



Smart Assets | Stronger Communities

*Integrating Technology for
Disaster-Ready Councils*

Presented by Justin Fischer



shepherdservices.com.au



Setting The Scene – The Escalating Challenge



NSW daily rainfall could 'nudge triple figures' with wet weather forecast to intensify

Flood concerns along east coast and severe weather warning for west coast amid national cold snap

- **Thursday weather update: NSW battles heavy rain and flooding as Sydney experiences wettest August for 'quite some time'**



Source: Bureau of Meteorology and CSIRO



The Future of Asset Management

RACAS[®]

POWERED BY SHEPHERD

road asset condition assessment system

- Rising Community Expectations
- Transparency and Timeliness
- Shift from reactive to resilience and readiness
- Role of real-time, data-informed systems
- More than defects - **system, process and people integration**



Indicates location of SHEPHERD clients.



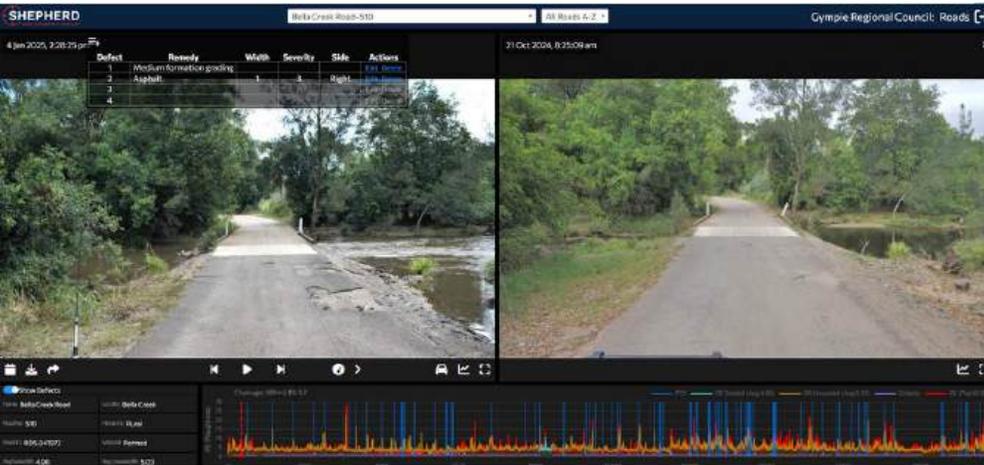
The Need for Alignment

Moving Away from Silos to Integration



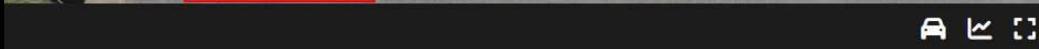
Resilience and Readiness

- Data Readiness
- Integration with BAU
- One Dataset – Multiple Outcomes
- Team Communication and Coordination
- Ai Technology: More Than Defects

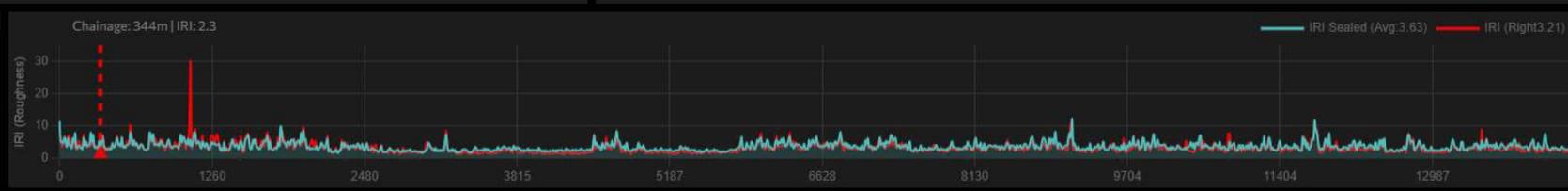


14 Jan 2025, 7:01:48 am

12 Dec 2024, 10:53:40 am

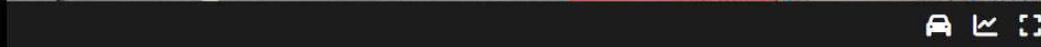


<input type="checkbox"/> Show Defects	<input checked="" type="checkbox"/> Show AI Defects
Name: Noosa Road	Locality: Monkland
RoadNo: 4115	Hierarchy: Urban
AssetID: RDS_045743	Material:
AvgSealedIRI: 3.63	



