Highway Safety Inspections

Parish Conference

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Highway Safety Inspection and Reactive Engineer
Highway Safety Policy

- Sets out when highways will be inspected
- What constitutes a defect that we repair as part of our core service
- Provides records that can be used to defend the Authority against damage claims
Introduction

Highway Safety Inspections

- Background
- Risk Based Process
- Application
- Implementation
- Monitor & Review
What does the law say…

Highways Act 1980

Section 41
• Duty to maintain highway maintainable at public expense

Section 58
• Provides a defence in an action taken against a highway authority for a loss resulting from a failure of Section 41 by demonstrating the authority acted reasonably
Why Do Inspections

National Code of Practice

• To rectify defects that create a danger or serious inconvenience to users of the network or the wider community

• Provides a defence against claims
Safety Inspections

What
• Carriageways
• Footways
• Cycleways

How
• Driven
• Walked
• Cycled

Who
• 12 dedicated inspectors
Safety Inspections

Frequency
• Based on maintenance category
• Monthly on busiest roads and footways
• Every 2 years on least used

In real terms
• over 20000 miles road
• Over 37000 miles footway
The Highway Safety Policy

- Implemented on the 5th September
- Uses a risk based approach
- More dynamic
- Meets new NCoP recommendations
Risk Based Process

Well-managed Highway Infrastructure recommends using ISO 31000
Consultation & Communication

- 11 Highway Authorities Safety Inspection Policies
- County Solicitors Office
- Browne Jacobson
- DCC Highway Officers & team members
- Members
- Parish Councils (previous Parish Conf)
- DCC Cabinet & Scrutiny Reports (3 in total)
Application

2 Stages

• December 2015 trial changes to previous policy
  ▪ changes to some response times
  ▪ some defect changes to kerbs
  ▪ formal consideration of a risk based approach
  ▪ results and new policy presented to DCC Cabinet May 2016 for implementation in September 2016
Application

- 5th September 2016 revised Highway Safety Policy implemented
  - risk based assessment
  - defect terminology replaced by Investigatory Criteria with some minor changes
  - new categorisation of defect determining response time and type
Application

• Process Flow Diagram

1.1 POTHOLE  Version 6.0 – 5th September 2016

Investigatory Criteria
An area of material loss resulting in a vertical edge depression.

Minimum dimension where applicable
| Carriageway & Unmetalled Cycleway | 40mm deep and 300mm in any horizontal direction |
| Footway & Cycleway | 20mm deep and 50mm in any horizontal direction |

Sample Photograph

| Carriageway | Footway/Cycleway |

Response
1. Undertake risk assessment to determine response.
2. If required sign and guard area or close road/footway/cycleway to make safe.
3. Repair pothole according to the pothole repair policy.

Notes
At certain times it may be necessary for the Contractor to carry out preliminary inspections where only potholes that meet the investigation criteria will be identified and repaired.

The footway investigatory criteria will be applied to a carriageway at defined pedestrian crossing points or where pedestrians are encouraged to cross or where there is a marked cycle lane on the carriageway.
### Table 1.0 RISK MATRIX

<table>
<thead>
<tr>
<th>LIKELY IMPACT</th>
<th>PROBABILITY / LIKELIHOOD OF INTERACTION WITH HIGHWAY USER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rare (1)</td>
</tr>
<tr>
<td>None (1)</td>
<td>1</td>
</tr>
<tr>
<td>Negligible (2)</td>
<td>2</td>
</tr>
<tr>
<td>Minor (3)</td>
<td>3</td>
</tr>
<tr>
<td>Moderate (4)</td>
<td>4</td>
</tr>
<tr>
<td>Serious (5)</td>
<td>5</td>
</tr>
</tbody>
</table>

**Category 4 (Low Risk)**
- Consider an appropriate response including no further action/monitor

**Category 3 (Medium Risk)**
- Repair within 28 days

**Category 2 (High Risk)**
- Make safe or repair within 7 days

**Category 1**
- Make safe or repair by end of the next working day

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**Defects identified that pose a threat to life are considered an emergency and must be responded to, normally within 2 hours and made safe or repaired urgently.**
## Guidance Notes Provided to Inspectors

