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The Art of Modern Transit Station Design

David Moffat

National Register of Historic Places. With arguments about responsibility, funding, access, and security unresolved, the surface-to-air missile bunkers there sit empty, slowly deteriorating. Hummel's narrative also provided an intriguing glimpse into the secretive workings of the U.S. military, custodian of so much of this country's open land.

An Ongoing Program

"Senses of Place: Urban Narratives as Public Secrets" was organized by Robert Chapman of PIERS. In addition to sponsoring conferences, PIERS offers a visiting scholars program.³ The Institute, at Pace's lower Manhattan campus, defines its mission as "to provide leadership in the study of the complex interrelationships between human culture and nature with special emphasis on the Hudson River bioregion and its diverse ecological, social and cultural values."

Notes

1. Dolores Hayden, *The Power of Place: Urban Landscapes as Public History* (Cambridge, MA: MIT Press, 1995), p. 15.
2. Kaufman also alluded to controversies surrounding the preservation of the Audubon Ballroom in New York City, where Malcolm X was assassinated. See Ned Kaufman, "Heritage and the Cultural Politics of Preservation," *Places*, Vol. 11, No. 3 (Winter 1998), pp. 58-65.
3. For more information about PIERS, the visiting scholars program, and conference proceedings, contact Prof. Robert Chapman at rchapman@pace.edu.



The point has been made before, but it bears periodic repeating. To understand the elements of great transit-station design, one has to look to the great precedents. The placemaking qualities of structures such as New York's Grand Central Station or the late-nineteenth-century train stations of Paris and London are inherent in their status as civic crossroads. Extensions of the cities around them, they provide common ground for a common purpose and they give dignity and excitement to thousands of individual ceremonies of departure and arrival each day.

In the second half of the twentieth century such great public gateways largely gave way to the more hermetic "airport experience" — long corridors and commercial concourses in out-of-the-way places that look pretty much the same from one city to the next. Even where the designs of indi-

vidual terminals might incorporate engineering excellence and the latest in architectural materials, they often spoke more of a new international uniformity of experience and expectation than any distinct sense of local pride or identity.

"The Art of Modern Transit Station Design," second in a series of symposia on transportation infrastructure sponsored by the UC Berkeley Transportation Center, was based on the premise that transit stations have now been rediscovered as generators of iconic form, urban identity, and redevelopment energy after a long period of disinterest and neglect. Elizabeth Deakin, Director of UCTC, noted on the first day of the two-day event April 29-30, that

Above: Proposal for TGV station on Strasbourg.

Next Page: Stations of the French TGV. A) Lille; B) Montparnasse in Paris; C) proposal for Marseilles.

such buildings are once again being viewed as a source of “beauty, excitement and fun.”

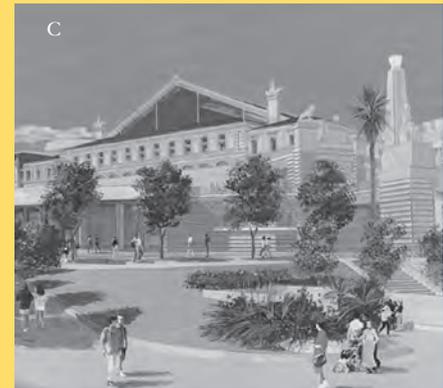
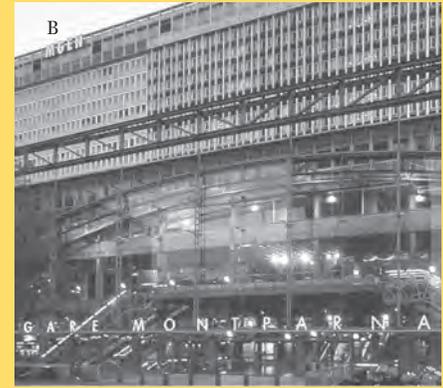
The TGV as a Model

The keynote speech at the symposium was given by Andreas Heym, Co-Director of the AREP, the station-design arm of the French National Railways (SNCF). His presentation examined the massive station-building effort that has accompanied construction of the national high-speed (TGV) rail system, now spreading tendrils out in four directions from Paris.

Heym’s presentation hit on many technical themes of the conference. Good stations need transparent, functional simplicity, and they need to integrate well into the urban fabric. But for the TGV, a new mode of travel also required a new building prototype, one that might once again give architectural expression to the “dream of travel.” To accomplish this, he explained how his office first had to rediscover what a train station looked like. “Stations that look like stations” was an idea that seemed to have gone out of fashion forty years ago.

The Montparnasse station in Paris was the first project the office took on. Here they began by cutting holes in floors to open up space and allow people to see where they were going. Vertical articulation allows people to understand space and use it more easily, Heym pointed out; but it also conveys dignity and excitement. “It’s all clear to us now,” he recalls, but at that time the plans were criticized because they eliminated commercial space.

By bundling station-building money with other sources of public funds, later TGV stations have come to embrace a number of more ambitious urban initiatives. In Lilles, the station complex linking the TGV and



local lines was treated as a “roofed part of the city.” In Marseilles, a new TGV terminus and bus depot is being planned as part of a larger effort to recover an entire city district from crime and grime.

