

SNUG MEETING - 14th NOVEMBER 2006

Day 1:

SCATS UPDATE

Timaru:

12 sets of signals, 8 on SH, 4 local, 2 not coordinated, 10 coordinated .
Bridge monitored by dial-up.
Adding 3 or 4 sets of signals in the next 5 years.
Fire Station.
Truck detection on one lane bridge.

Tauranga:

21 signals, 20 on SCATS 4 only monitored.
Hewletts Road 4 laning + Harbour Bridge duplication resulting in additional signals (5 sets).
CCTV camera installation.

Hamilton:

49 sites on SCATS.
3 new pedestrian signals, 2 more planned in near future.

Wellington:

126 sets of signals, 20 on SH – all on SCATS
50 fully adaptive
5 new sets /yr.
Wind issues with audio units on ped signals.

Christchurch:

1 new set of signals this year.
Next year 2 sets planned for Blenheim extension
1 set planned on SH out of Hornby.
248 sets of signals– all on SCATS.

Whangarei:

22 sites on SCATS, 3 are pedestrian signals
6 sets are on SH
2 to 3 new sets are in the planning stage.
Using SCATS to monitor site with low railway bridge.

Dunedin:

61 intersections all on SCATS - fully adaptive.
No new planned – just upgrade.

Nelson/Tasman: 13 sets of signals, 12 SCATS
1 ped
New TNZ intersection + 2 in Richmond. Additional 3 sets
in 3 yrs.

Rotorua: 14 sets, 7 on SCATS
Future plan for 3 or 4 additional sets

Invercargill: 28 sets of signals
2 more coming on line this year mostly own
cable/Telemetry sites

Napier: 16 all on SCATS
2 of these only monitored.

Palmerston North: No report

New Plymouth: 21 sets of signals, 15 on SCATS
Want 3 more on SCATS.
Bell Block bypass being built most on SH – playing catch
up.

Auckland: 7 SCATS regions
654 sets of signals
573 on SCATS

Ramp signal project – 61 ramp signals on motorway – 2 yr roll out.
Managing m'way & arterial network. 12 new CCTV's as part of ramp network.

105 cameras in operations and 30 waiting comms. New installations 1 per
week.

Variable messaging for ramp metering controlled through SCATS controller.

Also using for TMP on construction sites.
Bus Priority – RAPID.

Update from Ken McCallum RTA.

Summary of “political” issues affecting RTA in NSW.
CE forced to resign of Harbour tunnel.
RTA being blamed for all traffic problems.

Restructure:

- New CEO – career RTA person
- Civil Engineer
- Directors retired
- Restructuring and getting back to where they are
- 7 directorates
- Amalgamated
- 6000 employees
- Conglomeration of activities
- ITS – builds traffic light – RTA has no control. In future traffic systems branch will control.

Next couple of weeks tidal flow Victoria Road in Sydney.
Traffic Systems branch doing all the electronics.
Tidal flow operations will become flavour of the year.

Traffic. Systems Branch - 65 employees - 35 contracts
Ptips/Tmis

Working with Auckland TMU on ramp metering – if it works, will transfer to Sydney/Melbourne. **(Peter Lowry assisting)**.

Network performance development – Q-Paramics, VISSM AIMSUN.
Teaming up to work together. Off line applications so don't have to go into the core of SCATS to get your data.

SMS Txt messaging in SCATS region 6.2. eg. 250 alarms available in SCATS – can have sent to cell phone/blackberry.
It is not easy to develop as everyone wants something different. Running for 6 months on Jim Giffin's blackberry.

Controller type approval – onerous task.

12 Months to get TYCO Eclipse controller through the approval system.

SCATS very unlikely to ever put you into 'conflict' but a controller will.

Public Transport

- A\$90m public transport priority.
- All buses tagged. Software up and running
- To get Sydney people out of cars and into buses.
- Exclusive lanes and q jump options for buses.

TMIS Programme

Map Based System – can install in any city.

- Extensive SCATS information – overlay system
- Subsystems/Marriages
- Congestion current/unusual
- Phases
- All SCATS overlays available
- CCTV layer double click on camera to get camera control and picture up
- Driven off TMIS map
- VMS → signs locations → message → edit.
- TMIS will talk to whatever applications you already have – just write the interface software.
- Incident management using TMIS.