2023-09-04 2:08 pm

2022-11-11 10:10 am



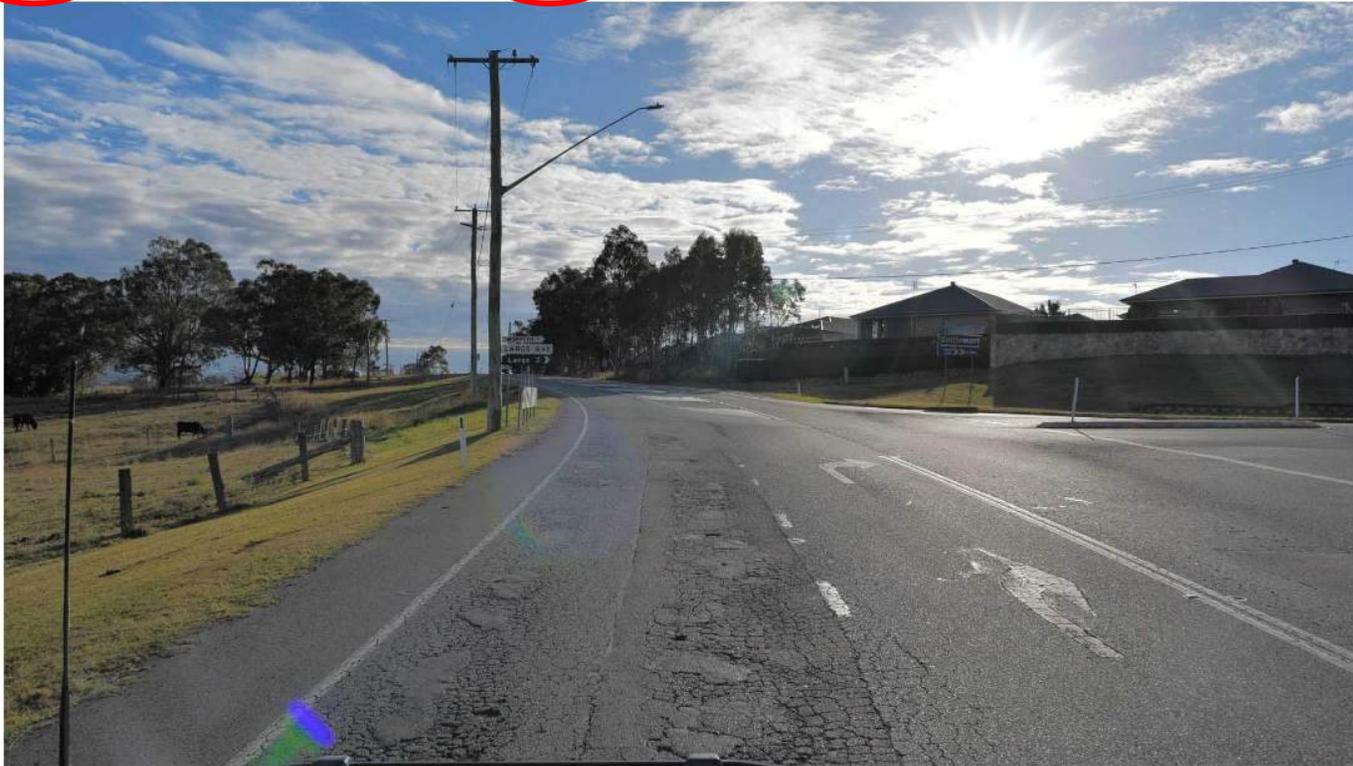
<input type="checkbox"/> Show Defects	<input checked="" type="checkbox"/> Show AI Defects
Name: Hoya Rd	Locality: Boonah
RoadNo: 501	Hierarchy: 4a
AssetID:	Material: Asphalt
AvgSealedIRI: 2.93	



Beyond Defects: RACAS[®] AI Condition Rating

AI Condition Ratings (1-5)

Cracking	Stripping	Patching	Shoving	Pothole	Failure	Edge
5	0	4	0	0	0	0



Photos are filtered by the map view extents with a maximum of 1000 photos displayed.

