

Arch 407/507 Human Factors and Research Methods  
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### **Rails-to-Green rails: Green space is the future for rail stations and rail corridors**

Values change with time. What was important yesterday is not important today anymore. This happens in Architecture and urban space too. In October 2005, Cheonggyecheon, a stream in Seoul covered with concrete highway for over 50 years, was finally regenerated. For the project, Seoul already spent about \$16 billion, and now people are enjoying walking the place. Cheonggyecheon was a stream and was covered by concrete and an elevated highway for over 50 years. If covering Cheonggyecheon and putting an elevated highway were the right decision at that time, they are not right decisions anymore.

### **Site**



Gwangju is a metropolitan city in Korea. The city is a center of the west southern area, but also it is an alienated city. Art, food and democratic movement (518) make Gwangju famous. The city recently moved stations and built a railroad out of city. Only a small pocket park was put into the rail space, and the rests of them are still waiting for development. They need to be returned to the public. Heavy traffic and a long plain wall is a big barrier for people in the area behind and in front of the station. Even though many people are still using the station, it is not a pleasant place to walk. People want the station and rail to be changed to park.

### **Museum and Park as Civic Catalyst**

Museum and park will emerge as civic catalyst. Open, and pleasant, the entire building is apt to offer a place to stroll, to assemble, to come and go at will. Not only do new museum buildings need to stand the test as adequate repositories of art, but they are also expected to act as catalytic agents of urban transformation. The new museum and park will help induce campaigns for the revitalization of derelict urban territory.

This thesis seeks to learn how to approach a site to discover valuable factors, investigate them, and then make decisions that knit together memory, culture and context of site. Like the IBA Emscher Park in Germany and the Genoa exposition project, researching old sites and reusing existing structures are valuable objectives to bring people again to the sites.

Designing a Museum and Park in the station is only small part of this scheme. A linear series of parks and spaces will provide new cityscape and will be an asset for people in Gwangju. The museum and park that I am going to design at the station site will embrace and run through the green rail and the city.

### **Precedents**

Four precedents are selected to understand which aspects are important to make decisions for the site. Those projects help to understand what people want for the site, and the role of museum and green space as a catalyst. Moreover, reusing existing structure through research is valuable work for in sustainable design.

### **The Restoration Cheonggyecheon in Seoul**



Cheonggyecheon was a stream in Seoul and was covered by concrete and an elevated highway for 50 years. It was recently regenerated. The project took about 4 years from July 2003 to September 2005, and it will be completed by 2013. This project restored 3.65 miles of the stream, and the budget for four years was around \$16 billion. This project started by getting rid of risks related to the concrete covering and elevated highway. They had been there for over 50 years and the city had to remove them. The

purposes of this project were transferring to a sustainable urban development paradigm, recovery of eco-friendliness and restoration of historical, cultural relics through careful research.

It was a good precedent to realize what people want to have in urban space. Seventy percent of respondents responded positively. Economic aspect is also proper measure to evaluate. It appears that the area remains less affected by the recession of the economy. Less air pollution and lower noise levels were detected after cars have gone. Change in temperature was another positive aspect for this project. Area temperatures went down 6-8 F° during the hottest days of summer. The average temperature before was 10 F° lower.

Daegu, another metropolitan city in Korea, has a similar condition like Gwangju (9.5miles railroad). The city has been developing the station. While developing, the city decided to sell the station area to a public company to cover the budget of \$2.6 billion with \$0.2 billion for the development. However, the city confronted opposition from local non-profit organizations and neighborhoods. This issue will be discussed by the end of this year. What people want is not commercial area for the site. They want green space and cultural places open to public. This will help to make a decision for the site in Gwangju (Cheonggyecheon).

### **Rails to Trails**

Texts were borrowed, because RTC (Rails-to-Trail Conservancy) shows alternative for the rail site. It answers the question how can we reuse the site, revitalize the community and reconnect urban space.

RTC began in the mid-1960s. It was primarily a Midwestern phenomenon, barely noticed in places like New York, Los Angeles or Washington, D.C. The idea was to convert abandoned or unused rail corridors into public trails. Unlike the complex railroad system that was crumbling physically and financially, the concept was simple. Once the tracks came out, people just



naturally started walking along the old grades, socializing, exploring, discovering old railroad relics, marveling at old industrial facilities such as bridges, tunnels, abandoned mills, sidings, switches and whatever else they could find. In the snows of winter the unconventional outdoor enthusiast skied on the corridor, but these were days before even running and all-terrain bicycles were common, so the predominant activity was walking. None of the corridors were paved or even graded - they were simply abandoned stretches of land. Springwater on the Willamette River in Portland is one of those projects. The western most section of the Springwater Corridor has been constructed. This section of the trail runs for three miles in a north-south direction, paralleling both the Willamette River and an active rail line, making this Portland's first "Rail-with-Trail" project.