Very useful for cities – available early next year.

Ramp metering software for Auckland – First test as not currently used in Australia.

Plus tidal flow options.

New Zealand and Singapore are direct customers therefore we have surety of service from RTA.

Looking to set up SCATS user groups around the world.

Tidal flow – political decision. Centre lane direction change – time of day related.

Victoria Road had NRT – had to turn left to turn right.

Medians will need to come out.

Gantry signs ↓ X X

Roger Dunn sees tidal flows will become the only available option to manage tidal capacity issues.

Vaughan Penny –Presentation on SCATS coms over locally owned network.

Started 2 yrs ago 56k modem slow/expensive.

Looked at options - ⇒ Webcams

Christchurch has lots of very good copper cable.

Discovered planet router ⇒ worked well on copper network

Tested on microwave ⇒ worked therefore could go outside cable network.

Partnered with BCL to Contractor's workshop – can cover huge area
45 cameras 8 TNZ

But only had one computer.

Switch → fire wall → Council Computer

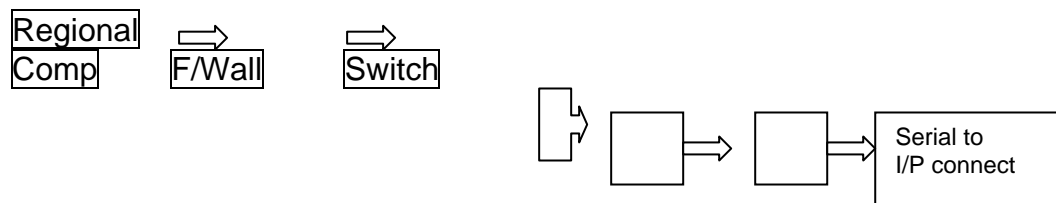
Multiusers/emergency management/can put police onto it.

Very successful and thrilled.

Didn't set out to create a comms network. Telecom had asked Christchurch to get off DP's.

How can we make SCATS work over Ethernet?

Vitual comms ports –



Camera site \$7500

Costs on our own copper network \$0

BCL \$90/mnth - 5 Gb data

1. No ongoing costs to network provider (Telecom)
2. Multiple devices
3. All devices operate at same time
4. Flexibility to connect where you like

RTA Presentation – Jim Giffin /Ken McCallum

TMIS - Demo of Layers
PTIPS - Set business rules in places as user definable

Key is on board ticketing machine for correct vehicle id and transferred to PTIPS.

In Sydney 43 private bus companies.
Reducing to 12 different companies.

Bus owner can have his own system to monitor service.

Bus platooning → forget bus priority. Wouldn't work in CBD.

Potentially 50% of priority request would be refused due to SCATS recovery times – multiple priority requests don't work in CBD.

Can run historic reports – adjust time tables/services.

Will get ability to view bus arrivals at stops etc → linked to railway arrivals and departures.

GLR GPS - route set ups
 - real time/dynamic

New V. SCATS 6.5.2

Overview from Ken McCallum

Central Manager – Region

SCATS feedback

Tim Kirby of Wellington City wants lamp report for:

- All lamps
- All intersections
- Wattages

Peter Jacka – Presentation - SCATS Around the World

80 cities and 18,000 intersections

Large proportion using Cellcom – cell connection costs \$20 - \$40 month

Blair Monk - Presentation - Traffic Signal Design

Auckland TMU background

Issues:

- Inconsistent designs
- Idiosyncrasies
- Incorrect or poor detailing
- No details on how the signals were to operate
- Needed agreement on the above to provide across the board consistency

TMU are reviewing 100 designs per year

Have adopted:

For 60 km/h speed limit and below - LED's and **all** lantern displays 200mm

For 70km/h and above - LED's 300mm on overheads and 200mm on low level.

Blair asked who Nationally wants a copy of the TMU traffic signal design standard?

Grant Gordon – recommended posting on website and therefore most updated version always available.

Recommendation from Queenstown to get SNUG approval of the document

Approved document should apply to all new designs and upgrades of existing sites. Be aware that applying to minor upgrades may be more costly if the Signal Groups are wrong.

