



NZ TRANSPORT AGENCY
WAKA KOTAHI

NZTA Survey of Pavement Markings

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Objective

- **Understanding pavement marking processes, practices and risks**
 - **Leading to better asset management**
- **Investigating: Are Performance Based Contracts really working? Is it leading to better asset management?**



Projects

- **Identify the current baseline roadmarking practice**

Then:

- **Where would we like to be?**
- **Framework to deliver this**

Survey

- **Establish the extent that roadmarkings are being managed, at least in part, with regard to actual performance**
 - **Are Asset Management principles being used?**
 - **Is the performance being realised?**



2 Questionnaires:

1st:

Who is in charge of roadmarking?

Performance based or method based?



2nd
Questionnaire for
performance
based contracts



2nd
Questionnaire for
method based
contracts

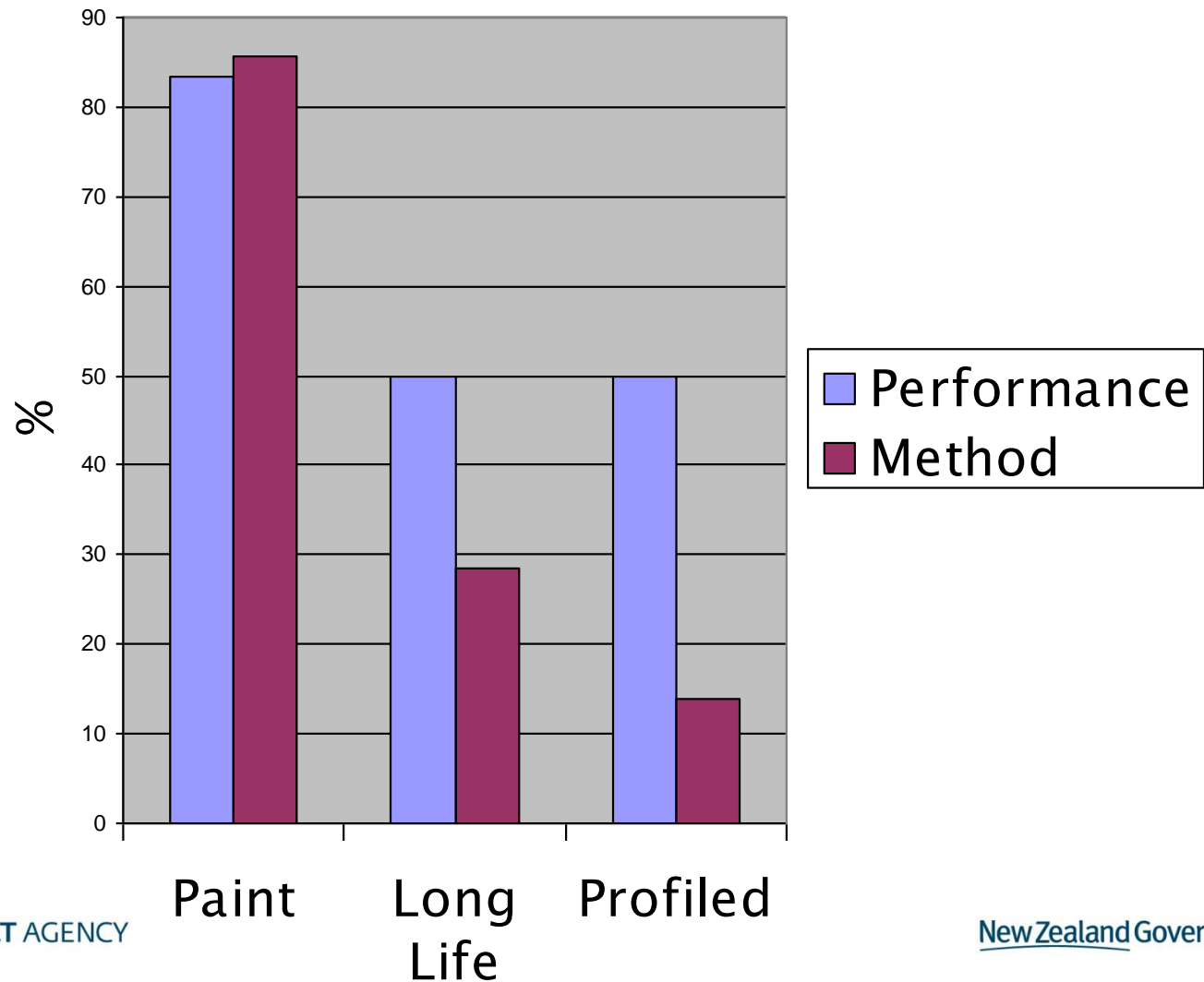


Performance Based Survey – Section 1

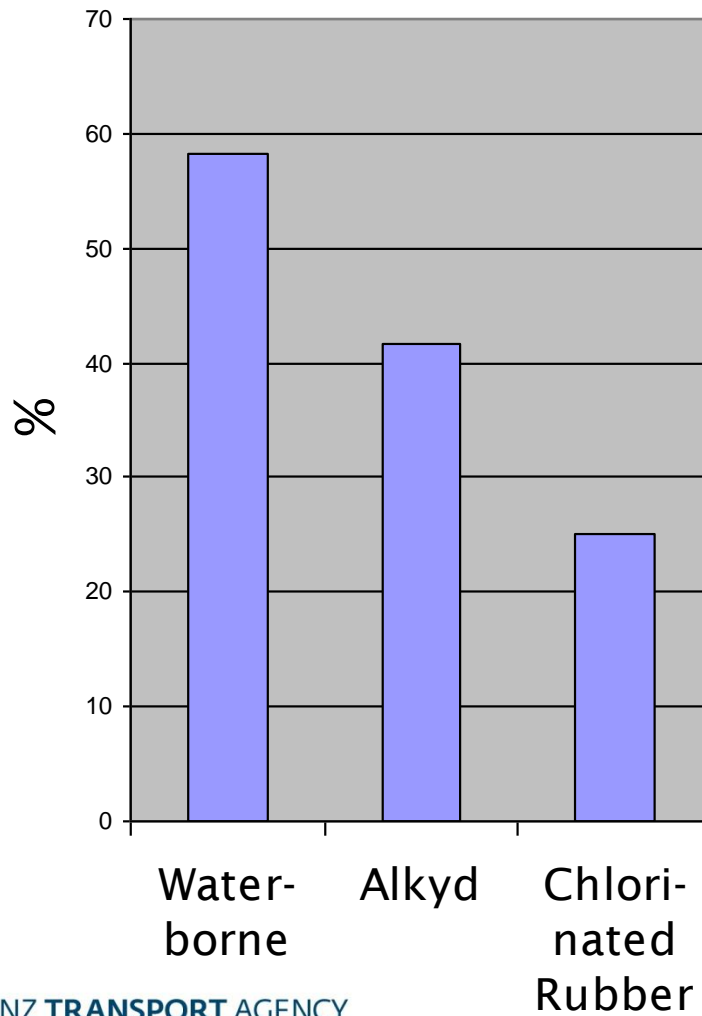
- **Material types selected**
- **Who was responsible for the selection**
- **The basis of the selection, such as it being an approved material**
- **performance expectations, (e.g. skid and retroreflectivity when new), and**
- **the extent of use of trial materials**



