



**DRIVER & VEHICLE TESTING AGENCY**

**VEHICLE ROADWORTHINESS**

**SURVEY REPORT**

**Compliance Section**

**Nov 2004**



INVESTOR IN PEOPLE



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## **Key Results From The Roadworthiness Survey**

- \* Of vehicles surveyed 33% were identified as having non compliant components (Appendix three, Table one)**
- \* In the vehicles over 4 yrs old category the level of non compliance was 36.4% (Appendix seven, Table four)**
- \* In the vehicles under 4 yrs old category the level of non compliance was 18.8% (Appendix seven, Table four)**
- \* Older Vehicles tend to be more non compliant (Appendix seven, Table four)**
- \* A significant level of non compliance was identified starting from as early as 2 months from an MOT examination (Appendix eight, Table five)**
- \* The main areas of non compliance related to inoperative vehicle lamps (Appendix nine, Table six)**
- \* 61% of Vehicles Surveyed Display an MOT Disc (Appendix six, Table three)**

# VEHICLE ROADWORTHINESS SURVEY REPORT

## 1 INTRODUCTION

### **Background**

- 1.1 The Agency Compliance Strategy has highlighted a need for detailed information in order to maximise compliance with its testing systems. The Agency has completed an MOT certificates survey and an MOT evasion survey and both of these surveys have indicated that there is a high level of non-compliance with the vehicle testing system. Studies carried out by Vehicle Operators and Standards Agency (VOSA) show that 12.4% of cars failed to comply with the minimum standards of roadworthiness. The recent DVTA report on the impact of non-compliance has recommended a survey on the roadworthiness of vehicles stopped on the road.

### **Project proposal**

- 1.2 A project proposal for the roadworthiness survey was completed and approved by the Agency Management Board. The content of the project proposal formed the basis for the survey.

### **Terms of Reference**

- 1.3 To establish and report on the current level of roadworthiness of the private & light goods (PLG) vehicle fleet in Northern Ireland, and to identify the types and numbers of defects present in vehicles
- 1.4 The education of vehicle owners on the benefits of a roadworthy vehicle and to identify and penalise drivers using unroadworthy vehicles
- 1.5 To analyse information collected during the project to identify changes that could be made to improve the vehicle testing system.

## **2 PROJECT RESEARCH**

2.1 A number of organisations were identified that could provide input to the survey:

### **Vehicle & Operator Services Agency (VOSA)**

2.2 VOSA carry out a number of roadworthiness projects during the year. Discussions with VOSA confirmed the following methodology used in their operations:

- the average time for a test is 15 - 25 mins but each check will be treated on its own merits
- a test typically carried out on a private vehicle involves a check of the emission levels, operation of lights and the condition of the wheels and tyres
- where a vehicle is suspected of having other defects a full test may be carried out if the facilities are available
- the locations selected for tests would usually be a large lay-by or car park where there is room to work at the vehicle and other road users are not inconvenienced
- the size of a VOSA team is usually three qualified examiners, although one examiner is capable of carrying out the test. The aim is to keep checking time to a minimum
- the equipment usually used for testing includes a diesel smoke meter, exhaust gas analyser, a torch and a hammer

### **Enforcement**

2.3 DVTA Enforcement section were contacted with regard to the checks as they currently carry out a number of roadworthiness checks on goods vehicles, buses and taxis, they also have the power to carry out a check on a private motor vehicle. Discussions were held with the enforcement manager (John Martin) to confirm the involvement of enforcement staff to carry out the

roadside examination of vehicles. Discussions were also held to address the type of check carried out. Due to a lack of specialised mobile equipment it would be impossible to carry out a full vehicle inspection and the emphasis was placed on checks of items such as:

- tyres & wheels
- lights & indicators
- wipers & washers
- cursory examination of the bodywork
- visual inspection of the glass
- seatbelts & seats
- steering wheel
- brake pedals and
- brake fluid levels

### **PSNI Assistance**

- 2.4 Enforcement staff in Northern Ireland do not have the power to stop private motorcars, it was therefore essential that there be PSNI involvement in these vehicle surveys. Discussions took place with the Road Policing Chief Inspector and it was agreed that an enforcement liaison officer be appointed to arrange police support with local PSNI divisional command units (DCU`s).

### **Central Statistics and Research Branch (CSRB)**

- 2.5 CSRB were contacted to provide information on methodologies that could be used to ensure that findings from the survey would provide a satisfactory confidence level. CSRB indicated that a minimum of 400 vehicle checks would be required in order to provide meaningful results and statistics, this number of checks would provide a 95% confidence level with final results subject to a possible 5% statistical error rate. Where the overall achieved sample has been disaggregated and analysed the statistical error will be greater. CSRB also indicated that locations should be chosen at random but that numbers should be equal between urban and rural locations.

## **DVTA Compliance Section**

2.6 The information outlined below illustrates the types of data identified by Compliance Section that will enable DVTA to establish the current level of roadworthiness of the private & light goods (PLG) vehicle fleet in Northern Ireland, it should also provide an insight into the types and numbers of defects present in vehicles namely:

- registration number of the vehicle
- age of the vehicle
- current status of the vehicles' test certificate
- expiry date of the vehicles' test certificate
- vehicle servicing intervals
- vehicle defects present
- severity of the defects present
- requirement to issue prohibition notice and details

## **3 FACTFINDING**

### **Survey locations**

3.1 The following criteria was used to choose locations for the survey and was defined after discussions with CSRB, PSNI and Enforcement section:

- resource availability of PSNI and Enforcement officers
- security of locations
- availability of space at the location to allow room for checks to be carried out
- locations to be selected throughout Northern Ireland to ensure randomness of the vehicle checks

A list of the locations selected is included in appendix one along with a breakdown of the information collected at each location.

### **Questionnaire**

- 3.2 A questionnaire (appendix two) was designed for the survey. Input to the questionnaire was provided by CSRB, Enforcement and Compliance. A separate questionnaire was completed for each surveyed vehicle. The questionnaire contained a number of tick boxes with room for additional comments, this ensured a consistency of approach at all locations.

### **Survey Numbers**

- 3.3 541 vehicle checks were carried out at six locations over a four-week period, the information was then collated and checked.

### **Information Checks**

- 3.4 DVTA currently maintain two computer systems containing information on MOT status of vehicles. They are BSP and ITL. Information collected at the survey locations was cross-referenced with both systems to identify the MOT status for all vehicles checked. It was necessary to extract data from both systems, as BSP does not yet have a full years history of MOT data. Information collected was also checked against DVLNI records to identify the date of registration. Identification of vehicles requiring an MOT Certificate would therefore be possible.

### **Vehicle Selection**

- 3.5 The remit from CSRB was to make vehicle selection as random as possible at site locations. As is the case with surveys requiring human input the impartial selection of vehicles for examination is difficult to maintain. PSNI and Enforcement staff undertaking surveys have provided assurance that the majority of vehicles were selected randomly.

