



Appendix 2

# Scrutiny Review of Road Markings

## Report by the Review Board:

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Councillor Stephen Shing

Councillor Barry Taylor

March 2020

Place Scrutiny Committee – 23 September 2020

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Full Council – 1 December 2020

# The report of the Scrutiny Review of Road Markings

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## Recommendations

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5	The Review Board recommends that the parking budget is recharged for all parking enforcement road marking renewal work with immediate effect, and the money used for additional highway road marking maintenance work.	10
6	<p>The Review Board recommends that:</p> <p>a) should any new Government funding become available for highway maintenance, consideration is given to using a portion of it to improve the condition of road markings in the County (if allowed by the conditions attached to the funding).</p> <p>b) priority is given to renewing road markings that are important for road safety, such as those listed in paragraph 19 of the report, when determining the use of the additional one-off funding in 2020/21.</p> <p>c) consideration is given to including the funding to improve and maintain road marking in the base budget for the core services in the Highways Infrastructure Maintenance contract from 2023 onwards when it is re-procured.</p>	11

## Introduction

1. The Place Scrutiny Committee has observed that road markings, and in particular those that relate to pedestrian crossings and road safety, are in some instances becoming worn out and less visible. This appears to be a consistent issue across the County and there are concerns that this will have an impact on road safety and the ability of the Council to enforce parking restrictions.

2. The Place Scrutiny Committee carried out some initial exploratory work on this issue and agreed to establish a Review Board at its meeting on 18 September 2019 to carry out a scrutiny review of road markings in the County. The Review Board identified the following lines of enquiry:

- Could the current system for routine maintenance work to refresh/renew road markings be improved?
- Why do some road markings appear to wear out more rapidly than expected?
- How frequently are parking enforcement road markings renewed and are there additional road markings that could be paid for from the parking budget?
- What do other local authorities spend on road markings and is the ESCC level of expenditure adequate?

3. The desired outcomes from the scrutiny review are to improve the maintenance of road markings, clarify the prioritisation process for renewals and reduce the number of service requests.



*Bethune Way, Hastings - before remarking.*



*Bethune Way, Hastings – after remarking.*

## Background

4. The County has over 1,550 miles of road markings, or lining, across the road network. Road markings are covered by specific Highway legislation and are treated as road signs for the purposes of legislation and guidance. The legislation and accompanying guidance detail the prescribed colour, size, location and use of all road signs so there is consistency across the country.

5. There is a requirement to provide signs and road markings for prohibitions such as “No Right Turn” and “No Entry”, but there is no statutory requirement to provide other road markings, only guidance. However, the Council is expected to secure the “expeditious and safe movement of vehicles on the public highway” (Highways Act 1980).

6. Road markings provide a continual message to drivers about the use of the road and provide additional guidance (conspicuity) in poor driving conditions (e.g. in fog, heavy rain and at night time). Road markings help ensure the correct and safe use of the highway as they:

- separate opposing traffic;
- assist with road layout and traffic flow;
- ensure the best use of the road space available (e.g. by providing lane lines); and
- control where vehicles can park on the highway.

7. There are three teams within the Council who are involved in the specification, provision and maintenance of road markings. They are:

- Road Safety - The Road Safety Team are consulted on all new road schemes and they have input into all lining and road marking requirements. They specify road markings, including cats' eyes and road studs, and investigate all sites where there have been major collisions. The crash site investigation work can involve making recommendations for improvements including to the road markings.
- Highway Infrastructure Maintenance – This team is responsible for the maintenance and re-marking of all road markings and lines (excluding roads maintained by Highways England). This includes maintaining parking bays, disabled parking bays and yellow lines on behalf of the Parking Team.
- Parking – The Parking Team undertakes work to mark out all new parking bays and yellow lines in parts of the County where Civil Parking Enforcement (CPE) is in operation (Eastbourne, Hastings and Lewes - at the time of writing). In the current non-CPE areas (Rother and Wealden) the Road Safety Team deal with requests for advisory disabled parking bays and access protection markings.

