

Road Pricing

The answer to life the universe and everything

The logo for Volterra, featuring the word "Volterra" in white text on a blue rectangular background. To the left of the text is a stylized graphic of three overlapping, curved lines in shades of blue, resembling a stylized 'V' or a series of hills.

Volterra

Structure

1 Introduction – UK roads - where we are now?

- Operational efficiency
- How are roads currently funded/financed?
- Congestion & other external costs

2 Road Pricing

- Opportunities – efficiency, environment, revenues
- Changing driver behaviour
- Barriers - Public opinion, technology, privacy, weak politicians (?)

3 Pricing For Prosperity

- A proposal which can overcome all the barriers?

4 Conclusions

Introduction

How well do our roads work?

- The last 50 years saw a 400% increase in road usage and a 30% increase in capacity, congestion & unreliability have increased
- Fuel taxes are declining and congestion costs rising, HMT worried
- Price signals to drivers are ineffective
- UK has significantly higher road congestion than other European countries



The financial situation

Roads are funded by

1. Vehicle Exercise Duty (VED)

- **Paid once a year. The value is determined by the amount of Co2 your type of car emits.**
- **Generates c. £6bn a year**

2. Fuel tax

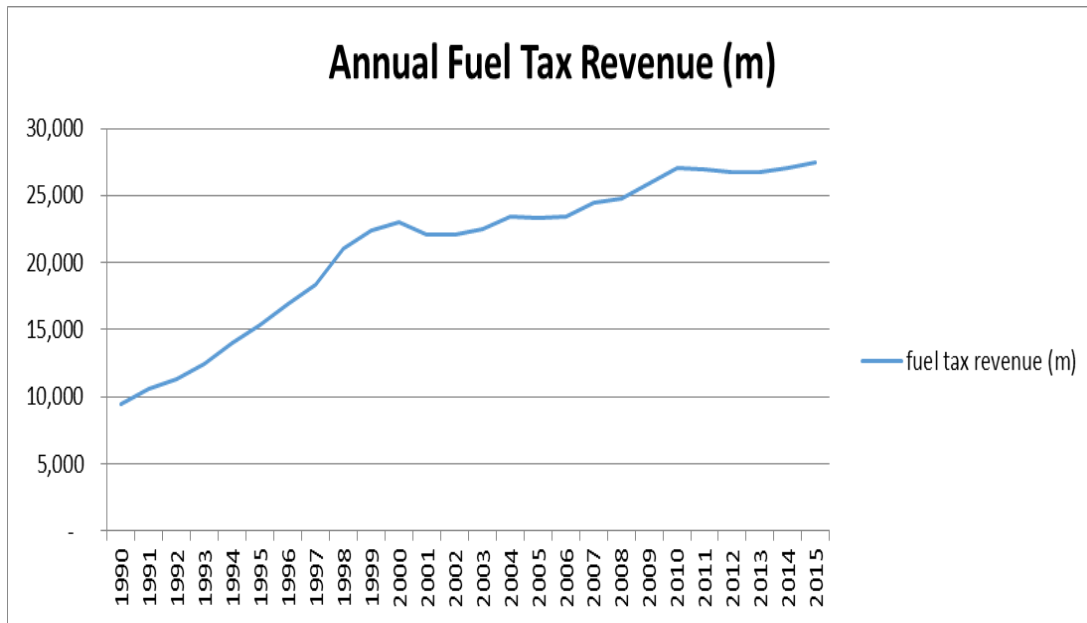
- **Tax on fuel, approximately 60p a litre.**
- **Generates c. £27bn a year**