### **Action Taken at Locations**

- 3.6 As this was the first exercise of its kind undertaken by DVTA the emphasis was to provide advice and warning to vehicle owners whose vehicles had one or more minor defects. In circumstances where a more serious defect was identified, the owner was issued with a defect notice requiring that the vehicle

be repaired and presented at a DVTA Test Centre for further inspection within 14 days. In instances where a defect constituted a potential danger to road users, a prohibition notice was imposed restricting further use of the vehicle.

### **Issues Arising from the Surveys**

- 3.7 A total of 541 vehicles were stopped and checked at the different locations. Rigorous information checks identified 17 vehicles that were not on any of the Northern Ireland computer systems. Analysis of the results was therefore carried out based on a total of 524 vehicles.
- 3.8 Results from the survey identified a number of vehicles with non-compliant number plates, although these are classed as a vehicle defect it was agreed that they would not be included when analysis was carried out to identify the roadworthiness level.
- 3.9 Some of the analysed information is based on small sample sizes and the results are therefore open to a larger sampling error.

## **4 ANALYSIS OF SAMPLE RESULTS**

**Table One - Roadworthiness Level (*Appendices Three & Four refer*)**

*Table One*

	<b>Number</b>	<b>%</b>
<b>Vehicles checked</b>	<b>524</b>	
<b>Vehicles without defects</b>	<b>349</b>	<b>66.6*</b>
<b>Vehicles with defects</b>	<b>175</b>	<b>33.4*</b>
<i>Vehicles with defects</i>		
<b>Vehicles with 1 defect</b>	<b>128</b>	<b>73.1</b>
<b>Vehicles with 2 defects</b>	<b>35</b>	<b>20.0</b>
<b>Vehicles with 3 or more defects</b>	<b>12</b>	<b>6.9</b>

\*Comparisons with MOT vehicle testing system show that 20.6% of vehicles have a defect when tested.

**Table Two - Sampled Vehicles requiring MOT (Appendix Five refers)**

*Table Two*

	Number	%	Comparable Vehicle Age Surveys	
			NISRA 2003 (%)	DVLNI 2002 Survey (%)
<b>Vehicles checked</b>	<b>524</b>			
<b>Vehicles under 4 years old</b>	<b>125</b>	<b>23.9</b>	<b>41</b>	<b>50</b>
<b>Vehicles over 4 years old</b>	<b>399</b>	<b>76.1</b>	<b>59</b>	<b>50</b>
<b>MOT Evasion rate of sample</b>				
<b>Vehicles without MOT (over 4yrs old)</b>	<b>64</b>	<b>16.0</b>		

**Table Three - Display of MOT Disc (Appendix Six refers)**

*Table Three*

	Number	%
<b>Vehicles of MOT age</b>	<b>399</b>	
<b>Vehicles displaying MOT disc</b>	<b>242</b>	<b>60.7</b>
<b>Vehicles not displaying MOT disc</b>	<b>157</b>	<b>39.3</b>

**Table Four - Defects Present By Age (Appendix Seven refers)**

*Table Four*

	Vehicles Checked	Vehicles with Defects	Defect Level %
<b>2000 to 2004</b>	<b>128</b>	<b>24</b>	<b>18.8</b>
<b>1995 to 1999</b>	<b>262</b>	<b>91</b>	<b>34.7</b>
<b>Pre 1995</b>	<b>134</b>	<b>53</b>	<b>39.6</b>

**Table Five - Defect Level Post MOT (Appendix Eight refers)**

*Table Five*

	<b>Vehicles Checked</b>	<b>Vehicles with Defects</b>	<b>Defect Level %</b>
<b>0 to 120 days after MOT</b>	<b>104</b>	<b>23</b>	<b>22.1</b>
<b>121 to 180 days after MOT</b>	<b>71</b>	<b>32</b>	<b>45.1</b>
<b>181 to 270 days after MOT</b>	<b>87</b>	<b>32</b>	<b>36.8</b>
<b>271 to 365 days after MOT</b>	<b>73</b>	<b>27</b>	<b>37.0</b>
<b>Over 365 days after MOT</b>	<b>17</b>	<b>8</b>	<b>47.1</b>
<b>Other MOT age vehicles*</b>	<b>47</b>	<b>20</b>	<b>42.6</b>

\* Within the vehicles of MOT age a number were identified on the computer as having no MOT.

**Table Six - Types of Defects Identified (Appendix Nine refers)**

*Table Six*

<b>Type of Defect</b>	<b>Defects Identified</b>	<b>%</b>
<b>Total Defects Found</b>	<b>309</b>	
<b>Brakes</b>	<b>8</b>	<b>2.60</b>
<b>Exhaust</b>	<b>3</b>	<b>1.00</b>
<b>Steering</b>	<b>1</b>	<b>0.30</b>
<b>Lights</b>	<b>142</b>	<b>46.00</b>
<b>Wheels &amp; Tyres</b>	<b>18</b>	<b>5.80</b>
<b>Suspension</b>	<b>0</b>	<b>0</b>
<b>Chassis</b>	<b>11</b>	<b>3.60</b>
<b>Fuel &amp; Oil Leaks</b>	<b>0</b>	<b>0</b>
<b>Miscellaneous Defects</b>	<b>8</b>	<b>2.60</b>
<b>Glass Cracked</b>	<b>6</b>	<b>1.90</b>
<b>Defective Horn</b>	<b>5</b>	<b>1.60</b>
<b>Torn Wiper Blade</b>	<b>14</b>	<b>4.50</b>
<b>Defective Washers</b>	<b>13</b>	<b>4.20</b>
<b>Tinted Windows</b>	<b>2</b>	<b>0.60</b>
<b>Sunstrip</b>	<b>3</b>	<b>1.00</b>

<i>Other non compliance items evaluated during survey</i>		
<b>Number Plates</b>	<b>75</b>	<b>24.3</b>

## 5 COMMENTS AND CONCLUSIONS

### **Roadworthiness Level (Table 1, Appendices 3&4 refer)**

- 5.1 Results from this survey indicate that 67% of vehicles checked were roadworthy and that 33% were identified as being non-compliant. When this figure of 33% is equated to the size of the PLG vehicle fleet (711,913 vehicles) it indicates that potentially 234,931 vehicles may have one or more defects.
- 5.2 This vehicle survey assessed a limited range of vehicle components given that specialist test equipment was not available to carry out a full MOT vehicle assessment. Therefore the figure of 33% non-compliance indicates a minimum level of roadworthiness, as comprehensive checks were not carried out on braking systems or suspension linkages etc.
- 5.3 Current legislation requires that private cars and light goods vehicles are subject to an MOT test four years after the vehicles date of first registration and every year thereafter. Presently private cars are not subject to regular roadworthiness spot checks during the period that an MOT certificate is valid. These results strongly indicate that a significant number of vehicle owners prepare their vehicle for annual MOT testing but fail to carry out vehicle maintenance during the period that the MOT certificate is valid.
- 5.4 The level of MOT evasion identified from the sample was 16%. Although this figure is significantly lower than the 28% identified in the Agency's MOT Evasion Survey (2002) a number of recent initiatives introduced by DVLNI and DVTA such as introduction of SORN, voluntary display of MOT discs etc may have impacted on compliance levels.

