

## Benefits to the Community...

Roads are built to serve the community's needs. They are constructed in a variety of locations, lengths and widths to cater for particular requirements.

All road construction, although varying in size from small country roads to major freeways, involves basically the same processes. It also involves hundreds of people, thousands of dollars—and many months of work!

An adequate road network is an essential part of any integrated transport system, with forward planning undertaken to ensure our roads grow to meet the needs of the community.

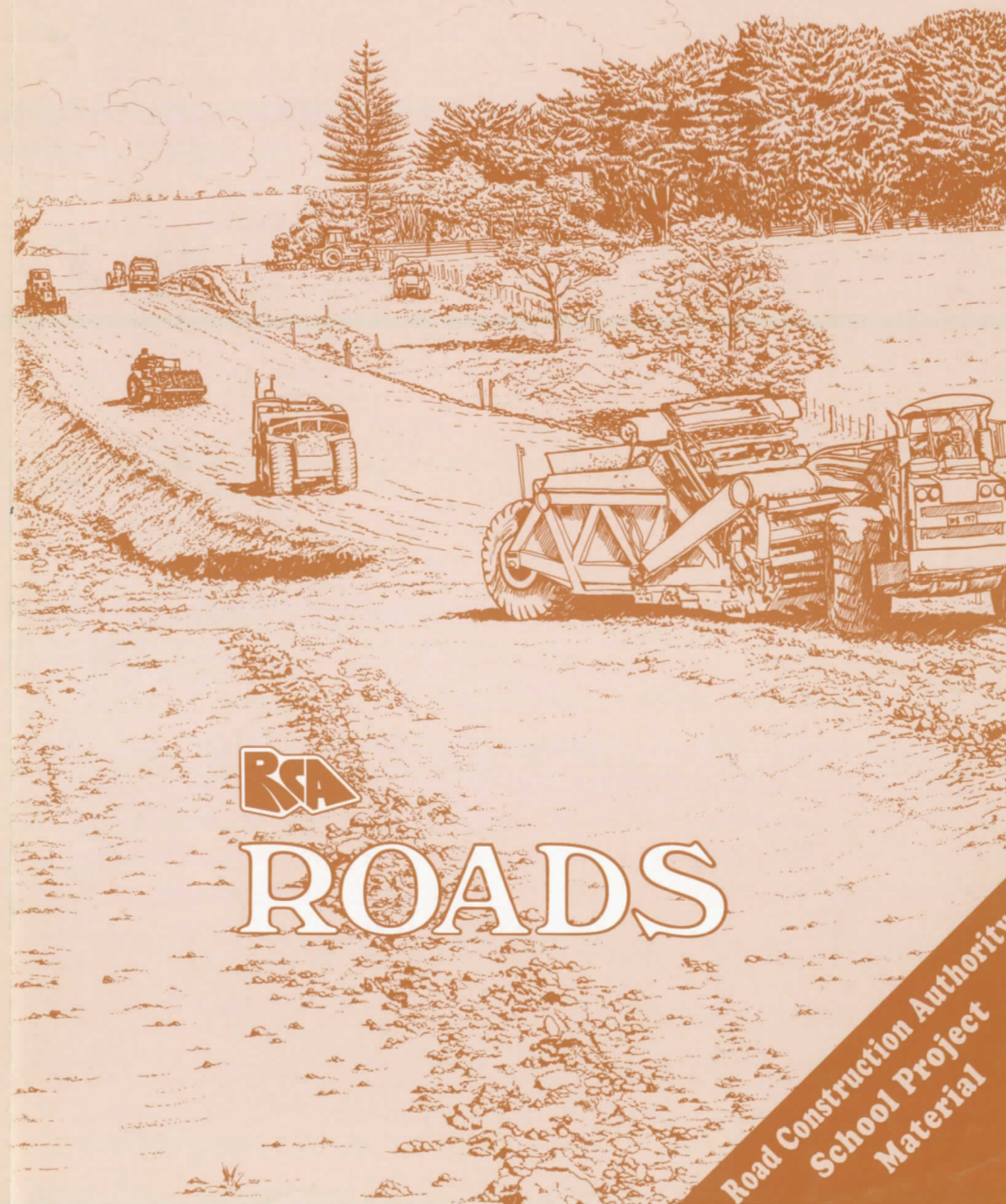
Roads. Linking people and places. Benefitting the community.

## The RCA's Role...

The RCA is the State Road Authority of Victoria. There are about 160,000km of public roads in Victoria, of which approximately 24,000 comprise the RCA's network of the State's principal roads.

In general, the RCA carries out construction and maintenance works on State highways, freeways and tourists' roads and allocates funds to municipal councils to carry out works to the RCA's satisfaction on forest roads and main roads. The RCA also allocates funds to Councils to carry out works on many kilometres of the more important unclassified roads.

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# ROADS

Road Construction Authority  
School Project  
Material



## The Preliminary Steps...

When the need is recognised for a new road to be built, the Road Construction Authority or local council carries out preliminary investigations.

Traffic counts are taken and surveys are carried out, both on the ground and when necessary by taking aerial photographs which are used for mapping (a process known as photogrammetry). On the ground, surveyors peg out the line of the road and record the existing conditions including the location of buildings, power poles and creeks. Detailed consideration is given to the sociological and environmental aspects.

