Unsealed Road Inspections

Mark Chamberlain – Roading Manager - *Kaiwhakahaere Huarahi*

Ashburton District Council - *Kaunihera ā-Rohe o Hakatere*

Unsealed Road Inspections

Presentation to cover three main areas.

- Why we did it
- How we did it
- The results

What we did and why

Follow up from the presentation to the 2019 LVR Workshop in Invercargill by Lee Hautler and Roslyn Strowger from HEB Construction.

- Council were wanting a measure for the condition of our unsealed roads.

- Discussed with our maintenance contractor HEB about ways to capture the condition.

- Easy to use method carried out as part of routine inspections by both contractor and council staff.

How

- Created a UDT in RAMM with five factors assessed.
  - the number of potholes (none, some, lots)
  - extent of corrugations (none, minor, severe)
  - shape/camber (good, average, flat)
  - quantity of running course (good, average, bare) and
  - drainage (good, average, poor).

- To have a score calculated for each factor the assessed condition had a weighting of 1, 2 or 3 for all the factors except drainage which was given a weighting of 2, 4 or 6 (drainage was given a higher weighting because the impact drainage can have on road condition).

- An overall score calculated with a good (<8) average (>7, <13) or poor (>12) result.

How

- Cover the whole unsealed network every six months.
- Inspections by both Council and contractor staff.
- Using Pocket RAMM to rate factors, take photos, make comments and create dispatches where necessary.
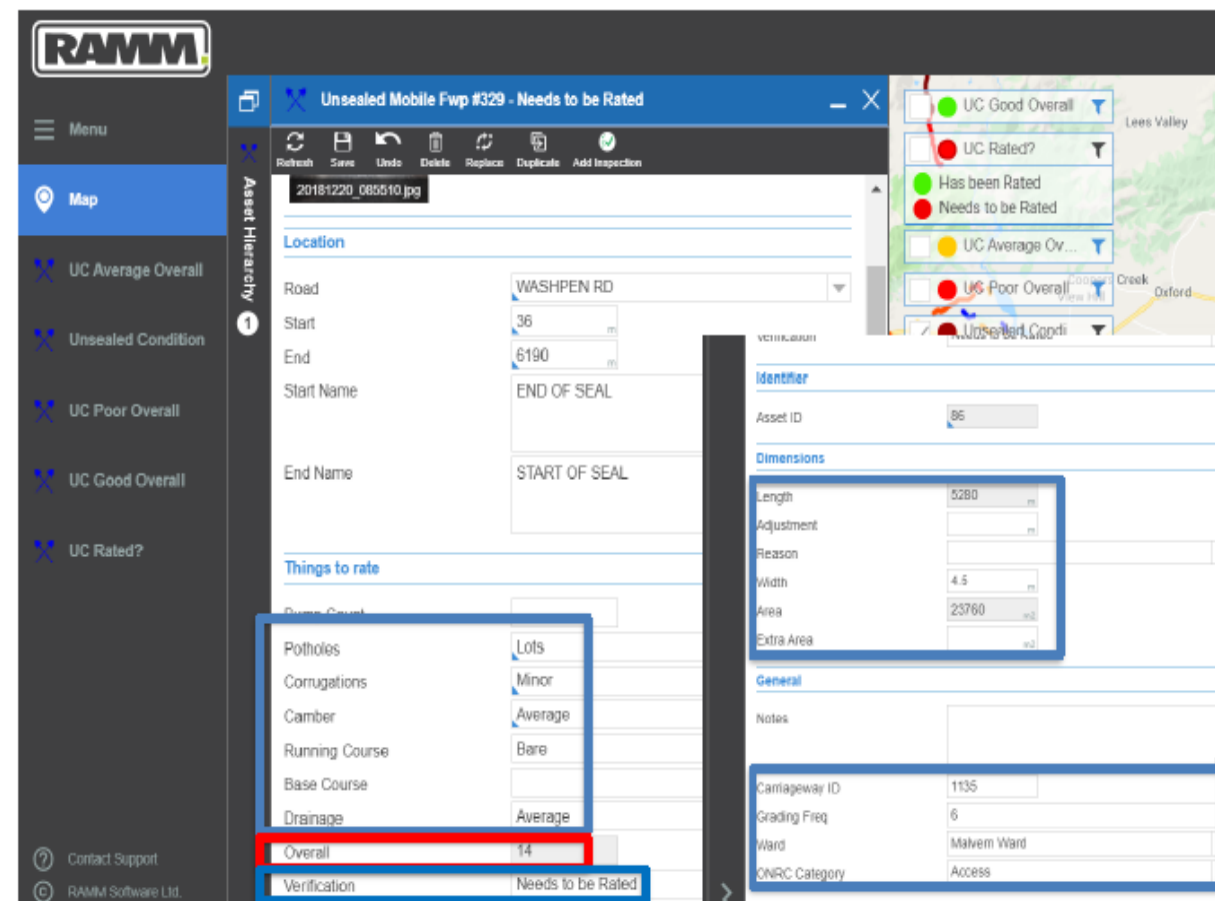
How and Results

- The first round of inspections were completed between December 2018 and June 2019 and one every six months since.

- The inspections are reset at the end of every six months so the progress on inspections can be tracked.

- Pocket RAMM is synchronized each day with road sections shown as green if inspected and red if still to be done. Lets the inspectors and others see which areas need to be done.

