



# **Logistics Led Economic Development: Success Factors for Infrastructure Investments**

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# Outline

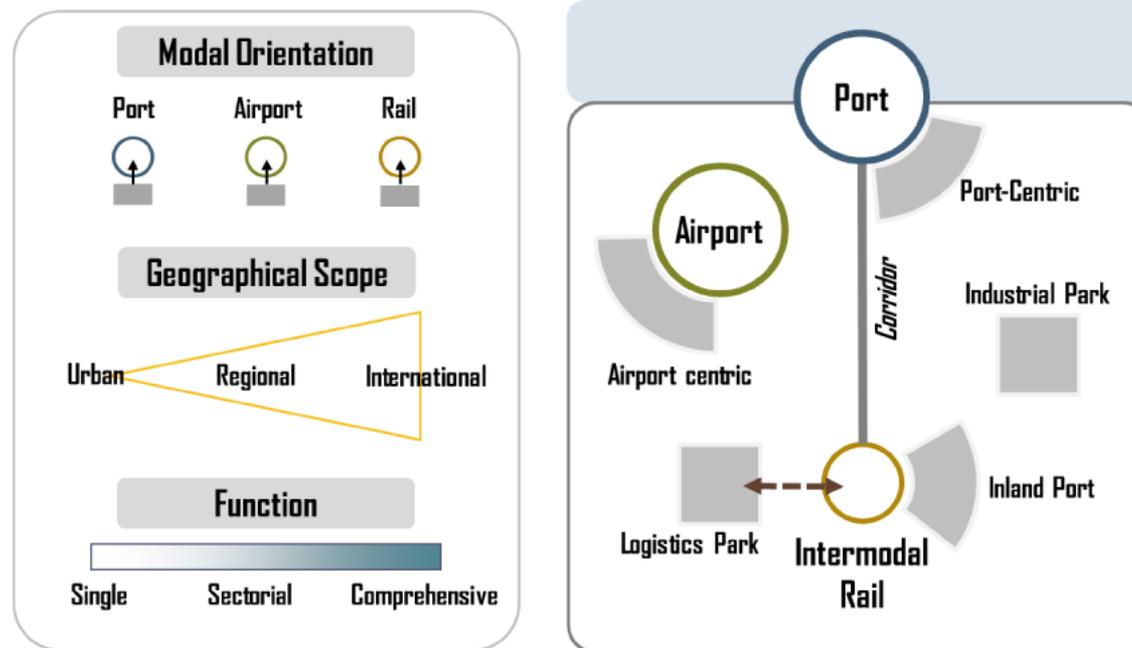
1. Background and Introduction
2. Objectives
3. Literature Review
4. Insights from Literature Review
5. Preliminary Results
6. Site Selection Process
7. Insights from Site Interviews
8. Conclusions
9. Acknowledgements

# 1. Background and Introduction

- United States is one of the most consumer driven markets in the world – high demand for goods, commodities and services
- Freight mobility is an important element in fulfilling demand – affects state economy – driving force for maintaining and creating jobs/economic development
- 67.6 % – increase in the value of freight transported in the U.S. between 2004 and 2014 (USDOT, 2014)
- Strategic investments in the freight and logistics sector are crucial to accommodate this continuing rise in domestic and international freight
- **Logistics Investments**
  - Apportionment of funds to improve the efficiency of freight distribution through **infrastructure** (terminals, real estate and telecommunications); **operations** (transport modes and equipment); and **human resources** (labor, management, governance, research and development) - Rodrigue, 2013
  - Focus of this presentation – infrastructure – logistics activity centers (LACs)

# 1. Background and Introduction (cont'd)

- Logistics Activity Centers (LACs)
  - Intermodal Logistics Centers (ILCs) + satellite marine terminals + multimodal logistics parks + inland ports + seaports, etc
  - LAC – term used to steer away from a lack of consensus on terminology and functions



Source: Rodrigue (2015), adopted from Sheffi (2012)

## 2. Objectives

- Determining factors of success for LAC development through literature review and case studies from across the U.S. and abroad
- Identify domestic sites for conducting extensive interviews to further investigate on the said success factors

