

Local Transport: Climate Change, Clean Air, and Congestion ...

John Booth – Reading FoE

Presented by:

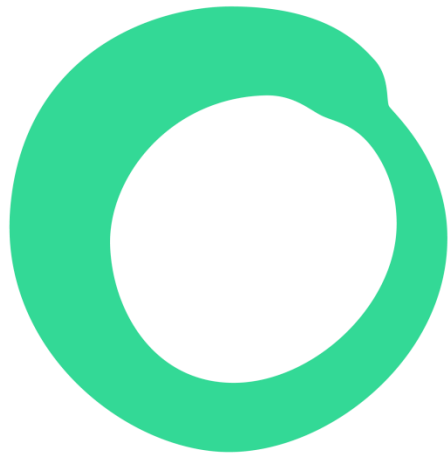


In association with:



**READING
CLIMATE
FESTIVAL
2020**

Less Traffic: Better Town



**Friends of
the Earth
Reading**



Agenda:

- What is Friends of the Earth?
- Transport Decarbonisation Strategy
- Transport for the South East Strategy
- Reading Transport Strategy
- Covid 19 and Active Travel proposals
- Environmental issues – need solutions
- How can “Polluters Pay”?

Friends of the Earth (FoE):

National and international environmental campaigning NGOs – started USA → UK in 1971.

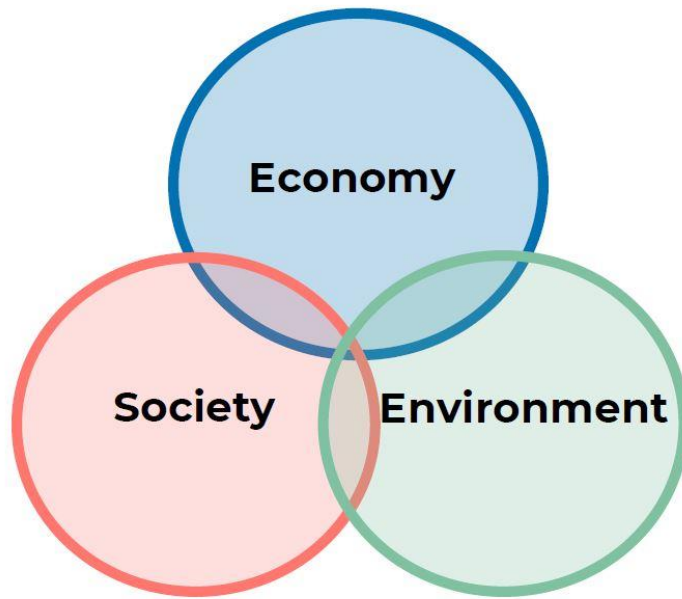
“Largest grassroots environmental campaigning network in the UK”. Issues: “Sustainability” – wildlife, environment, resources, pollution.

FoE ‘England, Wales and Northern Ireland’ has around 150 local groups.

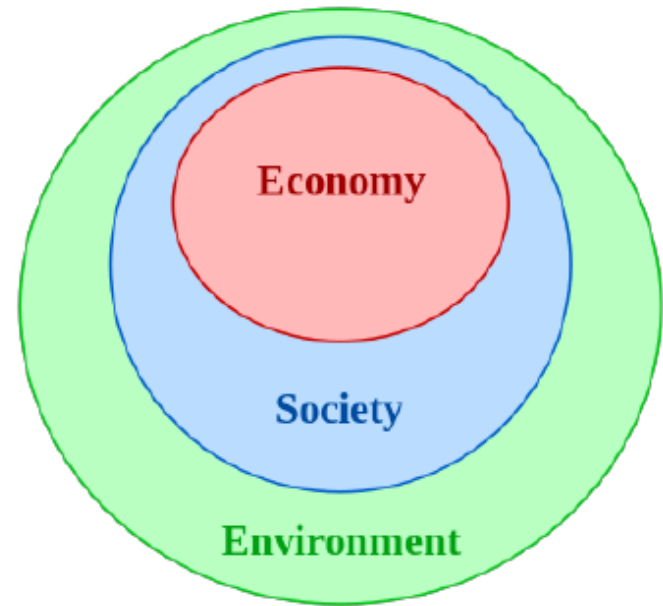
Greenpeace has broadly similar aims but different methods – FoE is more engaged with local issues and local authorities – we share global concerns.

