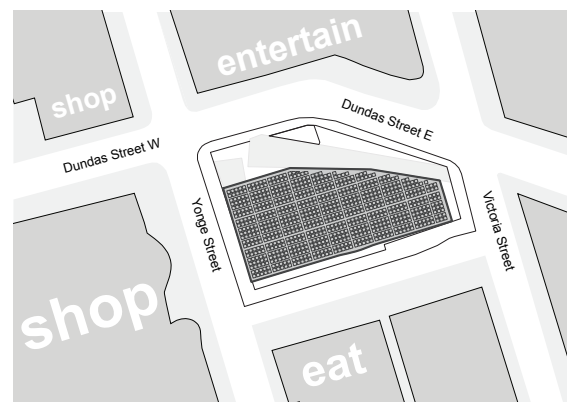


velux 2010 design competition:  
transformation of dundas square  
by sooyoun kim

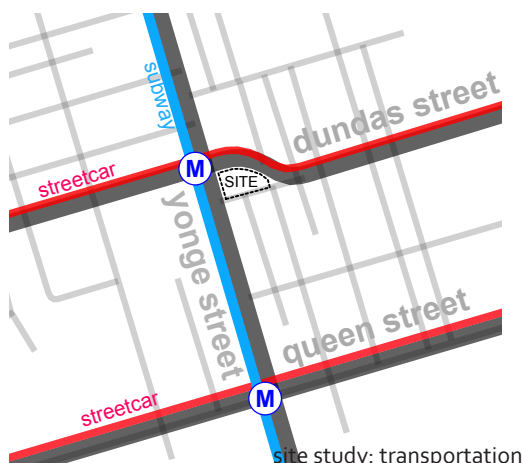
As a response to a question imposed on the role of daylighting in our everyday life, this project explores the potential quality of daylight in spatial organization, sustainable capacity, and aesthetic value. The project research has been conducted from an order of urban context studies, site analysis, inspirational natural phenomena, architectural expression of the effect, then to the final project development. The design focuses on Toronto Dundas square as a primary site, and the intent is to further extend the continuing discussions and criticisms of Dundas Square on its functional uses and market value.

Dundas Square, located in the heart of downtown Toronto, is a public open space of which its intent is to promote involvement of public in various community events and activities that pursue proactive social interaction within the city. Surrounded by restaurants, shops and the Eaton centre, the vicinity of the Dundas Square can be seen as one of the most vibrant commercial districts in Toronto. It is also very close to the Queen Street, where shopping experience continues along many retails and entertainment venues.



site study: functions in the vicinity

The site is right at the corner of the intersection of Dundas Street and Yonge Street. Having TTC subway service running in north-south direction of the west side and TTC streetcar operating on the north edge of the site, this is the busiest pedestrian



site study: transportation

intersection in the city where more than 28 million people pass by every year (p10, annual report). The site is approximately 3000m<sup>2</sup> of area, 90m in length, and its width varies from 15m to 50m on each side. The overall scale is about one quarter of the Nathan Phillips Square, and it can hold up to as many as thousands visitors per day. Dundas square seems to serve its role as a core of connected community of metropolitan city, during various public events such as concerts, art shows, outdoor cinemas, business showcases, and other various festivals. Its wide open space allows for a great flexibility in accommodating different kinds of events, and during occupancy the space becomes activated by a huge crowd and the vibrant energy among people.

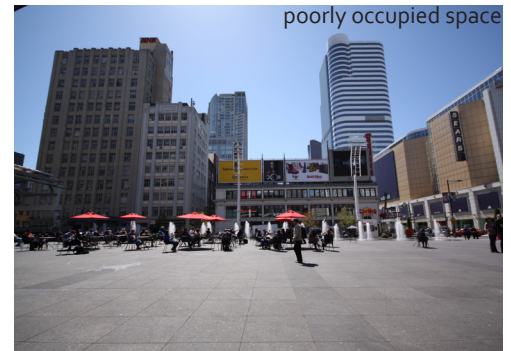
The current scene of Dundas Square has two opposite characters: occupied with a bustling crowd or empty with no particular functions. The occupancy of the space depends on weather and seasonal climate, but mostly on whether or not there are events being held. This is a tragedy of a wide open space, which does not correspond to the the initial intent of the purpose of Dundas square, which is to promote social interaction within communities; rather, the space lacks a sense of connectedness without any functions being accommodated. The reason for the inattractive spatial use by public when it is not accommodated as an event venue is that the site does not have a proper setting for an attractive element such as an entertaining environment for visitors and shoppers in the area. Even during Summer when the outdoor temperature seems enjoyable, the space is still not quite welcoming for people to visit without being able to find available seatings and patio umbrellas to block the direct sunlight.

Unfortunately the current Dundas square does not conform to the busy, energetic atmosphere of the surrounding shopping district; it is an isolated space which hardly draws connection between streets, between people, and further between communities. To re-examine the value of its spatial relationship to the surroundings and to improve its functional purpose within the city, Dundas square needs a transformation.

