

Brooklyn air quality update: effectiveness of road sealing

Publication 1627
Published June 2016

Information bulletin

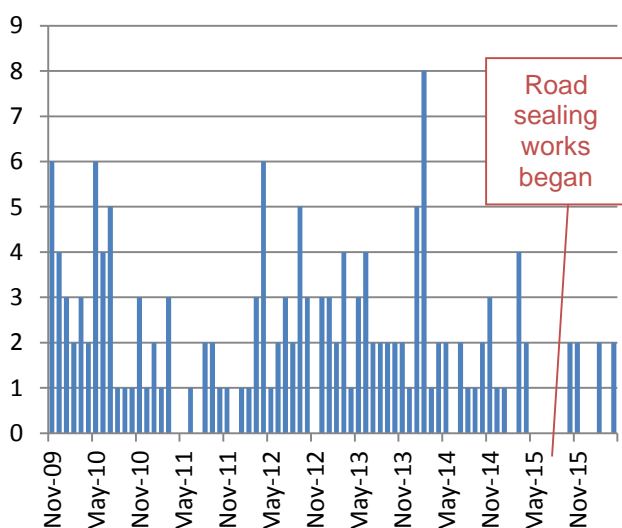
Works to seal Jones and Bunting Roads in Brooklyn began in May 2015 and were completed in October 2015. These roads had previously been identified as major sources of Particles smaller than 10 micrometers (PM₁₀) in the local region and were sealed as part of ongoing efforts to reduce PM₁₀ levels in Brooklyn. This report describes the benefits measured to date.

Brooklyn's air quality has significantly improved since the roads were sealed

Since work began to seal two roads within the Brooklyn Industrial Precinct (BIP) during autumn 2015, the frequency of days exceeding the PM₁₀ air quality standard in the neighbouring residential area has more than halved. During the 12 month period (May 2015 – April 2016) since the roads began to be sealed, the PM₁₀ standard was exceeded on a total of 8 days. These are the best air quality results in Brooklyn since EPA began air monitoring in the suburb during 2009. It also represents an approximate four-fold improvement since the first 12 month monitoring period when 38 days were measured in excess of the PM₁₀ standard.

Before the road sealing work commenced, there were most commonly more than 20 days in a rolling 12 month period that had exceeded the daily PM₁₀ standard in Brooklyn. Rare exceptions to this, such as during 2011, were associated with extremely wet weather reducing PM₁₀ concentrations.

Number of days exceeding the PM₁₀ air quality standard in Brooklyn per month



The air quality improvement since the road sealing has occurred despite recent dry conditions

During the 12 month period since the road sealing began, the rainfall amounts have been the lowest since EPA began air monitoring in Brooklyn.

This provides strong evidence that the road sealing has led to

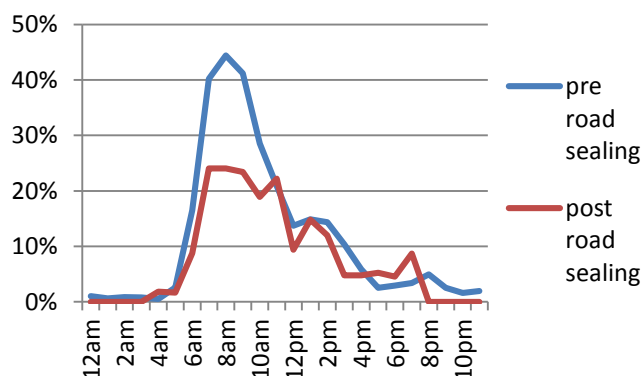
the recent air quality improvements in Brooklyn rather than lots of rainfall reducing the dust impacts.

The greatest air quality improvements have occurred between 7-10am

The graph below shows that since the road sealing began, the frequency of poor air quality in Brooklyn has halved between 7-10am when there has been northerly winds and no recent rain. These are the weather conditions that facilitate the transport of PM₁₀ emissions from the BIP to the neighbouring Brooklyn residential area.

This 7-10am time period previously corresponds to typical air emissions associated with the morning traffic peak, which is another strong indicator that sealing the two roads has driven the significant air quality improvement in Brooklyn.

Likelihood of poor air quality occurring in Brooklyn on weekdays during northerly winds with no recent rain



More air quality improvements are still necessary in Brooklyn

Even though Brooklyn's air quality has improved considerably during the past year, more days have still exceeded the PM₁₀ standard in Brooklyn during the past 12 months than anywhere else monitored by EPA in Melbourne. This shows that more actions will be required to further improve Brooklyn's air quality.

EPA's role in achieving further air quality improvements in Brooklyn

EPA is still managing PM₁₀ emissions from industrial and minor road based sources in the area through a variety of statutory interventions (e.g. site inspections) and collaborative engagement with government partners.

EPA will continue to forecast air quality in Brooklyn and, when necessary, issue alerts for poor air quality on the EPA website and twitter account. EPA also contacts local industries on those days to request they implement dust management plans to ensure they do not contribute to poor air quality in the area.