- The results are viewed in RAMM, analysed and able to be filtered and viewed in various ways.
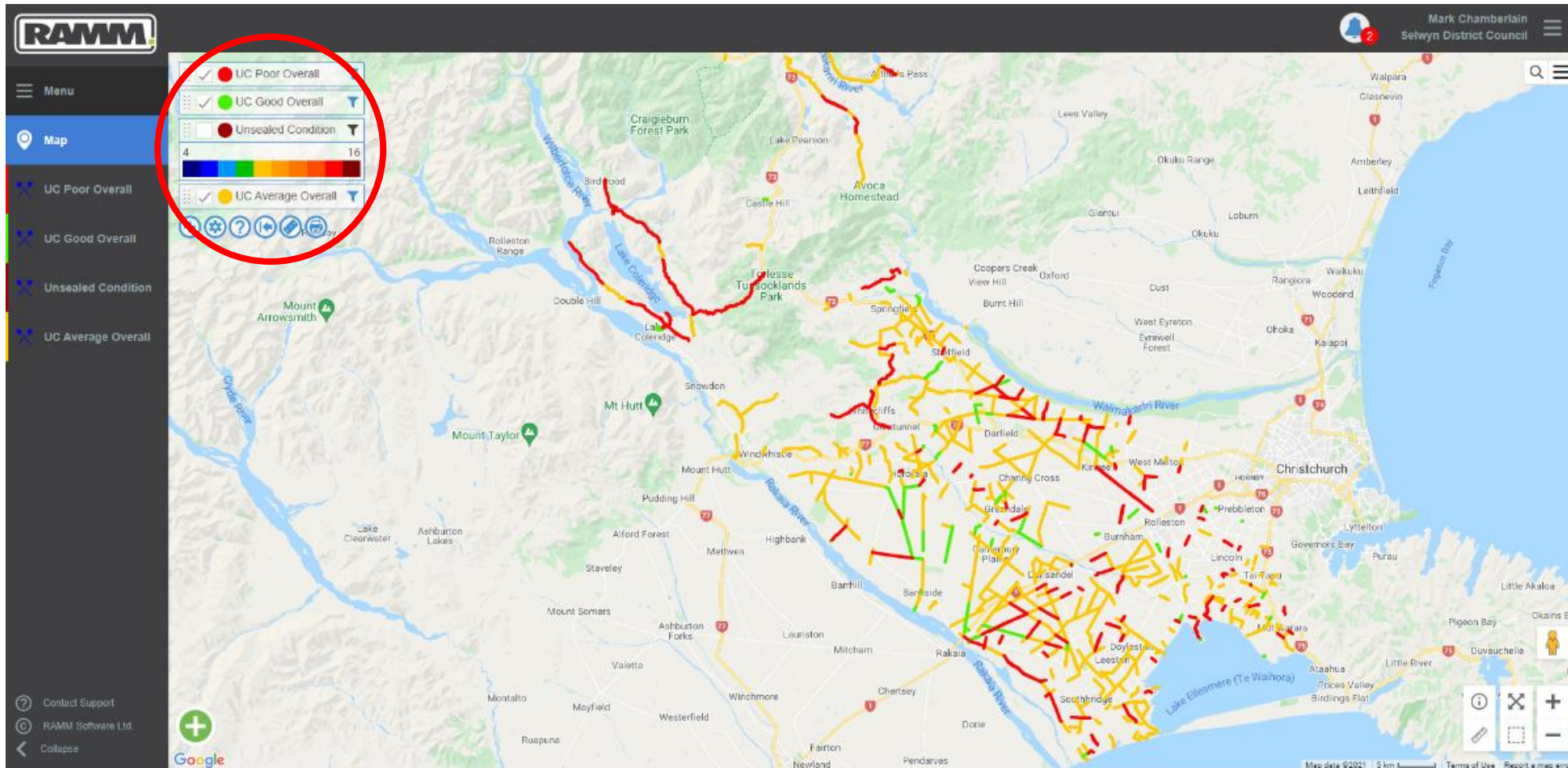
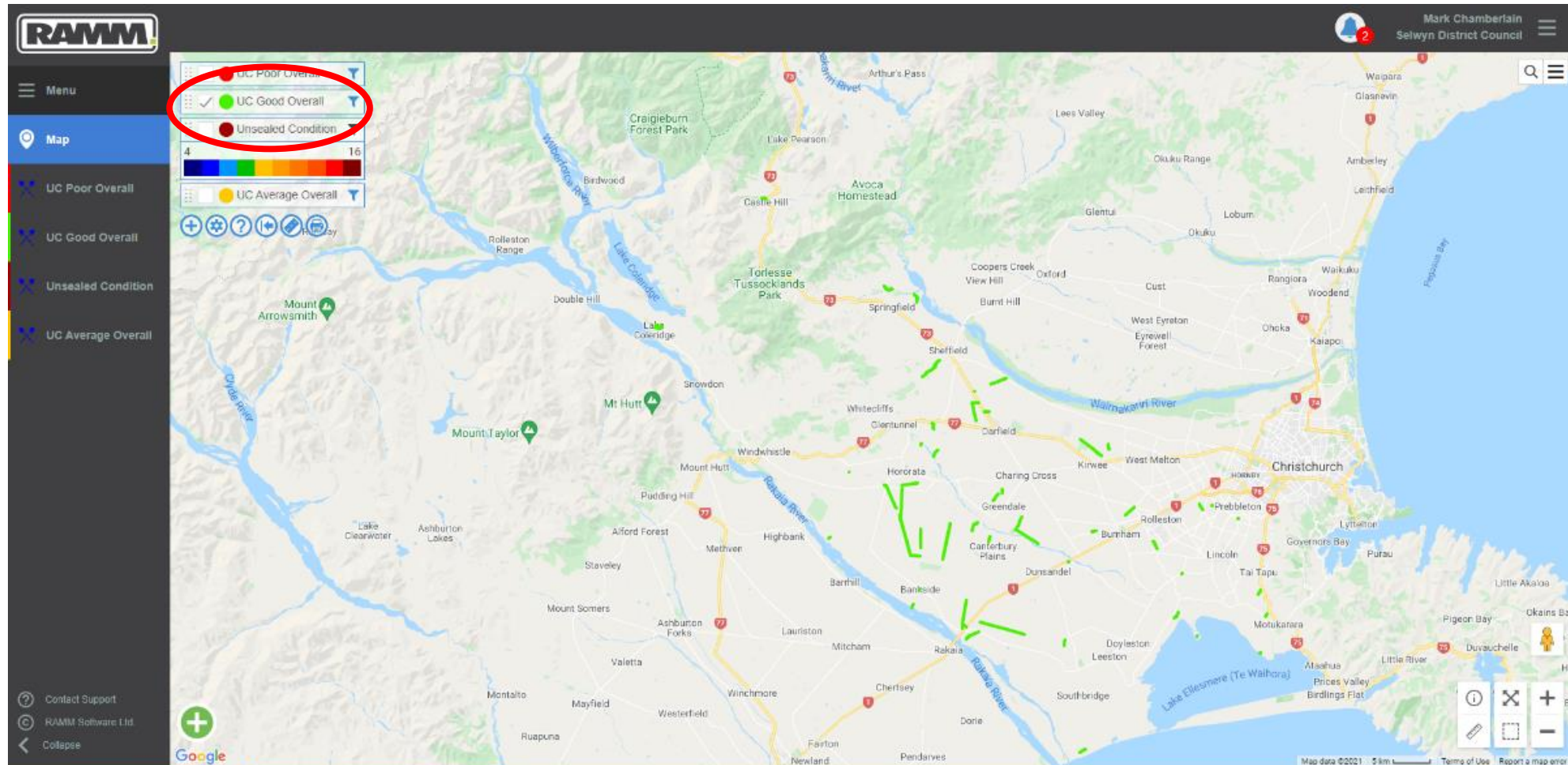# How and Results – Which roads