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MEMORANDUM

To: CMAP Freight Committee

From: CMAP Staff

Date: October 17, 2016

Re: Intermodal facilities and regional policy

Intermodalism -- the movement of containerized cargo via multiple transport methods such as rail, trucks, planes, and ships -- offers the best fit for some freight transportation needs, and as a result has grown in importance for modern supply chains. The strength of the region's [intermodal](#) network makes metropolitan Chicago the busiest U.S. port, as measured by the number of shipping containers moved. The region moves some 15.5 million cargo containers (as measured by twenty-foot equivalent units, or TEUs) each year; approximately half of the nation's intermodal shipments touch the Chicago metropolitan area.

The constant movement of goods into and out of the region supports the region's economy by creating demand for freight and logistics services while providing manufacturers with timely, cost-effective, and reliable options for moving products to market. While metropolitan Chicago's central location and confluence of rail activity form the foundation of its strength in intermodal transportation, it also presents challenges. Increased intermodal activity strains the region's highway and rail networks, leading to congestion and safety concerns. Further, intermodal freight activity can conflict with local land uses and negatively impact quality of life for communities.

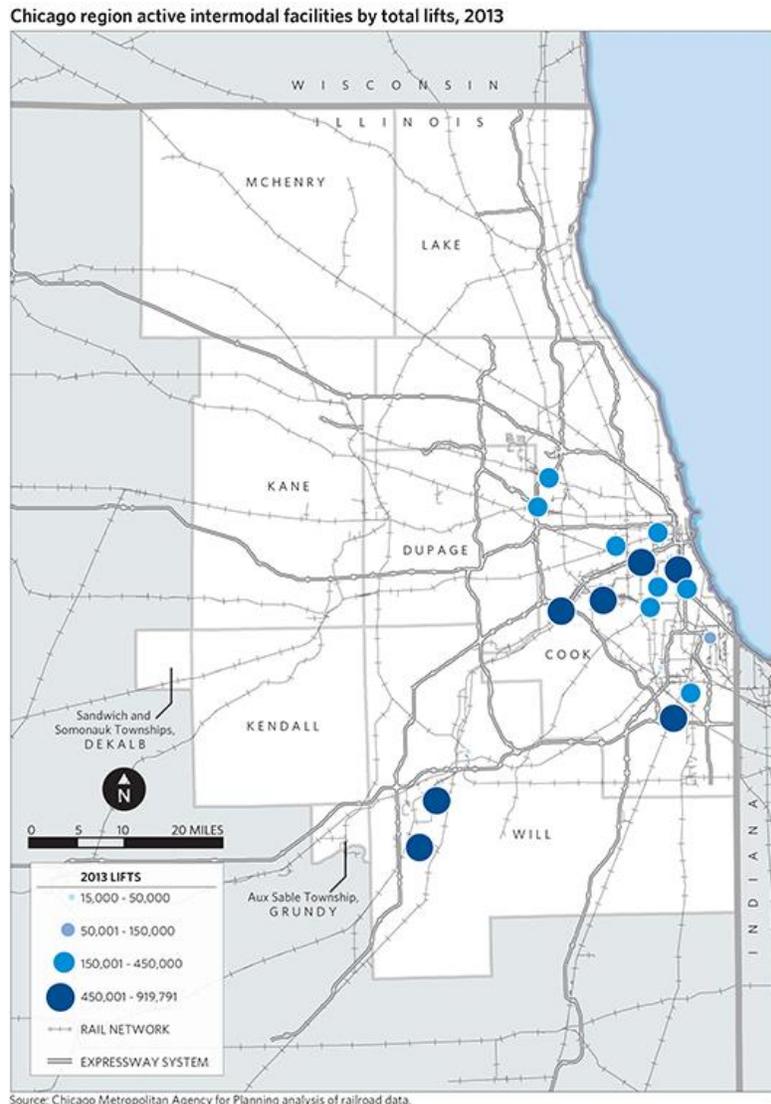
To support metropolitan Chicago's competitive advantages while protecting communities, the region needs to develop policies related to the development of new intermodal facilities. This document briefly describes intermodal facilities in the region, presents a case study of transportation and land use issues related to one major facility in the region, and then outlines how a regional policy could work.

