

# Parking Elisabethen and Steinen, Basle (Switzerland)

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Objektyp: **Article**

Zeitschrift: **IABSE structures = Constructions AIPC = IVBH Bauwerke**

Band (Jahr): **1 (1977)**

Heft C-2: **Parking structures**

PDF erstellt am: **23.07.2024**

Persistenter Link: <https://doi.org/10.5169/seals-14515>

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## 2. Parking Elisabethen and Steinen, Basle (Switzerland)

Owner: Public Works Department  
City Engineers Office, Basle

Architect: Otto Senn, Basle

Engineer: Joint venture  
W. + J. Rapp SA, Basle and  
Gruner SA, Basle

Contractors: Jos. Cron SA, Basle  
Wenk & Co., Basle  
B. Milesi and Co., Basle

Dimensions and arrangement:  
for Parking Elisabethen  
( ) = Parking Steinen

Total surface, including ramps: 23'850 m<sup>2</sup> (16'700 m<sup>2</sup>)  
Typical floor surface: 5'250 m<sup>2</sup> (3'800 m<sup>2</sup>)  
Number of floors: 5 (4)  
Total number of parking units: 864 (570)  
27,6 m<sup>2</sup>/parking unit (29,3 m<sup>2</sup>/parking unit)  
Space built: 79'000 m<sup>3</sup> (53'500 m<sup>3</sup>)  
91,4 m<sup>3</sup>/parking unit (93,8 m<sup>3</sup>/parking unit)  
Column spacing: 7,50 x 8,50 m (7,50 x 8,50 m)  
Clear ceiling height: 2,40 m (2,40 m)  
Floor thickness: 0,20 m (0,20 m)  
Ramp's grade: 9 o/o (8,5 o/o)  
Ramp's width: 4,05 m (7,00 m)  
Parking arrangement: upright, on both sides  
Lane's width: 7,0 m (7,00 m)  
Parking unit's dimensions: 2,40 x 5,00 m  
Live load (excluding permanent load): 2 kN/m<sup>2</sup> (2 kN/m<sup>2</sup>)

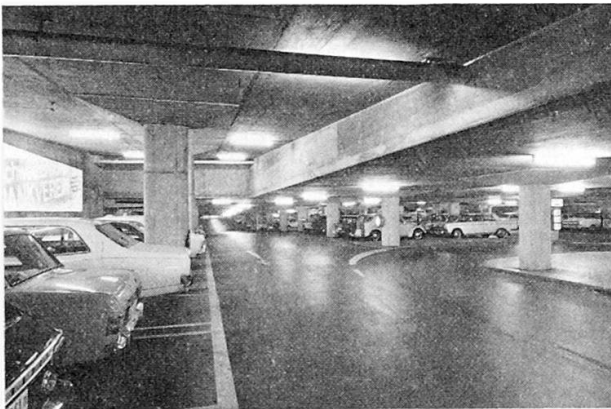
Material used:

Concrete: 17,0 m<sup>3</sup>/parking unit  
Reinforced steel: 2080 kg/parking unit

Works' duration: 28 months (30 months)  
Service date (year): 1968 (1969)

### City Planning

The main object of Basle's town planners has been to turn the shopping area of the city into a pedestrian precinct. Local traffic is channelled into a turnpike or motorway called the City Ring which by-passes the inner city. Several car parks are provided for motorists who can reach then the town center on foot or by public transport. Each abutment of the Heu-



Interior view

waage Bridge, which is part of the City Ring, contains an underground parking unit – the Elisabethen Parking in one and the Steinen Parking in the other.

### Design and Construction

The car parks extend to a depth of 17 m (13.5 m) below ground. The Elisabethen Parking lies about 4 m under the ground-water level. The cut-off walls of the building pits were erected by the underpinning method. 32-ton pre-stressed anchors were used for the wall elements. Flat concrete slabs were cast in place with column capitals. The Elisabethen Parking is provided with two separate entries and exits and the Steinen Parking with one. Ramp towers with elevators and stairs connect the different storeys. A part of the Steinen Parking has been constructed for use as a civil defence shelter.

Ventilation is controlled by CO indicators. Heating is set at a minimum temperature of +5 °C in all weather conditions. Lighting capacity is 70 Lux. Fire protection is provided by a network of hydrants and water curtains at every 30 m which are activated by thermostats. There is an emergency generator of 2 x 160 HP.