still to be rated?
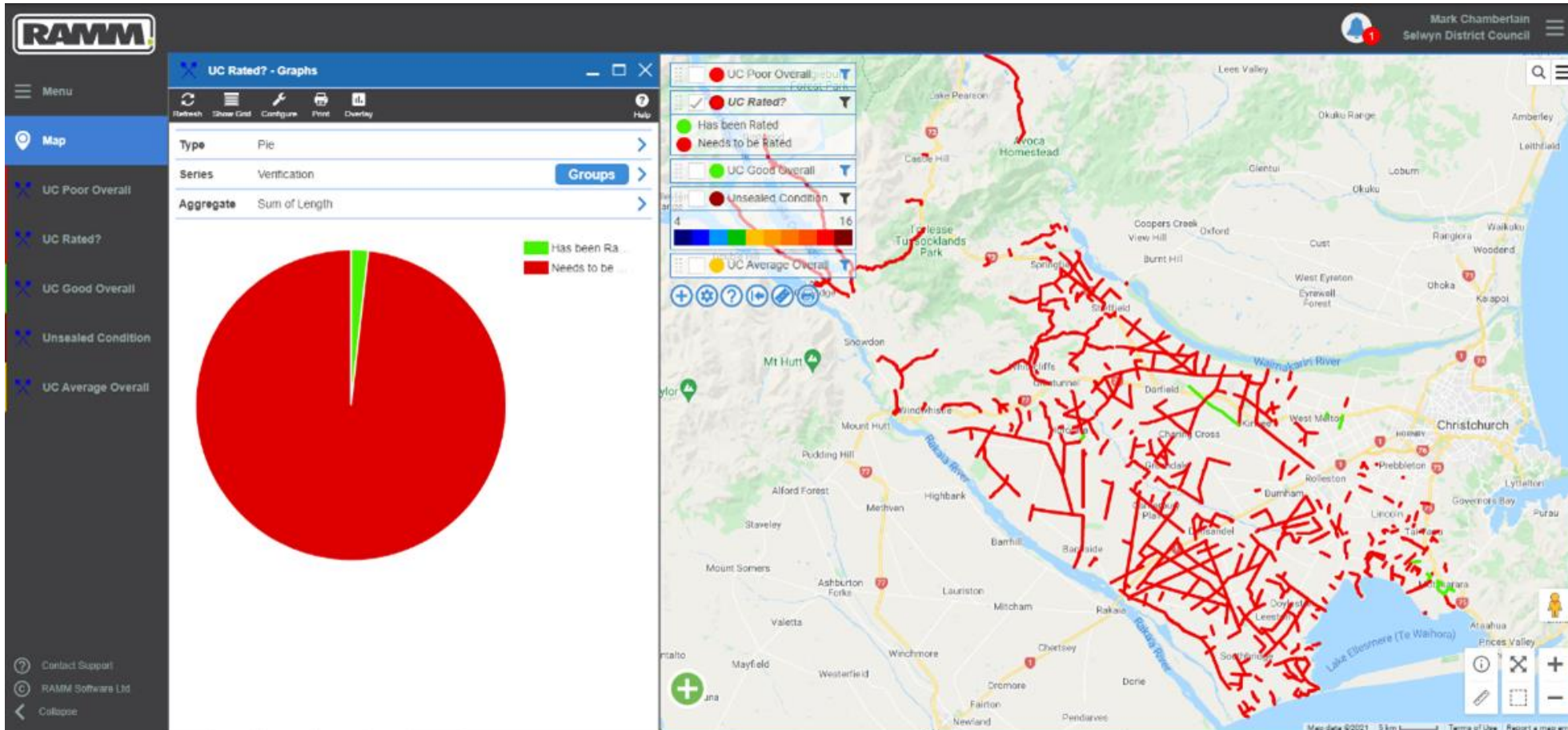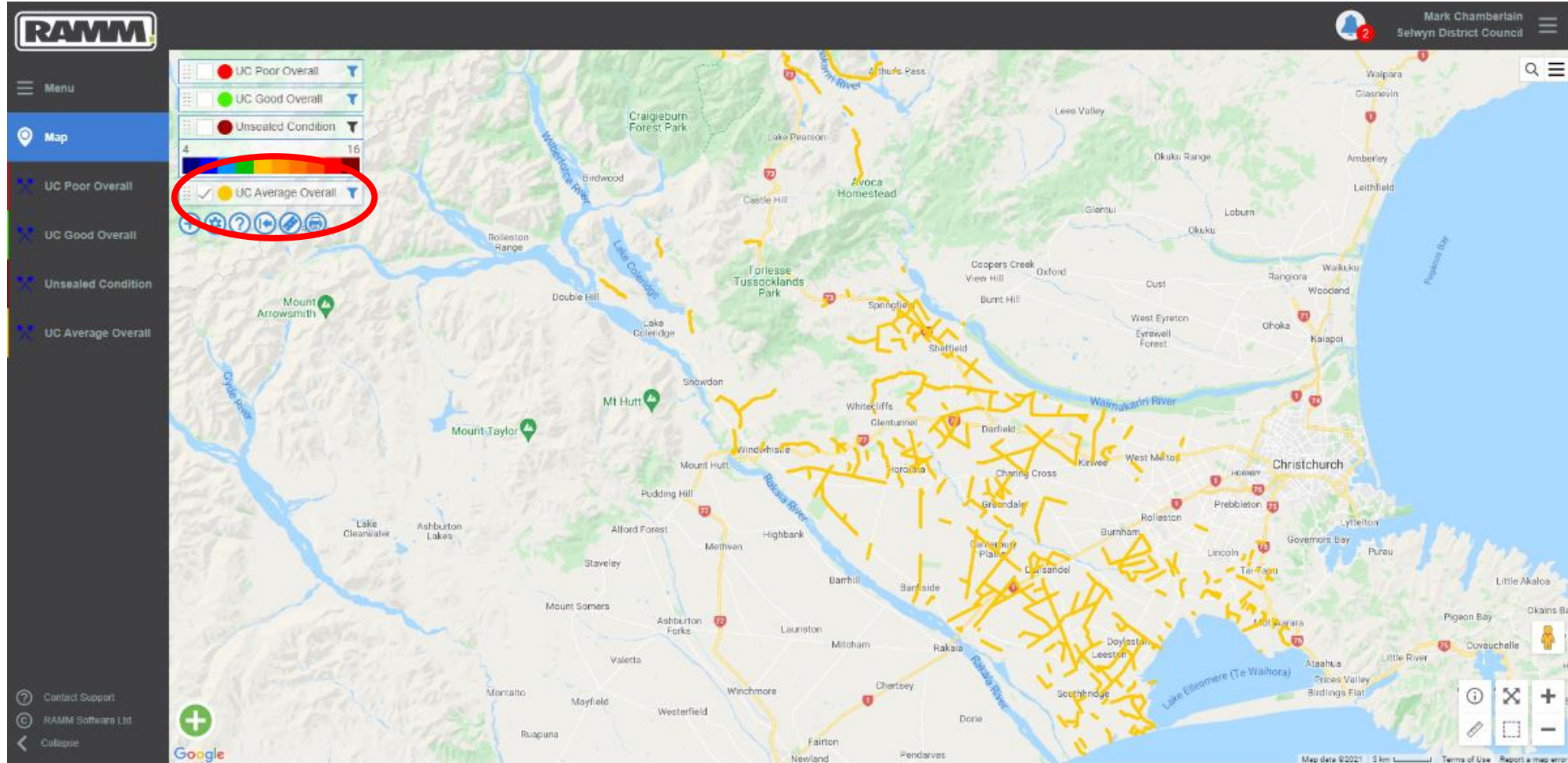