Sustainability - Environment and other issues:

Seek compromise - or take more realistic view?
(See also 'Doughnut Economics')



'Three Pillars'
- No overlap!



Everything on the
planet happens in the
environment!

Transport Decarbonisation:

Government consultation closed in summer – was supposed to report before COP26 in November ... still waiting ...

- Aiming for 'net zero' emissions from vehicles by 2050 – not from sector as a whole (infrastructure, vehicle manufacture ...)
- **Says recent speed of reduction is much slower than what is likely to be needed**
- Lots of encouraging words in consultation document:
 - Public transport and active travel will be the natural first choice for our daily activities.
 - We will use our cars less and be able to rely on a convenient, cost-effective and coherent public transport network.
 - From motorcycles to HGVs, all road vehicles will be zero emission.
(Government about to announce 2030 deadline?)

Short on how to make it happen? 'Charging' refers to electric vehicles!

Transport for the South East - background:

“Transport for the South East is the sub-national transport body for our region, bringing together local authorities, business groups and more to speak with one voice on our transport investment priorities.”

Not yet fully recognised by government.

“Our mission is to **grow the South East’s economy** by delivering a **quality, integrated transport system** that makes us more productive and competitive, and **improves the quality of life for all** whilst protecting the environment.”

Transport for the South East - environment:

“Protecting the environment We believe future economic growth should be decoupled from damaging environmental consequences. We need attractive, sustainable alternatives to the car and cleaner transport freight, while seeing how to manage demand.”

Consultation document was a 2050 strategy for ‘net zero carbon’ which did not include intermediate milestones or much detail on what would be done. Now being addressed after pressure from FoE and others.

Local transport issues are ‘driven’ by growth in and around urban area:

- South East Plan defined Reading area as a ‘Diamond for Growth’
- Car ownership growth in recent decades.
- Reading population up nearly 14% since 2001.
- “Reading is a major centre of employment; with approximately 120,000 people working in the Borough. There are more jobs in Reading than workers.”
- From 2015 traffic in UK is forecast to grow by between 17% and 51% by 2050.

Where are we?

Growth hub in 'travel-to-work' area!

Western Corridor and Blackwater Valley Sub-regional Strategy Area



Reading Transport Strategy 2020 – 2036 – consultation draft

- It's a Strategy not an Implementation Plan.
- Very useful 'Issues and Options' document – lots of good words and intentions.
- Would like to see quantitative analysis of:
 - scenarios for likely impacts of local growth.
 - likely impacts of proposed measures.
 - analysis of likely costs of proposed measures.

Good ideas in Strategy – should quantify costs and benefits and try to implement soon:

- Demand Management:
 - Road pricing?
 - Workplace Parking Levy?
 - Clean Air Zones? LEZ? Charging?
- Electric Cars, scooters, and bicycles?
- Park and Ride?
- More and better cycle routes?
- Emphasis on Safety – slower speeds, crossing options?

Contentious proposals - 1:

- 'Third' Thames Crossing East of Reading and North Reading Orbital Route
 - Traffic generation?
 - Embodied Carbon Footprint?
 - Impact on landscape, wildlife, amenity?
- Cllr. Page has said it could be another '20 to 30' years before it is built and ready.

Contentious proposals – 2:

Grazeley development 15,000 homes

Far from many destinations in Reading for cycling or walking

Very handy for M4 and A33 by car

Government funding for infrastructure in doubt

- Traffic generation?
- Embodied Carbon Footprint?
- Impact on landscape, wildlife, amenity?

Covid-19

Notes from Steer (consultants) to TfSE Forum.

Worst scenario: multiple waves, no vaccine:

- fewer trips, essential trips made locally:
 - Up to 75% reduced demand for public transport
 - c. 75% reallocation to cars
 - c. 25% reallocation to walk/cycle
 - High LGV use,
 - Up to 60% working from home.
- Everything uncertain except
 - people will be used to working from home ... and ...
 - less happy to use public transport.

