

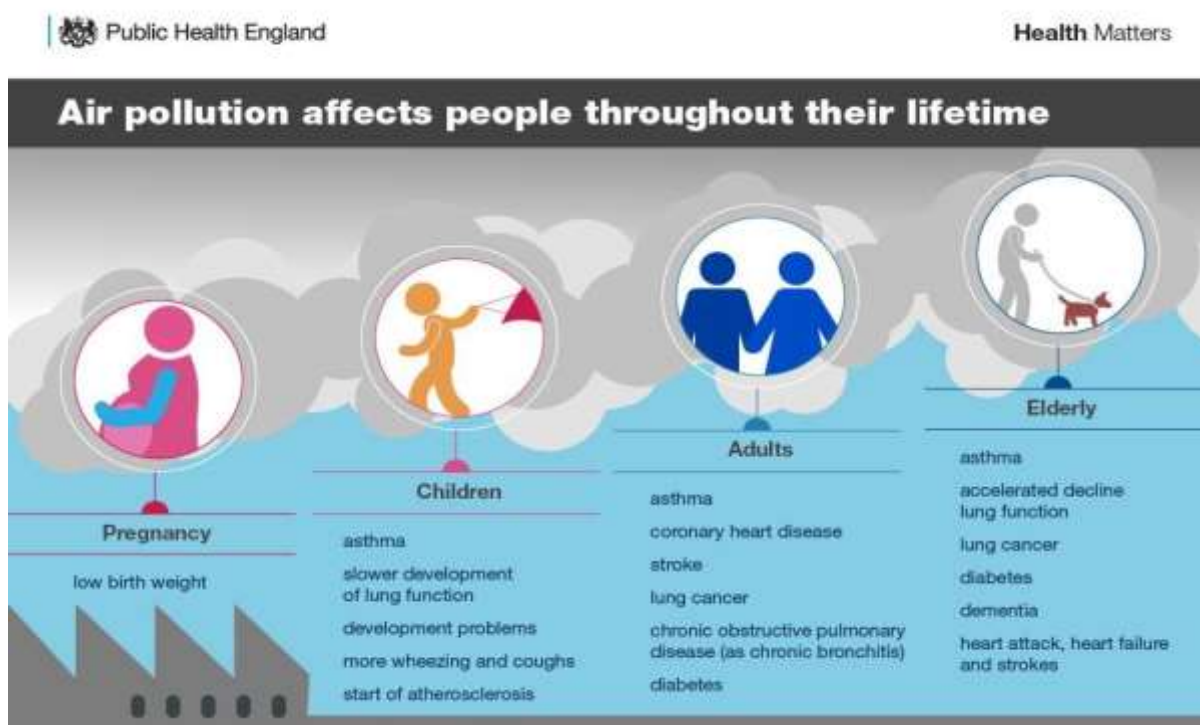
AIR POLLUTION IN ROSEBURN TERRACE – RISING TO DANGEROUS LEVELS

The following is based on recent research by John Lamb, retired after 20 years working to improve air quality in Scotland. It shows how the CCWEL cycle track will lead to breaches in the legal limit of nitrogen dioxide (NO₂). John is ex-SEPA and lives in Murrayfield.

LEVELS OF NO₂

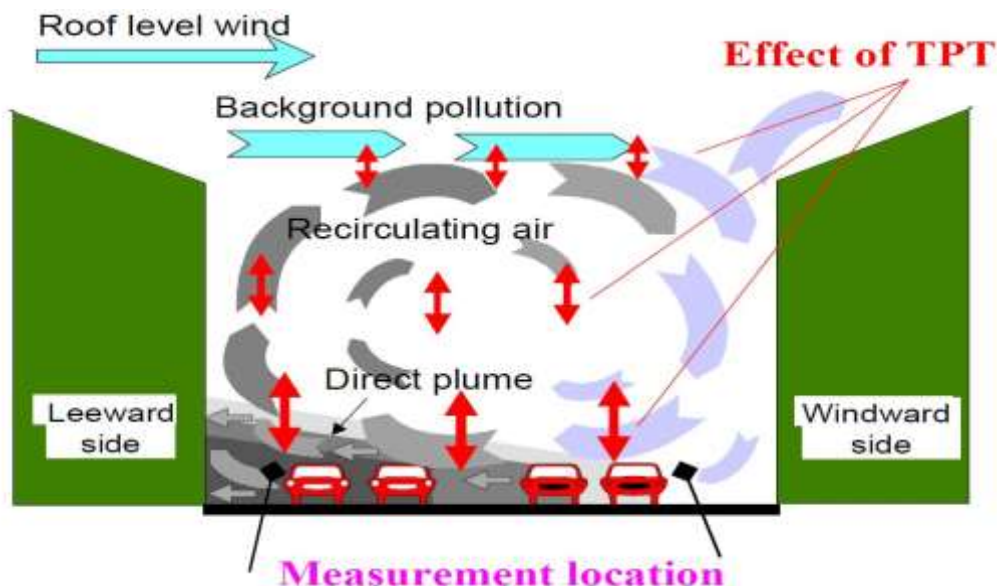
Nitrogen dioxide (NO₂) is the measure of pollution. The higher the NO₂, the greater damage to your health. The legal limit is 40 µg/m³. Scotland's most polluted street, St. John's Road in Corstorphine, showed a roadside measurement of NO₂ of 44 µg/m³ in 2018. The roadside measurement of NO₂ in Roseburn Terrace in 2017 was 43 µg/m³ - and the cycleway will make it worse.

