



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

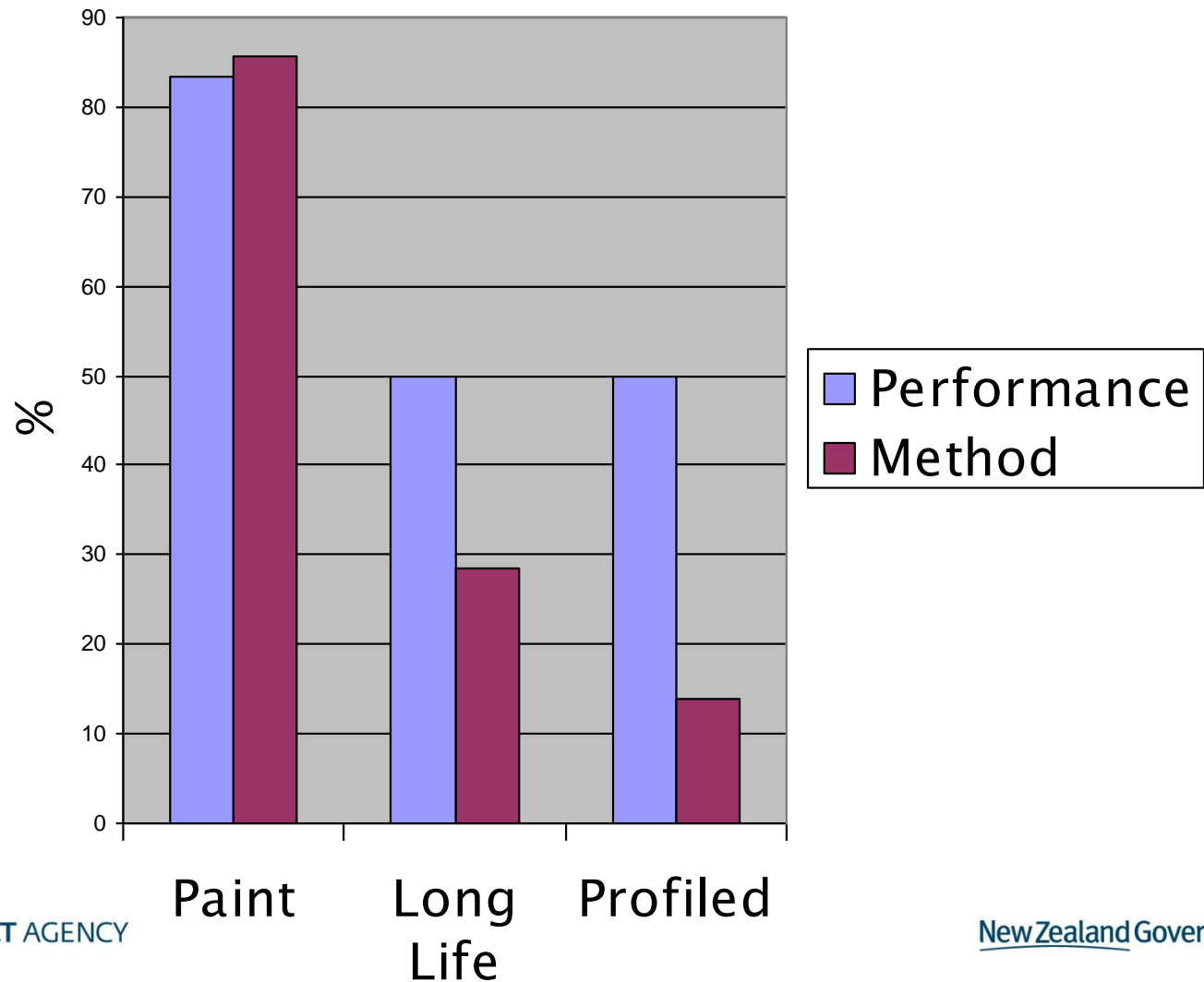


# Performance Based Survey – Section 1

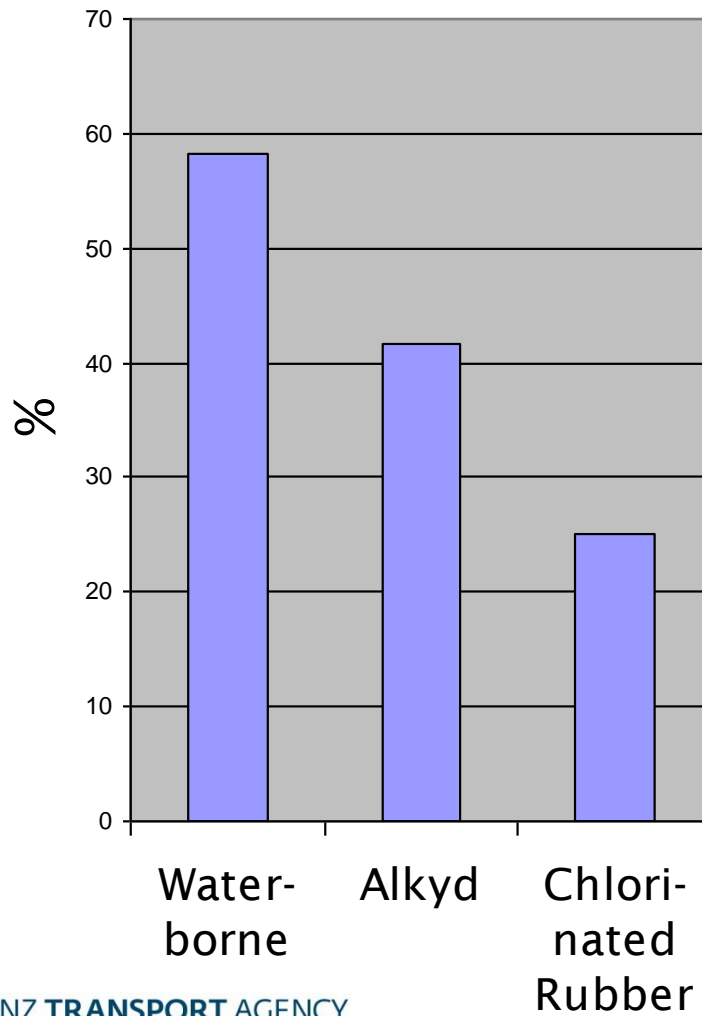
- **Material types selected**
- **Who was responsible for the selection**
- **The basis of the selection, such as it being an approved material**
- **performance expectations, (e.g. skid and retroreflectivity when new), and**
- **the extent of use of trial materials**



