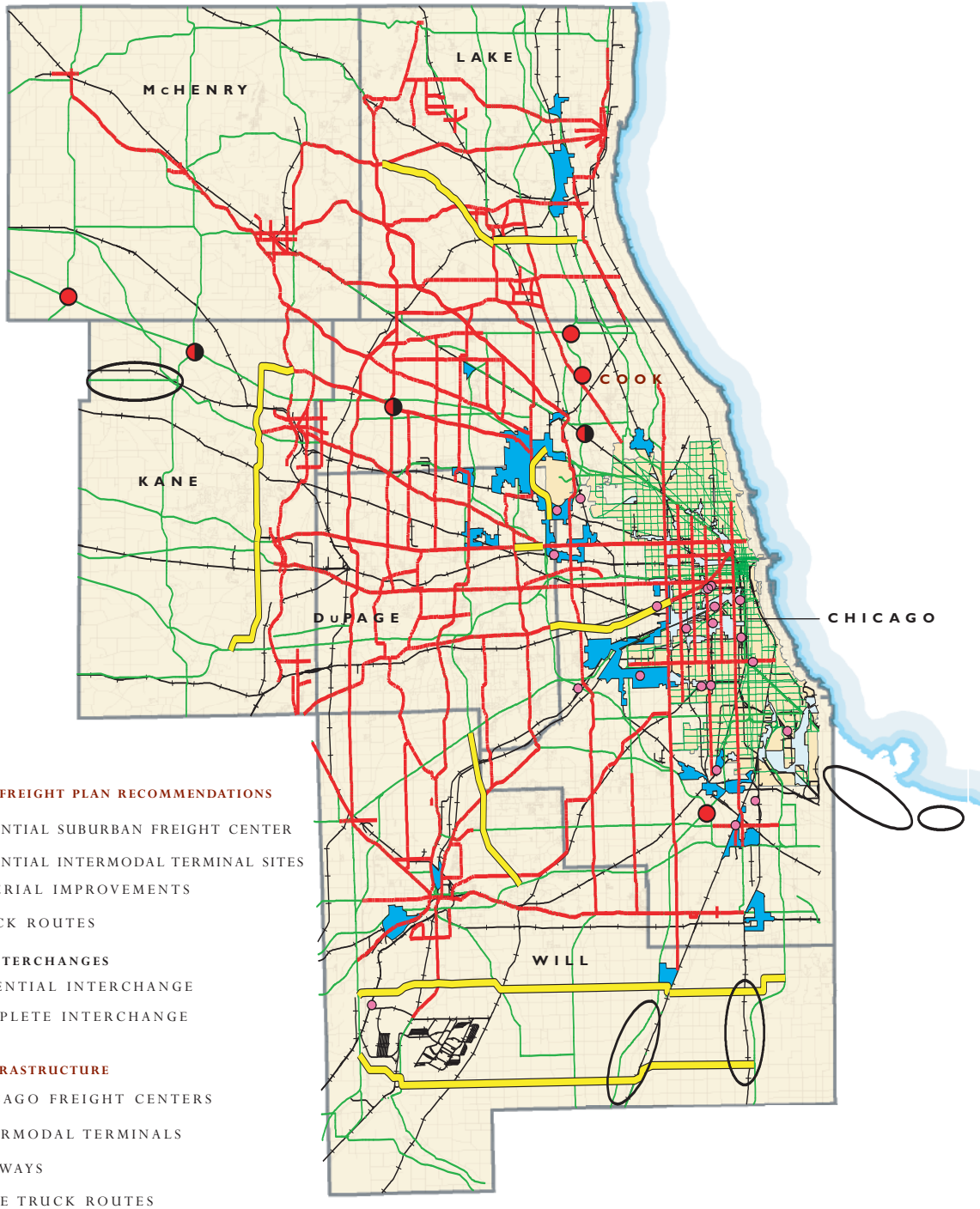
We are, as a region, unprepared to respond effectively to current challenges or emerging issues.

The Metropolis Freight Plan provides a framework for the region to anticipate and address the enormous freight challenges while reaping its economic benefits. It sounds a call to action on freight, a call that must be heeded by the region’s freight industry, business and government leaders.



photo: courtesy of Hupac Intermodal SA

THE METROPOLIS FREIGHT PLAN



HIGHLIGHTS OF RECOMMENDATIONS

- **Create a Regional Policy Board to coordinate freight planning for the region and to align freight policy with economic development and land use planning.** The Regional Policy Board would work in consultation with the six counties and 272 municipalities in the Chicago region to coordinate regionally significant freight transportation and development decisions.

