The engineering professional use to have a tendence to pay more attention to the structural, geotechnical and constructive themes of a tunnel, by their vocation and formation and because of that kind of themes are so complexes, require a big effort amount and a lot of time. However the most important objective for a tunnel and the essential of it is the use we make, the exploitation phase and the user’s point of view. The practical aspects of the design details, that improve the functionality, the security, the aesthetic, or that make it more profitable increasing the traffic and reducing the exploitation and maintenance costs, obviously aren’t forgotten by the builder, the property,…, but all the emphasis we put over it isn’t enough.

That’s why the fundamental objective of that work is to realise a study of the security and basic management elements that we have to install or should be installed in that kind of civil works.

This study is centred on urban road tunnels, distinguished because them present greats traffic volumes and in consequence users.

The tunnel solution as alternative as an open air road is based in the way that if the project is well done an advantages succession is obtained such as the possibility of realize lines at larger planning speed (time, distance and energy saving), it’s a less aggressive solution against the environment and occuppe less space on surface (so important in urban areas).

On the other side, that solution present great costs (contruction and explotation) and imply the necessity of realize exhaustive studies about the future evolution of the traffic to make a correct tunnel sections measuring.

At users level is comfortable for saving a lot of time but in other way, is also uncomfortable because of necessity of adaptation to the new light conditions when users come into the tunnel, insecurity sensations created by the decrease of the road sections, smoke, breakdown or fire risk, etc…

Equipments and installations in tunnels have been analyzed, specially the ventilation and illumination equipments and also the security elements, in the same way have been analyzed into the diferents regulations what explain about them.

That regulations are:

- European instructions preliminary sketch.
- Spanish tunnel regulation (IOS’98).
- Technical norms complementary to the IOS’98 applied in Barcelona.
- Others norms for specific application in some european countries, there’s also a comparative table between the IOS’98 and the french norm of tunnels (that norm it’s the most complete existing nowadays at european level).

To illustrate that minor thesis and verify which is the maximum level that the guidelines marked by the norms are followed, 5 real tunnels have been studied. These tunnels are under construction or in exploitation phase:

- Vallvidrera’s tunnel, Ronda del Mig and Ronda Litoral cover (Barcelona).
- Tunnels under el Monte del Pardo into the M-40 (Madrid).
- Tunnels of the A86ouest. (Paris).

Starting from the regulations that concern each one of these tunnels for being projected and built, it has tried to find the deficits and faults in security matters, it’s also indicated the most important basal characteristics. These are also included in a comparative table (design, traffic, maxim speed, illumination, ventilation, constructive method and dangerous materials).

Finally a sequence of conclusions have been extracted, such a:

- The arousal of the users in security matters is increasing.
- Larger efforts from the organisms, exploitation societies, etc… in security matters.
- Constantly improvement experimented by the equipments and installations.
- Experiences utilized from other countries.
- There’s no unification between the different existing regulations, and nowadays are so general.

Also has been indicated future actuation ways, and ways of entry for other studies.