# Material Types in Use

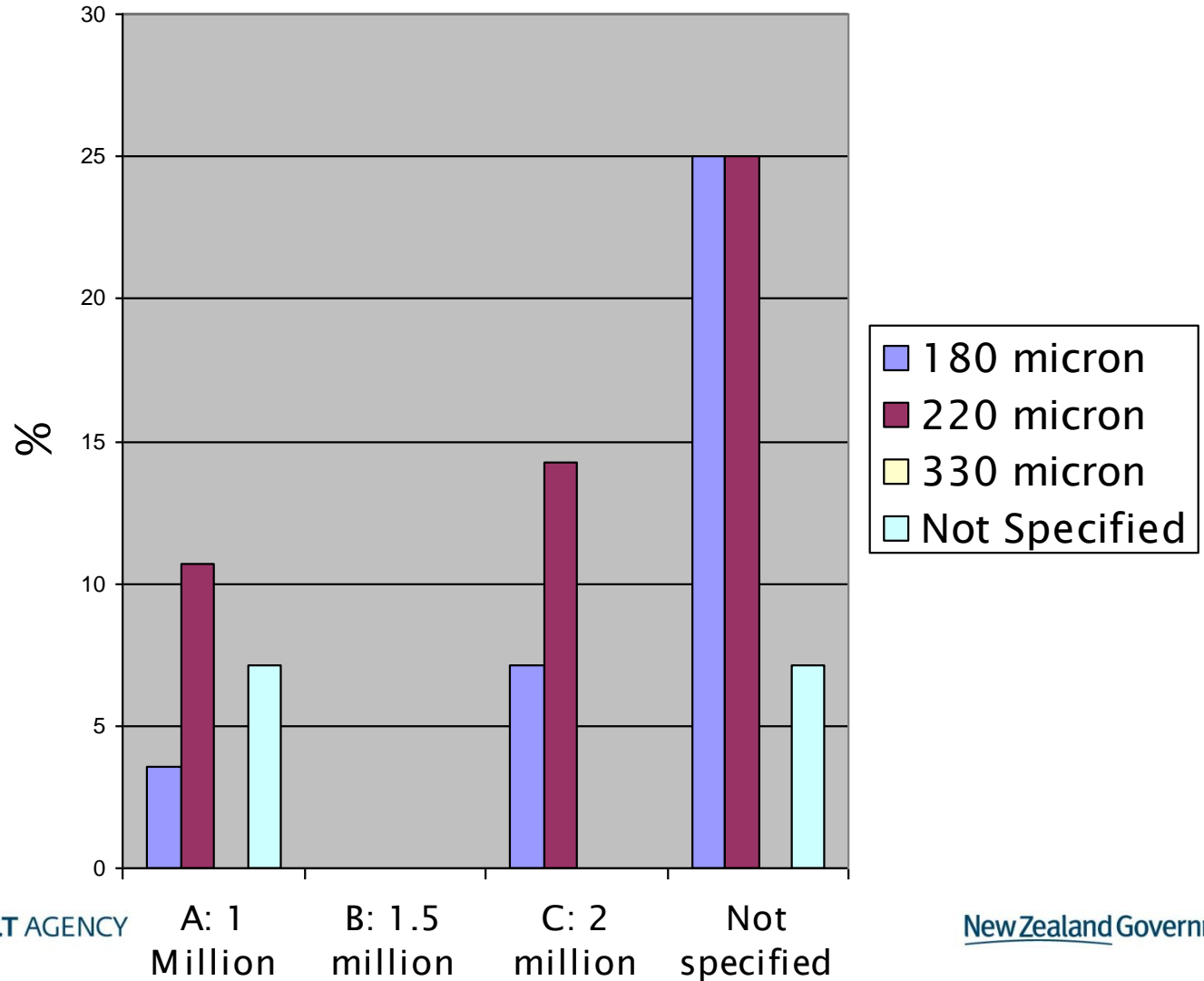


# Performance