

Freight Villages and Urban Planning: a Sino-French Approach

THNS Forum

Shanghai 11th-12th November 2009

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Presentation outline

There exists a vast literature about logistics management. Many articles deal with freight villages, others with urban logistics. Still, the link is seldom made between logistics and geography at various scales, including the relationship between freight villages and urban planning.

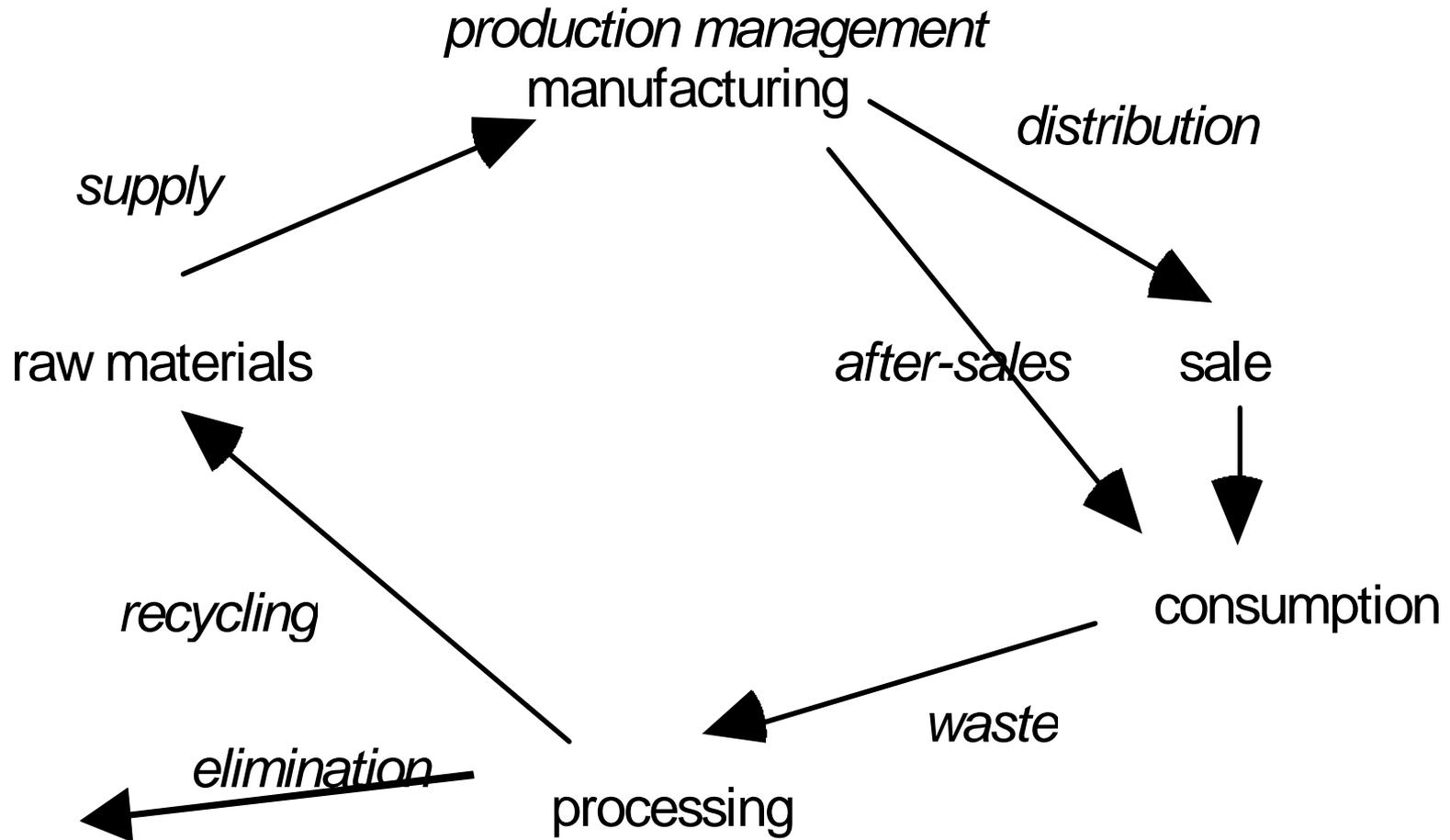
- 1. Logistics and the city
- 2. Freight villages functions and development
- 3. Comparison of Chinese and French experiences
- 4. Perspectives

