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# AUTOMATING ASSET CONDITION REVIEW:

*SMARTER DECISIONS, LESS EFFORT*

# AMDS

Asset Management Data Standard





# Purpose

As part of revocation, we need a clear understanding of the **condition of existing assets** to be handed over.

# Challenges: Fragmented asset data

The screenshot displays the Waka Kotahi HSIMS ASSET & WORK MANAGER interface. The top navigation bar includes categories like Access Control, Amenities, Barrier, Benchmark, Biodiversity, Corridor, Drainage, and Geotechnical. A search bar is present with the text 'Search Structures' and a search input containing '540'. Below the search bar is a table of asset data. The table has columns for Asset Number, Region, Type, Owner Road Name, RS, Disp, SN, and Owner Structure Name. The data rows show various culverts and bridges across Northland and Auckland regions. A map overlay on the right shows a geographical view of New Zealand with a red outline of the country and labels for Auckland and Wellington. A 'Layers' panel is also visible, showing 'Forward Works Programme Details' and an 'Add' button.

Asset Number	Region	Type	Owner Road Name	RS	Disp	SN	Owner Structure Name
31540	Northland	Carried	01N	215	14.86	2299	DAWSONS FLAT CULVERT
48042	Northland	Carried	KaipDC-BLACK SWAMP RD	0	0.244	20000413	BLACK SWAMP RD (CUL) C
48222	Northland	Carried	KaipDC-POUTO RD	0	54.085	20000220	POUTO RD (B) BRIDGE NO.
48634	Northland	Carried	WhreiDC-BROOKS RD	0	5.5	11	MILLWARDS 540B BRIDGE
48540	Northland	Carried	WhreiDC-JUBILEE RD	0	2.87	499	JUBILEE ROAD 851 CULVEI
46540	Auckland		01N	448	0.306	SG 4478	South Bound before Redoubt
39540	Auckland	Carried	01N	448	5.56	4538	GREAT SOUTH ROAD ONR.
35540	Auckland	Carried	01N	477	1.75	4787	LEATHAMS STREAM ARCH
40026	Waikato		025	42	12.084	540	Retaining Wall #540 (Mechanical)

# Challenges: Limited resources

## Manual Data Reconciliation

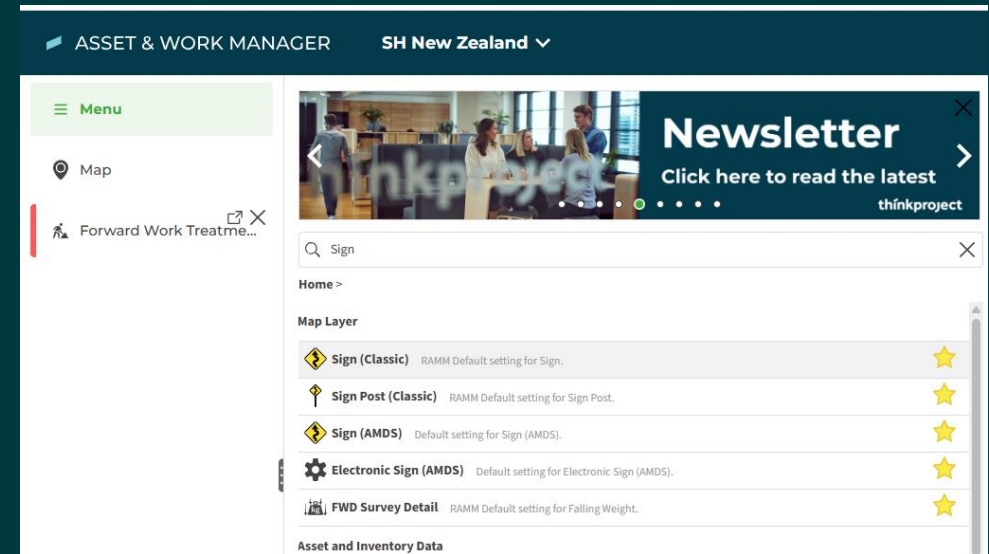
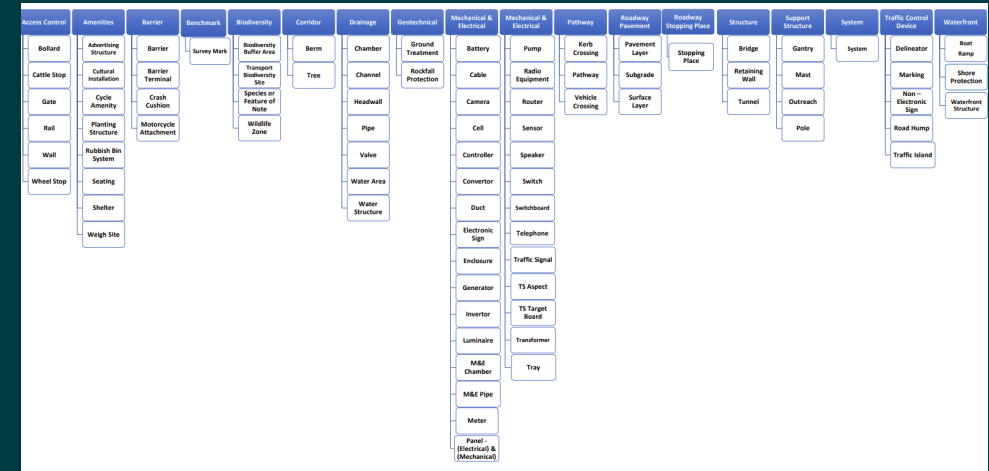
Excessive hours spent on data extraction, cleaning and processing, risking human errors.

