

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

Value Management Plan

Story: SCIRT Management Plans

Theme: The SCIRT Model

A plan which identifies items that will define value for the programme of work and explains processes that will measure the achievement of value outcomes.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit www.scirtlearninglegacy.org.nz



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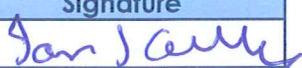
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Value Management Plan

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VALUE MANAGEMENT PLAN

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ACRONYMS, ABBREVIATIONS AND DEFINITIONS

Term	Definition
AA	Alliance Agreement
AOC	Actual Out-turn Cost
Board	SCIRT board, the Alliance Leadership Team as in the Alliance Agreement
CCC	Christchurch City Council
CERA	Canterbury Earthquake Recovery Authority
DLT	Delivery Leadership Team
EMP	Environmental Management Plan
FFC	Forecast Final Cost
GST	Goods and Services Tax
HIGG	Horizontal Infrastructure Governance Group
IE	Independent Estimator
IRMO	Infrastructure Rebuild Management Office
IST	Integrated Services Team
ITP	Inspection and Test Plan
JDE	JD Edwards Accounting System
KPI	Key Performance Indicator
KRA	Key Result Area
NZTA	New Zealand Transport Agency
NOP	Non Owner Participant
OPS	Overall Performance Score
PMP	Programme Management Plan
SCIRT	Stronger Christchurch Infrastructure Rebuild Team (the Alliance)
SQE	Safety Quality and Environment
TOC	Target Out-turn Cost

1 INTRODUCTION

Canterbury has been badly affected by a series of earthquakes and aftershocks and is now regarded as a seismically active zone, with expectation of continued earthquakes over time. The impact of the earthquakes is very significant to the community, to the built environment and the economy. As a result special provisions are needed to bring about a recovery.

The Stronger Christchurch Infrastructure Rebuild Team (SCIRT) is just such a special provision, established as an alliance by Government Agencies (Canterbury Earthquake Recovery Authority and New Zealand Transport Agency), the local territorial authority (Christchurch City Council) and five civil engineering constructing companies, all as participants. It is set up to rebuild a significant part of the horizontal infrastructure for the city including underground services and roads and associated facilities, to restore the level of service of those facilities to pre-quake standards.

1.1 PURPOSE

The purpose of this management plan is to identify items that will define value for the programme of work and explain processes that will measure the achievement of value outcomes.

1.2 OBJECTIVES

SCIRT is referred to as a programme alliance with its work being a number of separate but inter-linked rebuilding projects, managed over a four-to-five year time-frame.

The goal of SCIRT is summarised in the words of the 'What we are here for' statement:

***Creating resilient infrastructure
that gives people security and confidence
in the future of Christchurch***

The Alliance Agreement contains many objectives for the rebuild and these are shown in the Programme Management Plan Appendix 2. The following objectives are specifically concerned with value management, focus on achieving these will:

- a) deliver value to the people of Christchurch in its broadest definition
- b) demonstrate best long-run value management
- c) do the right thing at the right time to the right standard every time.

1.3 REQUIREMENTS

The Alliance Agreement defines the contractual and legislative requirements in relation to value management.

1.4 RELATIONSHIP TO OTHER MANAGEMENT PLANS

This plan links to other management plans by the processes that are used to capture and report value, which are inherent within those plans.

2 THE VALUE FRAMEWORK

The value framework comprises many subjects that set or define value for SCIRT. It is not a simple proposition, but reflects the production line nature of SCIRT work that creates and executes a large number of geographically separate projects within an overall programme of infrastructure rebuild.

Despite this unconventional process and the complexity of the relationship between the parties and the resulting roles of each, this plan demonstrates that a strong value case exists and can be demonstrated to all stakeholders.

