Finding the optimal scheduling of rescue service teams and vehicles is a fundamental problem for any emergency service. An emergency service, with optimal scheduling, should be able to successfully handle as many incidents as possible for the least cost within a given time period, for example, one day. This thesis discusses methods to successfully find such optimal scheduling. The found methods are applied and investigated on a specific case study, the Prague Emergency Service. The methods are then compared with each other and finally, it is evaluated which methods can find the best emergency service plan and are thus the most suitable for practical use.