

Maintaining roads



A road can be a community asset or it may turn out to be a liability. Poor road conditions can impact on human health, community and individual safety, the surrounding environment, vehicles and longevity of the road. This BUSH TECH details ways to maintain road conditions in brief, with others to follow.

Road inspections

Regular inspection of roads allows for emergency works to be carried out and preventative maintenance to be prioritised. A thorough inspection would investigate:

- Drainage and erosion
- Dust
- Vegetation growth
- Speed-hump
- Signage
- Curbing
- Potholes
- Road verges
- Road shoulders
- Sweeping requirements.

Dust control

The optimum way to control dust is to seal roads with bitumen. However, for low-volume and low-cost roads, sealing is often not economically feasible. Other ways to suppress dust include:

- **Barriers:** Bunds of earth or vegetation between road and community

- **Mechanical stabilisation:** A thin layer over the top of the road. This involves mixing cement with road sheeting, followed by compaction
- **Chemical suppressants:** These suppressants can be used during road construction or sprayed onto existing roads. They include: binders for humid conditions, lignosulfonates for arid conditions and petroleum-based products for roads with light traffic
- **Construction and maintenance:** Good construction and on-going maintenance is essential.

Drainage and shoulders

Good drainage is essential for road conditions, particularly in wet season locations. Roads that are not formed above surround terrain will become rivers in wet conditions. This leads to erosion of roads, particularly in road shoulders and promotes potholes. Drainage methods include forms, bunds, drains, ditches and culverts. Additionally, keeping the road shoulders and road verges formed and clear of vegetation enables water to be carried away from the road.

Regular clearing of roadside ditches or drains is also important; to ensure that water runoff does not back-up onto the road.

Road sweeping

Sweeping roads will decrease the impact on vehicles, dust and result in less surface damage to the road. It is recommended that sealed roads within a community are swept 3 or 4 times per year. It is particularly important near kerbs or corners of the road.

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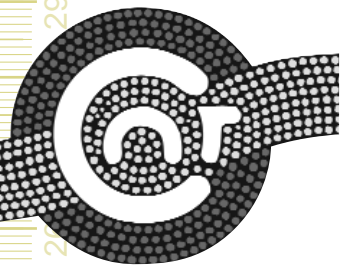


Figure 1

Replacing curbing

Damaged curbing is fairly easy to replace (see figure 1).

Equipment and materials: cement mixer, float, shovel, wheelbarrow, timber, cement, blue metal, sand.

Method:

1. Clear the area of vegetation and broken curbing.
2. Lay timber at front and rear of existing curbing.
3. Wet the area.
4. Mix and lay concrete mixture then smooth with float.

Road patching

Road patching is required to fill in potholes on sealed roads.

Equipment and materials: shovels, buckets, soft and hard brooms, watering can, compactor, (plate compactor, roller or truck wheels), bituminous compound, emulsion and water.

Note: Instant bitumen can be used on small potholes, but large areas require emulsion and bituminous compound.

Method:

1. Dry potholes if wet.
2. Dig the potholes out to promote good adhesion.

PRODUCT	COST
Emulsion	\$200–250 per 200 litre drum
Bituminous Compound	\$200–250/tonne
Instant Bitumen –	
Coldmix: 1 x 20 kg bag	\$15.50
64 x 20 kg bags	\$928
Bonding Agent: 5 litres	\$32
20 litres	\$100
Crack Filler: 20 litres	\$160
200 litres	\$650

Note: Pricing is approximate only.

3. Clean the potholes of loose dirt with hard broom.
4. Using a watering can, coat inside of pothole with emulsion (see figure 2).
5. Fill the pothole with bituminous compound.
6. Compact the bituminous compound using a compactor and top up if required (see figure 3).
7. Sweep treated area with soft broom and close road for 24 hours.

Signage

Signs promote safe use of the road. They can also help to:

- Slow traffic down and reduce dust
- Prevent damage to roads
- Prevent the use of roads in wet conditions. Closing access to roads for heavy vehicles for short periods during heavy rain prevents needless damage
- Reduce vehicle damage and accidents



Figure 2



Figure 3

Reference

“Prevention and cure – maintaining internal roads” by Trevor Webb, *Our Place* magazine,

Written by Trevor Webb and Alyson Wright
Photographs by Trevor Webb