As the number of electric vehicles grows, so does the need to create a suitable network of charging stations. A solution of this problem can be significantly improved by the usage of suitable optimization techniques. We implement a simplified traffic simulator serving as a suitable tool for their analysis. We also analyze optimization techniques using the so-called greedy algorithm, genetic algorithm and k-means algorithm. Based on the experiments, the optimizations using the genetic algorithm and the greedy algorithm showed noticeably better results. The k-means method did not show signs of results better than a random approach.