Intermodal facilities in the region

The region is currently home to 18 active truck-rail intermodal facilities. The majority of these facilities are located in Cook County, particularly the City of Chicago and inner-ring suburbs.

These locations are near well-established highway and rail facilities, as well as much of the region’s existing stock of industrial real estate. In fact, only three of the region’s intermodal facilities are located outside Cook County; all three of these facilities are located in and around Joliet in Will County. The appendix provides the recent intermodal lift data for the region’s various facilities.

Generally speaking, the intermodal facilities in the Cook County are older than those in Will County. The two largest intermodal facilities in Will County, BNSF Logistics Park Chicago and UP Joliet Intermodal Terminal, are relatively new, both having opened after 2000. Logistics Park Chicago is the largest facility in the region, with over 930,000 lifts in 2014, and the Joliet Intermodal Terminal is sixth largest with 495,000 lifts. All of the region’s other top 10 facilities – ranging in volume from 900,000 lifts in Bedford Park to 362,000 lifts in Cicero – are located in Cook County.

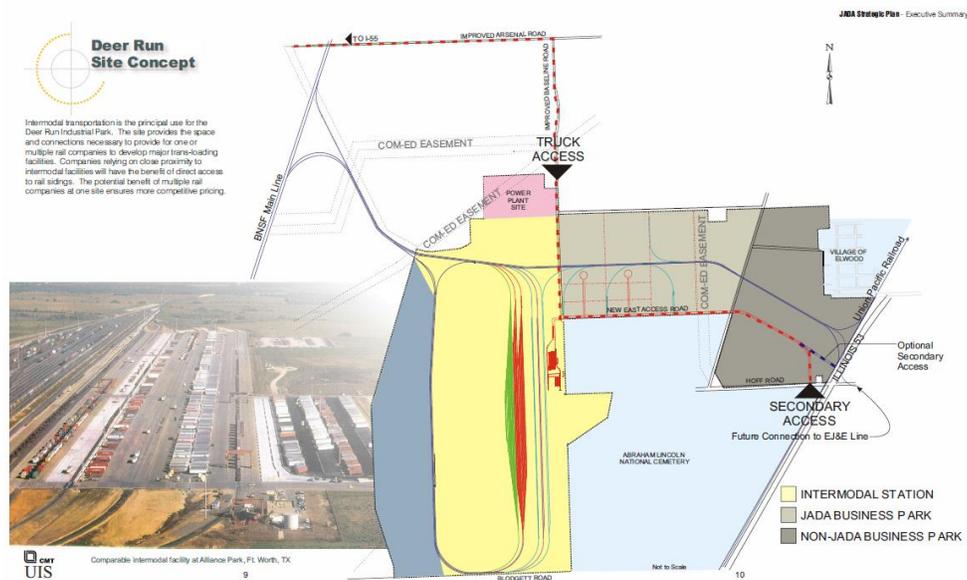


Case study of local impacts for an intermodal facility

Among the newest and largest intermodal facilities in the region, Logistics Park Chicago in Elwood provides an instructive case study for the substantial local transportation, land use, and economic development impacts of major intermodal facilities. Greater-than-expected growth in freight volumes has strained the local transportation system and raised community concerns.

As described in a [case study](#) from Envision Freight, a Transportation Research Board project on mitigating freight’s impacts on local communities, the BNSF Logistics Park Chicago facility has its roots in the U.S. Army’s former Joliet Army Ammunition Plant. That site closed in 1977 and was declared excess Army property in 1993. In 1995, federal legislation transferred most of the property to become the Midewin National Tallgrass Prairie, as well as the Abraham Lincoln National Cemetery. Also in 1995, the State of Illinois created the Joliet Arsenal Development Authority (JADA) to redevelop the remainder of the site to support local economic development.