## Scaling Challenges

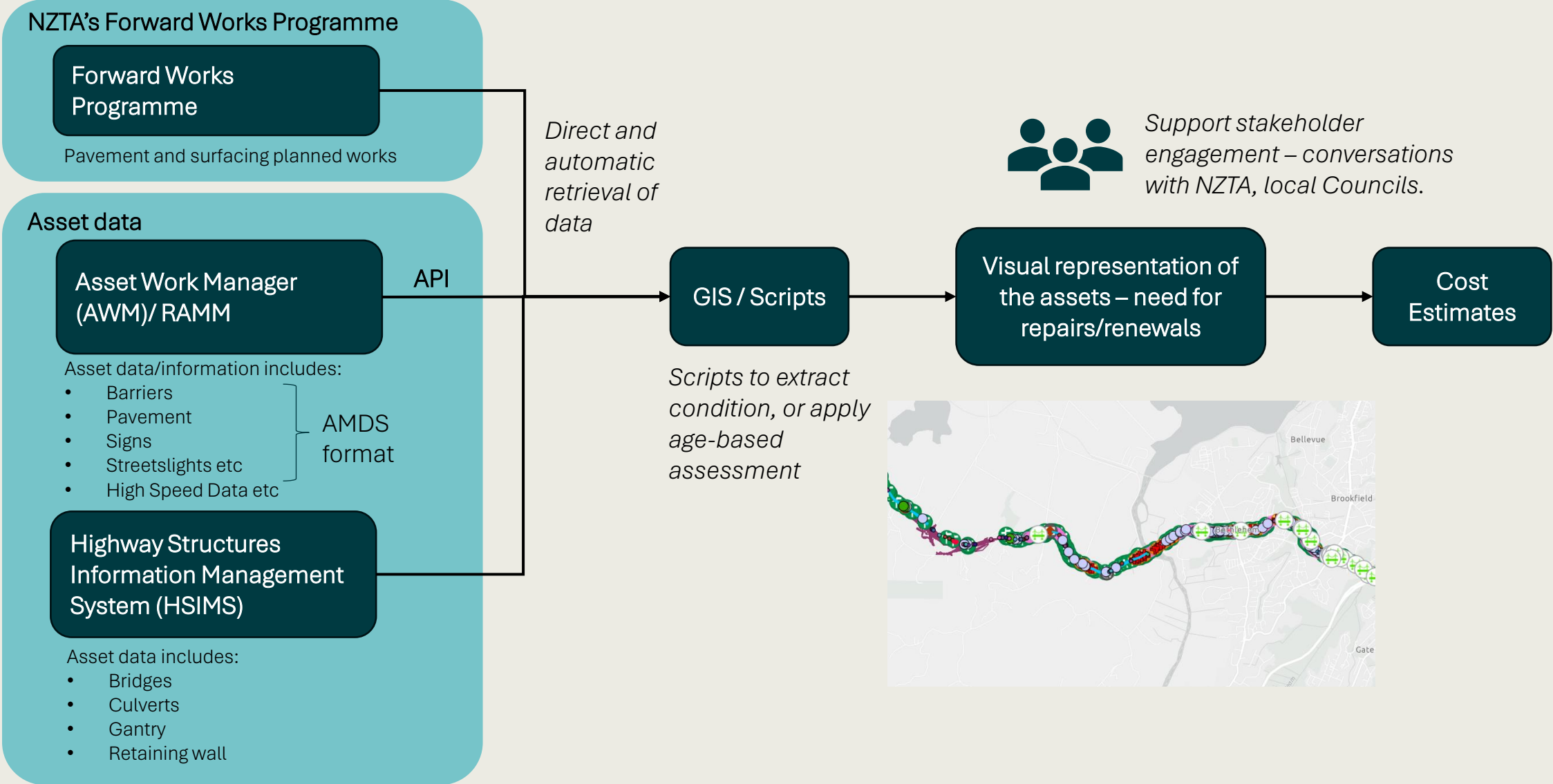
70+ asset types in the current AMDS (v1.5) + Forward works, etc.