Results – range of scores
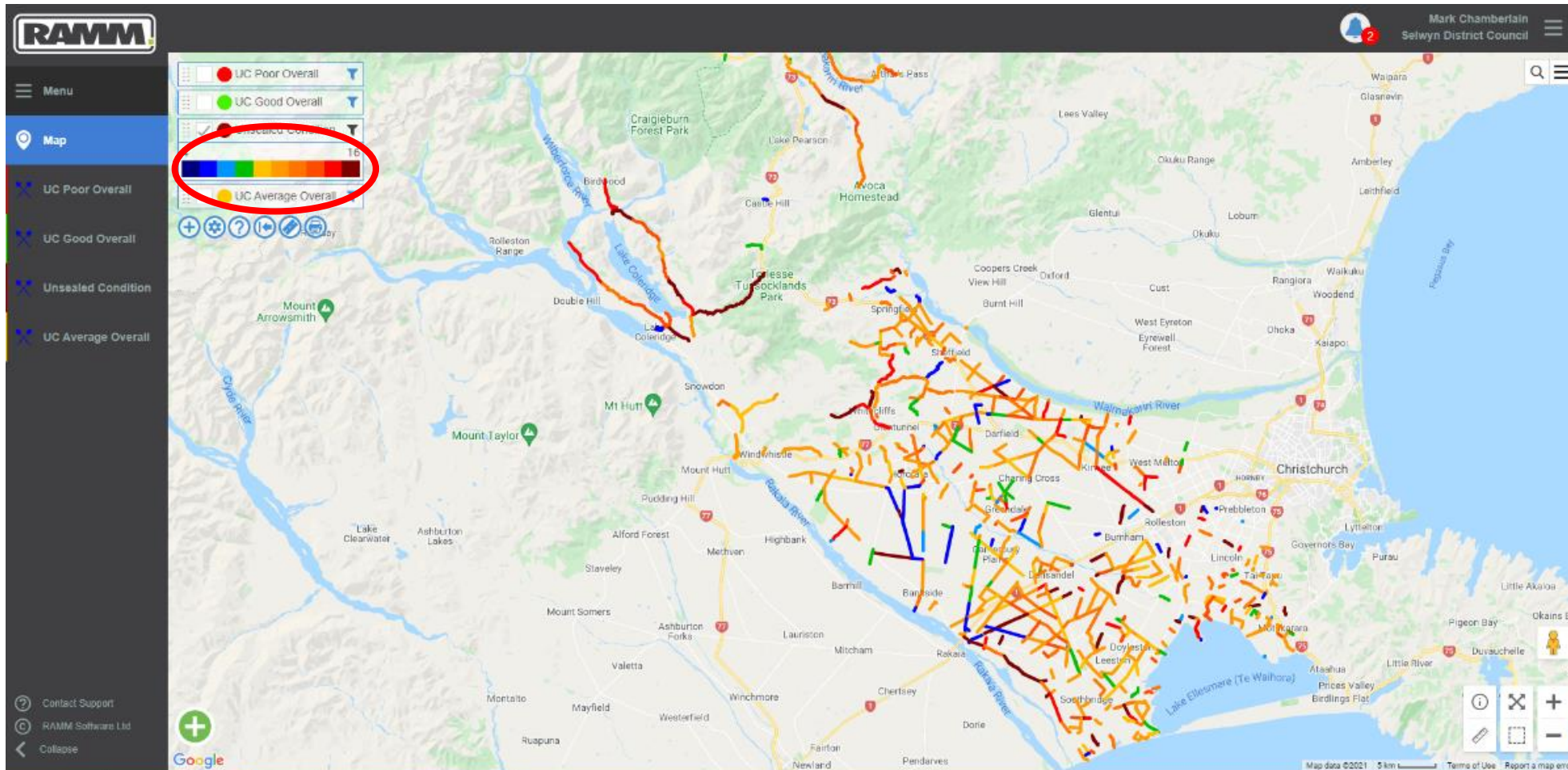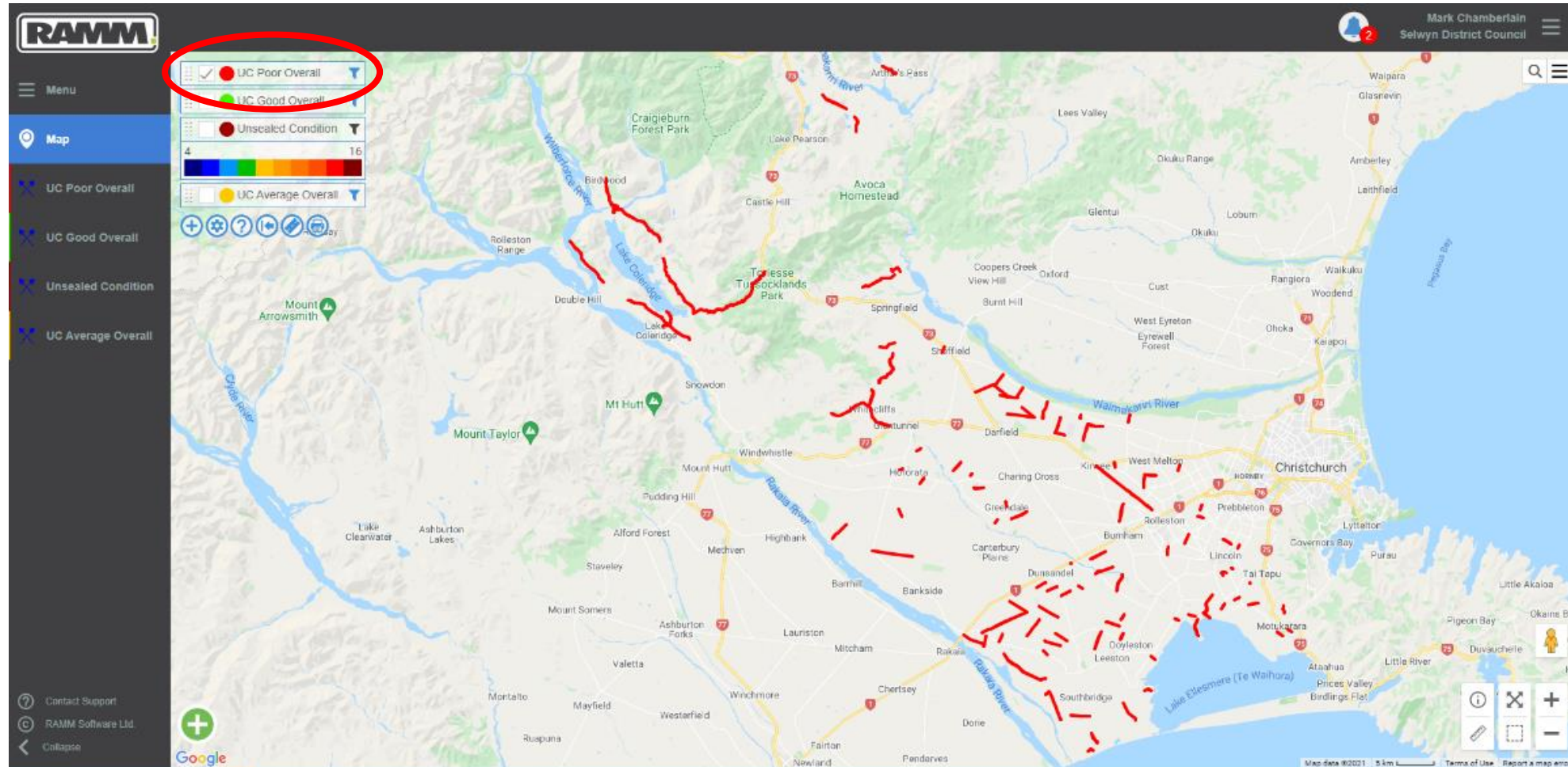