

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.

SCIRT Training Centre value

Story: SCIRT Training Centre

Theme: People and Culture

A report which details the financial and societal value that the SCIRT Training Centre created.

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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SCIRT Training Centre Value

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1 Executive Summary

The SCIRT Training Centre was created by the founding SCIRT board for two reasons:

- To address operational risks of a rapidly expanded workforce for the project.
- To recognise the unique opportunity created by the five non-owner participants working together to up-skill the wider Civil Infrastructure workforce over the duration of the SCIRT project.

This paper demonstrates the value both financial and people wise that the SCIRT Training centre operating under the above rationale has achieved to date. The following key value outcomes are demonstrated below within this paper:

- That the Training Centre has added \$1,538,738 of financial value through savings to the programme (both actual and projected as likely to date).
- That the training centre has added value to the wider industry in through the improvement and development of training resources for industry and also through contributing to the development of a Civil Infrastructure Trade.

The value demonstrated within this paper underlines two clear outcomes. The first is that the addition of a training capability to SCIRT in line with the boards original intentions provides good value to the wider project and those funding it. The second it that the SCIRT training centre provides a way forward for the Civil Infrastrucure industry in particular as the Civil Trade Programme gets underway and new entrants and existing team members strive to achieve civil trade recognition. Companies will need both streamlined operationally focused training as well as trainers themselves both of which combined generate a clear positive value proposition with tangible people centric outcomes for industry.

2 Background

The SCIRT Training Centre was created as a result of the Board's desire to ensure that SCIRT left a legacy of an up-skilled workforce. In this respect it is unique in that it does not have to compete for resource in the same way as a training centre of this nature may have to in a 'business as usual' environment'. However at times even across the resources of the five Non Owner Participants SCIRT Trainers have been a challenging resource to locate and assign to the training centre.

In this light the cost benefit justifications for the delivery of training are best utilised as they will be in this report to demonstrate that if we view SCIRT as being both a microcosm of the Civil InfraStructure industry as it exists now and aspires to be through best practise we can see tangible benefits for investing in wide ranging operationally focused but strategically orientated training.

The SCIRT Training Centre Delivers Training in the following manner (in order of priority):

1. On Job Training (both NZQA and Competency based 'hard' skills and support to leadership programmes)
2. Short Courses
3. Assessment of SCIRT team members NZQA workbooks
4. Support to 'pre employment programmes' such as the Salvation Army U-Build For the Rebuild Programme.
5. Collaborative training initiatives run across delivery teams from SCIRT.

The value that this training brings can be financially in some cases as well as through description of wider benefits of training that also have a direct benefit which is not as easily financially described (such as safety training that reduces Near miss or significant injuries incurred). This report will outline these benefits both financial and also wider benefits that can be said to add value to SCIRT.

3 Financial Measures

3.1 Short Courses

SCIRT Trainers run a range of short courses available to SCIRT owner participants, non-owner participants and contractors undertaking SCIRT work. Some of these courses are readily analysed to determine the financial value that they add to the project while others without non-SCIRT equivalent courses that can be readily compared to do not allow for as easy a definition of their financial value. These courses not quantified include:

- Reading Plans
- Spotter
- Spill kit
- Powered hand tools
- Safety around mobile plant

Despite not being quantified below with a financial value they are still valuable courses that upskill team members and add value through improved efficiency and ability to manage risks. In some instances the fact that they are not directly comparable is because they are currently no comparable courses offered which adds further value to the training delivered.

The courses below include: Site Safe, Concrete Saw, Service Location, Set out and Survey and Sling and Lift and due to clearly defined discount rates or comparable courses have a financial value that can be attributed to them due to the course saving industry money spent on more expensive training or in addressing operational incidents caused by untrained team members.

3.1.1 Site Safe

SCIRT Trainers Deliver Site Civil Passport Training for Delivery Teams and SCIRT sub-contractors at a reduced rate. Site Safe Manages the bookings and SCIRT Trainers are qualified to deliver Site Safe at no cost to SCIRT, there are no overhead costs outside of the staff overheads and the use of the SCIRT Training Room.

SCIRT Site Safe Cost:	\$60
Regular Price:	\$143.75
Financial Value add to industry per person:	\$83.75
Participants through SCIRT Training Centre Site Safe Civil Passport as at January 2015:	1699
Value to SCIRT delivery teams and smaller contractors:	\$142,291

3.1.2 Concrete Saw

SCIRT Trainers Deliver Concrete Saw Training in line with NZQA Unit Standard 19675. This is a half day course followed by on job support and coaching as well as assessment. SCIRT only asks participants companies to pay the \$36 unit standard cost as well as provide the concrete saw and equipment. Comparable courses are available through some Private Training Organisations but the rates are not advertised a conservative estimate of the cost for an external half day course would be \$500. For SCIRT there are no overhead costs outside of the staff overheads.

SICRT Concrete Saw course cost (if unit standard option taken – otherwise free)	\$36
Regular Price	\$500
Financial Value add to industry per person:	\$464
Participants through SCIRT Training Centre Concrete Saw Training as at January 2015:	125
Value to SCIRT delivery teams and smaller contractors:	\$58,000

3.1.3 Service Location & Reading Plans Course

SCIRT Trainers deliver a half day course in service location often alongside a reading plans course, combined this is a 5 hour course with practical use of service location equipment, many participants request that the trainer attends their site following the course and provide further on job training. Comparable courses cost \$450*. The SCIRT course is free with additional costs being staff overheads.**

*NZIHT

** The SCIRT Training Centre utilises Cat-I and Gen-I for these courses, both of which were donated by a Delivery Team, often this equipment can be sources from suppliers for a reduced cost for training centres as a valuable source of marketing for them.