1. Logistics and the city

Logistics: definitions and realms

- Logistics is often defined through its content or through its generic aims ("to put at disposal the proper good, in proper condition, at the right place and the right time, at lowest cost")
- Two families of sense
 - physical operations
 - transport
 - warehousing
 - handling
 - packaging
 - picking and packing
 - postponed manufacturing
 - repair
 - management of the firm and of relationship between firms (SCM), function in an organisation, tools for flows management, branch of management science
- An emerging industry: logistics service industry (3PL)
- Development of logistics real estate, a stake for spatial planning
- Most flows start or arrive in an urban area. In addition, urban context requires specific solutions

Transport, logistics and productive cycle



A great variety of functions and of locations: close to manufacturing, to international trade transhipments, to distribution, to consumption market, etc., in integrated or in independent facilities. 3PL make dedicated sites more frequent.

Logistics and territory

- Together with transport, logistics is per se a spatial activity (arches and nodes of logistics networks)
 - Tendency to polarisation of logistics (economies of scale in production and inventory, decline of transport and transfer costs)
 - Main logistics poles coincide with metropolitan areas
 - local market for logistics (emission or reception, distribution)
 - nodes of infrastructure networks (accessibility)
 - labour market (labour intensive industry)
 - real estate market (flexibility)
 - Urban logistics is an element of a comprehensive, multi-scale, territorial organisation
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Importance of urban logistics

- Logistics has long been neglected in urban planning and management studies and policies (most attention given to passenger transport, public or automobile)
- Still, it is a crucial function for economic activity of the city as well as for everyday life of inhabitants
 - urban freight represents about 20 % of urban traffic (in terms of v.km), 30 % of street occupancy and up to 50 % of energy consumption and pollution of urban transport
- This ignorance is no longer valid:
 - e.g., "logistics" is one of the 10 key-words put forward at the entrance of the recent exhibition "10 projects for the greater Paris"
 - all major Chinese cities elaborate projects to include freight terminals into their urban planning
- Specificity of urban logistics
 - scarcity and fragility of space
 - influence of "the last mile"

The aims of urban logistics planning

- Two opposite risks must be avoided
 - to allow logistics to locate anywhere without sufficient control, scattered within the city without regard for neighbourhood, environment, traffic conditions, etc.
 - to expel logistics out of the city, due to political pressure or to high land prices. Peripheral locations make urban activity and consumption more difficult and costly, lengthening pick and delivery transport legs and augmenting pollution and traffic
- A room for logistics must be made in urban master plans

