



Title: **Highway Maintenance – Public Satisfaction**

Wards Affected: **All Wards in Torbay**

To: **Transport Working Party** On: **25th October 2012**

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1. Key points and Summary

- Highway maintenance nationally has been subject to funding under-investment for a number of years, the 'Department for Transport' (DfT) has recognised this fact and following a new 'Chartered Institute of Public Finance and Accountancy' (CIPFA) code of practise document, highways are to be included within 'Whole of Government' (WGA) accounts. This is an important consideration because in simple value terms an authority's highway asset often significantly exceeds the value of all of a Council's other owned properties and buildings.
- This report discusses Torbay Council's comparative performance in a recent public satisfaction survey conducted for 'National Highways & Transport' (NHT) and trends this with previous surveys. The surveys have been carried out for NHT by Ipsos MORI since 2008, thus permitting the trending of data for use in planning decisions for the managing of this essential asset. The survey data has been collated and analysed by 'Measures to Improve' (M2I) and their report is in the appendices.
- The report will explain the unique 'evolved' construction nature of Torbay's local highway network and detail how this affects our customers and costs.
- The expectations of our customers are rightly high; a section of this report will compare satisfaction levels against physical measured carriageway condition data.
- Data from Torbay's 'Pavement Management System' (PMS) has been used to show how the overall value of the highway asset is being affected by not treating all roads in a planned preventative manner before their deterioration means that structural replacement work becomes necessary.
- National condition survey data results are shown and discussed to show how Torbay Council compares with other highway authorities.

2. Introduction

This report has been prompted by the draft publication of the 2012 NHT survey. It aims to explain why our customers are not satisfied with the condition of their local road network whilst stressing the importance that they place on this service's delivery. Since the survey's commencement in 2008 there has been a significant drop in customer satisfaction levels for highway maintenance as a whole, but by far the most significant issue being raised, concerns the condition of the carriageways within the Bay. The recent decision to reduce the level of capital funding to highway maintenance has resulted in officers being obliged to make some difficult decisions and has in turn placed the highway network at an increased risk of further rapid deterioration.

3. Discussion

3.1 NHT Survey

The NHT survey as a whole covers a wide range of highway related functions and has a valued contribution towards guiding future levels of service, but the report also indicates short term effects associated with cyclical maintenance activities and major traffic schemes. This report will confine itself to highway maintenance activities alone at this time.

The 'Key Benchmark Indicators' (KBI) & 'Benchmark Indicator' (BI) Analysis report for Torbay Council, dated 28th September 2012 is included as **Appendix 1** of this report. The document is based on a sample of 4500 residents selected at random within Torbay and had a response of 853 forms which is an 18.96% return rate. This is higher than the average response across other highway authorities which was at 16% overall. The 853 people concerned filled out the questionnaire, included as **Appendix 2**, which had 35 separate questions, where respondents were asked to rank their answers across a number of disciplines. The relatively high rate of response to the questionnaire suggests that our residents see this as being a matter of some importance.

The KBI & BI Analysis for the purposes of this report will concentrate on section 7 or 'Highway Maintenance'. Therefore page 9 of the report gives a colour coordinated summary of Torbay's position where there is a significant proportion of red indicators, which show the areas of greatest concern. However, the most significant indicator is the top line 'Highway Maintenance Benchmark Indicator' (HMBI 01) 'condition of road surfaces' which has a percentage satisfaction of only 30.35%. This is reinforced on the following page where 'Key Benchmark Indicator' (KBI 23), 'Condition of highways' has reduced from 42.64% in 2008 to 31.87% in 2012.

Conversely there were two questions in the survey (Q3 & Q4) in which customers placed 'The Condition of Roads' as being of most importance to them personally (Q3) and Q4 where they were asked to prioritise the Council's budget in transport and highways, where once again 'The Condition of Roads' was placed highest. In both instances the second highest in importance was for the condition of 'Pavements & Footways'.

These results suggest that customer perception is that we are providing a declining level of service in an area which they perceive to have a high importance to them personally.

3.2 Carriageway Condition Survey Analysis

Highway condition surveys are carried out by a specialist contractor using high tech surveying vehicles (SCANNER) or by trained surveyors using visual inspection techniques (CVI). Both types of survey are conducted on roads within Torbay to both allow engineers to plan future maintenance schemes and for reporting to central government as 'National Indicators' (NI). In general terms SCANNER surveys are used on the main road network and CVI surveys on the residential roads which make up the majority of the overall highway network.

