
Neighbourhood Forums

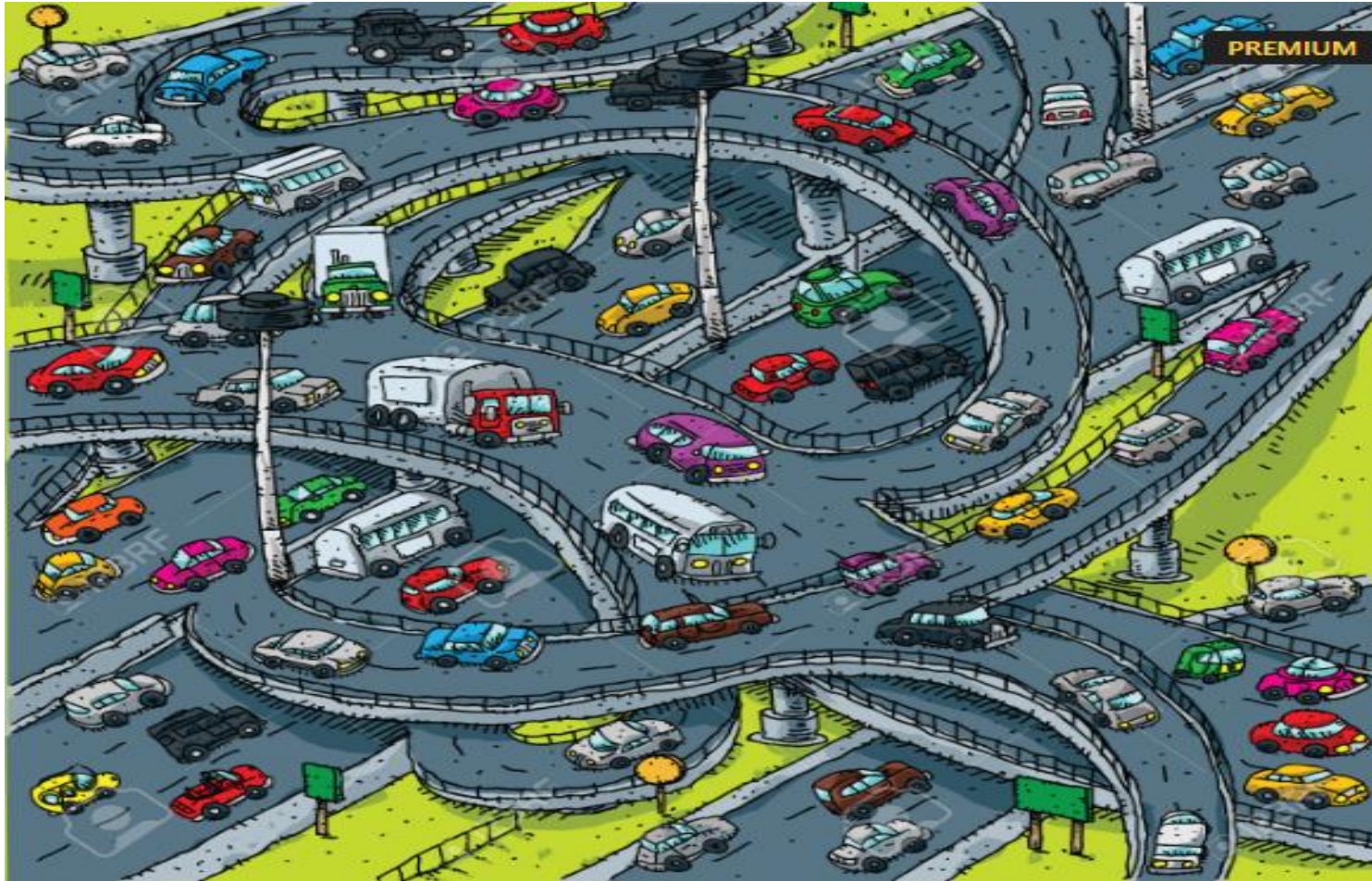
Highways Maintenance

Lee Holland

Head of Engineering Services

October 2023

What do we mean by “Highways”?



