During the course of the study, an examination was made of the effect of modifying the assumptions for the Central Sector in terms of population and employment. These investigations indicated that even with substantial changes to these targets, it would still be necessary that a network similar to that which is now proposed, should be established if Melbourne's population is to continue to exercise choice as to its means of movement. If choice is to be constrained within this area then it is probable that people and activities which are now attracted to the central area, would look to other locations where such constraints would not be necessary.

The Transportation Committee's network for 1985, as might be expected, generally covers the present built up area and areas currently zoned for urban development and is quite compatible with the concept of urban corridors proposed elsewhere in this report. However, higher levels of accessibility would need to be created so as to encourage growth within these corridors, and the programming of the construction of these networks would need to involve a greater emphasis and network capacity within the defined corridors, than would apply under current circumstances where development tends to occur around the whole periphery of the present built up area.

The current trend of Government policy places emphasis on public transport including the early implementation of recommendations in the Transportation Plan for up-grading public transport.

However, the fact remains that if vehicle ownership continues to expand as rapidly as expected, it will still be necessary to carry out a substantial programme of freeway and arterial road construction.

This will be required even with a much improved public transport system, not only to avoid traffic congestion on the roads, but also to provide cross-city links which the radial systems of the railways and tramways cannot cater for.

Further, an important part of the public transport provided for in the plan, the bus network, depends on major improvement of the whole highway network.

An inevitable and unavoidable feature of the freeway system will be significant physical changes in a number of parts of the built up area, especially in the central and intermediate suburbs.

This will call for special care not only in freeway location

and design, but also in the relocation of people and land uses in an orderly way.

#### Air Transport

The development of air transport in this century has created problems of airport location and operation, the extent of which was not fully realised, even a short time ago.

Melbourne (Tullamarine) Airport is now the terminal for all domestic and international passenger services and will develop into a major air freight terminal as well. As such it will become an employment focus of considerable magnitude and accessibility to the area will be important. Reference is made elsewhere in the report to the noise problems associated with the airport and the effect on adjoining land use.

An investigation has already commenced into possible sites for a second international airport south-east of Melbourne, as indications are that the development of air transport will require this before the end of the century, and if this is correct, then a site should be located and reserved so that adjoining land use can be planned accordingly.

Moorabbin Airport is the major training airport, is exceedingly busy, and as referred to elsewhere in the report, exerts a restrictive influence on surrounding land use.

The future of Essendon Airport is still under consideration and already suggestions have been made for a number of alternative uses. In the light of the extreme difficulty experienced both in Australia and elsewhere in the world of locating new airports and the high capital costs involved, it would be prudent to ensure that the facilities of Essendon will not be required in the future development of Melbourne's airport network, before any decision is made to abandon it.

### Sea Transport

The port of Melbourne, covering a total area of 10.5 square miles of land and water, in 1970 handled 14.1 million tons of cargo, of which 9.1 million tons consisted of general cargo. Since 1965 the tonnage handled annually has increased by 2.6 million tons and an increasing amount of Australian produced crude oil is being imported. Melbourne is the only specialised container port for South Australia and Victoria, and by 1970, 30% of the general cargo was containerised. The port of Melbourne is able to handle up to 50 million tons, and the Melbourne Harbor Trust, with the aid of consultants, is

### 2 Structural Elements

preparing a development plan for the period 1985-2000 to be integrated with and designed for ultimate inclusion in the metropolitan planning scheme.

No special problems are envisaged with this, but the maintenance of adequate accessibility by road and rail is of major importance.

The port of Geelong in 1970 handled nearly 8.5 million tons of cargo compared with 7.5 million tons in 1965.

Most of the cargo is in a bulk form either dry or liquid. So far it appears that Geelong trade has been little affected by the introduction of containerisation in the port of Melbourne.

Westernport with its excellent deep water facilities is particularly suitable for large oil tankers and bulk carriers, and large industrial complexes are being developed in the areas adjoining the port. In 1968-9 the port handled 119 vessels.

The indications are that it will develop as a specialised deep sea port, with Melbourne continuing as the main general cargo and passenger terminal.