Name	Road No	Hierarchy	Locality	Chainage	Roughness	Final Rating
Paterson Road	451	Distributor	Bolwarra Heights	1,183 m	3	5



Beyond Defects: Renewal Planning



Beyond Defects – Data to Help Road Managers



- Heat mapping
- Analysis of data to identify “hotspots”
- Identification of statistical outliers
- Network level outcomes
- Using a data driven approach

Beyond Defects – Network Performance

- Annual Comparison – Better or Worse?
- Seasonal Impacts
- Understanding influence of funding decisions



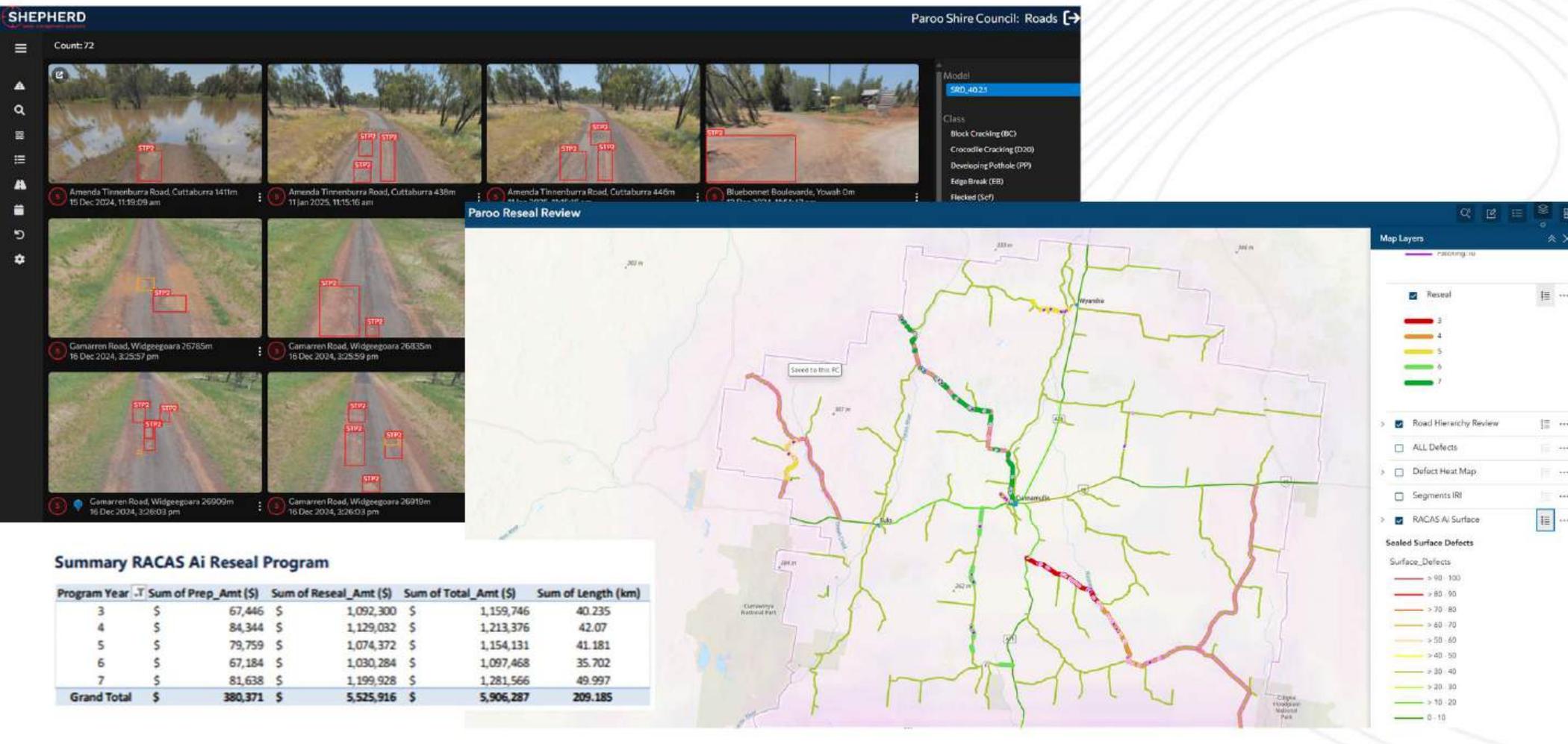
From Data to Decisions

Accurate asset data improves:

- Maintenance programs
- Budget forecasting
- Capital works prioritisation
- Aligns with long-term financial planning and service delivery



Case Study 1 – Paroo Shire Council – Reseal Program



SHEPHERD Bella Creek Road-510 All Roads A-2 Gympie Regional Council: Roads

4 Jan 2025, 2:28:25 pm 10 Dec 2024, 8:52:11 am

Response

The image displays a software interface for road defect analysis. The top section shows a map of Bella Creek Road-510 with various defect markers labeled 'D10', 'D40', and 'Stp2'. The interface includes a 'Next Event' button and a 'Show Defects' toggle. Below the map, there is a table of road details and a graph showing 'IRI (Roughness)' over a 'Chainage' of 300m.

Name: Bella Creek Road	Locality: Bella Creek
RoadNo: 510	Hierarchy: Rural
AssetID: RDS.041972	Material: Formed
AvgSpeedIRI: 4.95	AvgBreakIRI: 5.03

Chainage: 300m | IRI: 3.7

IRI (Roughness)

2207 4300

The bottom right section shows a car's interior with a navigation system displaying the road name 'RAC. 5'. A sticker on the dashboard reads 'SAFE DEV RACAS BLE BTN'.