Tameside's Highway Network

40 sq. miles / 95,000 properties / 231,000 residents

73km Principal Roads

70km Classified Roads

615Km Unclassified Roads

1,155Km Footways

48,126 Gullies

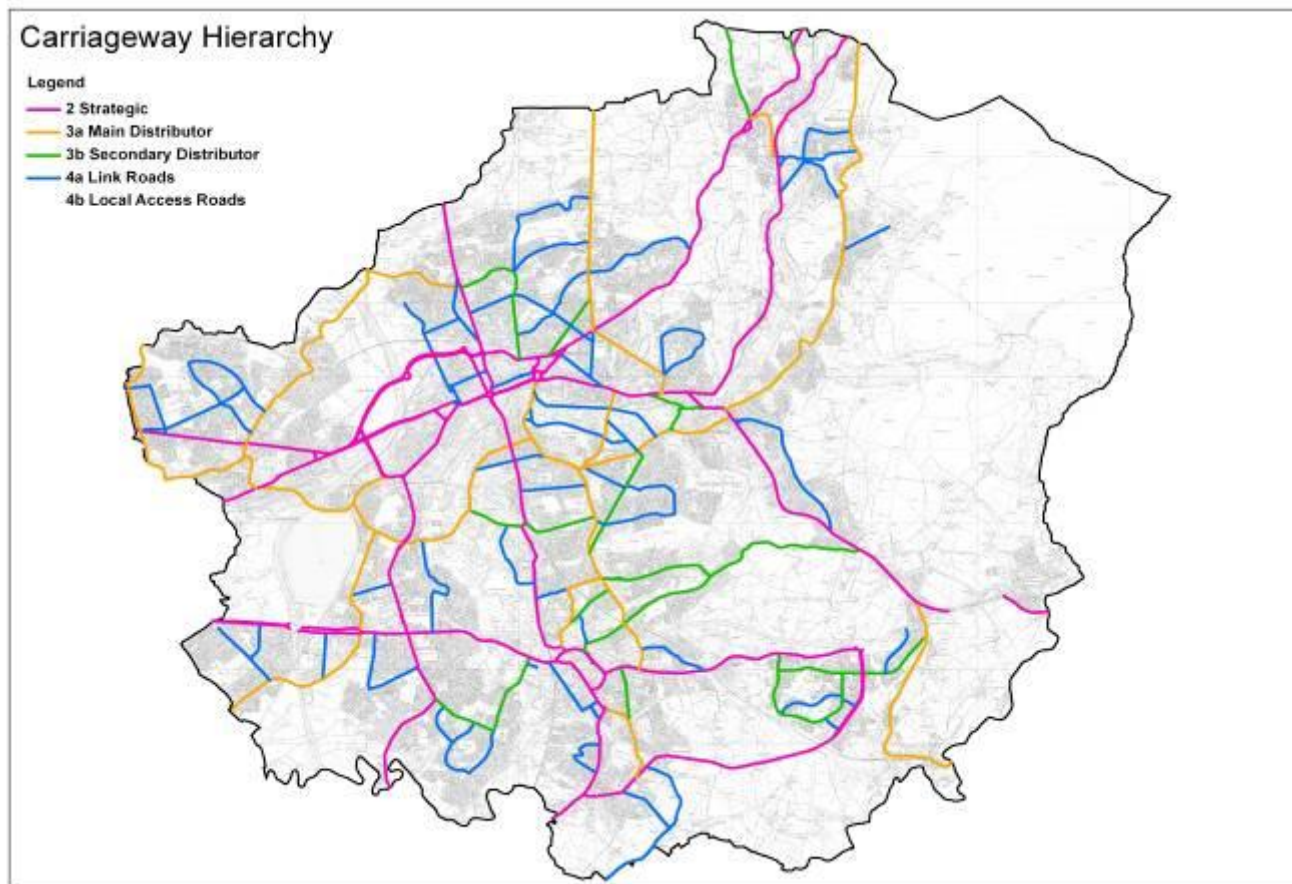
25,341 Street Lighting columns

4,000 Signs (illuminated and non-illuminated)

159 Bridges

304 Retaining Walls / Structures

Tameside's Highway Hierarchy



Establish maintenance strategies relative to demand / risk

Asset Valuation for Whole of Government Accounts (WGA)

<u>2022 Return</u>	Gross Replacement		Depreciated Replacement
Asset Type	Cost (£m)	Depreciation (£-m)	Cost (£m)
Carriageways	1,034	78.3	955.7
Footways	254.4	69.8	184.6
Bridges / Structures	363.8	109.3	254.5
Street Lighting	47.1	28.5	18.6
Street Furniture	26.9	18.3	8.6
TOTAL	1,726.2	304.2	1,422.0