**Analysis of Vehicles by Age (Table 2, Appendix 5 refers)**

- 5.5 An analysis of the sample was carried out to determine the percentage of vehicles requiring an MOT certificate. A recent NISRA report indicated that 60% of the Northern Ireland PLG vehicle fleet is of MOT age. This would support the findings of this survey, which identified that 76% of sampled vehicles required an MOT certificate.
- 5.6 An analysis of the sample revealed that defects were present in 36.4% of vehicles aged 4 years and over compared with 18.8% of younger vehicles. This would indicate that the defect incident rate significantly increases with vehicle age.

**Display of MOT disc (Table 3, Appendix 6 refers)**

- 5.7 An analysis of the sample identified that 61% of vehicles aged 4 years and over were voluntarily displaying an MOT disc on their windscreen. This is considered a significant finding given that the mandatory display of MOT discs will not become a legal requirement in Northern Ireland until the introduction of the Road Traffic Amendment Bill in 2005.

**Roadworthiness Level, by Vehicle Age (Table 4, Appendix 7 refers)**

- 5.8 In order to carry out an analysis of roadworthiness in comparison to vehicle age it was necessary to arrange the sample into three age ranges. This was to ensure that sufficient numbers of vehicles were present in each age range to provide reliable analysis. Results indicate that 39.6% of vehicles first registered prior to 1995 had the highest incidence of non-compliance due to vehicle defects, compared to 34.7% of vehicles first registered between 1995 and 1999. The rate decreases further to 18.8% of vehicles first registered after 2000.
- 5.9 Recent surveys (MOT Evasion Survey 2002, VED Evasion Survey 2002) indicated that there is an increasing rate of evasion among older vehicles. This underpins the findings of this survey, which also indicated that older vehicles have a greater level of non-compliance due to vehicle defects.

**Analysis of Roadworthiness Level, post MOT (Table 5, Appendix 8 refers)**

- 5.10 Vehicles Inspected 0 to 120 days post MOT – 22.1% of vehicles sampled were found to be non compliant as a result of vehicle defects. It was anticipated that this period would reveal the lowest non-compliance level given that these vehicles had been recently issued with an MOT certificate
- 5.11 Vehicles Inspected 121 to 180 days post MOT – 45.1% of vehicles sampled were found to be non compliant as a result of vehicle defects.  
Vehicles Inspected 181 to 270 days after MOT – 36.8% of vehicles sampled were found to be non compliant as a result of vehicle defects  
Vehicles Inspected 271 to 365 days after MOT – 37.0% of vehicles sampled were found to be non compliant as a result of vehicle defects  
These results indicate a significant defect incident rate. A contributing factor to this could be a lack of interim maintenance between annual MOT tests.
- 5.12 Vehicles Inspected over 365 days post MOT – 47.1% of vehicles sampled were found to be non compliant as a result of vehicle defects. These findings are considered reflective of vehicle owners who do not regularly maintain their vehicles and who are content to use their vehicle without having a valid MOT certificate in force.
- 5.13 Similar work carried out by VOSA identified a similar trend in respect of roadworthiness non-compliance, where their findings revealed a significant deterioration in roadworthiness as early as 2 months post periodic test. A further period of accelerated deterioration was detected during the period approaching the next periodic test.

**Analysis of Non Compliant Items detected (Table 6, Appendices 9&10 refer)**

- 5.14 The three predominant non-compliant items identified were defective lamps, non-compliant number plates and defective tyres.

- 5.15 Non-operational lamps were the most frequently recurring defect identified and it appears to be the case that vehicle owners do not regularly check the operation of lamps. Associated dangers attributable to defective lamps include road traffic collisions caused by non-operational stop lamps, defective indicator lamps and dazzle caused by insecure and misaligned headlamps.
- 5.16 Non-compliant registration plates were identified as a frequently recurring item. Anecdotal evidence suggests that some vehicle owners' fit compliant registration plates to their cars for the purposes of MOT testing. These plates are then replaced with a personalised non-compliant version post MOT. Many non-compliant registration plates result in an illegible registration mark. This can result in road safety implications for vehicles involved with road traffic incidents or the subject of road traffic enforcement where the vehicle cannot be identified.
- 5.17 Defective tyres were also identified as a recurring defect. The relatively low rate of detection (5.8%) may be due in part to the success of a number of campaigns carried out by PSNI and the Road Safety unit to highlight the road safety implications of defective tyres. These include potential loss of vehicle control due to insufficient tread depth and other tyre defects.
- 5.18 Defective brakes and steering accounted for 2.6% and 0.3% of defects respectively. However these component checks were restricted to a visual assessment only. The availability of portable test equipment at the roadside may have resulted in an increase in the number of braking and steering defects detected.

### **Analysis of Unidentifiable Records (Table 7)**

5.19 During the survey a total of 17 vehicles checked did not appear on Northern Ireland computer records. At the time of the survey it was anticipated that these vehicles fell into one of four categories:

- Vehicles not registered in Northern Ireland
- Vehicles displaying registration marks excluded from computer records for national security reasons
- Vehicles with registration marks the subject of a pending cherished transfer
- Vehicles displaying fraudulent registration marks

Checks with DVLA Swansea identified 9 of the unknown vehicle registration marks on their database. In depth checks by DVLNI were unable to identify the remaining 8 registration marks.

5.20 In view that officers carrying out vehicle checks did not have immediate access to vehicle information databases at the roadside, some 17 vehicles were allowed to proceed without confirmation of their identity being established at the time. This may have resulted in potential offences remaining undetected.