The overall scheme of the transformation is to utilize its existing resources such as daylighting and to maximize its potential in becoming a new social realm of entertainment; moreover it is also critical to consider maintaining its purpose as an interactive public space that holds various events and activities. As one of the concerns of the site is that there are no particular strategies implemented on the use of daylight, the project specifically explores on the intervention of daylighting in the space.



actively occupied Dundas square



poorly occupied space



central park, Manhattan, NY

There are two main inspirational sources which evoked the final design of the transformation. One of the inspirational sources comes from the use of green. Green attracts people, as it is a reminiscent form of the Mother nature. Green parks in the middle of an urban setting such as the Central Park in Manhattan, New York, is often considered as an "escape" from a busy, city environment. It is not only the trees and bushes that bring people into the park, but it is the contrasting relationship of the central park to the rest of Manhattan. In a similar fashion, Dundas square can also be transformed into an urban park. Since there are no green parks near the site, the space can become special and attractive to the visitors.



"heaven's door" effect

The other inspirational source is a scene of light penetrating through clouds, so called 'heaven's door'. This form of light provides a beautiful effect which potentially attracts people, unlike the current daylighting condition in Dundas square - a big pool of direct sunlight that is unfriendly to those who want to enjoy the outdoor experience. Hence, implementing this phenomenon allows control of the daylighting in the site.



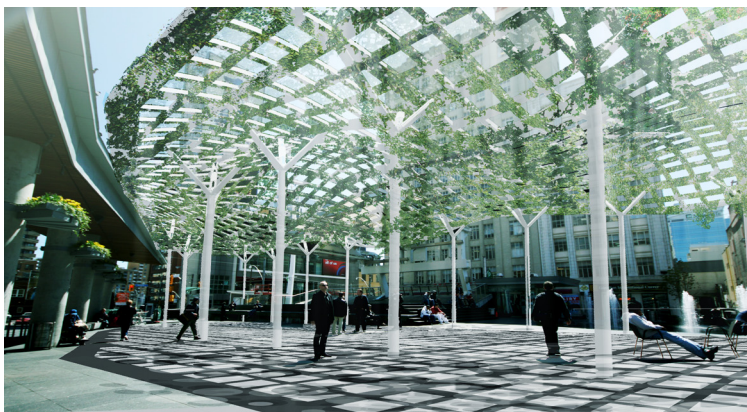
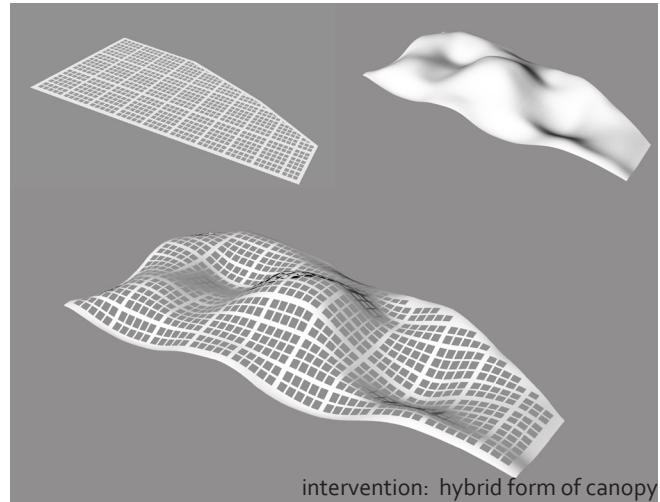
As a result of incorporating the site analysis with the two inspirational elements within the urban context, the project development begins with a tall, wide canopy.

First, the form is derived based on consideration of the flexible usage of the space as a venue for various public events and activities, hence, the structure is elevated from the ground level to allow an open space underneath for free circulation. The structure expands throughout the entire site in order to differentiate the area from surrounding environment and giving it a unique identity as an urban public space.

Second, the canopy is not a flat plate, but of an organic form that mimics the movement and energetic flow of the people who activate this neighborhood, and it contributes to the overall atmosphere of the site. This morphing surface also structurally allows various shapes and sizes of the shades to be created according to constantly changing sun angle. The 'heaven's door' effect is emulated with porosity of the surface that allows light to seep through gaps and shine the space underneath.

In addition to this basic form, different kinds of vine have been used and wrapped around the structure. This element is critical to the project since it brings out the green, as well as creating an effect of the sunlight shattered into many different thickness of light beams. The overall effect is as if one stands in the forest, being showered by the daylight that shimmers between leaves and trees. The resulting form is very attractive, since this daylighting-sensitive structure produces an interactive way of shades and light simultaneously taking place, thus creating various scenes that constantly transform as the sun angle changes throughout the day.

The canopy is supported by a series of columns supporting at the edges and the three branches at the top evenly carries the weight of the canopy down to the columns. Together the columns and the canopy become a part of installation when events or show cases are being held at the site. It can be seen both as an urban infrastructure and an art work, as well as a place of social interaction.



The Dundas square has an incredible potential to become a centre of social interaction, however, its current usage has questioned its true role as a strategically utilized public space. Is the space still valuable when no events are being held? How can it function both as a public open space and an urban infrastructure that benefits society regardless of the number of calendar days of events? As a positive response to these questions, this project dreams of a transformed Dundas square that suggests a new definition of a public open space.

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