Volcanic ashfall
Advisories to use headlights.
Dampening road surfaces to reduce
Implementation of new one-way systems.
ROAD NETWORK OPERATORS
Warning information and reduced speed limits
Ensuring sufficient vehicle spacing and stopping distances.
ROAD CLOSURES
Closures are not always necessary during
and after volcanic ashfall.
The decision to close roads may depend on many factors
including: visibility, ash depth, particle size and colour,
road type and gradient, types of vehicles using road, local
weather conditions, and local policies and regulations.

Ash Impacts On Road Networks
GENERAL IMPACTS
• Visibility can be severely reduced during and after
an eruption due to ash suspended in the air.
• Traction on ash-covered roads is reduced in both dry and wet conditions.
• Road marking coverage can occur when
ash is less than 1 mm thick.
• Accident rates will likely increase.
• Vehicle damage may consist of the clogging of filters,
corrosion of metal surfaces, and abrasion damage to
windscreens, paintwork and moving engine components.
• Roads may become impassable (to 2WD vehicles)
when ash on the ground is around 100 mm thick.

REMOBILISATION
• Impacts can continue after eruptive activity has
ended due to the remobilisation of ash by wind,
water, traffic and/or other human activity.
• Ash remobilised in rivers and creeks can lead to lahars (volcanic
mudflows) causing damage to bridges and other infrastructure.

ROAD CLOSURES
• Closures are not always necessary during
and after volcanic ashfall.

Recommended Actions
WHERE TO FIND WARNING INFORMATION
See http://www.geonet.org.nz for ashfall forecasts in the event of a
volcanic eruption.

HOW TO PREPARE
Operational plans should be developed for volcanic ashfall,
including provision for:
• Coordinating plans with emergency management
groups and other infrastructure providers.
• Developing road closure and detour protocols.
• Identifying a hierarchy of roads for clean-up prioritisation.
• Rapid clearing of critical evacuation routes.
• Considering equipment and labour requirements for clean-up.
• Identifying potential disposal sites.

HOW TO RESPOND
VEHICLE AND MACHINERY OPERATION
• Avoid using wipers to clear ash from windscreens
as this can cause abrasion damage. Rinse ash from
windscreens and vehicle paintwork with water.
• Clean or replace air and oil filters regularly.
• Apply lubricant/grease more frequently and check for wear.

ROAD NETWORK MANAGEMENT
• Advise the public to avoid unnecessary travel.
• Implement safety measures. These may include:
  • Advisories to use headlights.
  • Warning information and reduced speed limits
    (e.g. through variable message signs).
  • Implementation of new one-way systems.
  • Ensuring sufficient vehicle spacing and stopping distances.
  • Dampening road surfaces to reduce
    remobilisation and improve visibility.

ROAD CLEAN-UP
• A combination of methods such as sweeping, air blasting, suction
and/or spraying may be necessary to remove all ash from roads.
• Clean high priority routes before markings
are covered to maintain safety.
• Prevent ash entering storm drains and sewers
to avoid blockage and surface flooding.
• Ensure that field crews are supplied with adequate personal
protective equipment (long-sleeved clothing, heavy footwear,
fitting goggles and properly fitted P2 or N95 dust masks).
• If further ashfall or ash remobilisation is likely, consider
delaying clean-up to avoid wasting resources.
• Coordinate clean-up schedule with other
stakeholders and the public.
• See companion poster “Advice for Urban Clean-up
Operations” for general guidance on clean-up.

FURTHER RESOURCES:
http://www.geonet.org.nz (volcano monitoring information)
http://www.gns.cri.nz/volcano (general information on volcanic
hazards)
http://volcanoes.usgs.gov/volcanic_ash (volcanic ash impacts
and mitigation entrypage)
http://www.ivhbn.org (Information on volcanic health hazards)

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