

PART C

Chapter 8 Economics

June 2013

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Chapter 8 Amendments – June 2013

Revision Register

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Part C - Chapter 8

Economics

8.1 Introduction

Economic considerations are essential in the planning, design, construction and maintenance of effective transport infrastructure. These considerations provide value for money through a reduction in capital and whole of life costs. Implementing transport infrastructure landscapes which minimise or eliminate maintenance requirements and management practices ensures the delivery of cost effective and economically feasible outcomes. Initial installation costs and ongoing maintenance costs should include the role of intangible costs such as social, visual and environmental costs.

Attractive, user friendly and efficient transport infrastructure systems encourage liveability and tourism (Figure C8-1). This in turn contributes to the economic wellbeing of surrounding residential, commercial and industrial areas, as well as the community as a whole.



Figure C8-1: Providing attractive and useable facilities improves tourism potential, particularly in regional areas

Maintenance costs are a significant reoccurring cost factor. Strategies for minimising maintenance should be integrated into the planning and design phase to ensure a sustainable outcome. This is essential in ensuring the long term economic viability of the transport infrastructure corridor.

8.2 Benefits

The benefits of integrating economic considerations within transport infrastructure landscapes are:

- generation of robust, durable and timeless design responses to ensure longevity in public appeal;
- greater business and tourism opportunities through implementation of high quality landscape and urban design treatments;
- environmental benefits through use of recycled and locally won/sourced materials;

- optimisation of economic value through inclusion of landscape and urban design treatments which provide a range of possible functions;
- promotion of self sustaining, low maintenance design outcomes;
- facilitation of appropriate access to ensure minimal and low cost maintenance operations;
- improved worker safety through less exposure to high risk maintenance activities; and
- developing cost effective management and maintenance strategies for vegetation, weeds, litter and graffiti management.

8.3 Design Goals

The Economic design goals are:

- **Value for money** - develop high quality design solutions which provide value and long term economic benefits, gains and returns to the surrounding businesses and the community as a whole.
- **Maintenance Minimisation** - adopt maintenance minimisation strategies to reduce whole of life costs.

8.3.1 Value for Money

It is essential that appropriate treatments and designs are implemented which provide best value for money and minimise ongoing costs. This ensures that the landscape continues to meet community and the Department's asset management expectations. Devising treatments which serve a multitude of purposes is an effective way of minimising costs and ensuring value for money. Economy of scale for selecting treatment types is also particularly important for implementation

8.3.1.1 Economic Community Benefits

The benefits of implementing effective landscape and urban design can produce positive economic outcomes for the community, as well as emerging commercial businesses, industry and residential areas. Long term economic returns far outweigh the initial costs and investment in planning, design and construction. Investing in improving the amenity value of transport infrastructure systems can improve economic growth and provide positive contribution to local economies within communities through:

- greater accessibility and connectivity;
- potential significant residential land development opportunities;
- preservation of adjoining productive land and/ or environmentally sensitive areas; and
- encouraging visitors to stop, explore, and contribute to the local economy.

Tourism Queensland and Queensland Heritage Trails Network, in conjunction with Department, have identified the potential for up to ten themed road corridors in Queensland (Figure C8-2). The purpose of developing a themed route or corridor is threefold:

- to increase visitor numbers and expenditure along each route;
- to maximise driver confidence to allow opportunities to take alternative routes and improve road efficiency and safety; and
- to raise the understanding among road travelers of the heritage and cultural assets that exists along each corridor (National Centre for Studies in Travel and Tourism, 2005:p5).

Ways that economic community benefits can be achieved are:

- Creating iconic city (or town) gateway entry statements, provided only in strategic locations (and not considered the standard) to emphasize urban or regional town identity (Figure C8-3), enhancing tourism and business potential and associated economic benefits.



Figure C8-3: Unique entries are important in improving tourism identity and potentially stimulate the local economy

- Providing user friendly vehicular, pedestrian, cyclist and public transport networks which incorporate a high level of amenity and offer a high quality experience, to promote increased usage and visitation to local business and services.
- Improving useability of pedestrian networks through the provision of shade (Figure C8-4) or boulevard treatments; increasing pedestrianisation and creating walkable cities and towns, which improve the long term health and wellbeing of communities.



Figure C8-4: Landscape treatments creating shade and improving amenity value for pedestrians and cyclists

8.3.2 Maintenance Minimisation

Landscapes must be designed to promote minimal ongoing maintenance throughout the operational life of the corridor, and ideally this design would evolve into a self-sustaining landscape into the future. Designing a contextually suitable landscape with minimal long term maintenance is critical to its success and sustainability (Figure C8-5). While capital cost may be initially higher, the savings in economic, social and environmental terms over time can pay a significant dividend.