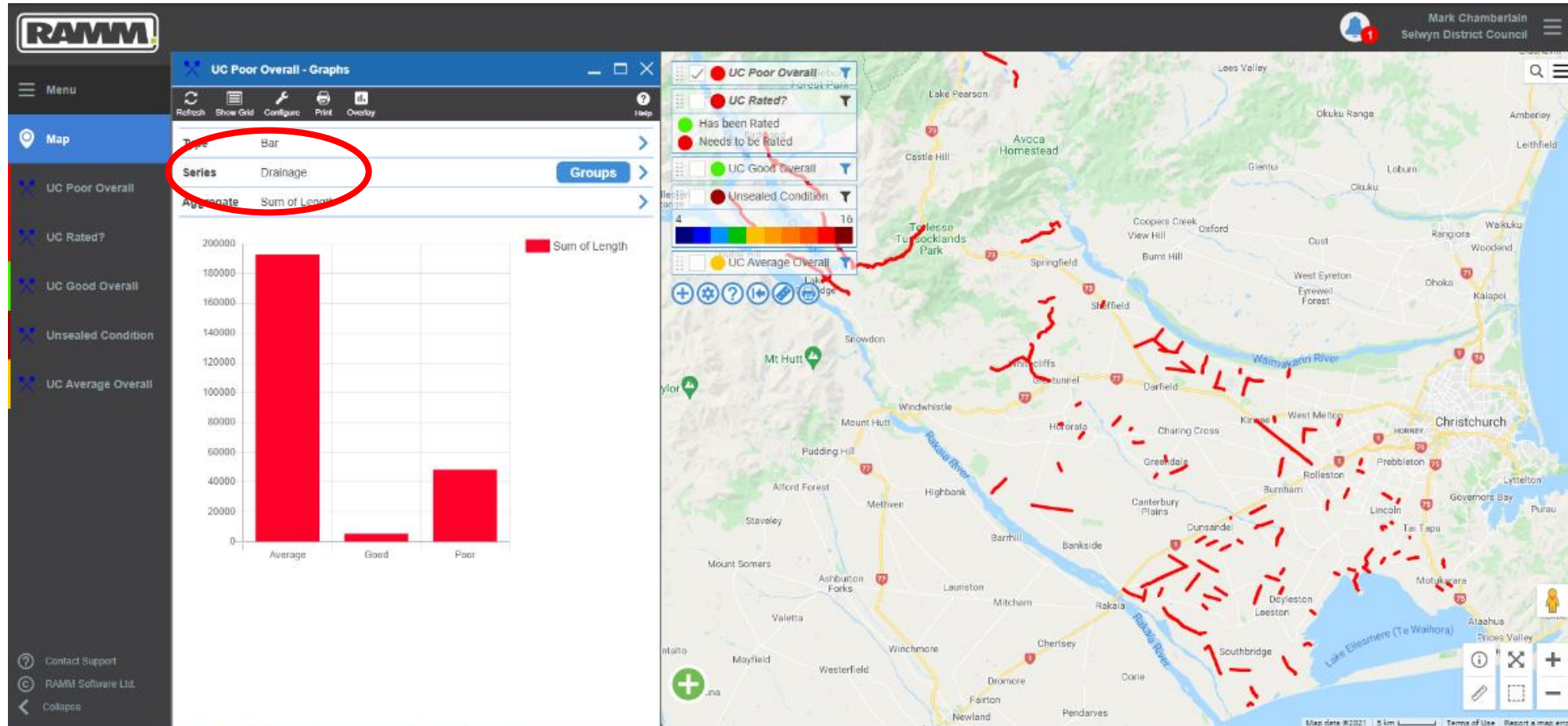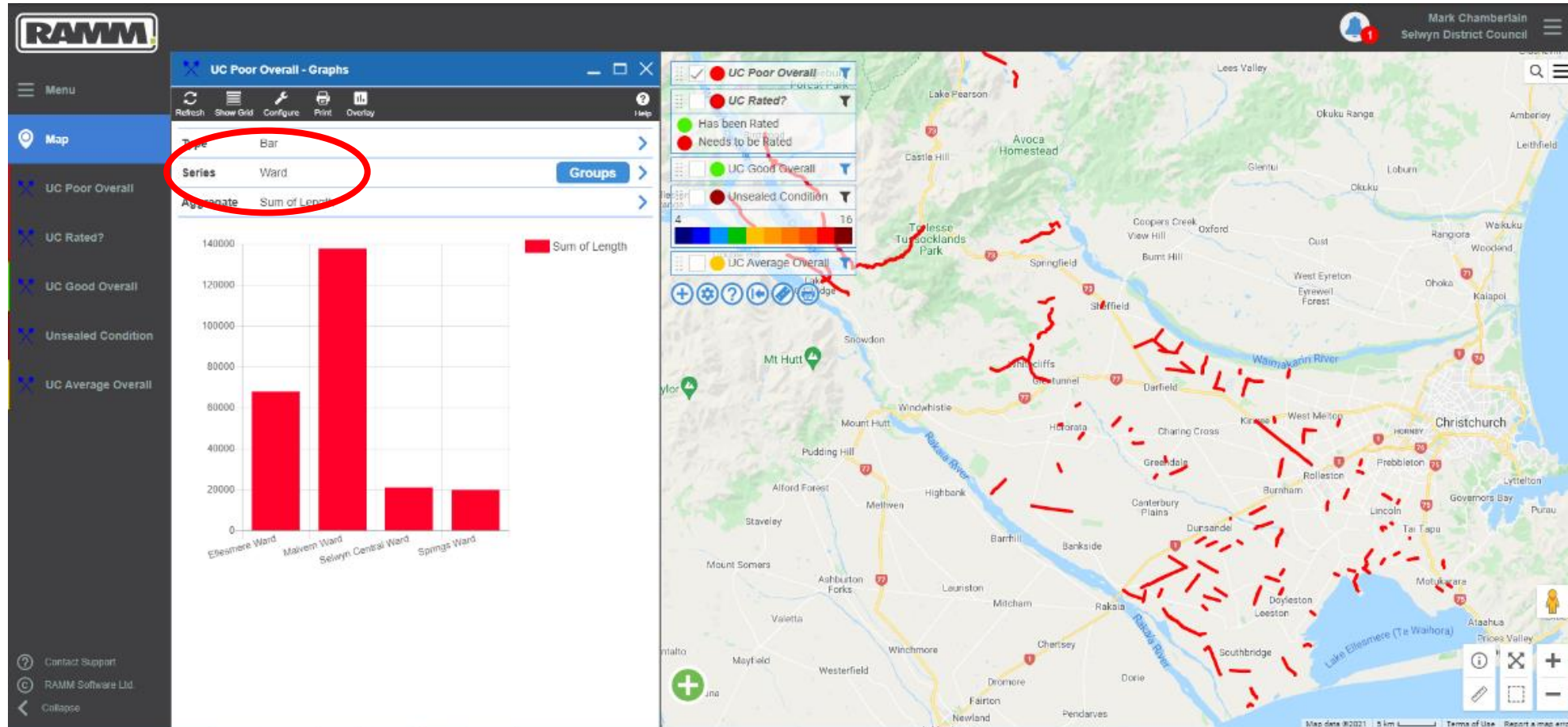
Results – Good Average Poor

