

Bridging the Gap: Collaborating Our Way into the Future

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Auckland Transport's Bridge Journey



Current State

- Challenging the status quo of asset data
- Creating data and infrastructure resilience



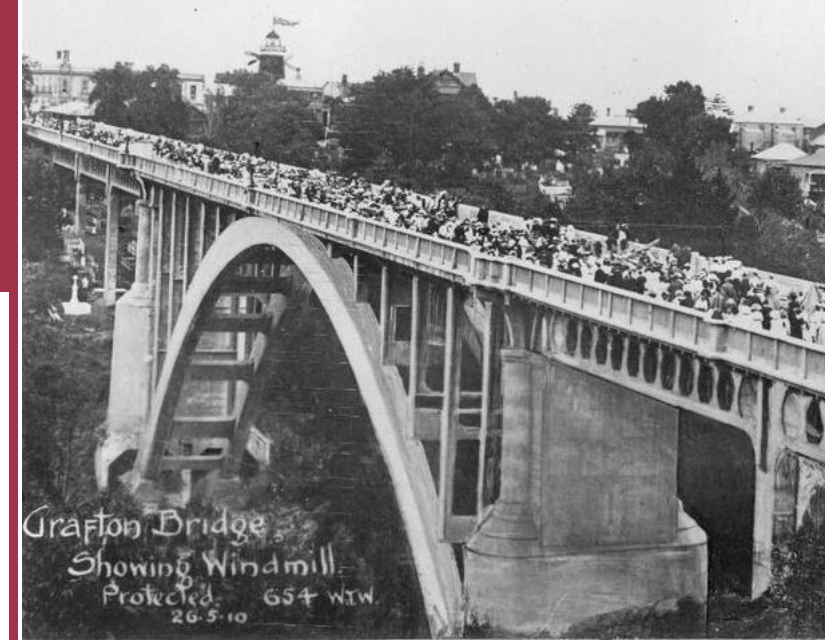
Unlocking Potential