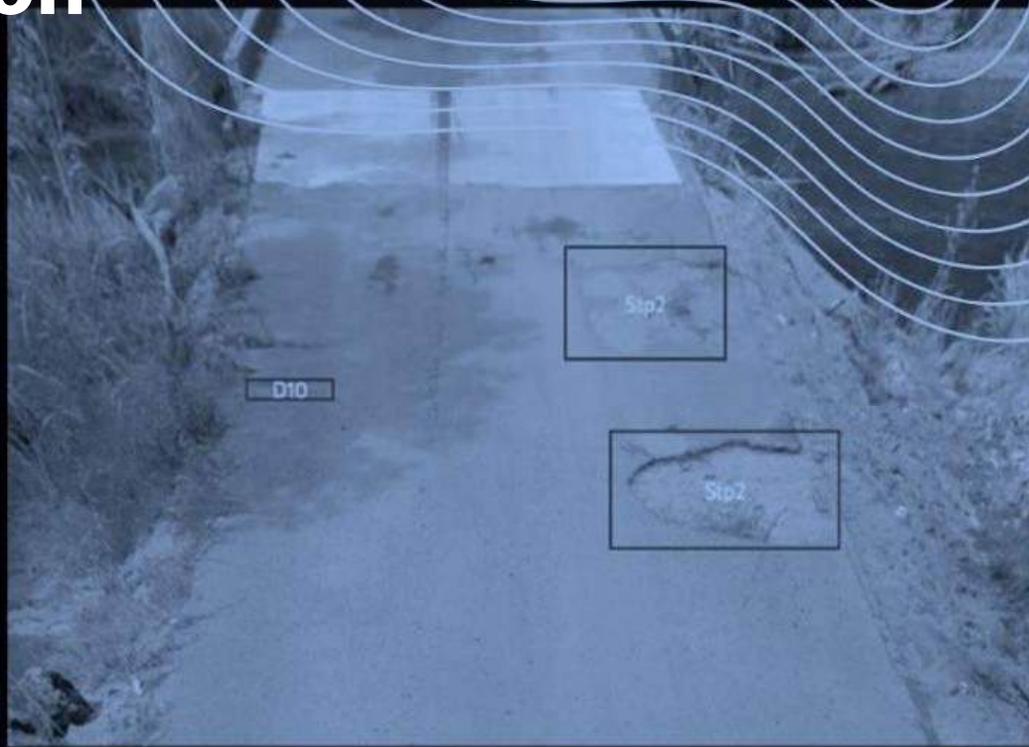
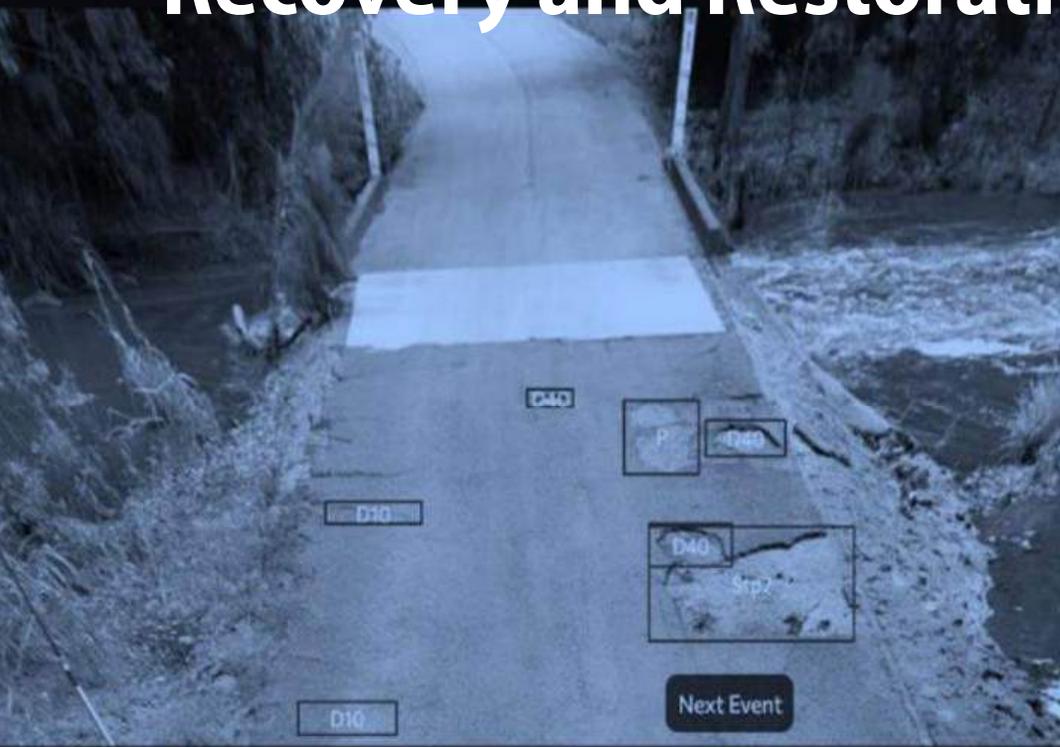
RACAS[®]

POWERED BY SHEPHERD

road asset condition assessment system



Recovery and Restoration



Show Defects	Show AI Defects
Bella Creek Road	Locality: Bella Creek
510	Hazard: Rural
RDS,041972	Material: Formed