Reading Covid Response

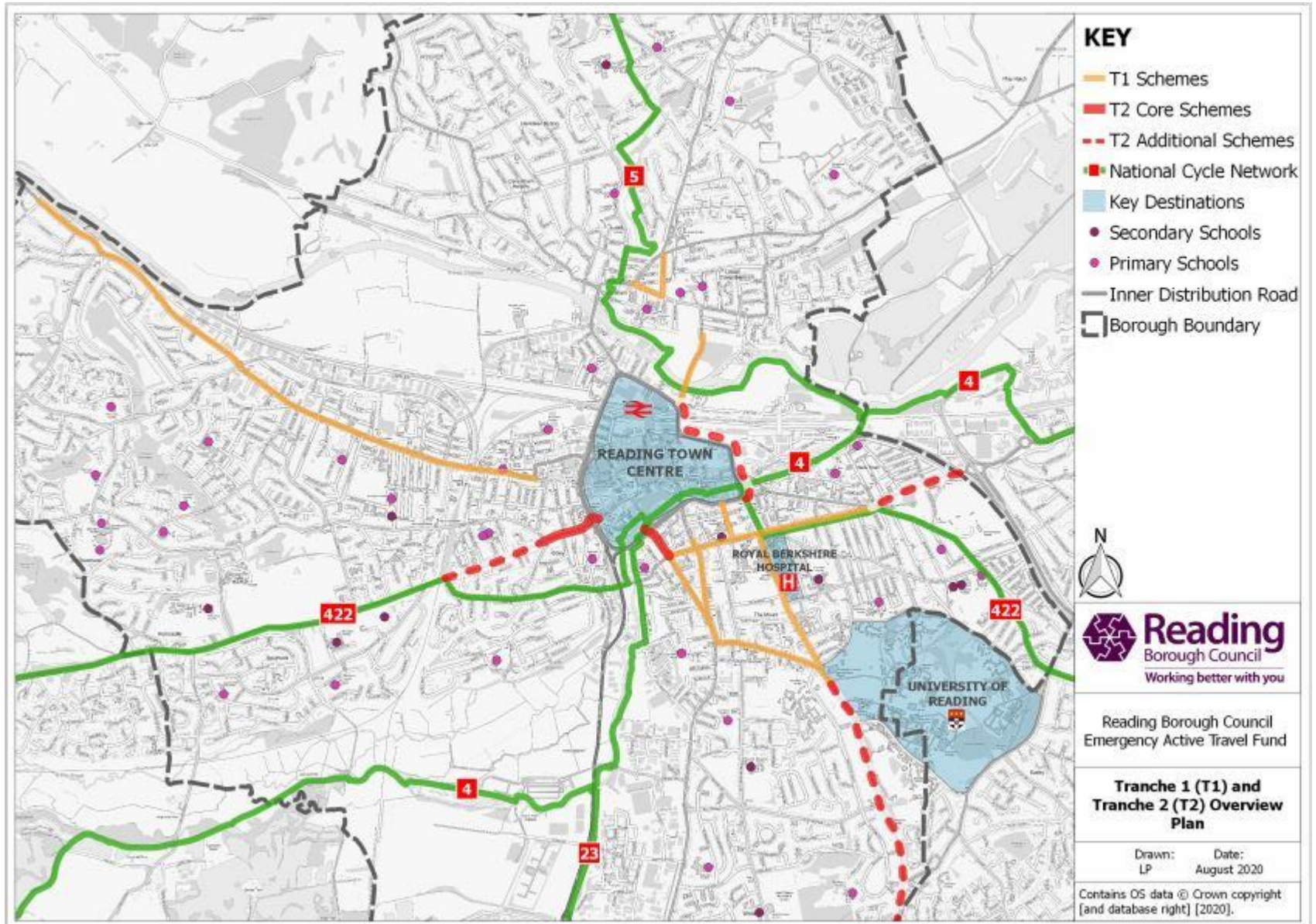
Government funding came forward for Active Travel Proposals - Re-allocation of Roadspace

- Tranche 1: £221k - six schemes to allocate road space to cycles – complete or in progress
- Tranche 2: Indicative £1.179m – two core schemes for cycle priority at roundabouts at IDR plus three supplementary schemes if more funding granted.