8. To give an illustration of the range and quantity of road markings that require maintenance, an extract is given below from Council's inventory system:

**1,332 miles of Longitudinal lines** (shown in green on the aerial photograph below)

*This category includes all white and yellow lines whether they are centre lines, edge of carriageway lines, broken/dashed lines (measured as the whole length of the marking, not each individual dash) or solid double lines (which are counted as a single measurement).*

**47 miles of Hatched lines** (shown in yellow)

*The length refers to length of hatched area and the not the individual lines.*

**31,600 Special markings** (show as purple dots)

*Typically, these are 'Give Way' triangles, 'Give Way' dashed lines at junctions, directional arrows, text such as 'Slow' or 'No Right Turn', pedestrian crossings, parking bays and speed limit roundels.*



9. The Highways Team uses two techniques to apply road markings, hand laying and machine laying thermoplastic markings. It does not use pre-formed road markings, but they are sometimes used by utility companies for reinstatement work. Most of the work is done by hand laying, which is used for safety defects and renewal work in built up areas where there are lower road speeds. Machine laying is used for programmed work on higher speed 'A' and 'B' roads for centre line and edge markings, where it is more efficient and safer to use this technique and it reduces the amount of time the road must be closed whilst the work is completed.

## Review Board Findings

### *Highway Road Markings*

#### Maintenance of Road Markings

10. The rate at which road markings wear out principally depends on the amount of the traffic the road receives. The durability of road markings may also be affected by the condition of the road surface when they are laid and whether wire brush type mechanical road sweeping is used (e.g. for weed control) which may damage markings. For principal 'A' roads that are heavily trafficked the road markings may need to be renewed every 1-2 years. For less heavily used roads, the road markings will need to be renewed every 5-7 years.

11. The Review Board examined the measures in place to ensure the methods and materials used for road markings meet the required specification and standards. The evidence seen by the Board provided assurance that work is being carried out correctly and is not contributing to rate of deterioration of road markings. There are some new materials and techniques being developed which may have the potential to improve the cost effectiveness or increase the life of road markings. The Board heard that there are cold plastic road marking materials, and 'peaked' extrusion techniques for centre lines and edge of carriageway markings which are currently being evaluated.

#### **Recommendation 1**

**The Review Board recommends that Officers continue to keep a watching brief on the development of new road marking materials and techniques and carry out trials to evaluate their effectiveness in reducing costs and increasing the durability of road markings.**

12. Highway Stewards report safety defects and advisories for road markings when carrying out regular inspections, in the same way that they do for potholes. If a road marking important for road safety is more than 50% faded, then it is reported as a safety defect. It was unclear whether the condition of road markings is being reported on in every inspection, and whether the categories of road markings important for road safety are widely understood. Consequently, Stewards have been reminded of the need to assess road markings alongside other priorities such as carriageway and pavement safety defects. Highway Stewards will also be asked to report any issues with road markings re-instated by utility companies as part of their routine inspections.

#### **Recommendation 2**

**The Review Board recommends that the requirement to inspect road markings as part of routine inspections and the categories of road markings important for road safety are included in regular reminders to Highway Stewards and customer service staff.**

13. Utility companies have a responsibility to replace road markings when carrying out re-instatement work. This can lead to the partial renewal of markings and the use of less durable materials. Although this is less than ideal, the Council does not have the powers to require more extensive works or the use of specific types of materials. Highways England are also responsible for the maintenance of some roads in the County and requests for road markings on these roads have to be referred to them for attention.

#### **Recommendation 3**

**The Board recommends that the responsibilities of the utility companies and Highways England regarding road markings are made clear in the information provided on the East Sussex Highways web site.**

14. The Review Board heard that a five-year rolling programme for renewing road markings was started at the beginning of the current Highways Maintenance contract in 2016. This was based on an estimate of the time that it would take to renew all the road markings in the County and was prioritised to tackle the worst areas first. However, there was insufficient information on the condition of road markings at that point in time to determine accurately the level of resources needed. Work is underway to better understand the condition of road markings using an analysis of the high definition video surveys of road condition.

15. The current Highways Maintenance contract uses a lump sum of £165,000 per year to pay for one road marking gang who are employed year-round to renew road markings. The work of the gang is prioritised, so it undertakes safety defect works first and then programmed work, which includes refreshing parking enforcement road markings and advisory markings such as disabled parking bays.

