Explorelab P4 Presentation

Research
Landscaping common space.
An affordance-based approach to design.

Design
Below the canopy.
Extension of a railway station in Downtown San Diego.

Elena Balzarini
08/03/2016
<table>
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<tr>
<th>research intro</th>
<th>design intro</th>
<th>project</th>
<th>technology</th>
<th>journey</th>
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Horton Plaza Park, Downtown San Diego
Horton Plaza Park, Downtown San Diego
public space

- government owned
  - open and accessible to all
- government owned
  - restricted accessibility
- government owned
  - usually not accessible

U.S. Supreme Court
“[...] even public property is defined by the right of exclude – and by the monopoly right of use”.

(Donald Mitchell and Lynn A. Staeheli, in *The politics of public space*, ed. Smith and Low)
Atocha Railway Station, Madrid.
Two alternatives
Santa Fe Depot, Downtown San Diego
Santa Fe Depot, evolution through XX century
San Diego - San Luis
11 trips per day
1 per hour, per direction (peak time)
aprox. 400 passengers

San Diego - Oceanside
11 trips per day
1-2 per hour, per direction (peak time)
aprox. 400 passengers

San Diego - San Francisco/Sacramento
46 trains during 6 peaks hours
7 per hour, per direction (peak time)
aprox. 800 passengers

Projection for 2030
<table>
<thead>
<tr>
<th>Previous services</th>
<th>New HSR</th>
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<td>2 trains per hour, per direction</td>
<td>7 trains per hour, per direction</td>
</tr>
<tr>
<td>4 trains per hour</td>
<td>14 trains per hour</td>
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<tr>
<td>total previous services:</td>
<td>total HSR:</td>
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<tr>
<td>1,600 passengers/ hour</td>
<td>11,200 passengers/ hour (peak hour)</td>
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<tr>
<td>(peak hour)</td>
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**total: 12,800 passengers/ hour (peak hour)**

Projection for 2030
research intro  design intro  project  technology  journey

urban analysis

city-project interface

public-project interface

individual project-interface
research intro  design intro  project  technology  journey

urban analysis

city-project interface

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individual project-interface
Doreen Massey’s concept of *throwntogetherness*: “ [...] the way that very diverse elements that cross categories such as the natural or social come together to foster a particular ‘here and now’.”

(Ben Anderson)
Topography of San Diego: mesas and canyons
Alonzo Horton’s Additions (1867)
Development of the grid
Development of the block
“The grid [...] is a pervasive form of disciplinary rule, backed by sovereign power. As we make sense of and navigate the grid on a daily basis, we internalize and reproduce the “self-restraint” associated with property.”

(Nicholas Blomley)
research intro  design intro  project  technology  journey

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Railway tracks
Light-rail tracks
Trolley track variation
Preventing self-containment: permeability of the block
Preventing self-containment:
merging of activities at the ground floor
research intro  design intro  project  technology  journey

urban analysis  city-project interface  public-project interface  individual-project interface
“[the multitude] indicates a plurality which persist as such in the public scene, in collective action, in the handling of communal affairs, without converging into a One, without evaporating within a centripetal form of motion. Multitude is the form of social and political existence for the many, seen as being many: a permanent form, not an episodic or interstitial form.”

(Baruch Spinoza)
agency of the multitude
Baruch Spinoza

shaping space through daily practices
Michel de Certeau

Practice based design
Commuting
Walking from/to light railway
Buy tickets / Get Info
Store luggage
Waiting for the train and tram, while
Reading
Listening to music
Working
Engaging in social activities
Meeting of stakeholders
Administration activities
Demonstrations
Public performances and debates
Markets, temporary points of sale
Solitary use of spaces
Exhibitions

Practices
pavilions: indoor waiting, toilets and luggage/customer
Station entrance
Open Centre for Citizen Activities, Cordoba (Spain)
Two combination for the assemblage
Two combination for the assemblage
research intro
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Affordance indicates what the environment “offers the animal, what it provides and furnishes either for good or for ill”.

James J. Gibson, The ecological approach to visual perception.

“[…] possibilities for action provided to an animal by the environment – by the substances, surfaces, objects, and other living creatures that surround the animal.”

Rietveld, E. & Kiverstein, A rich landscape of affordances.
“...a populations of actual effects that more fully implicate changeability and the potential for further emergence than self-enclosed forms or ordered agglomerations of forms.”

Brian Massumi

“ [...] we must struggle to model the future as truly open ended, and the past and the present as pregnant not only with possibilities which become real, but with virtualities which become actual. This realm of virtual entities capable of divergent actualization are only one of the several immanent resources which insure the openness of the future.”

Manuel De Landa
Hermann Hertzberger, Montessori School (Delft)
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<td></td>
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<td>structure</td>
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<td>climate</td>
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station roof:
hollow core slabs

vierendeel trusses
(10 meters apart)

intermediate floor:
hollow core slabs

platforms
station roof:  
hollow core slabs

vierendeel trusses  
(10 meters apart)

intermediate floor:  
hollow core slabs

platforms
Underground plans and longitudinal section
Layering of structure
Detail: Hollow core slab - Vierendeel connection
Layering of structure
Detail: water collection and column-beams connection

downpipe: 100 mm

calculated for a roof surface of 100 mq, with a rain intensity of 0,04 l/s/m2

(Mild climate, max rain in January: 50 mm)
Detail: edge of the canopy and connection beam-wood plank
Ventilation of underground station
Thermal comfort below the canopy
Heating and cooling pavilions

Climate related issues
Prevailing wind direction during the year:

NW
Ventilation - Underground and below the canopy

sun direction: 60 degrees at the equinox

NW prevailing wind
Geothermal heat exchanger

Average surface 200 mq
800 m³ of air
20 BTU/hr = approx 2 tons
4 pavilions = 8 tons
120 mt of piping per ton
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