Website says that "Rails-to-Trails" is what people started calling it, and the name describe the concept a tiny niche in the fledging environmental movement that was gathering momentum, bracing for huge battles shaping over clean air and water. However, it was destined to move into the mainstream of the conservation and environmental movements. After all, it had all the ingredients: recycling, land conservation, wildlife habitat preservation and non-automobile transportation - not to mention historical preservation, physical fitness, recreation access for wheelchair users and numerous other benefits.

Today, more than 35 years later, rail-trails have begun to make a significant mark, with 13,150 miles of rail-trails and over 100 million users per year. Rails-to-Trails was still a highly localized movement. Only gradually did there emerge a realization that America desperately needs a national trails system and that unused rail corridors are the perfect backbone for that network.

According to website, trails don't just happen. Time, money and support from local communities and partners across all levels of government put trails on the ground. All Rails-to-Trails Conservancy (RTC) programs and activities support local efforts to transform the dream of a trail into a tangible community asset. Since its beginning in 1986, RTC has achieved notable success in promoting and protecting favorable legislation and providing assistance and leadership to the trails and greenways community.

### **Benefits of Trails**

The growing popularity of outdoor recreation activities, such as cycling, inline skating, walking and running, combined with the loss of community open space, has increased the need for quality recreational facilities such as rail-trails. Rail-trails provide places for cyclists, hikers, walkers, runners, inline skaters, cross-country skiers and physically challenged individuals to exercise and experience the many natural and cultural wonders of the nation's urban, suburban and rural environments. Rail-trails not only serve as independent community amenities, they also enhance existing recreational resources by linking neighborhoods and schools to parks, waterfronts, recreational centers and other facilities.

Rail-trails are invaluable tools for conservation and preservation. Expanses of land that has rarely seen development, rail-trails provide countless Americans reconnection with the natural environment, a renewed sense of community, a restored appreciation for historical and cultural artifacts and nostalgia for the "golden age" of rail transportation.

Rail-trails help preserve important natural landscapes, provide needed links between fragmented habitats and offer tremendous opportunities for protecting plant and animal species. They also can be useful tools for wetland preservation and improvement of air and water quality. More than just, say, an isolated 12-foot-wide patch of sidewalk, a rail-trail can have a much larger value as preserver of natural space. When a trail-developing organization or agency acquires an abandoned rail corridor, they often get a 100-foot-wide linear space to work with that is virtually unobstructed by buildings and other man made features aside from the rail line itself. The corridor can become a linear habitat or

"greenway" that connects wildlife areas isolated by expansive development, with only a minimal intrusion by trail users.

As tools for conservation or preservation of historic and cultural resources, rail-trails provide a window into our history and culture by connecting people to the past. They often link, provide access to and incorporate historic features such as battlefields, bridges, canals, historic buildings, and rail depots. Trails play a prominent role in the history of America, and rail-trails continue to serve as important threads in our social fabric.

Revitalized rail corridors that become rail-trails create opportunities for local trailside businesses to spring up. Trails and greenways are valued for their ability to connect people with places and enhance the beauty of urban centers. Cities and towns across America are finding that converting abandoned rail corridors is an economically wise choice. Rail-trails often bring job growth in construction and maintenance fields, as well as in tourism-related areas like bike shops, restaurants and lodging. A National Park Service study revealed the total economic impact of a trail involves a combination of new trail-related jobs and the expansion of existing businesses related to travel, equipment, clothes, food, souvenirs and maps. Trails can even have a direct impact on a community's ability to attract.

People can walk, bike or skate to work, school, shops, or to visit friends and family using a seamless network of trails that are a natural part of the local transportation system. The many benefits of individual rail-trails - recreation, transportation, health, conservation, revitalization - are multiplied when trails are connected to regional systems of trails and greenways. Linking the places where people live, work, learn and play with trails and greenways is a crucial element of our nation's efforts to build safer, healthier, more livable communities.

The value of rail-trails in reconnecting America extends far beyond linking together destinations on a map. Rail-trails also have a remarkable capacity to connect people. Well-funded public agencies that build roads do not exist for creating trails. Instead,

individuals, state and local government, the private sector and community-based groups must unite in the common purpose of improving their community. By reconnecting people, the process of trail building also becomes a process of community building.

