- the existence of *economies of network density* is confirmed by many works.[11] The average costs are decreasing at the growing of the output, given the network size;
- the sector benefits of significant *economies of use intensity*.[12] This fact reveals the existence of excess capacity regarding the intermediate output (potential for trips).

As regards the analysis of the elasticity of substitution between productive factors (usually identified with fuel, labor, capital and maintenance), it emerges that[13]:

- the production technology can be substantially defined as a quasi-fixed coefficients technology, given the small values of the substitution elasticity;
- labor and capital turn out to be complementary inputs;
- labor and fuel are instead substitutes, even if the substitutability degree appears to be very low;
- between capital and maintenance too there is substitutability, more marked than in the previous case.

Moreover, on the basis of substitution elasticity, one can directly estimate the values of the own- and cross- price elasticity of the input demands. The evidence indicate a demand for the productive factors that is substantially inelastic to own price and very low values for the cross-elasticity.

3.2. Italian findings

As far as Italian studies are concerned, the few articles published in recent years are summarized in Table 2, with their main characteristics and results.

All listed contributions adopt the flexible translog cost function and focus on the bus service.[14] Only one of these studies (Fazioli, Filippini and Prioni, 1993) chose to analyze the productive structure in terms of total costs, while the other two (Fabbri, 1998 and Levaggi, 1994) considered a variable cost model more appropriate. The strict dependence on the government grants-in-aid program suggested to treat the capital stock[15] as fixed in the short run.[16]

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[11] Among the others, refer to Windle (1988), Filippini, Maggi and Prioni (1992), Matas and Raymond (1998), Gagnepain (1998).

[12] This is another concept of density economies which is very recurrent in the transportation literature that uses the final output (e.g. passenger-kilometers) oriented specification of the production function. With it one means the reduction of unitary per passenger cost deriving from the increase of served users on a given transit system. Some examples in literature are found in the works of Berechman (1983), Button and O'Donnel (1985), Caves and Christensen (1988), Windle (1988).

[13] See the studies mentioned in the previous notes and Fabbri (1998).

[14] Indeed, this transit mode accounts for over 80 per cent of LPT services in terms of supplied seat-kilometers. To this regard, see previous section (2.1).

[15] Defined as the number of buses in operation owned by a company in Fazioli et al. (1993) and Levaggi (1994), and the average number of buses owned by a company weighted by the average age of the