Meanwhile, stations outside city centers have taken on sculptural qualities that express local climatic forces. The double curving roof of the station outside Avignon expresses the need for shelter from the mistral winds of the Rhone Valley. The complex wood sunshade at nearby Arbois (outside Aix en Provence) evokes another Mediterranean precedent, the Arab *masbrabiyyah*.

Perhaps most dramatically, plans for a new station at Strasbourg call for a giant glass canopy to extend an extremely narrow station building beyond its existing facade. Once that bold glass shell is in place, plans call for the rest of a currently barren *place* in front of the station to be transformed into an urban forest and garden.

Other Examples

In the United States one of the most high-profile transit center projects will be a new Pennsylvania Station in New York City, planned to occupy the great Neoclassical Farley Post Office, across Eighth Avenue from the site of the city’s original and beloved Penn Station. The demoli-

tion of McKim, Meade and White’s grand train shed and reception hall there in the early 1960s was one of the most celebrated disasters in American architecture. The present station occupies the dismal basement of the Madison Square Garden complex that replaced it.

In presenting plans for the new station, Marilyn Taylor of SOM showed how a curving glass atrium will slice the Post Office building in half, bringing natural light down onto new subterranean platforms and announcing the presence of the station within the city. Ironically, Taylor explained this bid to restore some of the sense of drama and dignity that graced the original Penn Station has run afoul of the very preservationist movement the demolition of the original building helped create.

Taylor’s presentation revealed how glass is also the material of choice

in the design of many new transit terminals. But the integration of “engineering art” into building design to create iconic new forms is also a major focus of European work. This was clearly demonstrated in two projects by the British firm Nicolas Grimshaw & Partners.

Vincent Chang, Head of Operations for Grimshaw’s U.S. office, told how his firm is currently working on a design for a new subway interchange at Fulton Street in Lower Manhattan. Here, a number of lines converge in a major subterranean complex of cramped pedestrian tunnels and platforms. To open up this space, the design envisions an oculus with moveable heliostats (mirrors) reflecting natural light down four stories from street level.

Grimshaw is also working on plans to enclose the Spenser Street commuter rail terminal in Sydney, Australia. Here computer modeling was used to study conflicting wind patterns and design an irregularly undulating metal roof to allow the natural exhaust of diesel fumes.

Complexity and Uncertainty

The complexity of spatial problems involved in inserting multimodal facilities into dense urban settings can be extreme. At the end of his presentation, Heym pointed out how it is no longer possible to think primarily in terms of the plan of such structures. One must begin with section drawings that detail complex linkages of human, mechanical and vehicular systems.

To illustrate this point, he described work on the Gar Du Nord in Paris — an underground “octopus” linking TGV, buses, local trains, commuter rail (RER), the Paris Metro, and parking, all beneath the streets and blocks of an historic nineteenth-century neighborhood.

One of the most important

design parameters in such a project is minimizing the “stress of being underground,” he said. To do so, sightlines must be clear, daylight must be brought in wherever possible, and appealing materials must be used selectively to make the experience as pleasant as possible.

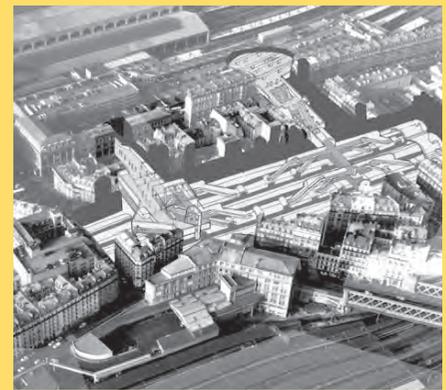
In the U.S. the difficulty of such designs was nowhere more evident than in planning for the replacement of the PATH train station under the World Trade Center. Robert Davidson, Chief Architect for the Port Authority of New York and New Jersey, explained how the design of this facility literally began the morning of Sept. 12, 2001. In the months that followed, decisions on a bewildering variety of design and planning variables had to be made before it was known what form the redevelopment of above-ground space would take.

In the end, this process led to the selection of a design by Santiago Calatrava for a structure of movable glass some have referred to as “Angel’s Wings.”

Issues of Local Concern

There was an important local angle to the symposium. San Francisco is currently planning to replace its aging and neglected downtown Transbay Terminal. When originally built in the late 1930s, the terminal handled commuter trains arriving from fast-growing East Bay suburbs over the lower deck of the Bay Bridge. But since these tracks were torn up and the regional BART system bored beneath Market Street, the terminal’s place in the city has been diminished to little more than a glorified bus depot.

It has long been the dream of local planners to replace this concrete behemoth with a new multilevel facility linking long-range and commuter buses, commuter rail from the



Peninsula, and — most importantly — new high-speed train service linking the city and the rest of the state. Today, planning for such a facility also includes redevelopment of surrounding lands to create a high-rise mixed-use district.

“It is not an everyday activity that you get to design a transit station as the center for a new neighborhood,” said Judith Trilling, the conference organizer. And in a final panel discussion the out-of-town experts were asked often-pointed questions about the feasibility of such a project.

Above: Multimodal stations in Paris often involve an octopus of passages beneath the historic city. Within such complicated, highly engineered environments, attention to spatial volumes and lighting can be used to minimize the stress of being underground.

All images are courtesy of Andreas Heym and AREP.