



**COMMUNITY COUNCIL LIAISON SUB-COMMITTEE  
- 23RD FEBRUARY 2011**

**SUBJECT: HIGHWAY MAINTENANCE**

**REPORT BY: CHIEF EXECUTIVE**

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**1. INTRODUCTION**

- 1.1 The main purpose of highway maintenance is to maintain the highway network for the safe and convenient movement of people and goods. The main objectives of highway maintenance are to deliver a safe and serviceable network, taking into account the need to contribute to the wider objectives of asset management, integrated transport, corporate policy and continuous improvement.

**2. BACKGROUND**

- 2.1 Patching and cyclic maintenance operations are planned and reactive treatments of relatively small defects in the road surface such as potholes or cracks. Potholes form because asphalt road surfaces eventually crack under the heat of the day and the constant stresses of traffic. These cracks allow snow and rainwater to seep into the underlying dirt and gravel. During cold winter nights, this water freezes and expands. Some of the dirt and gravel is pushed out as a result, leaving a hole when the water eventually melts. Drivers continue to drive over these unseen holes, putting even more stress on the thin asphalt layer covering them. Eventually, the asphalt layer over these divots collapses, creating the traffic hazards we call potholes.
- 2.2 The patching repair technique can be used to prolong the life of a road avoiding the need for more expensive resurfacing treatments. Repairs to cracks and small holes in the surface are vital to maintain the integrity of the overall structure. These are important to ensure the surface forms a seal against water penetration that may damage the road foundation.

Typical defects that may be treated in this way are:

- Fretting, where the surface loses aggregate and texture
  - Cracking of the asphalt surfacing
  - Rutting or surface deformation
  - Small potholes in the surface
- 2.3 A typical repair to a defect would begin with the inspector marking out around the defective area well back into sound material and issuing a ticket to the highway contractor. A highway repair crew would then return to site and remove the surfacing and base layer and patch with asphalt material up to 85mm thick. The replacement asphalt material would generally be laid and compacted by hand or small vibratory compactors (rollers etc). The defect would be reinstated generally within 28 days of the highways inspectors initial visit and checked for quality by the highway inspector during their next inspection.
- 2.3 There are occasions when temporary repairs are made to keep the road surface safe with a permanent repair following at a later date, usually as part of a programme of similar work. This

makes the process more cost effective.

### **3. CCBC'S HIGHWAY MAINTENANCE POLICY**

3.1 Caerphilly CBC operates a highway maintenance policy which was implemented in 1996, within this policy carriageways/ footways are classified. Within this classification document the type of highway, routine inspection intervals and defect criteria are listed (Appendix A).

3.2 CCBC undertakes 3 types of highway inspection:

- (i) Planned safety inspections where all carriageways/ footways are inspected at 6 monthly intervals and localized busy town centre's inspected monthly. These inspections are walked.
- (ii) Non scheduled inspections where a service request is raised via the customer care team and inspected within the relevant timeframe.
- (iii) Emergency response these are inspections that are conducted both during and outside of normal working hours and by their nature are immediate.

As well as adhering to the safety defect criteria document, there are several considerations to be made by the highways inspector on-site prior to instigating a repair to the highway;

Is the carriageway on the resurfacing programme?

What condition is the area surrounding the defect in?

Is the section of highway heavily trafficked?

What is the most cost effective and efficient method of repair?

### **4. FINANCE**

4.1 As a local authority CCBC deals with thousands of claims per annum in relation to defective highways, resulting in damages to vehicles or personal injury. Although this figure seems high the authority has been able to reduce the number of successful third party claims (TPC's) by being proactive in it's approach to highway maintenance.

4.2 CCBC has an annual highway maintenance budget of £1.4 million over an 1100km highway network which relates to approx £0.23p /sq.m.

#### Highways facts and Figures

- 1100 km of highway that has to be maintained
- Defects repaired annually approx. 27,000
- 2.56% of the network routinely resurfaced annually
- Insurance claims have been reduced from 671 in 2005 to 195 in 2008/9
- Third party claims settlements have been reduced from £1.4million for 2005-6 to £700k for 2008-9
- Following the latest bout of inclement weather in December 2010, in excess of 220 emergency response repairs have been carried in addition to routine highway maintenance
- An additional £400k has been directed into carriageway resurfacing resulting in 31,000sq.m of treated highway
- 300,000sq.m of CCBC primary network has been surfaced dressed in the last 12mths.

## **5. SUMMARY**

- 5.1 Whilst it is very difficult to apply a stringent set of guidelines when repairing highways due to the varying condition of the network, the safety of the highway user is at the forefront of every decision.
- 5.2 It also has to be appreciated that in the current economic climate and the demands placed on the highway budget, unfortunately there will be occasions where public demands cannot be met.
- 5.3 The authority works to the defect intervention criteria mentioned previously (Appendix A) to maintain a safe highway network. There is a continual drive to try and minimise the reactive works in order to maximise the planned carriageway resurfacing works which provide a better longer term resolution. Unfortunately due to the financial restrictions that are apparent, difficult decisions have to be made in order to prioritise which roads should be taken forward on the planned maintenance programme each year.
- 5.4 In 2010 in addition to the scheduled resurfacing works the authority provided additional funding to increase the number of sites for carriageway resurfacing programme. There was a further £400k of emergency funding from the Welsh Assembly Government and this was also incorporated into the resurfacing budget.