In 1998, JADA released a [strategic plan](#) for the site, which called for a major intermodal development and industrial park, called the Deer Run Industrial Park, given the large parcel of developable land located in close proximity to major rail lines and Interstate highways outside the congested core of the Chicago area. The plan noted the need for local road improvements on Baseline Road and Arsenal Road, along with the construction of a new east access road. The strategic plan also called for a second development, then called the Island City Industrial Park (today called South Arsenal Logistics Center), to be located at the southern edge of the property, along with a potential site for a power plant located north of Deer Run and a landfill located north of Island City.



Source: JADA, 1998, *Strategic Plan for redevelopment of the Joliet Arsenal Development Authority property*, Executive Summary, pp. 9-10.

The Village of Elwood annexed the future site of the Deer Run intermodal facility and industrial park, and subsequently approved a TIF district in 2000 to provide some \$100-125 million in tax incentives to CenterPoint, the real estate developer for the site. The State of Illinois provided loans and grants for local water, sewer, and transportation improvements. Elwood zoned the site with a new, flexible designation to allow manufacturing or distribution. CenterPoint began construction in 2000 and the facility opened in 2002.

In 2004, JADA released a [long-range transportation plan](#) for the site, which called for new arterial capacity, including spot improvement such as signalized intersections, throughout much of Will County, along with regional improvements to the expressway network and transit expansion. In 2010, JADA released an [updated transportation plan](#), including numerous capacity improvements to the expressway and arterial networks, as well as expansion of transit services in the area. In general, these plans have overarching goals of improving access to the intermodal sites and making geometric and other improvements to existing facilities to better accommodate trucks. Some of the planned improvements from the 2004 and 2010 transportation plans have moved forward, notably the new interchange at I-55 and Arsenal Road, which was completed in 2012.

Catg.	#	Priority 1 Projects
Freeway	1	I-80 – add lanes US 45 to Grundy County line
	2	Illiana Expressway - I-65 to I-57
	3	Illiana Expressway – I-57 to I-55
	4	I-55 – widen to six lanes, from current 6-lane segment to IL129
	5	I-55 - reconstruct / improve US 6 interchange
	6	I-55 - new interchange at Arsenal Road
	7	I-55 - interchange improvements in the Wilmington area
Arterial	1	Laraway Road - extend west to an extended Baseline/Vetter Road
	2	IL53 – widen to four lanes, South Arsenal Rd to New River Rd
	3	Baseline/Vetter - extend north over Des Plaines River, link to Empress Road/Houbolt Road
Transit / Rail	1	Heritage Corridor - infrastructure investments to allow full service
	2	High Speed Rail Chicago-St. Louis
	15	Express Bus - I-55, Arsenal Road north
	22	Transit Center - Joliet (Joliet Union Station)
	27	Study improved transit connections between JADA area and Joliet Union Station

Source: JADA, 2010, *Joliet Arsenal Area Transportation Plan Update*,
 Table 6: Recommended Higher Priority Freeway, Arterial, and Transit/Rail Projects, p. 40.

Despite these efforts at long-term planning, the greater-than-anticipated growth of intermodal activity at Logistics Park Chicago, coupled with development of related distribution facilities and the opening of the nearby UP Joliet Intermodal Terminal in 2010, has strained the local transportation network and raised conflicts with the neighboring community. Specific issues

include highway-rail conflicts at key grade crossings, insufficient road access to the intermodal facilities, and disputes over local financing arrangements.

As mentioned previously, Logistics Park Chicago is the region's largest intermodal facility, with over 930,000 lifts in 2014, substantially more than a [predicted](#) 480,000 lifts when the facility opened in 2002. Correspondingly, truck volumes entering the exiting the facility are far higher than originally projected. According to data [cited](#) by the Illinois Commerce Commission (ICC), truck volumes on the facility's eastern access road were initially projected in 2002 to reach a total of 1,800 trucks per day in 2020, and yet had already reached 8,000 trucks per day in 2013.

