The present work aims to evaluate the winter road maintenance resources and the methods used in reference countries to support and develop the resources and methods used by the EP in the district of Bragança, through a cost/benefit analysis of investment in Road winter maintenance or closing roads.

A bibliographic was conducted in order to search and compare the winter road maintenance resources and methods used in reference countries. Through personal knowledge and EP data, we performed a case study centered on the winter road maintenance in the district of Bragança, based on Marshal Theory of supply and demand.

The objectives are common to all road operators. First, road traffic conditions are kept to ensure circulation on the roads and the safety of users, giving preference to main itineraries roads, ensuring the highest level of service on de highways, with specific levels according to the variety of the roads. Another goal is the road users information, using roads signs and agreements with radio stations and newspapers, in order to inform the status of the roads.

The most ambitious goals are providing the reestablishment of services in the main roads connections as soon as possible.

The case study resulted from an analysis of a section of the main itinerary road IP4 in the district of Bragança, where it was possible to quantify the variables provided for the micro-economic analysis. In the present case, collected data includes the number of vehicles, flow rates and travel duration, in order to analyze and manage snowplowing and spreading salt.

The hypothesis were: to keep or to close the IP4 between the nó sul (Bragança) (A) and the nó oeste (Vinhais) (B), open to the traffic safely after the cost/benefit analysis. This analysis confirmed that snowplow and spreading salt reflects an increase of social benefit on the road users.

For future studies, we proposed to identify details and quantify the costs and benefits involved in winter road maintenance, in order to determine the sustainability of the business road operators.