

PENINSULA LINK PROJECT

SOUTHERN WAY ROAD MANAGEMENT PLAN



PLP-PP-SWAY-0009 REV 1

Plan approved by:

**David Clements
General Manager**

Date:

17 December 2012

Details of Revision Amendment

Authorisation & Distribution

This Plan is a controlled document authorised by Southern Way's General Manager.

Registered copies will be distributed to the individuals listed in Schedule C. Any copies other than the registered copies will be deemed to be uncontrolled.

This plan will also be readily accessible and freely available to the public via Peninsula Link web site: www.peninsulalink.com.au.

Revision

This Plan will be reviewed and revised as required and, if necessary, updated in accordance with the Project Deed.

Any change to this Plan will be notified to the State and the amended version will be resubmitted as required under the Deed.

The following provides a record of amendments made to this document.

Amendment

Revision	Date	Description	Issue to
0	31/10/2012	Initial Issue	Distribution
1	17/12/2012	Updated document prior to advertising road management plan	Distribution

SOUTHERN WAY ROAD MANAGEMENT PLAN

Development of Road Management Plan

This Road Management Plan has been developed by Southern Way (SWAY) in accordance the Peninsula Link Project Deed and the Road Management Act 2004 Code of Practice for Road Management Plans.

The scope of the Project, an availability based Public Private Partnership, comprises the finance, design, construction, operation and maintenance of a two-lane dual carriageway freeway between Frankston Freeway and EastLink at Carrum Downs through to the Mornington Peninsula Freeway at Moorooduc.

The State has procured that Southern Way is the responsible road authority for Peninsula Link.

Overview

Southern Way manages the roads for which it has responsibility under the Road Management Act 2004, including Ancillary Areas, in accordance with this Road Management Plan. These roads include the Peninsula Link Freeway, Shared Use Path and Ancillary Areas within the Peninsula Link Leased Area as well as the Maintained Off-Freeway Facilities (MOFF) as specified in this Plan.

The Southern Way '*Register of Public Roads*' provides additional details of the roads for which Southern Way is responsible, however the Register is not an "incorporated document".

The Southern Way '*Lease Plans*' and '*Maintenance Area Plans*' provide additional details of each of the roads and assets for which Southern Way is responsible, however these are not "incorporated documents" in this Plan.

The Road Management Plan includes the following documents:

Road Infrastructure Management System, which sets out details of the management system to be implemented by Southern Way in the discharge of its duty to inspect, maintain and repair roads (Schedule A).

Road Maintenance Standards, which are the standards and policies in accordance with which Southern Way performs its road management functions (Schedule B).

The Southern Way Road Management Plan has been prepared in accordance with Division 5 of Part 4 of the Road Management Act 2004.

Southern Way appreciates information from the public regarding any traffic hazards. The contact phone number for the Peninsula Link Operation and Maintenance Contractor is (03) 5978 4000.

Queries in relation to this Road Management Plan should be directed to:

General Manager | Southern Way Pty Ltd

c/- Bilfinger Berger Project Investments

Level 51, 525 Collins Street, Melbourne, Vic, 3000

Further information is also available on the Peninsula Link web site: www.peninsulalink.com.au

SCHEDULE A - ROAD MANAGEMENT SYSTEM

Southern Way has contracted Lend Lease to undertake the management of the assets comprising the Peninsula Link. To enable Lend Lease and Southern Way to jointly meet their obligations in a systematic manner, Lend Lease has implemented Confirm (Enterprise Asset Management System) to manage, control and record all works associated with Peninsula Link.

OUTLINE

Road infrastructure management involves the management of both physical road infrastructure and the aspects of the use and operation of that infrastructure that affects road infrastructure condition. It applies to all road infrastructure including roads, bridges, roadsides, signs, delineation, traffic control equipment etc. It involves the inspection, maintenance and repair of that infrastructure. It may also involve the disposal of that infrastructure when no longer required, is replaced or is transferred to the State at the end of the Operation and Maintenance Term.

This road infrastructure management system includes Southern Way and Lend Lease policies and practices for the maintenance of existing road infrastructure, the processes relating to road infrastructure maintenance and the responsibilities of Southern Way with respect to road infrastructure maintenance.