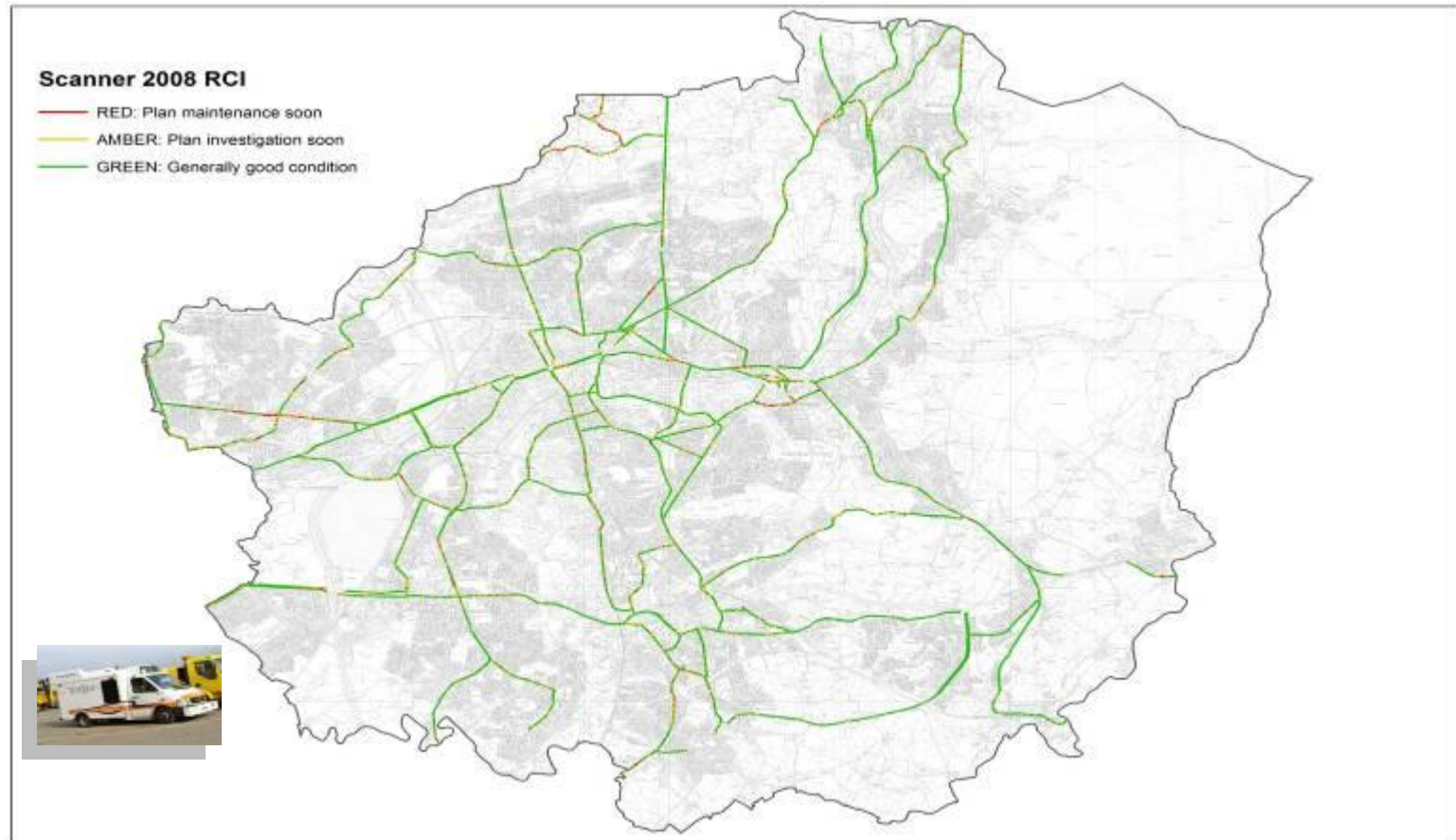
Highway Asset Groups

- Highways (footways, roads and drainage)
- Structures (bridges and retaining walls)
- Street lighting (lighting columns or illuminated signs)
- Winter maintenance (gritting)

