

BRADFORD



Low Emission Zone Feasibility

Background

- **4 AQMAs declared in 2006-Manningham, Manchester Road, Thornton Road & Shipley Airedale Road. Also looking at Tong Street.**
- **Some of the worst air quality in the country (NO₂ annual mean >80ug/m³)**
- **West Yorkshire zone is unable to meet the EU standards by 2020 and beyond**

Low Emission Strategy (LES)



Bradford adopted an LES in November 2013

- **Overarching strategy aligned with key regional policies**
 - **Looks at all municipal policies that could reduce road transport emissions including;**
 - Development control policy**
 - Procurement (general and fleet policy)**
 - Parking**
 - Public private partnerships**
 - Licensing (taxis)**
 - Working with health professionals and Public Health to influence policy**
- Currently developing a West Yorkshire LES**

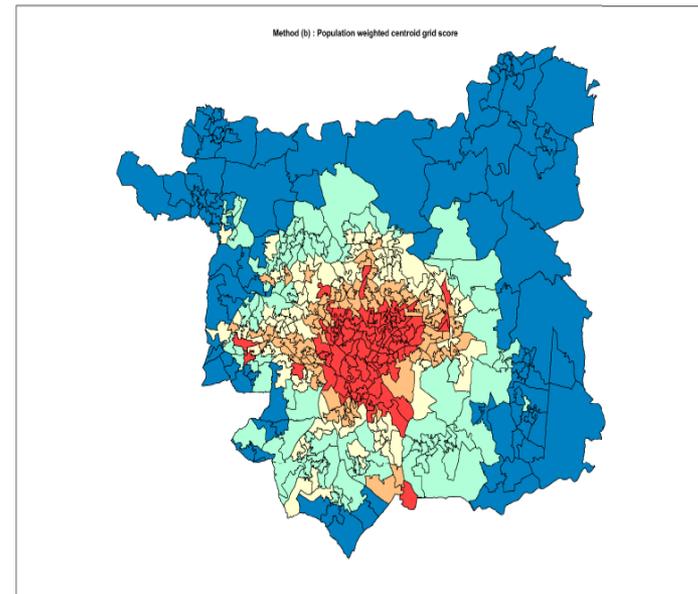
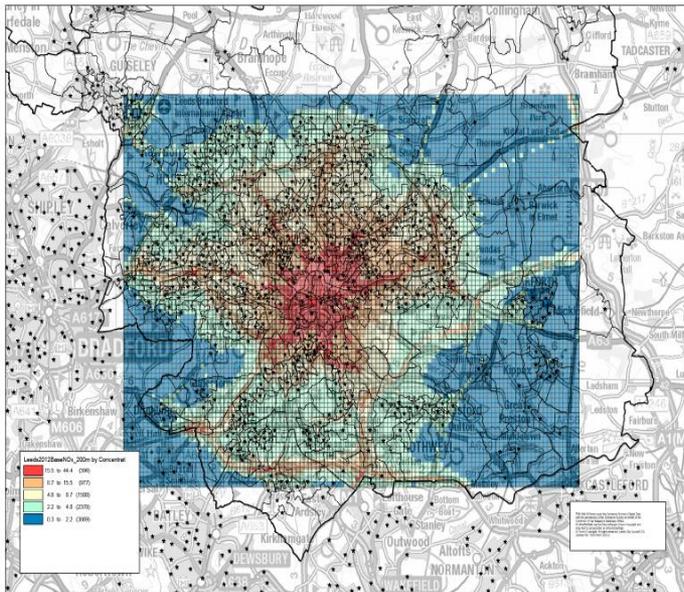
Low Emission Zone Feasibility Study



- This provides evidence base for freight, bus, passenger vehicles emission policies
- Innovative approach working jointly with Leeds, developing skills in-house
- Steering group includes ITA, LAs EH, PH and highways
- Uses our fleet data - ANPR
- Cost Benefit Analysis / Economic Advantage
- Health Impact Assessment (HIA) joint working with NHS, Bradford institute of Health Research and Public Health
- Now being extrapolated across West Yorkshire