The Southern Way road infrastructure management system aims to ensure that Southern Way meets its statutory responsibilities as a road authority and provides best value to the users of Peninsula Link for the funding available for inspection, maintenance and repair.

Fundamental inputs to this system are:

- Peninsula Link Project Deed and Exhibits;
- Relevant legislation;
- Key performance indicators as set out in our Performance Management Plan
- The tendered budget for the maintenance and operation of the Freeway in accordance with the Project Deed

Policies and procedures, being the key components of this system, are set out in the following five phases:

Phase 1 – DEVELOPING STANDARDS AND GUIDELINES:

Southern Way and their Operations and Maintenance (O&M) contractor, Lend Lease have developed a set of maintenance standards that responded to the State requirements set out in the Peninsula Link project deed and exhibits. These standards set out the minimum maintenance standards, asset condition and incident response times required to maintain the Peninsula Link in a compliant condition over the 25 year Operation and Maintenance Term.

Phase 2 – DEVELOPING THE MAINTENANCE PROGRAM:

The Peninsula Link is maintained in accordance with the performance requirements set out in the Code of Maintenance Standards. The Maintenance Program sets out **how** Southern Way and its O&M contractor meet these standards. The Maintenance program is reviewed annually and updated as necessary in accordance with inspection requirements, asset condition and budget.

Phase 3 – IMPLEMENTING THE MAINTENANCE PROGRAM:

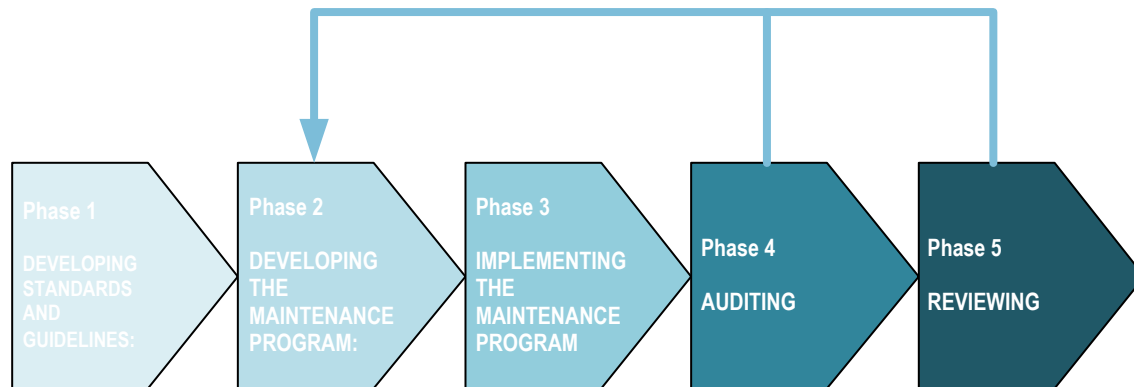
The delivery procedures and actions Southern Way and its O&M Contractor have but in place to deliver the defined maintenance program. This includes communications with all stakeholders

Phase 4 – AUDITING:

This covers auditing of completed maintenance works, asset condition and operational performance. It also covers the procedures for collecting and storing information regarding road infrastructure condition and use.

Phase 5 – REVIEWING:

The review process allows Southern Way and Lend Lease to ensure that areas for improvement are identified and adopted as appropriate over the Concession Period.



<p>Maintenance Strategies</p> <p>Levels of Service (PNLK-PL-7004 Performance Management Plan)</p> <p>Defined Areas of Responsibility (Lease and Maintenance Plans, MOFF Register)</p> <p>Standards of Maintenance (PNLK-PL-7002 Code of Maintenance Standards)</p> <p>Delivery Organisation (Staffing levels, plant and equipment)</p>	<p>Asset Inspections</p> <p>Multi-year Funding Allocations (PNLK-PL-7003 Forecast Maintenance Program)</p> <p>Asset Usage (Traffic counts and volume analysis)</p> <p>Whole of Life Analysis</p>	<p>Year 1 Delivery Program (PNLK-PL-7003 Forecast Maintenance Program)</p> <p>Maintenance Management and Specifications (PNLK-PL-0503)</p> <p>Emergency and Incident Management</p> <p>Standards of Maintenance (PNLK-PL-7002 Code of Maintenance Standards)</p>	<p>Monthly Performance Reporting</p> <p>Annual Pavement Condition Survey</p> <p>Independent Audit of Performance Management Reporting</p>	<p>Review and Monitoring of the Lend Lease Performance Management system</p>
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Phase 1 – Developing Standards and Guidelines

Overview

The Peninsula Link Deed has specified the roads for which Southern Way will be the responsible road authority.