Slashing and mowing is one of the most costly and time intensive maintenance activities currently occurring within the state's controlled road corridor system. In many instances slashing is required to maintain sight visibility requirements. By adopting alternative treatment types; such as low spreading ground covers in preference to grass treatments, and prioritising mulched planting beds in lieu of grassing (particularly within medians and to road verges), traditional slashing and mowing activities are reduced. This also significantly reduces long term maintenance costs within the transport corridor.

A low maintenance landscape will ensure the elimination of a number of intensive maintenance activities over the long term. Safety risks to maintenance personnel and the public are also dramatically reduced through fewer maintenance activities (and less dangerous and resource intensive activities) occurring throughout the life of the asset. Appropriate design will reduce the maintenance input requirements. Less intensive methods or less frequent intervals between interventions will be the main means of reducing operating costs. The goal is to reduce these high cost high frequency activities through effective responsive design, including:

- minimising slashing and mowing by nominating non-turf grass based treatments;
- improving plant layout and layering, densities, and species selection that establish quickly to choke out competing weeds and require no pruning or shaping;
- use of alternative weed control measures such as pre-emergent herbicides;
- reduced clearing out of drains by implementation of appropriate erosion and sediment control measures and landscape treatments.
- integration of effective maintenance access strategies to support easy, time efficient operations:
and
- effective graffiti management strategies.

Detailed maintenance minimization design strategies for road landscape components are detailed in Appendix 5.

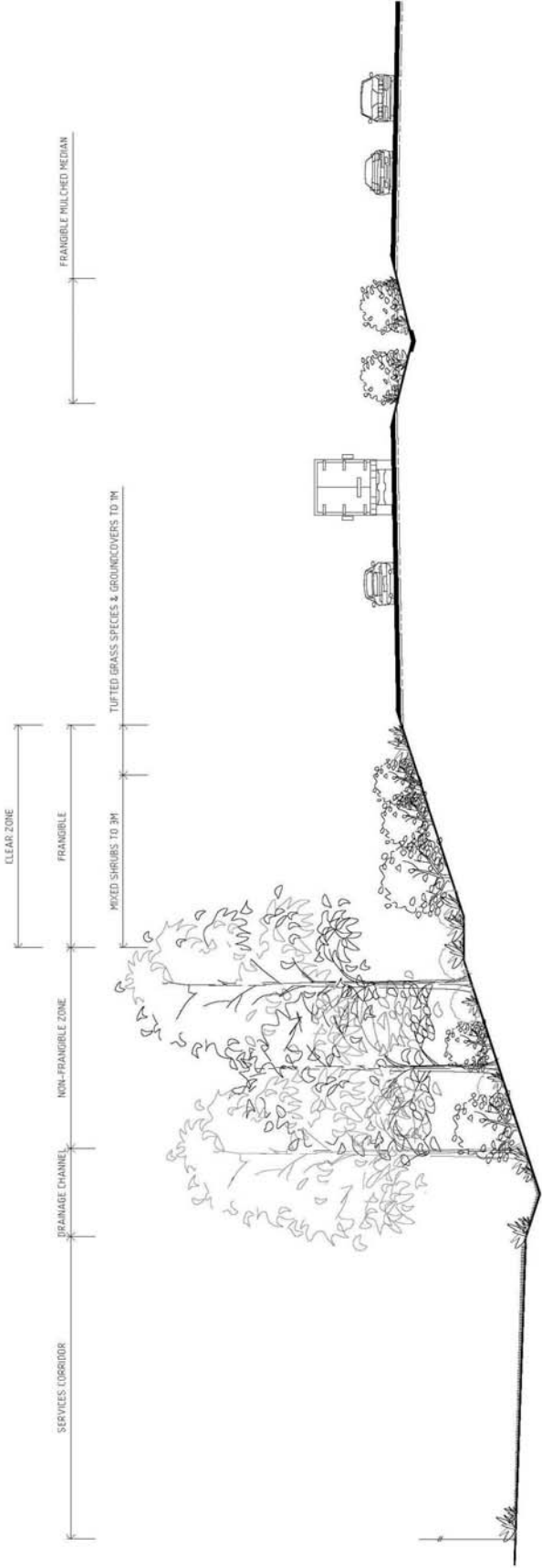


Figure C8-5: Example of an effective landscape design can minimise ongoing maintenance requirements.