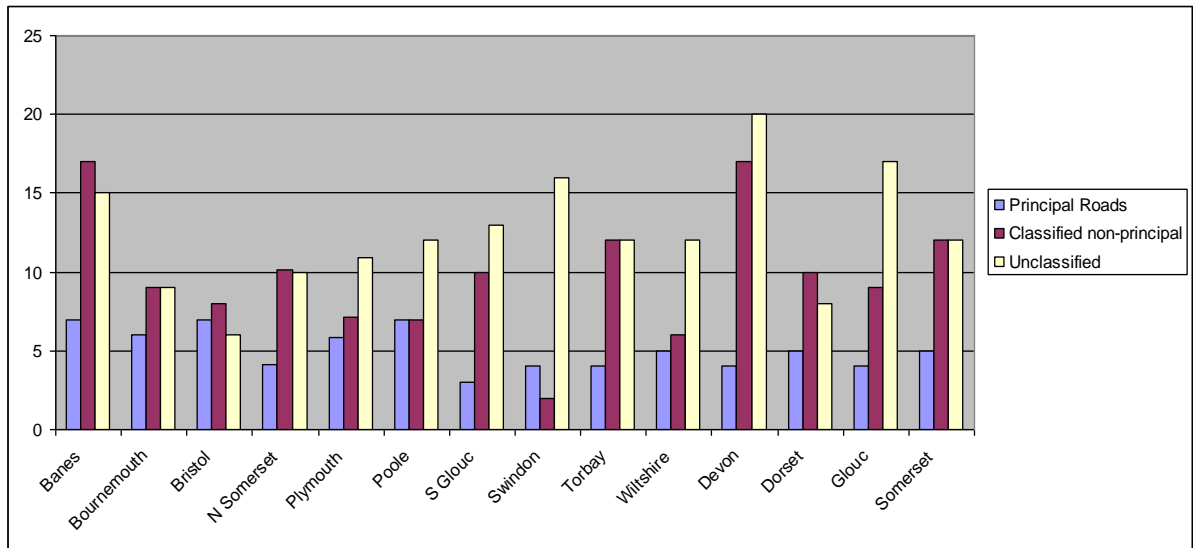
The survey data is fed into the Council's PMS system which analyses these in a variety of ways to produce the 'deteriorated replacement cost' (DRC) of the network as a whole and maps showing where maintenance work should be considered. The DRC is essentially the amount of money that would be required to return the whole of the highway network to an as new condition. On a properly managed network this would never be expected to reach zero as there will always be some planned maintenance work waiting to happen. Also even roads that have reached a point of being reported as having 'no residual life' will still remain usable by vehicles with care. Unfortunately there are many such examples of roads of this nature within Torbay that are still waiting for funding, whilst others which are being resurfaced presently which have been in a list of pending sites for many years.

However, the point of this section is to compare condition data with public satisfaction level, so this is summarised in the table below:-

	BVPI 223 NI 168	BVPI 224A NI 169	BVPI 224B HE 224B	NHT KBI 07
	Condition of principal roads %	Condition of B & C Roads %	Condition unclassified residential roads %	Condition of highways from NHT survey
2007/08	4.00	7.00	5.00	42.64
2008/09	4.00	9.00	4.00	41.59
2009/10	9.00	13.00	6.00	37.37
2010/11	4.00	13.00	11.00	34.20
2011/12	4.00	12.00	12.00	31.87

This graph shows the surveyed condition of Torbay's road network, with the numbers reporting the percentage of defective roads in each of the categories. The final column represents customer satisfaction over the same period. Although there has been a conscious effort to increase the expenditure on preventative maintenance treatments on residential roads, the worsening condition of these following harsh winters and wet summers is becoming ever more apparent to road users. Whilst the main road network has remained relatively stable the surveyed condition of the local road network has worsened which reflects the fall in customer satisfaction.

For direct comparison purposes the following graph shows how the condition of Torbay's highway network is reported for other regional authorities. The graph is based on the most recently reported data for each of the authority's networks.



The above graph shows that public satisfaction is low it indicates that Torbay's actual performance in maintaining the highway network is average to above average regionally. It also indicates that the declining condition of highways is not confined to Torbay. Other surveys conducted by the construction industry indicate that the problem exists at a national level, but by participating in regionally benchmarking its highway services Torbay will continue to develop best practises to maximise the use of limited funding in accordance with asset management principles.

3.3 Carriageway Construction and Techniques

Many estate roads in Torbay have a construction which is described as being 'evolved' rather than one that it designed in accordance with anticipated traffic loads. This means that there is a layer of compacted unbound granular material which has been covered with a thin layer of bituminous material, typically less than 40mm in thickness. This was a type of construction that has been cost effective to construct and until recently the moderate climate of the Bay has meant that engineers of the time decided that frost susceptibility was not an issue. Unfortunately, in present times, the thin top layers have frequently cracked, oxidised or loosened to the point where water can readily ingress into the underlying vulnerable unbound layers and cause problems that are expensive to resolve. Typical examples are the many roads exhibiting excessive crowns (raised centre of road), poor ride quality for vehicles, areas of delaminating surfacing (where the surface has come away from underlying layers) and gravelly deposits causing particular problems for two wheeled vehicles. In extreme cases there is physical evidence of pumping sand, voids and depressions caused by water penetration.