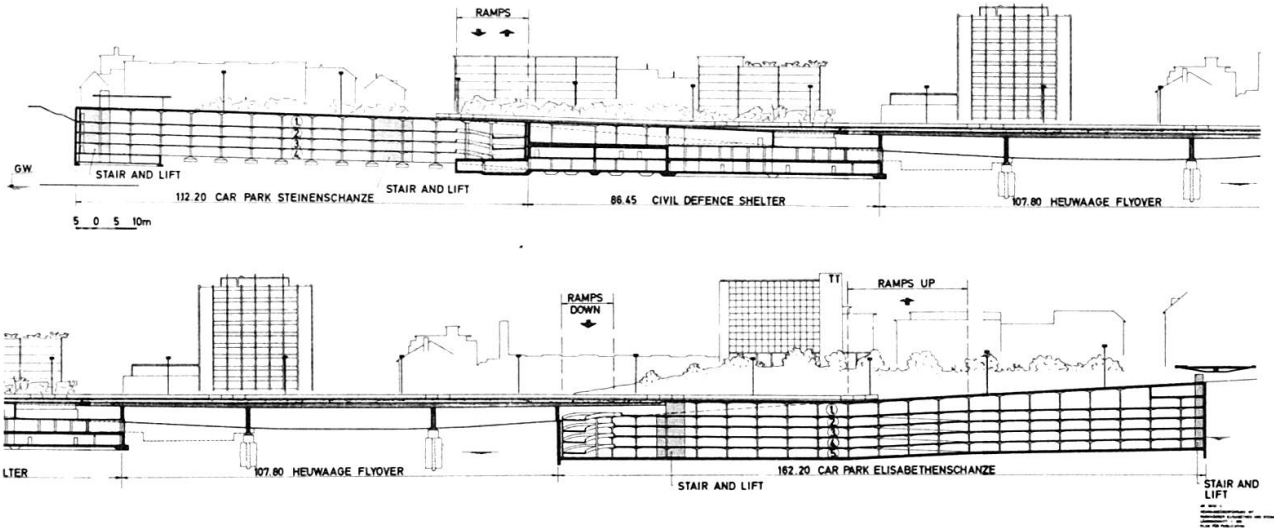
### Operation

Parking fees are collected by means of parking meters in both car parks. This system has proved to be very satisfactory. Each storey has electrically operated "full" and "parking space available" indicator boards. Both car parks are very popular, their success being due to their close proximity to the shopping area of the city.

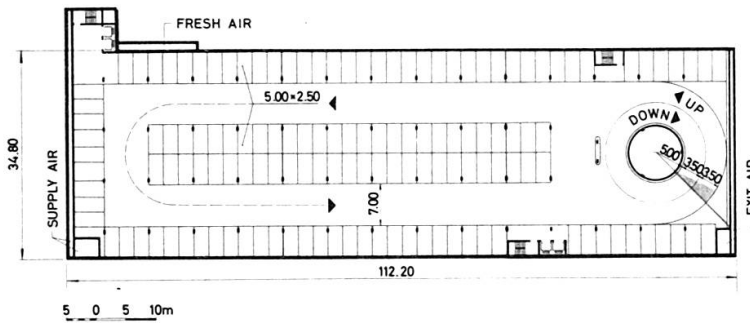
(Gruner SA)



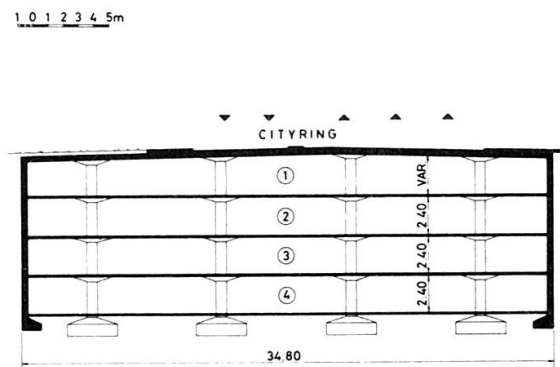
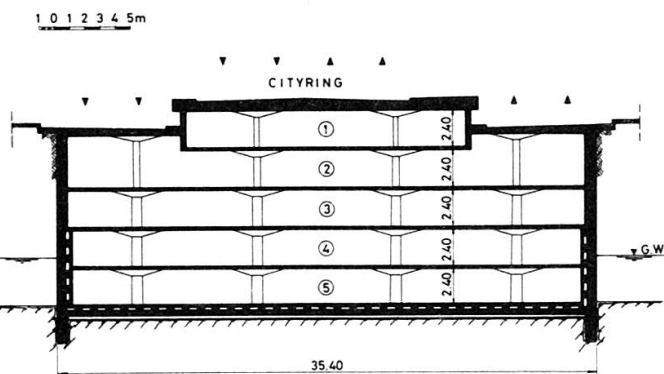
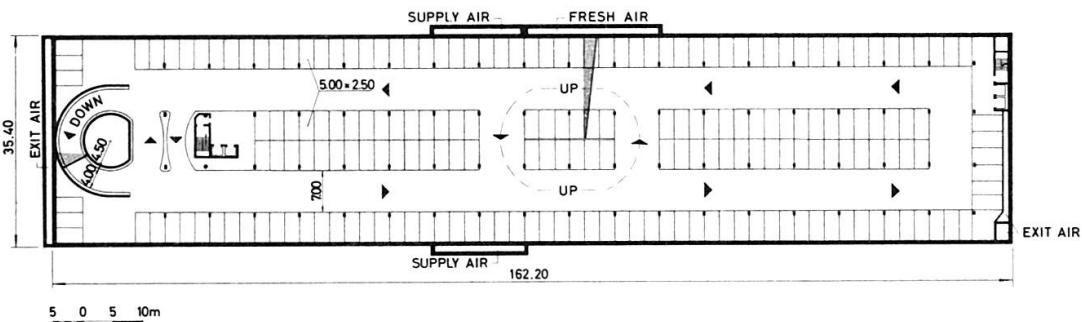
Under construction



Heuwaage Bridge with car parks  
Elisabethen and Steinen



Typical floor section



Cross sections