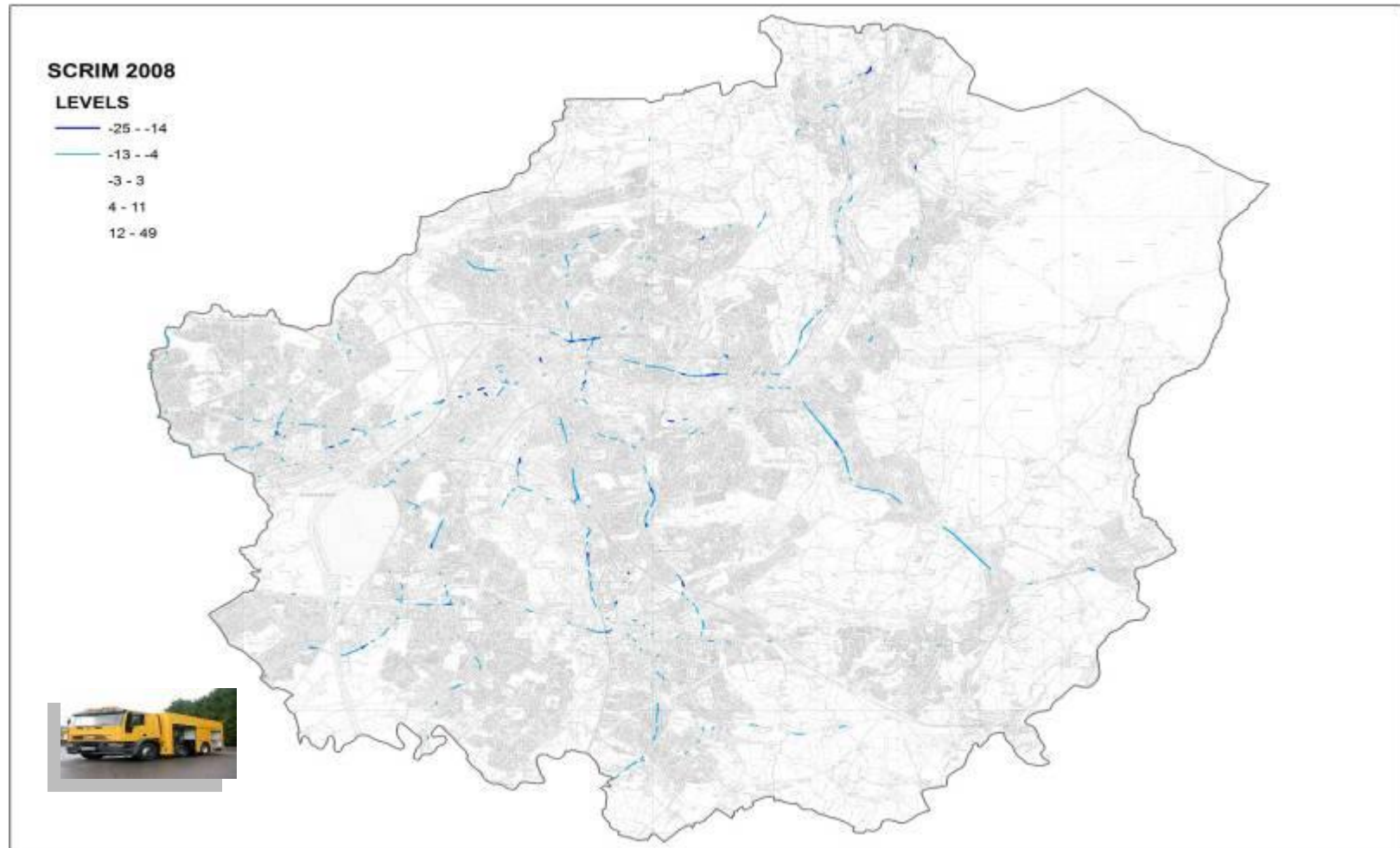
Highway Assets Annual Maintenance Investment

Highway Annual Maintenance Investment		
	DfT Toolkit for steady state (£m)	DfT & TMBC allocations (£m)
Highways	£6.18	£3.12
Structures	£2.26	£0.58
Street Lighting	£2.00	£0.61
Total:	£10.44	£4.31