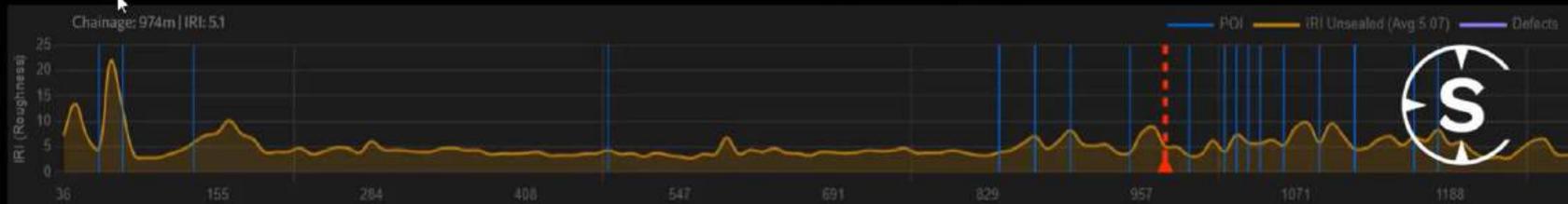


1 Jan 2025, 11:44:26 am



Show Defects

Name: Kenins Road	Locality: Downsfield
RoadNo: 3040	Hierarchy: 2 Star
AssetID: RDS.042366	Material: Formed
AvgUnsealedRt: 5.07	

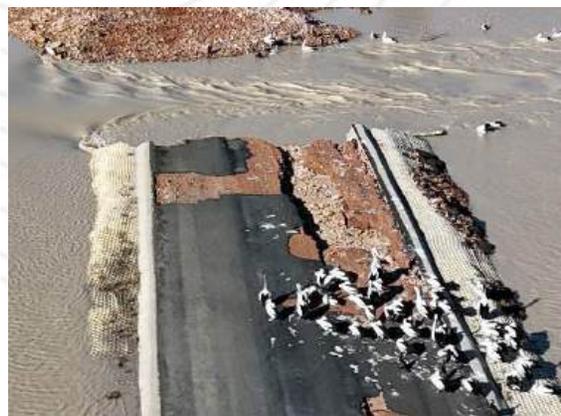


Case Study 2 – Bulloo Shire Council

Fast, Accurate, and Funding-Ready - How RACAS® is Helping Bulloo Recover Sooner

- 2025 March Floods - Highest recorded flood ever for Thargomindah at 7.55m.





3 May 2025, 10:32:11 am

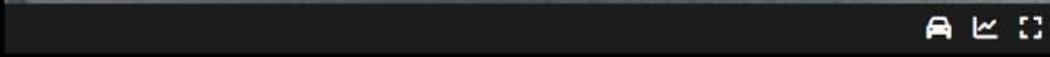


<input type="checkbox"/> Show Defects	<input type="checkbox"/> Show AI Defects
Name: Innamincka Road	Locality: Durham
RoadNo: 12	Hierarchy: Rural
AssetID: -	Material: -
Avg Scaled IRI: 3.52	