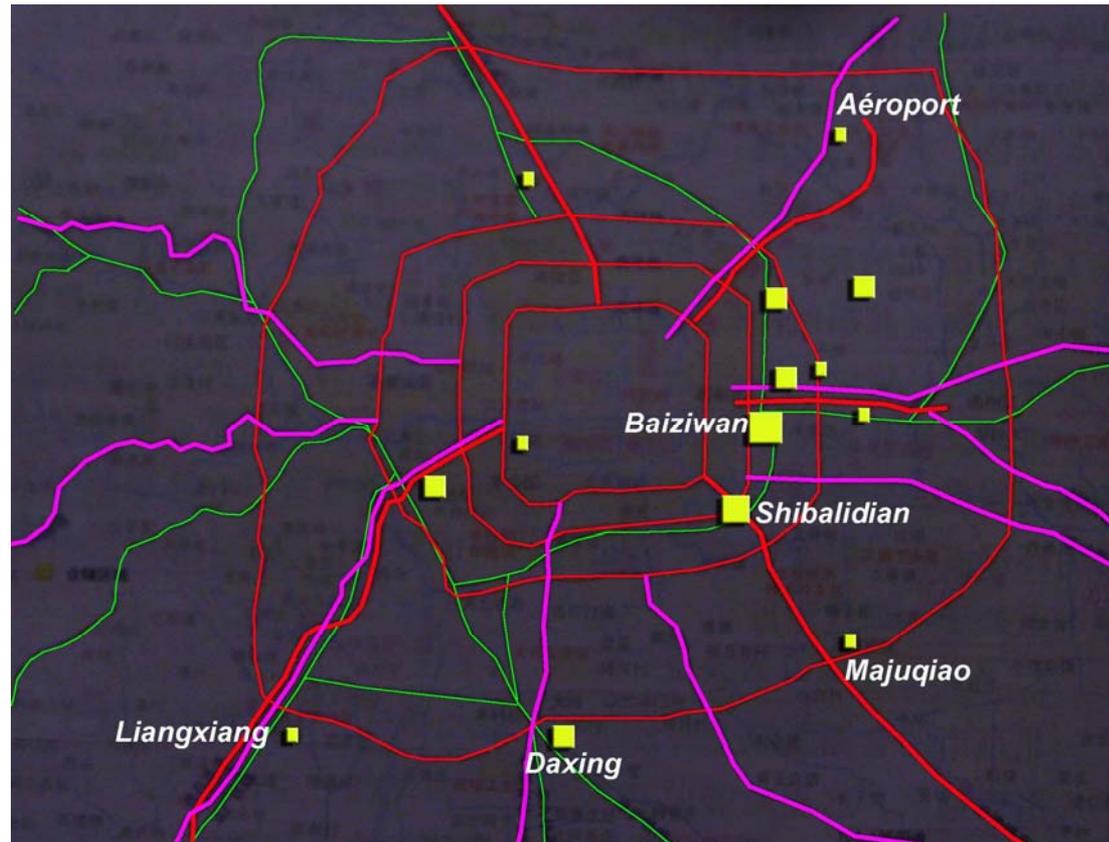
Logistics sprawl: Paris area

Evolution de la localisation des entrepôts en Ile-de-France (1980-2004)