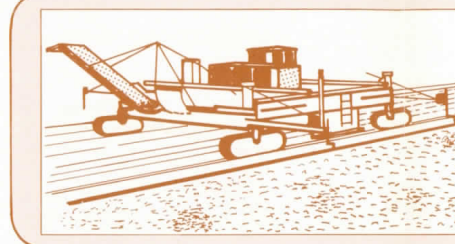
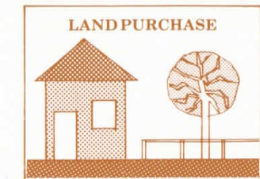
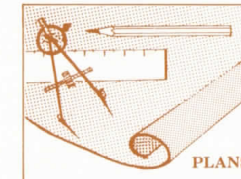
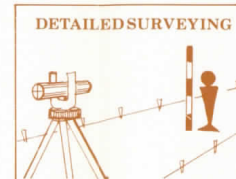
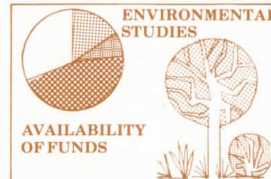
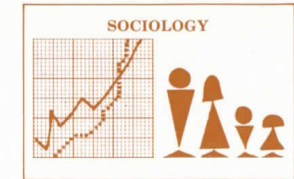
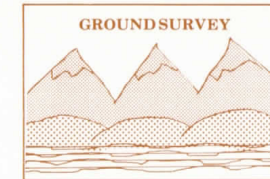
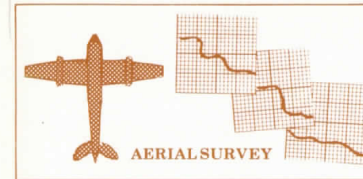
Preliminary plans, showing the number of traffic lanes, bridges, etc. to be built, are prepared by engineers and draftsmen. The road width and the required road strength are determined according to the quality of the underlying soil, and the type and volume of traffic which will use the road.

Then detailed design starts. All the field work is translated into detailed plans showing the cross-sections and road curves.

On larger projects, topographical details are fed into a computer to determine the best choice for the road route. Computers are also used to calculate the amount of earth to be removed, and the amount of pavement material to be brought in, to build the road.

Any properties in the path of the planned road are then purchased after negotiations with the owners.

The RCA has specialist staff to work on these aspects of road building.

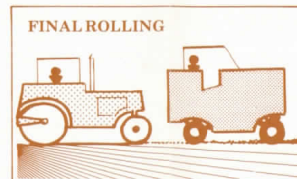
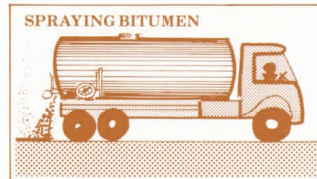
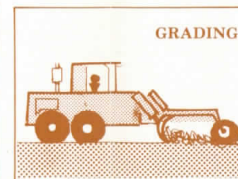
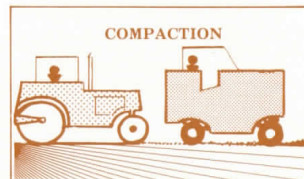
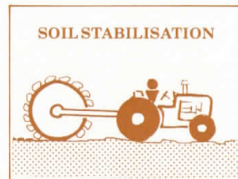
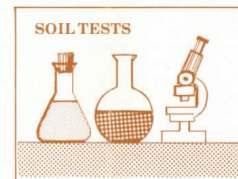
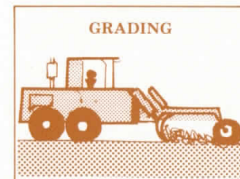
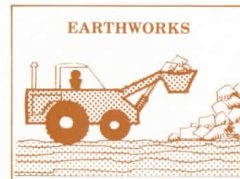
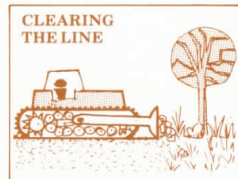


### The Autograde

The Autograde is used to shape the road foundation and spread the layers of pavement material to accurate finished levels.

It can operate over two lanes of road at a time, has automatic controls and is self-propelled. The Autograde utilises electronic sensing devices operating along string lines set down by surveyors ahead of the machine. In this way, it can work on curves as well as straight sections of road. This enables a high degree of accuracy to be achieved in the finished work.

Throughout the world, the Autograde has been proven an efficient and highly productive item of roadmaking equipment.



## The Final Touches...

Direction signs, speed limit signs and information signs are erected. Lines, which are made reflective by adding small glass beads, are painted on the road.

Median strips and roadsides are landscaped with trees and shrubs, and on many country roads, rest areas and wayside stops are constructed.

## The Work...

When the planning and design are complete, and when funds are available, the work can begin.

The first task is clearing trees, undergrowth or buildings from the line on which the road will be built. Graders remove the topsoil which is used later for roadside landscaping.

Rock found in cuttings is broken up by using explosives.

Underground drains are constructed. If necessary, materials are mixed into the soil by a stabilisation process in order to improve its strength and quality. After compaction, the level earth is then ready for the laying of the pavement.

Although it is not uncommon for people to refer to a footpath as a "pavement", to roadbuilders a "pavement" is layers of concrete, crushed rock, gravel or asphalt which supports traffic. After each layer is in place, the surface is watered, rolled by steel-wheeled and rubber-tired machines, and then graded.

Each layer is tested to ensure the materials are the desired grading and have been properly compacted.

Small stones, called aggregate, are spread out in a thin layer and rolled into sprayed bitumen on the road surface. This produces a dust free surface and protects the pavement from possible weathering damage.

