Cambridge Future Transport Visions

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Cambridge Cycling Campaign
Cambridge Cycling Campaign
For better, safer and more cycling in and around Cambridge

• 1000+ members
• General Utility Cycling
• Active campaigners are all volunteers
• You should join!
• See me or Camcycle.org.uk
• You can join online
Who am I?

- Jim Chisholm
- Always a passionate interest in Traffic/Transport/Road Safety
- Worked at RRL/TRRL for 15 years
- Never sports cycling, always utility cycling
- (Walking is my leisure pursuit and I do own a car)
- Lived in Cambridge for 25 years?
- But I’ve always been a ‘campaigner’ if not an activist
- Member of Cambridge Cycling Campaign from Day One
Utopia or Dystopia??

• I’m not going to talk about ‘Dutch’style provision
• Nor am I going to talk about carbon reduction!
• I’m not even going to talk about the ‘Chisholm Trail’
• Instead I’m going to look at the effects of a ‘No Cycling Day’
• Or rather a simplified example
Cycles as an obstruction to ‘free flow’!

• Well that is what many drivers think, but for many with bikes they could switch mode to a car
• Most Campaign members outside the City have access to a car?
• County Council counts (2011) show:
  – 155,000 cars
  – 9,000 cycles
• cross the ‘radial’ cordon each day
• (ie entering Cambridge from ‘necklace’ villages or beyond)
• So what would happen if those who cycle from the villages drove?
Queuing Theory

• Early work by Bell Labs in USA for manual telephone exchanges
• Much used in traffic modelling
  – Once ‘capacity’ reached queues result
  – Any small extra delay added to everyone's trip time who follows
• Many examples in modern life
• Tesco’s!
Flow-Delay Curves

- Exponential function appropriate to represent effects of congestion on travel times.
- At low traffic, an increase in flows would induce small increase in delay.
- At flows close to capacity, the same increase would induce a much greater increase in delays.

Figure 2: Effects of Congestion on Travel Times
Some Sums

• Assume 4,000 extra cars on 8 radials during peak time
• 100 extra cars makes a queue one kilometre long
• So that is 5 kms, say 3 miles, of extra queues on each radial?
Isn’t this just theory?

- Traffic disappears in half terms
- Oh no it doesn’t!
- It is just the queues that disappear
- Cars in Trumpington Road reduce by only about 10% over the peak hours in half terms
- Of course there are feed-back loops, but I did say this was a simple model
What about the reverse?

• Imagine if 10% of those in cars started to cycle
  – That’s another 15,000 cycles
• A 3.5 metre lane can take:
  – 2,000 cars or 14,000 bikes
• Queues of cars would disappear
• Deliveries would be on time and cost less
• Essential trips by car would be stress free
• Cycling would be more enjoyable
• We would all be happier
• Even those who still drive!
A paradox for investment

• My theory:
• “Every pound invested in cycling produces a bigger reduction in delays for those in cars than a pound invested in road space for such vehicles”

• We don’t have to wait until 2030 for all these benefits
• We could start tomorrow
• and we could then be a exemplar for cities everywhere in the UK
• Is that:

• *Utopia?*

• Any Questions?