# 3. Literature Review

## Evaluating Success Factors of Logistics Activity Centers (LACs)

- **World Bank's Logistics Performance Index (LPI)**
  - Comprehensive index to assist countries to identify challenges and opportunities they face in logistics trade performance
  - Six parameters – customs, infrastructure, international shipments, logistics quality and competence, tracking and tracing, timeliness

# 3. Literature Review (cont'd)

## Evaluating Success Factors of Logistics Activity Centers (LACs)

### The Agility Emerging Markets Logistics Index

- Ranks 45 emerging markets around the world based on size, business conditions, infrastructure and other factors that make them attractive for investment
- Three broad measurement metrics – market size and growth attractiveness (50% of overall score), market compatibility (25%), market connectedness (25%)
- **Key findings**
  - **Supply chain risks vary by region** – corruption & natural disasters (some parts of Asia), corruption & govt. instability (some parts of Latin America), terrorism & govt. instability (some parts of Middle East & N. Africa), poor infrastructure & govt. instability (some parts of Sub-Saharan Africa)
  - **Lack of reliable infrastructure** – the biggest obstacle to e-commerce growth in emerging markets – results in additional time and higher costs to deliver goods

# 3. Literature Review (cont'd)

## Factors Influencing the Success of Logistics Investments

- **Logistics Attractiveness Framework, Khan (2003)**
  - Assessing potential for successful investments in logistics in order to achieve economic development
  - Country-wise ranking using data from World Bank and World Economic Forum

- **Key insights**
  - The need for a strategic location
  - The need for an integrated logistics approach instead of a modal approach
  - The need for a highly skilled labor force

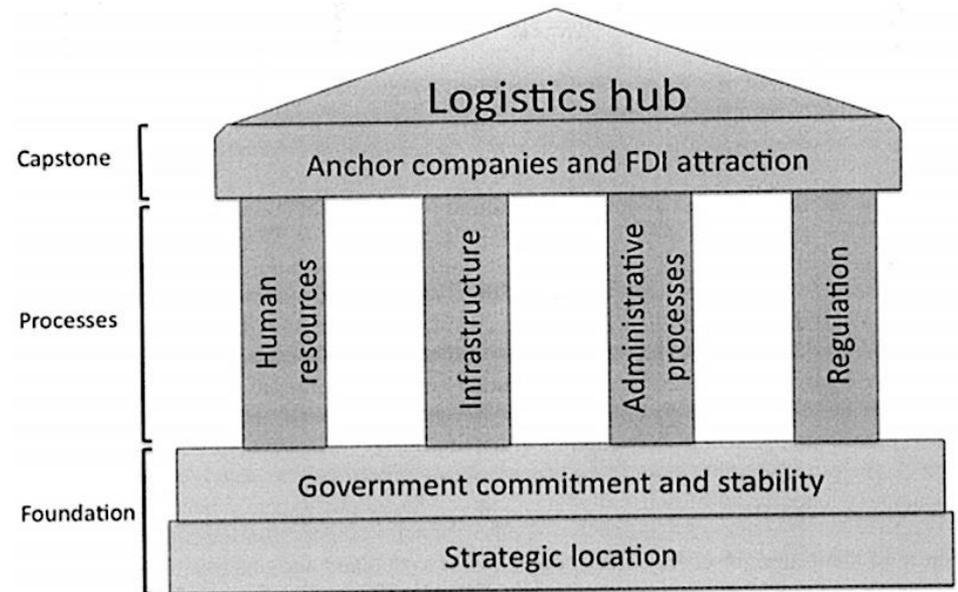
ICT	Ease of doing business
1. Technological sophistication	1. University/industry research collaboration
2. Speed and cost of internet access	2. Property rights
3. Quality of competition in the telecommunications sector	3. Intellectual property rights
4. IT training and education	4. Burden of regulation
5. Quality of competition in ISP sector	5. Business costs of corruption
6. Government prioritization of ICT	6. Administrative burden for start-ups
	7. Local supplier quality
	8. Local supplier quantity
	9. Value chain presence
	10. Extent of regional sales
	11. Breadth of international markets
	12. Extent of staff training
	13. Hiring and firing practices
	14. Cooperation in labor-employer relations
	15. Pay and productivity
	16. Flexibility of regulations

