TRANSFERS, NODES, HUBS AND PLACES: Different Forms of Intermodal Exchange

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TRANSFERS, NODES, HUBS and PLACES, Different forms of intermodal exchange

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Huburbs Seminar
University of Toronto
John Daniels School of Architecture
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SYNOPSIS

1. Networks terminology: original significance
   - Transfers
   - Nodes
   - Hubs

2. Conditions of place making: transport efficiency vs. urban significance
   - Clarity of flows vs. exchange between different publics
   - Well-tempered environment vs. diversity of activities
   - Monumentality vs. identity of the place
Network terminology: TRANSFER

- Less-defined terminology: applicable to all (inter)modal exchange

- Habitual use: simple transfer between one transportation mode to another
  1. Car to train/tram
  2. Train to tram/bus
  3. Train to ship
  4. Etc...

- Transfers by foot/cycle passengers to public transport: usual terminology ‘stations’
The higher the hierarchy of transport modes, the more complex the transfers
Network terminology: TRANSFER

Airports or HST-stations rather nodes than transfers: served by carpark+bus+tram+metro
Network terminology: TRANSFER

Most often simple transfer from car to tram/train

Groupe Loisier – P&R Quatre Chemins, Bordeaux France

De Giacinto & Escande – P&R La Buttinière, Bordeaux France
Network terminology: TRANSFER

Transfer: combination between car park and tram platform
Network terminology: TRANSFER

Like in all other places of exchange (*nod, hub*) identity determined both by:

- standard profile of network
- assimilation of specific context
Network terminology: TRANSFER

In case of commuter transfer, significance of homecoming, linked to end-of-line station

Station Patras, Athens Greece
Station Leysin Village, Switzerland
Network terminology: NODE

Node = point of connection between (at least) two lines in a network
Network terminology: NODE

Node = point of better accessibility because served by (at least) two lines

Paris Métro, République Station
Network terminology: NODE

Node = natural point of crossing and internal movement
Network terminology: NODE

Node = highest accessibility where overlaps occur with networks of higher hierarchy
Network terminology: NODE

Node = attractiveness as intermodal point of converging networks

Benthem Crouwel – Schiphol Plaza, Amsterdam Netherlands
Network terminology: HUB

Specific meaning in origin from transportation theory

Hubs and spokes: means of reducing number of direct transport lines while continuing to provide all connections
Network terminology: HUB

Hub: dividing trips into two portions: local distribution and long haul carrier

Transfer from: large body to small airplanes – HST-train to local stop train – container ships/trains to trucks

Union Pacific Railroad Global III Intermodal Facility, Rochelle Illinois
Network terminology: HUB

Hub: radical hub versus end-of-line as local connector

Advantage of more efficient transport organization against passenger comfort of remaining in same carriage
Network terminology: HUB

Hub rationale: linkage within same network
Network terminology: HUB

Hub rationale: linkage with other networks not evident
Network terminology: HUB

Hub rationale: linkage with other networks not evident

TGV Station Santa Justa, Sevilla Spain

Estacion Delicias, Zaragoza Spain
Considering Place Making: HUB

Hub: more often isolated location, little mix with activities other than travel

Shanghai South Railway Station, China

Von Gerkan, Marg und Partner – Lehrter Hauptbahnhof, Berlin
Considering Place Making: NODE

Hub: isolated position because of singular network hierarchy
Considering Place Making: HUB

Node: evident exchange because of linkage between network hierarchies

Gare du Nord, Paris France
Considering Place Making: HUB

Hub: often internalized space with flow chart optimizing transfer

Pelli Clarke Pelli Architects – Transbay Transit Center, San Francisco

Lehrter Hauptbahnhof, Berlin
Considering Place Making: HUB

Hub: internalizing shopping malls that draw on (long-distance) travel, security, tax exemption, exclusiveness

Paul Andreu – Dubai International Airport, United Arab Emirates
Considering Place Making: HUB

Hub: internalizing shopping malls that benefit from accessibility in order to compensate for urban isolation

Centre Commercial Gare Part Dieu, Lyon Paris  
Von Gerkan, Marg und Partner – Lehrter Hauptbahnhof, Berlin
Considering Place Making: HUB

Hub: often monumental space in order to create a sign to fill the void

AREP - Shanghai South Railway Station, China

Santiago Calatrava – Liège Guillemins Station, Belgium
Conditions of Place Making:

• Main Dilemma: weighing off transport efficiency against urban significance

• Main design questions:

  1. Clarity without exclusion
     Directing the flows, while realizing an exchange between different publics

  2. Comfort without encapsulation
     Realizing a well-tempered environment, while breaking out into the city

  3. Identity through meaning
     Creating a place that sticks on the mind of people because of what they experience there, not only because of its iconic appearance
Conditions of Place Making 1

Clarity without exclusion: opening up to other publics than travelers

OMA – Souterrain Tunnel Complex, The Hague, Netherlands

KHR Architekten – Copenhagen Metro, Denmark
Conditions of Place Making 1

Clarity without exclusion: not only highlighting the flows…

UN Studio – Arnhem Central Station, Netherlands

F.O.A.– Yokohama Ferry Terminal, Japan
Conditions of Place Making 1

Clarity without exclusion: also mixing the flows

Grumbach & Schall – Bibliotheque Mitterand Station, Paris France

Intermodal Change, Santo André, Brasil
Conditions of Place Making 2

Comfort through encapsulation: the Kyoto station model of enclosed forum

Hiroshi Hara + Atelier Phi – Kyoto Station, Japan
Conditions of Place Making 2

Comfort through encapsulation: the shopping street interiorized

Antwerp Central Station, Belgium

Pancras Station, London, UK
Conditions of Place Making 2

Comfort without encapsulation: breaking out into the street

Rafael Moneo – Atocha Station, Madrid Spain
Conditions of Place Making 2

Comfort without encapsulation: breaking out into the street

OMA & XDGA – Competition Project, Les Halles, Paris, France
Conditions of Place Making 2

Comfort without encapsulation: breaking out into the street

Manuel de Sola-Morales / Projectteam Stadsontwerp – Leuven Railway Station, Belgium
Conditions of Place Making 2

Comfort without encapsulation: breaking out into the street

EM2N – Hardbrücke Station, Zürich Switzerland
Conditions of Place Making 3

Identity through meaning: the memory of an environment

Paul Delvaux – The astonishing discovery
Conditions of Place Making 3

Identity through meaning: not a reduction to the idea of historical setting

HPP – Leipzig Central Station, Germany
Conditions of Place Making 3

Identity through meaning: but entrusting civic character to a place

Smith-Miller + Hawkinson – Wall Street Ferry Terminal, NYC

Agence Tetrarc – Place Pirmil Bus Station, Nantes, France
Identity through meaning: entrusting civic character to a place
Conditions of Place Making 3

Identity through meaning: entrusting civic character to a place

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