Surface hors oeuvre nette (SHON) mise en chantier par commune



Logistics sprawl: Beijing area

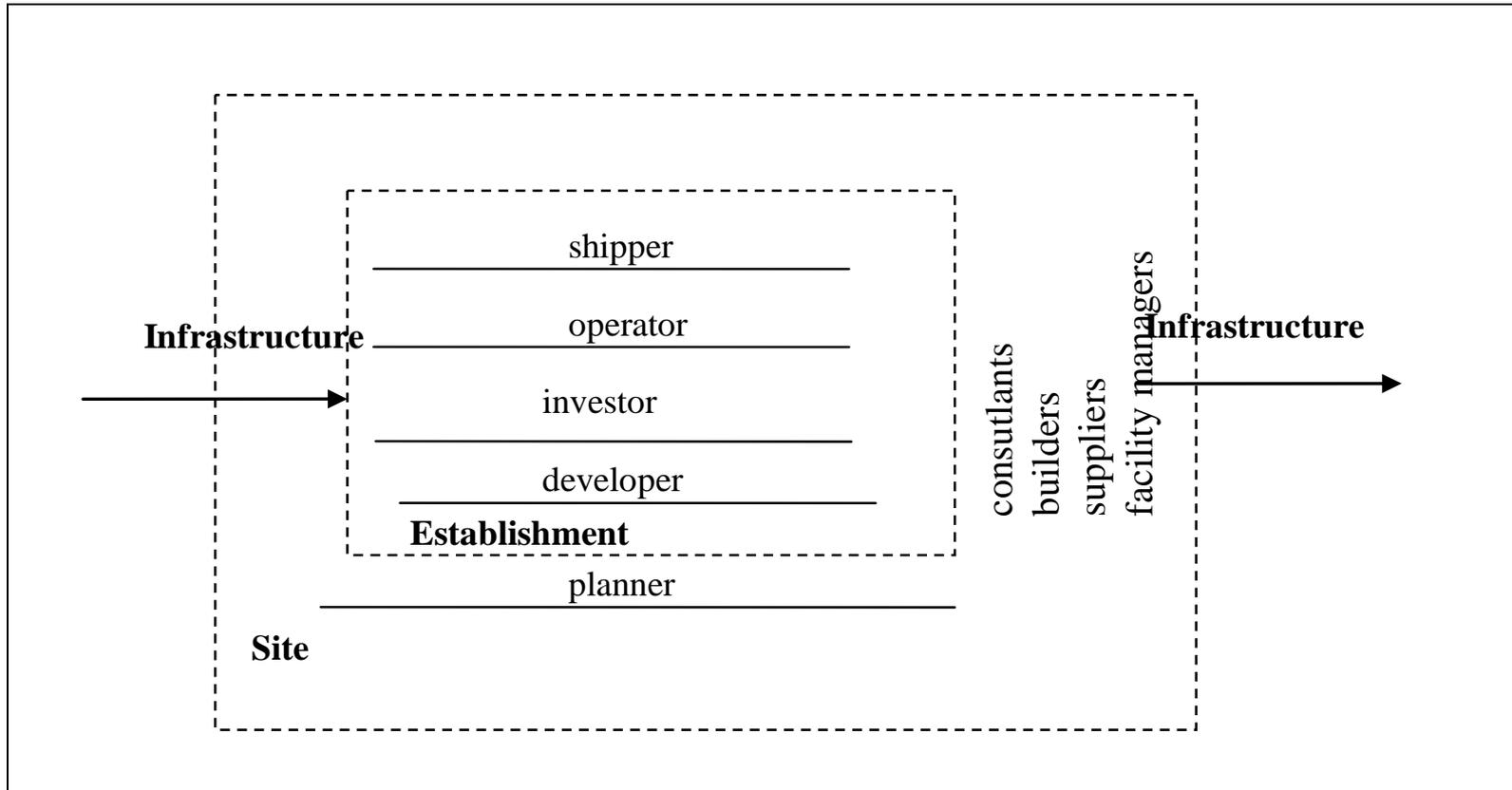


2. Freight villages: functions and development

The notion of freight village

- A freight village (or logistics park) is an industrial area mainly devoted to logistics activities (deliberately or de facto)
- It must be adequately located, designed and linked with infrastructure networks
 - a sophisticated know-how has been elaborated, considering planning, financing, engineering, operating and managing such facilities
 - specialised professional bodies exist now, in charge of these various dimensions of logistics parks
 - both public and private sectors are, with different positions and roles, involved in such projects
- All logistics activities are not likely to locate in such sites, if they are tightly linked with another site (e.g. manufacturing plant) or have specific requirements (e.g. raw materials)

Actors of a freight village project



NB: from public to private, various relationship with time and space

Intrinsic advantages of freight villages

- Locating logistics in an adequate place allows:
 - access to available land, where logistics is accepted according to planning documents
 - building permit and operation licence delivered quicker
 - easier cooperation among transport and logistics service providers (up to "mutualisation")
 - flexibility of warehousing capacity (on a leasing base)
 - creation of a specialised labour market
 - shared facilities and services (e.g. customs, safety, etc.)
 - "inside" external effects (within the site): agglomeration, industrial district

Recent concerns about freight villages

- Acceptability of logistics is not as obvious as it used to be
 - big buildings, hardly integrated into the landscape
 - too much traffic, too much nuisance
 - little employment? little taxes?
 - a temporary gap between France and China?
- Freight villages can ease acceptance
 - dedicated (no mixture of functions!), isolated
 - directly linked with main infrastructure
 - better security and safety (for population, for regulation enforcement)
 - "outside" external effects: to concentrate nuisances so as to affect less population and, possibly, better remedy damages
- The main trade-off: development and employment vs. nuisance

