

# Transport Economics

Instructors:

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Master in Economics.  
University of Valencia

**Summary:**

The subject of Transport Economics has as main objective to study the transport sector from an economic point of view. To do this, we will employ the instruments supplied by the economic analysis using the theoretical analysis and empirical approaches. Specifically we will analyze the typical issues in transport economics: production and costs in the transport, the analysis of the demand, transport pricing and externalities, investment decisions in transport, and the economic regulation in transport markets.

**Results:**

- To know the features of the transport sector and to have the skills to make decisions in the transport sector from an economic point of view.
- To learn the appropriate theoretical and empirical instruments needed to know the transport sector.

**Methodology:**

Students are expected to attend all lectures and practical sessions. Additionally, students must devote a considerable amount of time to personal study, as well as to working out the problem sets that will be distributed. Solutions to the problem sets as well as some extensions will be discussed.

**Grading:**

The subject is shared with an external professor (to be determined) who will teach a 20% of the subject.

Problems and reading sets: 3 points

Final exam: 7 points

**Syllabus****Chapter 0. Introduction**

- The importance of transport sector in the economy.
- Economic features of transport.

De Rus et al, cap. 1

Button, cap. 1 and 2;

## **Chapter 1. Production in transport**

- Definition of outputs and inputs in transport
- Partial indexes of productivity
- Econometric approaches to measure productivity and efficiency
- Non-econometric approaches: DEA.

De Rus et al, cap. 2.

Button, cap 3

## **Chapter 2. Transport Costs**

- Definition of transport costs: producer, user and externalities
- Producer costs:
  - o Optimal capacity, returns to scale and capacity restrictions.
  - o Multioutput feature in transport
  - o Approaches to characterize transport costs.
- User costs: the congestion.

De Rus et al, cap 3

Button, cap 5

Small and Verhoef, cap 3

## **Chapter 3. Transport demand**

- Approaches to characterize transport demand (aggregate versus individual analysis)
- The concepts of generalized cost and value of time
- Transport demand and forecasting.

De Rus et al, cap 4

Small and Verhoef, cap 4

Button, cap 7 and 8

## **Chapter 4. Transport pricing**

- First best pricing: “pros” and “cons”
- Second best pricing: systems of price discrimination, Ramsey-pricing or cross-subsidies.
- Pricing under capacity restrictions and external costs (congestion and Möhring effect)

De Rus et al, cap 5

Small and Verhoef, cap 5

Button, cap 11 and 12

### **Chapter 5. Externalities**

- Definition and types of externalities
- Environmental externalities
- Safety externalities

De Rus et al, cap 8

Button, cap 6 and 8

Small and Verhoef, cap 5

### **Chapter 6. Investment in transport infrastructures**

- Introduction to the Cost-Benefit Analysis
- Decision criteria
- Equity and uncertainty in the CBA.

De Rus et al, cap 7

Small and Verhoef, cap 5

Button, cap 11 and 12

### **Chapter 7. Economic regulation in transport**

- Regulation for technological reasons.
- Regulation for social interest or externalities
- Different regulatory mechanisms:
  - o Limits on firms' profitability
  - o Limits on prices or quality

De Rus et al, cap 6

Button, cap 14

Small and Verhoef, cap 6

## **Chapter 8. Market structures in transport**

- Monopoly versus competitive markets
- Policies to favor competition in transport market
- Examples of transport modes: rail, air, bus and car markets.

De Rus et al, cap 9

Small and Verhoef, cap 6

## **Chapter 9. Transport and urban economics**

- The household's location and transport demand
- Transport and the spatial development of urban areas.
- A case study: Does improving public transport decrease car ownership?

McCarthy, (2001), cap. 12

Mulalic, I. et al (2015)

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Kuminoff, N.V., V.K. Smith and C. Timmins (2013). "The new economics of equilibrium sorting and policy evaluation using housing markets". *Journal of Economic Literature*, 51(4), pp. 1007-1064.

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Seabright, P. (2003) *The Economics of Passenger Rail Transport: A Survey, IDEI Report # 1, Institute d'Economie Industrielle*

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Talley, W. K. (2009). "Port economics". Routledge.

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