

IPENZ TRANSPORTATION GROUP 2013 CONFERENCE

The Road to Recovery

15 April 2013



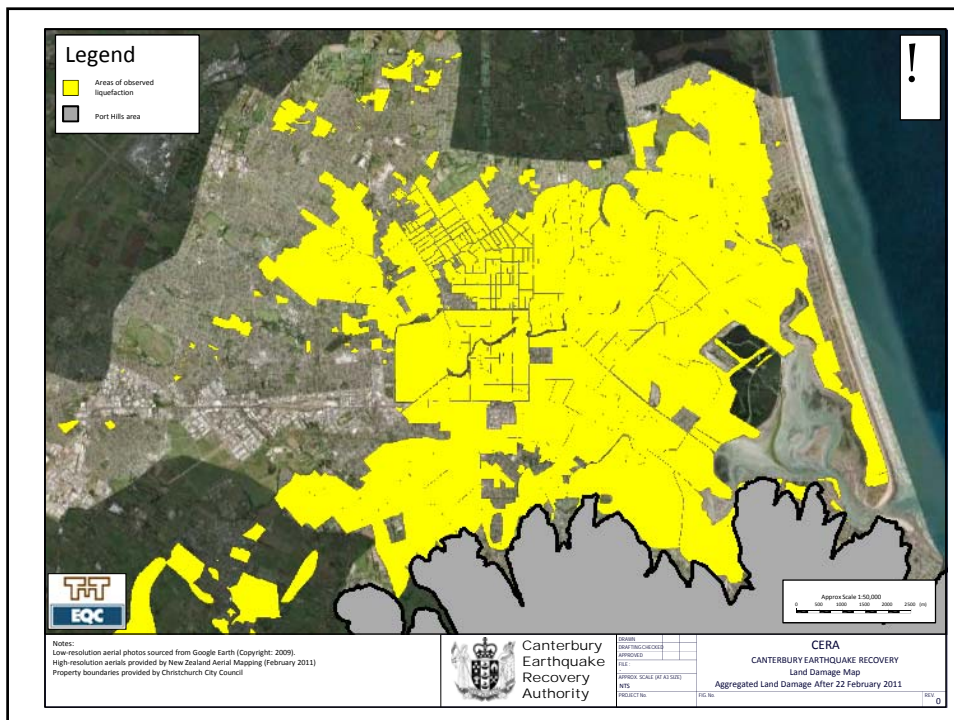
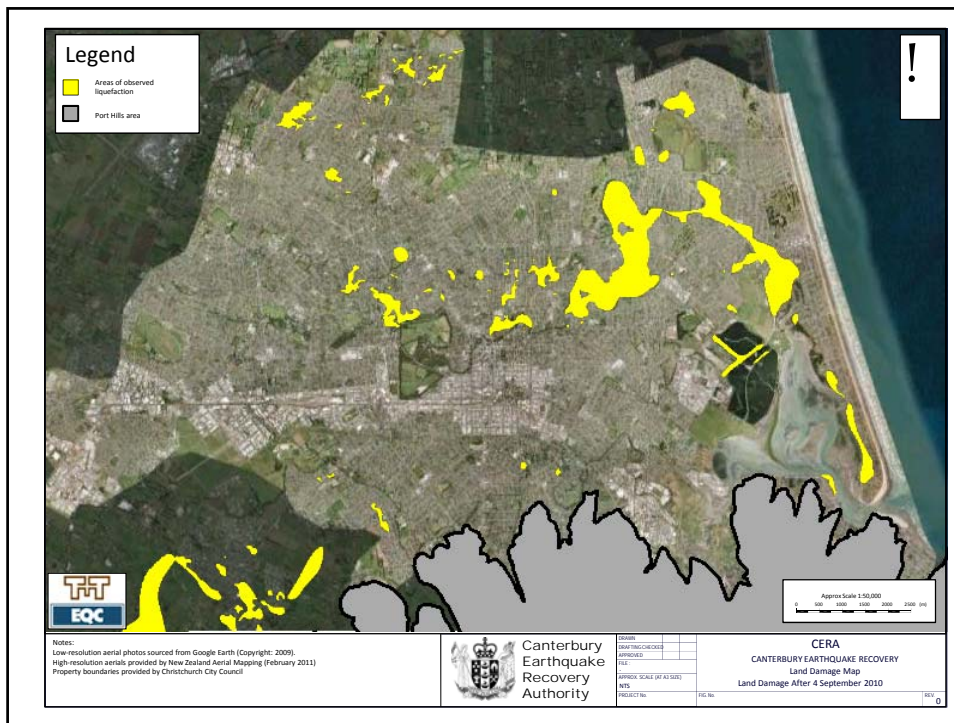
New Zealand Government



