

2. Transit's Expectations for Highway Landscaping

2.1 Introduction

Expectations

The *Guidelines* aim to foster best practice in landscape management within state highway corridors. In doing this Transit's expectations are that highway landscaping:

- maintains and improves safety
- promotes biodiversity
- improves visual quality
- manages stormwater runoff
- manages pests
- improves local air quality
- improves Transit's business practices.

These expectations are discussed in more detail below.

In meeting its expectations, Transit aims to work collectively with others. This includes using sound and transparent processes that enable stakeholder dialogue – both to increase the involvement of affected and interested parties and to help Transit with the often difficult task of balancing the social, environmental and economic factors involved in the decisions that underpin state highway management.

2.1.1 Expectation: Maintain and improve safety

Context

The safe operation of the state highway system is vital to local communities and to the national economy. Transit aims to:

- manage traffic safely
 - provide a consistent, safe and “forgiving” environment with no surprises for road users
 - provide road users with a realistic perception of danger
 - provide a safe working environment for maintenance and construction activities.
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Opportunities

Planting can contribute to safety objectives by providing:

- visual interest to reduce driver boredom and fatigue
 - run-off/recovery zones which provide a safe area for errant vehicles to land, including the utilisation of highway clear zones to plant frangible plant species
 - clear sight lines to signs, roadside furniture such as edge marker posts, and delineation around curves
 - planting schemes that do not contribute to icing and strobing of roads
 - assistance to drivers to 'read the road' and anticipate road conditions ahead
 - traffic calming, particularly on entrances to towns or when approaching areas with a lower posted speed
 - in urban areas, visibility for pedestrians and a sense of safety from concealed dangers.
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2.1.2 Expectation: Promote biodiversity

Context

New Zealand's Biodiversity Strategy (NZBS) was released in March 2000 by the Department of Conservation. The strategy establishes national goals to "turn the tide" on the decline of New Zealand's indigenous biodiversity. It seeks to maintain and restore a full range of remaining natural habitats and ecosystems and viable populations of all native species.

The main pressures on biodiversity are insufficient habitat in lowland areas, declining quality of many remaining land and fresh water habitats and the impacts of pests and weeds.

Transit is committed to:

- participating in this national response to halt the decline of New Zealand's biodiversity
 - managing its state highway corridors in a way that protects and enhances ecosystems and habitats, avoids adverse environmental effects and promotes biodiversity.
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Opportunities

Transit can promote New Zealand's biodiversity and protect and enhance ecosystems in and around state highway corridors by:

- protecting existing pockets of biodiversity along the highway, particularly where doing so will protect biodiversity on adjoining land and enhance the function of ecological corridors
- planting native species, appropriate to the environmental context and appropriate to support local fauna
- ensuring appropriate plant selection within the highway corridor to positively affect ecosystem integrity, and to protect ecological values in adjoining land
- promoting the use of locally sourced seedlings
- managing plant pests to reduce the biosecurity risk to biodiversity.

Appropriately selected, established and managed planting within the corridor can function as a self-sustaining community with benefits for local fauna, Transit's vegetation control practices and plant pest management.



Road corridors provide opportunities to support national objectives for biodiversity preservation and enhancement

2.1.3 Expectation: Improve visual quality

Context

New Zealand's state highway network is the primary means through which most people experience New Zealand's rich and diverse scenery. Equally, state highways are themselves a significant visual impact. The interaction of highways with the wider visual landscape is complex and can engender strong feelings.

The design and appearance of highway landscaping can contribute to positive urban design outcomes.

Opportunities

Planting and earthworks within state highway corridors provides opportunities to:

- create “viewing corridors” that enable road users to appreciate the surrounding landscape
- help integrate the highway into the surrounding landscape.

Landscaping that is in keeping with the surrounding environment minimises the highway’s “intrusion” on the landscape and protects the natural character of the area. It also offers opportunities to improve visual amenity values, particularly in rest areas, at entrances to towns or cities and along highways in scenic or tourist areas.

Urban design outcomes and amenity are likely to be enhanced by highway landscapes that:

- reflect and enhance the distinctive character, heritage and identity of surroundings
 - provide visual richness appropriate to viewing speeds and duration for road users
 - provide creative, high quality designs.
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2.1.4 Expectation: Manage stormwater runoff

Context

Stormwater runoff (quantity and quality) from roads is of concern to Transit for two main reasons:

- poor drainage of stormwater from the road surface can adversely affect road pavement integrity
 - stormwater from roads containing contaminants can adversely affect aquatic ecosystems.
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Opportunities

Landscaping within the highway corridor offers opportunities to:

- encourage efficient flow of stormwater in roadside drains, to manage peak flows and protect road pavement integrity
- improve stormwater runoff management (quality and quantity) and reduce erosion through planting and minor earthworks
- treat contaminants in stormwater to improve the quality of runoff, particularly in sensitive areas
- utilise minor contouring of corridor slopes and drains to assist in managing flow paths and runoff quantity.

Stormwater can also be used in highway landscaping to irrigate highway plantings.



Raingardens use the filtration capacity of vegetation and soil to store and filter stormwater. (Source: Auckland Regional Council)

2.1.5 Expectation: Manage pests

Context Transit undertakes vegetation control within the highway corridor as part of routine maintenance. This includes managing roadside plant pests in accordance with Transit's Biosecurity Policy (refer *State Highway Control Manual* (SM/012)) and Regional Pest Management Strategies. Transit is committed to:

- reducing its use of agrichemicals where practicable
- encouraging research into new methods of plant pest control.

Long grass and plant pests such as blackberry may provide habitat for animal pests such as rats and rabbits.

Opportunities Landscape management using appropriate plant selection, establishment and maintenance practices within state highway corridors offer long-term benefits for routine vegetation control. It is likely to lead to a reduced reliance on synthetic herbicides by reducing the:

- frequency of vegetation control
- need for vegetation control, particularly where self-sustaining plant communities are successfully established
- need for plant pest management, especially when new plantings are established correctly so as to reduce competition and invasion by weed species.

Plant pest removal and highway vegetation control may make a positive contribution to the objectives of animal pest control schemes operated by regional councils or national authorities.

2.1.6 Expectation: Improve local air quality

Context Local air quality standards are affected by vehicle emissions. To meet local and regional air quality standards a range of techniques must be used to mitigate the effects of vehicle emissions. Roadside vegetation has the potential to intercept pollutants and improve local air quality.

This is a relatively new field of study. Research is continuing to better measure and understand the effectiveness of roadside vegetation.

Opportunities Vegetation may be used to shield land uses adjacent to state highways and mitigate localised effects of vehicle emissions.

2.1.7 Expectation: Improve business practices

Context Transit operates within a limited budget and is always seeking to improve its business practices in order to manage the state highway system more effectively and efficiently. Every opportunity must be taken to minimise unnecessary costs, maximise value and engage stakeholders in decision-making.

Opportunities

Best practice landscaping within state highway corridors can contribute to maximising value by:

- streamlining the landscaping aspect of the RMA approvals process
- making best use of landscaping investment, in terms of initial design and future life cycle management
- reducing resources required for long-term management of vegetation and plant pests
- protecting the integrity of road pavements and drainage structures through selection of appropriate species
- designing and establishing landscaping that does not conflict with the operation of the state highway and infrastructure within corridors
- ensuring a more consistent landscaping product.

By working in partnership with council and community groups, the value and impact of Transit's landscaping can add to and be enhanced by other landscaping schemes.

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