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Blackburn with Darwen Borough Council

Highways Department

# Road Vibration Reporting Procedure

## DOCUMENT CONTROL

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## Introduction

Damage to properties is unlikely to occur as a result of vibrations caused by traffic. Research undertaken by the Transport Research Laboratory the effects of ground-borne vibrations caused by road humps (TRL416), and traffic induced vibrations in buildings (Research Report 246) found that only in unusual circumstances is it likely that there will be a risk of superficial building damage and there is no evidence that more serious structural damage could occur.

Our duty as the Highway Authority, under Section 41 of The Highways Act 1980, is to maintain the highway so that it is free from danger to all users. We however have no duty to investigate traffic-induced noise and building vibration generated by road users.

Many structural problems are not related to the public highway but instead caused by other factors.

The aim of this procedure is to ensure all complaints or reports of vibrations felt within a property, suspected to be caused by the condition of the highway, are recorded, and processed in a concise and systematic way.

Management of the highway network is a high profile public service, and as an authority we need to accommodate and process considerable volumes of correspondence, telephone calls and other forms of communication from users of the highway network. The efficiency and courtesy of response will determine to a large extent the local opinion of the service and the authority.

This Code is not intended to deal in detail with principles and practices of customer care or the new approaches of integrated "Customer Relations Management" (CRM). It will however focus on certain key aspects of particular relevance to highway maintenance.

The information associated with complaints and reports of highway faults and the action taken will play an important role in the defence of any claim against the highway authority for failing in its statutory duty to maintain the highway.

This procedure will be reviewed in line with changes to any relevant statutory duties.

## Recording of Information

All communication, whether received via telephone, letter, or e-mail must be recorded on the Highway database.

The first key issue is the need to establish whether the customer report/complaint is that of a potential safety defect, in which scenario the Highways Fault Reporting Procedure is to be followed, or in reference to vibrations felt from within a property due to the condition of the highway, in which this procedure is relevant.

When taking reports over the telephone or through other means of verbal communication, it is important to try to get the essential information listed below:

- Name and Address of person giving the report
- Contact telephone number and/or email address.
- Detailed description of the fault/defect
- Exact location of the fault/defect

The next section of this procedure will outline how reports of faults/defects and service requests should be logged on to the Highway database and then processed.

### Received via Telephone or Verbally

1. The person taking the call gathers as much detail as possible, (especially the essential information mentioned previously), in order that an informed decision can be made.
2. The person who took the call should enter full details of complaint/problem onto the Highway database.

### Received via E-Mail

1. The person who receives the e-mail should enter full details of complaint/problem onto the Highway database.

Once the information has been obtained and logged on to the Highway database, our advice is for customers (as homeowners) or their insurers to consider commissioning a structural survey of their property.

As we have no duty to investigate, the onus is on the Customer to provide supporting engineering evidence that the condition of the highway is a contributing factor to the vibrations felt within their properties, it is recommended the engineering evidence provided follows the suggested format and includes content as given in Annex A (BS 6472-1:2008). A template assessment report can be provided through contacting [Highways@blackburn.gov.uk](mailto:Highways@blackburn.gov.uk), and shown in Appendix A.

# Appendix A

## Suggested Format and Content of an Assessment Report (in accordance with Annex A BS 6472-1:2008)

### General Information

Location of Vibrations	
Dates and Times	
Person/People carrying out measurement(s) and assessment(s)	

### Information about the vibration under investigation

Character of the vibration: continuous, intermittent, occasional, impulsive	
Frequency of occurrence and durations	
Receptor locations, building/floor/ground types and vibration direction(s)	
Information about source of vibration (e.g. type of vehicle)	

### Instrumentation and analysis

Transducer(s) and calibrators: types and serial numbers, calibration history	
Signal processing and recording equipment	

Post-processing/analysis  
equipment, including details  
of software

## Measurement procedure

Location of transducer(s)

Method(s) of fixing  
transducer to measurement  
object or surface

Vibration parameters  
measured, number, times  
and duration of  
measurements

Calibration procedure(s)

Background levels of  
vibration (in absence of  
source)

Information about  
measurement surface, e.g.  
floor or ground, description of  
any preliminary tests carried

## Analysis procedure(s)

Full explanation of how  
VDV's are derived from  
measurement results

Information about any  
measured or estimated  
transfer functions used in the  
analysis (e.g. seats, beds, or  
from external ground to floor  
of building)

## Statement of results

Statement of measurement  
uncertainty and/or confidence  
limits of measured values

## Results of predictions of levels of vibration

Results of any predictions, accompanied by details of the prediction method, of any assumptions or limitations involved, and of the input data

## Information about parallel effects

All information about any parallel effects, structure-borne noise, airborne noise, induced rattling, visual effects, influence of a third party

## Assessment

Assessment method and results of the assessment(s) e.g. in terms of probability of adverse comments

## Subjective observations

Any other relevant observations not already included e.g. subjective impressions by the person carrying out the measurements, or anecdotal information conveyed to him or her by third parties