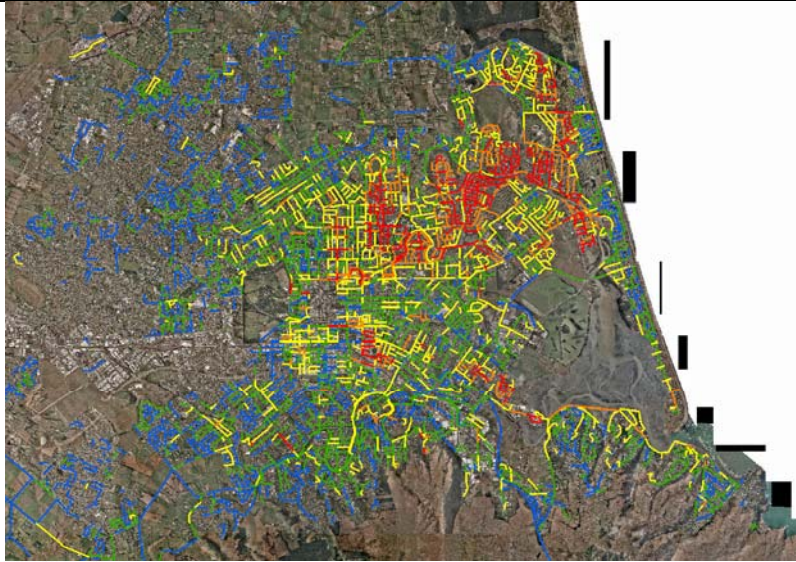
Focus topics

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





Pavement Damage



SCIRT
Rebuilding Infrastructure

Christchurch
City Council

CERA
Recovery & Resilience

ALL TRAFFIC AGENCY

city&care

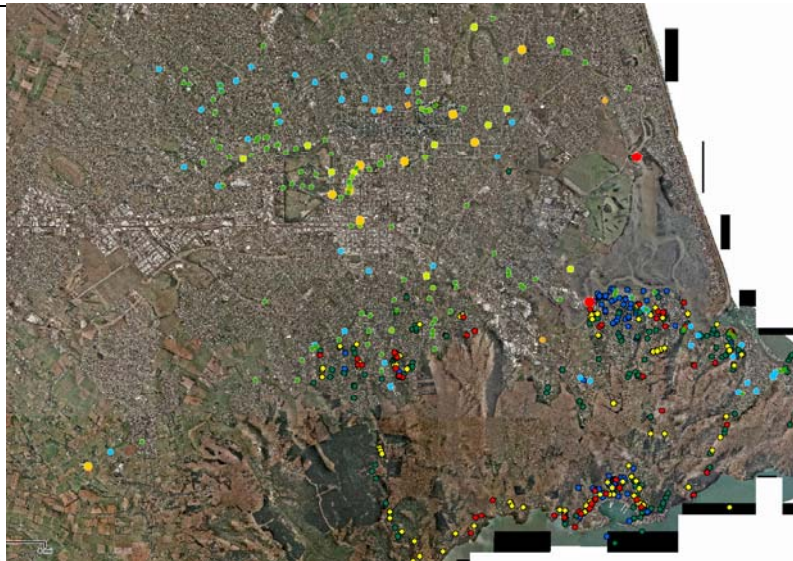
Downer

Paton Hagan

MCCOMBELL
DOWELL

Fletcher

Structures Damage



SCIRT
Rebuilding Infrastructure

Christchurch
City Council

CERA
Recovery & Resilience

ALL TRAFFIC AGENCY

city&care

Downer

Paton Hagan

MCCOMBELL
DOWELL

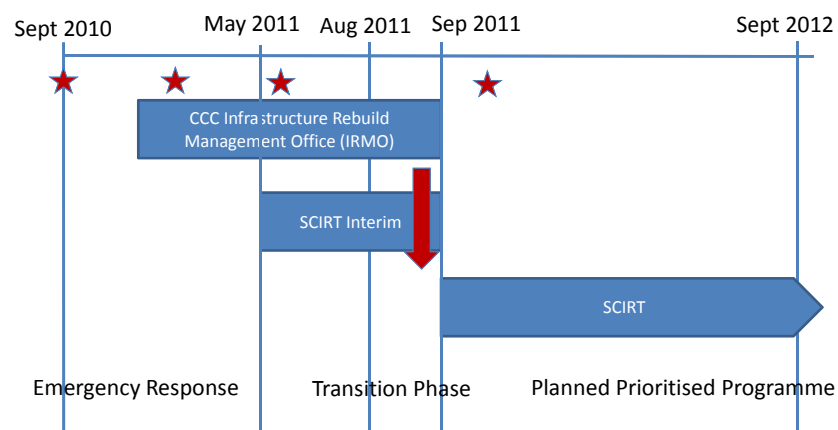
Fletcher

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



SCIRT
Rebuilding Infrastructure



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.