Results – Good

Results – Average

Results – Poor

Results – factors for poor rating

Results – poor by Ward

Results

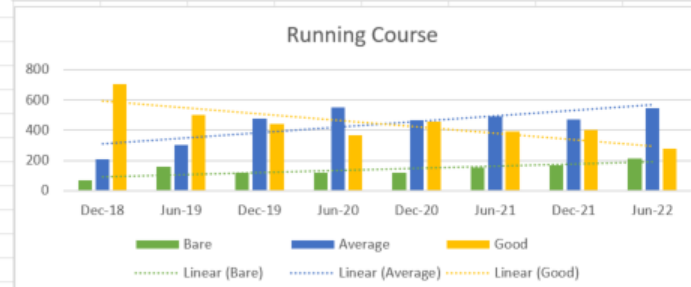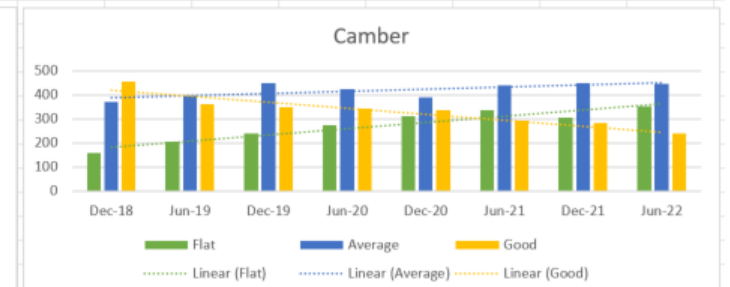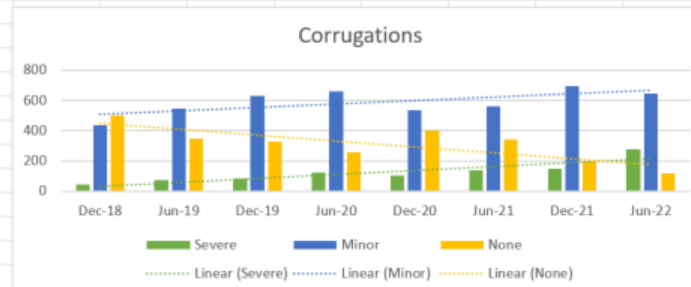## Overall condition

