

2.3 Natural environment

2.3.1 Green space

Why this matters?

“Green areas are important for health because they:

- Allow for contact with nature, promote recovery from stress, are beneficial for mental health and help improve behaviour and attention in children;
- Improve air quality and help reduce heat stress;
- Encourage people to be physically active”¹

The same report goes on to say that comparisons between proportions of the urban area devoted to green space and satisfaction with green space “indicate that it is not only the total area that is important in individual satisfaction, but also the quality of the green open space, including accessibility, possibilities for outdoor recreation, distribution and the overall design of the urban area”²

Table 2.3-1: Health changes and contact with nature: summary findings

Table 22.16 Health changes and contact with nature: summary findings.* Source: Mourato *et al.* (2010).

Explanatory variable	Difference in explanatory variable	Associated health differences			
		Physical functioning (%)	Emotional well-being (%)	Health utility score (%)	Tentative annual value per person (£)
Having a view over greenspace from your house	No view → any view	-	+5.0	+2.1	135-452
Use of own garden	Less than weekly → weekly or more	+3.5	+3.7	+2.7	171-575
Use of non-countryside greenspace	Less than monthly → monthly or more	+3.4	+2.6	+1.8	112-377
Local freshwater, wetlands and floodplains	+1% within 1 km of the home (+3.14 out of 314 ha)	-	-	+0.3	20-68
Local enclosed farmland	+1% within 1 km of the home (+3.14 out of 314 ha)	-	-	+0.1	4-12
Local broadleaved/mixed woodland	+1% within 1 km of the home (+3.14 out of 314 ha)	-	-	+0.1	8-27

* Based on analyses of data for England and Wales.

The total area of the city is 122.85km², with green space making up 67.72km, or 55%. This space is reasonably evenly distributed across the city, with the town moor at its heart (Figure 2.3-1)

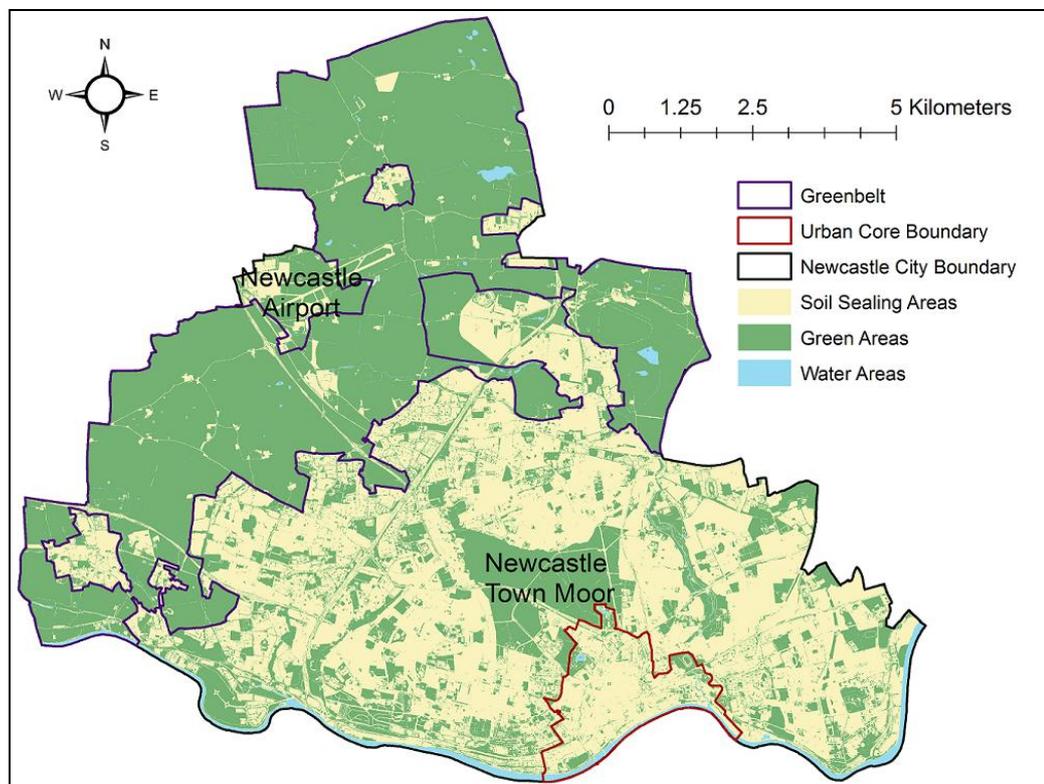


Figure 2.3-1: Newcastle map presenting the main green, soil sealing and water areas

Nearly a quarter of green space (17.05 km²) is publicly accessible. Table 2.3-2 provides a further breakdown.

Table 2.3-2: Publicly accessible green space in Newcastle

Type of green space	Area (km ²)	Percentage coverage of all publicly accessible green spaces
Allotments, community gardens and urban farms	1	5.87
Amenity green space	4.22	24.75
Cemetery or churchyard	0.68	3.99
Green corridor	0.16	0.94
Natural and semi natural green spaces	5.49	32.20
Outdoor sports facility (inc. schools)	2.94	17.24
Parks and gardens	2.54	14.90
Provision for children and young people	0.02	0.12

In addition, the council has surveyed over 43,000 street trees but the overall number stands somewhere between 1 and 3 million.

2.3.2 Accessibility and use of green space

Newcastle University undertook modelling which estimated that 89% of people live within 300m of public green area that has an area greater than 5000m² (Figure 2.3-2). This was based on Census 2001, similar modelling is not available for Census 2011.

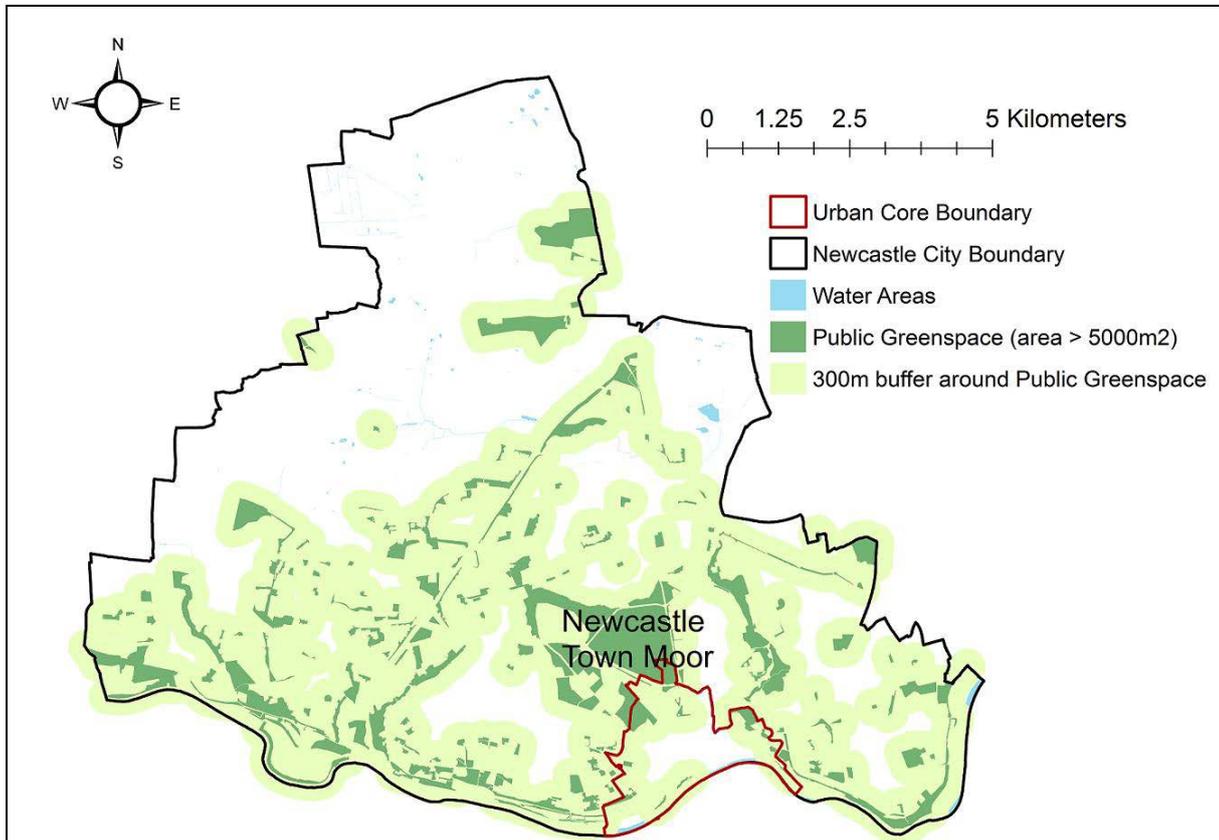


Figure 2.3-2: Distance to public green space of an area greater than 5000m²

The Residents' Survey gives insights into the frequency that respondents use Newcastle's parks and green spaces. In 2015, 58.1% of respondents stated that they use parks and green spaces about once a month. Figure 2.3-3 to Figure 2.3-6 illustrate how that varies by ward, age, respondent type and household type.

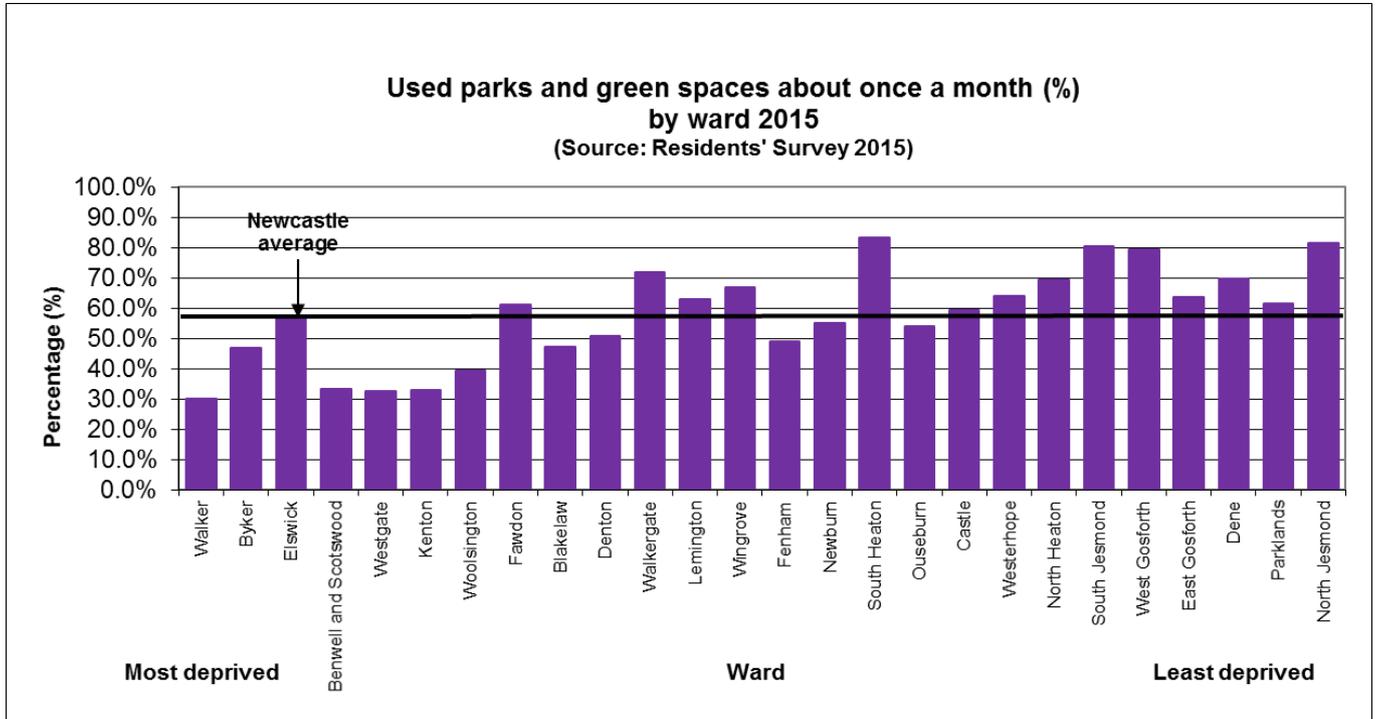


Figure 2.3-3: Use of parks and green spaces by ward 2015

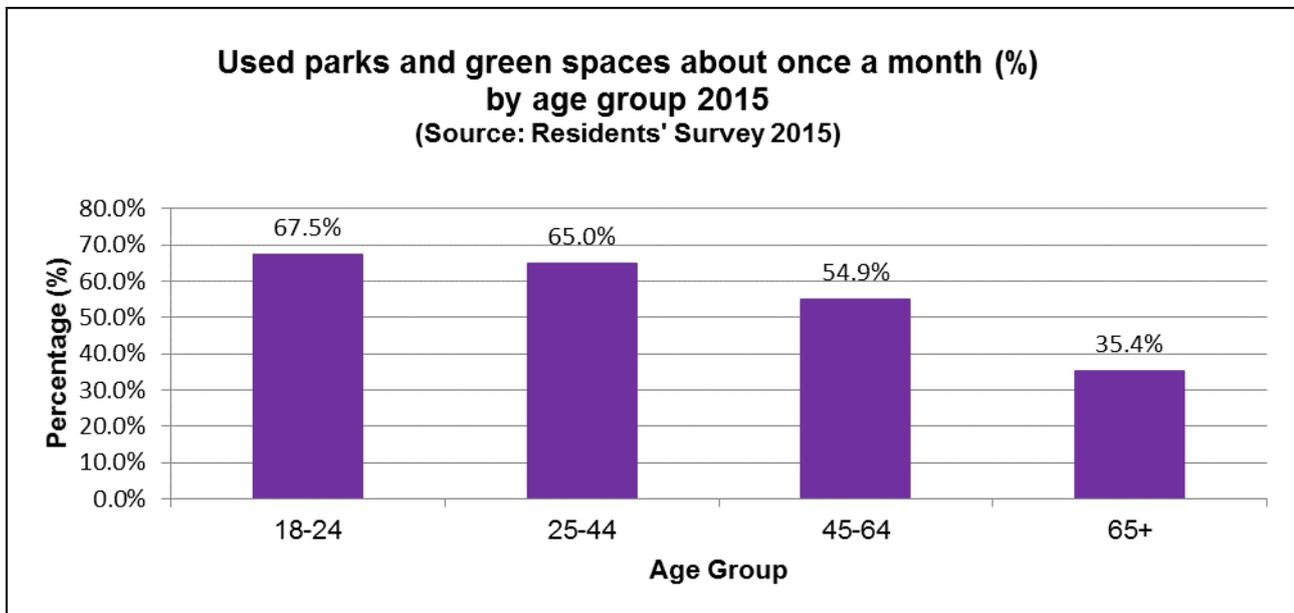


Figure 2.3-4: Use of parks and green spaces by age group 2015

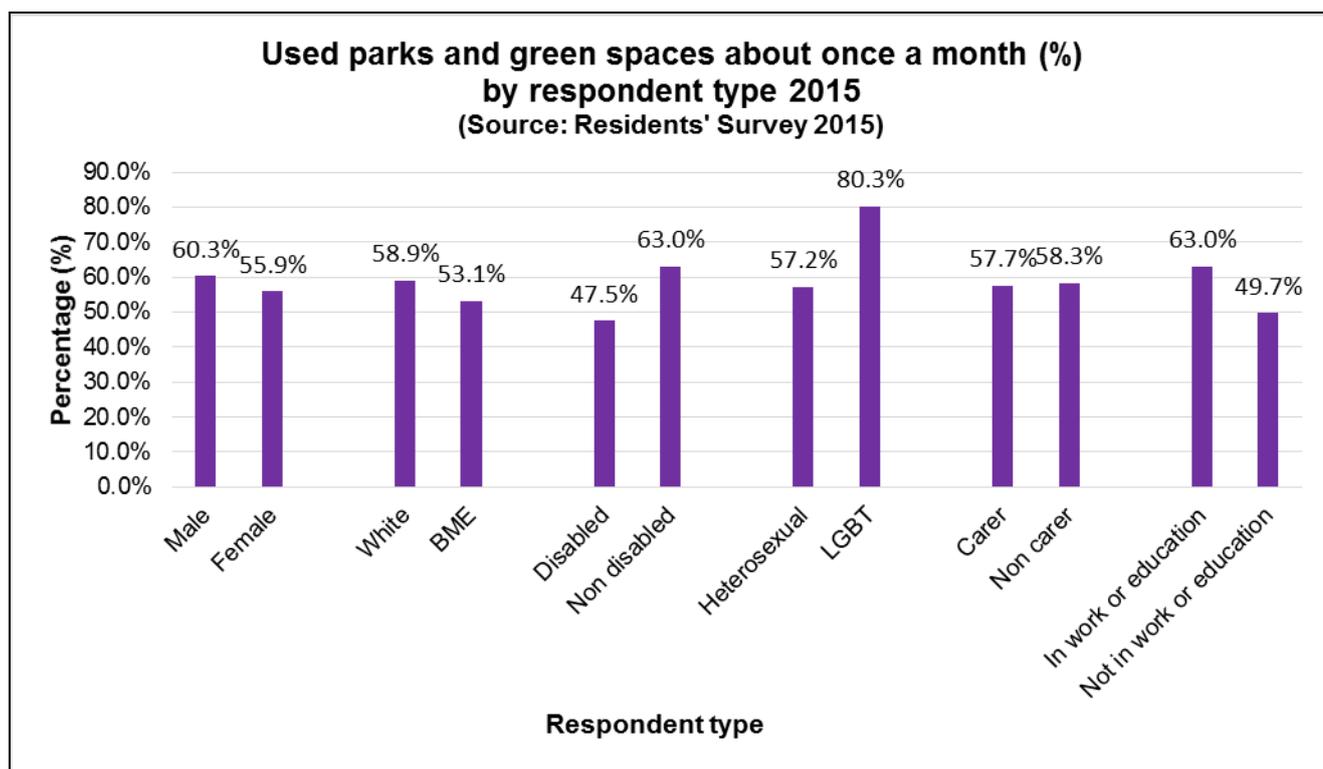


Figure 2.3-5: Use of parks and green spaces by respondent type 2015

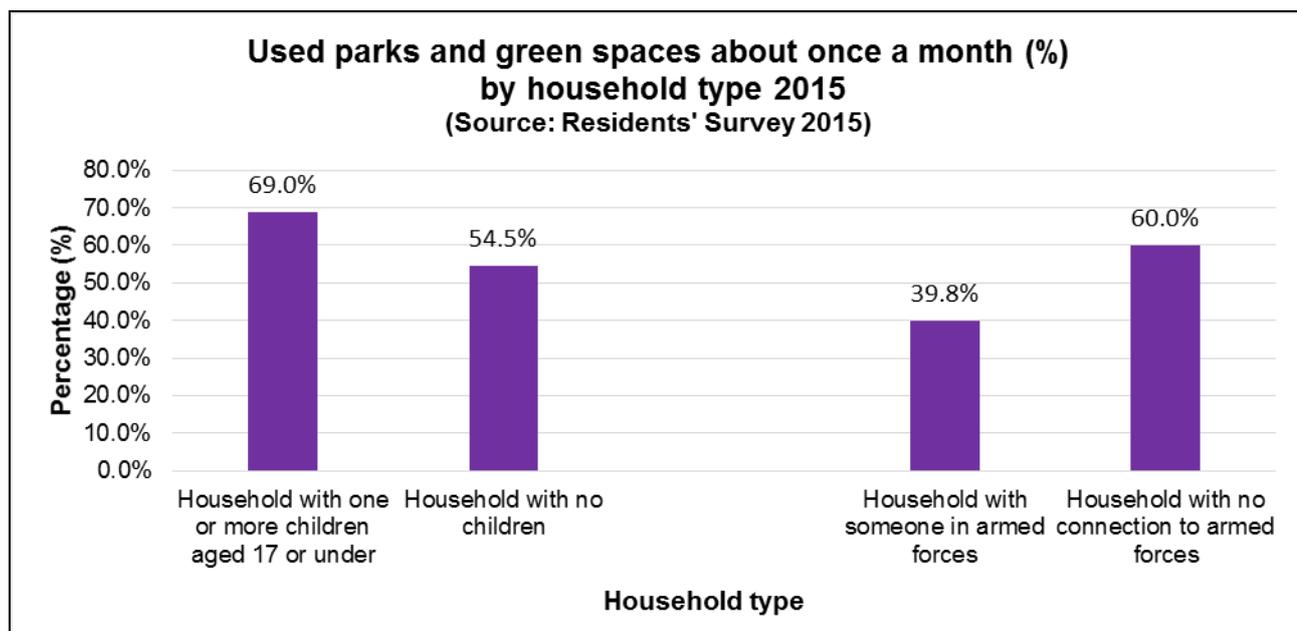


Figure 2.3-6: Use of parks and green spaces by household type 2015

The Residents' Survey also gives insights into the satisfaction of respondents with Newcastle's parks and green spaces. In 2015, 69.8% of respondents stated that they were satisfied with parks and green spaces. Figure 2.3-7 to Figure 2.3-10 illustrate how that varies by ward, age, respondent type and household type

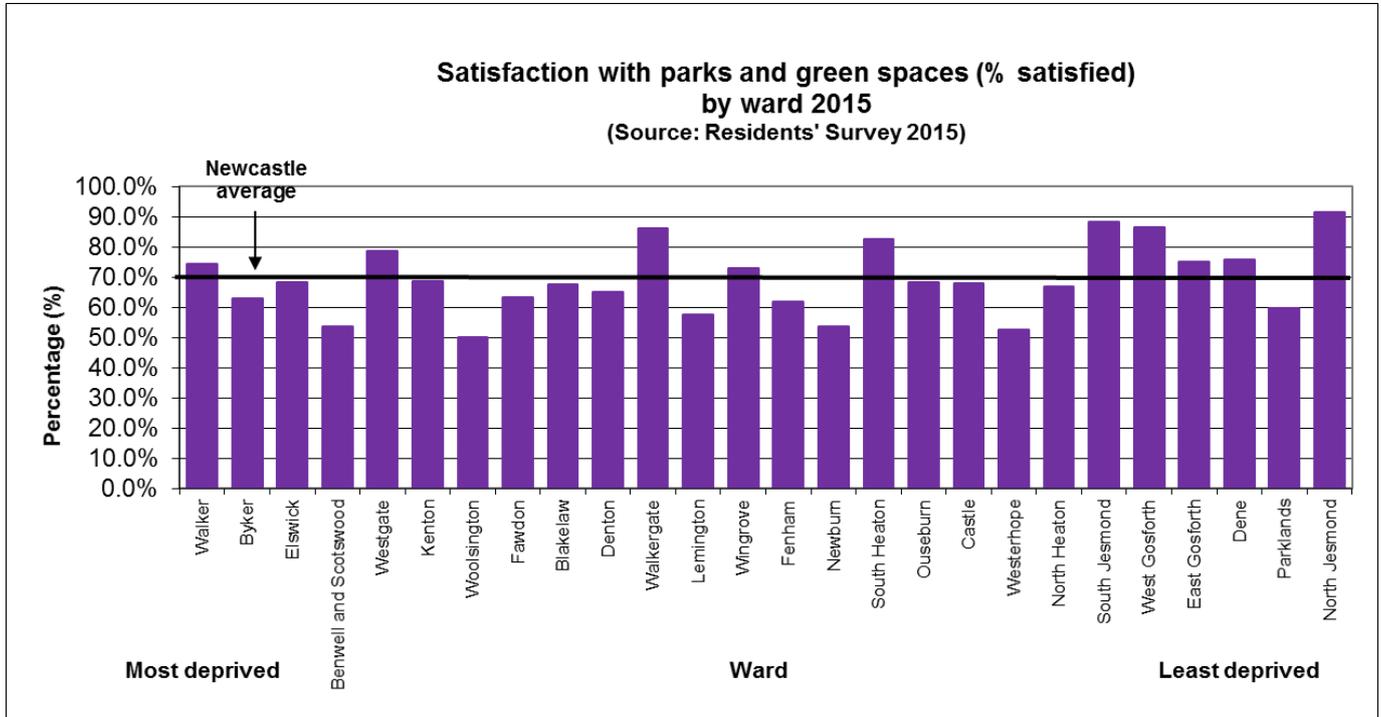


Figure 2.3-7: Satisfaction with parks and green spaces by ward 2015

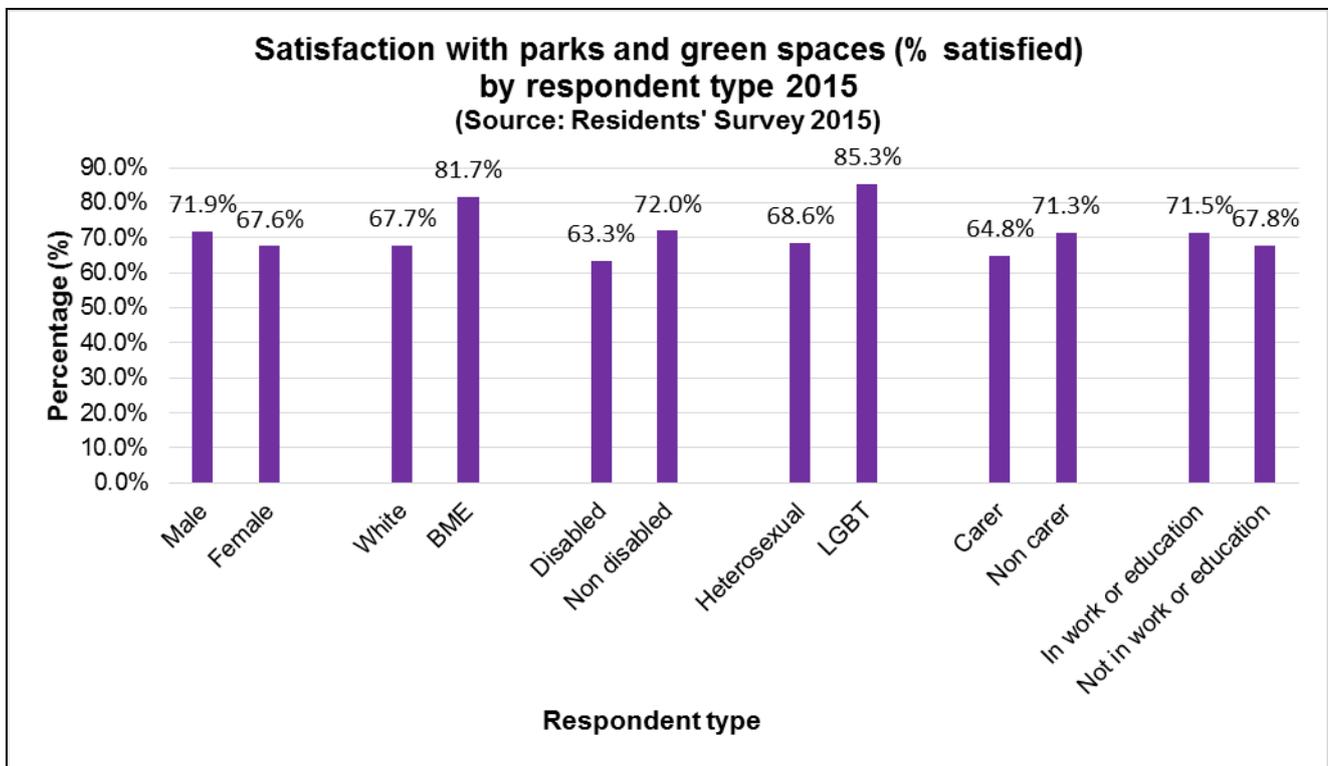


Figure 2.3-8: Satisfaction with parks and green spaces by age group 2015

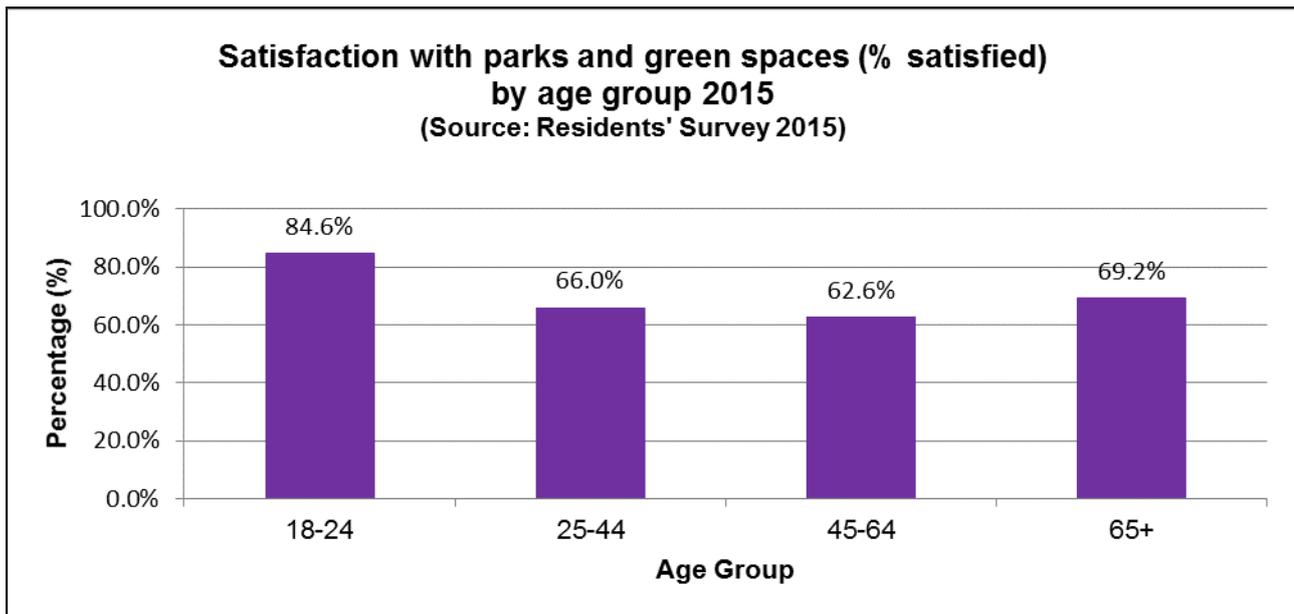


Figure 2.3-9: Satisfaction with parks and green spaces by respondent type 2015

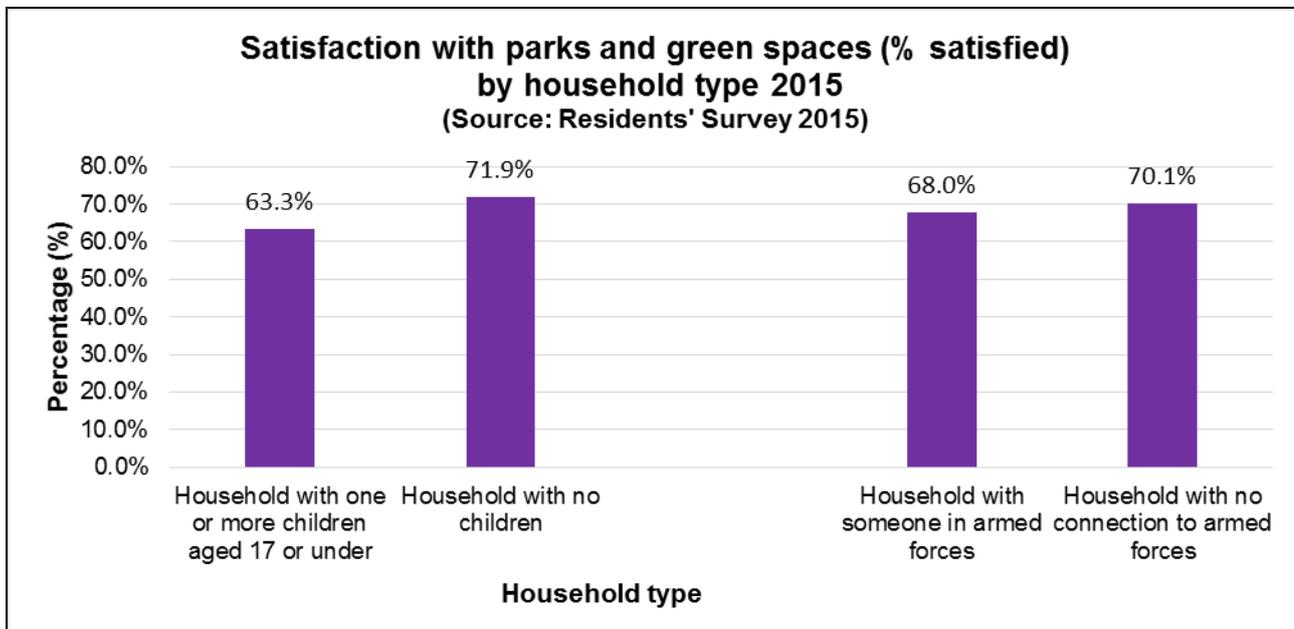


Figure 2.3-10: Satisfaction with parks and green spaces by household type 2015

The Residents Survey data can also give us an indication of the trend over time. Figure 2.3-11 shows the city-wide trend, whilst Figure 2.3-12 shows the difference at ward level. There is no discernible pattern in the wards that have improved or declined.

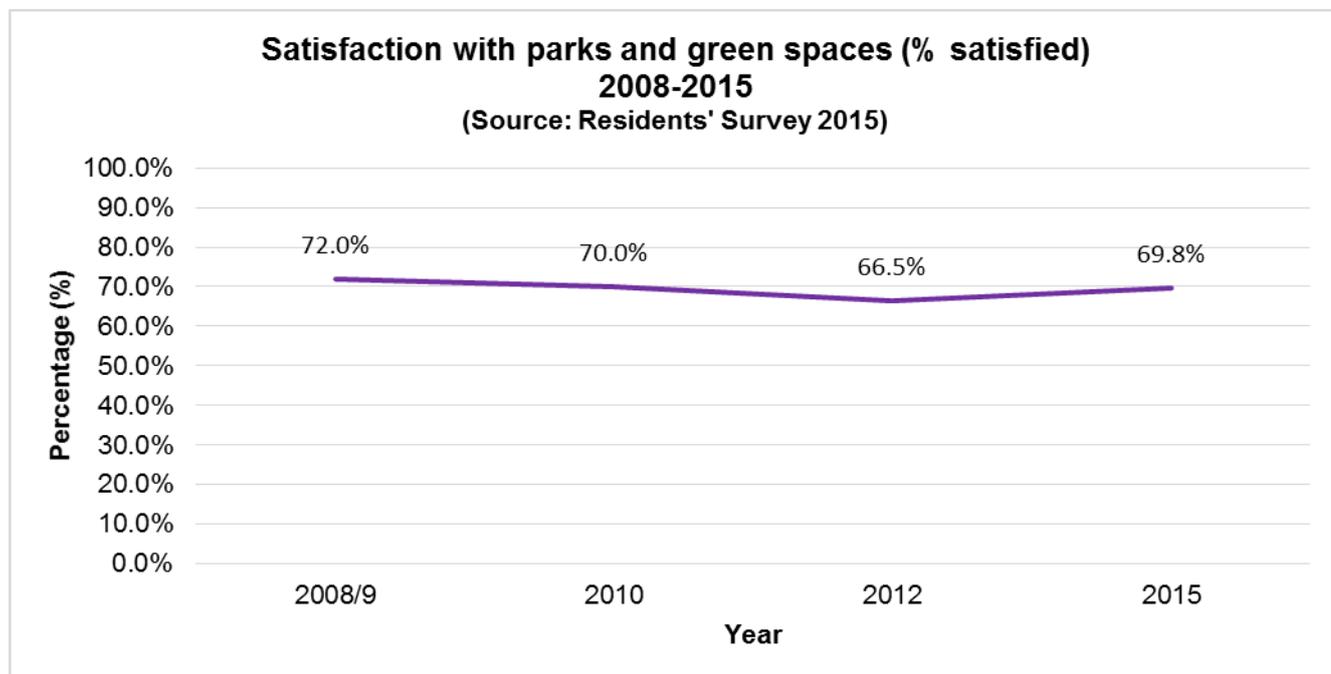


Figure 2.3-11: Satisfaction with parks and green spaces citywide trend

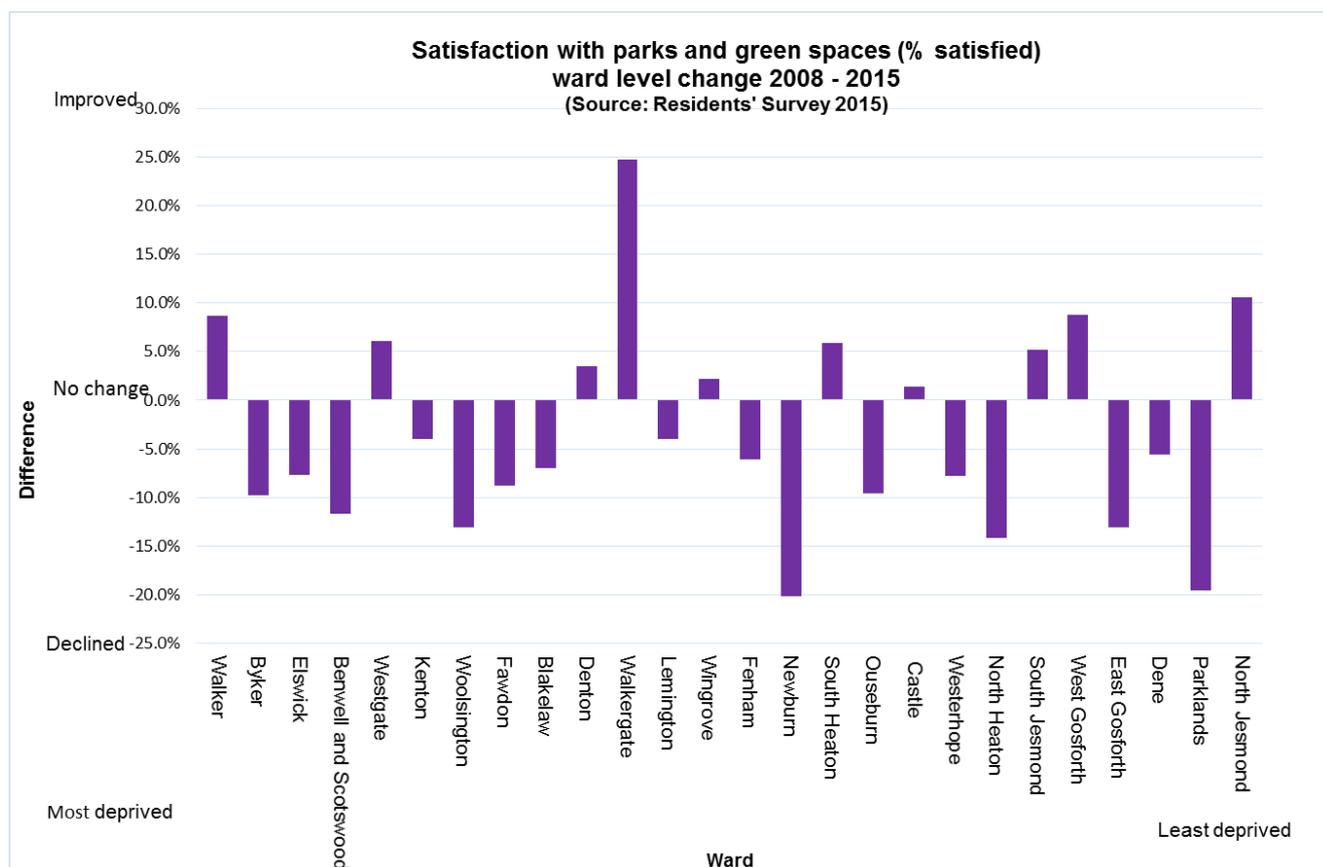


Figure 2.3-12: Satisfaction with parks and green spaces ward level change

2.3.3 Air quality

Why this matters?

“Greater air pollution has been linked to deprived neighbourhoods in several countries...Other studies have highlighted that even cities that might not follow this trend where people with socioeconomic status are exposed to the highest pollution concentrations, mortality rates from air pollution-related causes are still highest among those with lower socioeconomic status, indicating greater susceptibility to the effects of air pollution among the most deprived people.”³

Figure 2.3-13 presents the annual mean concentration of Nitrogen dioxide recorded at monitoring sites within the city.