Action:

Put on website as draft for comment and evolve as working draft. Note variances/comments from industry.

Jim G. RTA will not change.

Andrew Hunter – Presentation – Software development

Version 11 Red light running on every “personality” is available.

Building in redundancies.

Design ⇒ personality on software from CIS
Outwardly simple but can be quite complex ⇒ Std.

Prepare Plan ⇒ CIS get peer reviewed ⇒ personality created and tested.

- Contractor instruction
- Signal Group. definitions
- Detectors (which type and calls what)
- Time Settings
- Special purpose times/special logic
- Conflict matrix
- All red calculation sheet

Action:

TDG have developed similar system/processes and sheets – happy to combine knowledge.

Ross T. wants it adopted – good safety benefits but a few more \$'s than old way.

Contract to require independent test and sign off on e-prom bench test.

/ tells software writer what you want.

CIS purpose – test it against something

\ gives contractor important information

Action:

Put on website as discussion and feedback item.

Traffic Design Group – Presentation - Training on Traffic Signal design

Funding from Transit NZ – Course to run New year.

Roger Dunn/Jim Giffin/Ray Moriarty

- What do people want to see?.
- Not duplicate SIDRA
- More about intersection selection/design

Starts with Rays training course.

Objective: In a 4 day course a beginner will have progressed to design competence.

John Gottler - use TMU designs
Ken Lee-Jones - difficult to manage 4 day training with work committment
Signalised R/A 2 day OK prefer 2 x 2 day
Axel Wilke. - content stops & go's of Traffic signals
- Note: - Bus priority (not covered in Signal Groups)
John Gottler offered a hand.

Action:

Feedback to Mark A at TDG if have feedback.

LTNZ - UPDATE Andrew Edgar

Left turn versus U turn conflict

Believe they have done all they can do in rule.

Should just be able to say that Right Turn arrow does not give 'U' turner right of way.

B. Conaghan - Says R.T. rule applies.

Action:

LTNZ – to re assess as they haven't fully grasped the conflict issue. Which is - that the right turn arrow display is up at the same time as the left turn arrow display. A U turner turns because they have a right turn arrow and are not prohibited from making a U turn and turns into a conflict with the left turner turning on a left turn green arrow and who has legal right.

Refer LTNZ presentation for agenda minutes.

Flashing Yellow arrow trial

There was discussion on problem and therefore need for a trial.
The United States have a standard, which needs a 4 aspect display.

- O Full RED
- O Full YELLOW
- O Flashing YELLOW
- O Full Green

Bruce C – endorses a trial

Selwyn G. - concern that the NZ psyche sees the yellow as a signal that creates a desperate hurry to get through.
(There is opportunity to simulate at Waikato Uni)

Mike Day from Canberra was supposed to do a trial.

Support to carry on with trial.

Bruce Robinson – can post the US info.

Other trials

- Flashing Yellow warning studs
- Red signal countdown
- Red light warning control
- Ramp metering

Action:

These proposals go to TCD reference group built around SNUG committee.

Day 2:

Mark A Presentation – Signalised Intersection Capacity versus Safety

Particular issue – Peds in conflict with right turners

Changing the phasing to protect peds affects capacity significantly – delays/levels of service.

In the example presented – no further opportunity to obtain further land to reconfigure the intersection.

Discussion

Hamilton experience - 12s late start to protect peds on left turn

Axel Flashing yellow lantern (big sucker) extra lantern – flashes when ped phase is running.

Vaughan. P. Ped LED strips – line of LED's that flash at the same time as the flashing red man.

Bill. S. Few peds – have separate side road phases and a combined phase. When no peds – run combined – peds split phase.

Peter. E. If want to split side road – change lane assignment.

Grant. G. If room in side road – introduce more islands.

Sum Up Safety approach is strong
Mid ground option of Bill. S's.

TDG have considered the options. Continual trade offs for safety v capacity.

Cliff. G. In final analysis – Peds should be separated by overbridge.

Peter. E. Left turn slip lane should have been allowed for early on.

Ross. T. Signal Audit Update

Traffic Signal Operational audits that were being run by Ian Appleton have stopped –

Peer review of signal design – not seeing a big uptake.