The JADA strategic plan for the Deer Run site identified the need for a new access road to the facility from the east, connecting to IL 53. That route was later provided as Walter Strawn Drive, and it essentially became the main entrance to Logistics Park Chicago. However, the high volume of truck traffic raised safety concerns for an at-grade railroad crossing located just west of Walter Strawn Drive's intersection with IL 53. For example, many trucks crashed through the railroad crossing gates because they had insufficient time to clear the crossing before the gates closed. The ICC [ordered](#) the closure of the rail crossing at Walter Strawn Drive in January 2015, citing safety concerns. The ICC also cited concerns over disruptions of funeral services at the nearby Abraham Lincoln National Cemetery caused by heavy truck traffic in the vicinity of Walter Strawn Drive and IL 53.

As a result of the closure, there is effectively a single entrance to the Logistics Park Chicago, located on the north side of the facility at Baseline Road, which is under the jurisdiction of the Village of Elwood. In turn, the main access point to Baseline Road is via Arsenal Road, approaching from the west (Arsenal Road is restricted to trucks east of Baseline Road) and connecting to I-55. That stretch of Arsenal Road had originally been under the jurisdiction of Will County and was not built to sufficient standards to accommodate the oversized and overweight trucks that often carry intermodal containers. The Will County Board moved to [temporarily increase](#) the permitting weight limit for Arsenal Road shortly after the closure of the crossing at Walter Strawn Drive.

In 2015, IDOT agreed to assume [jurisdiction](#) of Arsenal Road from Will County, allowing it to upgrade the facility to better accommodate heavy trucks. This transfer should also streamline the permitting process for oversized and overweight trucks traveling between the intermodal facility and I-55 by removing Will County from the permitting process. Oversized and overweight trucks must still purchase a state permit for travel on Arsenal Road and the Interstate system, as well as a permit from the Village of Elwood for travel on Baseline Road.

In July 2016, IDOT [announced](#) a public-private partnership with CenterPoint to develop a [new toll bridge](#) over the Des Plaines River, linking the intermodal facilities, particularly the Joliet Intermodal Terminal, to the south with Houbolt Road and I-80 to the north. This project would improve connectivity and allow more direct access between the intermodal facilities and the expressway network, filling a need identified in previous transportation plans. CenterPoint

will provide the bulk of the funding to build the new bridge and would be repaid through toll revenue; IDOT will provide a smaller amount of funding to improve local access roads and reconfigure the interchange between Houbolt Road and I-80 to accommodate greater truck traffic.

The local impacts of the Logistics Park Chicago and related Deer Run Industrial Park are not limited to transportation issues, but also include land use and economic development topics. A 2013 [lawsuit](#) filed by the Village of Elwood against CenterPoint Properties alleges that the private developer has failed to maintain the terms of the TIF agreement approved in 2000. More specifically, the Village alleges that the TIF district is generating much lower revenues and fewer new jobs than had originally been predicted, that CenterPoint has failed to provide other types of development – including retail, hotel, and utility facilities – and that CenterPoint has failed to provide the Village appropriate access to data on its use of TIF funds. CenterPoint denies these charges and also claims that it has not received the full amount of TIF proceeds it had originally agreed upon with the Village.

Outline of a potential regional policy

The region remains an attractive location for intermodal movements, and major industrial developers and railroads have recently proposed new intermodal facilities. While providing many positive economic benefits for the region, these facilities can also encompass significant acreage of land, significantly impact train and truck volumes in the area, and may encourage ancillary development of distribution and related facilities. Together, these transportation and land use impacts can significantly alter the character of local communities, as demonstrated in the previous case study.

As part of the ON TO 2050 and freight plan processes, the region has the opportunity to develop policy framework for new intermodal facilities. The current proposal has two parts: (1) a local analysis and (2) a regional analysis. The intent is to make transparent the relative advantages and disadvantages of the proposed intermodal facility, and allow CMAP to comment on a proposed new intermodal facility – and potentially take follow-up actions – in a reasoned and appropriate manner. The local analysis should be completed first and the regional analysis subsequent to that, and these two analyses should be made publicly available.

Local analysis

The **local analysis** would be completed by the unit of local government – either a county or municipality – responsible for permitting the proposed intermodal facility. It would be guided by three principles, which in turn consist of several detailed questions that tease out the community's preparation for the proposed facility. Answering these questions would require coordination with the private developer, as well as neighboring and overlapping units of government. In fact, this coordination with other units of government is critical to evaluate potential impacts of the proposed facility on adjacent communities. The local analysis would not include a direct recommendation, but would rather supply relevant information across the relevant topic areas.