- AMDS
- Data hierarchy
- BIM Model



Future Outlook

- Auckland Transport's journey forward





Current State

Why Bridges... and why now



Mill Flat Road Bridge



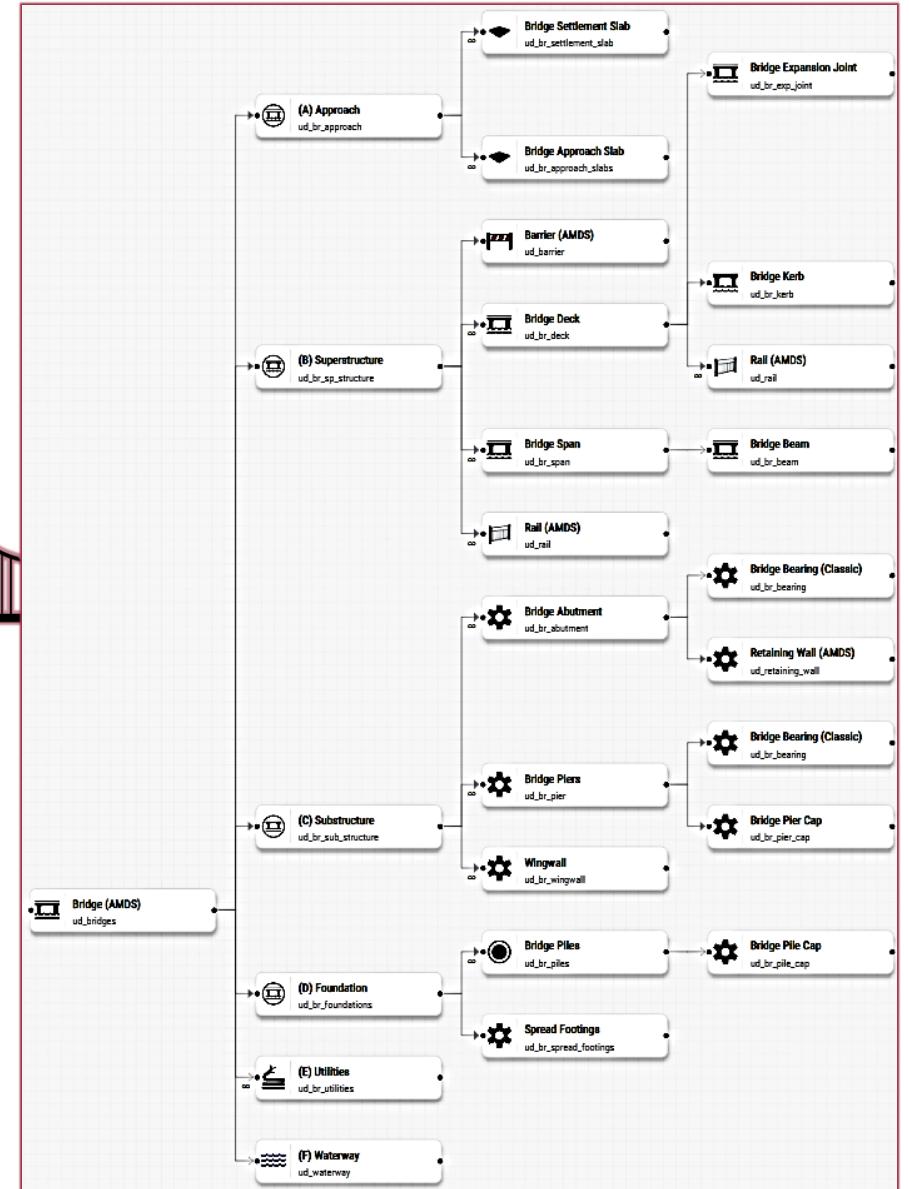
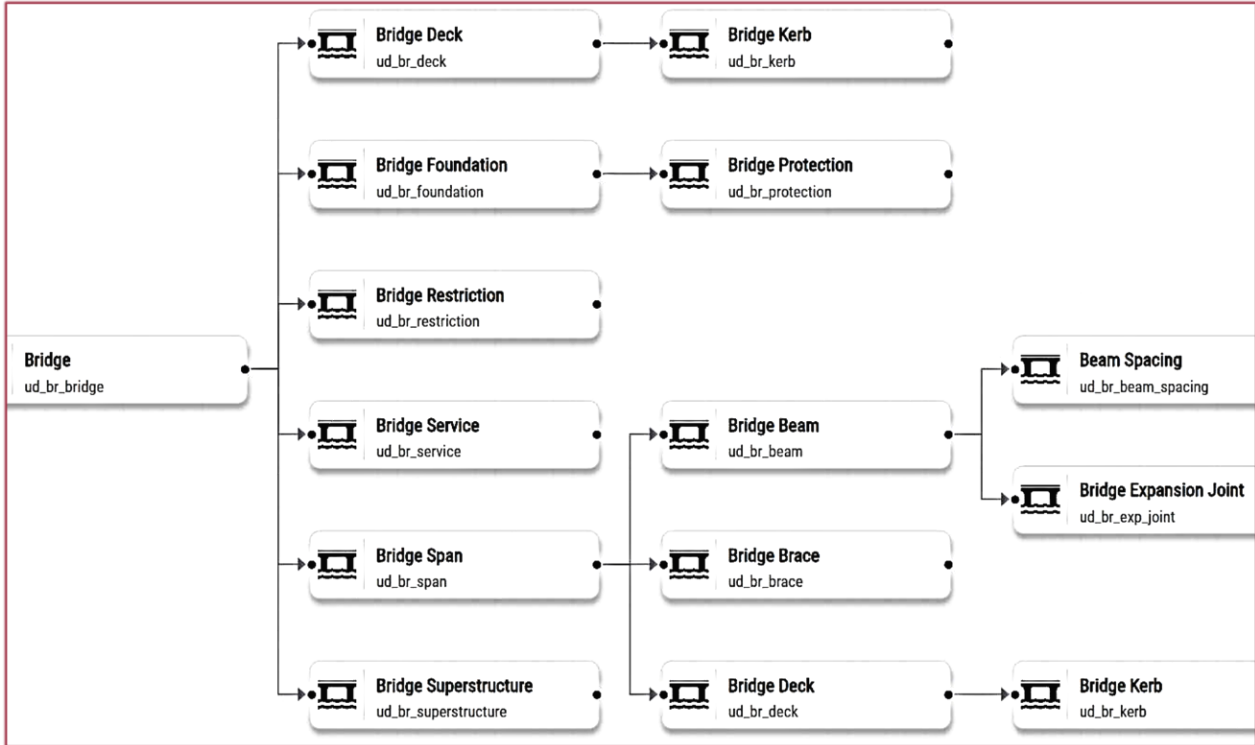
Evolution of Bridge Hierarchy – From Silos to Synergy