	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22
Road Length Rated - km	982	965	1039	1041	1041	1040	1040	1040
Overall								
Poor	139	240	353	398	222	248	388	482
Average	689	648	600	576	717	712	598	521
Good	154	78	78	60	101	80	54	37
Potholes								
Lots	48	98	96	65	70	120	230	274
Some	392	459	518	541	366	387	585	626
None	542	407	426	434	605	533	225	139
Corrugations								
Severe	42	72	82	125	103	139	146	277
Minor	436	544	629	660	538	560	695	646
None	504	348	328	256	400	341	199	117
Camber								
Flat	158	206	240	274	312	337	307	353
Average	370	397	448	424	391	441	450	448
Good	455	362	350	343	339	292	283	239
Running Course								
Bare	66	157	116	117	119	154	166	214
Average	209	305	476	551	465	493	470	547
Good	707	503	440	366	457	393	404	279
Drainage								
Poor	186	192	375	402	130	56	91	111
Average	508	537	460	449	713	829	834	833
Good	288	235	197	183	197	155	115	96
Basecourse								
Poor			57	104	150	218	170	185
Average			223	316	296	353	337	368
Good			743	616	596	469	532	487
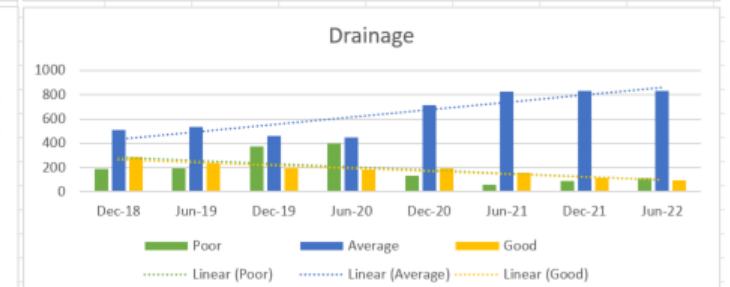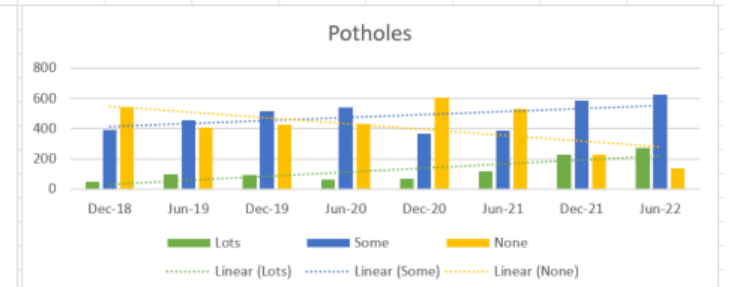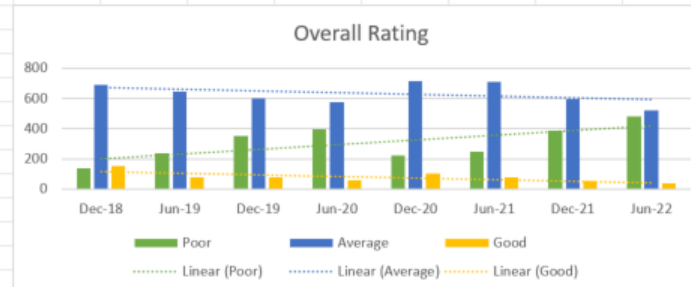
Results

- While it is a drive over inspection to get an overall visual condition rating, the results are used to focus on the needs of the unsealed network.

- Dispatches can be created for maintenance work identified at the time of the rating inspection e.g. pothole patching, isolated gravelling, drainage work.

- Also the road sections with a poor result inspected again with the factors affecting the rating checked and maintenance or rehabilitation work identified and programmed e.g. if poor drainage because of high shoulders then shoulder removal programmed.

Issues

- With the drainage rating being worth double it has a significant affect on the score which is appropriate but needed some discussion.

- Issue with much of the network on the plains is the high shoulder build up. On the first rounds of inspection if there was a high shoulder the rating was given as poor even if water could get off where needed.

- Discussed and refined this with subsequent inspections that if the water could get off the carriageway in the low areas even if high shoulders on much of the length then it should not be given a poor rating.

- Good if water gets off the carriageway onto berm, into soak holes, etc. and average if water just lies at the edge of the carriageway and is gone after 24 hours.

Issues

- Although the shape of pavement and quantity of running course were factors being measured the inspectors also felt there should be another factor for basecourse.

- This was for instances where the shape may have been good, running course is bare and the surface of the basecourse had large material exposed.

- So a rating of good, average and poor was added for the surface of the basecourse. This is recorded but not part of the overall calculation.

Feedback from Councillors

- The reports have been well received by Councillors particularly using graphs to show the various results.

- One of the reasons for requesting a condition rating had been the largely rural Malvern Ward roads were being neglected with the growth in Rolleston, Lincoln, Prebbleton and West Melton townships.

- The results showed that while the unsealed network length in the Malvern Ward is higher (52% of the total) the roads in a poor condition has ranged from 18 to 29% of the overall network.

Next Steps

- Continue with the six monthly ratings to confirm a longer term trend.

- Refine the tool but keep it consistent to get a relevant trend of the whole network over time.

- Use as a contract KPI? The condition of unsealed roads is variable with factors other than contractor performance, grading cycles, etc. influencing the condition. The weather, increased use, etc. have an impact but the main one is funding which determines how much work is able to be done rather than what needs to be done.

- Also use as an Annual Plan target to report on e.g. 75% of the unsealed network average or good.

Summary

- Why - Council were wanting a measure for the condition of our unsealed roads.

- How - Created a UDT in RAMM with five factors assessed. The unsealed network inspected every six months.

- Results – A condition rating of good, average or poor for each unsealed road with the results used to focus the needs of the unsealed network. Provides a good snapshot each six months of the unsealed network to present to Councillors.

Questions?