### **Road Safety Implications**

5.21 A recent DVTA report on the impact of non-compliance indicated that 4 - 5% of road traffic collisions are directly caused by vehicle defects and that in 10 - 13% of road traffic collisions they are a contributing factor

5.22 Research in the EU and USA identified a possible reduction in road traffic collisions of 5 - 17% where an MOT system is introduced

## 6 RECOMMENDATIONS

- **Recommendation One – Consideration that regular roadside roadworthiness compliance testing is introduced to complement tests carried out in testing centres**

Benefits:

- Motorists encouraged to regularly maintain their vehicles
- Safer vehicles on the road
- Cleaner environment
- Reduction in road traffic collisions attributable to vehicle defects
- A potential reduction in the number of road traffic injuries reducing the cost to the economy
- Reduction in the level of MOT evasion
- Reduction in vehicle crime
- Increased revenue collection

- **Recommendation Two - Consideration that DVLNI and DVLA databases be accessible at the roadside to allow real-time access to vehicle information**

Benefits:

- Easier detection of offences
- Positive vehicle and owner identification made possible at the roadside
- Better utilisation of available resources
- Improved effectiveness in the detection of fraud
- Enhanced verification of database information

- **Recommendation Three - Consideration that motorists be issued with a “*billet de control*” providing evidence that their vehicle was subject to a roadside roadworthiness compliance check**

Benefits:

- Improved utilisation of resource at the roadside
- Improved customer care

- **Recommendation Four – Consideration that a consistent approach to the regulation of registration plates is adopted by PSNI and DVTA in respect of MOT standards and roadside enforcement**

Benefits:

- Uniform compliance standards will ensure a consistent approach to the problem
- Improved public awareness of legal requirements
- Reduction in present level of revenue evasion attributable to poor recognition of vehicle identity by automatic number plate readers etc

- **Recommendation Five - Consideration that modified vehicles are regularly checked for roadworthiness compliance at the roadside**

Benefits:

- Improved regulation of noise and emission pollution
- Improved detection of illegal modifications post MOT testing
- Reduction in the number of public complaints

- **Recommendation Six – Consideration that all Vehicle Examiners are trained to apply a consistent standard of evaluation of vehicle components**

Benefits:

- Positive public perception of the agency’s contribution to road safety
- Application of consistent testing standards

- **Recommendation Seven – Consideration that in-depth roadworthiness inspections are made possible at the roadside through the use of specialist equipment**

Benefits:

- A more reliable indication of the standard of roadworthiness
- A more comprehensive roadside inspection is made possible
- Improved level of statistical information available on recurring defects
- An improved level of road safety assurance through roadside inspections

- **Recommendation Nine - Consideration that a specialist team is introduced for the purposes of carrying out private car roadworthiness enforcement in Northern Ireland**

Benefits:

- A dedicated specialist team would allow the agency to very effectively combat MOT evasion
- Increased information (statistics) would be available.
- As well as enforcing roadworthiness issues the team could develop programmes highlighting the need for compliance
- Increased road safety through enforcement of standards.

- **Recommendation Ten – Consideration that a publicity campaign highlighting the benefits of regular car servicing and impact on defects level, road safety and MOT compliance be introduced**

Benefits:

- Positive public perception of the agency’s contribution to road safety
- Positive effect on road safety

- Improved public awareness of the dangers of reliance on vehicles that have not been regularly maintained
- **Recommendation Eleven – Consideration that the vehicle maintenance aspect of the driving test be reviewed to ensure that drivers understand the importance of maintaining and servicing their vehicle**

Benefits:

- Increased level of knowledge for young drivers,
  - Development of good habits regarding maintenance
  - Early preventative detection of defects by informed drivers
- **Recommendation Twelve - Consideration that in light of the forthcoming Police Reform Act the Agency seeks authority from the PSNI permitting Vehicle Examiners to stop private cars.**

Benefits:

- Improved utilisation of agency resources
  - Removes the dependency of PSNI providing a resource which at times is unreliable
  - Improved flexibility to allow operations to be planned and mounted
  - Improved effectiveness
- **Recommendation Thirteen – Consideration that the current fixed penalty ticket system is extended to allow DVTA staff to issue fixed penalty tickets**

Benefits:

- A less resource intensive penalty system which allows the Agency to direct more of its resource to proactive enforcement
- A more efficient/effective prosecution system for dealing with offences of a less serious nature
- The Agency would be provided with a mechanism that allows effective enforcement in particular for defects of a minor nature

## APPENDIX ONE

### BREAKDOWN OF LOCATIONS SURVEYED

#### Belfast Survey

The survey was carried out on 15<sup>th</sup> April 2004, eight enforcement staff were used for the operation and there were four to six police in attendance. The locations selected for the survey were

- Shaws Bridge
- Blacks Road almost under the M1 bridge
- Annadale embankment

10 defect notices were issued

<i>Belfast Survey</i>	Number	%
Vehicles checked	122	
Vehicles under 4yrs	16	13.1
Vehicles over 4yrs	106	86.9
Vehicles displaying cert.	52	49.1
Vehicles with defects	51	41.8
<i>Multi Defect Breakdown</i>		
Vehicles with 1 defect	42	34.4
Vehicles with 2 defects	7	5.7
Vehicles with 3 or more defects	2	1.6

#### Newry Survey

The survey was carried out on 22<sup>nd</sup> April 2004, eight enforcement staff were used for the operation and there were six to eight police in attendance. The locations selected for the survey were

- Rathfriland Road
- Carnbane Way

21 defect notices were issued

<i>Newry Survey</i>	Number	%
Vehicles checked	140	
Vehicles under 4yrs	51	36.4
Vehicles over 4yrs	89	63.6
Vehicles displaying cert.	64	71.9
Vehicles with defects	57	40.7
<i>Multi Defect Breakdown</i>		
Vehicles with 1 defect	42	30.0
Vehicles with 2 defects	11	7.9
Vehicles with 3 or more defects	4	2.9

## Enniskillen Survey

The survey was carried out on 19th April 2004, four enforcement staff were used for the operation and there were four police in attendance. The locations selected for the survey were

- Kesh, Pettigo crossroads
- Main Kesh/Enniskillen Road
- Lay by situated above the Killyhevlin Hotel
- Five Fingers, Sligo Road

2 defect notices were issued

<i>Enniskillen Survey</i>	<b>Number</b>	<b>%</b>
Vehicles checked	75	
Vehicles under 4yrs	17	22.7
Vehicles over 4yrs	58	77.3
Vehicles displaying cert.	33	56.9
Vehicles with defects	22	29.3
<b><i>Multi Defect Breakdown</i></b>		
Vehicles with 1 defect	19	25.3
Vehicles with 2 defects	2	2.7
Vehicles with 3 or more defects	1	1.3

## Dungannon Survey

The survey was carried out on 23<sup>rd</sup> April 2004, four enforcement staff were used for the operation and there were four to six police in attendance. The locations selected for the survey were

- Cookstown Road
- Stangmore Road
- Moy Road

10 defect notices were issued

<i>Dungannon Survey</i>	<b>Number</b>	<b>%</b>
Vehicles checked	69	
Vehicles under 4yrs	14	20.3
Vehicles over 4yrs	55	79.7
Vehicles displaying cert.	31	56.4
Vehicles with defects	32	46.4
<b><i>Multi Defect Breakdown</i></b>		
Vehicles with 1 defect	21	30.4
Vehicles with 2 defects	6	8.7
Vehicles with 3 or more defects	5	7.2