This is the impact on health according to Health authorities:



AIR QUALITY

Roseburn Terrace is a street canyon. Street canyons trap pollution from traffic. The effect of street canyons on air circulation can be illustrated thus:



Roseburn Terrace is a text book example of a street canyon. Pollutants become trapped between the buildings and the prevailing wind rotates the pollutants in such a way, that they build up on the leeward side of the street. (The leeward side in Roseburn is the south side. The prevailing wind comes from the south-west.)

On the south, the roadside concentration of nitrogen dioxide is almost the same as St. John's Road. This is because pollution from traffic is carried to the south side of the street, where it builds up because dispersion is very poor. Nitrogen dioxide (NO₂) on the north side of the street is typically 32 ug/m³ and in the south 43ug/m³.

Two-way traffic passes through Roseburn Terrace in two lanes, due to parked vehicles on either side of the road.

The Council uses passive diffusion tubes to measure the concentrations of nitrogen dioxide (NO₂) in Roseburn Terrace, and data from these has shown that concentrations of NO₂ on the south side of the street are at least 30% higher than those on the north side (this is typical in a street canyon).

Ironically, the parked vehicles are good for air quality, because the inside lanes provide an area in which exhaust gases can dilute before they reach the residential properties. Distance is a very important factor when considering nitrogen dioxide.

The parked vehicles thus provide the gases with an opportunity to dilute before they arrive at the measuring device, so the reported data are representative of a diluted concentration.

SHOPS AT RISK

The shops on the south side are Scotmid, House of Hound, Art et Facts, Simon Scott Collectables, Conservative Party constituency offices, etc. The traders are in the shops at least 8 hours a day and will be the most exposed to high NO₂ levels, which an obvious impact on health. They fear levels could go as high as 60 µg/m³, which is 50% above the legal limit.

The picture below shows how, at present, parked vehicles push traffic to the lanes in the middle of the street, increasing the distance between exhaust and flats, allowing NO₂ to dilute before it reaches the measuring device. (the measuring device is sited on a post at the edge of the pavement, outside the Simon Scott Collectables shop).



The problem is that the CCWEL cycleway will move traffic closer to the south side kerb, reduce the dilution & therefore INCREASE pollution. See the street layout on next page for details. Residents and traders operating from