Total spending on roads £6-7Bn

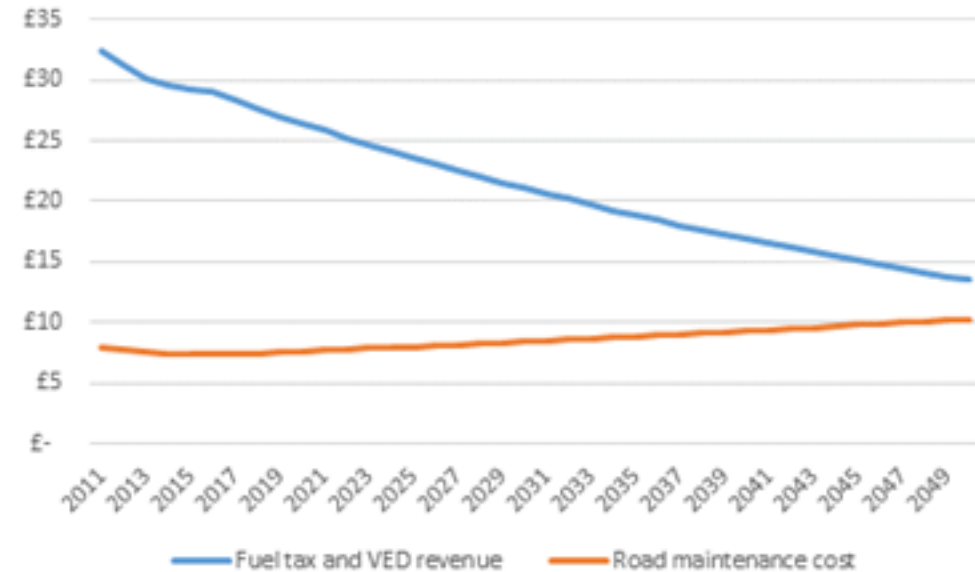


Future Decline

Cars are becoming more fuel efficient every year, electric vehicles increasing market share



HMT Revenues and highway maintenance costs (£bn)



This implies a significant net tax loss to government!

Where are we now?

Despite paying a v large financial surplus to HMT roads lack capital investment and funding for maintenance of local roads.

There is strong local opposition to new road building, pretty much impossible to build our way out of congestion

Roads create significant external costs:

- **Safety**
- **Emissions/air quality, noise,**
- **Congestion**
- **Road maintenance and operations**

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How can we manage roads better?

- 1. Raise fuel tax**
- 2. Ration car use**
- 3. Pricing Parking**
- 4. Increase road building**
- 5. Technological change**
- 6. Road Pricing**

Road pricing is any system that directly charges motorists for the use of a road or network of roads

Road Pricing

Not New!

- Existed in England in the early 18th and 19th century
- Charged more for carriages which did higher damage to the road
- Many countries charge for motorway use
- We now have the need, the technology and the financial incentives to make RP happen

Why do we need road pricing?

Because the cost signals to drivers don't work!

- **Fixed costs** – VED, insurance, MOT, depreciation have no impact on behaviour
- **Marginal/Average costs** – fuel, parking, tolls/charges. Of those the biggest cost (fuel) is more average than marginal cost
- **External costs** – can be v large, pollution, congestion, health etc but not reflected in driver perceptions

The Pricing for Prosperity charge

The price for prosperity

A pricing system made up of three separate charges:

Congestion charge

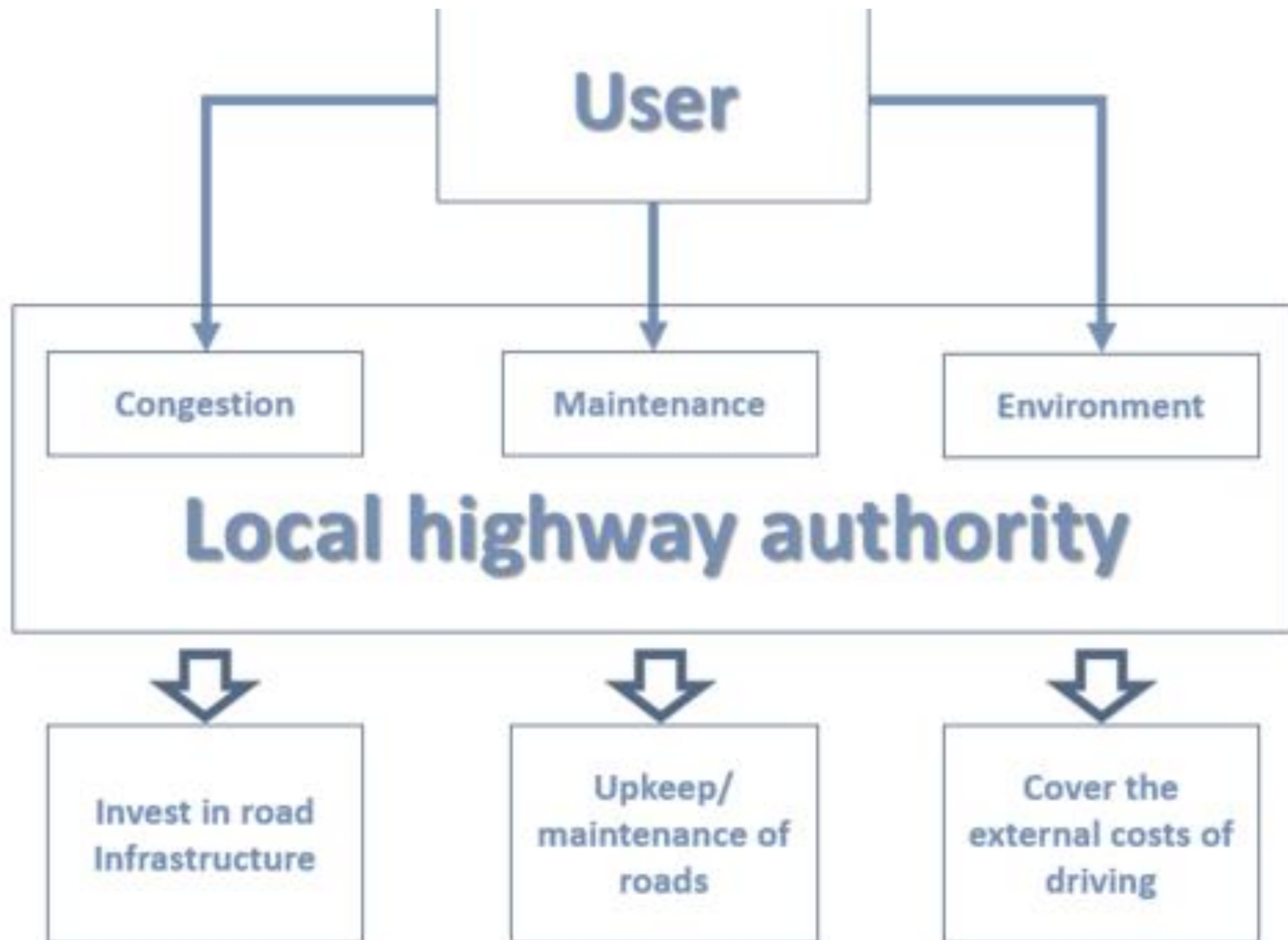
- **A charge which varies depending on the level of congestion along the road**

Maintenance charge

- **An average cost per vehicle km. Varies by vehicle type/weight.**

Mitigation charge

- **Varies by vehicle type, location and time.**








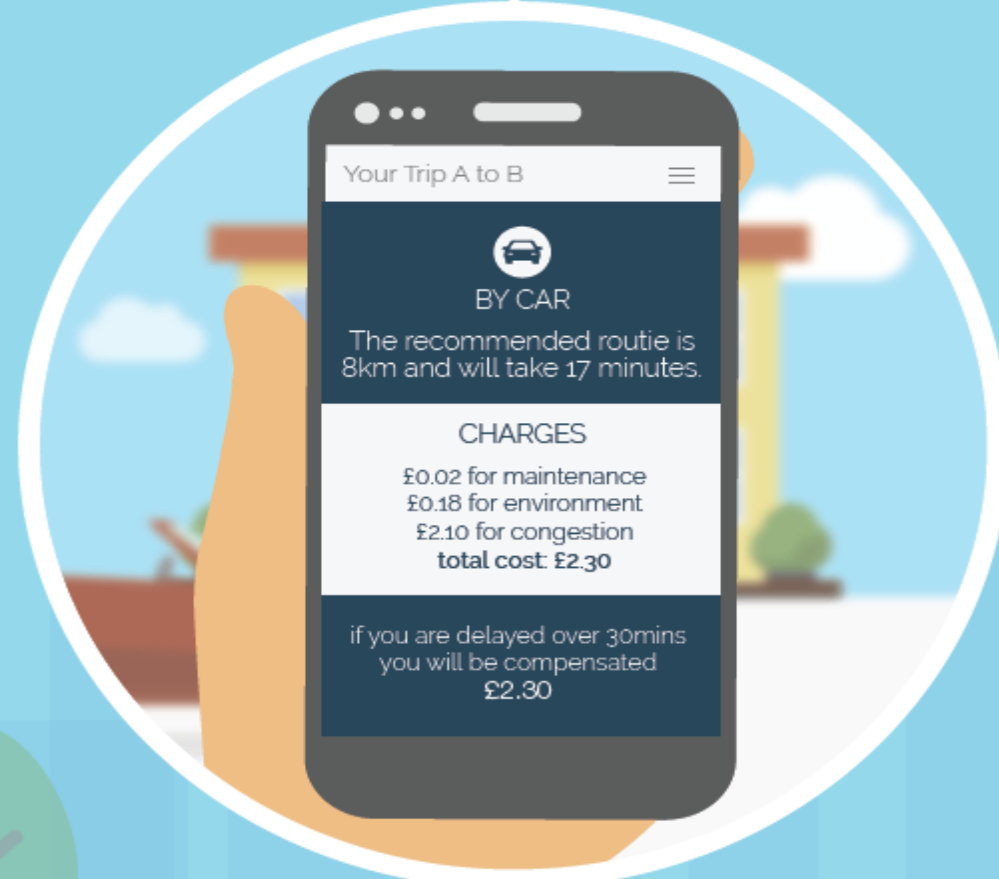
I need to go check on my elderly mum in her town centre care home



