Focus topics

- The situation
- Timeframe
- Fundamentals of the SCIRT Organisation
- Current status and Progress
- Keeping the Network operational
- Learning’s and Legacies
- Future Focus
Post Earthquake Situation

- Scope of the damage unprecedented in NZ
- Volume of damage increased 8 to 10 fold – Sep to Feb
- Rapid response needed to underpin the recovery
- Clients did not have resources available
- No single design or construction provider could cope
- Ongoing uncertainty, and associated risk
- Multi client and provider, collaborative relationship ideal

Transition from Emergency Response to Recovery

The fundamentals of SCIRT

- Purpose built organisation created as ‘delivery vehicle’ for client organisations
- Head contractual agreement - collaborative arrangement, 3 government and 5 private enterprise organisations
- Hybrid Alliance – integrated and independent
- Many other parties collaborating, but working under different commercial arrangements

The fundamentals of SCIRT

Scope of Work:

- Rebuilding the city’s earthquake damaged roads/structures, fresh water, sewer/wastewater and stormwater networks.
- Return of ‘Whole of Network’ to pre September 2010 condition in terms of:
  - Level of Service
  - Remaining Asset Life
  - O & M Cost
  - Standards and Specifications.

The fundamentals of SCIRT

People of Christchurch and New Zealand

CCC
CERA
NZTA
Integrated Services Team (IST)
Consultants

Design

Board

Management Team
Integrated Services Team (IST)

Value for Money

I.E.

Contractors and Suppliers
Fundamentals of SCIRT

Fundamental components of the model:
- All win or lose together; cannot allow any party to fail (shared ownership of risk)
- We must all collaborate to succeed
- Innovation or improvement must be shared
- Co-located integrated design delivery
- Construction delivery initially allocated equally, then allocated based on performance – delivery tension/competition

Programme of many independent, but interconnected projects:
- Programme management systems and processes in place
- Assess, plan, design, implement and coordinate the work programme (Dec 2016 completion)
- Maintain the operational capacity of the networks while rebuilding
- Projected annual delivery between $500 and $600 million

WHAT WE’RE HERE FOR:
Creating resilient infrastructure that gives people security and confidence in the future of Christchurch

Current status
- Delivery of design is productive and predictable – $50-60 million of construction work per month
- Ramping up the volume of work in the field – 1150 in the field, 150 Delivery management, 280 asset investigation, 180 designers, 110 Programme Management (1870 total)
- Peak monthly output $45 million per month
- Focus on demonstration of Value
- Intentional focus on maintenance of high performing, collaborative teams

Progress – March 2013
- Projects valued at $976 million currently being designed
- Projects valued at $384 million currently being constructed
- Projects valued at $97 million currently being handed back to the asset owners
- Projects valued at $194 million being estimated
Progress – March 2013

<table>
<thead>
<tr>
<th>Damage</th>
<th>Repaired</th>
<th>% complete</th>
<th>Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,320,375 m²</td>
<td>164,372 m²</td>
<td>14%</td>
<td>Road pavement laid</td>
</tr>
<tr>
<td>659 km</td>
<td>144 km</td>
<td>22%</td>
<td>Wastewater pipe laid</td>
</tr>
<tr>
<td>69 km</td>
<td>22 km</td>
<td>32%</td>
<td>Fresh water pipe laid</td>
</tr>
<tr>
<td>26 km</td>
<td>9 km</td>
<td>35%</td>
<td>Storm water pipe laid</td>
</tr>
</tbody>
</table>

Nature of typical road network repairs

No “one solution fits all”
- Bulk of repairs will be as a direct result of 3 waters work
- Occasional full pavement reconstruction
- Can’t design resilient pavement for high liquefaction zones
- Greatest damage in ‘Red Zones’ – not to be repaired
- Coordinating with CCC Capital and O & M works programmes

Whole of Network Level Of Service to pre Sep 10

Working to keep the Transport Network flowing

- Infrastructure Rebuild is only one piece of the Bigger Picture
- SCIRT impact is widespread – approx 150 sites operational
- Collaborating with network owners/operators (CCC, NZTA)
- Network owners/operators collaborating with each other

Liaison with CTOC

Scheduling of the work

- Prioritisation of the work is a key component of the Value Proposition
- Prioritisation tested for impact on Traffic Network
- Communication is needed at many levels using many tools
- Collaboration to:
  - prevent ‘double up’ of effort
  - Provide consistent key messaging

Programme Level Prioritisation
Catchment Level Prioritisation

Approx. 4 – 5 $10m projects per catchment
12 – 15 Crews per Catchment
10-12 catchments in construction concurrently
40-50 concurrent projects under construction
Up to 150 points of contact with network

Use modelling to predict and manage the impacts

Network level Congestion Mapping

Network level

Network level bridge prioritisation and sequencing

Project Level Planning/modelling
What we have learnt....

Connect

Set expectations

Learning’s / Legacies

- Speed of response to restore essential services crucial
- Collaborative style commercial model brings all parties together to:
  - manage shared risk,
  - resolve problems
  - deliver common goals and objectives
- Systems, procedures and management plans in place for future (IP belongs to clients)

Learning’s / Legacies

- Resilient infrastructure
- A safer construction industry
- Innovative design solutions for wider NZ and beyond
- Productivity improvements through smarter work methods – design and construction

Future Focus

- Deliver a ‘whole of network’ outcome that provides an equivalent level of service, asset life and O & M regime to pre-September ’10 conditions
- Demonstrate Value – means different things to different stakeholders
- Keep a focus on ‘critical resources’
- Contain escalation
- Balance work schedule to maintain an operational transport network
Final thoughts

**Collaboration – Transporting us through**

- The Christchurch rebuild will only work if the community, Public and Private organisations collaborate and communicate
- If we keep doing what we have always done, we will get the same outcome
- The SCIRT organisation is an example of collaboration working
- We owe it to Christchurch and New Zealand to work together to make something special happen