Southern Way identifies the road infrastructure on all roads or parts of roads for which Southern Way is the responsible road authority, in accordance with the Road Management Act 2004 and any Code of Practice referred to in Section 37(3) of the Act.

Southern Way reviews the Operations and Maintenance plans and procedures on a six monthly basis, and incorporates changes into the ongoing improvement process. These reviews address change in law, industry best practice and asset usage trends.

Consistent with its management strategies, Southern Way determines inspection, maintenance and repair standards with respect to road infrastructure (including roadways and pathways) and road-related infrastructure. Southern Way has established maintenance standards and road infrastructure performance targets that reflect the requirements of the Project deed. These maintenance standards are a key part of Southern Way Road Management Plan.

This is achieved by using the following process:

Developing and publishing maintenance standards, which involves establishing, for different classes of roads, structures, roadsides, traffic signals and on-road electrical assets, the maximum acceptable routine maintenance inspection periods, severity of defects that can be tolerated and times within which defects are to be repaired. Road infrastructure performance targets are also used to identify and measure the desirable quality of service to be provided within the funding available for inspection, maintenance and repair of road infrastructure. A number of these targets will be developed from maintenance strategies.

Policies

- (a) The location, type, quantity and condition of important road infrastructure will be systematically monitored and recorded in the Peninsula Link Asset Management System.
- (b) The safety of road users and preserving the integrity and amenity of road infrastructure are important considerations in road infrastructure inspection, maintenance and repair standards.
- (c) Inspection, maintenance and repair standards and road infrastructure performance targets will be established using a risk management approach to best meet the requirements of the Peninsula Link Project Deed. The Peninsula Link Project performance requirements will be fundamental to establishing the performance standards.
- (d) Inspection, maintenance and repair standards and road infrastructure performance targets will vary across the Peninsula Link asset base in line with relevant risk factors such as the nature and volume of traffic using the road, operating speed, the susceptibility of road infrastructure to deterioration, the cost effectiveness of repairs and the competing priorities for funding.
- (e) The inspection, maintenance and repair standards will be available to the public through the publication of this Plan.

Phase 2 – Developing the Maintenance Program

OVERVIEW

The maintenance program will be developed as part of the annual development cycle. The maintenance program is produced annually by the Operations and Maintenance Contractor and reviewed by Southern Way as the Road Authority for conformance with the established guidelines and standards.

Development of the maintenance program is focused on:

- Implementing established road infrastructure management strategies;
- Compliance with the specified asset performance targets and;
- Meeting the contractual performance targets for the lowest life cycle cost.

This is achieved through the following processes:

Identifying gaps in road infrastructure performance

This involves comparing the most recent results from periodic road infrastructure condition surveys to the specified maintenance standards. A preliminary network level analysis is then carried out to examine the options available for managing identified road infrastructure performance gaps.

Options include routine maintenance, periodic maintenance or rehabilitation.

Developing initial maintenance program targets

This uses the current maintenance program as a starting point and considers the effects of the changes in road asset condition, the funding allocation for the coming year and changes in external influences. It also involves adjustments to maintenance program based on analysis of road, structure, roadside, on-road electrical assets maintenance that comprise the Peninsula Link.

Preparing the maintenance program

This aims to identify the best mix of maintenance treatments that can satisfy the identified road infrastructure maintenance needs at the lowest lifecycle cost and within the level of funding provided. The routine maintenance component of the program is the first priority and is based on achieving Southern Ways maintenance standards. Preparing the periodic maintenance and rehabilitation components of the program involves identifying candidate maintenance projects and assigning priorities to each project. These priorities are used to help determine which projects are included in the maintenance program, to keep within the available maintenance budget. Other program development tools, such as the Peninsula Link asset management system, are also used to assist with identifying the best mix of maintenance treatments.