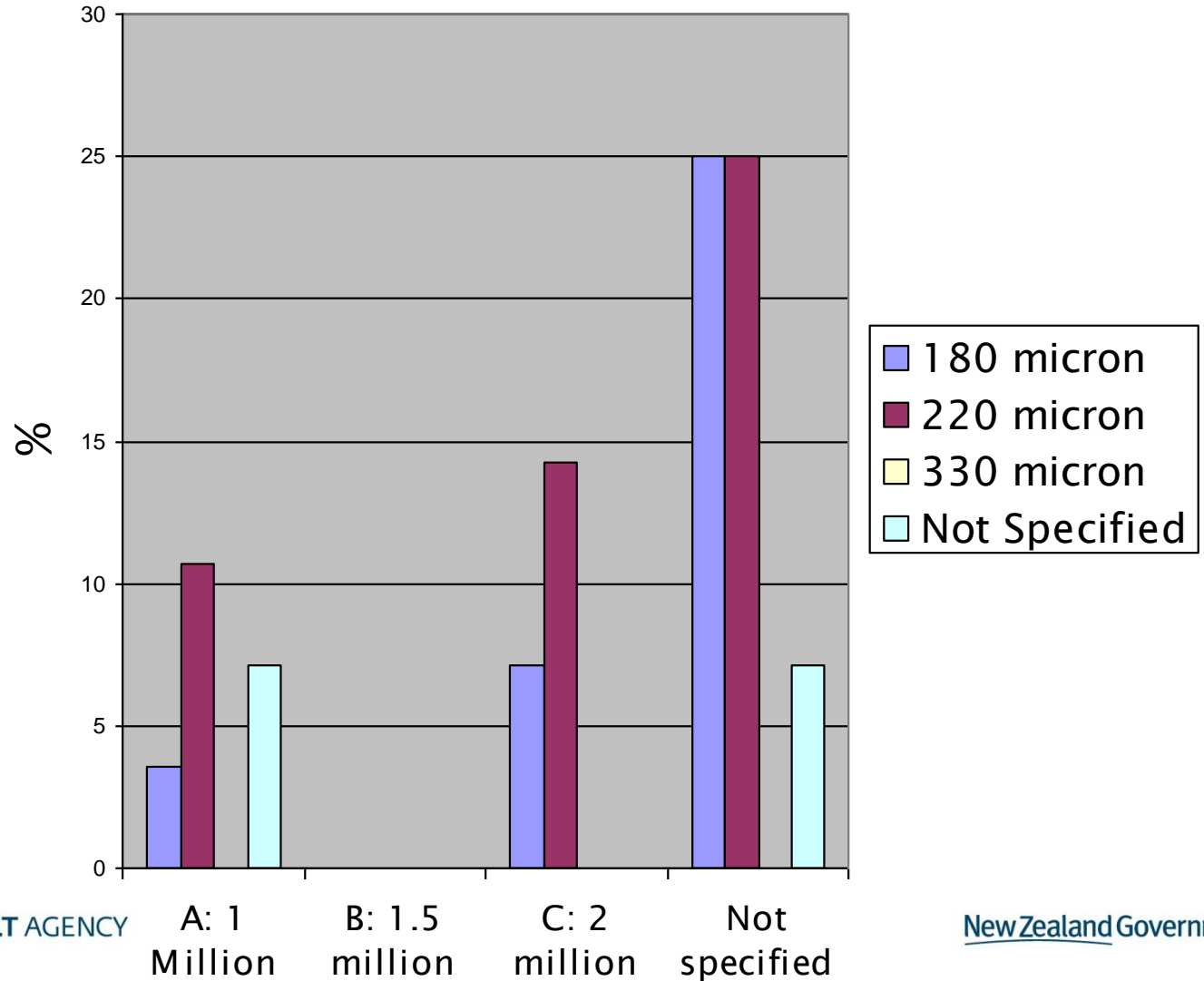
Material Types in Use



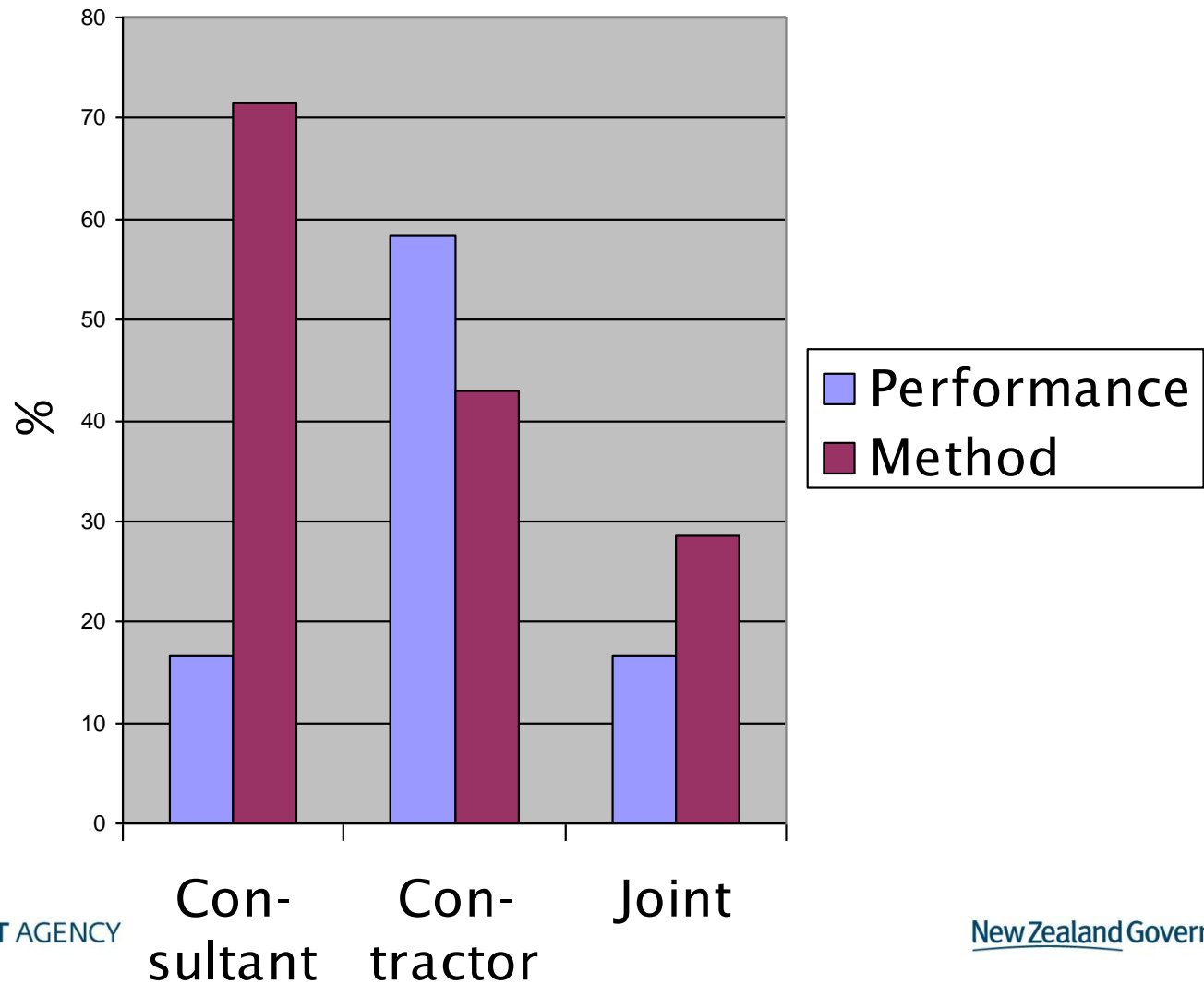
