

POLITECNICO DI TORINO
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Honors theses

Savigliano: a General Plan for town lighting

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The lighting of public spaces is an important issue for their use, for the appearance of cities and their architectural and design details.

The thesis aims to identify the different aspects related to this topic in the town of Savigliano, and create real guidelines for action, paying attention to sustainability and reduction of light pollution.

The General Plan for Town Lighting is a tool used in all the town areas that make laws related to lighting and formal character of the lighting. The main goals of the plan concern the safety, the environmental improvement, energy saving, urban design and decorative lighting.

Particular attention should be given to technical regulations in the field of lighting, while another main aspect is light pollution. This is produced both by the direct input of upward flux upward (equipment poorly designed, poorly constructed or poorly located) and the luminous flux (due to devices which are badly designed, built or located) and by the spread of luminous flux reflected by objects and surfaces that are enlightened more than what is necessary for their use and security. To this end, the Regional Law of Piedmont n. 31/2000 "Measures for prevention and fight against light pollution and for the correct use of energy resources", establishes the issues related to light pollution and its reduction. There are several solutions to reduce light pollution and environmental sustainability, such as the use of teleprocessing or control systems like electronic eyes and flow reducers.

The first step of the project concerns the analysis of the condition of things classifying: the region in homogeneous areas, the roads, the property and management of systems, the kind of light sources, the kind of devices with a detailed record of lights in the town areas (Figure 1), and the percentage of light dispersion towards the sky. Starting from this analysis we have identified the problems and critical situations in the area, consequently we have suggested guidelines for action.




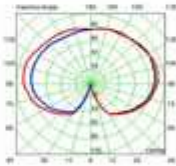
ANALYSIS OF EXISTING	Filing of luminaires	
	Owership and Management: Municipal of Savigliano	
	Card n. 58	
	Features:	
	Type of source: Mercury vapor lamp high-pressure	
	Type of armor: armor closed	
	Type of support: tested on a pole with a globe	
	Height from the road: 5,30 m	
	Available to the bright center: in public parks	
	Model: for like Neri Globe	
		
	Phot pattern of light intensities	
State of maintenance: equipment are poorly maintained		
Strengths / weaknesses: mercury vapor lamps have a strong decay of light output and color rendering is too low, the globes also produce light pollution.		
Notes: This type of device is also installed in the green car park Coop, Galimberti road.		

Figure 1 - Example of the filing of a light point on the municipal territory of Savigliano

Afterwards, we have moved to the planning step, divided into two parts:

- 1) first of all, the General Plan for Town Lighting is presented on the whole town area establishing, for each homogeneous area, directions for the choice of devices and sources, and directions for the lighting standards to meet the requirements;
- 2) then, the focus is moved on the enhancement of historical and architectural buildings in the town centre through the analysis of lights and shadows. In particular, it is created a theme-based route (Figure 2) to enhance important buildings such as churches, palaces, squares and monuments, through the correct use of lights.




INTERVENTION n.7		the facade	the interior	the sketch
Building:	Triumphal Arch			
Location:	Sant'Andrea Road			
Description:	<p>The Triumphal Arch was erected from May 9, 1585 in anticipation of the passage in July of the wedding procession of Duke Carlo Emanuele I and his wife Catherine. The original design of the Arch is the architect Giovanni Battista in Turin Ripa that he designed at the center of the city, almost like a theatrical backdrop, at the same point had already been erected a fake period in 1560 during the visit of Emanuele Filiberto. The arch was completed in August by the painter Giovanni Angelo Dolce. Underwent other transformations, at solemn events, throughout the course of the seventeenth and eighteenth centuries. In the period 1845-46 are made the cross-passage. To mark the twentieth anniversary of the Resistance, there were other interventions, but the last restoration (1997) has allowed us to make the best known and one of the most important symbols of the city and enhance the color appearance of the monument with a new look painting.</p>			
Intervention:	<p>The illumination of the arc has already been redesigned recently at an event on the famous character that gives its name to the square, Santorre of Santa Rosa. There are spotlights positioned all'inteno niches that create interesting light and shadow. The action we thought was complemented by inserting the existing floodlights at the end of time, internal beam of light from the basal upward to illuminate the paintings. In addition, the high cornice may also be equipped with projectors, no more than a couple, facing down to light the shelves that hold up but with only a decorative function.</p> <p>The projectors we imagined might be the source Siteco SiCompact R1 MINI halide metal and power of 70 watts.</p>			

Figure 3 - *Example of the filing of a building of significant historical and artistic center in the historic town of Savigliano*

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