16. The inclusion of a sum of money in the core services part of the current Highways Infrastructure Maintenance contract for road markings is an improvement on the previous position. However, evidence provided to the Review Board indicates that in the light of experience, the current resources only provide the ability to deal with any safety defects and undertake some renewal work and is not enough to keep up with the rate of road marking renewals needed. The Review Board considers that with a better understanding of the condition of road markings and the level of resources needed, the funding allocated to road markings within the core services of the Highways Infrastructure Maintenance contract should be reviewed when contract is re-procured. The Place Scrutiny Committee will be involved in the re-procurement project for the Highways Infrastructure Maintenance contract and will be able to raise this point through the re-procurement project work.

## **Road Safety**

17. The Review Board heard that the level of maintenance of lining and road markings has been reduced over the years and road markings are not always performing their function as they should. This has been due to the financial pressures experienced by local authorities and where decisions have had to be made on the relative priorities for expenditure within the highways budget. Over the last five to ten years maintenance issues, such as bringing lining up to standard, have been raised more frequently when the Road Safety Team undertakes crash site investigation work.

18. The Board also heard that road markings are a relatively cost-effective measure for improving road safety (e.g. when compared with highway engineering schemes), and for informing and guiding drivers. In the Road Safety Manager's opinion, better condition road markings would have an impact on the number of crash sites.

19. As road markings are one of the most cost-effective measure in terms of promoting road safety, the Board considers it is important for the Council to find ways of improving the maintenance and condition of road markings, particularly those considered to be important for road safety (e.g. stop lines and give way signs; pedestrian crossings; edge of carriageway lines and centre line markings; and regulatory or prohibition markings).

### **Recommendation 4**

**The Review Board recommends that when considering the allocation of resources for highway maintenance and road transport schemes, increased priority is given to funding for road markings to reflect their contribution to road safety.**

## ***Parking Enforcement Road Markings***

20. The Civil Enforcement Officers (CEOs) inspect and assess the condition of the road markings needed for parking enforcement whilst on their daily patrols and then report any that need renewing to the Highways Team. This is done using two categories, one for lines that are not enforceable which will be done as a priority, and the other where lines are fading and need renewing.

21. The work to renew the existing road markings used for parking enforcement is paid for and undertaken by the Highways Team and the highway revenue budget. The Parking Team make around six requests per month to renew parking enforcement road markings which equates to around 15% of the road marking gang's time. In addition, the highway budget is charged for the cost of suspending parking whilst the work is undertaken. In total around £24,000 a year is spent on renewing parking enforcement road markings in the three CPE areas.

22. The Review Board considers that it is logical and not unreasonable to recharge the parking enforcement road marking renewal work to the parking budget. The cost of renewing road markings necessary for parking enforcement is a legitimate operating cost of the CPE schemes and recharging the parking budget will release money for other road marking work. The Board is aware that this may reduce the funding available for other transport schemes from the parking budget but considers the benefits of well-maintained road markings to road safety outweigh this loss.

### **Recommendation 5**

**The Board recommends that the parking budget is recharged for all parking enforcement road marking renewal work with immediate effect, and the money used for additional highway road marking maintenance work.**

## ***Finance and Funding***

23. The current revenue budget spending on road markings is £165,000 per year from the Highways Infrastructure Maintenance contract core service. This is supplemented by a machine laid programme of work which is paid for on top of the core service. Since the beginning of the current Highways Maintenance contract the following sums have been spent in addition to the core service.

- £492,363 in 2016/17 (Year 1 of the contract) due to use of an additional lining gang and extensive machine laid refresh programme of A roads.
- £62,097 in 2017/18 (Year 2) due to additional marking of A259 (Pevensey junction to Saltdean) and other parts of A roads not completed in Year 1.
- £66,000\* in 2019/20 (Year 4) \*approximate value of a machine laid programme instructed but not yet delivered.

24. An indication of the one-off costs to replace proportions of all the road markings in the County are shown below (this includes basic traffic management only).

100% of road markings	£2,225,806
90% of road markings	£2,003,225
80% of road markings	£1,780,645
70% of road markings	£1,558,064
60% of road markings	£1,335,483

25. The Board heard that in an ideal situation it would require an initial injection of one-off funding to bring all road markings up a maintainable standard, and then two road marking gangs plus a machine laid programme of work to keep them in good condition. The Review Board recognises that in the current financial climate it may not be possible to secure this level of resource, but considers funding for an additional gang is justified by the contribution to road safety and the efficient movement of traffic that well-maintained road markings provide.