Current State



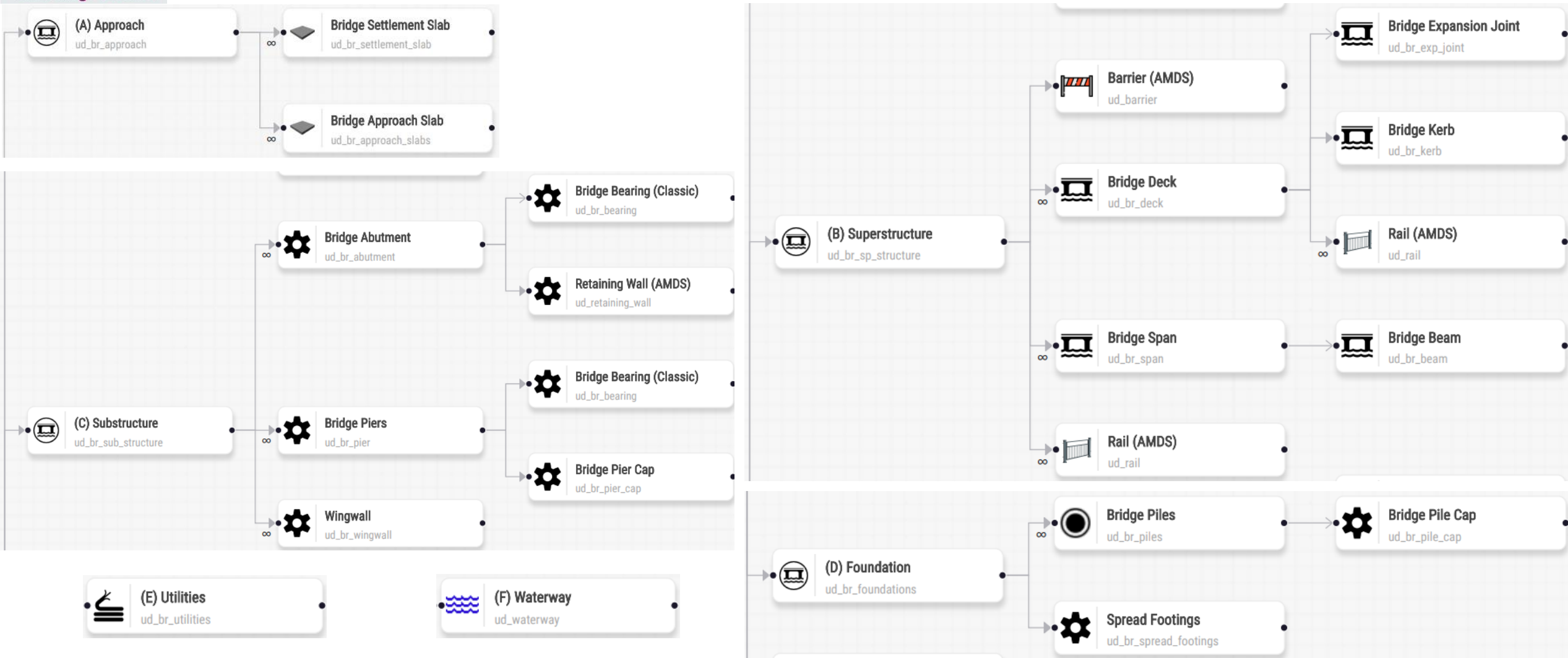
Unlocking Potential



Evolution of Bridge Hierarchy – From Silos to Synergy



Unlocking Potential





Bridge Deck #1097 - Prestressed Concrete

Refresh Save Undo Delete Replace Duplicate Add Inspection Disposal Schematic Action

Tags >

Draft

Add

There is no media for this item.