SCIRT
Rebuilding Infrastructure

Christchurch
City Council

CERA
Recovery & Resilience

ALL TRANSPORT AGENCY

city care

MDowner

Pulson Hagan

MCCOWELL
DOWELL

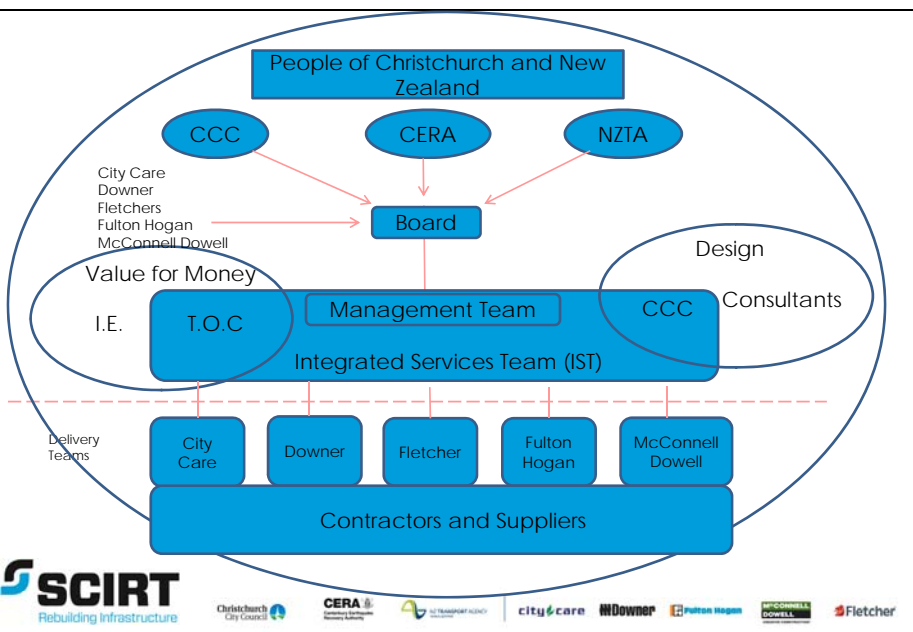
Fletcher

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



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



Fundamentals of SCIRT

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 mill



Fundamentals of SCIRT

- Clearly defined process – investigation to Handover
- Purpose built systems and procedures
- Intentional Plan to drive collaboration
 - people from 20+ organisations - IST
 - vision, values and behaviours
 - Create environment of collaboration to achieve goals
- Outcomes focussed – team goals measured and reported



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

179	Projects valued at \$976 million currently being designed
109	Projects valued at \$384 million currently being constructed
185	Projects valued at \$97 million currently being handed back to the asset owners
36	Projects valued at \$194 million being estimated



Progress – March 2013

<u>Damage</u>	<u>Repaired</u>	<u>% complete</u>	<u>Network</u>
1,320,375 m ²	164,372 m ²	14%	Road pavement laid
659 km	144 km	22%	Wastewater pipe laid
69 km	22 km	32%	Fresh water pipe laid
26 km	9 km	35%	Storm water pipe laid



