global Transport Knowledge Partnership

Transport Power Points:
10-minute briefing series

BASIC ACCESS

Rural Transport

The Problem

Many of the rural tertiary and access routes in developing countries may be only to earth road standard and impassable or difficult to pass at many times of the year; often when harvests need to be transported, or when somebody needs medical attention!

The results can be community isolation from services and markets, high transport costs, spoilt crops, retarded development, deprivation and poverty.

What is Basic Access?

Basic access is the minimum level of Rural Transport Infrastructure (RTI) network service required to sustain socioeconomic activity. Accordingly, the provision of basic access is often viewed as a basic human right, similar to the provision of basic health and basic education.

Consistent with a basic needs focus, the Basic Access approach gives priority to the provision of reliable, all-season access, to as many villages and communities as possible, over the upgrading of individual links to higher than basic access standard.

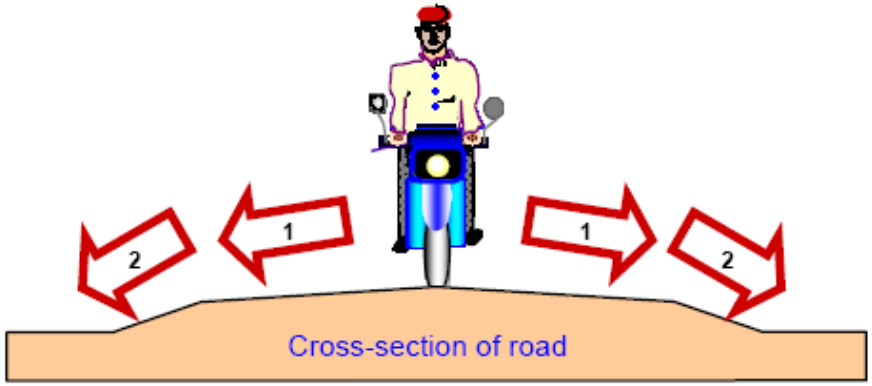
How can Basic Access be provided?

Basic Access can be achieved with low-cost initiatives to ensure reliable, all-season passability for the local prevailing transport means.

In many locations the natural earth surface can provide a motorable Basic Access surface, if it is shaped to shed rain water to each side, maintained, and simple culverts or drifts are built where water needs to cross the road.

Certain ‘problem’ sections of the route may require low cost, ‘spot improvements’.

Engineered Natural Surface (ENS)



Drainage of an earth road to ensure year-round access must be achieved by 2 key features: -

1 maintaining cross fall (camber) to drain rain water off the road,

and

2 ensuring that rain water flows from the edge of the road surface (the shoulder) into side drains, or down the embankment slopes, and away from the road.

If these features do not exist now, then they should be provided as soon as possible.

Constructing and Maintaining an Earth Road

The camber and drainage of an earth road may be constructed and maintained using either local labour or simple low cost equipment.

10-minute briefing: Basic Access

Spot Improvements

These can be made to limited ‘problem’ sections of the route to ensure year-round access.

They may not have to be to full conventional road width standards, so long as they allow the local prevailing means of transport to pass safely.

They may be constructed with local labour and materials, often without the need for expensive equipment. Spot improvement works should be easy to maintain.

Some examples follow.....

Spot improvement examples

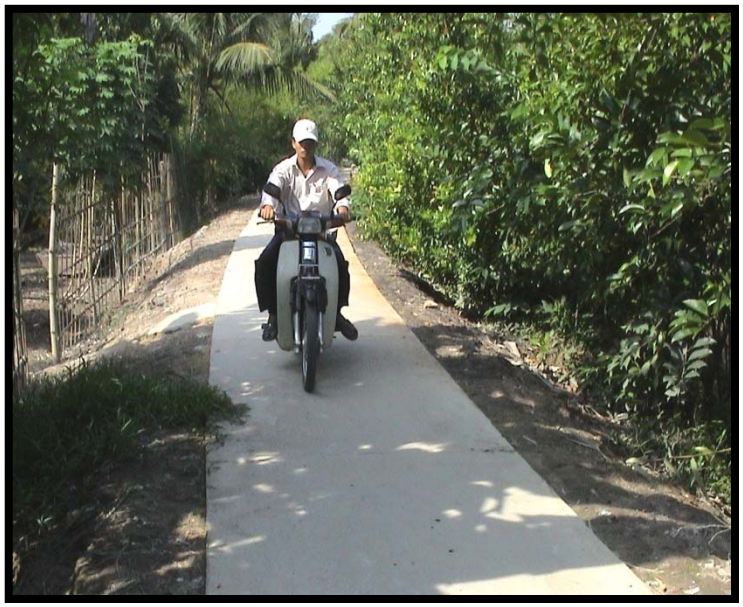


Photo 1, above left and inset, shows that at the most basic level, an all-weather, low maintenance, surface can be provided for foot, animal, bicycle or motorcycle traffic using for example: natural stone, brick or concrete.