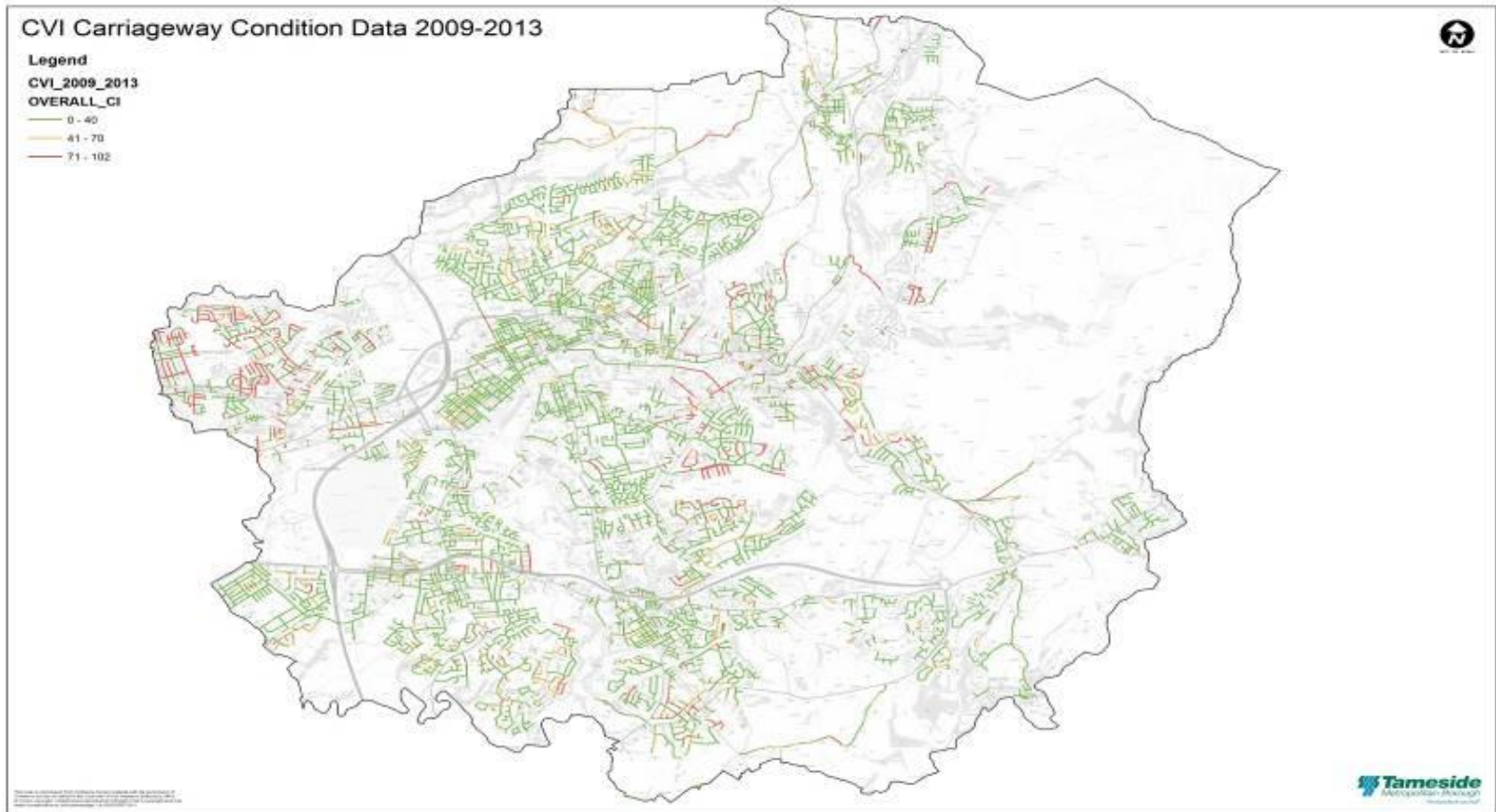
Programme Building Classified Roads – SCANNER



Programme Building Classified Roads – SCRIM



Programme Building Unclassified Roads - CVI



Condition Rating – ‘Traffic Light’

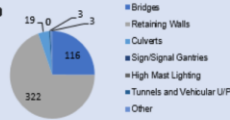
<u>Condition Rating</u>			<u>Description</u>
9	Very Poor	RED	Very poor condition, regular repairs needed, should be consider for major works as soon as possible
8	Poor	RED	Difficult to keep serviceable, major works may be the only way to achieve improvements
7	Deteriorating	RED	Repairs needing to be ordered more each inspection to maintain in reasonable condition, but not needing major works at this time
6	Below Average	AMBER	Deteriorating, numerous openings and requiring a small number repairs each inspection
5	Average	AMBER	Reasonable condition, what would be consider to be normal condition; neither good or bad
4	Fair	AMBER	Starting to exhibit a small amount of wear and tear but in reasonable condition
3	Good	GREEN	No work needed to be considered for some time, few repairs needed at each inspection
2	Very Good	GREEN	May be a few years old but no deterioration, very few repairs needed at each inspection
1	Excellent	GREEN	Looks recently renewed

Highway Structures



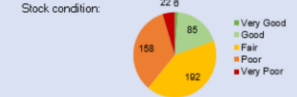
Valuation Dashboard

Organisation: **Local Authority**
 Date data input: **00/07/2020**
 No. of Structures: **463**
 No. of Elements: **2444**



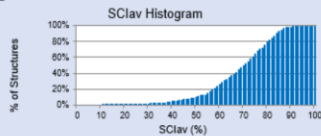
Stock Gross Replacement Cost: **£ 269,253,006**
 Stock Depreciated Replacement Cost: **£ 164,002,203**

Indexation used for valuation: **2020/21**
 Valuation Date: **27/10/2021**
 Annual Depreciation: **£ 2,264,106**