3 May 2025, 10:32:11 am

6 Nov 2024, 12:55:11 pm

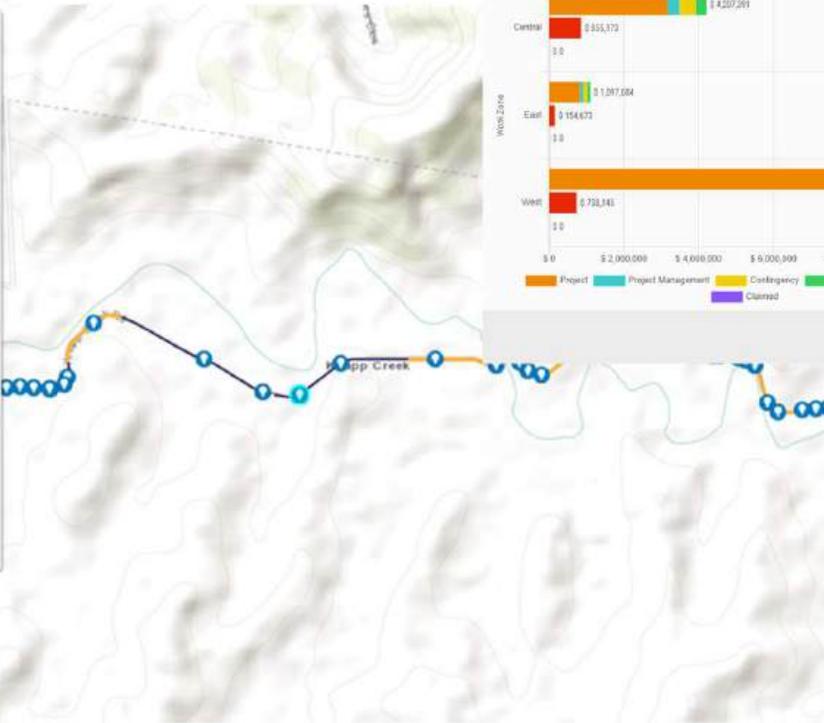


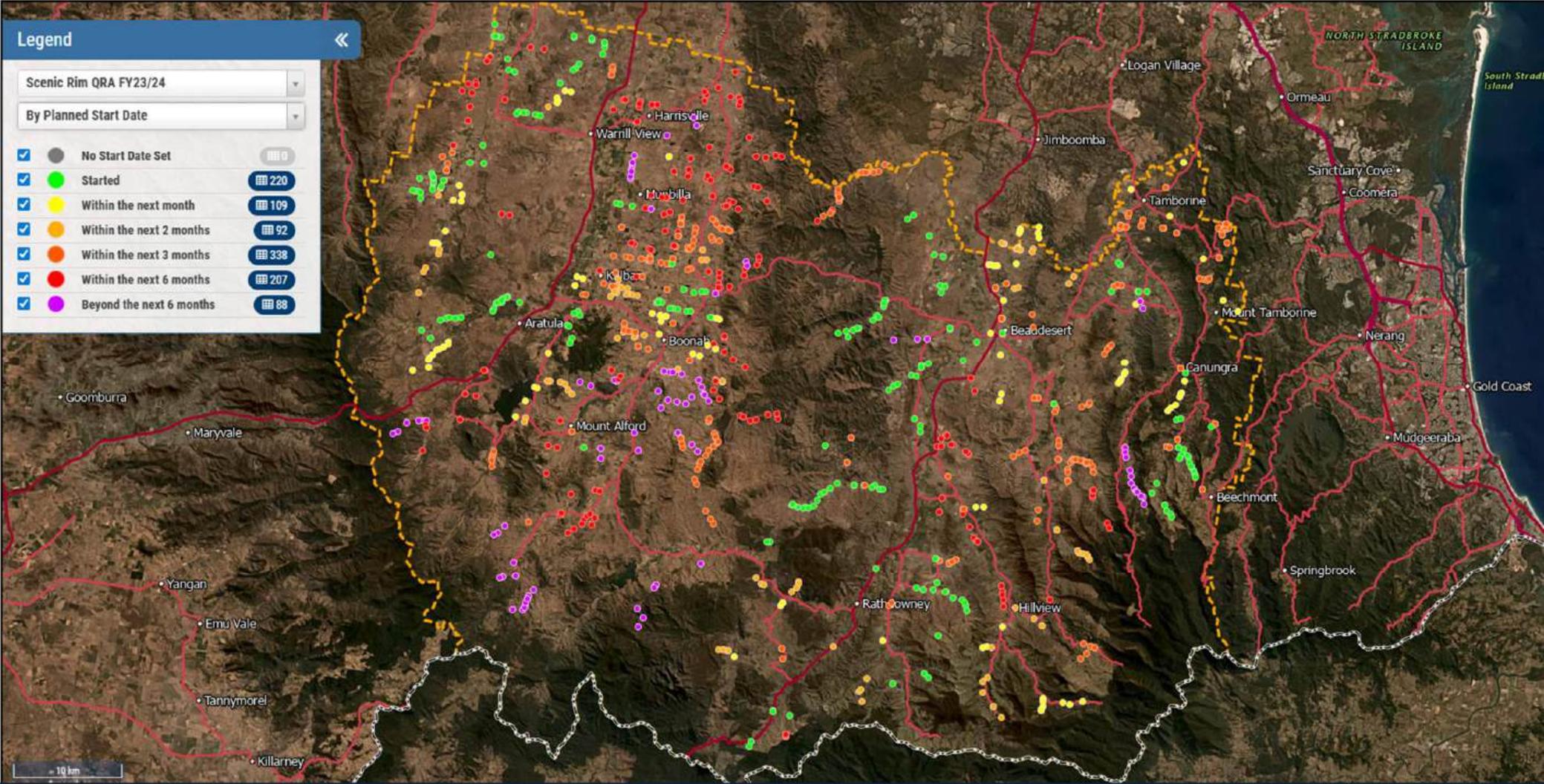
<input type="checkbox"/> Show Defects	<input type="checkbox"/> Show All Defects
Name: Innamincka Road	Locality: Durham
RoadNo: 12	Hierarchy: Rural
RoadID: -	Material: -
AvgScaledIRI: 3.52	