The Board has created the following key elements of value:

Economy – Doing the Right Work

- A master plan (process) for all horizontal infrastructure which accounts for current services and those of the future taking account of the re-built and new-look central city and areas of retirement and growth. This relates directly to the conventional value aspect of economy – doing the right work

Effectiveness – Doing the Right Work in the Right Order and Right Time

- prioritised and flexible order to avoid rework and ensure highest community need is met first
- Accommodating likely natural ongoing events

Efficiency – Progressively Getting Better

- Progressively increasing productivity throughout the whole range of SCIRT activities such that improvements are continuous and so that total costs remain within CPI increases
- Smart purchasing so that input costs remain within the range of those experienced in NZ
- Optimised whole of life cost, when applicable to design options.

3 THE VALUE MANAGEMENT PLAN

The Value Management Plan encompasses the key elements from the Board and many more initiatives. It is shown in the following Value Register which also outlines the mechanisms by which value will be achieved. The value driving initiatives are grouped under:

- the founding precepts of the value to be provided
- Key Performance Indicators and
- particular measures of value.

The table on the following page also identifies processes that will be established to monitor and report results against the list for all stakeholders.

The combined functionality of the Value Register is intended to create a structure, a measurement process and a reporting tool to deliver value as the programme proceeds.

VALUE MANAGEMENT PLAN

3.1 VALUE REGISTER

VALUE-DRIVING INITIATIVE		ACTION		STATUS
Feature	Management Plan	The Process – Establish, Monitor or Review	Reporting	As at: (Date)
Founding Precepts of Value Management				
Maintain a Strategic Plan	Value & Strategy	Regularly review priorities and sequencing for the identification, investigation, design, project packaging, letting and the deployment of resources Reviews to be part of regular structured meetings for the purpose	Exception reporting of problems anticipated or experienced as advised in the review process. Separately report progress on work against a broad strategy outline	
Carry out a Strategic Review of Infrastructure Systems (Aug 2011 to Feb 2012)	Value & Strategy	Progress engagements with CCC Asset Owners Monitoring of time Regular review of expert advice	Reporting to BOARD Reporting to Strategy Committee of Client Governance Group (CCC CERA and NZTA)	
Review Strategic Decisions	Value & strategy	Monitoring key strategic decisions relating to delivery arising from client or SCIRT processes	Identification of key decisions from all Management Team formal meetings in the period between Value reports	
Integrate SCIRT Plans with Other Organisations	Schedule	Monitoring coordination initiatives and achievements between SCIRT and all other utilities, sourced via AMT members	Summary of coordination activities carried out in the period.	
Risk Management	Risk & Opportunity	Review and report process as dictated from the Risk Register of the Plan	Summary statistics and exception reporting	
SCIRT Mobilisation (Sept – Dec 2011)	IRMO to SCIRT Transition	Feature monitoring as identified in the Plan & Time line review	Exception reporting & Time line status	

VALUE MANAGEMENT PLAN

Feature	Management Plan	The Process – Establish, Monitor or Review	Reporting	As at: (Date)
Maintain Delivery Capability for SCIRT	Procurement	Resource management process carried out in consultation with the housing and commercial industry & Training and Workload levelling reactions arising	Outcomes of the resource management process, advising industry-wide levels of activity, together with three and six-monthly forward predictions. Actions taken to address anticipated problems	
Maintain Service Status for Customers	Construction Management	Status mapping by City Care and Fulton Hogan Operations and by each delivery contractor	Map city with distinctions between waste water service status achieved and changes since last report. Similar maps can be created to report both service obstacles (such as road closures) and the extent of rebuild for water supply, storm water and roading	
Monitor Community Satisfaction	Stakeholder (Communications & Consultation)	Surveys & CCC Customer Inquiries	Surveys are 6-monthly Customer Inquiries are continuously logged and can be summarised monthly	
Focus on Owner Needs	Stakeholder	Regular, structured meetings with the clients, based on an issues register	Summary report of open and closed issues, arising from client meetings	
Report Design Cost	Design & Financial	Design Cost recorded by project teams, as a total % of Turn-Out Cost of each project	Reported monthly for the projects let in that month. Also reported as a cumulative summary	
Collection of Price Setting Data	Financial & Procurement	Comprehensive cost collection data including materials and supplies, trade plant and equipment	Data collected continuously and reported monthly as a schedule of benchmark prices	
Monitor Delivery Prices Achieved	Financial	Price data to match cost collection data	Pricing reports & KPI reports month by month	
Monitor Delivery Performance	Construction	Measure and report quantity laid and complete for pipes (lineal) and road surface (square metres)	A summary monthly collation of progress reports from individual projects	