Based Material Types in Use

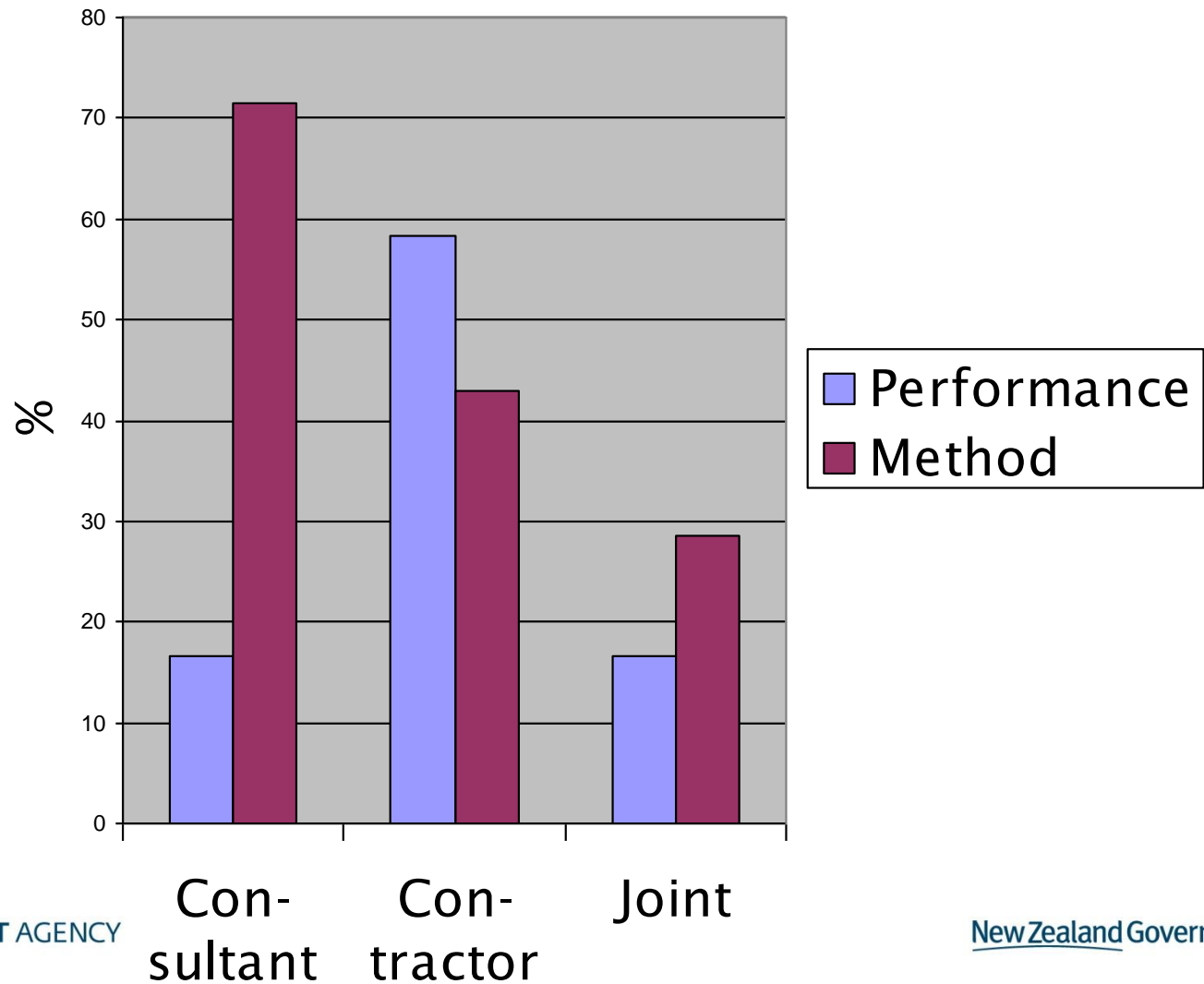