HIA methodology

Baseline emissions from vehicle sources
Emissions transposed to LSOA boundaries

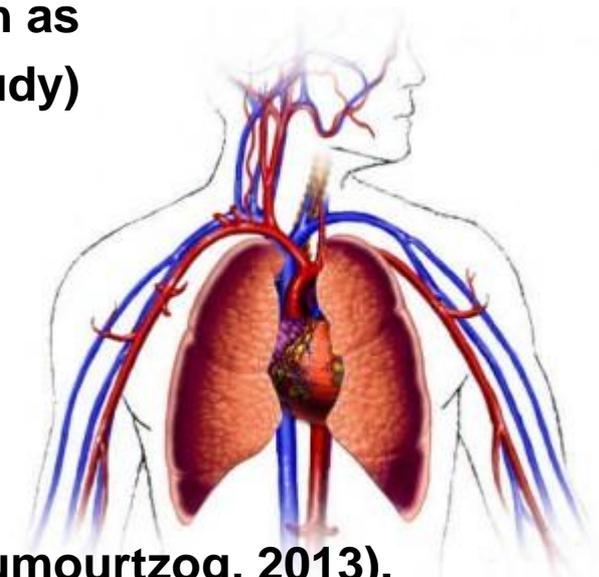


Scenario modelling

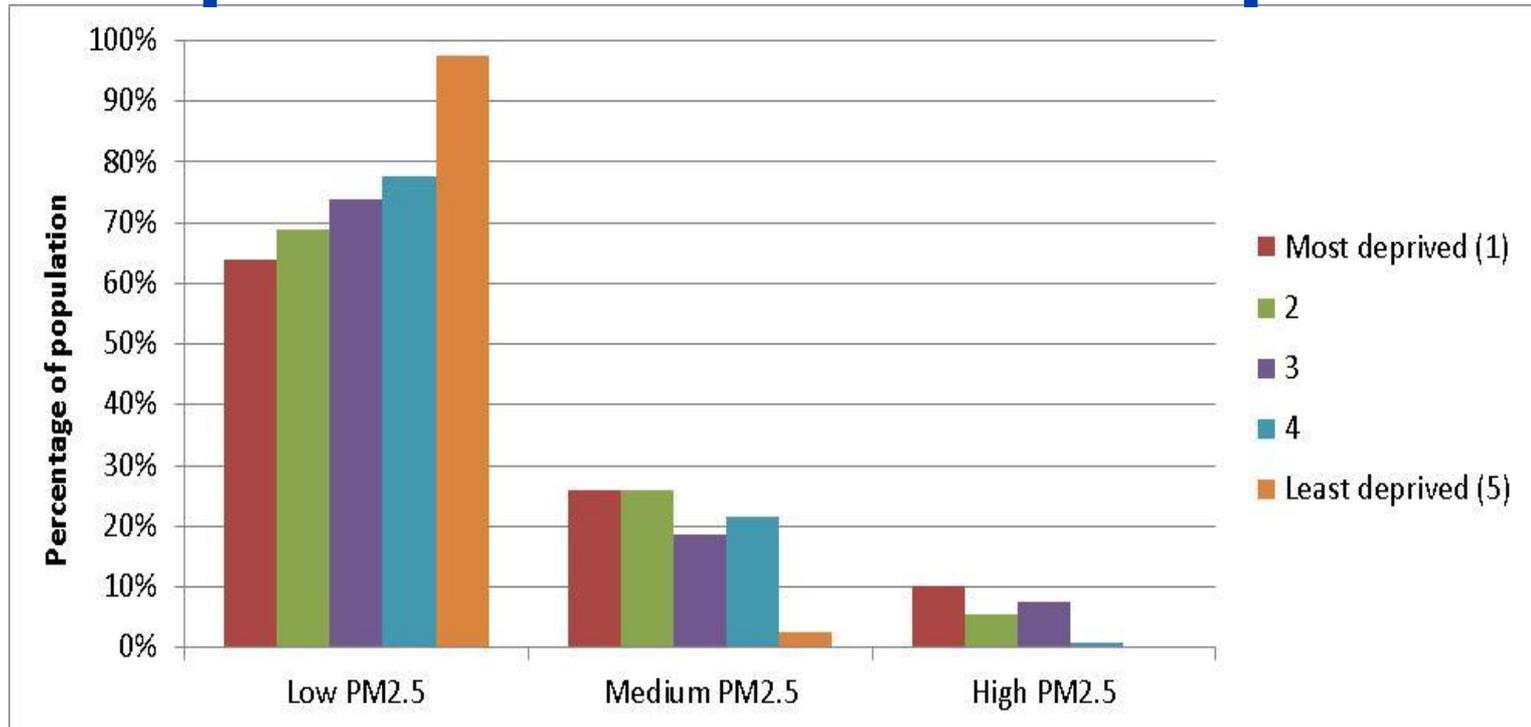
- We modelled 10 scenarios for Bradford/Leeds
- Screened out
- 4 most promising scenarios
 - 1) All pre EuroIV buses and HGVs retrofitted
 - 2) All buses to EuroVI
 - 3) Reverted year 2000 petrol/diesel split (20% diesel) in passenger vehicles
 - 4) Overall traffic reduction by 10%