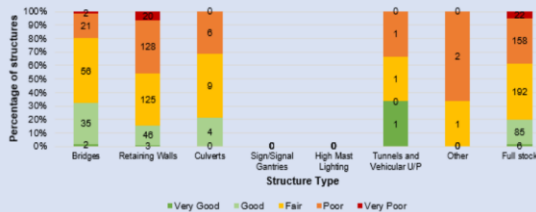
Stock Summary

Average condition across the stock



Condition Band	No. of assets
Very Good	6
Good	95
Fair	192
Poor	158
Very Poor	22
Total	463

Average condition per structure type



Structure Stock Condition Indices (SSCI)

Asset Type	SSCI Average	SSCI Critical	SSS
Bridges	76.9	72.5	93.7%
Retaining Walls	62.0	51.6	51.4%
Culverts	70.8	58.3	83.4%
Sign/Signal Gantries	0.0	0.0	0.0%
High Mast Lighting	0.0	0.0	0.0%
Tunnels and Vehicular Underpasses	56.1	40.6	2.1%
Other	53.0	56.7	23.1%
Stock	65.9	56.6	57.6%

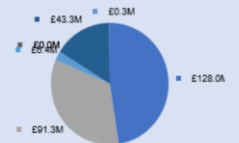
Valuation results per structure type

Structure Type	No. Structures	GRC	DPAC	Depreciation	DPAC as % of GRC
Bridges	116	£ 128,040,772	£ 94,881,895	£ 33,158,877	74.1%
Retaining Walls	322	£ 91,289,062	£ 30,271,517	£ 61,017,546	33.2%
Culverts	19	£ 6,383,320	£ 3,643,223	£ 2,740,096	57.1%
Sign/Signal Gantries	0	-	-	-	0.0%
High Mast Lighting	0	-	-	-	0.0%
Tunnels and Vehicular UP	3	£ 43,269,391	£ 35,129,446	£ 8,139,945	81.2%
Other	3	£ 270,460	£ 76,121	£ 194,339	28.1%
Full stock	463	£ 269,253,006	£ 164,002,203	#####	60.9%

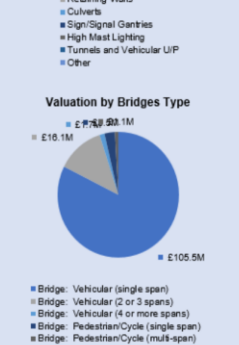
Valuation results per structure group

Asset Type	No. Structures	GRC	DPAC	Depreciation	DPAC as % of GRC
Bridge: Vehicular (single span)	52	£ 105,514,356	£ 82,481,128	£ 23,033,228	78.2%
Bridge: Vehicular (2 or 3 spans)	17	£ 16,146,296	£ 9,253,279	£ 6,893,016	57.3%
Bridge: Vehicular (4 or more spans)	2	£ 1,709,286	£ 1,031,633	£ 677,653	60.4%
Bridge: Pedestrian/Cycle (single span)	40	£ 3,521,179	£ 1,562,267	£ 1,958,912	44.4%
Bridge: Pedestrian/Cycle (multi-span)	5	£ 1,149,656	£ 553,588	£ 596,068	48.2%
Canilever Flood Sign	0	-	-	-	-
Chamber/Cellar/Vault	0	-	-	-	-
Culvert (single cell)	16	£ 6,072,919	£ 3,425,972	£ 2,646,947	56.4%
Culvert (multi-cell)	3	£ 310,401	£ 217,252	£ 93,149	70.0%
High Mast Lighting	0	-	-	-	-
Retaining Wall (height > 3m)	42	£ 28,258,674	£ 11,051,963	£ 17,166,912	39.3%
Retaining Wall (height ≤ 3m)	280	£ 63,030,188	£ 19,179,554	£ 43,850,634	30.4%
Sign/Signal Gantry (cantilever)	0	-	-	-	-
Sign/Signal Gantry (spanning)	0	-	-	-	-
Structural Earthworks (height > 3m)	0	-	-	-	-
Structural Earthworks (height ≤ 3m)	0	-	-	-	-
Underpass: Vehicular	0	-	-	-	-
Underpass (or Subway): Pedestrian	3	£ 270,460	£ 76,121	£ 194,339	28.1%
Subway: Pipe	0	-	-	-	-
Tunnel (bored)	0	-	-	-	-
Tunnel (cut and cover)	3	£ 43,269,391	£ 35,129,446	£ 8,139,945	81.2%
Total	463	£ 269,253,006	£ 164,002,203	#####	60.9%