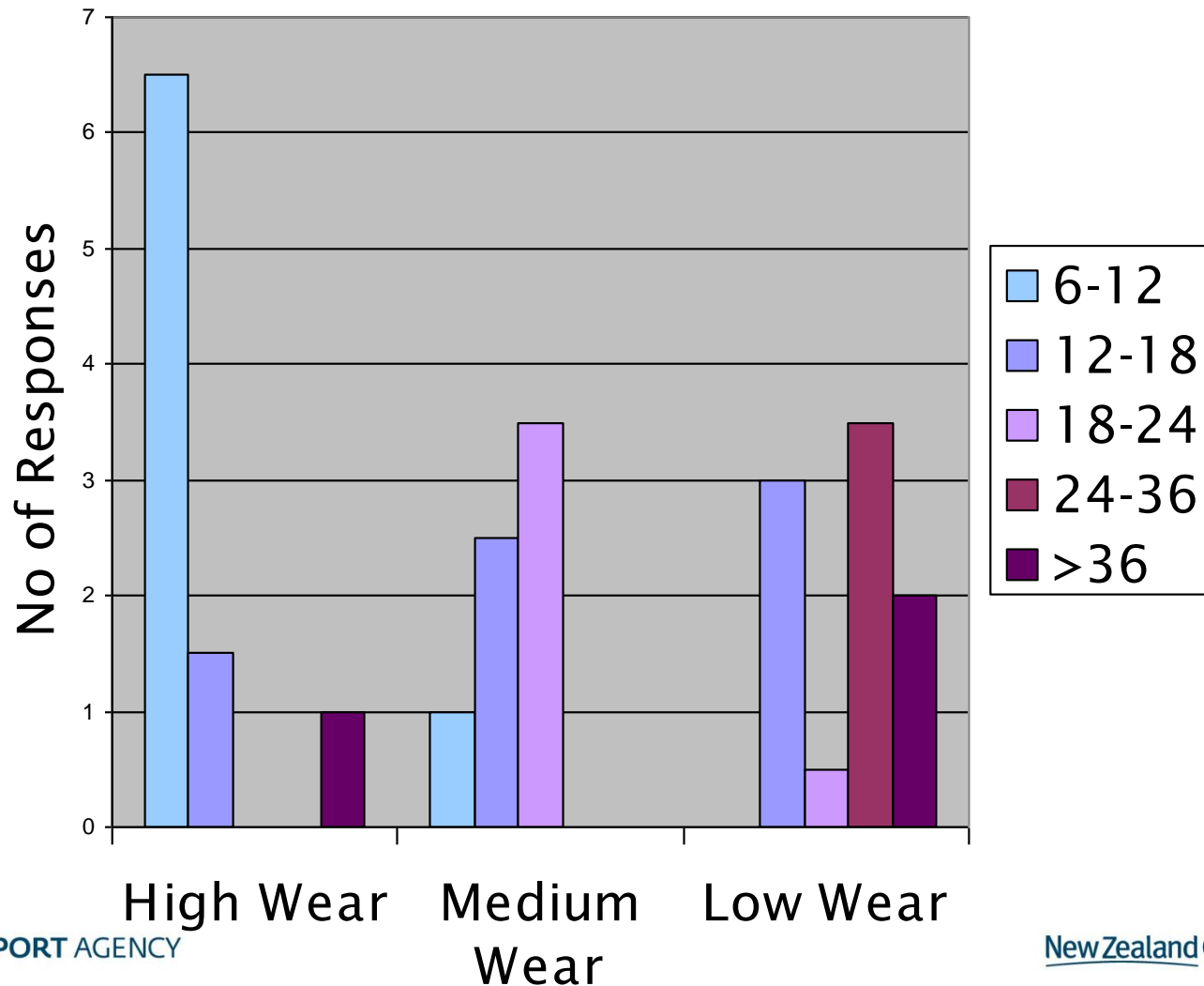
# Method Based Paint – M/7 Classifications



