









## **Downer** Relationships creating success

### **ITS across New Zealand**

## **Traffic Signals, ITS stuff & eSigns**





## **All the things**



- Traffic Signals:
- Dunedin (DCC & NZTA)
- Regional Wellington (NZTA, KCDC, Porirua CC, Both Hutt city councils)
- Christchurch (project work for CTOC)
- Auckland

## More of the things



- VMS Signs from New Plymouth to Dunedin
- Support ITS into NOC contracts across the country
- Irrigation Scheme Rangitata in conjunction with NIWA
- Milford Highway full automation and control systems
- Internal Water and Telco electrical work

## Measure / Control / View Anything – Anywhere - Anytime





**Downer** Relationships creating success

## **Remote Communications** Getting "IT" done in the harshest and most





# **Data Representation**

**Downer** Relationships creating success



Real-time data collected from weather stations displayed graphically allow onsite Avalanche Technicians and key stake-holders to make informed decisions on the weather and snow pack conditions. Historical snow



A custom application 'RED' has been developed by our in house team to provide information on the current road condition. These screens are found in Hotels, food establishments, service

#### Otago SH87 Tiroti

Air Temperature 11.7°C Relative Humidity 51% Rainfall Omm Wind Degrees 160° Average Wind 11.5km/h Max Gust 24.6km/h

Otago SH8 - Beaumont Hill

Air Temperature 12.3°C Relative Humidity 66% Rainfall 0.6mm Wind Degrees 355° Average Wind 6km/h Max Gust 19.9km/h

#### Otago SH 93 Owaka turn off

Air Temperature ERROR® Relative Humidity ERROR® Rainfall 2.8mm. Wind Degrees 219° Average Wind 17.2km/h Max Gust 37.6km/h

Otago SH83 Otematata Saddie

Air Temperature 9.6°C Relative Humidity 53% Rainfall 0mm Wind Dagrees 144' Average Wind 29.7km/h Max Gust 51.4km/h Otago SH1 Dunedin Southern Motorway

> Air Temperature 10.5°C Relative Homidily 70% Rainfall 20.8mm Wind Direction 160° Average Wind 5.1km/h Max Gust 18km/h

Otago SH85 Red Summit

Air Temperature 7.9°C Relative Humidity 64% Rainfall Omm Wind Degrees 277° Average Wind 25.8km/h Max Gust 42.4km/h

### Tue 29th October 2019

14:16:54

Last data received: 2019-10-29 14:16:00



#### Otago SH90 - Pomahaka River

Air Temperature 10.8°C Relative Humidity 76% Rainfall 2mm Wind Degrees 249° Average Wind 26.6km/h Max Gust 42.3km/h Otago SH94 - Gorgehill

Air Temperature 8.3°C Relative Humidity 74% Rainfall 5.2mm Wind Direction 239° Average Wind 16km/h Max Gust 24.5km/h

## Lindis Pass five day weather forecast



Secure the remaining part of the chain.

@ AccuWeather Wednesday



0.1/14.8 °C 67% percent chance of rain 18.5km/h W Mostly cloudy, afternoon rain

More information: www.onthemove.govt.nz

0800 4 HIGHWAYS (0800 44 44 49)

Thursday



2.4/14 °C 4% percent chance of rain 13km/h WNW Sun and clouds 5.3/16 °C 11% percent chance of rain 9.3km/h WNW Mostly cloudy

Tue 29th Oct 2019 14:18:54 Tuesday



SPORT

### Temp: 7.27 °C Rain: none in last 30mins Last updated: 18 minutes ago

Friday

Saturday



10.7/27.2 °C 3% percent chance of rain 13km/h NW Mostly sunny and warmer



# Te Anau - Milford

## **OPEN**

### ROAD CLOSING AT 5PM HOLLYFORD RD / 5.30PM CHASM

WEATHER FORECAST FOR TOMORROW MEANS THERE WILL BE RESTRICTED OPENING HOURS FOR WEDNESDAY DUE TO INCREASED AVALANCHE HAZARD. UPDATE AT 5PM

#### NEXT UPDATE: 05:00PM 29 OCTOBER 2019















## **End to End Project Support and Management**



VMS, RIAWS, SID, DFS, control centres, weather stations, remote sites, slope stability monitoring



## **Slope Stability Monitoring in Real Time**



- Visualisation of movement
- GNSS Continuous GPS
- Tilt sensors and Inclinometers
- Vibration / slope failure warning
- Creep sensors
- Robotic total stations
- Integration with Environmental Monitoring



B) 6.73°C 5) 9.59°C 9.59°C C) 19.03.30.18	3.23v 12 nodes 5.3124* V.15.6881* 9.3024mm	36 Min 0.007 <sup>2</sup> 36 Min 0.001 <sup>4</sup> 36 Min 0.013mm	Rum 1 listoric 1 Day 0.011 <sup>2</sup> Historic 1 Day 0.008 <sup>4</sup> Historic 1 Day 0.297mm	Range 1 Wisat 0.014* Range 1 West 0.025*	1 Yibar 8.066° 1 Yibar 8.084°
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2)			Historic		
		30 Min	1 Day	1 Week	1 Year
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5)			Historic	Danas	
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0			Historic	Panas	
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n	2 2		Historic	France	
	mmin	30 Min	1 Day	1 Week	1 Year
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18.02°C	5.5923°	0.002*	0.017*	0.026*	0.072*
9) <b>– P</b>	Pro pro -		Historic	Danas	
19 03:31:48		30 Min	1Day	1 West	1 Year
16.11°C	0.7338"	0.000*	0.007*	0.010*	0.069*
5)	3.63y 9.43°C				
19 03:31:30	3.63v 9.43°C				
3) 19 03 32:06	3.59v 6.26°C				
19 03:32:06	3.53W 6.25°C				

## What's around the corner?



- Integration of IVA (Intelligent Video Analysis)
- Automation of VMS warning from weather station sensors & IoT
- Improved visualisation through CCTV of Journey Routes
- Use of smart data to improve road safety from new and existing infrastructure
- Maintenance of the existing systems
- Development of new technologies











## LUNCH

# Same instructions as yesterday

## Food goes in mouth