POLICIES

Candidate road pavement and road surfacing projects will be ranked in priority order using the results of road condition surveys and the outputs of the Southern Way Asset Management system.

Candidate structural maintenance projects will be identified and prioritised based on meeting Southern Way's contractual obligations and will use the results of condition surveys conducted in accordance with the VicRoads Structure Inspection Manual and with the aim of managing the structures stock on the Peninsula Link to maintain a Level 2 condition rating.

Candidate roadside maintenance projects will be identified and prioritised based on meeting Southern Way's contractual obligations, preserving roadside asset integrity as well as satisfying road safety criteria and environmental goals.

Inspections will be carried out of road infrastructure identified as potential candidates for periodic maintenance or rehabilitation to identify the most cost effective treatment and scope for each project.

Phase 3 - Implementing the Maintenance Program

OVERVIEW

Maintenance works are carried out in ways that aim to ensure the safety of road workers and road users as well as minimising delays and inconvenience to road users.

Southern Way has engaged Lend Lease to manage the delivery of its maintenance program.

Comprehensive and accurate records of day-to-day inspections, maintenance activities and completed works are an important part of the maintenance program delivery process.

This is achieved using the following processes:

Developing maintenance specifications and surveillance plans

This involves documenting performance requirements and administration arrangements that aid in the achievement of Southern Way maintenance standards in maintenance contracts.

Managing customer comment and feedback

Comments and feedback on road infrastructure condition will be received from a wide variety of sources, the information will be recorded and acted on in a systematic manner.

Managing incidents

Southern Way has contracted Lend Lease to manage the operations of the Peninsula Link. This involves the early identification and appropriate response to incidents on freeways and arterial roads, such as the presence of debris, vehicle breakdowns and other safety hazards. An important part of managing incidents is to provide road users with timely advice on how to avoid delays that may be associated with incidents. The management of some larger incidents comes under State emergency management planning arrangements, where Lend Lease performs a support role. The sites of fatal crashes on freeways and arterial roads are inspected to identify possible contributions to these crashes from road conditions and/or road operations, with the aim of identifying possible works that would help reduce the risk of future crashes. Sites of significant crashes and where a "Notice of Incident" is received may also be inspected.

Managing the delivery of maintenance works

This involves the systematic surveillance and auditing of each contractor's quality assurance system and operations to verify compliance with contract requirements, including the achievement of maintenance standards.

POLICIES

The PLP maintenance specifications will be based on the established maintenance standards.

Appropriate, timely responses will be provided to comments and feedback from road users and the community regarding road conditions and any safety concerns, including feedback to the person initiating the contact and confirming action taken or to be taken.

Incident reports will be prepared for significant incidents including fatal accidents on freeways and arterial roads with the recommendations of these reports being considered to identify and implement appropriate safety treatments, intended to help reduce the risk of future incidents.

Maintenance works should be carried out in ways that adequately manage safety for road users and road workers and in a manner that minimises delays and inconvenience to road users and the community.

Accurate records will be kept of completed maintenance works, including the type of work, its location and the time when work was carried out.

Phase 4 - Auditing

OVERVIEW

Third party audits will be conducted on the performance management reporting of the Operations and Maintenance contractor. Audits will be conducted annually. Lend Lease as the Operations and Maintenance contractor undertakes a combination of internal and external auditing in accordance with its ISO 9001, 14001 and 4802 certified systems.

Road infrastructure condition surveys are carried out to provide information for audits, to enable changes in road infrastructure condition to be monitored over time, and to provide up to date condition data for the next road infrastructure maintenance program development cycle.

The maintenance program is also intended to protect the investment in the road infrastructures and ensure that handback can be successfully achieved to the State in 25 years.

This is monitored by using the results of road infrastructure condition surveys to regularly update and report the valuation of road infrastructure.

This is achieved using the following processes:

Auditing of maintenance program outputs

This is intended to confirm whether maintenance projects were delivered on time, within budget and to the specified quality. This is reported as part of the monthly performance reporting provided to Southern Way by its operations and maintenance contractor, Lend Lease.

