1. Introduction and Objectives
1.1 INTRODUCTION

A critical component in the people movement is the time needed for making the trips from and to their home surroundings. Until the second half of the XIX century, most of the individual displacements within urban environment were done by walking. Originated, among other reasons, because the cities most of the time were inscribed inside a radio of 5 to 6 kilometers around their centers.

Once the cities experienced an extension of their sizes, the Public Transport developed (by the utilization of tramways carried by horses) reaching medium commercial speeds between 7 and 15 km/h at relative moderate prices. Later, Railroad development changed the appearance of the urban centers; being in some cases developed the residential zones along the railroad lines. Now, the zones composed by railroad lines are filled, and the ground of metropolitan zones fully occupied. Unfortunately, that occupation has not being made following mobility patterns, causing high traffic congestion.

Since the endings of the XIX century, the progressive growing in the population of cities like Paris, New York, and others, plus to the traffic congestion suffered by the urban centers, forced the seeking of alternatives ways to transport people. Today, the continued growth of mobility demand, and the simultaneous increase of the private vehicles take the urban public transportation as the only maintainable solution to solve the traffic problems in most of those cities.

Urban Guided Transportation systems represent a possible solution to these traffic problems (congestion, accidents, pollution, etc.), but its implantation is expensive especially in the case of the metro and light metro when the horary volume of passenger is low. Despite that, widely accepted, the automobile is, with big difference the most inefficient transport mode.

After blood powered surface tramways, the history of the electric powered tramways, Metros and Light Metros date from the second half of the XIX century, when in 1879, Siemens started to test the fist electric traction vehicles of two kilowatts of power. The city of London was the first one to have an electrical urban railroad in February 1890. The U.S. city of Chicago, in May of 1895 and Budapest, exactly one year later were the followings cities to have these urban railroads. Other cities like Boston (1897), Vienna (1898), Paris (1900), New York (1901) and Berlin (1902) resorted to the utilization of metro too.
Since the Second World War, in 1945, two new Metro systems are put on service every year all around the world, in addition to the Tramways and Light Rail Transit Systems constructed to improve the public transport supply.

In the contemporary age, an in spite of the huge amounts that investments costs represents to the urban guided transportation, a big number of cities are incorporating metros, light metros and tramways into their transport networks.

1.2 Objectives

The main objective of this research is, through an evaluation of the different economical, financial, social and environmental parameters that must be considered to implement an urban transport project, to elaborate a list of benchmarks capable of allowing the determination of the feasibility of a certain project once knowing the information provided by the promoter.

To make this work, it is necessary to analyze projects financed before, in order to establish acceptable ranges of values and comparative ratios of the relevant variables of projects, and afterwards to locate the situation of a new project in relation to those considered acceptable in the past.

Once those ranges of values and the comparative ratios being established, it will be possible to classify the economic and operational performance of a new project. In summary, the main objective is to elaborate a Decision Support System (DSS) capable of displaying the status of these indicators, in the field of Metros and Light Rail Transit projects.

This DSS represents a tool conceived with the idea of determining both analytically and graphically, the acceptability of a certain project for it financing.