<https://democracy.reading.gov.uk/ieListDocuments.aspx?CId=139&MId=3472>

It takes money and will to make change!

Reading Covid Response



Climate Change:

IPCC 1.5C Scenario

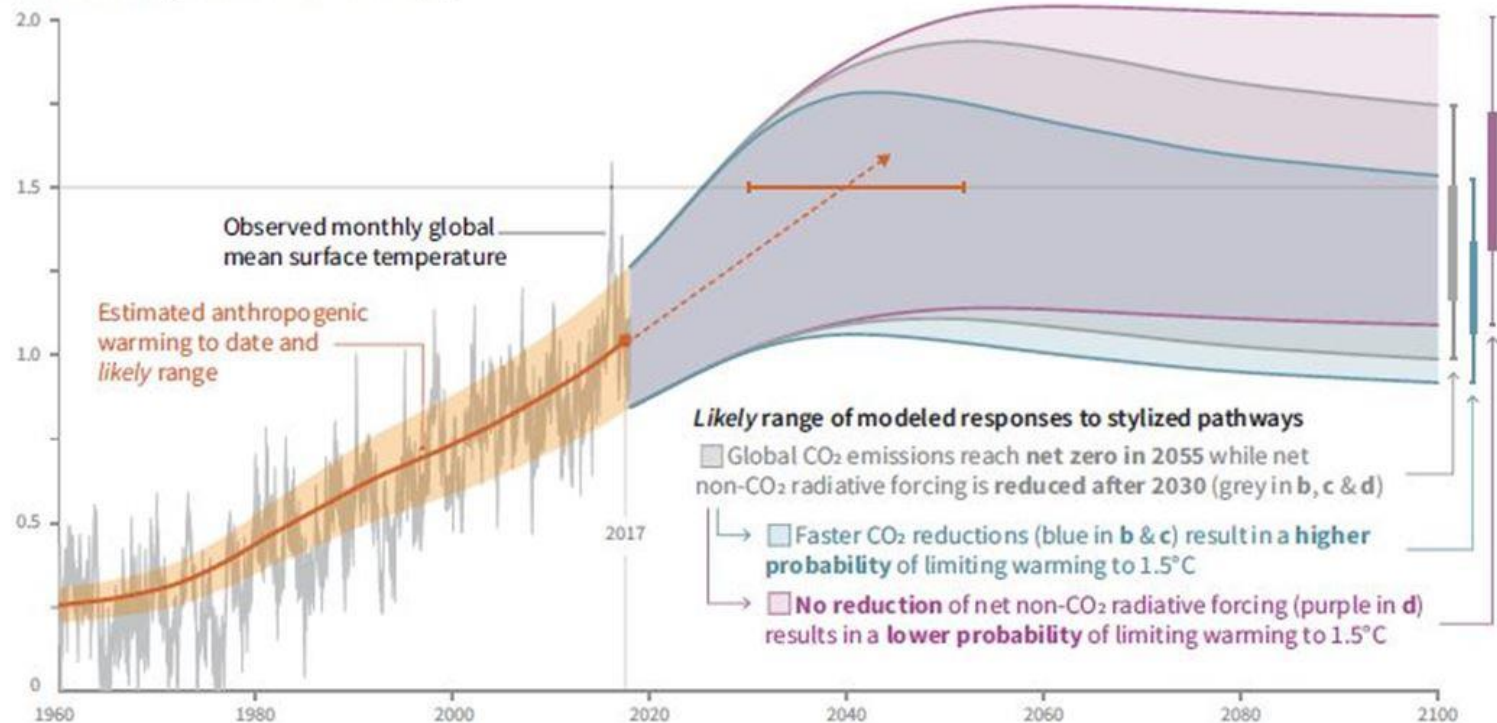
- CO₂ has long life in atmosphere so must achieve early reductions – long before 2050!
- IPCC: “GLOBAL emissions need to fall by about 45 percent from 2010 levels by 2030, reaching ‘net zero’ around 2050.”
- UK is an advanced nation with relatively high per-capita emissions and is hosting COP26 – so should plan for big reductions by 2030.