Integrated Project Delivery

- Capital Works Management
- Visibility
- Reporting

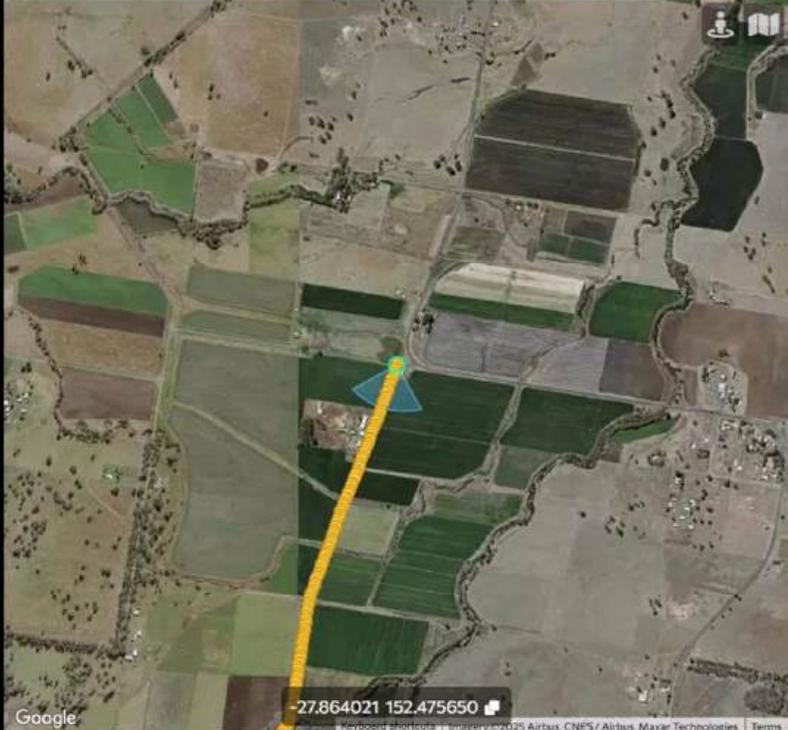




Construction Roads

SHEPHERD Kelly & Dwyer Rd-562 All Roads A-Z Scenic Rim Regional Council: Roads

14 Aug 2025, 12:14:39 pm



AD
RK
AD
60
SLOW DOWN
ROAD AHEAD

Google -27.864021 152.475650

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IRI Unsealed (Avg. 0)

Latest ✓ | Unsealed | Chainage: 11m | Client Chainage: 5m

Chainage (m)	IRI (Roughness)
0	0.0
211	0.0
424	0.0
640	0.0
848	0.0
1058	0.0
1266	0.0
1471	0.0
1681	0.0
1889	0.0

Show Defects Show AI Defects

Name: Kelly & Dwyer Rd	Locality: Rosevale
RoadNo: 562	Hierarchy: 5d
AssetID: 562_1	Material: -

Closing the Loop

API integrations:

- IPWEA NSW Asset Ai
- Reflect
- Technology One
- ESRI
- Fulcrum



Long-Term Benefits to Communities

- Compliance and reporting ease
- Safer, more resilient infrastructure
- Reduced financial risk during disasters
- Support for proactive, rather than reactive, asset strategies



Takeaways

- Embrace innovation now
 - Leverage technology before the next event hits
- Consider system, process and people integration to future-proof your infrastructure

Any Questions?