### Strabane Survey

The survey was carried out on 20<sup>th</sup> April 2004, four enforcement staff were used for the operation and there were four to six police in attendance. The locations selected for the survey were

- Victoria Road
- Mulvin Road

5 defect notices were issued

<b><i>Strabane Survey</i></b>	<b>Number</b>	<b>%</b>
Vehicles checked	39	
Vehicles under 4yrs	8	20.5
Vehicles over 4yrs	31	79.5
Vehicles displaying cert.	27	87.1
Vehicles with defects	20	51.3
<b><i>Multi Defect Breakdown</i></b>		
Vehicles with 1 defect	9	23.1
Vehicles with 2 defects	6	15.4
Vehicles with 3 or more defects	5	12.8

### Coleraine Survey

The survey was carried out on 28<sup>th</sup> April 2004, four enforcement staff were used for the operation and there were four to six police in attendance. The locations selected for the survey were

- Sandleford Bridge on the ring road
- Outside local Safeway's store

21 defect notices were issued

<b><i>Coleraine Survey</i></b>	<b>Number</b>	<b>%</b>
Vehicles checked	79	
Vehicles under 4yrs	19	24.1
Vehicles over 4yrs	60	75.9
Vehicles displaying cert.	35	58.3
Vehicles with defects	44	55.7
<b><i>Multi Defect Breakdown</i></b>		
Vehicles with 1 defect	31	39.2
Vehicles with 2 defects	8	10.1
Vehicles with 3 or more defects	5	6.3

**APPENDIX TWO ROADWORTHINESS PROJECT - QUESTIONNAIRE**

**REGISTRATION NUMBER:** \_\_\_\_\_

**Location:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Vehicle Age**  
(Insert 1<sup>st</sup> Reg. date if known) \_\_\_\_\_

<b>Valid MOT in Place:</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>	<b>Tick as Appropriate</b>

<b>MOT Certificate Displayed:</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>	<b>Tick as Appropriate</b>

<b>VED Displayed:</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>	<b>Tick as Appropriate</b>

**Vehicle Identification (Chassis) Number:** \_\_\_\_\_

**Vehicle Service Intervals: ( Driver to be asked)** \_\_\_\_\_

**Vehicle inspection checklist**

Item Description	Checked	Not Checked	Failed	Remarks
1. Wheels & Tyres				
2. Registration Plates				
3. Glass				
4. Indicators				
5. Lights				
6. Wipers/Washers				
7. Horn				
8. Brake fluid level				
9. Mirrors				
10. Steering Wheel				
11. Brakes				
12. Foot Pedals				
13. Seats & Seatbelts				
14. Bodywork				
15. Any other items				

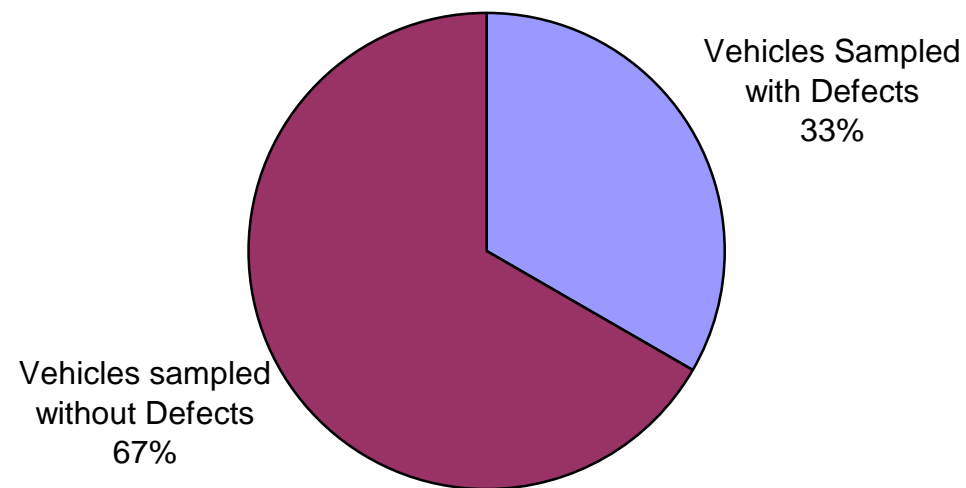
<b>Prohibition Notice Issued</b> (Details overleaf)	<b>None</b>	<b>Immediate</b>	<b>Delayed</b>	<b>Advisory</b>	<b>PSNI Action</b>

**VT Serial No:** \_\_\_\_\_

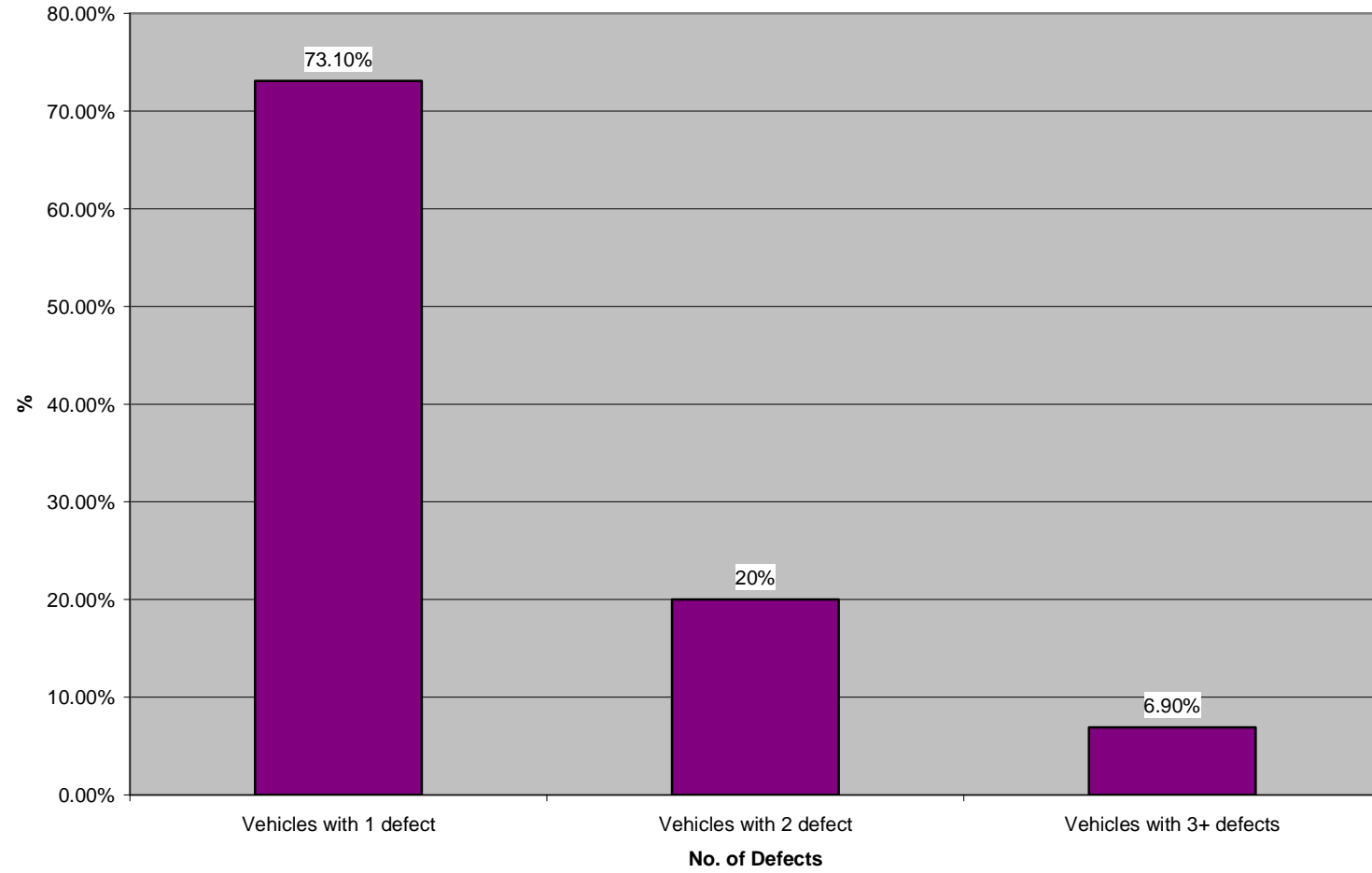
**Print Name:** \_\_\_\_\_ **Signed:** \_\_\_\_\_