Climate Change: IPCC 1.5C Scenario – **GLOBAL** CO2 net zero in 2040 or 2055

Cumulative emissions of CO₂ and future non-CO₂ radiative forcing determine the probability of limiting warming to 1.5°C

a) Observed global temperature change and modeled responses to stylized anthropogenic emission and forcing pathways

Global warming relative to 1850-1900 (°C)



Origins of Reading's CO2 emissions:

Total in 2016 was about 550 k tonnes CO2

- Domestic non-electric 26% ...
- Industrial and commercial electric 24%
- **Road Transport 19% ... (*within Borough*)**
- Industrial and commercial non-electric 16%
- Domestic electric 13%
- Other Transport 2%

So distributed fossil-fuel burn about 63% - must change to non-hydrocarbon 'energy vectors'!

Low Emission Vehicles (LEVs) - options:

- **Pedals and feet!**
 - Electric cars, bikes and scooters
 - LGV and buses may be electric or hydrogen
 - HGV probably hydrogen
 - Good to get more freight on electric rail
 - Good to get fuel tankers off the roads
-
- Costs of low-carbon energy uncertain
 - Switch to LEVs may be slow especially HGVs – 20% to 60% reduction in mileage may be necessary to meet net zero 2030 target

Need more than electric cars ...

- Estimates of likely take-up of electric vehicles and decarbonisation of electricity vary but suggest 20% to 60% reduction in traffic by 2030 may be needed to keep UK on track with emissions reduction budgets.
- Batteries have high carbon footprint
- Government revenue from fuel duty will fall from present £28 billion as less fuel is purchased – road pricing would be a fairer way to raise funds for maintenance, policing etc.

Reading Transport Strategy says:

“We have pledged to aim for a carbon neutral Reading by 2030. ... we call on the Government to accept moral and ethical responsibilities and to give Reading the additional powers and funding needed to help us achieve our goal.”

BUT performance indicators (section 9.3):

- Target to reduce road transport emissions by 35% from about 104 kt CO₂ in 2016 to **67 kt in 2036**
- Compared to Borough's total emissions in 2016 that is reduction from 19% to 12% - far from zero!

Make Polluter Pay for Climate Change?

My ideal would be a national carbon charge or tax:

- Redistribute revenue to population as ('Carbon Fee and Dividend')

and/or

- Invest in or subsidise low carbon initiatives

British Columbia does both – tax at \$40 per tonne CO₂ – quarterly payments to citizens.

Sweden taxes at \$150 per tonne CO₂.

Zero Carbon Commission call for £55 by 2025 and £75 by 2030 incorporated in fuel duty. UK govt. estimate future price £300 per tonne CO₂e 2070?