Photo 2, above right, shows a 1.4 metre wide concrete, all-weather, low maintenance, flood resistant, surface suitable for the predominant 2-wheeled vehicles using the route, allowing safe passing of loaded vehicles.

Spot improvement examples

Photo 3, above left (in France), shows cobble stone strips laid with sand bed and jointing to provide heavy duty access for 4-wheeled vehicles on a steep incline, with stable grassed centre strip and shoulders.

Photo 4, above right, shows concrete strip roads for basic access in mountainous terrain (in Switzerland).

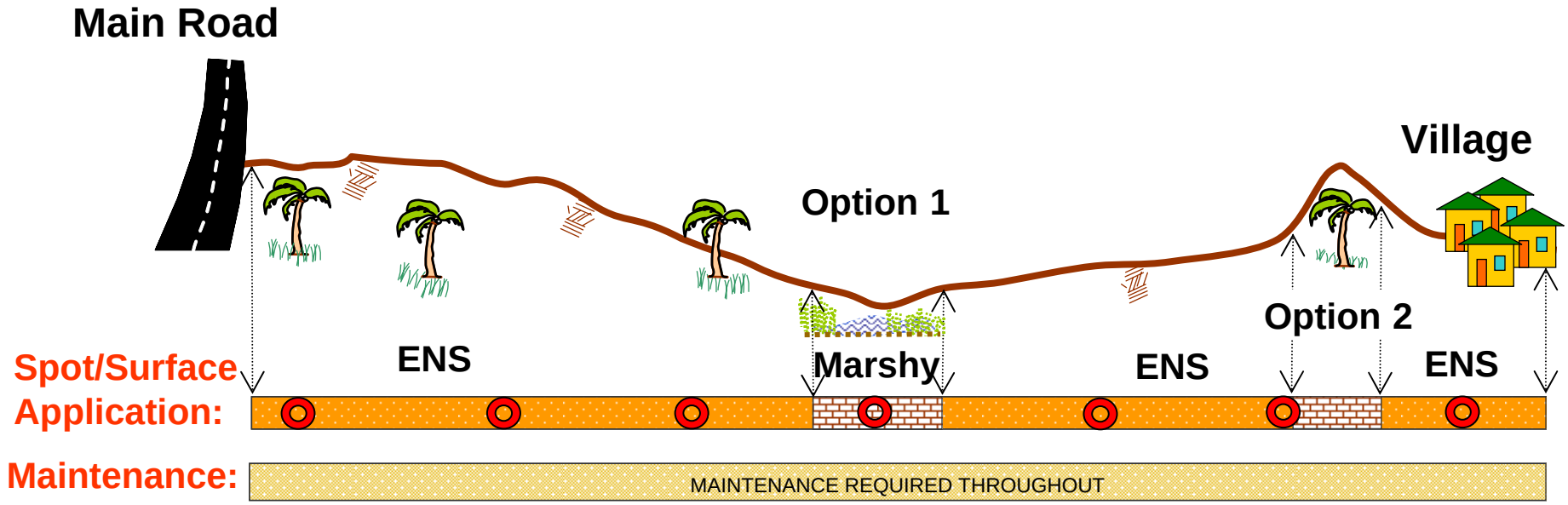
Spot improvement examples

Photo 5, above left, shows a bitumen emulsion chip seal surface on a lime stabilized clay base suitable for motorcycle and light agricultural vehicles.

Photo 6, above right, shows a durable burnt clay brick urban road surface.

Spot improvement strategy

Example application over a typical rural route



Low Cost Structure or culvert

Surface Options

Engineered Natural Surface (ENS) (Earth Road)

Maintenance

Further Information

The following important dissemination forums are supporting Low Traffic Volume Rural Roads (LVRR) knowledge:

global Transport Knowledge Partnership:

www.gtkp.com

SEACAP **Southeast Asia Community Access Programme**:

www.seacap-info.org

AFCAP **Africa Community Access Programme**

jeffreymturner@hotmail.com & rgeddes@africaonline.co.zw

Further information on Basic Access may be obtained from the above websites and the gTKP Rural Transport Theme Champion: rob.petts@gtkp.com