The three principles are the following:

Principle 1: New intermodal facilities should be analyzed for appropriate local infrastructure.

- Appropriate local highway access
 - Does the facility have convenient and adequate access to expressway facilities?
 - In providing access to expressway facilities, will the facility require new roads or the expansion of existing roads?
 - Will any new roads be privately owned, operated, and maintained?
 - Which jurisdiction (state, county, township, or municipality) owns an existing road to be expanded?
 - Do these highway facilities have appropriate pavement designs and geometrics for truck travel?
 - In providing access between the intermodal facility and expressways, are there appropriate truck restrictions on local highways?
 - Are trucks routed away from sensitive areas such as local downtowns, sensitive natural areas, and/or residential neighborhoods?

- Are trucks routes onto highway facilities with appropriate design standards?
- Do local jurisdictions restrict access on these routes to oversized/overweight trucks? If so, is the permitting process transparent, efficient, and harmonized with neighboring and overlapping jurisdictions?
- Appropriate infrastructure at highway-rail grade crossings
 - How much will rail traffic increase in the area?
 - Will the increase in rail traffic also increase motorist delay for key highway-rail grade crossings in the area?
 - Should any grade crossings be grade separated to mitigate the impact of increased rail volumes?
 - Are other safety improvements required at highway-rail grade crossings in the area?

Principle 2: New intermodal facilities should be analyzed for appropriate local planning.

- Does the local jurisdiction have appropriate long-term planning for the intermodal facility?
 - Is the intermodal facility included in comprehensive transportation and land use planning documents?
 - Are utilities and supportive transportation infrastructure available?
 - Could addition of the facility create significant conflicts with adjacent uses in terms of use, traffic, noise, or other impacts?
- Does the local jurisdiction have appropriate zoning for the intermodal facility, particularly to avoid potential land use conflicts and potential nuisances?
 - Considerations include size, bulk, coverage, and orientation of buildings on site; minimum parking requirements; operational restrictions by time of day; landscaping and aesthetics; and stormwater management and other environmental concerns.
- Does the local jurisdiction anticipate ancillary development related to the intermodal facility? Does the local jurisdiction seek to encourage or discourage ancillary development?
 - In either case, both long-term planning and zoning codes should be updated to reflect these preferences.

Principle 3: New intermodal facilities should be analyzed for an appropriate funding plan.

- What capital outlays will the intermodal facility and any ancillary development require?
- What will be the long-term operations and maintenance outlays for these facilities?
- For both initial and long-term funding requirements, how will costs be shared between public and private sectors?
 - Which costs will be borne by railroads and developers?
 - Which costs will be borne by public-sector agencies?
 - State agencies

- County agencies
- Township agencies
- Municipal agencies
- Do the relevant public and private sector entities have sufficient funding streams in place to meet these costs, both initial and ongoing?

Regional analysis

After completion of the local analysis, CMAP staff would then complete the regional analysis, which would *evaluate the proposed intermodal facility's consistency with the most recently adopted regional comprehensive plan*. To answer this question, the regional analysis would rely in part on the findings and proposals included in the local analysis, but could also be supplemented with additional research conducted by CMAP staff. Using the current comprehensive regional plan, GO TO 2040, as a guide, the types of questions to be covered in the regional analysis would include the following:

- Does the proposed intermodal facility materially affect an approved major capital project?
 - Note that the entire CREATE program is considered a major capital project in GO TO 2040.
- Does the proposed intermodal facility require a new major capital project to be considered for amendment into the plan?
- Does the proposed intermodal facility support investment in existing communities?
- Does the proposed intermodal facility adversely impact natural areas included in the Green Infrastructure Network?

The regional analysis should include an explicit staff recommendation to support, oppose, or remain neutral on the proposal, as well as any conditions for support (e.g., staff supports the proposal, on the condition that the developer finance a grade separation at Main Street and the railroad). Procedurally, the regional analysis, including the staff recommendation, should be discussed at the CMAP Transportation Committee, Regional Coordinating Committee or current equivalent, and subsequently approved by both the CMAP Board and MPO Policy Committee.

