Hush Gardens

Objective

Sound walls mitigate noise from cars and trains by providing barriers between highways or railways and noise-sensitive areas. Although not infrastructural by itself, they play the important role of minimizing transportation’s impact on the environment, the residents, and the value of adjacent properties. Although traditional sound walls effectively meet these functions, their ideal location for hybridizing with urban programs has not been fully exploited.

Now is an opportune moment for designers to rethink the sound wall, as the nation-wide effort to develop high-speed railways continues. Resistance from communities due to concerns about noise pollution and property values has become one of the major obstacles for implementing high-speed rails. A potential resolution path is to provide sound walls that are equipped with other amenities, such as parks, recreation, and food production. New and existing sound walls could be made into urban armatures, encouraging public activities and potentially generating profit. Although this proposal uses the California High-Speed Rail system as a scenario, the prototype can be applied to other major transportation corridors across the nation.
In addition to the federal stimulus fund’s 8 billion dollars set aside for high-speed rails, the state of California has approved 9 billion in bonds for its new transportation system. The state has made the most progress in the nation with its high-speed rail plan, expecting to start construction in the year 2011.
Once the plan was made public, many residents voiced concerns about above-ground tracks running close to their homes, preferring tunneling or cut-and-fill. Unfortunately, these are expensive options. A compromise can be reached by providing a linear park / greenhouse as the sound barrier for on-grade tracks.

The hybrid scheme makes it possible to acquire rail construction and parks and recreation funds from the stimulus package. The high initial costs for construction can be offset over time by selling produce from the greenhouse to the local community or leasing spaces to vendors.
The width of right of way varies throughout the length of a corridor, from as little as 50’ up to 400’ or more. The proposed right of way width of California High-Speed Rail is 100’. After subtracting the depths required for tracks and utilities, the remaining strip of land could accommodate other programs.
The basic diagram of the park is a double wall structure, which houses all utilities and circulation. Platforms can be cantilevered from the spine for additional outdoor public space.

Potential uses of excess right of way are limited by local variances on zoning codes. If building an enclosed space, required setbacks will consume a large portion of the site. For the minimum footprint scenario, site must be confined to the shallow depth of 6’. Although this is inadequate for inhabitation, it can be maximized for a linear low-rise park and vertical hydroponic farming.

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Garden System

The linear park is a simple scaffolding system which could stand on its own or attach to an existing sound wall. Like traditional sound walls, it can be made of pre-fabricated parts. Solar panels provide energy for the greenhouse and enable year-round operations. Excess energy contributes to the grid.
Structural Skin Patterns

There are many design opportunities for the articulation of the skin, as long as it provides a reasonable amount of transparency and suits the local context and program.
Implementation

Irvine, CA Corridor

The railway corridor is transformed into an agricultural belt within the city while keeping the tracks on grade. Sections of the park can be dedicated to small-scale pedestrian activities that correspond to adjacent programs.

existing programs
- park
- school
- commercial

- chicken coop
- pedestrian bridge
- farmer's market
- produce stall
- spontaneous raves
garden
community center
garden
educational farm
k-12 activities
fish tanks for aquaponics
outdoor theater
community center
garden
play space
local artist commission