Trails and greenways reconnect people to our neighbors by creating common ground for social interaction. They reconnect people to our families by providing safe and healthy recreation areas for every generation. Trails reconnect us to nature by giving us access to green space for recreation and relaxation. And, with the restoration of old railroad trestles and tunnels, people are reconnected to the rich period of history when previous generations helped build and connect America by rail (Rails to Trails).

### **Guggenheim Museum**



In Bilbao, where heavy industry and fluvial warehouses had long been abandoned, a swath of raw embankment along the Nervion River was slated for redevelopment. The latter site is not only cramped by rail and street corridors alongside the river, but also by its marginal location and an inclined suspension bridge that plunges from the east over steep river banks right into the ensanche (plaza). Between the bifurcating ramps of the bridge, the slope, and the river, a large irregular site was set aside for Gehry's project. The compromised conditions of the site make an apt metaphor for the complex circumstances under which the commission was precipitated by the regional and municipal governments in negotiations with the Guggenheim Museum in New York.

It is purposeful that the museum has been anchored in the cityscape of Bilbao like a vast circus tent surrounded by caravans, for the variety of events anticipated to take place there requires large and ever varying venues. Subsidiary spaces are clustered together, squeezed through the bottleneck between river and embankment, made to duck under bridges, and finally allowed to soar over the building's core in a spectacular canopy. All

this implies motion induced by internal tension and external compression and gives rise to the towering and seemingly revolving space of the central hall. If it is possible to speak of a spatial realm that lacks figural contours yet possesses powerful bodily qualities, if ambulation can unlock the complexities of a building's order beyond the outlines of the plan, then the Museum in Bilbao reawakens an architecture that has lain dormant for centuries (Forster, 6 – 11).

### **IBA Emscher Park**

The Ruhr Basin is a region where industry brought tremendous socioeconomic development and then, when this became obsolete, left it with a huge environmental and



economic deficit. In 1989 the IBA Emscher Park set itself the considerable task of reconstructing, over a period of ten years, the chaotic situation resulting from a fragmentary condition that, as well as bearing the scars of World War II, is driven by more or less inapt urban planning and by the uncontrolled growth of industry. Following the crisis of heavy industry in the 1960s, the social situation was incredibly depressing. Even today there is, in this area, the highest level of unemployment in western Germany: 15 percent, the national average being 9 percent. Over a period of ten years ninety projects have coexisted in the Ruhr area aimed at virtually creating a new, more optimistic state of affairs, symbol of an urban and economic change that seeks to guarantee the reestablishing of quality in both towns and landscape; a balance between economy and ecology.

The River Emscher was once a natural torrent running from Dortmund to the Rhine at Duisberg. The discovery of coal and gold in this area led to explosive development. While in 1872 less than a million people were living here, the population grew steadily, reaching 6.2 million in 1955. Due to the huge amount of refuse dumped in the river,



epidemics like typhus and cholera laid waste to the area. In 1904 the river was canalized equipped with a great number of dikes to preserve the zone from possible flooding and at the same time to guarantee rapid drainage. The Emscher Scenic Park covers an area of 300 km<sup>2</sup> and is made up of seven large regional parks which have subsumed the new landscaping interventions for rehabilitating contaminated land and for creating new natural landmarks, as well as schemes for recouping abandoned industrial sites and transforming them into parks linked by different cycle tracks. The Emscher scheme is the result of a search for a new aesthetic quality for an industrial-type landscape, linked to ecologically compatible amenities for leisure activities, sport and culture.

Duisburg Park is a good example of the IBA Emscher Park project. The site where these old steel factories are located was once known as “the forbidden city” with access exclusively for the workers there. Today, while nature is recovering and growing spontaneously, the site is visited by the general public, who can attend open-air film showings in the former blast furnaces, or learn to scuba-dive inside an old gas meter (Quim, 163 – 167).

### **Conclusion**

It has been over 80 years since the station started. The station has been doing a culturally important role for people in Gwangju, not to mention transportation. There were people, history and memory. The place was one of historic place for 518 Democratic Movement in 1980s. People gathered in the square of the station against military coup. Travel by train was a pleasant memory. Meeting different people and eating eggs, sodas were nostalgic scenes in childhood. From Cheonggyecheon project, Rails to Trails, Guggenheim Museum and Emscher Park, the more important thing than a green space is learning values and making a right decision. Now, the Rails are returning to Green rails. These green rails will connect urban spaces, people and revitalize the city.

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