Air Quality – around 40,000 premature deaths each year in UK – NO₂ and PM_{2.5}

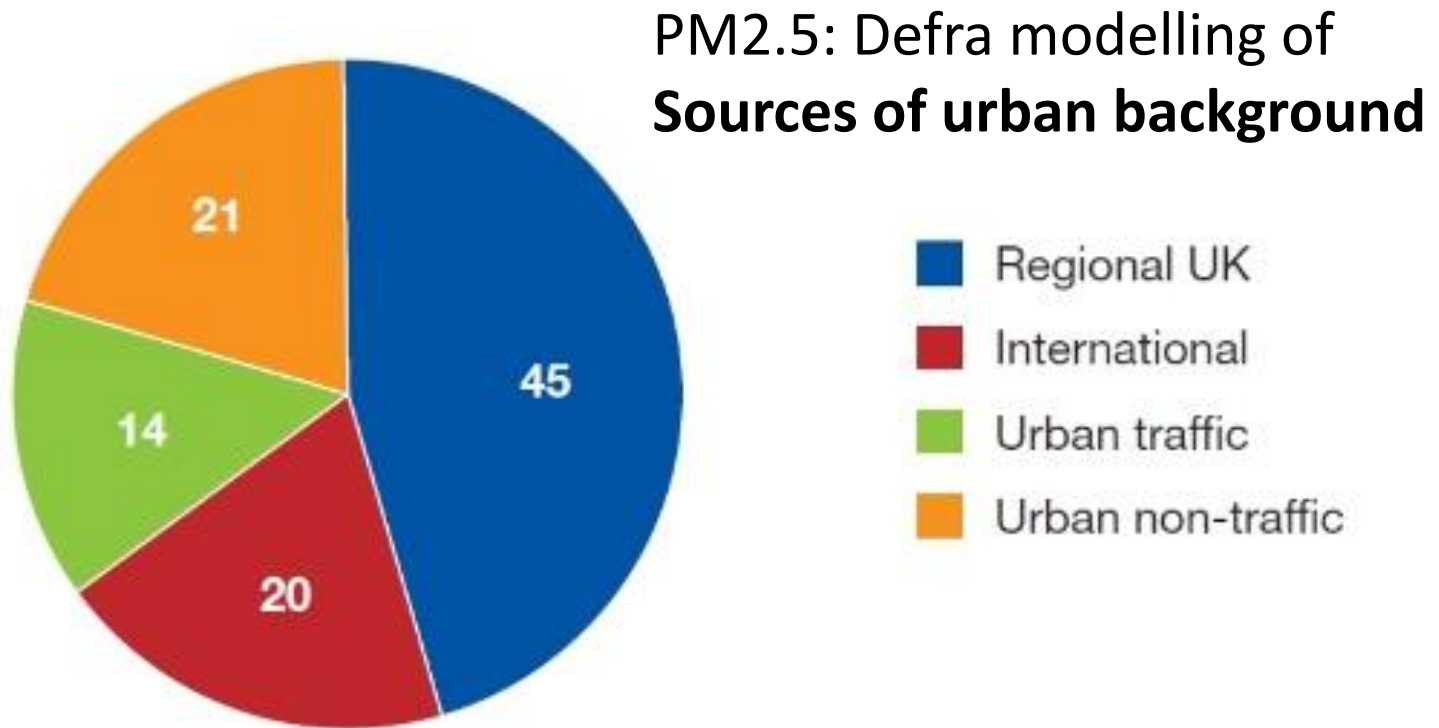
- NO₂ – getting better as diesels improve or are phased out. Colours indicate predicted legal by: 2021 – dark blue; 2020 – pale blue; 2019 – green.
- But legal limit is not a ‘safe threshold’.



PM2.5 – Reading

- Various sources – not all transport
- WHO limit (not a ‘safe level’) is 10 ug/m^3
- RBC ‘**urban background**’ was about 10 ug/m^3 (middle of Newtown Cemetery)
- RBC roadside estimated 2018 (from PM10)
 - Caversham Road 16.1 ug/m^3
 - Oxford Road 14.7 ug/m^3
 - London Road 12.6 ug/m^3

Defra: “levels of PM_{2.5} (and population exposure) close to roadsides are often much higher than those in background locations.”



Reading Transport Strategy says:

- 106 mentions of 'air quality'
- 6% of deaths in Reading are attributable to PM2.5
- 6.4 “Due to key challenges including the declared climate emergency, car emissions causing poor air quality and the forecast levels of growth increasing future demand for travel, continuing with the status quo is not an option.”
- **Performance Indicators: Not mentioned.**