Monitoring road infrastructure condition

This involves conducting surveys to collect information on road infrastructure condition. Separate quality procedures establish the requirements for systematic monitoring of road pavements, road surfacings, structures and roadsides.

POLICIES

Road pavement condition surveys will be conducted annually on Peninsula Link. Performance is included in the relevant monthly report following the annual survey.

Structure condition monitoring is carried out to assess the condition of each structure and its principal components. New structures will be inspected within 12 months of commissioning.

All other structures, will be inspected every 3 years, depending on their condition.

Southern Way will periodically report the effect of its road infrastructure maintenance program on road infrastructure condition and on the valuation of road infrastructure.

Phase 5 - Reviewing

OVERVIEW

Reviews are carried out by Southern Way to ensure that the maintenance program is achieving the objectives of road infrastructure management strategies and that customers and stakeholders are consulted regarding the outcomes of the maintenance program.

This is achieved using the following processes:

Reviewing road infrastructure performance

Aims to determine whether road infrastructure performance gaps have been adequately addressed. The outputs of road infrastructure condition surveys and maintenance inspection records are used to assist with these reviews.

Reviewing road infrastructure maintenance strategies

Aims to determine whether the objectives of road infrastructure maintenance strategies have been achieved. This type of review would normally be conducted every few years. It also may involve an assessment of whether there is a need to update road infrastructure maintenance strategies.

Reviewing customer feedback and stakeholder requirements

Involves the regular assessment of customer and stakeholder satisfaction with the outcomes of maintenance programs.

Assessing changes in external influences

Involves continuous monitoring of factors outside Southern Ways control, that may affect future maintenance demands. These factors may include changes in weather patterns, changes in traffic loading, availability of maintenance materials, changes in land use, changes in the Victorian and Australian economy etc.

POLICIES

The outcomes of maintenance programs will be reviewed and the results of these reviews will be used to progressively reassess road infrastructure performance targets and road infrastructure maintenance strategies.

SCHEDULE B - SOUTHERN WAY ROAD MAINTENANCE STANDARDS

Duties of Road Users

Road users have a duty in respect of the use of a highway. This duty is set out in Clause 17A of the Road Safety Act 1986.

Definitions

Hazard – for the purposes of these maintenance standards, is a defect listed in Table 2.

Road Maintenance Category – the nominated road maintenance category for Peninsula Link is based on the VicRoads road classification system. The Peninsula Link freeway is classified as Category 1 and Category 2 over different sections of the freeway. Differing levels of service are applied to each section of road where different sections have different Road Maintenance Categories.

Hazard Inspection Frequency – the period between scheduled inspections of the road to identify hazards. The nominated time is not precise. A 10% margin is allowable.

Response Time – the time to respond to a hazard, which is based on consideration of the hazard type and severity. Response Time is measured from the time the hazard is identified by, or notified to, Lend Lease. The nominated time is not precise. A 10% margin is allowable.

Hazard Inspection Type and Frequency

Table 1 describes the hazard inspection type and frequency for each road maintenance category.

Table 2 describes the hazards and indicates the response time.

Inspection Type	Hazard Inspection Frequency by Road Maintenance Category		
	Road Category 1	Road Category 2	Shared Use Path
Day Time	Each week day	Each week day	Weekly
Night Time	Six Monthly	Six Monthly	Six Monthly

Table 1 Hazard Inspection and Frequency

Defect ID	Item	Defect	Measurement Criteria	Intervention Level	Response Time	Repair Standard	Category	Hazard
0101-D02	Deformation/Wheel ruts or Depression Repair (Other)	Ponding	Depth	>100mm	1 hour(H)		A	H
0101-D03	Potholes	Pothole depth	Depth (mm)	> 80	1 hour(H)		A	H
0102-D02	Edge Drop	Edge drop-off – Urgent	Drop-off (mm)	> 150	1 day	<10	A	H
0201-D01	Structural (Major)	Defects that significantly affect the strength and/or serviceability of either the element or the bridge	Yes / No	Yes	1 hours(H)*	Undertake level 2 inspection	A	H
0201-D15	Barriers (General)	Damaged such that Strength or serviceability of member is affected	Yes / No	Yes	4 hours*	-	A	H
0203-D01	Structural members	Structural Damage	Yes / No	Yes	1 Day*	-	A	H
0204-D01	Structural members	Structural Damage	Yes / No	Yes	1 Day*	-	A	H
0301-D04	Grate	Cracked or broken items in danger of collapse or grate missing or collapsed	Yes / No	Yes	1 day	-	B	H
0301-D05	Lid	Cracked or broken items in danger of collapse or grate missing or collapsed if ped area/traffic lane	Yes / No	Yes	1 hour	-	A	H
0303-D02	Grate	Grate loose and allowing access	Yes/No	Yes	4 Hours	0	A	H
0308-D05	Gutter	If ponding more than 300mm deep		>300mm	1 hour		A	H

