

A new bus station for the long-distance lines in Asti

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The bus station of the country buses of Asti is located in piazza delle Medaglie d'Oro near the railway station, it has two series of reinforced concrete platform-roofs and a triangular building for travellers.

It is an old structure that belongs to the Town Council of Asti that decided to build it in 1949 - approval 126.

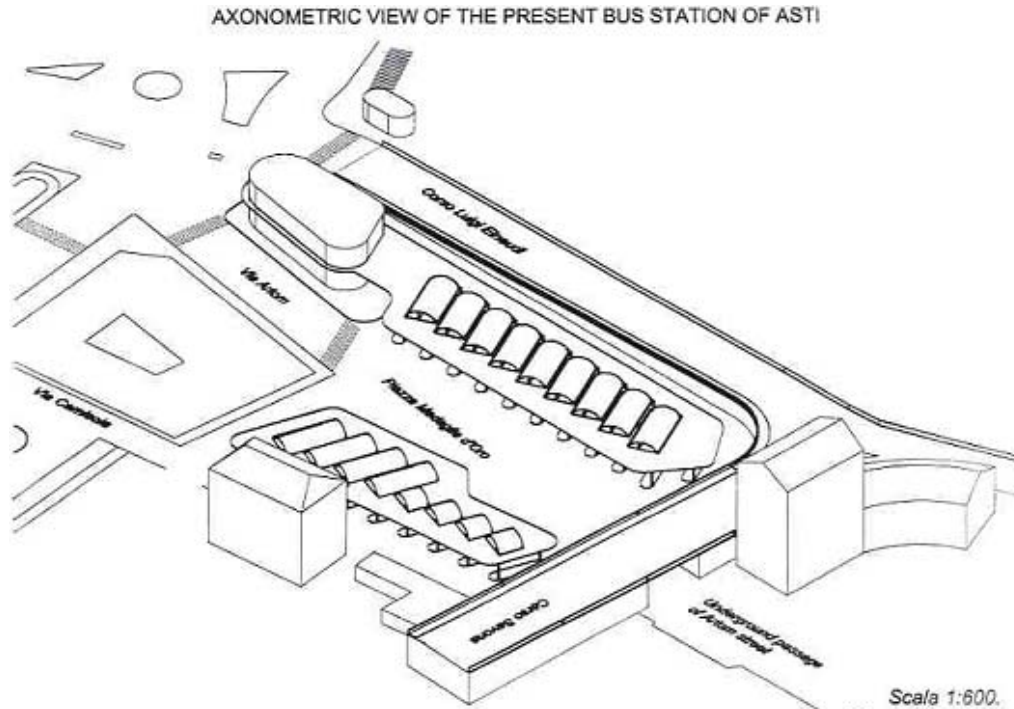
With this building the Administration wanted to offer a complete bus service to the whole province because the buses were becoming more and more important.

When the structure was finished, in spite of the first intentions, the Town Council, because of the lack of public buildings, decided to use 3/4 of the building as Duty offices only the waiting-room and the public conveniences were left for the bus station.

The structure that we see nowadays has not changed as far as the buildings and its functions because even today the building, designed for the buses (the ticket-office, the waiting-room, bar, information bureau) is, for the most part, used for public services (payment of the rubbish duty, 740 distribution) and as waiting-room although there are problems of public order.

On the contrary from a structural point of view there have been some changes above all the platform-roofs that are well visible in fact, because of the bad weather and of the lack of the routine maintenance, the covering of the waiting pavements often shows the rusty irons of the external reinforcements .

On the contrary, in spite of the flood in 1994, the building is in good condition and it is used as it was designed in 1953.