Source: Khan (2003)

# 3. Literature Review (cont'd)

## Factors Influencing the Success of Logistics Investments

- **Munoz & Rivera (2010)**
  - Analysis of the critical factors needed for developing a logistics hub – a case study of Panama
- **Key insights**
  - Strategic location as the foundation to a successful logistics hub
  - Pillars – required processes
  - Capstone – reinforcement element that guarantees successful development



Source: Munoz and Rivera (2010)

# 3. Literature Review (cont'd)

## Factors Influencing the Success of Logistics Investments

- **Brito (2010)**
  - Analyzing the key elements for a successful logistics hub
- **The Tioga Group et. al (2006)**
  - Case studies of inland ports and related developments with the goal of developing economic activity around transportation infrastructure

Rank	Description	Original Sub Division	Critical Factor
1	Global Strategic Position	Location	Strategic location
2	Hinterland Size, development and potential	Infrastructure	Strategic location
3	General GLH Accessibility	Infrastructure	Strategic location
4	Vorland Development	Location	Strategic location
5	Proximity to Import/Export Areas	Location	Strategic location
6	Intermodal Network development	Location	Strategic location
7	Freight and Transshipment Costs	Costs	Cost of Operation
8	Industrialization Costs	Costs	Cost of Operation
9	Land Availability and Cost	Costs	Cost of Operation
10	Adequacy infrastructure Facilities	Infrastructure	Infrastructure
11	Cost of labor	Cost	Human Resources
12	Taxes/Subsidy to Business Activities	Administrative	Effective Processes
13	Administrative efficiency	Administrative	Effective Processes
14	Customs Regulations	Administrative	Effective Processes
15	Political Stability	Administrative	Government Commitment
16	Soundness of Investment System	Administrative	Government Commitment
17	International Trade Soundness	Administrative	Government Commitment
18	Business tradition/Potential	Administrative	Government Commitment

Source: Brito (2010)



Source: www.centerpoint.com

# 4. Insights from Literature Review

## Success Factors of Logistics Activity Centers (LACs)

- **Strategic Location**
  - Access to a large market; utilization of major roadways and air/rail/port facilities, if present; lower labor costs; availability of cheap land, etc.
- **Economic Incentives for Development**
  - Presence of a Foreign Trade Zone (FTZ); presence of tax exemptions; regional job creation
- **Champion**
  - Long term vision & commitment; flexible and effective plan
- **Government**
  - Political consensus/support; adequate funding/capital; burden & flexibility of regulations
- **Other Factors**
  - Success with competition; delays in project completion; corruption; security threats and other risks