## Need for Automation

Automation and integration are critical to unify data and enable reliable, scalable decision-making.



# Solution: How does it work?



# Example Only - Visualisation

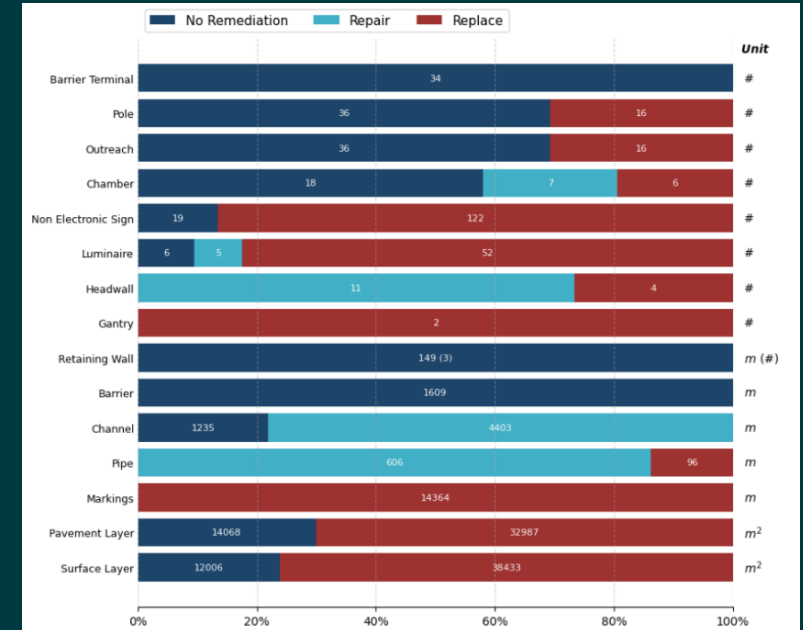
The image displays a GIS application interface. On the left, a search bar contains the text "Find address or place" and a magnifying glass icon. Below the search bar are zoom in (+) and zoom out (-) buttons, and a home button. The main map area shows a street network with labels for "Wairoa Pa Road", "Carmichael Road", "Te Paeroa Reserve", "Reserve", "Bethlehem Road", "Bethlehem", "Parau Drive", "Moffat Road", and "Wairua Road". A road with a "2" shield is visible. On the right, a "Map Layers" panel is open, listing various map layers with expand/collapse arrows, visibility toggles, and more options menus. The "Forward Works" layer is currently selected and highlighted, with a mouse cursor pointing at it. Below "Forward Works" is the "Stage 2" layer.

Layer Name	Visibility	More Options
> HSIMS Structures	☑	⋮
> Rutting	☑	⋮
> RAMM Asset	☑	⋮
✓ RAMM Asset Repair and Renew	☑	⋮
Retaining Wall	☑	⋮
> Access Control	☑	⋮
> Barrier	☑	⋮
> Drainage	☑	⋮
> Support Structure	☑	⋮
> Mechanical and Electrical	☑	⋮
> Roadway	☑	⋮
> Traffic Control Device	☑	⋮
✓ Forward Works	☑	⋮
Stage 2	☑	⋮

# Benefits

- Fast processing: Efficient method to extract AWM/RAMM data for 70+ asset types, and over thousands of assets on the network for the relevant area
- Replicable, consistent across projects
- Geospatial visual representation for stakeholder engagement and discussions
- Efficiently test different scenarios – e.g. change in handover years or other parameters

Example ONLY - Results



Example ONLY - Barrier



**Barrier terminal (M23 Compliant)**  
 Installed in year 2002 (at handover year 2029, asset age = 27)  
 RAMM condition rating in 2023: Poor  
**Recommendation: replacement**



**Roadside Guard Rail (W-Beam)**  
 Installed in year 2002 (at handover year 2029, asset age = 27)  
 RAMM condition rating in 2023: Poor  
**Recommendation: replacement**

# Challenges we've found

- **Inaccuracy AWM asset data**
  - Missing assets – e.g. bus stops/shelter not identified.
  - Inaccurate location
  - Missing information (install date, condition, etc.) – e.g. traffic signals has placeholder install date of 1900.
- **Condition data availability**
  - In AWM/RAMM, assets such as barrier, barrier terminal proportionally have recent more conditions assessment available, but others less so.
  - In HSIMS, assets including bridge, retaining wall typically have recent inspections and conditions.
- **Age-based assessment** not fully reflective of the actual condition of the asset
- **Funding constraints** meanings assets are stretched /more reactive maintenance



**Stockpile Site, but it is a bus stop. Bus stop/shelter not identified in RAMM.**

# Final Message

Good asset data today helps build a  
stronger transport network in the future.

*Just imagine what decisions we can make when we know the real  
condition of every asset on our network.*