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*

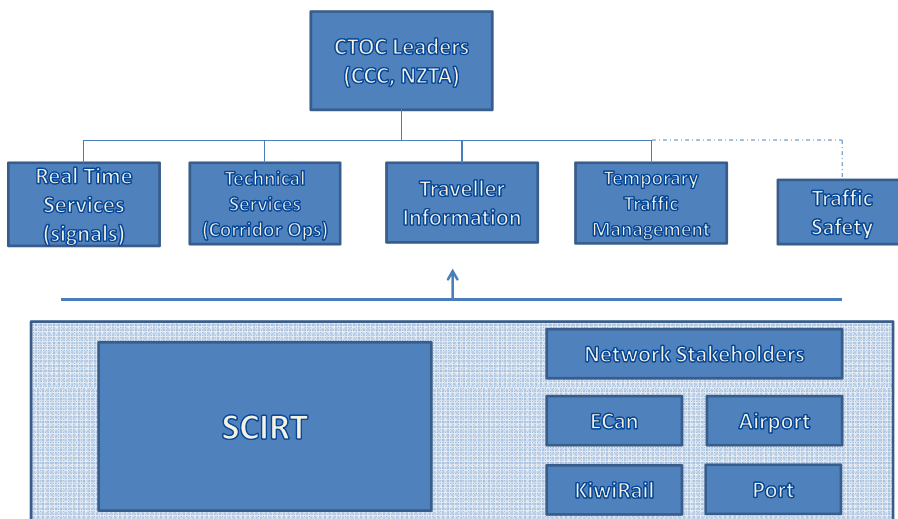


Working to keep the Transport Network flowing

- 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

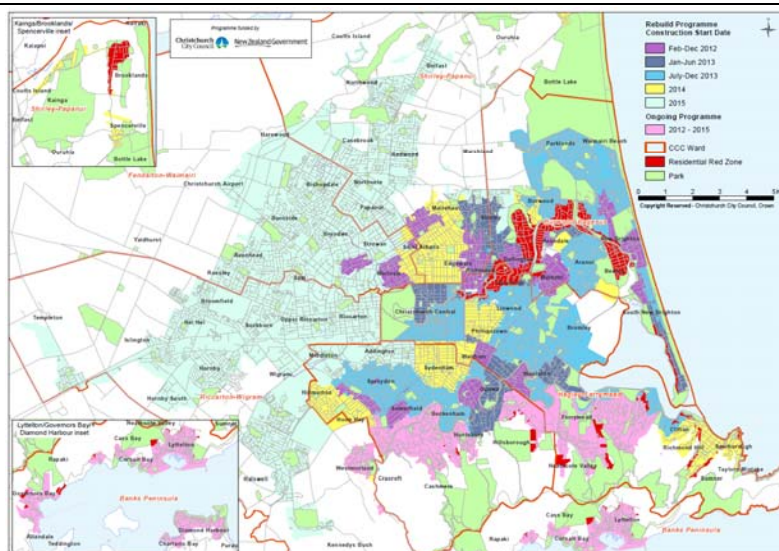


Scheduling of the work

- 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

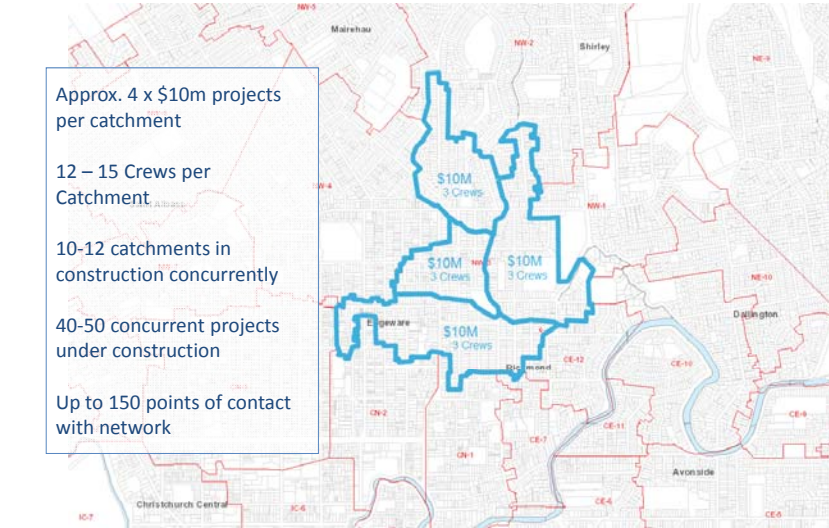
Approx. 4 x \$10m projects per catchment