# 5. Preliminary Results

## Evaluating Success Factors of Logistics Activity Centers (LACs) – Domestic (a)

		STRATEGIC LOCATION							ECONOMIC INCENTIVES FOR DEVELOPMENT	CHAMPION	GOVERNMENT	OTHER FACTORS													
		DEMAND ELEMENTS	SUPPLY ELEMENTS		TRANSPORTATION INFRASTRUCTURE AND ACCESSIBILITY																				
Project name	LAC Category	Access to a large market	Availability of cheap land	Labour Cost	Local Supplier Quantity	Local Supplier Quality	Utilization of major road networks, if present	Utilization of a willing railroad carrier, if present	Utilization of air cargo facilities, if present	Utilization of port facilities, if present	Presence of a foreign-trade zone	Provision for tax exemptions	Job creation	Innovation (IT facilities, Educational Programs, Vocational training, Technical Training programs, Employee training, PPP etc.)	Long term vision and commitment	Flexible and effective plan	Political consensus/ support	Adequate funding/ capital	Burden of regulations	Flexibility of regulations	Success with competition	Delays in project completion	Corruption	Security threats and other risks	
Virginia Inland Port	1	✓					✓	✓	X		✓	✓	✓	✓	✓	✓	✓	✓			✓				
Cordele Intermodal Center, GA	1	✓					✓	✓		✓	✓	✓	✓												
Port Columbus, GA	4						✓	✓	✓	✓	✓	✓													
Port Bainbridge, GA	1						✓	✓		✓															
Alliance Texas Logistics Park	2	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓			
The Port of Huntsville, AL	2		✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
Rickenbacker Airport Columbus Inland Ports	2	✓					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
Americas Gateway Logistics Center, FL	2	✓		✓			✓	✓	✓	✓	✓	✓	✓		✓	✓									
Virginia Trade Port, VA	2						✓	✓	✓	✓	✓	✓													
Charlotte Inland Port, NC	2	✓					✓	✓		✓	✓														
Port of Memphis, TN	2						✓	✓	✓	✓															
South Carolina Inland Port	2	✓					✓	✓		✓	✓		✓		✓	✓									
Memphis Regional Intermodal Facility, TN	3						✓	✓		✓	✓		✓												
Joliet Arsenal Development Authority (JADA), IL	3	✓					✓	✓		✓	✓	✓		✓	✓	✓	✓								
Global III Intermodal Terminal, Rochelle, IL	3	✓	✓				✓	✓		✓												X			
Port of Quincy, WA	3						✓	✓		✓							✓	✓							

**LEGEND - LAC CATEGORY**

1 - Satellite Main Terminals  
 2 - Multimodal Logistics Parks  
 3 - Rail Intermodal Parks  
 4 - Logistics Airports  
 5 - Networks and Corridors  
 6 - Shuttle Services  
 7 - Trade Processing centers  
 8 - Economic Development Initiatives

**LEGEND**

✓ - success factor that could possibly lead to overall success of the project  
 X - deterrence factor that could possibly lead to overall failure of the project

# 5. Preliminary Results (cont'd)

## Evaluating Success Factors of Logistics Activity Centers (LACs) – Domestic (b)

Project name	LAC Category	STRATEGIC LOCATION							ECONOMIC INCENTIVES FOR DEVELOPMENT				CHAMPION		GOVERNMENT			OTHER FACTORS			
		DEMAND ELEMENTS	SUPPLY ELEMENTS		TRANSPORTATION INFRASTRUCTURE AND ACCESSIBILITY				Presence of a foreign-trade zone	Provision for tax exemptions	Job creation	Innovation (IT Facilities, Educational Programs, Vocational training, Technical Training programs, Employee training, PPP etc.)	Long term vision and commitment	Flexible and effective plan	Political consensus/ support	Adequate funding/ capital	Burden of regulations	Flexibility of regulations	Success with competition	Delays in project completion	Corruption
Neomodal, Stark County, Ohio	3	X					X														
Detroit Intermodal Freight Terminal (DIFT)	3				✓		X					X		X				X	X		
Port of Montana	3				✓		✓		✓												
Global TransPark, NC	4	X				X		✓				X	X	✓	✓						
Port San Antonio, TX	4	✓			✓	✓	✓	✓	✓	✓	✓				✓						
NY/NJ Port Inland Distribution Network	5						✓					X	X	X							
Heartland Corridor	5	✓					✓				✓	✓	✓	✓							
Albany, NY Barge Service	6							X				X	X		X			X			
Worcester-Kearny Rail Shuttle	6	✓					✓											✓			
Richards-Gebaur ITC development (CenterPoint), Kansas City	7	✓			✓	✓		✓				X	X	X					X		
Port of Battle Creek, MI	7	✓			✓	✓	✓	✓	✓	✓	✓										
Kingman International Trade Processing Center	7	✓			✓	✓	✓		✓		✓							✓			
Mid Atlantic Advanced Manufacturing Center (MAMaC), VA	8	✓		✓	✓	✓	✓	✓	✓	✓	✓										
Cecil Commerce Center, FL	8	✓			✓	✓	✓	✓	✓	✓	✓										
KC SmartPort, Kansas City	8	✓			✓	✓	✓	✓	✓	✓	✓										
San Joaquin Valley Inland Port, CA		✓					✓					✓	✓	✓	✓						

