-Higher incentive to lower cost:

- More x-efficient. .
- Allows private sector firm to lower the price and increase their consumer surplus (higher allocative efficiency).

3. Natural monopolies:

-Improving production techniques lowers your average cost (economies of scale):

They can therefore charge a lower price.

-Low duplication of resources.

Problems of privatisation:

1. No impact on competitiveness:

-Public sector monopolies become private sector monopolies.

2. Transport essential service:

-Transport is part of fundamental economic and social well-being.

3. Lower concern for environment:

-Private companies do not tend to care about the environment and negative externalities.

4. Profit maximising motive:

-If it is a service the private company may not concentrate on improving the service, but only producing short term supernormal profits, rather than long term investment. 5. Higher prices:

- Benefits the economy still (more allocatively efficient).

Privatization of rail industry:

-In 1946 the UK rail industry was nationalized and operated by a public corporation called British Rail

-In 1996 Rail Industry was privatized and split into four sections:

- 1. Infrastructure
- 2. Passenger Operations (TOCs)
- 3. Freight operations
- 4. Rolling Stock Companies (own trains)

-Train Operating Companies are firms with a time limited franchise (usually 8 years) awarded by the Department of Transport to operate passenger train services (done by bidding).

Evaluation of UK Transport Industries 1. Buses:

2. Place a monetary value on each cost and benefit:

- Using normal market prices or shadow prices to value externalities.
- 3. Take account of the timing of costs and benefits:
- Costs and benefits of a project last many years (difficult to measure).
- 4. Take account future risk and uncertainty:
 - Best and worst case scenarios.
- 5. Establishing the net present value:
 - This involves adding up the benefits and deducting costs.
 - If benefits exceed costs net benefits are positive and the the project is worth • undertaking (governments may have low budgets).

Benefits:

-A clear/easy to use:

NPV (Net Present Value) and BCR (Benefit Cost Ratio) present the results of CBA in monetary value (a number).

-Used universally:

Allows comparisons. ٠

Challenges:

-Identify:

Which costs and benefits are best included or left out. •

-Value:

Lost time and loss of life has no market price. •

-Predict:

• How accurate is input data?

-Projects usually create 'winners and losers'

tesale.co.uk Quinly on the madvantaged while the Society may gain but what is costs to benefits are enjoyed by no rivleged (inequity).

How to calculate it:

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-Value turns into a Present Value
                                           scount factor (what could change):
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$$NPV = \mathring{a}PV(B) - \mathring{a}PV(C)$$
$$BCR = \frac{\mathring{a}PV(B)}{\mathring{a}PV(C)}$$

Comparing NPV and BCR:

-Although both show a cohesive representation, they should not be look at separately but rather together looking at the ratio and the total left over benefit received, if there is any at all.

-When NPV is positive it is done, when BCR has a ratio of more than 1 the project should go ahead usually except when e.g. the area is a natural habitat.

COBA

COBA: compares the costs and benefits of a project so that the government can decide whether to go forward or not with the project for road building. Total benefit split into 3 main components:

-Time savings.

-Accident cost savings.

-Vehicle operating cost savings:

- Direct cost to road users of fuel cost savings.
- Saving through there being less damage on moving parts such as brake. •

Two main cost components:

-Capital costs:

- Early phase of any major road project.
- Include construction costs, land purchase, design costs etc.

-Maintenance costs:

• Annual costs to cover the cpsts of lighting, cleaning and routine resurfacing work.

User costs:

-Represent the actual user benefits of constructing a new road scheme.

Disadvantages:

-Difficult to understand COBA model:

• Limits ability of the public to participate fully when there are public inquiries into new road schemes.

-Does not recognise all benefits and costs involved:

- User-based method of appraisal
- Does not seek to put a monetary value on the external or indirect costs and benefits involved.

-Environmental effects not adequately addressed:

Problem of putting a monetary value on environmental costs. CO uK alue judgements need to be made:
Value of time is difficult to be measured to be measur -Value judgements need to be made:

- -Only applies to roads:
 - is to all forms of transpo • A method needed that a p

-Can be long and expensive

Obtaining monetary values to the external costs

Methods:

1. Compensation:

-The cost to repair damage done as a result of an accident.

2. Accident costs:

-Loss of output that the person would have produced if they had lived.

-Monetary valuation of the police time used at the scene of the accident.

-A value for the cost imposed upon the NHS.

- 3. Congestion costs:
- -How many working hours a year are lost due to road congestion:

Multiplying this by the average hourly wage. •

4. Relative external benefits:

-Multiplier effects.

-Environmental benefits of e.g. greater bus/train use.

5. Simple price comparisons:

-Used to see the decline in value as an external cost.

Evaluation:

1. Attaching values to uncertainties:

	-Takes low amount of freight compared to ships.
Ships	-Can take a large amount of freight compared to trucks, so less CO ₂
	and renewable resources per unit of freight carried (large capacity).
	-Reduce congestion.

Sustainable modes of transport:

-Bus/train/low emission airplane passenger transport is sustainable:

- Mass transit nature, allows them to exhibit much lower externalities than cars.
- Less market failure arising from negative externalities.
- Higher allocative efficiency.

-Freight by rail/larger vehicles:

- Reduce emissions per output.
- Lower negative externalities.
- More efficient allocation of scarce resources. •

Unsustainable modes of transport:

-Car use:

- High congestion.
- Too many scarce resources used, so over-consumption of cars (negative externality).