More Safety Audits are being done with a Traffic Signal expert in the team.

Wayne - Need to go through LTNZ and push through.
 - RCA's won't do it if they don't have to.

Need Safety Audit Action from LTNZ

TNZ – Auckland are making sure safety audit is in the Principal's Requirements.

TLA's have a responsibility in terms of design.

Traffic signal safety audit – Should be in the SMS.

Some TLA's have procedures, but aren't using them. Some have nothing.

Bill. S. - TLA need to specify that audits are to be done etc.

Action:

Bill. S. to review and update the Ron Minnema flow chart and put on website.

Leon W. - Experts need to be on board from project beginning.

Axel. W. - Presentation - Making a congested offset signalised T intersection work

Riccarton/Clyde/Wharenui

Mid block queuing + side street traffic can't get in and blocks.

Paramics can interface using "b+FUSE" and WinTraff.

Therefore SCATS controls intersection and simulation match – so model actual

Use software appropriate for task – don't make do. – engage others with skills you need

Understand what the limitations are of software.

Angus new personality for new intersection in the model. Existing should be on file.

Calibration – SCATS ramps up minima, so set up and start at where you know it will be.

Mark A Where is RTA going?
- No change

RTA wrote signal type controller interface + PC based version.

Grant Gordon Presentation - Pedestrian calls on staged crossings

2nd stage call – go in when 1st stage green man comes up.

Axel Caution don't apply same principle to getting cycles across a staged xing.

Inadequate storage on Ped storage splitters.
Walking school buses.

Kelly Hughes – Presentation - Puffins revisited.

Puffins/Toucans/Pegasus
In pavement lights

Conservative B/C

Avoid phantom demands

Operates now in Santa Anna

Useful Note - guide dogs still see the blasted old road markings so if you remove zebra crossing marking they still see it – so need to re seal.

Discussion on crossing detections.

Reminder on RTS14 on tactile tile placement

Bruce Conaghan – presentation - Part Time Signalised Pedestrian Crossings on Left Turn Slip Lanes

Peds + L.T. slip lanes.

Part time signals

2 arrow red + yellow

Action:

Discussion Doc to go onto SNUG website. LTNZ can put through as a TCD rule change.

4 trial sites in mind.

Meeting agreed to support trial.

Mark A

Need a coordinated approach to a managed signals network.
All agreed it was needed. Some have a coordinated approach /some don't.

Leon & Michael – Presentation – Ramp Metering update

Auckland motorway system – progressive installation of ramp metering signals on on-ramps to maintain/increase motorway capacity
TNZ “sales” video.

Grant Gordon **Where do the cycles go? - Cyclists at intersection**

John Ryan Where examples not suitable for cyclist –provide off road.

Ross McCoy Over 20,000 vpd cyclist shouldn't be there.

Chris (PNTH) Drop the speed limit for a sharing friendly environment.

Selwyn green Cyclists are already off the motorway – we could get them off high speed arterials as long as an alternative route is available

Andrew Edgar People are not averse to alternatives.

Action:

Feedback on all trials

Mark. A.

Comments/suggestions on Traffic Signal Group

- Wants to see it as a more structured and professional group.
- Better links with Transportation group.
- Set up committees – report back
- Funds? (IPENZ Transportation Group holds Traffic Signal Group funds – Axel – because SNUG is a sub group of Transport group.
- All SNUG members should be paid up members of IPENZ Transport Group.

Grant. G - being asked to report back on various issues and SNUG group response is slow due to time frames.

Bill. S. doesn't really want much changed. Yahoo website not used enough by the group – it is up to us to make it work.

General consensus that the informal format should be retained. It encourages a more relaxed workshop where ideas are shared and we assist each other.

Blair Monk & Andrew's Hunters papers –to be posted on website for comment by group →committee decision →IPENZ Transport →Roundabout Mag.

Task to for incoming committee to revisit the way forward for Traffic Signal Group.

Committee

Ross Thompson
Ann Fosberry
Bill Sisson
Peter Evans
Paul Donegan
Bob Gibson

Agreed 2 additional

Nominations: Hjarne Poulsen
Rob (NSCC)

Next workshop in 12 months to be in Rotorua – John Ryan at Sigma as Rotorua liaison person.