Performance Based Material Types in Use



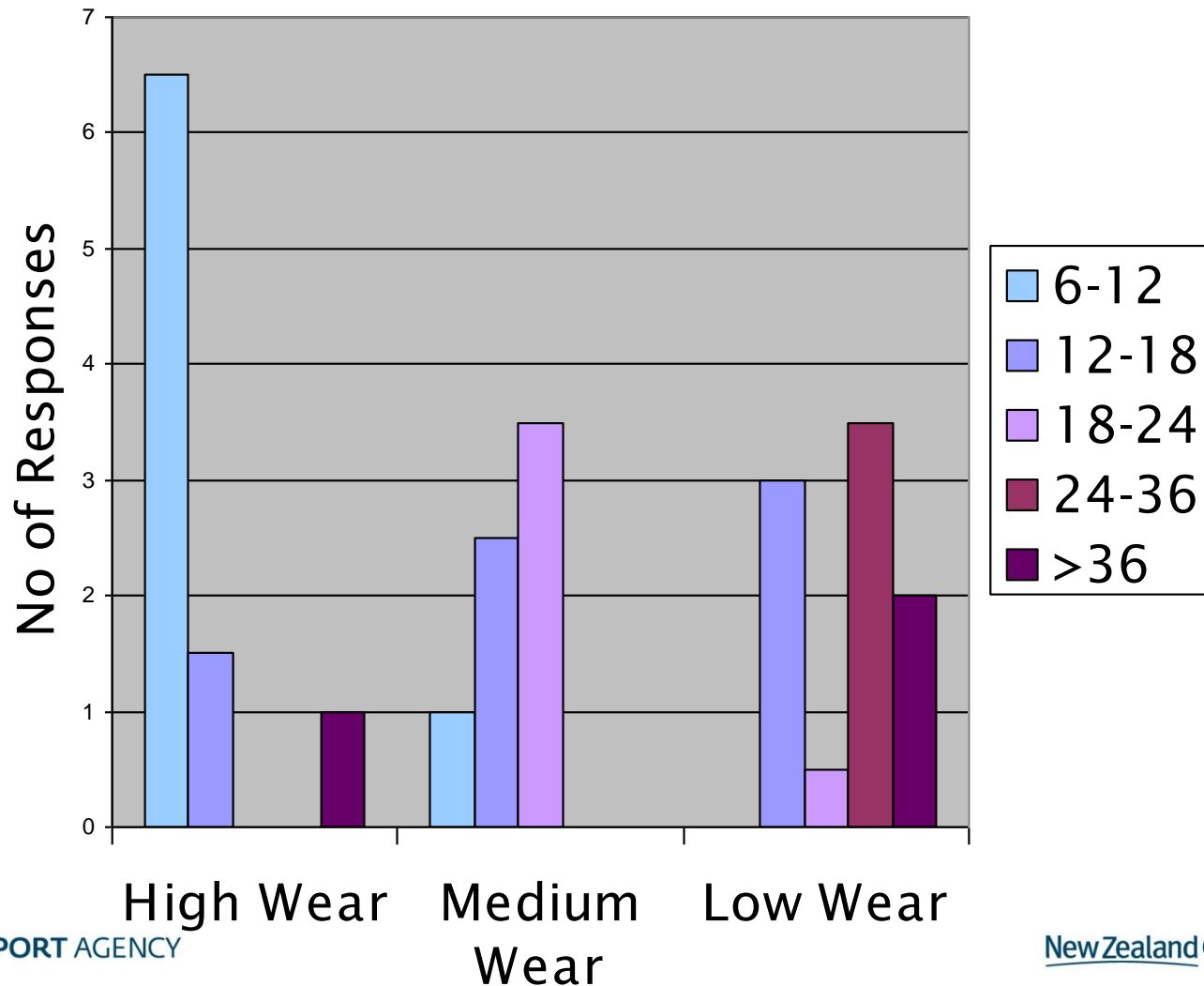
Method Based Paint – M/7 