Axonometric visit of the present bus station of Asti

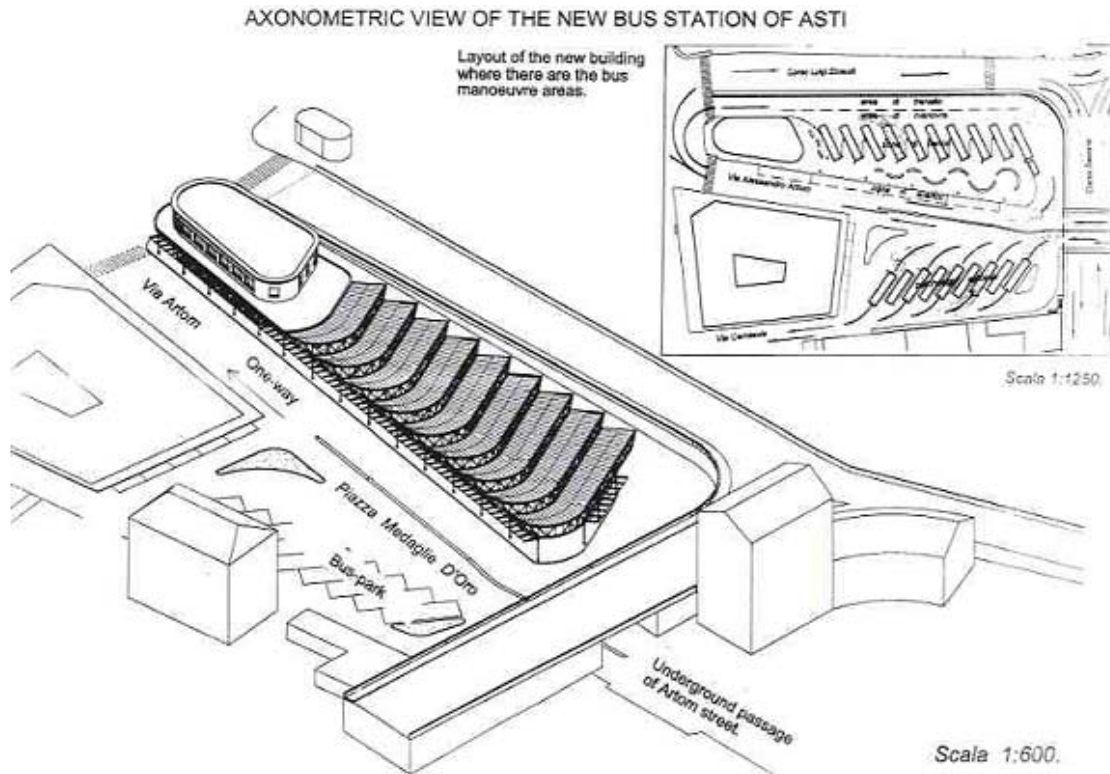
The thesis began with the aim of creating a new structure with the old travellers building that is well integrated with the other buildings repairing the covering of the pavements by a metallic structure.

First of all we tried to find all the textbooks relevant to the transportation plants, to review all the most recent bus stations reading some magazines and finding the elaborate graphics of the structure in the Property Office of the Town Council of Asti. Then we spoke with the Transport Office of the Province of Asti that, as it has been administrating the buses for many years, knows all the problems of the structure and the users number.

The most evident problem of the whole structure was the interference between the cars traffic and the buses because via Artom , that with its one-way determines the bus ride, divides piazza Medaglie d'Oro into two parts.

For this reason a change of the distribution and of the pavements use was decided (arrivals and departures), it could be done analysing the time of the bus traffic, the Provincial Plan of the Transport and the direct survey during the most chaotic days. Simultaneously the change of the number of the bus places for the arrivals and departures was done only calculating the needs - calculation made using the formulas of Matassa's textbook ("The bus station project") and with the elements of the queues theory simplified by Mr. Franco Pellerrey/the Mathematical Department of the Polytechnic of Turin.

Defined the number of the seats, their functions and the road system of the bus station, we analysed the square, the car traffic was reglemented with the creation of a traffic island and for the buses waiting for the "charge" a parking was built near it.



