



**2011 Edition**

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**Rapid Revision Handbook**

- ☑ Step by step guide to key concepts
- ☑ Question and Answer format
- ☑ Glossary

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### What are the values of road traffic-related demand elasticities?

Glaister and Graham (2000) estimate that petrol consumption and car traffic is highly price inelastic, especially in the short run. The impact of government action to reduce traffic through fuel price rises is reduced.

Variable	With respect to	Short run
Petrol consumption	Petrol price	-0.3
Car traffic	Petrol price	-0.15
Petrol consumption	Income	0.35 to 0.55
Car traffic	Income	

**How can transport operators make use of YED?** Firms and government use income elasticity (YED) estimates to predict impact on demand and revenues of

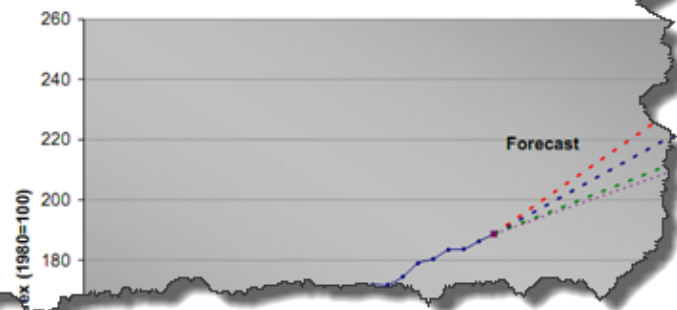
### Why is predict and build a discredited method of transport policy. Building new expected future demand

- assumes future levels of demand can be forecast accurately
- ignores allocative efficiency, environmental and sustainability issues

### How are traffic forecasts made?

By collecting and extrapolating (projecting) historic data

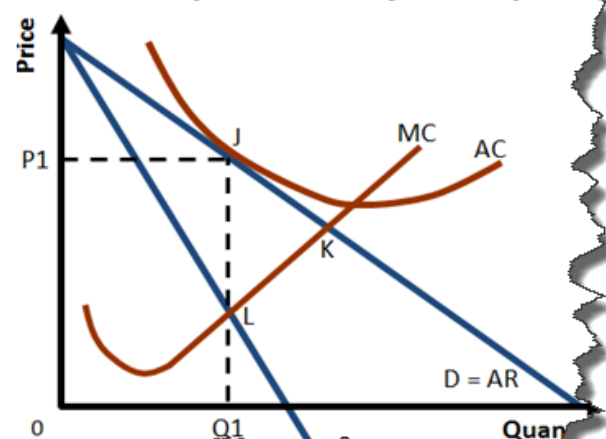
**Explain extrapolation.** The DfT make predictions of expected future conditions by *extrapolation*.



**Use a graph to monopolistic competition.** Given few barriers to entry or exit monopolistically competitive firms earn normal profits in the long run. Price exceeds marginal cost, allocative efficiency is not achieved. The area of deadweight loss to society is JKL

**How do monopolistically competitive firms compete?** Firms use non-price competition strategies eg using product design, customer service, branding, and advertising to differentiate

**Examples of monopolistically competitive transport markets.** Local taxi services have few barriers to entry and are highly competitive.



**What is game theory?** Game theory is used to analyse and predict the behaviour of interdependent oligopolists that have incomplete information about each other's intentions.

**Use game theory to explain the behaviour of oligopolists.** The *payoff matrix* opposite summarises the impact on two firm's profit of a pricing decision: firm A top left hand figure in green and firm B bottom right in yellow

Payoff matrix		Firm B			
		High Price (P)		Low Price	
Firm A	High P	£25m		-£35m	
	Low P	£15m		£0	
			£25m		£15m
			-£35m		£0

The profit outcome for each firm depends on the response of their rival.

If both collude to set a high price each makes profits of £25m. Both setting low price means both

**How do economists judge the performance of transport operators?** Evaluation of performance requires the identification and monitoring of indicators.

Performance criteria	Evidence
Economic efficiency	Improved <i>allocative efficiency</i> : price is nearer marginal cost. Reduced <i>x-inefficiency</i> . Improved productive efficiency: Long run average costs are minimised
Profits	Firms are earning normal profits
Prices	Lower fares
Demand	Increased passenger numbers or freight carried
Loading	More capacity utilised in a journey
Competitiveness	Falling concentration ratio or more contestability in an industry
Quality	Improved reliability, punctuality, service numbers and frequency; less overcrowding
Safety	Fewer accidents per billion passenger kilometres
Subsidies	Reduced state spending on subsidies for loss making essential services
Investment	Increased net investment
Equity	Social exclusion reduced

**What is sustainable development?** Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs<sup>xii</sup>.

**How does transport threaten sustainability?** Almost all modes of transport have damaging effects eg exhaust emissions that lead to poor air quality, acid rain and global warming. Transport accounts for around 25% of the man-made greenhouse gas emissions from the UK.<sup>xiii</sup>

**List sustainable modes of transport.** Cycling and walking have the least negative impact on the environment. Public transport eg trains; trams and buses carry passengers who may otherwise have travelled by cars reducing congestion noise and pollution from road transport.

**Is air travel unsustainable?** Demand for air travel is growing. Aviation generates negative externalities in the form of noise and air pollution and contributions to climate change. UK London airports are working at full capacity, prompting govt to consider building new runways.

**Are all flights equally polluting?** Planes burn most fuel during take-off. Therefore short flights are disproportionately polluting.