



To: Communities and Neighbourhoods Scrutiny Board (4)
Date: 19th December 2019
Subject: Update on Recycled Road Surface Materials in Coventry

1 Purpose of the Note.

- 1.1 To update the Board of the performance of recently laid road surfacing containing different types of waste recycled materials.
- 1.2 To inform the board of the planned future strategy for use of such materials.

2 Recommendations.

- 2.1 The Communities and Neighbourhoods Scrutiny Board (4) are recommended to:
 - 1) Support the conclusion of the Head of Highways with respect to the future strategy for use of recycled materials in asphalt mixes where these will be used in Coventry's roads.
 - 2) Recommend this approach to the Cabinet Member for City Services

3 List of Appendices included:

- 3.1 Appendix 1 – Recycled Materials in Asphalt Technical Report
- 3.2 Appendix 2 – December 2018 Presentation to SB4

4 Overview

- 4.1 In 2018, following National news items and with the Cabinet Member for City Services support, Highways Officers looked into using recycled plastic pellets made from waste plastic products in road materials (asphalt mixes.) Also see **Appendix 2** – presentation to Scrutiny Board 4, December 2018.
- 4.2 Significant preparatory work was undertaken including working with Cumbria County Council who had already laid trials of this material. Officers have requested an update from Cumbria CC on their findings and conclusions, and this will be provided to the Board once available.
- 4.3 Working with supply chain partners Tarmac we laid trials of different recycled materials in roads at:
 - Montalt Road – Rubber & Plastic
 - Birmingham Road - Rubber & Plastic
 - Sandy Lane, Cheveral Ave, Lydgate Road - Rubber & Plastic
 - Guilsborough Road –Rubber

- 4.4 Inspections of these sites over the last year or so has revealed no noticeable deterioration and the roads are performing in line with expectation of a standard asphalt road over this time period.
- 4.5 Tarmac also recommended a trial of asphalt containing rubber from waste tyres as an alternative way of providing road surfaces with environmental benefits.
- 4.6 Asphalt containing rubber has been widely used for decades in the USA but take up in this Country has not been extensive. This is most likely due to a low risk appetite within local authority.
- 4.7 A more in-depth analysis is attached at **Appendix 1** – Technical report on Recycled Materials in Asphalt.
- 4.8 Discussions around the use of both plastic waste and rubber waste in asphalts is ongoing across the industry. Highways England have recently started to use the rubber mix on trunk roads and motorways.
- 4.9 Current views within the bitumen industry is that waste plastic materials do not bond properly when mixed into bitumen, meaning that the surface might break up sooner than if it did not contain plastic.
- 4.10 There are also debates continuing into how much extra heat is required to melt and mix the plastic and hence that the plastic additive is not environmentally friendly.
- 4.11 Another concern is the how the plastic waste will behave when the surface is finally removed in relation to pollution.
- 4.12 At this time there are no British or European Standards for asphalts containing waste material, so all roads laid using this material are at the Councils risk.
- 4.13 Highways England, Tarmac and Coventry City Council were recently shortlisted for the Highways Awards Ceremony (Highways Magazine) in London, for the innovative product of the year for asphalt containing rubber.

5 Conclusion

- 5.1 The trials completed so far in Coventry have been successful and no undue deterioration of surfaces has been noted
- 5.2 There is enough concern within the industry about the use of waste plastic material in asphalt to suspend the use of it until more industry research is carried out
- 5.3 There is sufficient evidence that use of shredded rubber in asphalt is effective in terms of improvement to the product and environmental benefits.
- 5.4 Coventry Highways team should continue to lay a proportion of rubber mix asphalt as part of the overall surfacing programme.
- 5.5 The Council should further modify its approach to recycled materials in roads as research is carried out and such materials become more widely available.

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