**VEHICLE CHECK/PROHIBITION NOTICE DETAILS**

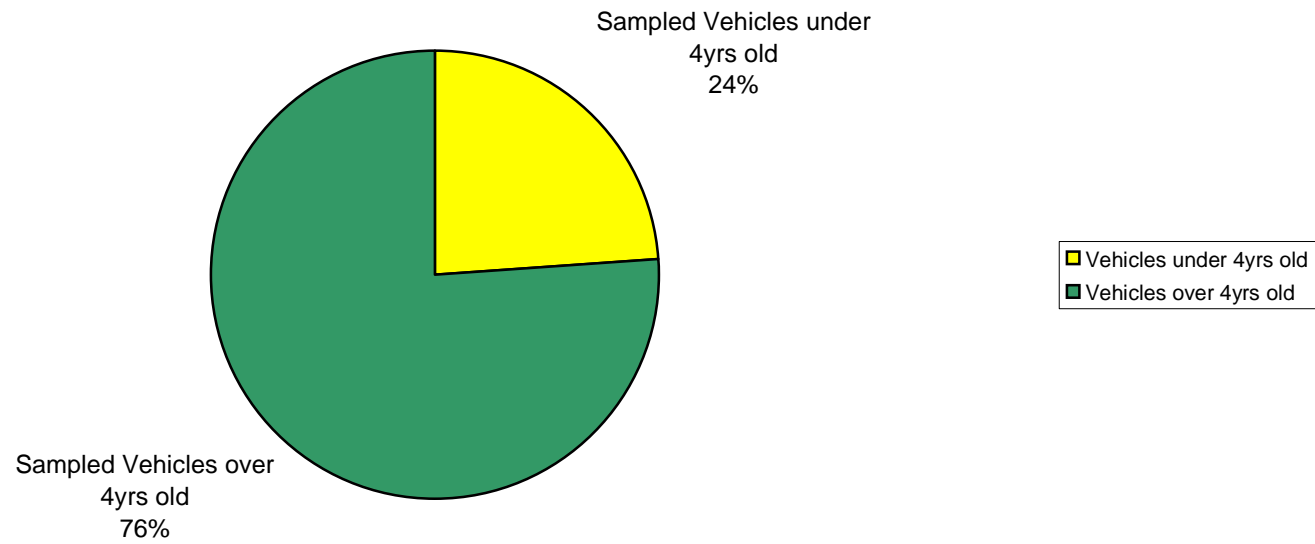
ROADWORTHINESS LEVEL OF THE SAMPLE



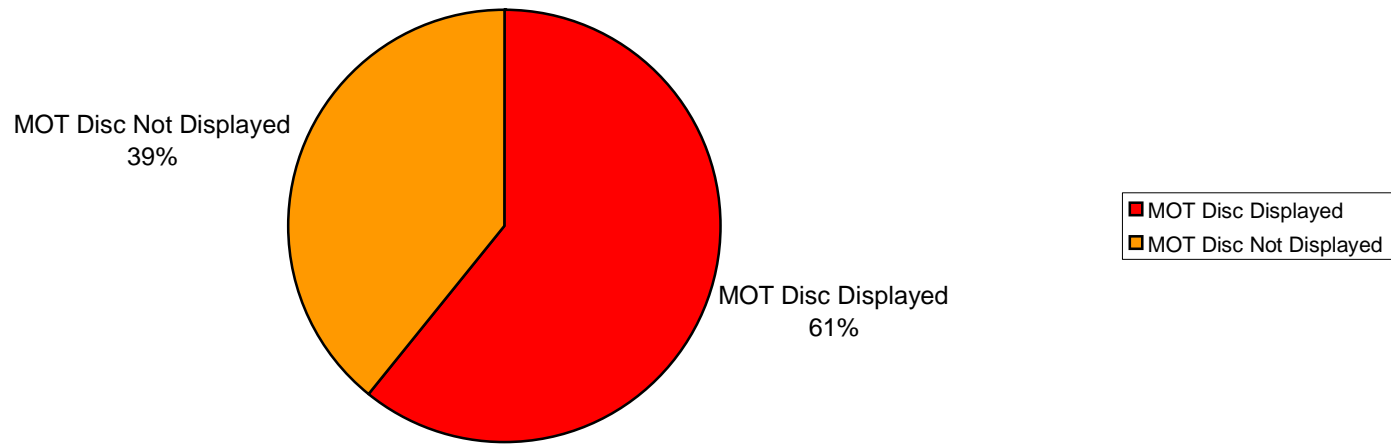
SAMPLED VEHICLES WITH MULTIPLE DEFECTS



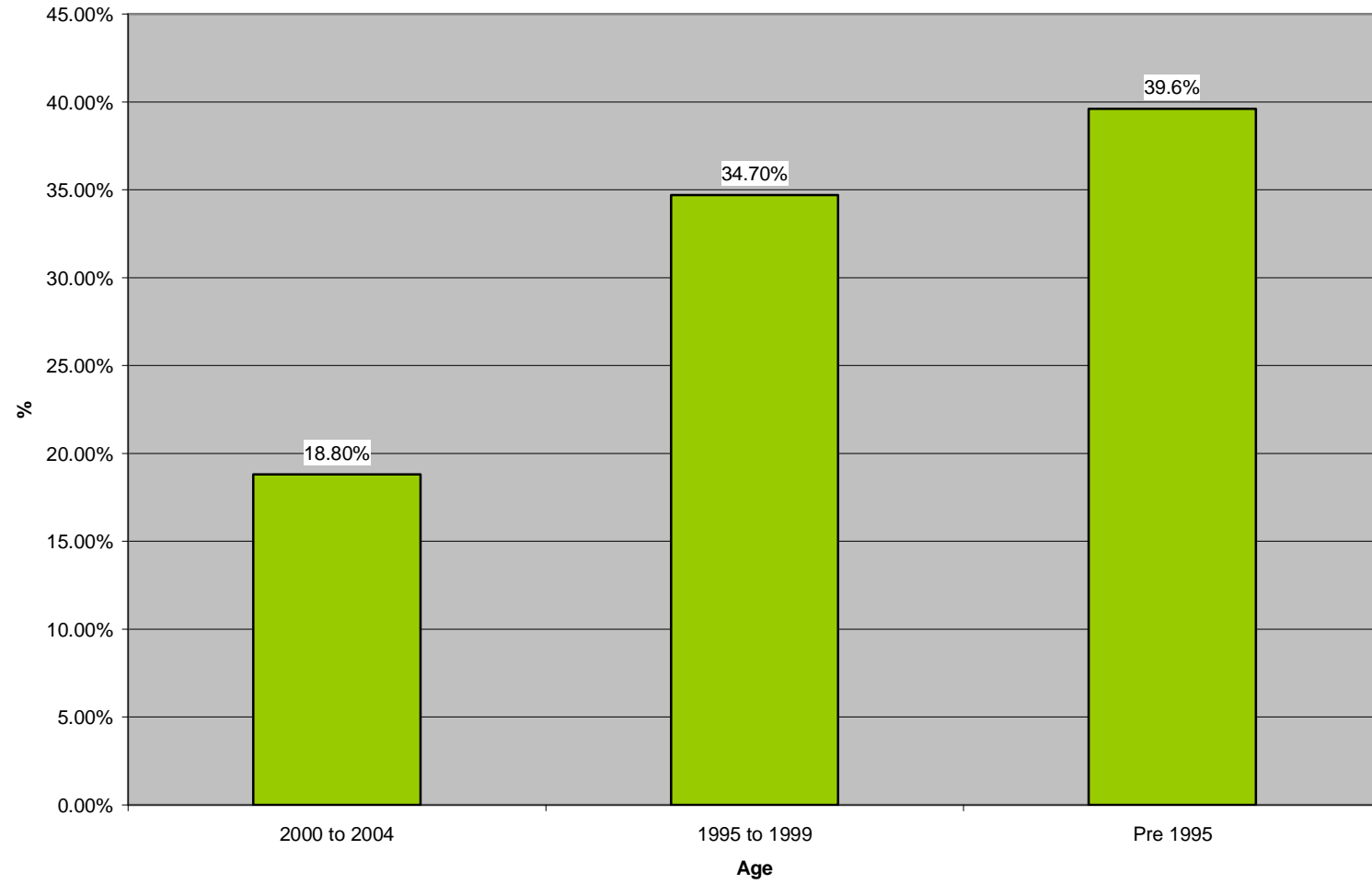
### VEHICLE AGE OF SAMPLE



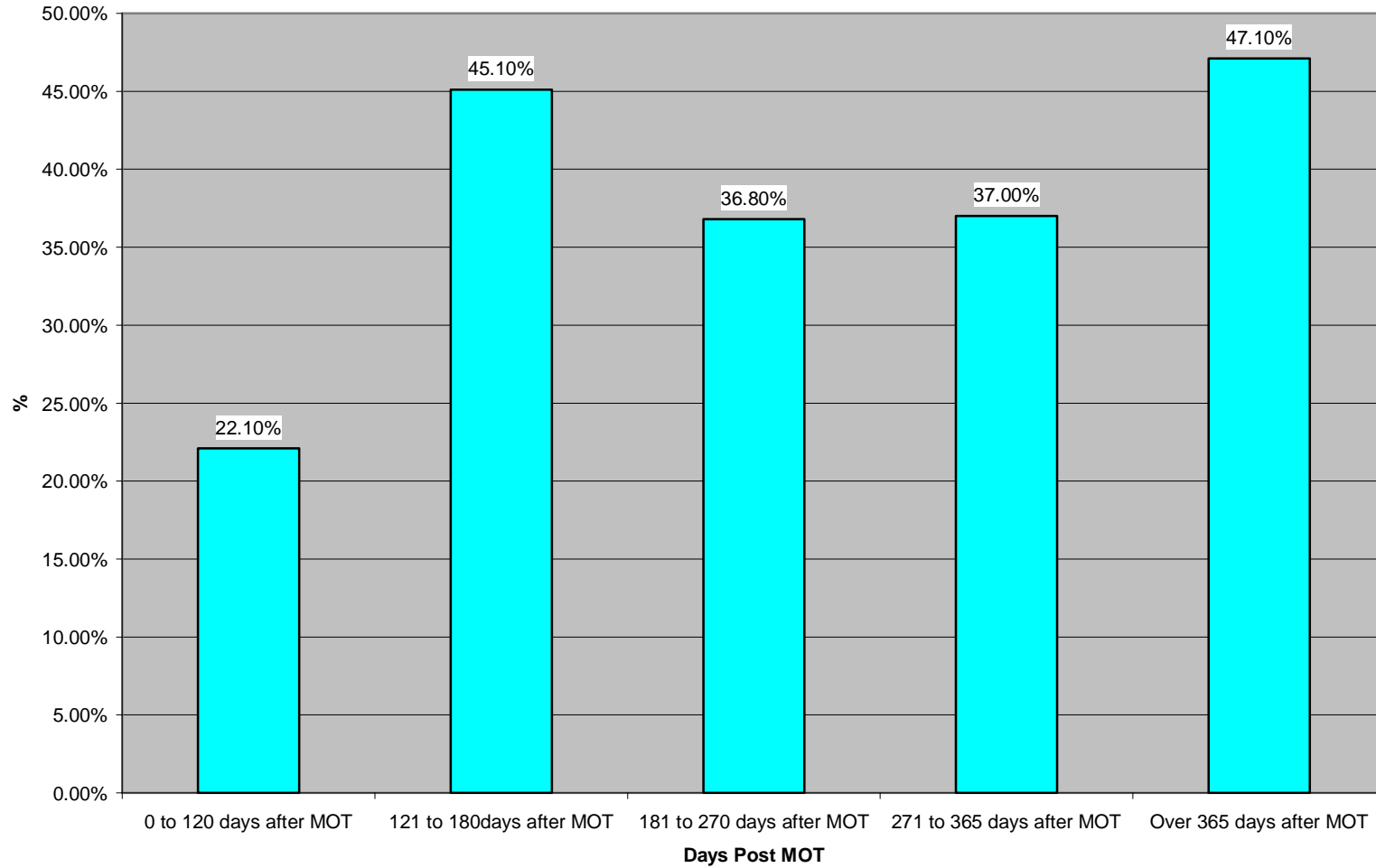
### DISPLAY OF MOT DISC



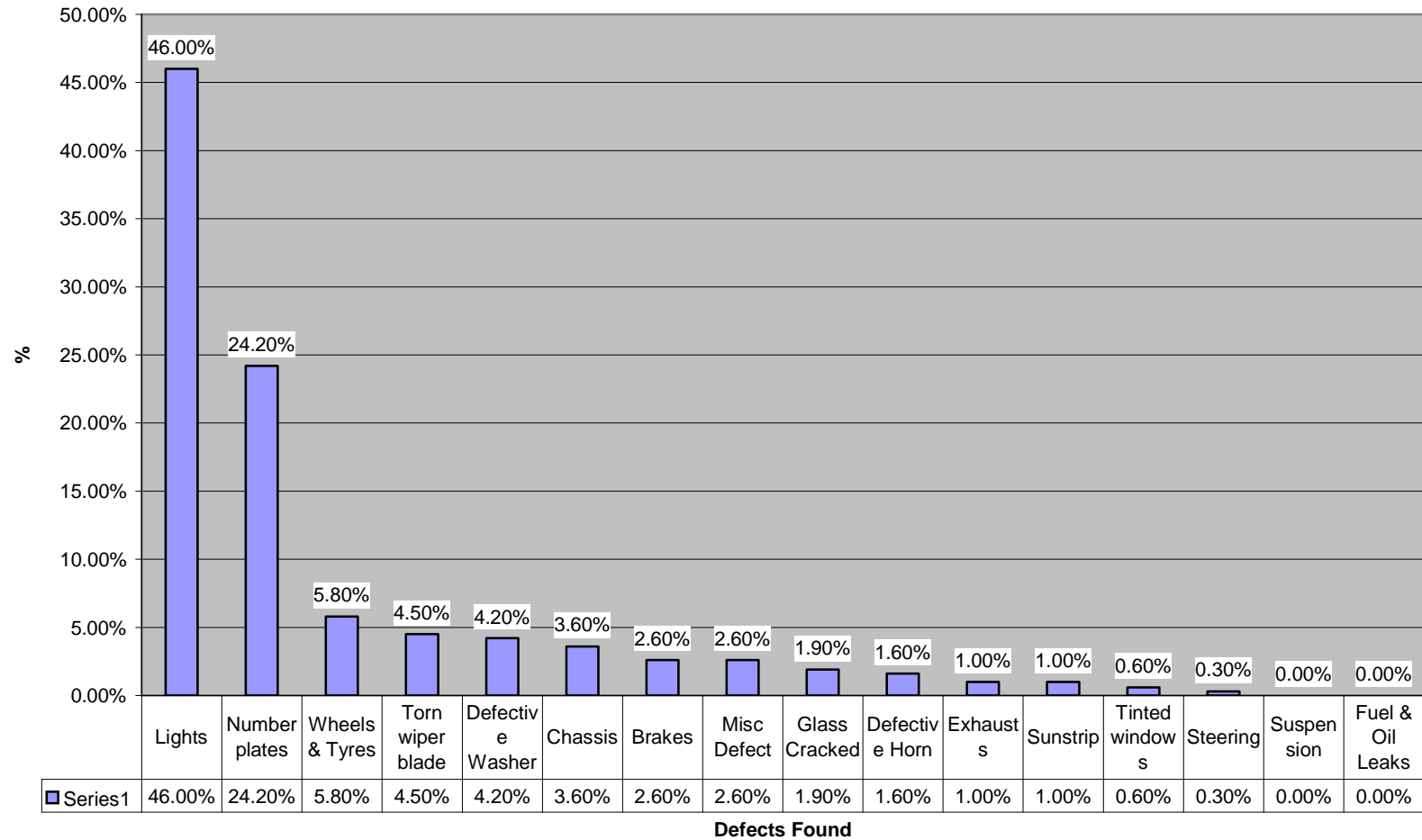
DEFECT LEVEL OF SAMPLE BY VEHICLE AGE



### DEFECT LEVELS POST MOT OF SAMPLED VEHICLES



TYPES OF DEFECTS FOUND DURING SAMPLE



## APPENDIX TEN

### Types of Defects Found

Defect Area	Defect Problems Found
Brakes	Brake fluid level low Excessive travel in handbrake Disc pads worn to metal
Exhausts	Exhaust broken/leaking out
Steering	Drive shaft CV flexible gaiter torn Excessive free play measured at front wheels