<table>
<thead>
<tr>
<th>Probability / Likelihood</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rare</td>
<td>Defect will be located on the minor footway and carriageway network, position of the defect will hardly ever affect the highway user.</td>
</tr>
<tr>
<td>Unlikely</td>
<td>Defect will mostly be located on the minor footway and carriageway network, position of the defect is unlikely to affect the highway user.</td>
</tr>
<tr>
<td>Possible</td>
<td>Defect will mostly be located on the minor footway and carriageway network, position of the defect has an equal chance of affecting the highway user.</td>
</tr>
<tr>
<td>Likely</td>
<td>Defect will usually be located on the main carriageway and footway network. Position of the defect would mean an interaction with the highway user would be likely on most occasions.</td>
</tr>
<tr>
<td>Almost Certain</td>
<td>Defect will usually be located on the busiest carriageway and footway network. Position of the defect would mean an interaction with the highway user would be almost inevitable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact</th>
<th>Level of Injury/Damage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>2)</td>
<td>Negligible</td>
<td>No Injury — Exhusted Wear and Tear</td>
</tr>
<tr>
<td>3)</td>
<td>Minor</td>
<td>Minor Injuries — Noted Vehicle Damage</td>
</tr>
<tr>
<td>4)</td>
<td>Moderate</td>
<td>Moderate injuries — Moderate damage to vehicles</td>
</tr>
<tr>
<td>5)</td>
<td>Serious</td>
<td>Serious Injury — Significant damage to vehicles</td>
</tr>
</tbody>
</table>
Implementation

- Basic risk assessment training non highway specific
- Inspectors mirrored inspections testing and learning new system
- Guidance revised
- Policy presented to Solicitors and insurance managers
Worked Example 1

Defect - Carriageway pothole
M/C – 3
Position of defect – wheel track
Dimensions – 45mm deep and 350mm in a horizontal direction

Assessment procedure

1. Does the defect meet the minimum intervention level
2. Consider the probability/likelihood score
3. Consider the impact score
4. Calculate the level of risk
5. Apply outcome and assign the appropriate response time

Answers

1. Yes, the minimum intervention level is 40mm deep and 300mm in any horizontal direction
2. Probability/likelihood almost certain, carriageway is m/c3 and defect is in the wheel track. The probability/likelihood score is 5
3. Impact high, pothole may cause vehicular damage, loss of control impact lower unless a cyclist or motorcyclist however this is mitigated by less likelihood of an interaction with the defect. The impact score is 4.
4. Probability/likelihood \times impact = level of risk.
   \[ 5 \times 4 = 20 \]
5. Level of risk 20 is a Category 1 defect requiring an end of next working day response.
Defect – Footway Pothole
Footway Maintenance Category – 2
Position of defect – against the boundary wall
Dimensions – 30mm deep and 70mm in a horizontal direction

Assessment procedure

1. Does the defect meet the minimum intervention level
2. Consider the probability/likelihood score
3. Consider the impact score
4. Calculate the level of risk
5. Apply outcome and assign the appropriate response time

Answers

1. Yes, the minimum intervention level is 20mm deep and 50mm in any horizontal direction
2. Probability/likelihood unlikely, footway is m/c 2 and defect is in the against a boundary wall. The probability/likelihood score is 2
3. Impact minor, the potential impact on an individual if they were to be tripped up is high. The impact score is 3.
4. Probability/likelihood x impact = level of risk.
   \[ 2 \times 3 = 6 \]
5. Level of risk 6 is a Category 3 defect to be repaired within the next 28 days.
Defect – Footway trip
Footway Maintenance Category – 1
Position of defect – underside of bench
Dimensions – 30mm vertical level difference

Assessment procedure

1. Does the defect meet the minimum intervention level
2. Consider the probability/likelihood score
3. Consider the impact score
4. Calculate the level of risk
5. Apply outcome and assign the appropriate response time

Answers

1. Yes, the minimum intervention level is 20mm vertical level difference
2. Probability/likelihood rare, footway is m/c1 and defect is under the bench. The probability/likelihood score is 1
3. Impact none, although the potential impact on an individual if they were to be tripped up is moderate given the location this is very unlikely. The impact score is 1.
4. Probability/likelihood x impact = level of risk.
   \[1 \times 1 = 1\]
5. Level of risk 1 is a Category 4 therefore consider an appropriate response including no further action/monitor.

NOTE
The position of the defect will not pose any risk to a highway user therefore an option being considered is the policy advises defects that pose no risk are not recorded.
Monitor & Review

- regular audit of Inspectors
- KPI’s relating to repair response times
- monitor repeat visits and effectiveness of repair
- formal audit of Contractor
- monitor claims
- report to Cabinet Sept 2017
Thank You