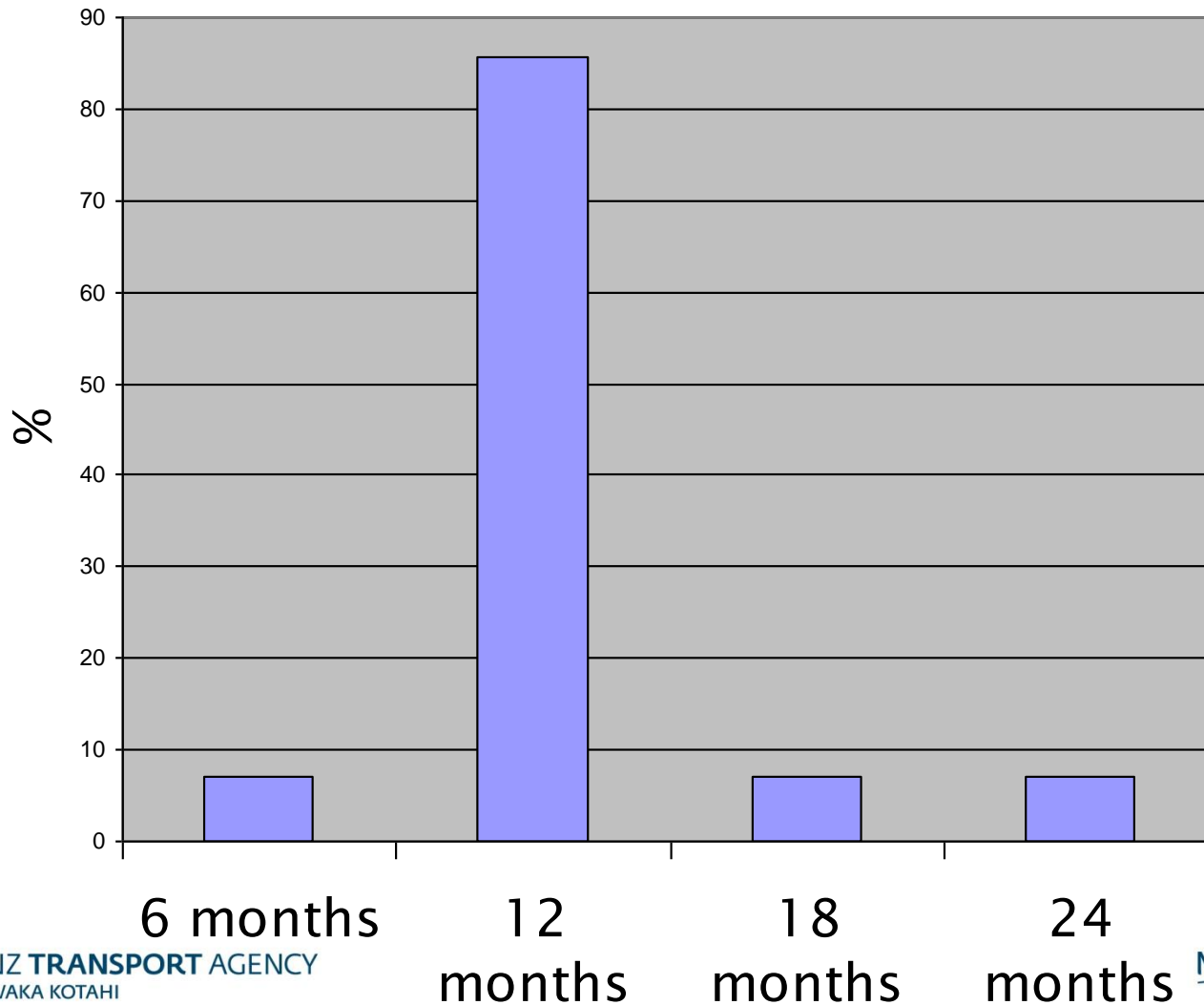
# Responsibility for Selection of Materials



# Expected Life (months) Performance Based



# Remark Frequency Method Based



# Performance Based Survey – Section 2

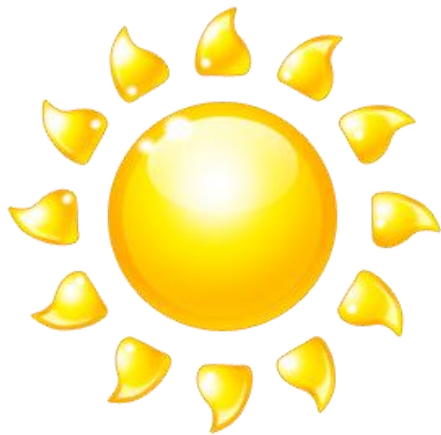
- **Expectations of performance of materials**
- **Checking of initial performance**
- **Match between expectations and delivery**



# 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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