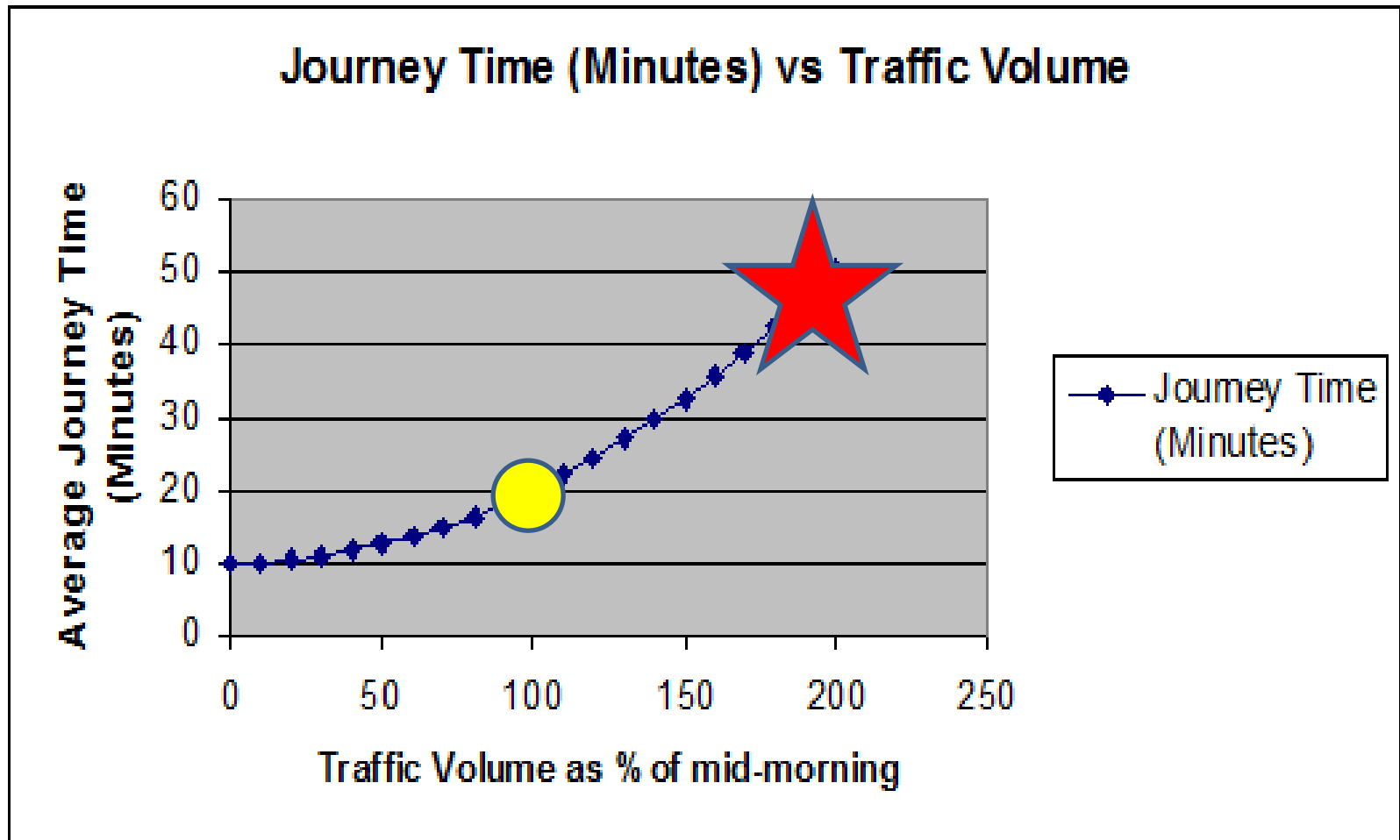
Clean Air Zones – discussed in Strategy

- **Non-charging**
 - Information, signage, promote ULEV;
 - bus, taxi and private hire vehicle emission standards
 - Support active travel
- **Charging – planned for major cities in 2021:**
 - Fee to enter if vehicle non-compliant.
 - May apply to all vehicles or exclude private cars and some others.
- **London Ultra-Low Emission Zone**
 - £12.50 (£100 for heavy vehicles) per day if don't meet ULEZ standards

Congestion

- Economic problem but with environmental side-effects
- Causes – overloaded junctions – delays have ‘non-linear response’ to traffic volumes leading to ‘gridlock’. Also overloaded trunk roads – but lower speeds there can be good for emissions, noise, and capacity.
- Solutions: – for urban areas less traffic or higher capacity roads and junctions; - for through traffic less traffic or bypasses.

Congestion - delays rise steeply (but not smoothly!) with traffic volume.



(Illustrative square-law response – not based on real data)

Reading Transport Strategy says:

- “The average car commuter in Reading spends 26 hours a year in congestion during peak hours, with a total estimated cost of £75 million”.
- Performance Indicators for 2036:
 - Congestion - **not mentioned**.
 - Car trips to/from/through **town centre** – reduce by 20% to 17,600 – *(assuming ‘third’ bridge?)*
- Many positive-looking performance indicators for public transport and active travel but
 - Proportion of adults cycling 3 times per week for main journey purpose only up from 5.1% to 10%

Polluters Pay?

Less traffic – better town!

