

ABERDEEN CITY COUNCIL

COMMITTEE	Operational Delivery Committee
DATE	17 th January 2019
REPORT TITLE	Use of plastic based materials in roads construction
REPORT NUMBER	OPE 19/083
DIRECTOR	Rob Polkinghorne
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REPORT AUTHOR	Paul Davies
TERMS OF REFERENCE	1&3

1. PURPOSE OF REPORT

The purpose of this report is to inform Committee of the findings of investigations into the use of plastic materials in roads construction following Councillor Delaney's motion of 6th September 2018.

2. RECOMMENDATION

2.1 To agree that further evidence and consideration is required before committing to using recycled plastic in road construction within Aberdeen.

3. BACKGROUND

3.1 There has been a lot of recent press surrounding using recycled plastics to create a more environmentally friendly asphalt product. The suggestion made by its promoters is that waste domestic plastics including bottles and bags are being recycled into asphalt mixture to produce roads that are more environmentally sustainable. These asphalt mixes are also claimed to be stronger, longer lasting and more pothole resistant.

3.2 Council officers and the wider roads industry appreciate that plastics can have a seriously negative environmental impact, especially where they end up in the sea. The Roads Service has a desire to do what it can to help reduce the impact of plastic waste where it is reasonably practical to do so.

3.3 Furthermore, the Roads Service is committed to maximising its budget and providing best value to its customers and would welcome any product that can be shown to aid in the fulfilment of this commitment.

3.4 – 3.9 are included in the exempt report.

- 3.10 It should be noted that the use of polymer-modified bitumen (bitumen with a percentage plastic content) is not new. In Aberdeen a number of schemes have been completed using a polymer-modified asphalt. One recent example is the resurfacing of a section of bus lane on Union Street where polymer-modified asphalt was used to make the road more resistant to wheel rutting that had previously affected the section of road.

3.11 – 3.13 are included in the exempt report.

- 3.14 For the 2018-19 financial year capital resurfacing projects in Aberdeen will have used around 4200 tonnes of wearing course material (asphalt). Were 0.5% of this to have been plastic based then around 21 tonnes of plastic could theoretically have been used.

This year the East Altens recycling facility will send around an estimated 1800 tonnes of plastic for recycling (a full years figure is not currently available – estimate based on a projection from the YTD figure).

- 3.15 A recent question (17th May 2018) has been asked of the Secretary of State for Transport - *“What steps the Government is taking to encourage the use of (a) recycled plastic materials and (b) other innovative and durable techniques for road repairs”*. The key message from the response is that at present the use of this material is not widespread and that the trials undertaken will continue to be monitored and any outcomes, positive or negative, will be noted by the Department for Transport. Authorities are also encouraged to trial new innovations and technologies that may aid them in repairing their roads.

3.16 and part of 3.17 are in the exempt report.

Ideally research into the technology will be led at a national level and research will be carried out by the Transport Research Laboratory or the Society of Chief Officers of Transportation in Scotland (SCOTS). This includes research into the longevity of the product, its durability and any financial benefits from using it. At present positive research into waste plastic modified bitumen comes from countries such as India and Ghana with very different climatic and traffic conditions to the North East of Scotland.

3.18 is in the exempt report.

- 3.19 Other plastic recycling options have been explored. For instance, one UK based company is taking assorted waste plastic, some of which is not traditionally recyclable, and using a heating process to convert the waste plastic back to various oil fractions. While at present none of these are currently suitable bituminous replacement, it is not impossible that this may change in the future.

The Roads Service will continue to monitor the industry for new developments and review with interest the results of any trials of the plastic road or similar technologies.

4. FINANCIAL IMPLICATIONS

4.1 This is included in the exempt report.

5. LEGAL IMPLICATIONS

5.1 There are no direct legal implications arising from the recommendations of this report.

6. MANAGEMENT OF RISK

This is included in the exempt report.

7. OUTCOMES

Local Outcome Improvement Plan Themes	
	Impact of Report
Prosperous Economy	Investment in Infrastructure
Prosperous Place	Safe and Resilient Communities

Design Principles of Target Operating Model	
	Impact of Report
Customer Service Design	N/A
Organisational Design	N/A
Governance	N/A
Workforce	N/A
Process Design	N/A
Technology	N/A
Partnerships and Alliances	We shall continue to discuss with our suppliers and neighbouring authorities where the is scope for partnerships and joint trials.

8. IMPACT ASSESSMENTS

Assessment	Outcome
Equality & Human Rights Impact Assessment	This report has no direct implications in relation to Equalities & Human Rights Impact Assessment.
Privacy Impact Assessment	N/A
Duty of Due Regard / Fairer Scotland Duty	N/A

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