Valuation by Structure Type



Valuation by Bridges Type



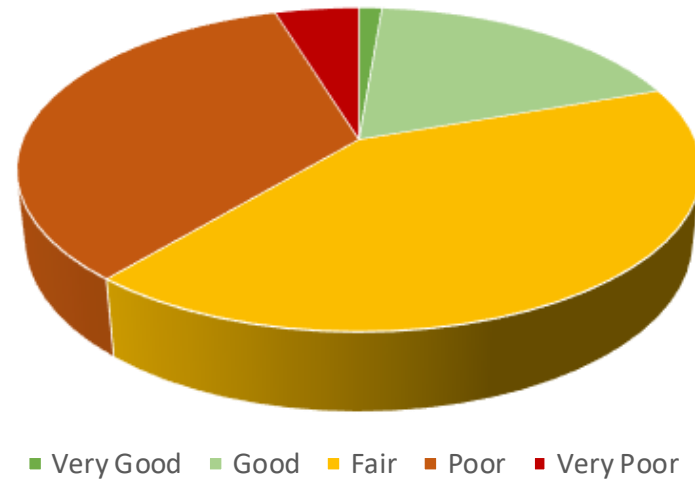
Highway Structures

2021

Highways Structures Condition

	No.	%ge
Very Good	6	1.30
Good	85	18.36
Fair	192	41.47
Poor	158	34.13
Very Poor	22	4.75
Total	463	

Highways Structures Condition



Street Lighting

TAMESIDE MBC LIFE CYCLE INVESTMENT SUMMARY				
STREET LIGHTING				
2022	ACTION			
	TARGET	TESTING	TESTING	REPLACE
CONDITION AND AGE PROFILE				
	GOOD 0-15 years	FAIR 16-25 years	POOR 26-30 years	BAD 31+ years
ASSETS				
≤ 6M COLUMNS	£248,300	£931,350	£158,865	£4,857,600
8M COLUMNS	£30,810	£46,095	£26,880	£3,408,500
10M COLUMNS	£52,325	£56,280	£40,320	£3,332,600
12M COLUMN	£0	£10,500	£25,095	£220,000
HERITAGE COLUMNS	£6,175	£27,300	£13,650	£455,000
ILLUMINATED SIGNS	£4,160	£31,500	£42,000	£2,040,000
COLUMNS & SIGNS INVESTMENT	£341,770	£1,103,025	£306,810	£14,313,700

NOTES				
FAIR	is the point at which NDT (Non destructive column testing begins)			
POOR	is the point at which the column has exceeded its design life. Individual sheets assume that we keep testing until they hit threat risk 3. Additional funding required if columns in threat band 1 and 2 fail. Also applies to signs and bollards.			
Other lighting such as lighting on wooden poles has been included within the appropriate asset size.				
No allowance has been taken for underground assets/feeder pillars etc at this stage.				
Columns heights in between have been added to the next highest column band.				
No specific data has been gathered from site and limited age profiles exist within symbology.				
Information has been taken from 2007 submission without site surveys being undertaken the information cannot be verified and should be treated as such.				
The price of the luminaire can be removed once the LED invest to save programme is complete.				
It is assumed columns replaced are one for one				

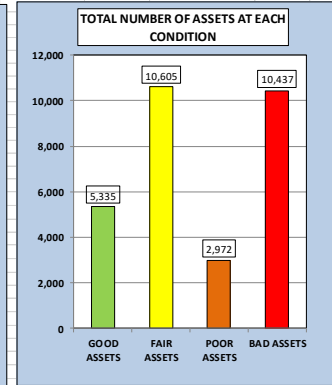
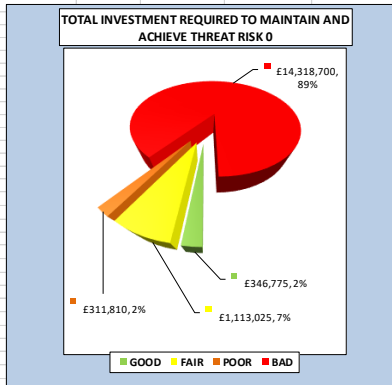
All columns based on typical design life of 25 years				
Threat Risk	All assets at Risk Level	Treatment		
GOOD	0	5,335	These supports are considered to have the least risk	
FAIR	1	10,605	These supports have manageable risk and should be considered for structural testing	
POOR	2	2,972	These supports have manageable risk but should be programmed for replacement as they have exceeded their design life by the manufacturer	
BAD	3	10,437	These supports potentially provides the greatest risk to the public and an Operating Authority. These assets should be targeted for replacement first	