VALUE MANAGEMENT PLAN

Feature	Management Plan	The Process – Establish, Monitor or Review	Reporting	As at: (Date)
Award Projects Based on Performance	Procurement	Comprehensive cost data including materials and supplies, trade plant and equipment to match price setting data – re-set over time and necessary	A summary monthly collation of the award data from individual projects and from separate delivery contracts and supply agreements	
Manage Programme Delivery Resources	Procurement	Resource Management Tool (to be developed and enhanced for use in the programme and for regular engagement with allied industry sectors)	Resource Management Tool reports to be shared within the industry and for strategic planning of the procurement process and for predictions related to training	
Observe Capability of Integrated Alliance Team	All Plans	All members of Integrated Alliance Team will be aware of the value propositions and be responsible for championing them and bringing success stories to the Management Team	Value initiatives and achievements will be reported in each element of the regular reporting regimen	
Key Performance Indicators				
General Note		KPIs are reviewed annually and changed for July instigation. The following listing is current at time of up-date. The evolution over time and the detail of items can be found in the KRA/KPI Management Plan		
Quality of Construction	Construction & Financial	Construction project verification audit scoring with values based on the quality of actions from a wide range of site quality control processes.	A report and summary score of one project audit for each delivery team, identifying compliance with the site management set of procedures and assessing achievements	
Construction Completions	Design and Construction	Monitor the construction completions achieved.	The number each month.	
Practical Completions	Design and Construction	Monitor the practical completions achieved.	The number each month.	

VALUE MANAGEMENT PLAN

Feature	Management Plan	The Process – Establish, Monitor or Review	Reporting	As at: (Date)
Particular Measures				
Programmes of Site Observations	Finance and Asset Investigation	Continuous monitoring of condition of exposed work to advise insurance and research initiatives	Detailed reporting into insurance processes and into government sponsored research programme	
Observe and Drive Capability Improvements	Construction	Monitoring of Productivity KPIs & Feedback from sites as to team performance & From the various training programmes	Specific reporting – probably three-monthly	
Create Dialogue with Residents	Social Impact	Refer to Social Impact Management Plan	Normal Reporting	
Maintain Tactical and Timing Focus	Many Plans Including Construction & Social Impact	Across all plans Work Sequencing to Suit Community Integrated Rebuild Plans etc etc	Generally exception reporting	
Review Lessons Learned	Quality	A close-out process on projects that are anticipated to be completed at approximately weekly intervals (on average) & Lessons Learnt Register	Monthly reporting of new register items	
Maintain a Value Engineering Register	Design	List and Document Value Engineering process examples that progressed into established design standards or construction process.	Quarterly Reporting of new and cumulative items	
Improve Asset Systems	Design	List upgrades to asset systems that arise from designs	Quarterly Reporting of new and cumulative items	

3.2 VALUE CAMPAIGN

In addition to the processes of the Value Register it is intended to create a Value Campaign to establish or heighten awareness of Value in all stakeholders – participants and public. This campaign will be timed into other programme start-up activities so that there is no clash of messaging. The campaign is seen as subservient to more fundamental training issues of safety, quality and the procurement process.

The slogan of the campaign is: ***'Value Is In Everything We Do'***

4 MONITORING, MEASUREMENT AND EVALUATION

4.1 MONITORING & MEASURING

Key performance indicators will be established, monitored and measured to define and evaluate specific elements of value. These will be used to inform stakeholders of value performance and to allow evaluation of delivery team performance.

