

<b>Subject</b>	<b>Release of an approved methodology for assessing the merits of undertaking dust mitigation and how this fits within the investment assessment process for the Road Maintenance Activity Classes.</b>
<b>Circulation</b>	Asset Managers (all Approved Organisations) NZTA (State Highways) Local Government New Zealand Office of the Auditor General
<b>Circulated by</b>	Bob Alkema – National Manager Investment
<b>Date</b>	5 August 2016

---

## PURPOSE

To advise approved organisations and other stakeholders of an approved methodology for determining the merits of undertaking dust mitigation related maintenance activities and how this links to the investment assessment criteria for and funding within the Road Maintenance Activity Classes (Local Road and State Highway maintenance).

## BACKGROUND

The recently released NZ Transport Agency research report 590, Impacts of exposure to dust from unsealed roads, (the Report) gave good grounds to review the Agency's investment assessment process to consider the preferred approach to investment in dust mitigation.

The Transport Agency acknowledges there may be a case for road controlling authorities (RCAs – approved organisations and the Transport Agency for State Highways) to consider investing in dust mitigation based on responsibilities under the Resource Management Act, 1991 and National Environmental Standards to mitigate the impact of dust caused by transport.

## SITE DUST ASSESSMENT FACTORS

The Report has provided the basis for a methodology to pragmatically assess the level of health risk associated with individual unsealed roads. Undertaking an assessment using the framework produces a numerical output which can then be used to determine the relative level of risk of harm to human health from unsealed roads.

The methodology is to first assess whether there is a need to mitigate road dust for a particular section of road using Table 1. The site dust risk score is calculated by totalling the scores for each of the 11 individual factors.

The site dust risk score will fall into one of three dust risk categories detailed in Table 2. Table 2 provides a first order assessment on the potential benefits gained by mitigating that section of unsealed road and indicates what action (if any) is needed to complete the decision-making process.

### **HOW DOES DUST MITIGATION FIT WITHIN THE INVESTMENT ASSESSMENT CRITERIA FOR MAINTENANCE?**

Investment in dust mitigation measures is an eligible activity under the local road and state highway road maintenance activity classes to which this guidance pertains.

Proposals to invest in dust mitigation during the current NLTP that are identified in the “High” dust risk category will probably be eligible for funding while “Medium” identified assessments may possibly be funded. As with all road maintenance activities an RCA’s decision to consider investing in dust mitigation should be based on a robust least cost whole of life net present value assessment. This will determine the optimal maintenance treatment, including application of dust suppression treatments or sealing.

### **HOW COULD DUST MITIGATION BE FUNDED IN THE NLTP?**

RCAs will be responsible for determining the optimal balance of the scope, timing and expenditure within their approved road maintenance allocation. Please discuss any proposed dust mitigation within your current approved road maintenance allocation (2015 – 2018) and the impacts on your wider network maintenance programme with your Regional Planning and Investment staff.

Should an RCA determine there is merit in investing in dust mitigation but that it does not have the ability to fund this within the current approved maintenance allocation then a cost scope adjustment must be applied for in the usual way. As with all cost scope adjustments the ability of the Transport Agency to support the request for additional funding in part or full will be subject to there being a robust case (based on the attached methodology and NPV calculation) for investment and funding being available in the relevant activity classes.

Requests for funding assistance for dust mitigation in future NLTPs will be considered as part of the overall road maintenance negotiations with each RCA and will be subject to all the applicable funding criteria for the relevant NLTP.

Any investment through the NLTP in dust mitigation will be at the RCA’s normal funding assistance rate.

### **ENQUIRIES**

All enquiries relating to this circular should be directed to your local New Zealand Transport Agency, Planning and Investment Manager.

### **ATTACHMENTS**

Attachment 1: Site dust risk factors and scores

Attachment 2: Dust risk category and action to be taken



Bob Alkema

National Manager Investment

TABLE 1 (based on research report 590 table 7.1)

**SITE DUST RISK FACTORS AND SCORES**

Risk factor/score	0	1	2	3	4	5
<b>Traffic</b>						
5 day AADT of HCVs	0	1-5	6-10	11-25	26-50	More than 50
Speed limit of HCVs (km/h)	No HCVs	20 km/hr	50 km/h or greater			
5 day AADT of LDVs	Less than 100	101-300	More than 300			
Speed of LDVs (km/h)	Less than 50	50-70	Greater than 70			
<b>Receptors (within 80m of roadway)</b>						
Number of dwellings (houses/km)	0	1	2-4	5-7	8-10	More than 10
Other locations where people are likely to be exposed. (eg schools, marae, or hospitals) (sensitive locations/km)	None	1-2	3 or more			
Ecologically sensitive areas such as rare species habitats or wetlands (sensitive locations/km)	None	1-2	3 or more			
Horticultural sensitive areas such as fruit orchards (sensitive locations/km)	None	1-2	3 or more			
<b>Site characteristics</b>						
Location of roadway	Open plains or coastal area	Some land features likely to slow winds	Inland enclosed valley			
Frequency of rain days (>5mm)	More than 2 events per week	0-1 events per week	Less than one event every two weeks			
Longevity of logging route use	Not a logging route	1-2 years	Longer than 3 years			

Notes to table: from research report 590

HCV heavy duty vehicle – vehicle with a gross vehicle mass of greater than 3,500kg (N.B the research report uses HDV; we have amended this to HCV to reflect more common terminology in the sector).

LDV light duty vehicle – vehicle with a gross vehicle mass of less than 3,500kg

The five-day (Monday to Friday) AADT for HCVs and LDVs is used as the traffic risk factor because this metric provides the strongest indicator of HCV activity.

Speed limit criterion of 20km/hr for HCVs were used as a threshold means of determining potential dust mitigation through reducing speed of HCVs and are a treatment option that should be considered in all cases.

TABLE 2 (based on research report 590 Table 7.2)  
**DUST RISK CATEGORY AND ACTION TO BE TAKEN**

Total dust risk score	Dust risk category	Potential benefit from dust mitigation	Action to be taken
0 to 9	Low	Little or no benefit from mitigation.	End of decision-making process.
10 to 19	Medium	There may some benefit from mitigation.	Return to and repeat the 'Site dust risk factors and scores' with refined site-specific information.
20 to 28	High	There is likely to be a benefit from mitigation.	Complete assessment of suitable mitigation options.