A response to social and political issues

- Adequacy of village location and of manpower market
 - a risk of shortage of recruitment, insufficient stability or qualification, long distance shuttle daily travel
 - specific professional training organisation (with surrounding education institutions)
 - public transport for workers (vs. private car) made possible, in spite of specific working times
 - appropriate housing policy
 - various services to employees: medicine, multi-firm restaurant, shops
- Contribution to transport policy
 - limit the use of road haulage to short distance, develop alternative, low energy consuming solutions (rail, waterway, intermodal transport)
 - consolidation of freight to use efficient heavy means
 - reserve adequate multimodal sites to logistics, against richer competitors (offices, housing, etc.)
 - a link between long distance and urban logistics
- A socio-economic policy, still to be invented, involving enterprises and public authorities

Limits of freight villages

- Freight villages are necessarily large areas (except for vertical buildings, which exist in Japan, Hong-Kong, etc.)
- They remain at the fringe of core urban areas or more far away, as an interface between long-distance (even, intercontinental) and local logistics
- Complementary more intra-urban logistics facilities have to be designed and achieved
 - "logistics hotels", mixing light logistics (parcel service) with other activities, sharing the land cost, integrating logistics deeper into urban economy
 - which transport link between peripheral and central locations? type and size of vehicles, mutualisation...
 - growing needs, as consequences of new logistics methods and tools: e-commerce, vicinity retail, new services to population and economy

3. Comparison of Chinese and French experiences

Is comparison possible?

- Both contexts (China and France, more widely Western Europe) are very different
 - geography (heterogeneity, density, distances...)
 - institutions, planning procedures
 - rhythm and context of development and of logistics
- Still, basic concepts are the same and relevant
 - problem to insert logistics into urban and regional planning
 - the freight village, a key representative object for planning and management
- Both contexts evolve at different rhythms but face comparable questions
 - reluctance, lack of land, tendency to expel logistics too far from metropolitan area core
 - a link between location and transport policies, always difficult to implement
 - several scales to coordinate (from technical, management, political viewpoints): international, national, regional, urban

Logistics is a spatial industry



Planning in France

- The notion is, perhaps, a French invention (as soon as the 70'), but such configurations exist de facto since centuries (harbours...)
 - various aims, changing with economic and political context
- All attempts to elaborate a national master plan have failed in France
 - market driven economy
 - political decentralisation (responsibility of regions, provinces and cities), central government cannot impose his arbitrage
 - confusion with intermodal transport, which does not help
- But number of schemes and implementations at local level
 - master regional plans for logistics, sometimes included in contracts with central government (co-decision)
 - actual facilities, grouping a growing proportion of logistics activities, speeded up by outsourcing to 3PL
 - stronger link between peripheral freight villages and urban logistics

Planning in China

- A more recent but quicker story
 - Logistics areas always existed...
 - But an explicit development is recent
 - first big operation: Pinhu Shenzhen China Logistics Base, 1643 ha
 - recent national plan launched by the National Development and Reform Commission (11th five year plan 2006-2010) + Adjustment of Modern Logistics Industry and Rejuvenation Plan (2009)
 - 9 national strategic freight villages
 - 10 national corridors linking them together
 - 21 national logistics sites
 - 17 regional logistics sites
 - Logistics is now an explicit topic for regional and urban planning
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A chronology

- Main phases can be identified, which exist in both contexts
- 1. Initial growth phase
 - to produce adequate space and location
 - discovery of advantages of such parks
- 2. Critical analysis of existing experiences
 - failures, useless competition
 - growing criticism against logistics activities
- 3. Face new approaches and concern
 - sustainable development = environmental, economics, social dimensions
 - a need for more efficient urban logistics
- But actual periods in France and China do not coincide!

Perspectives

- The notion of freight village (logistic park) still has to be elaborated from a scientific viewpoint
- New concerns: urban logistics, e-commerce, sustainable logistics, etc., require innovative solutions
- Adequate methodologies still have to be elaborated, particularly through international comparison and cooperation. A topics on the agenda of the Sino-French Centre for Urban and Regional Planning Studies (Nanjing + Paris-East)
- A beautiful field for research!