AMDS

Material

Dimensions

Overall Width: 14 m

Kerb Height: 200 mm

Thickness: 900 mm

General

Deck: D1

Type: Prestressed Concrete

Deck Gradient Type: Unknown

Gradient: 6 deg

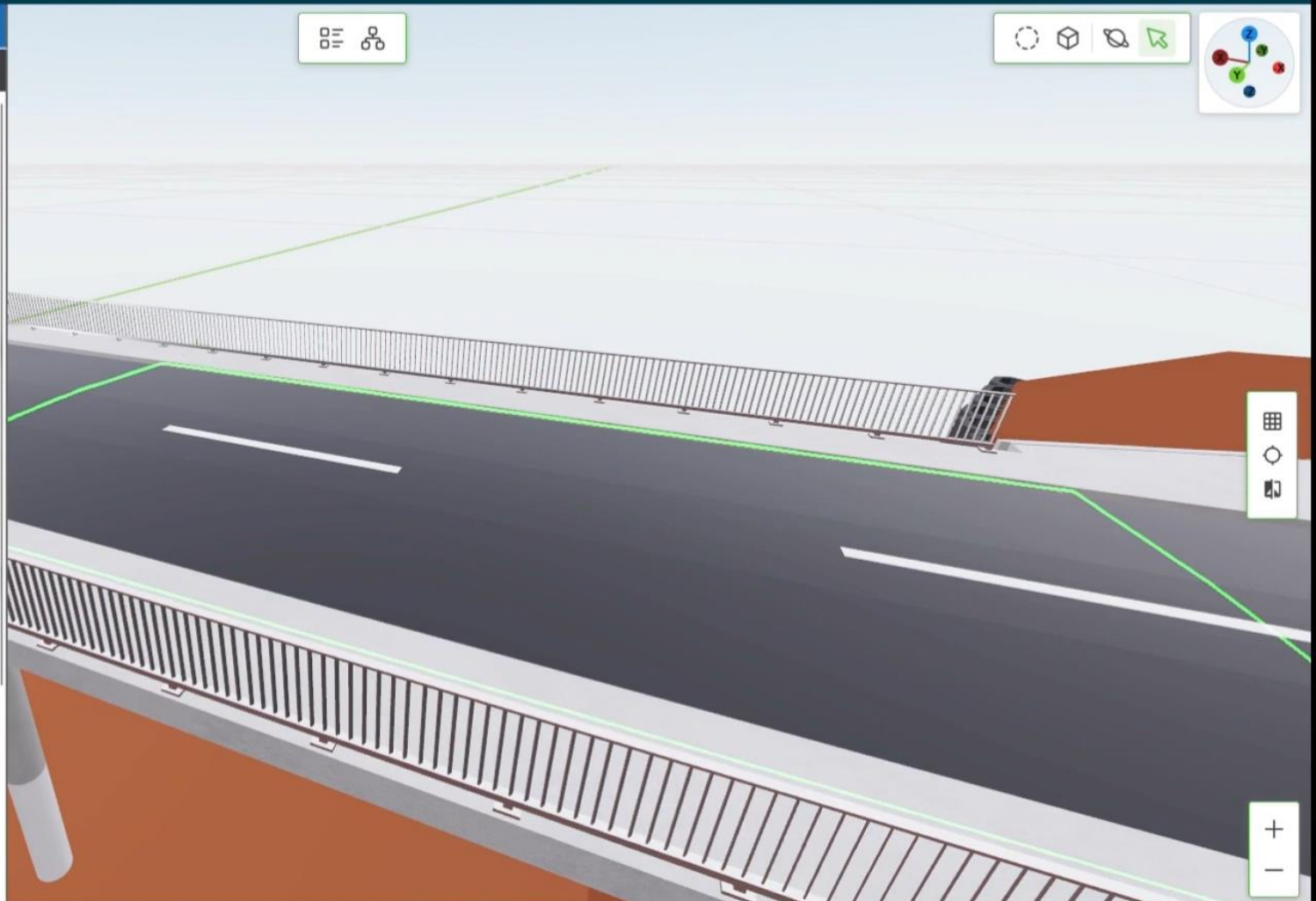
Lanes Marked: 1/1

Notes

Approval Status: Draft

Asset Life

Construction Date: 27/02/2013





Overcoming Obstacles with Key Solutions

Unlocking Potential

- Financially defining an asset
- Identifying components that can be replaced or maintained individually, e.g. Expansion Joint

What should be captured as an individual component?