If the unbound layer has lost its original profile any planned maintenance work will mean that the highway engineer is left with an expensive solution such as excavating the carriageway to a depth of 450mm and rebuilding it from scratch. In today's climate of austerity this means that such sites are effectively too expensive to address. This means that it is vitally important to use preventative maintenance techniques such as surface dressing, micro-asphalts or thin overlays to reseal the carriageway top layers whilst the overall shape of the carriageway remains suitable for this process. Failure to conduct preventative maintenance at the appropriate window in time means the list of costly sites grows ever larger as does the eventual bill to put them right.

In cost terms treatments vary from £2.50 per square metre for a surface dress treatment, up to £60 or more for reconstruction work. Therefore efforts are concentrated on preventative sites but there is a real need to start to address some of the many sites that have been overlooked in favour of lower cost schemes.

An exercise conducted recently indicates conservatively that there are over 450 individual sites that need treatment now. Whilst the bulk of these will only be requiring preventative work, the estimated cost of all of these schemes now runs to over £10M.

3.4 Pavement Management System Reporting

Part of the Whole Government's Accounting (WGA) initiative, concerns reporting on the depreciated replacement costs (DRC) of an authority's highway network. There is a facility within the reporting section of the PMS which is used to generate the WGA returns that use surveyed condition data and overall carriageway lengths to produce the DRC figures.

The table below shows the recent maintenance investment of carriageways compared with the DRC. It shows that despite best efforts the condition of highways is still in decline which in simple terms indicates that £1M per year is not enough to halt the decline.

	Maintenance Investment (£)	Depreciated Replacement Cost (£)	Net Change (£) Year on Year
2007/2008	1,225,000	18,290,345	356,822 improve
2008/2009	885,000	19,595,767	1,305,422 deteriorate
2009/2010	969,000	22,634,238	3,038,471 deteriorate
2010/2011	783,500	22,265,492	368,746 improve
2011/2012	1,169,400	22,515,360	249,868 deteriorate
5yr total	5,031,900		3,868,193 deterioration

It does suggest that £1.8M would have been required over a 5 year period to maintain a standstill condition state. This is extremely close to the figure predicted for LTP2 where £2M per annum was calculated.

However it also clearly shows that the reduced figure of £0.837M for the current financial year was wholly inappropriate and not sustainable.

One note of caution however, is that the DRC figures produced by PMS for this report are based on national default construction rates that will differ from local rates. In future developments actual local construction cost data will be used, so the figures could change in later reports. However, this is the best information that is available at this time.

4 Conclusion

The NHT survey clearly shows that Torbay Council is not meeting its customer expectations with regard to maintaining the condition of its highway network. The main area of concern as evidenced by the NHT Headline Results sheet (see **Appendix 3**) which shows that customers place the highest importance on

highway condition whilst simultaneously awarding the lowest satisfaction levels in the same subject area.

The survey itself also shows a noticeable drop in satisfaction in highway cyclical activities, in particular maintenance of highway verges/trees and shrubs, where a 7.86% drop has been recorded in comparison with last years survey and weed killing on pavements and roads which has an 8.32% reduction in satisfaction levels. This is a concern which will need to be monitored.

The severe cut to highway maintenance capital funding has meant that sites that would have been surfaced this year have been postponed pending suitable funding.

The effect of cutting maintenance budgets could possibly be disguised by using cheaper methods and literally covering up the cracks, but that would not be sustainable and would only produce a larger repair bill in the not too distant future. Members need to be aware of the concerns of our customers and look towards improving the condition of this most valuable and essential asset, to improve the standard of living of wide sections of our community.

Patrick Carney
Group Services Manager (Streetscene & Place)

Appendices

Appendix 1

Is the National Highways and Transportation Networks, analysis report of 28th September 2012. The document is based on Torbay Council's survey responses but the document is embargoed until 9th October 2012 following which the information will be available online.

Appendix 2

Is a blank example of the Ipsos MORI questionnaire that was sent to 4500 randomly selected residents within each authority.

Appendix 3

Is the NHT survey headline result summary, indicating the respondent's importance and budgetary priority areas.

Appendix 4

Photographs of a failed estate road in Torquay, showing the effects of missing the opportunity to carry out preventative maintenance at the optimum time.