Classifications



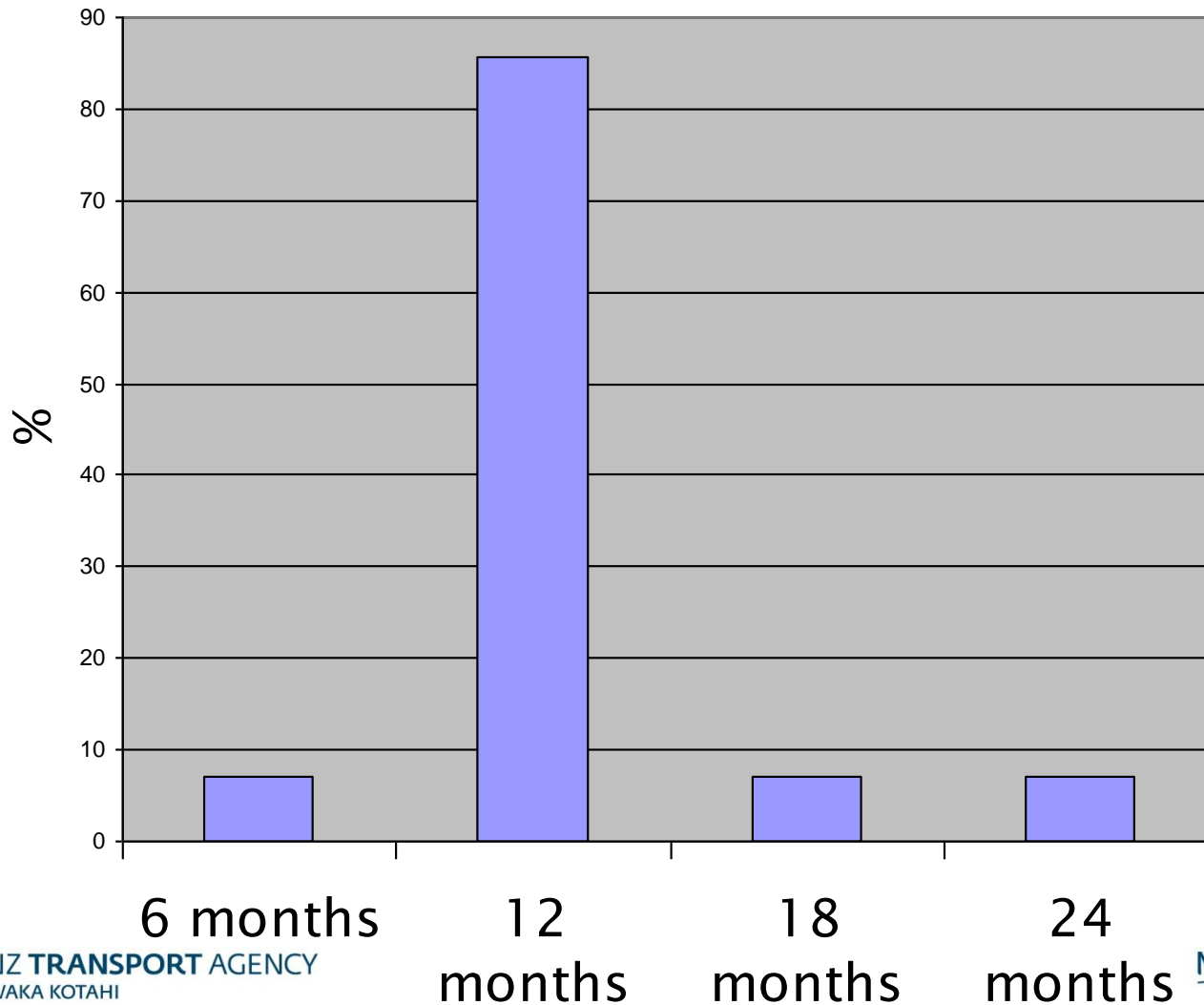
Responsibility for Selection of Materials