**LEGEND - LAC CATEGORY**

- 1 - Satellite Maine Terminals
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**LEGEND**

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- X - deterrence factor that could possibly lead to overall failure of the project

# 5. Preliminary Results (cont'd)

## Evaluating Success Factors of Logistics Activity Centers (LACs) - International

Project name	LAC Category	STRATEGIC LOCATION							ECONOMIC INCENTIVES FOR DEVELOPMENT	CHAMPION	GOVERNMENT	OTHER FACTORS													
		DEMAND ELEMENTS	SUPPLY ELEMENTS		TRANSPORTATION INFRASTRUCTURE AND ACCESSIBILITY																				
		Access to a large market	Availability of cheap land	Labour Cost	Local Supplier Quantity	Local Supplier Quality	Utilization of major road networks, if present	Utilization of a willing railroad carrier, if present	Utilization of air cargo facilities, if present	Utilization of port facilities, if present	Presence of a foreign-trade zone	Provision for tax exemptions	Job creation	Innovation (IT facilities, Educational Programs, Vocational training, Technical Training programs, Employee training, PPP etc.)	Long term vision and commitment	Flexible and effective plan	Political consensus/ support	Adequate funding/ capital	Burden of regulations	Flexibility of regulations	Success with competition	Delays in project completion	Corruption	Security threats and other risks	
Metroport New Zealand	1							✓																	
Satelliter Terminal Venlo, The Netherlands	1	✓						✓		✓															
Logport, Duisburg, Germany	2	✓					✓	✓	✓	✓				✓	✓	✓									
Port of Vienna, Austria	2	✓					✓	✓	✓	✓															
Port of Enns, Austria	2	✓					✓	✓	✓	✓															
Port of Brussels, Belgium	2	✓					✓	✓	✓	✓															
Port of Manheim, Germany	2						✓	✓		✓															
Port of Ghent, Belgium	2						✓	✓		✓			✓												
Port of Antwerp, Belgium	2	✓					✓	✓	✓	✓			✓		✓	✓									
Port of Rotterdam, The Netherlands	2	✓					✓	✓	✓	✓			✓		✓	✓									
Lyon Terminal, France	2							✓		✓															
Maritime Terminal, Zaragoza, Spain	2	✓					✓	✓					✓		✓										
AND Plus Industrial Multiport, Monterrey, Mexico	2						✓	✓	✓		✓	✓			X	X	X								
Europort Vatry, France	4	✓					✓		✓																

### LEGEND - LAC CATEGORY

- 1 - Satellite Main Terminals
- 2 - Multimodal Logistics Parks
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# 6. Site Selection Process

## Site Selection

- Based on the literature review and case study analysis of success factors, the following highly successful and high capacity sites were selected for conducting interviews and further analysis:
  - Alliance Texas Logistics Activity Center, Fort Worth, TX, USA
  - CenterPoint Logistics Activity Center, Joliet/Elwood, IL, USA
  - KC SmartPort (Economic Development Entity), Kansas City, MO, USA
  - Global III Intermodal Terminal, Rochelle, IL, USA
  - CenterPoint Logistics Activity Center, Kansas City, MO, USA

# 7. Insights from Site Interviews

## Alliance Texas LAC, Fort Worth, TX, USA

- **Location:** Easy access to Dallas-Fort Worth region (approx. 6.5m people), direct access to major roadway networks (reduce drive time inside the cities) – 50M people by one day of trucking & 111M by 2 days
- **Presence of multimodal transportation:** Cargo-only air facility on site (DFW nearby as well); BNSF (class I railroad) hub inside the LAC; Union Pacific (class I railroad) just east of the LAC; easy access to I-35, I-114 and I-130; FedEx & UPS hubs inside the LAC (later clearance times – advantage in overnight delivery orders)
- **Cost benefits:** Presence of an FTZ within the LAC – smooth transfer of commodities to and from international destinations; presence of heavy transloading facility on site – enormous cost advantages (230% in specific cases)
- **Economic incentives:** Workforce development initiatives (educational programs, certifications) – providing Alliance with competitive advantages