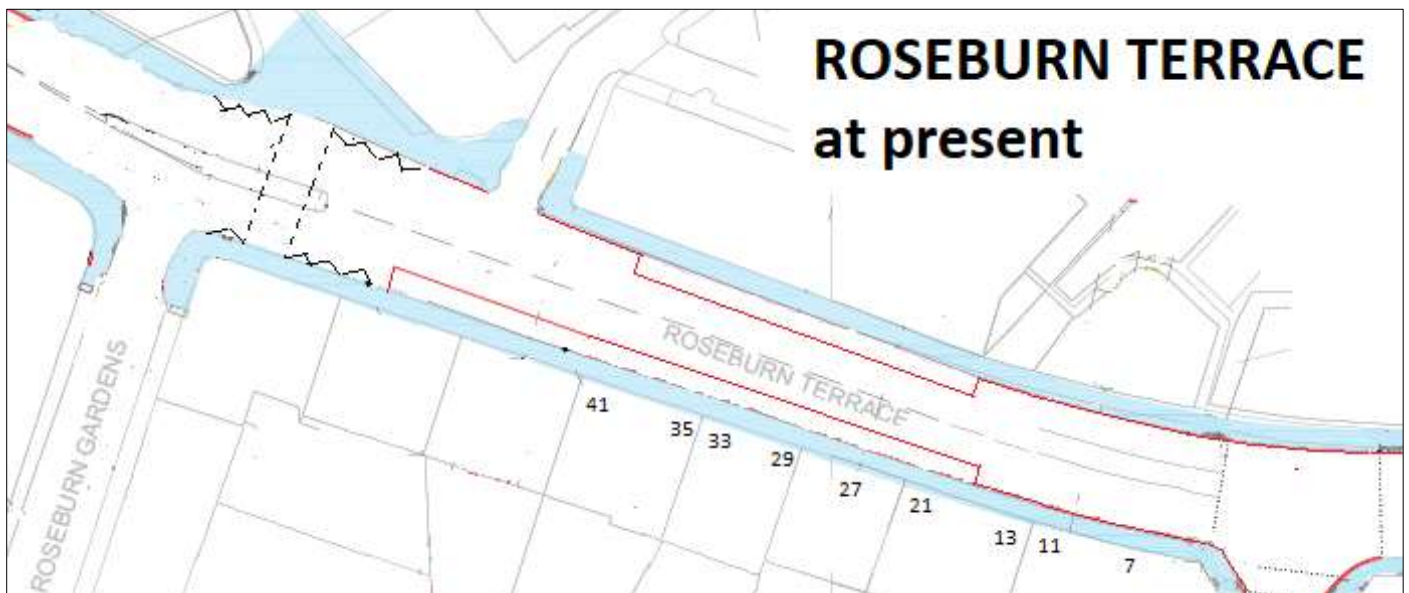
numbers 13 to 41 Roseburn Terrace are most at risk, as they will lose all parking/loading, bringing traffic closer to their homes and shops, leading to the loss of dilution.

CONCLUSION

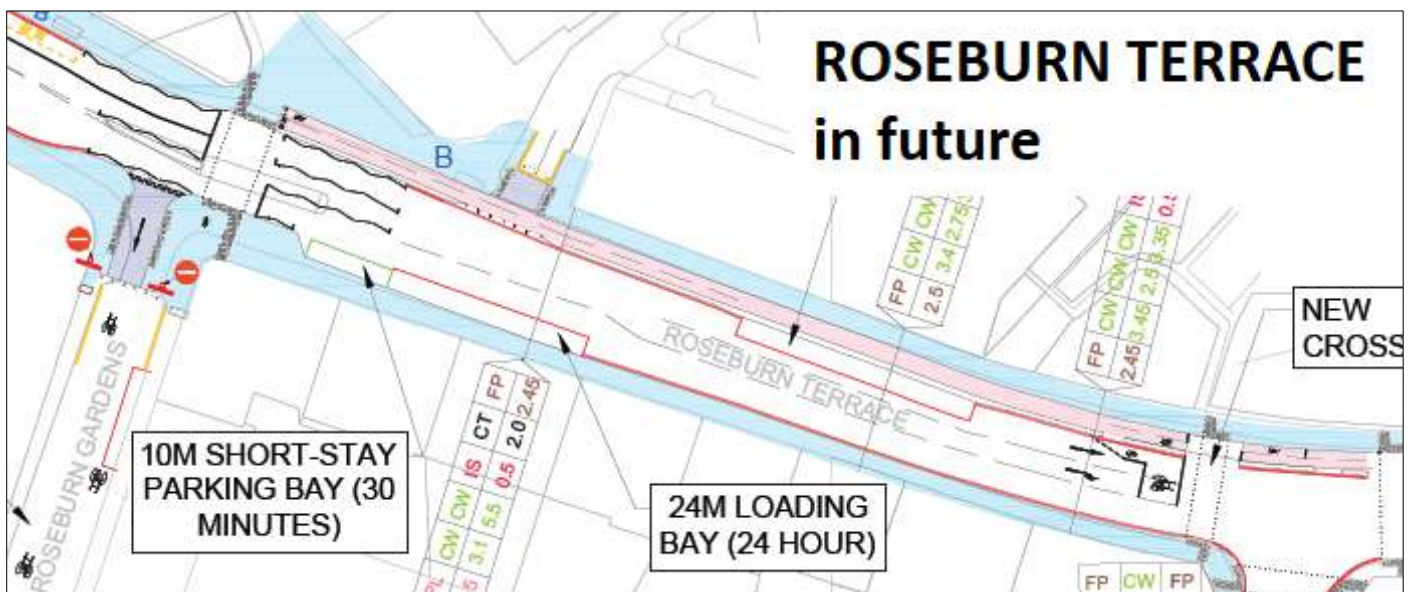
CEC must commission an air quality and health study that will assess the impact of the CCWEL on health and air quality. This should be done by a consultant - not SEPA. CEC require developers to submit one for projects such as this- but CEC itself does not.