Discussion questions

Staff is interested in your opinion on developing a regional policy for intermodal facilities. Specific discussion questions include the following:

- Are the proposed local and regional analyses reasonable? Are there important policy considerations not currently listed among the research questions?
- What would be appropriate mechanisms to encourage compliance with any regional policies?

Appendix: Lifts counts and TEU estimates

Chicago Intermodal Facility Lift Counts and Regional TEU Estimate (June, 2015)						
Railroad	Facility	Annual Lifts (2000)	Annual Lifts (2005)	Annual Lifts (2010)	Annual Lifts (2013)	Annual Lifts (2014)
BNSF	Corwith	751,154	729,664	708,125	863,946	827,398
	Willow Springs	697,303	769,939	457,458	529,134	583,928
	Cicero	446,036	521,931	370,216	449,355	362,144
	Western Ave.	50,853	N/A	closed	closed	closed
	Logistics Park	N/A	454,178	848,808	919,791	930,297
UP	Global I	335,286	322,978	317,492	264,784	316,474
	Global II	304,174	299,806	343,186	258,044	294,633
	IMX	113,182	N/A	closed	closed	closed
	Canal Street	134,646	153,209	120,937	closed	14,371
	Yard Center	263,914	231,049	240,668	208,664	206,417
	Global III	N/A	103,768	150,181	139,470	139,051
	Joliet Intermodal Terminal	N/A	N/A	118,461	485,835	494,298
CSX	Bedford Park	612,986	875,225	846,185	875,196	899,450
	63rd Street (was CSX)	262,502	N/A	N/A	N/A	N/A
	59th Street	355,226	233,480	249,932	264,246	293,812
NS	47th	440,491	385,843	488,685	578,545	528,133
	63rd Street	15,701	260,299	318,952	335,601	364,408
	Hanjin	64,140	N/A	closed	closed	closed
	Calumet	29,369	26,526	33,257	72,777	145,513
	Landers	320,820	337,795	286,548	441,347	451,126
CN	Gateway (Markham)	285,756	313,559	300,000	459,000	491,000
	Joliet	N/A	N/A	N/A	15,000	38,000
CP	Bensenville	86,198	94,672	128,040	249,645	234,446
	Schiller Park	91,671	100,684	139,476	closed	closed
	Total	N.A.	N.A.	N/A	N/A	N/A
IAIS	Blue Island	31,884	35,000	34,800	42,196	43,361
Total		5,693,292	6,249,605	6,501,407	7,452,576	7,658,260

CMAP estimates are shaded red.

Source: CMAP, Railroad Companies

Preliminary Calculation of Greater Chicago Region Lift-TEU Equivalents, 2014			
	US Railroads	Canadian Railroads	Total
Lifts	6,894,814	763,446	7,658,260
TEUs per Container	2.23	1.88	
Gross TEUs	15,375,798	1,432,056	16,807,854
Laden Container Factor			91.6%
Net TEUs			15,399,061

Source: US: CMAP Container Count by Container Size, average of CSXT 59th Street Yard, BNSF Cicero Yard and UP Global I, Bing Maps, Bird's Eye View. <http://www.bing.com/maps>. Accessed June and November, 2010, December 2011. Canada: Used estimate of distribution of containers by container size, CN representatives, August 2011. CP: Observation of container size using Bing Bird's eye view, June 2014

Source: CMAP analysis of STB Public Waybill Sample, 2013. Selecting containers and trailers on flat cars originating or terminating in Bureau of Economic Analysis Area 64 (Chicago), the laden container factor is the proportion of containers in the selected records that are not empty containers or trailers (in 42xx Standard Transportation Commodity Codes [STCC]).

Chicago Region Intermodal TEU equivalents, 2014

Source (2000-2014): CMAP, Railroad Companies, STB

Note: This estimate uses 2013 STB waybill data for the laden container factor; it is the latest data available.

Prepared by the Chicago Metropolitan Agency for Planning, June 2015