SCIRT cost of Reading Plans Course	Free
Regular Price	\$450
Financial Value add to industry per person:	\$450
Participants through SCIRT Training Centre Set Out and Survey Course as of January 2015:	205
Value to SCIRT delivery teams and smaller contractors:	\$92,250

Further financial value that this course demonstrates can also be identified. In 2014 SCIRT surveyed a range of participants of the Service Location and Reading Plans courses. The survey asked them:

“If you've attended the Cable Location or Reading Plans Course:

As a result of what you learned on this course did you avoid hitting a cable that you may have previously hit if you hadn't done the training?”

Of 36 respondents who had done either or both courses 8 people or 22% responded affirmatively to the above question. The average cost of a service strike as calculated at SCIRT is \$4875. From those surveyed it could be said that the course can attribute a financial value of \$39,000 as a direct result of the course to the participants surveyed.

If this percentage of 16% of team members who complete the service location or reading plans courses is transferred to the total number of participants who have done this training the following financial value to the SCIRT project can be determined:

Number of team members through Service Location or Reading Plans (not surveyed) at January 2015:	878
% surveyed who avoided a service strike as a result of training	22%
Average Cost of a service strike	\$4875
Value of 36 surveyed avoiding service	\$39,000
22% of trained team members avoiding a service strike as a result of training expected (projected) financial value	\$941,655

Sling and Lift

The Sling and Life Course has been designed to allow for a SCIRT Team member to learn about slinging and lifting loads under and plant and equipment on site. It is linked into the compliance Unit Standard 20875. Other industry providers charge \$450 for the course while SCIRT does not charge and Connexis charge \$36 for the unit standard to be loaded.

SCIRT Sling and Lift course cost:	\$36
Regular Price	\$450
Financial Value add to industry per person:	\$414
Participants through SCIRT Training Centre Sling and Lift Unit Standard 20875 Training as at January 2015:	503
Value to SCIRT delivery teams and smaller contractors:	\$208,242

3.2 Unit Standards Assessed

SCIRT assesses NZQA Unit Standards for SCIRT Trainees within the scopes of the SCIRT Training Team. Connexis passes these units or qualifications to the training team for assessment or the trainers uplift them. The usual cost of a unit standards assessment by Connexis is \$50. The overhead cost behind having the SCIRT trainers able to assess these units is \$265 each (one off) for a NZQA 4098

Qualification. This cost is covered by the trainers home organisation as a requirement of their job= rather than a SCIRT programme cost.

Unit Standards Assessed as of February 2014:	800
Cost for Connexis Assessment:	\$50
Cost of SCIRT Assessment:	Free
Value to SCIRT delivery teams and smaller contractors:	\$40,000

3.3 SCIRT assisted external courses

3.3.1 Lord Civil Locate and Identify Services

SCIRT has worked with Lord Civil to adopt and develop an industry best practise service location course based upon the use and interpretation of ground penetrating radar. This course is developed so that site engineers can identify what good quality service location should look like and increase the pro-active location of unidentified services on site. The course is offered to SCIRT team members for \$700 each and this is a reduced rate from the \$1,400* that would normally be charged for a two day course of this nature.

*Lord Civil information.

SCIRT placements at no cost to SCIRT	3
SCIRT placements at \$700 to Delivery Team Engineers	23 = \$16,100 (additional savings)
Total value of SCIRT places to delivery teams	\$18,200

3.3.2 SCIRT Leadership Course

The SCIRT Crew Leadership Course is run across Delivery Teams and ten places were run with forty eight reserved in 2015. A Contract for service has been signed with a training provider for 2015 at a reduced cost. The utilisation of the SCIRT Trainers also allows the course time to be reduced from 10 to 6 one day workshops.

SCIRT Saving Per Person on course	\$600
Total per person savings for 58 places	\$34,800
Hours of Crew Leader time saved (58 x places at 32 hours site time per person)	1,856
Savings at Average crew leader hourly rate \$30	\$55,680
Total value added	\$90,480

3.3.3 ICAM

In 2014 the SCIRT Training centre was able to organise an ICAM course across delivery teams which had two tangible benefits. The first was that participants were able to learn from each other delivery teams experience and the participants found that this enhanced their learning experience. The second was that teams that only had three people needing to do the course were able to benefit from SCIRT negotiating a rate of a higher number of team members.

The course SCIRT ran was at a rate \$1,410 below the expected market rate for a course out of Auckland so with disbursements and travel factored in as well as the savings of using the SCIRT Training room savings to the delivery teams were a minimum of: \$2,410.

3.4 Readily identifiable financial 'value added' to date:

Course / Projection / Action Undertaken	Financial Value Added
Site Safe Course	\$142,291
Concrete Saw Course	\$58,000
Reading Plans Course	\$92,250
<i>Avoided Service Strikes Surveyed (projected)</i>	<i>\$39,000</i>
<i>Avoided Service Strikes across all attendees (projected minus those on surveyed)</i>	<i>\$905,655</i>
Slinging and Lifting Course	\$208,242
Unit Standards Assessed	\$40,000
Lord Civil Service Location	\$18,200
Crew Leadership Course	\$90,480
ICAM Course	\$2,410
	TOTAL ACTUAL: \$651,873
	TOTAL LIKELY: \$905,655
	TOTAL LIKELY AND ACTUAL: \$1,557,528