26. The Board has reviewed the level of expenditure by other local authorities on road markings and notes that it is difficult to make direct comparisons due to differences in the character and composition of the road networks in other authority areas. Although expenditure on road markings per mile of carriageway appears to be at similar levels to East Sussex County Council, it is likely that road marking funding in other local authorities has been reduced due the same budget pressures.

27. There are no sources of additional funding for road markings that the Council can bid for, and the Council cannot use the current one-off Department for Transport (DfT) pothole fund monies as this is ringfenced for pothole repairs.

28. An additional £1 million of one-off funding has been allocated for investment in highways infrastructure in 2020/21 via the Council's budget setting process. The Review Board understands that in response to the initial findings of this Review, an allocation has been made to fund an additional road marking gang for a year from this sum of money. The Board welcomes this additional funding and the recognition of the role road markings play in road safety and the efficient movement of traffic on the County's roads. This will also provide an opportunity to evaluate the impact of the addition of a second road marking gang on road marking condition.

29. It is likely that further funding for road markings will be needed in future years and the cost of an additional road marking gang is relatively modest at £165,000 per year, when compared with the cost of road safety engineering schemes. Based on the evidence examined by the Review Board it would appear reasonable to increase the resources allocated to the road marking if possible, given the benefits to road safety and improved traffic flow.

#### **Recommendation 6**

**The Review Board recommends that:**

- a) should any new Government funding become available for highway maintenance, consideration is given to using a portion of it to improve the condition of road markings in the County (if allowed by the conditions attached to the funding).**
- b) priority is given to renewing road markings that are important for road safety, such as those listed in paragraph 19 of the report, when determining the use of the additional one-off funding in 2020/21.**
- c) consideration is given to including the funding to improve and maintain road marking in the base budget for the core services in the Highways Infrastructure Maintenance contract from 2023 onwards when it is re-procured.**

## **Conclusions**

30. Road markings are a very visible, relatively cheap and cost-effective way of supporting road safety and promoting traffic movement. The Review Board has examined the way in which road marking work is carried out and found that effective quality assurance systems are in place. However, based on the evidence the Review Board has seen, the current resources allocated to road marking maintenance are not enough to keep up with the rate at which road markings are wearing out and to keep them in good condition.

31. The Review Board has made a number of recommendations which it believes will improve the condition of road markings in the County, which are important for both road safety and getting the most out of the County's road network.

## **Appendix:**

### **Scope and terms of reference of the review**

The Review was established to consider and make recommendations on the following:

- a) Could the current system of prioritisation for routine maintenance work to refresh/renew road markings be improved?
- b) Why do some road markings appear to wear out more rapidly than expected?
- c) How frequently are parking enforcement road markings renewed and are there additional road markings that could be paid for from the parking budget?
- d) What do other local authorities spend on road markings and is the ESCC level of expenditure adequate?

The desired outcomes from the review are to improve the maintenance of road markings, clarify the prioritisation process for renewals and reduce the number of service requests.

### **Board Membership and project support**

Review Board Members: Councillors Godfrey Daniel (Chair), Stephen Shing, and Barry Taylor.

The Project Manager was Martin Jenks, Senior Democratic Services Adviser with additional support provided by Simon Bailey, Democratic Services Officer.

Dale Poore, Contract Manager Highway Infrastructure Services, provided ongoing support to the Board throughout the review.

### **Review Board meeting dates**

Scoping Board meeting:

4 September 2019

Review Board meetings:

6 December 2019

29 January 2020

18 February 2020

### **Witnesses providing evidence**

**The Board would like to thank all the witnesses who provided evidence in person:**

#### ESCC Officers

Karl Taylor, Assistant Director Operations

Dale Poore, Contract Manager Highway Infrastructure Services

Brian Banks, Team Manager - Road Safety

Daniel Clarke, Parking Team Manager

#### ESCC Councillors

Councillor Claire Dowling, Lead Member for Transport and Environment

## Evidence papers

Item	Date considered
Traffic Signs Manual Chapter 5 – Road Markings (2018). Department for Transport.	December 2019
Well-Managed Highway infrastructure – A Code of Practice (October 2016). UK Roads Liaison Group.	December 2019

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