-Air flights:

Passengers will not take in to account the full social cost of their actions and will therefore overconsume (negative externaility).
 <u>Road Pricing</u>
 <u>Aims:</u>
 Increase the private cost of dar Obscourage driving)

- ple to use buses and trains (mass transport). Incentivision
- coers che ative extern (introvise external cost):
 - CO_2 .
 - Urban congestion.
 - Noise.
 - Stress.
 - Accidents.

-Potential hypothecation:

Hypothecation: a situation where revenue from a tax is directly allocated to some other purpose.

- Used for the improvement of public transport. •
- Lower fares and higher quality of services encourage shift from car to • buses and trains.

-Forms of road pricing include road user charging and congestion charging.

Road user charging: a form of road pricing where a flat-rate charge is made for the use of stretch of road or access into a designated charging zone.

Congestion charging: a direct charge for access to designated urban zone where the main purpose of the charge is to reduce congestion.



At Joffpeak MSC=MSB=MPB.

After $J_{capacity}$ the MSC and MPC curves become more inelastic as there is a higher necessity to use the transport and there are less substitutes.

Less than $J_{Capacity}$ is where off-peak is and more than that is where peak is. At J_{peak} the MPC<MSC, so too many scarce resources are being used (negative externality).

MSC = MPC + MEC.

Disadvantages:

-Difficult to measure external cost so difficult to set road pricing:

- If too low it will have little impact on supply/demand.
- If too high they may have too much of an impact on supply/demand.

-Possible displacement on to smaller roads, which are not covered by road pricing:

• Congestion moved elsewhere.

-Burden of taxation falls more heavily on lov in un edivers:

- Regressive taxation (Individum & small ousinesses)
- -Hypothecatopn may involve a intellag before any eduction in car use occurs.
- -Is charging a one fire good' fair?

-High set problems, so there is a signate ont opportunity ccost to the government of introducing such schemes.

Depends on:

-PED:

• If inelastic, road pricing will have a very small impact on their demand. -PES:

• If inelastic, road pricing will have a very small impact on their supply unless set at a very high level.

-XED:

- Road price is only effective if there is a close substitute (high XED).
- Without this people will not switch to other modes of transport.

London Congestion Charge:

-Not the first city to adapt congestion.

-Stated aim: to encourage people to use greener modes of transport.

-Started 2003.

-2004: traffic cut by 18%, delays decreased by 30%.

-London's bus service had improved dramatically:

• 29000 more people using service.

-Trains/tubes had a 10% increase in passengers.

70% of people were against the charge in 2006, now in 2011 70% were in favour.

-No significant increase in congestion on non-charged routes.

-Most of the revenue is being used to support enhancements to roads outside congestion charge zone:

• Very important for acceptance by people of Stockholm.

Possible Alternatives to Road Pricing

1. Rationing road use:

-Alternate plate driving days:

Cars allowed to be used every other day depending on last digit of their • license no.

-Athens tried it but car ownership actually went up:

Drivers bought 2nd-hand cars with different plates so they could drive evervdav.

Advantages:

-Simple to implement.

Disadvantages:

-Very inconvenient to people in a rush/emergency.

-Must have close substitutes otherwise people won't be able to get to work, make deliveries etc.:

- -Simple with lo large set-up costs. -Easy to control/monitor (don't (sub licenses). Disadvantages: -Is it fair? -Ekenomic Impacts: Young people in rural -mobility

3. Increase in fuel price:

Advantages:

-Polluter pays.

-Easy to implement.

-Generates revenue.

-Disincentive to drive (encourages modal shift of transport).

Disadvantages:

-Regressive tax (high effect on passengers and small businesses).

- -Price of fuel very high.
- -Have no viable substitute so it is unfair.

4. Traffic management:

-Dedicated lanes for high-occupancy vehicles will decrease journey time.

-Improvements of existing roads e.g. widening of roads to increase capacity.

Disadvantages:

-Expensive.

Private Finance Initiatives

-PFI encourages a private investor to manage, build and finance the operation of public transport.

e.g. Crossrail - Bombardier

How it works?

-Government offers the contract and takes bids.

-Contract: construction. services and maintenance.

-Government pays back costs over time.

Why we do it?

-Efficient.

-Higher incentive to be dynamic and therefore better and cheaper.

-May not paid until delivered and complete (depends on contract).

-Benefits of investment, as some projects may not be done without it. It transfers risk away from the taxpayer.

Disadvantages:

-Government vs private debt:

Filvate debt over 3% more expensive.
Contracts can be complex, are inflexible and are very costly to change.
Who wins?
The government hold the risk and companies of the money.

It depends on:
How much they need to be the berrow.

-now much they need to borrow. -If the government can be "disciplined wholly public procurement" then the premium do so it have to be paid and here one public provision would be better: If they are disciplined they would pay less due to lower interest rates.

Example of PFI breakdown:

Crossrail:

• Bombardier initially won the contract to supply the trains but it was 'sacked'.

Government issues on deciding who to provide transport:

-Workers less or more motivated.

- -Objectives of a firm:
 - Profit maximization or service provision.
- -Efficiency:
 - Profit maximizing vs. x-inefficiency.
- -Market failure vs. Government failure.
- -PFI:
 - Less or more opportunity cost.

-Economies of scale of government vs. Private Natural Monopoly.

Objectives of transport policy in the UK Overall objective: