

Healthy Place

Transport and Air Quality

Introduction

The choices made on how to arrive at a destination are determined by convenience, affordability and access. The majority of journey's made in Merton are still made by car due to the design of our neighborhoods prioritizing private car use over all other forms of transport.

Transport choices vary depending on age and gender. Understanding the barriers faced by the local population is vital for Merton to be a healthy, equitable place. Women's frequency to use buses as the primary source of transportation is disproportionately higher to men who travel more often by privately-owned vehicles. Merton has a high level of drivers who consistently make short journeys, in part due to the infrequency of train stations and bus timetables. In addition to the above-mentioned gendered constraints, 77% of the health service is provided by women most of whom will be working shift work that will fall outside of the 9-5 schedule of train and bus public operation, limiting the use of private cars as the only option for safer travel in early morning or late evening shift work¹.

Women remain the dominant provider of care for society's most vulnerable either through childcare, caring for older relatives or working in the caring sector, which means their reliance on carefully timed journeys for care responsibilities in and around working responsibilities heightens their movements in times of the day where safety concerns are increased when waiting for infrequent buses or trains. Therefore, designing accessibility into public transport is not only about increasing the access and affordability, but frequency of public transport which supports safer travel to and from the destination at all hours of the day.

In March 2022, Merton Council joined the Mayor's Women's Night Safety Charter, which highlights London's commitment to promote women's safety at night in partnership with over 700 organizations that operate over night. Among the commitments is the training and deployment of 20 street pastors to ensure the areas in the Borough where concerns have been raised by women, are patrolled to encourage safe passage and prevent vulnerability.

How people travel has a major impact on population health. Travel with fossil fuel vehicles is a contributor to air pollution, a major cause of illness and death, and there are risks relating to road safety. Those who use public transport are more likely to be active and burn calories than car users²; thus, contributing to a lower risk of being overweight and obesity³.

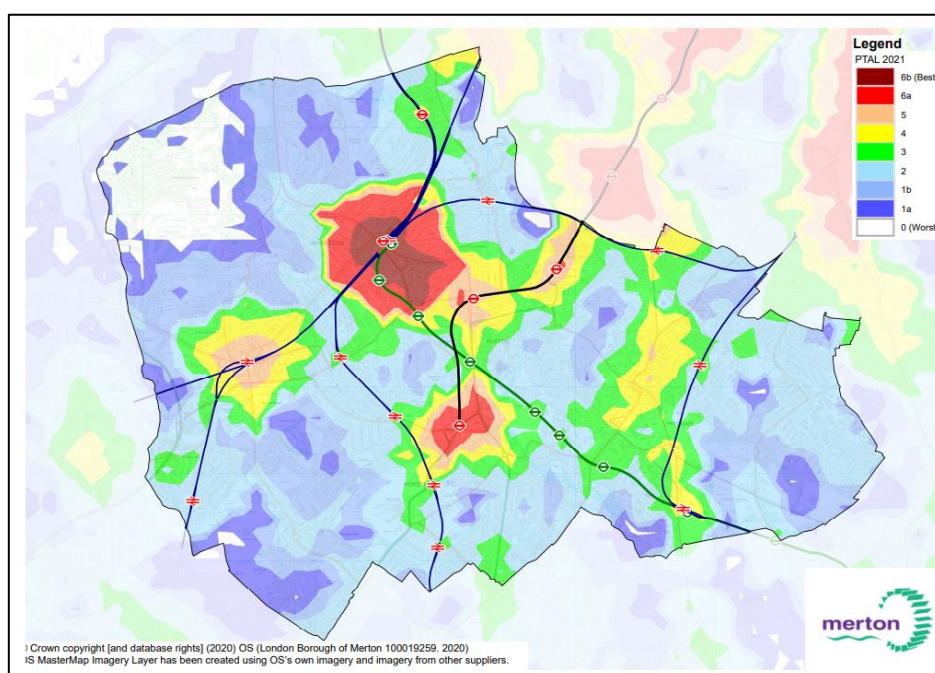
How we move

In 2019 in the UK, 26% of trips were undertaken for leisure, with 19% being undertaken for shopping and 15% for commuting⁴. 61% of trips were undertaken by car, 26% on foot, 8% on buses and trains and 2% on a bicycle. The pandemic has led to changes in how we travel, as of May 2022 the use of TfL services had not fully recovered to pre-pandemic levels⁵. Cycling in London has more than doubled since 2000, there has also been a significant decrease in the number of people killed or seriously injured on roads since this time⁶. Data shows that 34% of Merton residents walked or cycled for two episodes of 10 minutes a day from 2017 to 2020⁷.

Public Transport Access Levels:

The Merton map of Public Transport Accessibility Levels shows that transport accessibility across the Borough is uneven with good transport links generally being better in the West of the borough in comparison to the East⁸. Good accessibility is particularly focused around Wimbledon, Morden, Colliers Wood and Raynes Park. Wimbledon's town centre, and its wider area are among Merton's most publicly accessible transport neighbourhoods⁹ (Figure 1). Together with Crossrail 2, the proposed link into Wimbledon by 2031 will be able to radically improve the air quality and quality of life for the local town centre and the wider area. On the other hand, Mitcham together with Lower Morden is far less connected¹⁰, despite the access to buses, a tram and two train stations from Mitcham Eastfields and Mitcham Junction. Morden varies a great deal with a public transport accessibility level (PTAL) varying from 1 in the south end of Morden to 6 in the Morden Town Centre¹¹.

Figure 1: Public Transport Accessibility Level (PTAL) 2020, London Borough of Merton.



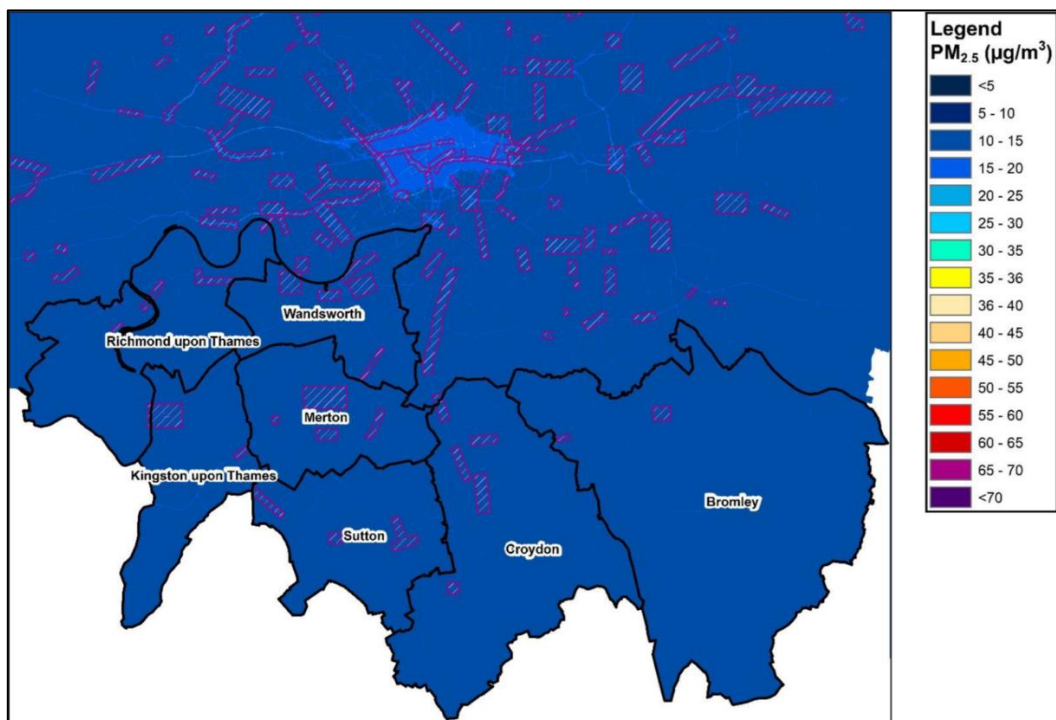
The Borough's Air Quality Status Report 2021¹² provides a full analysis of air quality in the Borough in 2020, finding that Merton was still exceeding government targets¹³ (Figure 2). Much of this pollution is generated outside of Merton and beyond, however due to inconsistency it is estimated that between 54 and 100 people a year die in Merton due to air pollution¹⁴. The Merton Story 2021 recognised the fact that the Borough's active travel infrastructure is less developed than neighboring Boroughs.

Inequalities in experiences of active travel and air pollution

Less than a third of Merton's residents do 20 minutes of active travel a day, and there has been a decline over the last five years.¹⁵ Data from TfL showed that in 2017 in London there were more men than women cycling, more people from white backgrounds than from Black, Asian, and Minority Ethnic groups, and more people aged 24-44 than those outside this age group¹⁶. Issues causing lower uptake of active travel may include perceptions of safety¹⁷.

Just as there are differences in those using active travel, there are also inequalities in terms of who experiences the worst outcomes of air pollution. In England those living in the 20% most deprived neighbourhoods and neighbourhoods where more than 20% of the population are non-white experience higher concentrations of air pollution¹⁸.

Figure 2: Current GLA air quality focus areas and modelled annual mean PM2.5 concentration (2016). Source: Local Authorities and Air Quality: A summary of action taken by London Boroughs to improve air quality in 2020¹⁹.

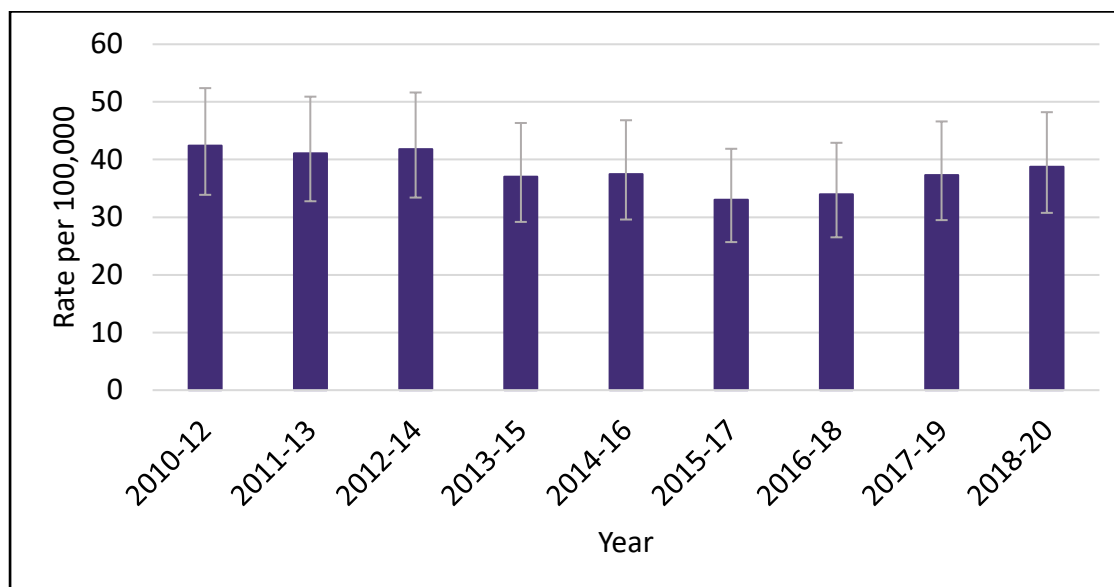


Road safety

Road traffic collision data collected by the police indicates that in 2020, there were 69 casualties that were killed or seriously injured (KSI) through road traffic collisions in Merton. The annual number of KSI collision casualties in Merton has fluctuated year to year (2010 to 2020) (Figure 3), with no observed increases or decreases taking statistical uncertainty into account²⁰. There is a relationship between deprivation and injury risk in London – especially for pedestrians and adult cyclists²¹. Driver compliance with 20mph speed limits is less than 20%²².

Figure 3: Killed or seriously injured casualties in Merton (adjusted rate per 100,000 population), between 2010-12 and 2018-20, Department for Transport²³.

Please note, the rate presented has been adjusted for changes in police reporting systems which now better classify the severity of injuries. Rates have been calculated using a 3-year rolling average, using respective ONS mid-year population estimates as denominators.



Related Indicators

Table 1 below provides some overall measures of the exposure to noise pollution from transport (fewer people are exposed than London but more than England), air pollution (similar to London), and fraction of mortality attributable to particulate air pollution accounting for between 54-100 deaths per year (similar to London).

Table 1: Pollution Indicators comparing Merton, London, and England. Please note, Fraction of annual all-cause adult mortality attributable to particulate air pollution (measured as fine particulate matter, PM2.5).

Indicator	Merton	London	England
% Of the population exposed to road, rail, and air transport noise of 65 dB(A) or more during the daytime - 2016 ²⁴	9.5%	12.1%	5.5%
Air pollution: mean measure of fine particulate matter ($\mu\text{g per m}^3$) – 2020 ²⁵	9.7	9.6	7.5
Fraction of mortality attributable to particulate air pollution – 2020 ²⁶	7.2%	7.1%	5.6%

Service User and Resident Views

Traffic, congestion, and the need to promote cycling and walking feature prominently in Merton Residents' Survey²⁷.

Further Information:

- Merton's travel strategies²⁸

References:

- ¹ NHS celebrates the vital role hundreds of thousands of women have played in the pandemic [Internet]. NHS England; 2021. [cited 30 September 2022]. Available from: <https://www.england.nhs.uk/2021/03/nhs-celebrates-the-vital-role-hundreds-of-thousands-of-women-have-played-in-the-pandemic/#:~:text=NHS%20staff%20who%20are%20women,scientific%2C%20therapeutic%20and%20technical%20staff>
- ² Rissel C, Curac N, Greenaway M, Bauman A. Physical Activity Associated with Public Transport Use—A Review and Modelling of Potential Benefits. *International Journal of Environmental Research and Public Health*. 2012;9(7):2454-2478. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3407915/>
- ³ Wen L, Orr N, Millett C, Rissel C. Driving to work and overweight and obesity: findings from the 2003 New South Wales Health Survey, Australia. *International Journal of Obesity*. 2006;30(5):782-786. Available from: <https://pubmed.ncbi.nlm.nih.gov/16404406/>
- ⁴ National Travel Survey: England 2019. [Internet]. Department for Transport. 2020 [cited 3 October 2022]. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/906276/national-travel-survey-2019.pdf
- ⁵ Mayor re-opens Bank branch of Northern s Underground platform and concourse line to new spacious [Internet]. Transport for London. 2022 [cited 3 October 2022]. Available from: <https://tfl.gov.uk/info-for/media/press-releases/2022/may/mayor-re-opens-bank-branch-of-northern-line-to-new-spacious-underground-platform-and-concourse>
- ⁶ Cycling action plan [Internet]. Transport for London. 2018 [cited 3 October 2022]. Available from: <https://content.tfl.gov.uk/cycling-action-plan.pdf>
- ⁷ LIP3 MTS outcomes Borough data pack - Dec 2021 [Internet]. Transport for London. 2020 [cited 3 October 2022]. Available from: <http://planning.data.tfl.gov.uk/>
- ⁸ Merton Public Transport Accessibility Levels. [Internet] Merton Council. 2021 [cited 4 October 2022]. Available from: <https://www.merton.gov.uk/system/files?file=stage20320-20transport20policies20map20-20ptal.pdf>
- ⁹ Transport for London | Every Journey Matters. WebCAT Planning Tool [Internet]. Transport for London. [cited 4 October 2022]. Available from: <https://tfl.gov.uk/info-for/urban-planning-and-construction/planning-with-webcat/webcat>
- ¹⁰ Transport for London | Every Journey Matters. WebCAT Planning Tool [Internet]. Transport for London. [cited 4 October 2022]. Available from: <https://tfl.gov.uk/info-for/urban-planning-and-construction/planning-with-webcat/webcat>
- ¹¹ Transport for London | Every Journey Matters. WebCAT Planning Tool [Internet]. Transport for London. [cited 4 October 2022]. Available from: <https://tfl.gov.uk/info-for/urban-planning-and-construction/planning-with-webcat/webcat>

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- ¹² London Borough of Merton Air Quality Annual Status Report for 2020 [Internet]. Merton Council. 2021 [cited 4 October 2022]. Available from: https://www.merton.gov.uk/system/files?file=london20Borough20of20merton20asr20for202020_final.pdf
- ¹³ London Borough of Merton Air Quality Annual Status Report for 2020 [Internet]. Merton Council. 2021 [cited 4 October 2022]. Available from: https://www.merton.gov.uk/system/files?file=london20Borough20of20merton20asr20for202020_final.pdf
- ¹⁴ Dajnak D, Evangelopoulos D, Kitwiroon N, Beevers S, Walton H. London Health Burden of Current Air Pollution and Future Health Benefits of Mayoral Air Quality Policies [Internet]. Imperial College London Projects. 2020 [cited 3 October 2022]. Available from: https://www.london.gov.uk/sites/default/files/london_health_burden_of_current_air_pollution_and_future_health_benefits_of_mayoral_air_quality_policies_january2020.pdf
- ¹⁵ Dajnak D, Evangelopoulos D, Kitwiroon N, Beevers S, Walton H. London Health Burden of Current Air Pollution and Future Health Benefits of Mayoral Air Quality Policies [Internet]. Imperial College London Projects. 2020 [cited 3 October 2022]. Available from: https://www.london.gov.uk/sites/default/files/london_health_burden_of_current_air_pollution_and_future_health_benefits_of_mayoral_air_quality_policies_january2020.pdf
- ¹⁶ Cycling action plan [Internet]. Transport for London. 2018 [cited 3 October 2022]. Available from: <https://content.tfl.gov.uk/cycling-action-plan.pdf>
- ¹⁷ Feminist Green New Deal Policy Paper, Towards Gender-Inclusive and Sustainable Transport Systems [Internet]. Women's Budget Group. 2021 [cited 4 October 2022]. Available from: <https://wbg.org.uk/wp-content/uploads/2021/06/Gender-inclusive-transport-systems-V3.pdf>
- ¹⁸ Fecht D, Fischer P, Fortunato L, Hoek G, de Hoogh K, Marra M, et al. Associations between air pollution and socioeconomic characteristics, ethnicity and age profile of neighbourhoods in England and the Netherlands. *Environmental Pollution*. 2015;198:201–10. Available from: <https://doi.org/10.1016/j.envpol.2014.12.014>
- ¹⁹ Local Authorities and Air Quality: A summary of action taken by London Boroughs to improve air quality in 2020, https://www.london.gov.uk/sites/default/files/gla_compendium_report_final_jan_2022.pdf
- ²⁰ Department for Transport. Reported road collisions, vehicles and casualties tables for Great Britain. [Internet]. GOV.UK. 2021 [cited 4 October 2022]. Available from: <https://www.gov.uk/government/statistical-data-sets/reported-road-accidents-vehicles-and-casualties-tables-for-great-britain>
- ²¹ London School of Hygiene and Tropical Medicine. Edwards P, Lachowycz K, Grundy C, Roberts I, Green J. Deprivation and Road Safety in London [Internet]. Transport for London. 2006 [cited 4 October 2022]. Available from: <https://content.tfl.gov.uk/deprivation-and-road-safety.pdf>

²² 20mph limits have lowest level of compliance [Internet]. Road Safety GP; 2016. [cited 20 October 2022]. Available from: <https://roadsafetygb.org.uk/news/20mph-limits-have-lowest-level-of-compliance-5160/>

²³ Department for Transport. Reported road collisions, vehicles and casualties tables for Great Britain. [Internet]. GOV.UK. 2021 [cited 4 October 2022]. Available from: <https://www.gov.uk/government/statistical-data-sets/reported-road-accidents-vehicles-and-casualties-tables-for-great-britain>

²⁴ Office for Health Improvement and Disparities. Wider determinants of health [Internet]. Fingertips. [cited 4 October 2022]. Available from: <https://fingertips.phe.org.uk/wider-determinants#page/1/gid/1938133043/pat/15/ati/402/are/E09000024/iid/93439/age/164/sex/4/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1>

²⁵ Office for Health Improvement and Disparities. Wider determinants of health [Internet]. Fingertips. [cited 4 October 2022]. Available from: <https://fingertips.phe.org.uk/wider-determinants#page/1/gid/1938133043/pat/15/ati/402/are/E09000024/iid/93439/age/164/sex/4/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1>

²⁶ Office for Health Improvement and Disparities. Wider determinants of health [Internet]. Fingertips. [cited 4 October 2022]. Available from: <https://fingertips.phe.org.uk/wider-determinants#page/1/gid/1938133043/pat/15/ati/402/are/E09000024/iid/93439/age/164/sex/4/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1>

²⁷ London Borough of Merton: residents' survey 2021. [Internet] Merton Council. 2021 [cited 4 October 2022]. Available from: <https://www.merton.gov.uk/system/files?file=202120residents20survey20report.pdf>

²⁸ Transport strategy [Internet]. Merton Council. [cited 4 October 2022]. Available from: <https://www.merton.gov.uk/streets-parking-transport/lip3>