Expected Life (months) Performance Based



Remark Frequency Method Based



Performance Based Survey – Section 2

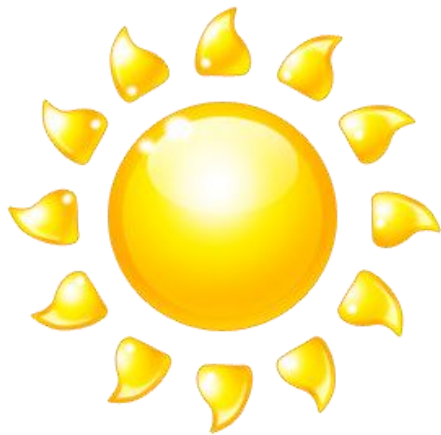
- **Expectations of performance of materials**
- **Checking of initial performance**
- **Match between expectations and delivery**



Initial Properties



Surveys



Performance Based Survey – Section 3

- **Whether monitoring is occurring**
- **Does monitoring follow an asset management approach?**

Performance Based Survey – Section 3

- **Ongoing monitoring in all cases**
 - **Retroreflectivity – always**
 - **Skid resistance – about half the time**
 - **Colour – about half the time**
- **Monitoring to detect end of life, rather than rate of deterioration**
- **Results reported to client 40% of the time**



Performance Based Survey – Section 3

- **Monitoring feedback occurring:**
 - re-mark being deferred in some cases
 - re-marked in other cases
- **Monitoring frequency not changed as a result of measurements**
- **Measurements made at end of contract to establish compliance**



Performance Based Survey – Section 4

- **Instrumentation for the measurements**
- **Calibration**
- **Personnel**
- **Level of experience**



Performance Based Survey – Section 4

- **Instruments**
 - **Mainly handheld instruments used**
 - **A mobile system used by two respondents, in conjunction with a hand-held instrument**



Performance Based Survey – Section 5

- **Special markings used?**
 - **Almost all had used audio tactile profiled roadmarkings**
- **Any assessment of effectiveness?**
 - **Variety of assessment of effectiveness; inspection, wet night, retroreflectivity, longevity, drop in accident rate**



Conclusion

- **Road agencies using performance based systems have a greater awareness of**
 - Performance and
 - Longevity
- **Method based approach**
 - Geared around 12 month cycles
 - Performance checks subjective
 - Price (rather than performance and longevity) more important



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