Other elements of the value framework will be monitored and measured through relevant data and reported by a structured process into the Board reports and a Value of SCIRT document.

4.2 EVALUATION

Evaluation of achievement of value will come from individual measureable items within the framework and from subjective overview of subjects where there is no measureable quantity.

5 MANAGEMENT PLAN CONTROL

5.1 AUTHORISATION

Initial authorisation is in accordance with the AA, Section 6.1.1. All plans are also authorised by the GM and will be submitted to the Board for approval in the first Board meeting following the execution of the AA.

Subsequent revisions to plans will be authorised by the General Manager unless deemed to require endorsement by the Board.

5.2 DISTRIBUTION

The Value management Plan is a controlled document and shall be distributed and revised in accordance with the SCIRT Quality Management Plan. Hardcopies are Un-

Controlled copies. The Controlled copies are maintained in "Project Centre" which is a secure website which supports various project management functions for the Programme including "configuration management" i.e. version control of documents.

5.3 AUDITING

Systematic internal audits will be undertaken to monitor compliance with this plan and to allow the plan to be assessed for suitability, relevance and effectiveness. The auditor will be a suitable person appointed by the SQE Manager who is independent of the activity being audited.

Various audits are undertaken, including but not limited to:

- IST-level Internal Audits
- Delivery Team Internal Audits
- External Audits.

Refer to Quality Plan Audit section for more details.

5.4 MANAGEMENT PLAN REVIEW AND REVISION

This plan is a dynamic document that is current at the time of issue. The process for monitoring and review of the plan or its implementation and operation are detailed within the SCIRT Quality Plan.

The Value manager will review and assess the plan at least annually for effectiveness and to achieve improvements. The review will consider the results of management monitoring, audit results, analysis of data, corrective and preventive actions as well as feedback from the BOARD, Management Team, Design and Delivery Teams. The frequency of the review will typically be as detailed in the Review and Audit section of the Quality Plan

Implementation of resolutions from the review will contribute to continuous Improvement.

Revisions to any management plan will always involve the Quality Manager who will take responsibility for ensuring the management plan set remains co-ordinated when revisions occur.

The document may be revised and updated in response to areas identified for improvement, such as;

- Changes in the Requirements and Minimum Standards defined in Schedule 5 of the AA
- Substantial changes in design or scope, construction sequence, staging, methodology, process or resource
- Requests by any Statutory Authority
- Internal and external audits

- Suggestions and comments from personnel
- Preventative action following a non-conformance
- Necessity for corrective action
- Senior management review
- Recommendations of the Independent Design Verifier, Independent Estimator or Strategic Review Panel

6 RECORDS AND REPORTING

6.1 RECORDS

Value management initiatives implemented will be recorded as shown in the Value Register and progress will be monitored by the Value Manager to ensure the desired outcome is achieved.

6.2 REPORTING

Achievement reports will be provided as part of the operations data summary for monthly board meetings. Data will be linked to the value framework.

A separate annual report ('The Value of SCIRT') will be created to up-date stakeholders on achievements against the value framework. The document will be structured to the Australian Federal Government Department of Infrastructure and Transport publication 'National Alliance Contracting Guidelines – Guidance Note 4 – Reporting Value for Money Outcomes' – with minor adaptations to the SCIRT situation.

The current issue of that report shall be linked to this plan as Appendix A.

It is intended that report will inform the client report at completion of the programme that will demonstrate the value of SCIRT to the funders.

7 ROLES AND RESPONSIBILITIES

SCIRT Value Management Plan	Role								
	SCIRT General Manager	Human Resources Manager	Community & Stakeholder Manager	SQE Manager	Delivery Managers	Professional Services Manager	CCC Interface Manager	Value Manager	Commercial Manager
Plan Issue / Revision authorisation	Assist		Assist	Assist	Assist	Assist		Owner	Assist
Performance Monitoring and Evaluation			Assist	Assist	Assist	Assist		Owner	Assist