- **Climate Change ✓**
- **Air Quality ✓**
- **Congestion ✓**

Aim for 20% to 60% reduction in car use by 2030?

But how to achieve it?

Transport Planning Society:

State of the Nations: Transport planning for a sustainable future. (October 2020).

“Motoring taxes and charges do not at present align with and support decarbonisation targets.

“The 10-year freeze on fuel duty has resulted in motoring costs reducing in real terms, while public transport fares have increased.

“This trend runs counter to Government policies on mobility and climate change and does not promote the use and purchase of low emission vehicles.”

Workplace Parking Levy - Nottingham

Nottingham City Council has introduced a WPL to tackle problems associated with congestion,

- funding for major transport infrastructure initiatives
- incentive for employers to manage their workplace parking provision.

Price in 2020-21 is £424 per space

In 8 years raised £53m directly and unlocked three times that amount in terms of additional match-funding investment in public transport.

- extensions to the existing tram system
- redevelopment of Nottingham Station
- subsidy of some local bus services

WPL Nottingham experience

WPL Service Manager Nigel Hallam says: “The beauty of this scheme is that we took a licensing rather than enforcement approach

- “So the WPL has unlocked the funding to pay for a whole range of initiatives that – as well as reducing the growth in traffic, has reduced CO2 emissions and improved air quality.”
- “We were never going to **solve** Nottingham’s congestion issues, but independent research has demonstrated that we have certainly slowed the growth of traffic in the city”

Local Road Pricing?

Not like London's single charge for daily access!

Demand management with ANPR*

- Vary charge with time of day, vehicle type, place of registration, registered discounts.
- Could be charge for cordon, junction, or use of sections of road with small charge for each camera passed.
- **Use funds raised as capital or revenue for local transport improvement/subsidy.**

**Automatic Number Plate Recognition*

Milan and Stockholm

Milan:

- €5 per day paid by motorists entering the city centre between 7.30am and 7.30pm.
- In 2012 revenues of €20.3 million - reinvested in public transport, bicycle sharing schemes etc.

Stockholm:

- is a cordon tax ranging from 0 to 3.24 Euros for passing entry/exit points
- any antipathy towards introducing congestion charging evaporated once the many benefits become apparent, including less traffic, cleaner air, and more cycling.

Road Pricing

- Reading Strategy says “The average car commuter in Reading spends 26 hours a year in congestion during peak hours, with a total estimated cost of £75 million”
- This is about **£375k every working day** or average of £17 for each of 22,100 car trips to, from, or through the Town Centre. Really?
- Reduction in peak hour traffic could give valuable time-savings that travellers would be prepared to pay for.

Stockholm Video

Congestion pricing success in Stockholm – only 3 mins 11 secs:

<https://www.youtube.com/watch?v=1CwB1fcRJ60>

Summary:

National:

Carbon tax and/or trunk road pricing to replace fuel duty as electric vehicles replace fossil fuels?

Reading:

Car park closures and sell-offs?

Free bus travel – especially for young?

WPL: reduce peak hour traffic (Nottingham).

Demand Management & Clean Air Zone - ANPR

- Use funds raised as capital or revenue for local transport improvement/subsidy.

What next?

Get public and politicians on-side:

- Lobby them – e-mails, letters, conversations ...
- Want effective action soon

Emphasise Issues and Urgency:

- Can't wait until 2036 for results
- Can't wait for infrastructure build

RBC should do an in-depth study of different charging options and evaluate how they could make a difference.

Links:

Reading Friends of the Earth:

www.readingfoe.org.uk

Friends of the Earth **national policy and insights** – often quite detailed – go to ‘Topics’ and select ‘Transport’:

<https://policy.friendsoftheearth.uk/>

RFoE notes Feb. 2019 before transport strategy:

http://www.readingfoe.org.uk/transport/RFoE_LTP4_2019_02.pdf

Reading Transport Strategy 2020 Consultation:

<https://consult.reading.gov.uk/dens/reading-transport-strategy-2036/>

Help Reading reach net zero by 2030

Join us now to take action!
Visit www.readingcan.org.uk

“What happens next is up to us all ... I truly believe that together we can bring about the transformative change that is needed.”
David Attenborough (BBC's Climate Change, The Facts)

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