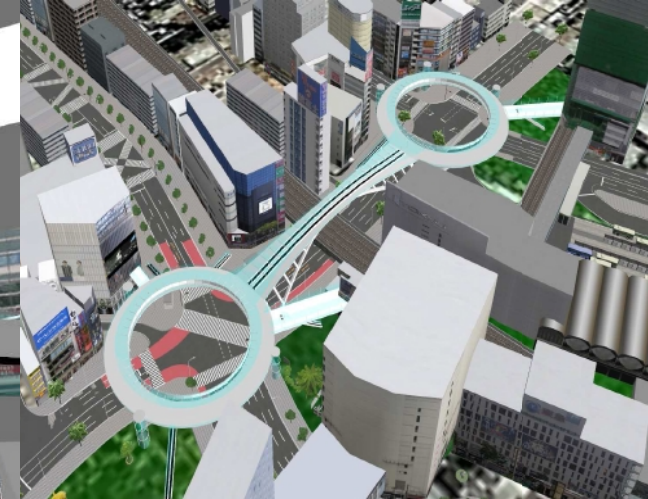




# SHIBUYA SKY WAY



## Design Background

In 2030, the station spaces in urban areas has changed from the so-called 'Ekichika', or commercial-based space, to wide and green areas where people ask for safety and grief. The crowded small buildings are concentrated in order to create safety space, and then the station square is set as a disaster-preventing facility. Shibuya, which is known as the core of young fashion trends, has continuously been delivering the latest information, and the planned SHIBUYA SKY WAY is set as not only a disaster-preventing facility, but also as the starting point of the latest information.

## Design Concept

Due to the Yamanote-line, Shibuya is divided into two parts, the west district and the east district. It is essential to create movement line to connect two districts directly by bridge structure. The solution to this problem is the idea of constructing a balanced shell arch. Such architecture will become the new face of Shibuya, and remind people to feel encouraged at times of disaster.

## Function

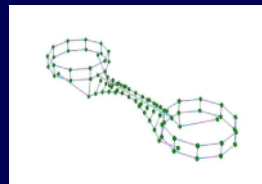
### Access at times of disasters

The structure will secure the transportation of people safely between east and west districts at times of disasters. There is a route under the rails at present, but by connecting the two districts safely, urban disaster-prevention will become more redundant.



### Bridge alignment plans

By placing the clearance limit for the Yamanote-line, it is possible to make the deck height at GL+12.6m, and 10m at the ring point, which will make access between buildings more convenient at even heights up to 3rd floors.



### Evacuation Calculation

By planning the minimum width by 10m for the evacuation of people from the west area to the east area, EXODUS is capable of analyzing the traffic number of crowd.



## Structure

### Balanced Shell Arch Structure

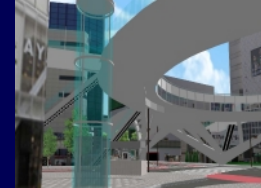
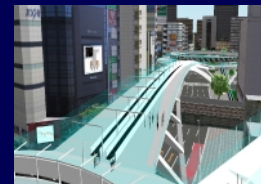
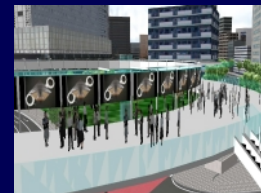
The Balanced Shell Arch structure is created by developing an arch 3-dimensionally. The wing beam, located in the rear of the arch, counter balance the center ring, and at the same time balances out the horizontal force which occurs at springing by the ring's own weight. We have achieved a legitimate and bold form.

### Examination of structure rationality

By applying the wide-open Shell Arch structure, it will prevent deformation in transversal direction, and at the same time shows a strong durability against earthquake. Structure rationality is now being examined by UC-win/FRAE(3D).

### Efficient ring structure

The ring structure of side span consists of side span Vierendeel structure in the circumferential direction and it take a role of counter balance to the center arch. Because it is a Rahmen structure, which shows strong bending stiffness in circumferential directions, it is also a support for the



## Activities

### Information release

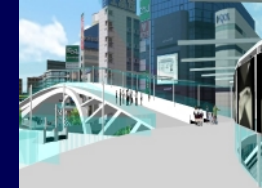
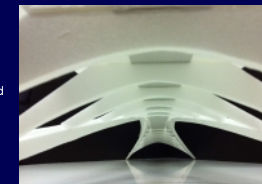
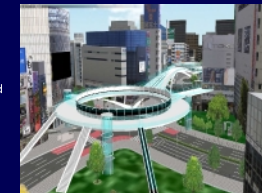
A large 360° vision, consisted of 48 screens is placed at the center of the ring deck. This vision will provide information about fashion, market, weather and earthquake alarms to nearby buildings and pedestrians. At times of disasters, it will provide damage reports and evacuation information. The power comes from heat storage of floor vibration

### Sky walk deck

Sky walk deck crosses over JR with 100m length and it has moving walk way then it is convenient for the disabled as well.

### High speed elevators

High speed elevators will be placed between the Shibuya underground, GL, and the upper deck floors. It contributes to make movement in Shibuya more active.



## Landscape

### Iconic Landscape

Like the Times Squares in New York and Big Ben in London, Sky Way will create a scenery by being the landmark of Shibuya. The scenery of Shibuya station will always include the Sky Way.

### memorable Atmosphere

When entering the scramble traffic, a large ring will surround the atmosphere, and a memorable space will show. Once you go on further, the sequence will change to a space surrounded by constructional material.

### Leading flow line

A fluent geometrical line consisting of a vertical curve and surface curves lead people to gather and cross the bridge. Such flow line has been planned.