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



SCIRT
Rebuilding Infrastructure

Christchurch
City Council

CERA
Recovery & Resilience
Recovery & Resilience

ALL TRANSPORT AGENCY

city&care

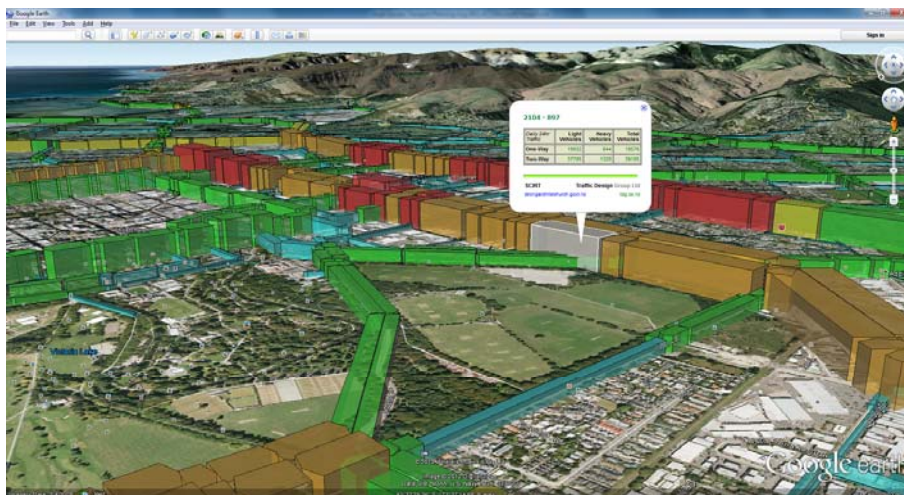
MDowner

Paton Hagan

MCCOWELL
DOWELL

Fletcher

Network level



SCIRT
Rebuilding Infrastructure

Christchurch
City Council

CERA
Recovery & Resilience
Recovery & Resilience

ALL TRANSPORT AGENCY

city&care

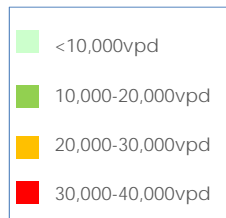
MDowner

Paton Hagan

MCCOWELL
DOWELL

Fletcher

Network level bridge prioritisation and sequencing

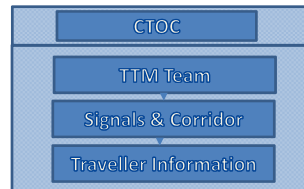
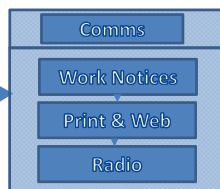
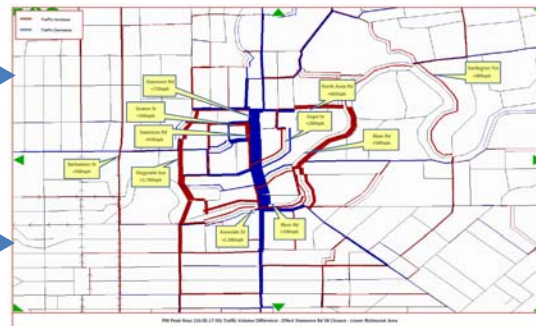


Project Level Planning/modelling

Analyse Individual Workstages

Analyse Concurrent Workstages

Communication & Mitigation



Single tool for informing road users

The screenshot shows the Transport for Christchurch website. At the top, there is a navigation bar with links for Home, Map, News and events, Travelling around, Useful info, About us, and Contact us. Below the navigation bar, there are four news items:

- UPDATED: Works on Moorhouse Avenue starting this week (April) consider alternative routes**
Work to repair and replace stormwater pipes on Moorhouse Avenue will impact on road users' journeys through April.
Read more | Last updated: 10:02 am, April 8, 2013
- Asahi Drive, Darwood, part of state highway system, road closure from Monday 8 April**
As part of SCIRT's rebuild of Asahi Drive, a detour is going in place from Monday 8 April during work hours.
Read more | Last updated: 7:52 am
- Rebuild Zone cordon reductions**
Pedestrians will have access to Columbia Street between Lichfield and Herbert Streets from 5pm today (Friday 6 April) as further reductions in the Rebuild Zone cordon occur.
Read more | Last updated: 2:22 pm, April 5, 2013
- SCIRT traffic update**
Update on SCIRT work across the city.
Read more | Last updated: 1:00 pm, March 28, 2013

To the right of the news items is a map of Christchurch showing various road works locations marked with red and blue icons. A key on the right side of the map identifies the icons: Major Works, Road Closures, Weight Restricted, Travel Speed, and Bypass Information. At the bottom of the page, there is a footer with logos for SCIRT (Rebuilding Infrastructure), Christchurch City Council, CERA, Transport Agency, citycare, MDowner, Patten Hagan, MCDONNELL DOWELL, and Fletcher.

Single tool for informing road users

The screenshot shows the TMP FOR CRICH website. At the top, there is a navigation bar with links for HOME, TMP MAP, NEWS & INFO, DOWNLOADS PAGE, TUTORIALS, and SUBMIT A TMP. Below the navigation bar, there is a search bar for "Find Address" and a "LOGIN" button. The main content area is a detailed map of Christchurch showing a network of roads with blue lines and markers indicating road works. At the bottom of the page, there is a footer with logos for SCIRT (Rebuilding Infrastructure), Christchurch City Council, CERA, Transport Agency, citycare, MDowner, Patten Hagan, MCDONNELL DOWELL, and Fletcher.

What we have learnt....

Connect with the public
and explain the what we are
doing and 'why'

Early contractor involvement
(ECI) across all parties

Set expectations

"Allow extra time for your
journey"

"Roadworks = Progress"

Need to
COLLABORATE with
other parties



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



Questions ?