LIGHTING COLUMNS BASED ON TECHNICAL REPORT 22 (TR22)					
GOOD	→	Acceptable	→	Continue to monitor TR22	
FAIR	→	Medium to low priority	→	Continue to monitor TR22 and start structurally testing	
POOR	→	Medium to high priority	→	Continue to monitor TR22, Structurally test and replace if sufficient funds allow	
BAD	→	High priority	→	These assets should be targeted for replacement first	

Total investment per column size	Total columns and signs	THREAT RISK 0 0-15 years	THREAT RISK 1 16-25 years	THREAT RISK 2 26-30 years	THREAT RISK 3 31+ years	Columns requiring action	Average investment needed per unit
£6,196,115	18,251	3,820	8,870	1,513	4,048	18,251	£339
£3,512,285	3,174	474	439	256	2,005	3,174	£1,107
£3,481,525	3,479	805	536	384	1,754	3,479	£1,001
£255,595	439	0	100	239	100	439	£582
£502,125	615	95	260	130	130	615	£816
£2,117,660	2,464	64	300	400	1,700	2,464	£859
TOTALS	28,422	5,258	10,505	2,922	9,737	28,422	£4,705

BOLLARD CONDITION CATEGORY							
Total investment required on bollards	Total bollards	Good condition 0-5 YEARS	Fair condition 6-10 YEARS	Poor condition 11-15 YEARS	Bad condition 16+ YEARS	Bollards requiring action	Average investment needed per unit
£440,005	927	77	100	50	700	927	£475

GOOD	£346,775	GOOD ASSETS	5,335
FAIR	£1,113,025	FAIR ASSETS	10,605
POOR	£311,810	POOR ASSETS	2,972
BAD	£14,318,700	BAD ASSETS	10,437
	£16,090,310		29,349



Street Lighting

- Age profile of our columns is dictating our strategy for maintenance
- We undertake structural testing on a percentage of our columns
- We undertake visual inspections
- We undertake electrical testing

Winter Maintenance



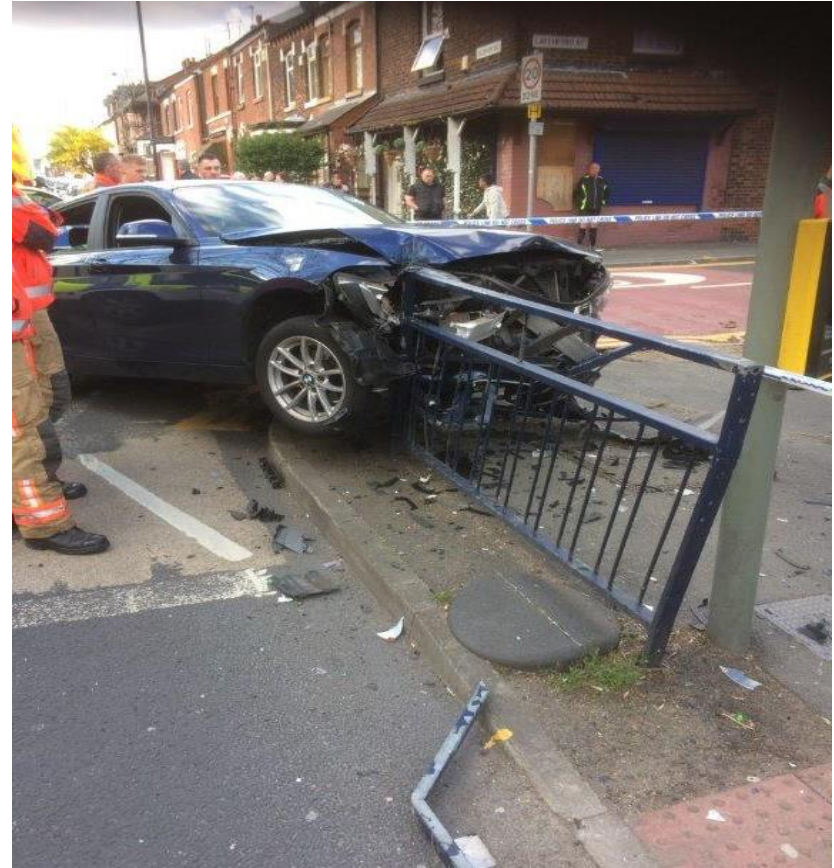
Risk Management



Risk Management

- We undertake regular inspections of the network based on our policy.
- The frequency is determined on a risk based approach.
- Interventions are based on our criteria
- Inspections undertaken last year
 - 7,516 footway
 - 7,118 carriageway

On-Call Engineer



Highways Maintenance



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