# 7. Insights from Site Interviews (cont'd)

## CenterPoint LAC, Joliet/Elwood, IL, USA

- **Location:** Easy access to Chicago (approx. 8M people), increased logistics density (easy access to large population based markets)
- **Presence of multiple transportation:** Multiple class I railroads on the same property – customers get more competitive prices – maximize benefits; Presence of about 15,000 ft. (about 3 miles) of straight rail track inside the LAC; Access to major roadway networks
- **Cost benefits:** Reduced drayage costs at the LAC – \$10M/year savings in specific cases
- **Economic incentives:** 10 year 50% tax abatements from the city and local government



Source: [www.centerpoint-intermodal.com](http://www.centerpoint-intermodal.com)

# 7. Insights from Site Interviews (cont'd)

## KC SmartPort Economic Development Entity, Kansas City, MO, USA

- **Competitive location:** Ability to reach 85% US population in 2 days; Easy access to large markets (including the Midwest) – Kansas City (approx. 2.2M people)
- **Transportation advantages:** 5 of the 7 class I railroads have a presence in the Kansas region – key advantage for companies; Easy access to major transportation infrastructure (air, rail, roadway); Hubs of FedEx & UPS (largest sorting facility in the U.S.) – great advantage (late clearance times)
- **Cost benefits:** Zero inventory taxes and lower labor costs
- **Economic incentives:** 10 year 50% tax abatements in return for job creation, workforce development initiatives (educational/training programs) – seen as an advantage by companies



Source: <http://kcsmartport.thinkkc.com/>

# 7. Insights from Site Interviews (cont'd)

## Global III Intermodal Terminal, Rochelle, IL, USA

- **Location:** Easy access to the interstates -easiness to “get in and get out” of the LAC – critical factor for locating at Global III
- **Transportation advantages:** The site belongs to and is operated by a Class I railroad (UP) – improved travel times; Presence of city railroads (BNSF & UP) – additional customer benefits; Easy access to I-55 and I-80
- **Cost benefits:** Reduced drayage costs – significant cost efficiencies
- **Economic incentives:** Tax abatements in return for jobs created



Source: <https://www.up.com/customers/intermodal/index.htm>

# 7. Insights from Site Interviews (cont'd)

## CenterPoint LAC, Kansas City, MO, USA

- **Location:** Easy access to the highway network and a large market (Kansas City, MO – approx. 2.2M people)
- **Presence of strong labor markets:** Presence of a skilled labor force
- **Economic incentives:** 10 year 50% tax abatements from the city & local government – attracting factor for customers
- **Move-in ready speculative (spec) buildings:** Build and they will come



Source: [www.centerpoint.com/downloads/KCBrochure.pdf](http://www.centerpoint.com/downloads/KCBrochure.pdf)

# 8. Conclusions

Research Findings – 5 Major Categories to focus on for enhancing:

- Logistics Activity Center Development
- Economic Competitiveness Through Logistics Development

STRATEGIC LOCATION			ECONOMIC INCENTIVES FOR DEVELOPMENT	CHAMPION	GOVERNMENT	OTHER FACTORS
DEMAND ELEMENTS	SUPPLY ELEMENTS	TRANSPORTATION INFRASTRUCTURE AND ACCESSIBILITY				
Access to a large market	Availability of cheap land	Utilization of major road networks, if present	Presence of a foreign-trade zone	Long term vision and commitment	Political consensus/ support	Success with competition
	Labour Cost	Utilization of a willing railroad carrier, if present	Provision for tax exemptions	Flexible and effective plan	Adequate funding/ capital	Delays in project completion
	Local Supplier Quantity	Utilization of air cargo facilities, if present	Job creation	Innovation (IT facilities, Educational Programs, Vocational training, Technical Training programs, Employee training, PPP etc.)	Burden of regulations	Corruption
	Local Supplier Quality	Utilization of port facilities, if present			Flexibility of regulations	Security threats and other risks

# 9. Acknowledgements



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