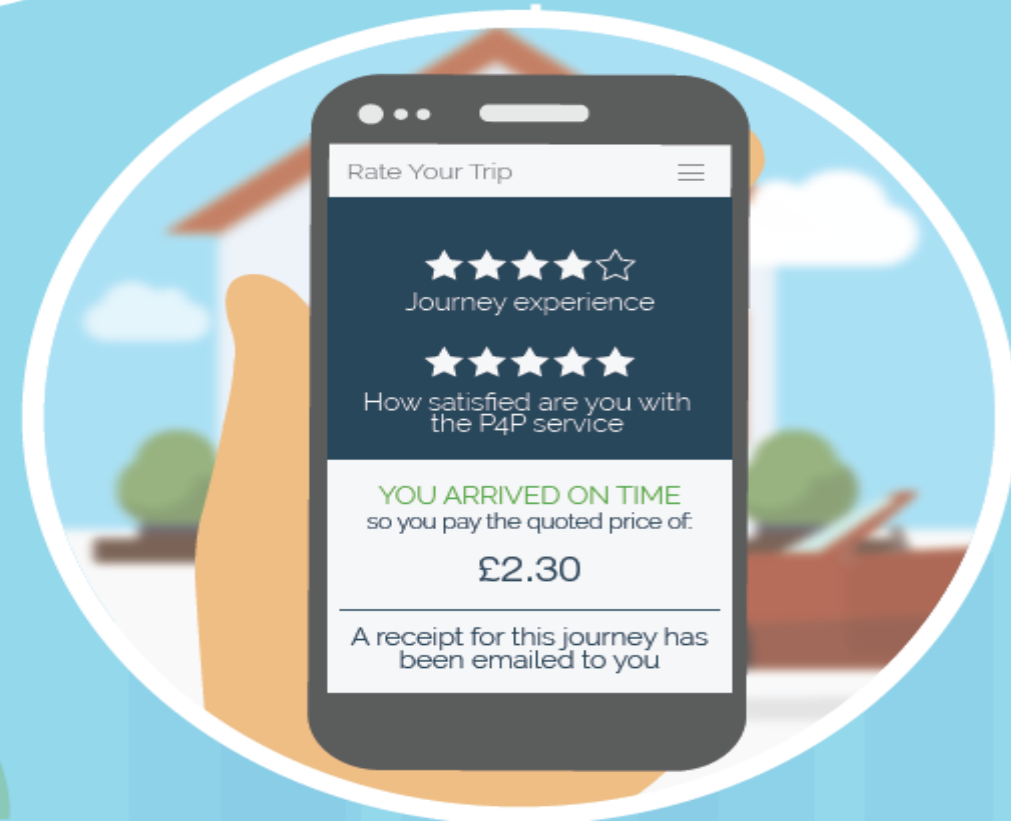
I need to get there by 6.30pm and carry some stuff with me so I will drive, despite the traffic



