

the road to **NO2** **COMPLIANCE**

by
**BRISTOL
CYCLING**



The UK's Nitrogen Dioxide (**NO2**) concentrations have been illegally high in Bristol since 2010. Following Client Earth's successful legal action to force central government's hand, Councils have been told to find the **fastest route** to legal compliance. Here are some of the options.

CAZ



Bristol City Council, like many other local authorities, has been persuaded by central government to implement a Clean Air Zone (CAZ). This would charge the most polluting vehicles. Road pricing is long overdue, however in Bristol there are still few alternatives for many.

The proposals also allocate £17 million to give £2,000 to diesel car owners to purchase new vehicle (or buy a bus ticket or bicycle). Cyclists or drivers who chose not to buy diesels get nothing.

A CAZ is a step in the right direction. However, the results of the modelling show quite small reductions in NO2 and over an extended period. A CAZ is unlikely to be the fastest route to legal compliance.

If Diesel owners do switch to Petrol vehicles, it is likely **CO2 emissions will increase**. This is at a time when Bristol City Council has declared a "Climate Emergency".

ESTIMATED NO2 REDUCTION*:

11%

**Based on average speed modelling study*

TIME FRAME FOR COMPLIANCE:

2027/2028

ESTIMATED COST:

£77m

PROs:

The positives of a CAZ are:

- Defra/JAQU are willing to provide funding
- Slight reduction in NO2

CONS:

The negatives of a CAZ in Bristol are:

- Slow reduction in NO2 levels
- Increase in CO2 emissions
- Small reduction in collisions
- Businesses can pay to carry on as normal
- Drivers of diesel vehicles can get a £2,000 handout
- No improvement in conditions for cyclists

20 MPH



Bristol has had 20mph zones on many residential streets as far back as 2010. It is difficult to gauge the impact they have had on air pollution because like all 20mph zones in the UK, they are not enforced. It is possible to enforce 20mph using the same technology that will be used to enforce CAZs. Unfortunately, the average speed models used by the Council are too simplistic and assume an incorrect correlation with speed. A study using advanced modelling software, carried out by Air Quality Consultants of a road in London in 2014[1] found if all vehicle stuck to the 20 mph limit, roadside concentrations were reduced by almost two thirds, from 60µg/m³ to 22µg/m³.

One of the uncertainties of the CAZ is whether people will pay, buy a new car or switch transport mode. With a 20mph zone, reductions are more predictable as it is easy to comply.

ESTIMATED NO2 REDUCTION:**

63%

***Based on microsimulation modelling study*

TIME FRAME FOR COMPLIANCE:

WHEN THE CAMERAS ARE SWITCHED ON

ESTIMATED COST:

£19m

PROs:

The positives of a Bristol wide ANPR enforced 20mph zone:

- Fast route to compliance
- Reduction in all air pollutants, not just NO2
- Significant reduction in collisions and noise
- Slight improvement in congestion
- Improvement in conditions for cyclists

CONS:

The downsides of ANPR enforced 20mph zone/s:

- Little reduction in vehicle traffic
- Businesses and public can carry on as normal
- Unlikely to happen due to perceived political sensitivity of reducing speed limits

CYCLING



Despite substandard cycle infrastructure prevailing across the city, cycle rates have soared. However, many are still reluctant to mix with traffic and perceive cycling as dangerous. A fully joined up cycle "superhighway" network similar to that in London and proposed in Manchester, could be delivered for around the same cost as a CAZ and a 20mph zone. The London cycle superhighway network has seen roadside NO2 concentrations drop by 23% when work began and 30% over the following years [2]. Cycle rates along the roads have doubled. The Manchester cycle network aims to be designed for a 12 year old to use by themselves, encouraging children to cycle independently to and from school and other activities.

The network would substitute existing lanes of traffic. On narrower roads, motor traffic could be altered to one way. This would also move traffic away from building facades.

ESTIMATED NO2 REDUCTION*:**

23%

****Based on real world implementation and monitoring*

TIME FRAME FOR COMPLIANCE:

AS SOON AS CONSTRUCTION WORK BEGINS

ESTIMATED COST:

£111m

PROs:

The positives of a cycle superhighway network are:

- Drivers have a genuine alternative
- Safe spaces for children to get to school
- Fastest route to NO2 compliance based on real world example not a model
- a reduction in all air pollution, not just NO2
- Reallocation of space from motor vehicles

CONS:

The negatives of a cycle superhighway network are:

- Unlikely to happen due to anti cycling attitude from Defra/JAQU

FILL OUT THE CONSULTATION BEFORE 12th AUGUST 2019

[1]

<http://www.aqconsultants.co.uk/getattachment/Resources/Download-Reports/Report-on-Drift-Bridge-Microsimulation-Modelling-170914.pdf.aspx>

[2] <https://www.linkedin.com/pulse/article-blaise-kelly/?trackingId=0VzdehZpQ8KP%2Fk4ulJriw%3D%3D>