— The Regional Policy Board must develop a comprehensive regional freight plan that integrates rail, road and other types of transportation with effective system management and land use policies. Currently, the region’s transportation agencies plan to invest \$63 billion in projects over the next two decades without any connection to a regional plan for development. A comprehensive freight plan would help achieve maximum return from freight system investments and lessen the chance for wasteful spending. The Regional Policy Board should also develop a comprehensive plan for the financing of investment in freight-related infrastructure.
- **Develop coordinated strategies to protect the region’s key freight centers and target freight-related development to them.** These freight centers are among those best served by rail, roads and transit and can most efficiently support new industrial development and minimize freight trips. Suburban freight centers need to be protected by land use policies and supported by infrastructure that facilitates industrial activity.
- **Create a rational, efficient freight road network.** The region needs a freight friendly highway system that eliminates the artificial gaps and circuitry of the existing system of truck routes. The arterial highways critical to freight movements must be strengthened by targeting \$3 billion over the next 25 years, or \$120 million per year, to truck route system improvements. Capacity must also be added on the region’s expressways, including I-294, IL-394, I-80, I-90, I-355 South extension and a western access to O’Hare that connects I-294 to I-90.
- **Adopt a system of user fees and variable pricing for the region’s roadways.** The region’s transportation agencies should develop a system of variable pricing on the most congested roads to reduce delay by providing an economic incentive for drivers to use highways in non-peak periods.
- **Complete the CREATE rail infrastructure improvement program.** The rail system must be made capable of carrying more of the freight load to prevent incapacitating congestion on our roadways. Over the next 10 years, the region must achieve full funding and completion of the \$1.5 billion CREATE plan for rail infrastructure improvements, bank land for future freight service corridors and intermodal terminals, and encourage new intermodal rail service.

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Jim LaBelle, Deputy Director of Chicago Metropolis 2020, served as Project Director, and with Frank Beal, Executive Director, coordinated the work of the freight project team.

While Chicago Metropolis 2020 is fully responsible for the content and recommendations of *The Metropolis Freight Plan: Delivering the Goods*, many organizations and individuals contributed invaluable expertise and guidance. The Freight Advisory Council included:

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<i>Joe Alonzo, Chicago Department of Transportation</i>	<i>Sue McNeil, University of Illinois – Chicago</i>
<i>Bruce Betts, Ozinga Transportation</i>	<i>Rob Nash, Chicagoland Chamber of Commerce</i>
<i>Kevin Brubaker, Environmental Law and Policy Center</i>	<i>Paul Nowicki, Burlington Northern Santa Fe Railway</i>
<i>Phillip Bus, Kane County</i>	<i>Libby Ogard, Ogard LLC</i>
<i>David Chandler, Center for Neighborhood Technology</i>	<i>Brian Radner, Will County Land Use Department</i>
<i>Vickie Chilcutt, Burlington Northern Santa Fe Railway</i>	<i>Gerald Rawling, Chicago Area Transportation Study</i>
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<i>Luann Hamilton, Chicago Department of Transportation</i>	<i>Ron Thomas, Northeastern Illinois Planning Commission</i>
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<i>Lee Hutchins, ETP, Ltd.</i>	<i>Mark Walbrun, TranSystems Corporation</i>
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CONTENTS OF THE CHICAGO METROPOLIS 2020 FREIGHT CD:

- *The Metropolis Freight Plan: Delivering the Goods*
- Metropolis Freight Plan Technical Report
- About Chicago Metropolis 2020

HOW TO USE THE CD

Insert the CD into your CD-ROM drive. The program should start automatically.
If the program interface does not appear:

- Double-click on My Computer
- Select your CD-ROM drive
- Open present and select cm2020.pps

* Many of the files are provided in Adobe Acrobat format. To download a free copy of the Adobe Acrobat Reader software, go to:

<http://www.adobe.com/products/acrobat/readstep2.html>

* For more information about Chicago Metropolis 2020, please visit our website at:

<http://www.chicagometropolis2020.org>



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