

Computación y Estructuras Discretas I

Enunciado del proyecto – Tarea Integradora II

In the city of Cali, the Integrated Mass Transportation System of the West (Transporte Masivo de Occidente, MIO) is widely used by the population, covering 93% of the supply and mobilizing approximately 490 thousand passengers per year. The MIO has a variety of buses, including articulated, standard and complementary, which circulate through trunk, pre-trunk and complementary corridors, covering trunk, pre-trunk and feeder routes. These routes are organized in 9 pre-established zones, numbered from 0 to 8, which extend throughout the city.

Given the high level of use and the importance of MIO as a means of transport for Cali residents, there is a need to find an efficient solution to get from one station to another without having to make unnecessary journeys. In this sense, it seeks to determine the shortest path between two MIO stations, considering the structure of the routes and the pre-established areas.

The main goal is to minimize the distance traveled, resulting in shorter travel time for users. Therefore, it is required to develop a system or algorithm that is able to identify the optimal path between two stations, taking into account the organization of the routes in the MIO and the different areas of the city. Also, to be able to give the user a list of routes in which he can travel from one station to another so that he has the possibility to choose a route without necessarily being the fastest.