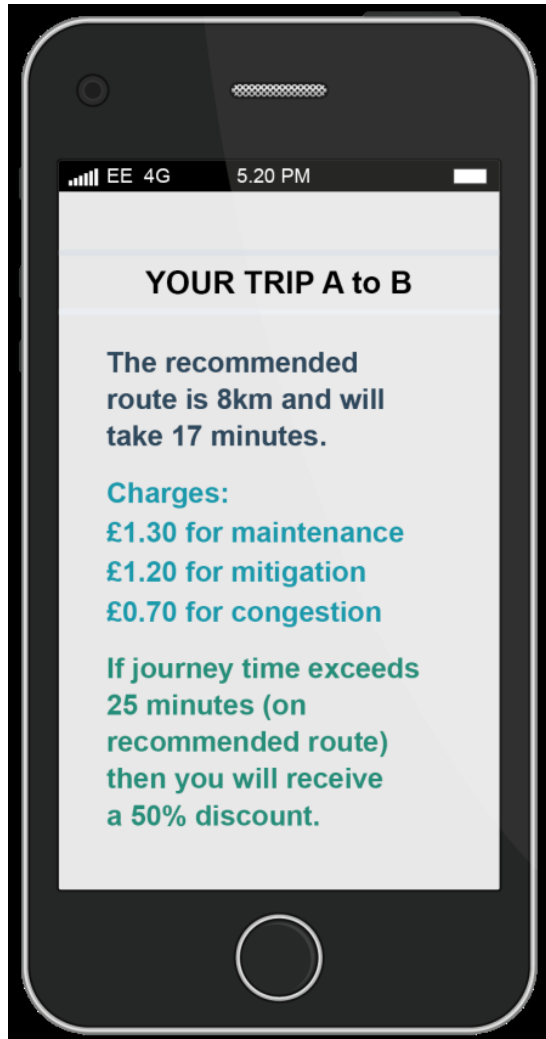
Available Options	
 BY CAR	£2.30 17 min
 BY TRANSIT	£1.50 25 min
 BY CYCLE	FREE 22 min



Your Trip A to B	
 BY CAR	The recommended route is 8km and will take 17 minutes.
CHARGES	
£0.02 for maintenance	
£0.18 for environment	
£2.10 for congestion	
total cost: £2.30	
if you are delayed over 30mins you will be compensated £2.30	



How it works – provide information and options



A driver/AV arrives 15 minutes late – NO FARE

A driver/AV arrives 30 minutes late – Compensation for delay

Barriers to road pricing - acceptability

Surveys/referenda suggest RP is NOT something the public would accept.

- Studies conducted by DfT (2007 & 2010) indicated the majority of people think pay per use is a good idea but charges should **not** be higher on busy roads or at peak times.
- Only 29% of people felt a road pricing scheme would reduce congestion!
- Referendums in both Edinburgh and Manchester rejected a congestion charge with margins of 3:1 and 4:1.
- 2007 – 1.8 million people signed a petition against road pricing

Lack of understanding

Edinburgh case study:

- Maximum charge was £2 yet 38% of people thought it would be higher
- 20% of respondents journey's would not be charged but respondents thought that all would be
- 37% incorrectly thought outbound traffic would be charged

People were not convinced that the scheme would achieve its objectives of reduced congestion and improved public transport

But...

London case study:

- Congestion in the zone fell by 26%
- Chargeable vehicles decreased by 31%
- 50-60% of these travellers switching to public transport
- 20-30% diverted around the zone
- The decrease in congestion meant road capacity could be taken away and given to PT/cyclist/pedestrians

Stockholm approach is the way forward! Try it out first!

Why is it better than the status quo?

Sustainable:

- Immune to changes in fuel, Co2 emissions and driving technology

Value for money:

- Revenues reinvested back into roads

External costs are paid for by road users:

- What the mitigation revenue covers is currently covered by general taxation – NHS care, emissions, noise, policing, etc

Geographically specific

- Revenue can be targeted to the areas where it is collected –
Improves acceptability...

Why is it publically acceptable

The average driver will pay less:

- **P4P not looking to generate £27bn in net income – but could do**

Drivers who pollute more pay more:

- **Maintenance and mitigation costs are higher for GVs and higher in densely populated places**

Contract & compensation

- **Those supplying the road network are held accountable like other forms of transport infrastructure**

Congestion will be reduced:

- **Charging reduces demand – As seen in London, Stockholm and Singapore**

Why is it publicly acceptable

Accompanied by education

- **Information on alternate routes and alternate modes**

Privacy is a significant issue

- **People do not seem bothered by TfL tracking or Uber – but data will need to be kept secret. Key Issue!**

Lower set-up and running costs

- **By taking advantage of new technology, tracking and paying by phone etc. Road pricing can be cheap to run & to collect £.**

Conclusion

Pricing for Prosperity has all the qualities of road pricing in a manner acceptable to the public.

- **Compensation if performance is poor**
- **Efficient to collect**
- **Lowers average user cost**
- **Better mitigation of external costs of driving**
- **All revenue reinvested**
- **Offers education & privacy**

Just make sure that you show the public how it works and then have a vote (if essential) afterwards - not the other way round!