# Recreation

During recent years there has been a significant increase in the amount and diversity of leisure activities, and the trend is expected to grow at an accelerated rate in the future, as population expands. Shorter working hours, reduced retiring ages, increased use of labor saving devices in the home, and the growing tendency of young people to continue with full time education for longer periods are the factors contributing to this trend.

There is some evidence that more adults are taking an active part in sports, and the demand for spectator sports is actually declining relative to population size. With increasing affluence it can be expected that people will have a higher proportion of their incomes available for spending on leisure pursuits.

Part of the demand will be met by more intensive use of existing facilities within the metropolitan region, including, perhaps, adaption for multiple use of schools and other buildings for creative arts, adult education and indoor sports.

The mobility provided by the motor car will enable a further part of the demand to be satisfied by increased use of national parks, snow resorts, rivers, lakes and coastal areas outside the metropolitan region. The balance of the demand will require additional recreation areas within the metropolitan region.



Major recreation areas are a significant element in shaping and structuring a city. The most important in Melbourne is probably Port Phillip Bay and its foreshores which provide boating, fishing and swimming facilities in close proximity to the majority of residents. The inner ring of city parks, including the Botanic Gardens and the Domain, Albert Park, Royal Park and Yarra Bend National Park have also been important in shaping Melbourne's growth.

The approved Melbourne Metropolitan Planning Scheme, in addition to reserving land for local open space, also reserved several larger areas of land with characteristics suitable for metropolitan parks, and substantial parts of these have already been acquired.

With the extension of the planning boundary, the metropolitan region now includes Kinglake, Ferntree Gully and Churchill National Parks; Mount Disappointment, Olinda and other State forests and reserves, Sherbrooke Forest Park and various municipal open spaces. Together these areas total more than 50,000 acres.

An article in the Journal of the Royal Australian Planning Institute recently reported that demand for outdoor recreation in the U.S.A. is increasing at the rate of 10 per cent per year, which means that demand doubles every 7 years. If this trend is followed in Melbourne, and in view of the similar social characteristics this could be the case, then extensive provision for additional recreation space will be required.

Considerable investigation has been carried out on the definition of land suitable for future recreation areas and on identifying those potential recreation areas most subject to developmental pressures. In assessing the merits of these areas the following criteria were used:

- Significant conservation areas to be preserved in a natural state with a minimum of public disturbance, containing native flora and fauna, geological features, forest stands, landscape and river features of high scenic attraction.
- 2. Scenic areas which may be used for active recreation such as golf courses, or for passive recreation.
- 3. Areas unsuitable for development but which may be suitable for active recreation, such as flood plains and reclaimed quarries.
- Forest areas of significant size, or areas along streams which could be used for low intensity recreational uses.
- 5. Existing parks or reserves such as Kinglake National

Park which could be consolidated with adjoining areas.

6. Suitable sites adjacent to urban or future urban areas which may be used for active recreation or set aside as conservation areas.

The major open space reservations contained in the planning schemes, referred to in a later part of the report represent the first stage in the development of recreational land resources. More detailed studies will be required into demands, location and suitability so that these resources can be progressively extended as the need and finances permit.

## **Environmental Management**

The industrial revolution of the eighteenth century was a turning point in man's relations with his environment. The industrial revolution set western man on a course of action which on the one hand has brought many material benefits through the development of technology, but it has also led to the current situation where this technology is threatening to do irreparable damage to the earth's life support system. Over the past 25 years rapid technological development has speeded the process.

That the problems created for man are serious is no longer in dispute, even if there is considerable disagreement as to how modern communities should act to meet the challenge.

Many of the arguments used have been emotional and imprecise and there is still lacking quantitative data in many areas on which to base practical policy decisions. There is a risk of over-reaction as well as the danger of not moving quickly enough.

The solutions will certainly involve governments but they will also increasingly require the co-operation and active involvement of industry and commerce and people as individual citizens and groups.

There is also a big task to be performed in the educational field. The rising generations in the schools must be shown that they live in a finite world which is limited in its capacity to deal with environmental problems and still maintain its ability to support human life, and that this has wide implications for them and the rest of the world.

The immediate need so far as planning and the metropolitan region are concerned is to re-examine present policies of environmental management to see in what way they should be changed to deal with the current situation and to ensure that a sound basis is established for long term policy.