- It is a journey - Building Bridges of Collaboration
- Plan with Inspections
- Report on gaps

How do we address data gaps?

How do we deliver sustainable solution?

- Data Validation rules
- Introducing Change Management

Can we align and implement this with AMDS?

- "In the middle of difficulty lies opportunity." - Albert Einstein



Maintaining Quality and Fostering Maturity



BRIDGE 2

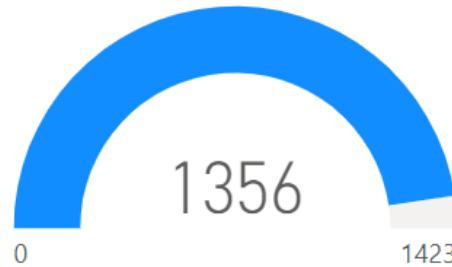
score:95.29

BRIDGE2

Bridges valid

The percentage of AT bridge records with valid dimensions (length, width) and condition date (when recorded) >= install/constructed date

Gauge of complete bridges over total bridges



Metric Purpose

Confirm completeness of Bridge assets attribute data is adequate for planning and decision-making purposes.

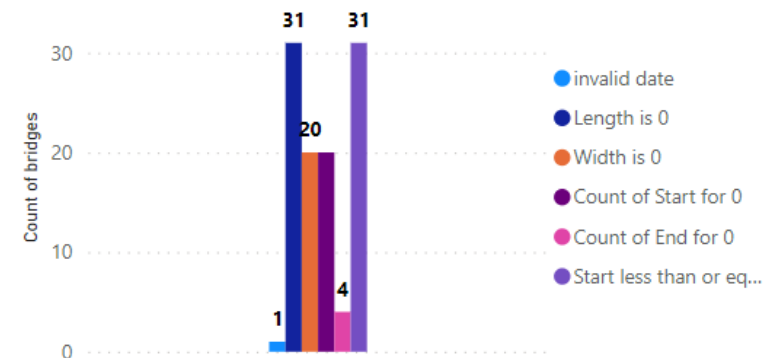
Consequence of Poor Quality Data

Poor data has the potential to impact our renewal programme development, investment decision making, asset valuations and LoS delivery.

Asset ID	Name	Start	End	Length	Width	Install Date
666	HILLSIDE RD / WAIRAU RD CULVERT	12	95	83	0.00	Thursday, 1 January 1970
708	DIANA DRIVE CULVERT	1090	1140	50	0.00	Monday, 1 January 1979
725	AKORANGA BUS STATION OVERHEAD	0	40	40	2.20	Thursday, 31 January 2008
726	AUT OVERHEAD BR OVER MOTORWAY	0	118	118	2.20	Thursday, 31 January 2008
732	NORTH PIHA-MARAWHARA CULVERT	0	5	5	0.00	Tuesday, 1 January 1985
734	WEST COAST-ORATIA BRIDGE	5898	5924	26	0.00	Saturday, 1 January 1977
735	WEST COAST-COCHRANE CULVERT	5277	5279	2	0.00	Sunday, 1 January 1950
737	SHAW-CANTWELL CULVERT	1885	1892	7	0.00	Wednesday, 1 January 1936

Total

invalid date, Length is 0, Width is 0, Count of Start for 0, Count of End for 0 and Start less than or equal to end





Maintaining Quality and Fostering Maturity

BRIDGE3 score is: 82.71

BRIDGE3

Bridge assets known

The percentage of the number of Bridge records with a known type, asset owner/manager, location (start and end), displacement and side or map coordinates), condition, and constructed/installation date.