John Lamb notes: "Buildings can affect the way air pollutants are dispersed through street design and the resulting impact on air flow. Addressing air pollution at the planning stage for major developments may reduce the need for more expensive remedial action". As noted in National Institute for Health and Care Excellence (NICE) guidance "Assessing proposals to minimise and mitigate road-traffic-related air pollution will help to ensure they are robust and evidence based." (see Air pollution: outdoor air quality and health at <https://www.nice.org.uk/guidance/qs181/chapter/Quality-statement-2-Planning-applications>)

FoE Scotland wrote in their consultation response to CEC that re: Roseburn cycleway: "If air quality modelling, when conducted, indicates that there may be adverse impacts on air quality, the Council must include mitigation measures". More info at www.tinyurl.com/trackmustpay



Total parking/loading will be reduced from 40m to 28m on the north side and from 68m to 34m on the south side. Parking /loading outside numbers 13 to 41 will disappear, bringing traffic closer to homes and reducing dilution of pollution, thereby raising NO2 to dangerous levels.



MORE POLICY NOTES

City of Edinburgh Council's guidance on how to protect air quality

City of Edinburgh Council's Local Transport Strategy 2014-2019

The Local Transport Strategy aims "To reduce pollutant emissions in order that the city meets statutory Scottish air quality standards." (Page 22) and Section 5.2.2 states "the Council will ensure that the air quality policies and actions in its Local Transport Strategy and

statutory Air Quality Action Plan are aligned;" Section 14.1.1: "Edinburgh's constrained road network, the impact of road traffic on quality of life and the need to meet climate change and air quality targets mean that it makes sense to favour strongly public transport for access into the city. The Council will support improvements to connectivity that do not increase traffic and congestion pressures in and around Edinburgh itself." The proposed changes in Roseburn is likely to increase traffic congestion and this is may increase exhaust emissions.

Appendix 1: "Outcome 2: Be healthy - promoting Active Travel with streets appropriately designed for their functions, with an emphasis on encouraging walking, cycling and public transport use and a high quality public realm; improving local air quality."

Air Quality Action Plan 2008

Page 47: "Local air quality is a key consideration in the integration between planning and transport. The Edinburgh City Local Plan establishes the need for air quality assessment and mitigation."

Local Development Plan: November 2016

Page 14: "The planning system has a role to play in the protection of air quality, by ensuring that development does not adversely affect air quality in Air Quality Management Areas (AQMAs) or, by cumulative impacts, lead to the creation of further AQMAs in the city. These are areas where air quality standards are not being met, and for which remedial measures should therefore be taken."

Page 107: Policy Env 22 Pollution and Air, Water and Soil Quality states: Planning permission will only be granted for development where:

- there will be no significant adverse effects for health, the environment and amenity and either
- there will be no significant adverse effects on: air, and soil quality; the quality of the water environment; or on ground stability

and:

"The potential risk and significance of pollution will be considered when assessing planning applications, in consultation where necessary with relevant agencies, such as Scottish Environment Protection Agency and the Health and Safety Executive. Proposals will be assessed to ensure development does not adversely affect air quality in identified Air Quality Management Areas (AQMAs) or, by cumulative impacts, lead to the creation of further AQMAs in the city."

National Institution for Health and Care Excellence

Air pollution: outdoor air quality and health

<https://www.nice.org.uk/guidance/qs181/chapter/Quality-statement-2-Planning-applications>

"The built environment can affect the emission of road-traffic-related air pollutants by influencing how and how much people travel, for example, by ensuring good connections to walking and cycling networks. Buildings can affect the way air pollutants are dispersed through street design and the resulting impact on air flow. Addressing air pollution at the planning stage for major developments may reduce the need for more expensive remedial action at a later stage.

It can also help to maintain people's health and wellbeing during and after construction. Assessing proposals to minimise and mitigate road-traffic-related air pollution will help to ensure they are robust and evidence based.”

“Local authority planning officers assess proposals to minimise and mitigate road-traffic-related air pollution in planning applications for major developments using an agreed local framework to ensure they are evidence based. Local authority planning officers encourage applicants to modify their planning applications if necessary, to include evidence-based approaches to minimise or mitigate road-traffic-related air pollution.”