Axonometric visit of the new bus station of Asti

Afterwards we analysed the possible project for the covering, it was decided to replace the old platform-roofs with a metallic structure made of reinforced concrete that was able to integrate with the present building that became the most important element in this project.

The final metallic structure follows the curvature of the building and is made up of nine reticulated curved girders that increase in length with reference to the pavement below, two metres high, on steel columns each of them holding a stratum.

On the main girder in the knots the secondary girders are hinged by a special "snodo sferico", made of two U-beams jointed by chocks and reinforced by struts that make them "light".

The holding decorated plate is inserted in the U of the secondary girders, on it there will be put a filling in Lecacem that insulates the covering above all in Summer and thanks to it, the stratum is shaped like a sickle.

The impermeabilization will be assured by a copper plate that, thanks to its malleability, can have the final shape of the stratum without any problem.

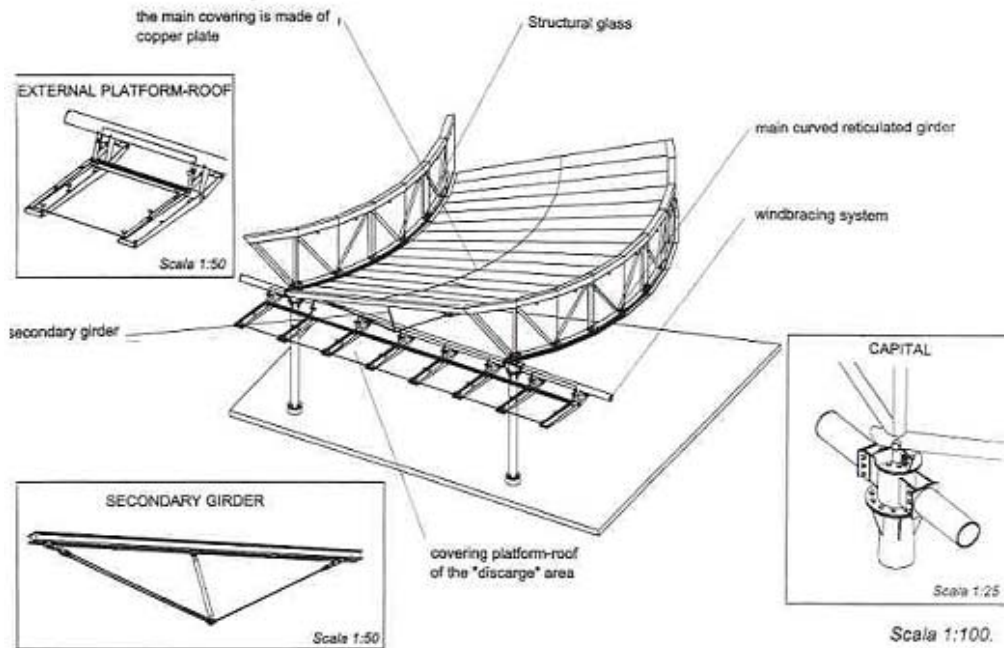
Leant against the reticulated beams, as vertical closing, some structural glass sheets have been used, with their transparency they allow to see all the structure showing the high technological aspect of the building.

The wide glass window in the East has a good exposure because sunlit only in the morning while during the day is shaded and this is very important for the comfort of the waiting passengers, furthermore it assures a good lighting to the pavement below.

For a better comfort of the passengers it has been decided to put a lowered structural glass platform-roof hung from the tubes of the windbracing that, following the main

façade of the building, joints the two buildings and in the meanwhile, thanks to its transparency, it doesn't affect the aspect of the main structure.

AXONOMETRIC VIEW OF A PART OF THE STRUCTURE



Some constructive particulars

The windbracing structure is made of tubes having a big diameter horizontally situated under the reticulated beams and that create a frameworked structure, these tubes are jointed to a special capital by a restraint joint, the capital is fixed on the top of the column and on it the main reticulated beam will be jointed.

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