0503-D02	Bollards	Bent or broken bollard hazardous to traffic	Yes / No	Yes	4 hours	-	A	H
0503-D05	Pedestrian Hand Rail	Bent or broken rail hazardous to traffic	Yes / No	Yes	4 hours	-	A	H
0601-D01	Guard Rail	Missing rail	Yes / No	Yes	1 day *		A	H
0601-D04	Guard Rail	Deteriorated – corroded to affect strength	Yes / No	Yes	1 day *	-	A	H
0601-D12	Wire Barrier	Missing/broken	Yes / No	Yes	1 day*	-	A	H
0601-D13	Wire Barrier	Not adequately tensioned.	Yes / No	Yes	1 day*	-	A	H
0601-D14	Wire Barrier	Corroded to affect strength	Yes / No	Yes	1 day*	-	A	H
0601-D15	WRSB Post	Missing/broken/Misaligned/Buckled etc	Yes / No	Yes	1 day	-	A	H
0601-D19	Barrier	Concrete cracked/damaged	Yes / No	Yes	1 day + 2 months repair		A	H
0602-D02	Tau-II	Misaligned	mm	>150mm	1 day	-	A	H
0607-D01	Delineator	Missing at a critical location	Yes/No	Yes	72hrs		A	H
0607-D03	Guideposts	Missing at a critical location	Yes/No	Yes	72hrs	-	A	H
0701-D05	Posts	If hazard to traffic			1 day		B	H
0702-D03	Posts	If hazard to traffic	Yes / No	Yes	1 day		B	H
0901-D07	Grassed area	Impedes sight distance from a distance of 200 m	Yes / No	Yes	72hrs	< 30 >50	A	H
0902-D01	Planted Vegetation areas	Impedes sight distance to traffic furniture from a distance of 200m	Yes / No	Yes	72hrs	-	A	H
0902-D06	Vegetation:	Tree limbs encroaching in the Freeway clear-zone	Yes / No	Yes	72 hours (H)	No (within the required zone)	A	H

0902-D07	Vegetation:	Tree limbs encroaching in the SUP clear-zone	Yes / No	Yes	72 hours(H)	No (within the required zone)	A	H
1001-D06	Roadside Litter	Deem a health Hazard	Yes / No	Yes	24 hours	No	A	H
1001-D11	Debris on Roadway	Hazardous debris on pavement or shoulder which can be cleared by an Emergency Response Unit	Yes / No	Yes	#1 hour	No	A	H
1001-D12	Debris on Roadway	Hazardous debris on pavement or shoulder which requires more resources than the defined Emergency Response Unit to clear	Yes / No	Yes	#1 hour *	No	A	H
1001-D14	Livestock	Livestock in Freeway reserve with potential to be a hazard to traffic	Yes / no	Yes	1 Hour (h)	No	A	H
1301-D09	Post	Misaligned – Urgent	Inclined to vertical or horizontal °	> 25	1 day	< 5	A	H
1302-D09	Sign Frame bracketing	Misaligned – Urgent	Inclined to vertical or horizontal	> 25	1 week	< 5	A	H

Table 2 Hazard Rectification and Response Times

SCHEDULE C – DISTRIBUTION LIST FOR REGISTERED COPIES

Copy Number	Issued To	Date	Name
1	Southern Way		David Clements
2	Linking Melbourne Authority		Ken Mathers
3	Independent Reviewer		Peter Balfe
4	Abigroup		Graeme Chambers
5	LLIS		Philip Naulls