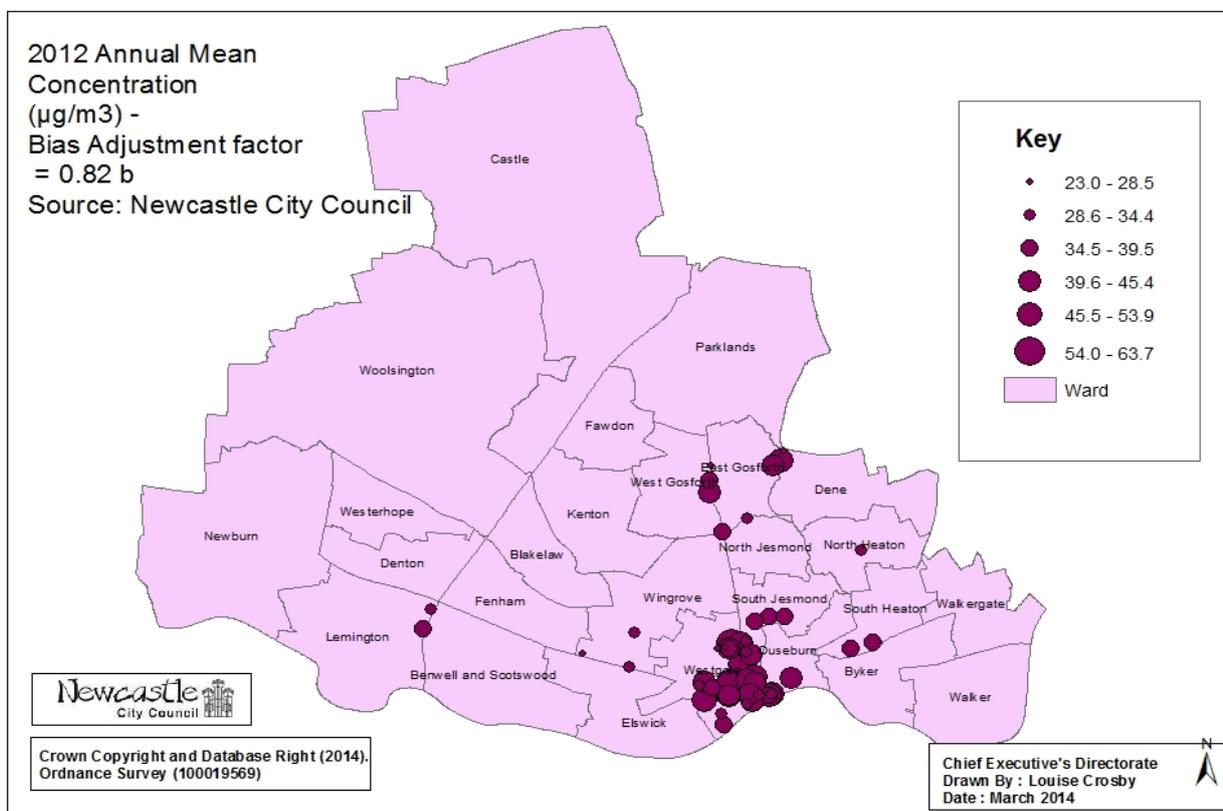


Figure 2.3-13: Annual mean Concentration Nitrogen Dioxide ($\mu\text{g}/\text{m}^3$) in 2012. Source: Newcastle City Council

References and Sources

¹ European Environment Agency (2009) “Ensuring quality of life in Europe’s cities and towns: tackling the environmental challenges driven by European and Global Change”, European Environment Agency, Report number 5/2009.

² European Environment Agency (2009) “Ensuring quality of life in Europe’s cities and towns: tackling the environmental challenges driven by European and Global Change”, European Environment Agency, Report number 5/2009.

³ World Health Organisation Regional Office for Europe (2012) “Addressing the social determinants of health: the urban dimension and the role of local government”, World Health Organisation