Lights	Indicator/bulb inoperative Stop lamp/bulb inoperative Headlamp/bulb inoperative Side lamp/bulb inoperative Light housing-glass cracked
Wheels and Tyres	Tread Depth worn below legal limit Internal bracing/wire exposed Bulge on sidewall Sidewall perished/cracked
Suspension	
Chassis	Bumper missing Broken front grill Side door rust eaten and wasted Insecure bumper Bodywork rust eaten and wasted Door pillar rust eaten and wasted
Fuel and Oil leaks	
Other Defects	Cracked rear view mirror Windscreen wiper missing Vehicle door insecure
Number plates*	Incorrect size or spacing of lettering Cracked plate
Misc	Windscreen glass cracked
Misc	Horn inoperative
Misc	Torn wiper blade
Misc	No water in w/washer reservoir
Misc	Excessive tinted in windscreen
Misc	Sunstrip encroaching on area of vision

\* Note this item is considered a non-compliance matter as opposed to a mechanical defect but was included for the purposes of the survey

## APPENDIX ELEVEN

Required sample sizes depending on population homogeneity and desired accuracy

Acceptable sampling error <sup>a</sup>	Per cent of population expected to give particular answer					
	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50/50
1%	1900	3600	6400	8400	9600	10000
2%	479	900	1600	2100	2400	2500
3%	211	400	711	933	1066	1100
4%	119	225	400	525	600	625
5%	76	144	256	336	370	400
6%	-- <sup>b</sup>	100	178	233	267	277
7%	--	73	131	171	192	204
8%	--	--	100	131	150	156
9%	--	--	79	104	117	123
10%	--	--	--	84	96	100

Notes a At the 95 per cent level of confidence

b Samples smaller than this would normally be too small to allow meaningful analysis