Gauge of complete bridges out of total bridges



Metric Purpose

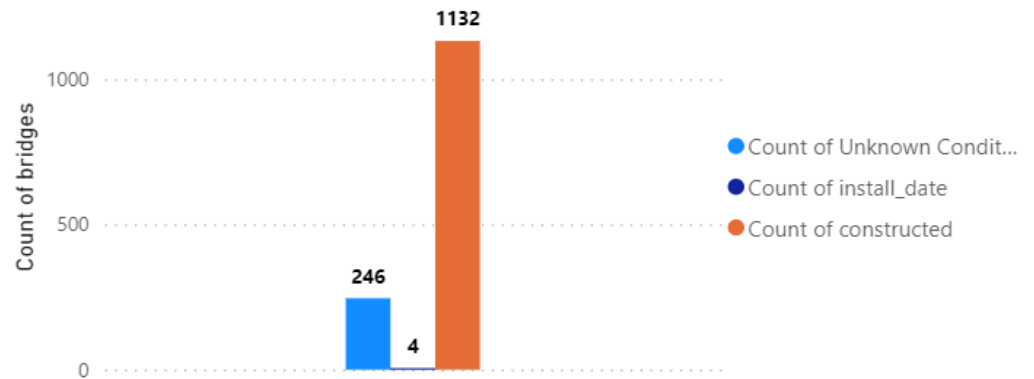
Confirm completeness of Bridge assets attribute data is adequate for planning and decision-making purposes.

Consequence of Poor Quality Data

Poor data has the potential to impact our renewal programme development, investment decision making, asset valuations and LoS delivery.

Asset ID	Name	Condition	Road
1461	(ABERDEEN/BLUEWATER PL)/CREEK	Unknown	BLUEWATER PL / ABERDEEN CRES CYWAY
1481	(ORUARANGI RD/BEACH RD) 1	Unknown	OTAUTAUA STONEFIELDS CYWAY
1482	(ORUARANGI RD/BEACH RD) 2	Unknown	OTAUTAUA STONEFIELDS CYWAY
1483	(ORUARANGI RD/BEACH RD) 3	Unknown	OTAUTAUA STONEFIELDS CYWAY
1484	(ORUARANGI RD/BEACH RD) 4	Unknown	OTAUTAUA STONEFIELDS CYWAY
1585	524 GREAT SOUTH RD PED BRIDGE	Unknown	GREAT SOUTH RD (PAPAKURA)
1390	ABBOTTS/GRAND #1	Unknown	ABBOTTS WAY / GRAND DR CYWAY
1391	ABBOTTS/GRAND #2	Unknown	ABBOTTS WAY / GRAND DR CYWAY
1459	ABERDEEN/BLUEWATER PL	Unknown	BLUEWATER PL / ABERDEEN CRES CYWAY
1460	ABERDEEN/BLUEWATER PL LAKE	Unknown	WATTLE DOWNS ESP RESERVE LAKE CYWAY
1294	ABERLEY-PIN OAK	Good	PIN OAK DR/ABERLEY RD CYWAY

Count Of Bridges with Missing or Unknown attributes






Where to next?

- S6 Bridge Inspection Report
- Auditing and Vesting Handover

Bridge general inspection report – page 1 of 2

		Bridge general inspection report		Supplier logo	
Network area:		Bridge name:		Highway:	RP:
Bridge type:		Superstructure material:			
Year constructed:		Deck material:			
Marking code 0 = Not inspected 1 = Satisfactory 2 = Monitor next inspection (provide comment & photo) R = Routine maintenance (provide comment & photo) S = Structural maintenance (provide comment & photo) N = Not applicable		Deck width:		Map ref. (easting):	
		Total bridge length:		Map ref. (northing):	
		No. of spans:		Owner:	
		Span lengths (m):		RCA:	
Inspector:		Next inspection type:		Previous inspection type:	
Date:		Next inspection date:		Previous inspection date:	
Element		Mark	Brief description of defect and comments		
Set	No	Description			
Superstructure elements	1	Primary load carrying element			
	2	Secondary element(s)	Transverse beams		
	3		Other (incl. deck)		
	4	Half joints			
	5	Seismic linkages/holding down bolts			
	6	Parapet beam or cantilever			
	7	Cross bracing			
Load-bearing substructure	8	Foundations			
	9	Abutments			
	10	Head wall			
	11	Pier / column			
	12	Cross-head / capping beam			
	13	Bearings			
	14	Bearing plinth / shelf			
Notes	15	Superstructure drainage			

Thank you to...

- Gang Yu (Principal Asset Engineer) and the AT Asset Management team
- Richard Gale, Glenn Manley & the ThinkProject team
- Mary Tan, Adhi Krishnamoorthy and Adarsh Narangoli (AT Asset Information Bridges Project Team)
- AMDS team

Nga mihi
Thank you!



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