HIA Results

- Includes deaths from particulate pollution (PM2.5 - COMEAP) and cardiopulmonary deaths, coronary events and pre-term births
- Also includes NO2 related health determinants such as
 - Low birth weight babies (Bradford data ESCAPE study)
 - Reduction in children developing asthma
 - Annual years of life gained for newborns
- **LIMITATIONS**
 - Health effects of ozone, cancer
 - inherent under estimation of exposure by 50% (Kioumourtzog, 2013).
 - We have only modelled health effects where quantifiable estimates based on meta-analysis are available. Other health effects (e.g. cancer, diabetes, preterm birth and mental health) have also been found by health research studies.
- We have not been able to model the health impact of short term 'spikes' in NOx and PM2.5



Deprivation & Relative Impact



Public Health quote

‘LEZ - A passive Intervention which benefits the most deprived in society’

Cost Benefit Analysis



Preliminary findings

- Parking and enforcement have mechanisms already in place to implement LEZ (bus lane enforcement) –not a huge cost to implement
- Health costs – value of 1 life is significant ~£1m (NHS)
- NO₂ – cost of meeting objectives



What's needed to support LEZ Policy

- **NAEI fleet projections are overly optimistic (ANPR) –future projections hampered**
- **Emission factors overstate benefits of future fleets, also don't cover all LEV options**
- **The 'do nothing' scenario looks unachievable at current rates of fleet replacement**
- **More health research required (cancer, ozone)**
- **One city cannot act alone – cascading of buses**
- **Need stronger messages from DfT to support policy change e.g. LTP 3 – no mention of AQ**
- **Prohibitive cost of LEVs – damage costs not reflected in current vehicle choices**
- **Funding e.g DEFRA grant, only £1m nationally**

A Curse by W.H. Auden (1907-1973)

Dark was that day when Diesel
conceived his grim engine that
begot you, vile invention,
more vicious,

.....you poison
the lungs of the innocent,
your din dithers the peaceful,
and on choked roads hundreds must
daily die by chance-medley.

Nimble technicians, surely
you should hang your heads in shame.
Your wit works mighty wonders,
has landed men on the Moon,
replaced brains by computers,
and can smithy a “smart” bomb.
It is a crying scandal
that you cannot take the time
or be bothered to build us,
what sanity knows we need,
an odorless and noiseless
staid little electric brougham.

