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# Neighbourhood Forums

## Highways Maintenance

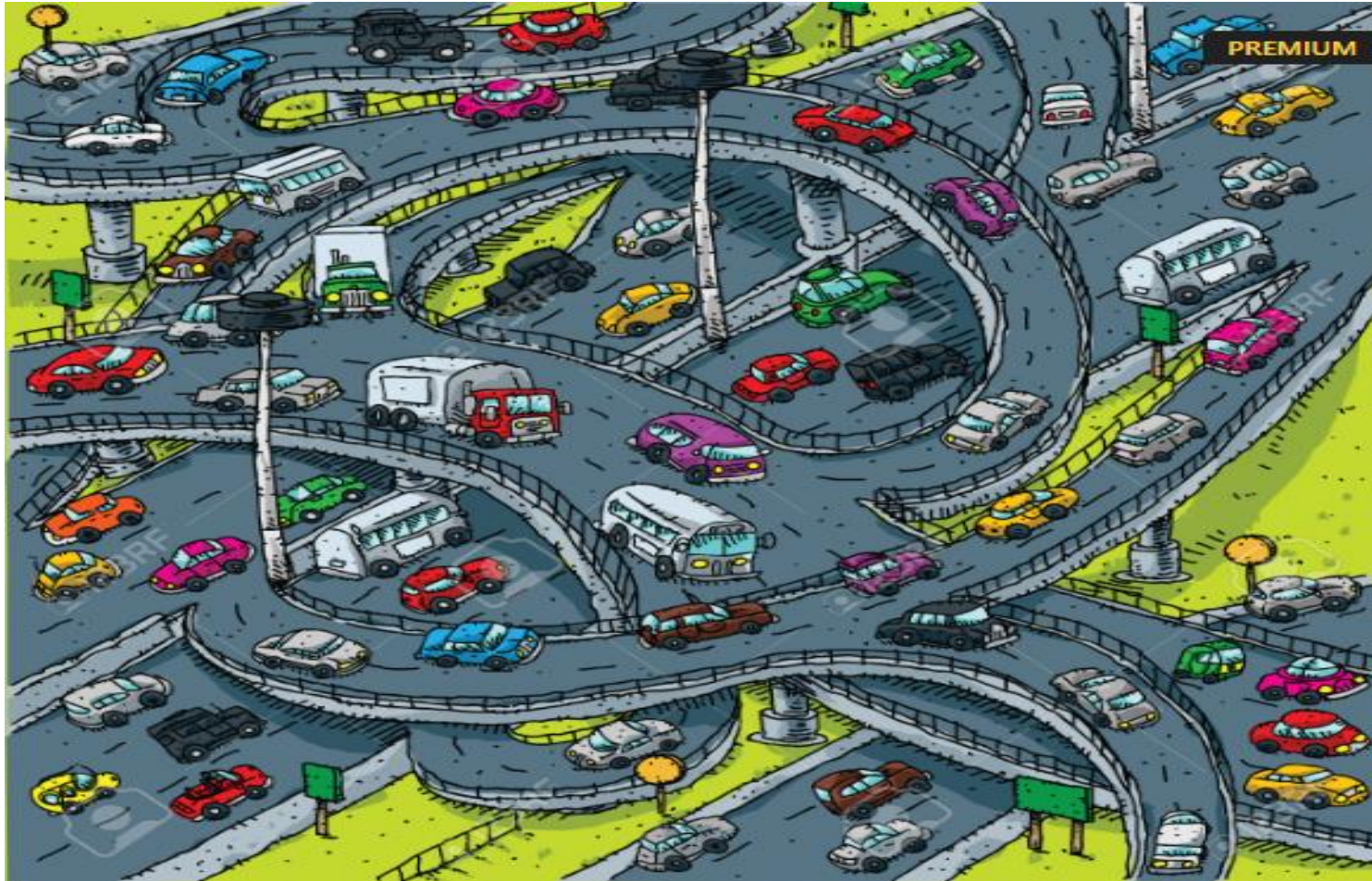
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Lee Holland

Head of Engineering Services

October 2023

# What do we mean by “Highways”



# Tameside's Highway Network

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

73km Principal Roads

70km Classified Roads

615Km Unclassified Roads

1,155Km Footways

48,126 Gullies

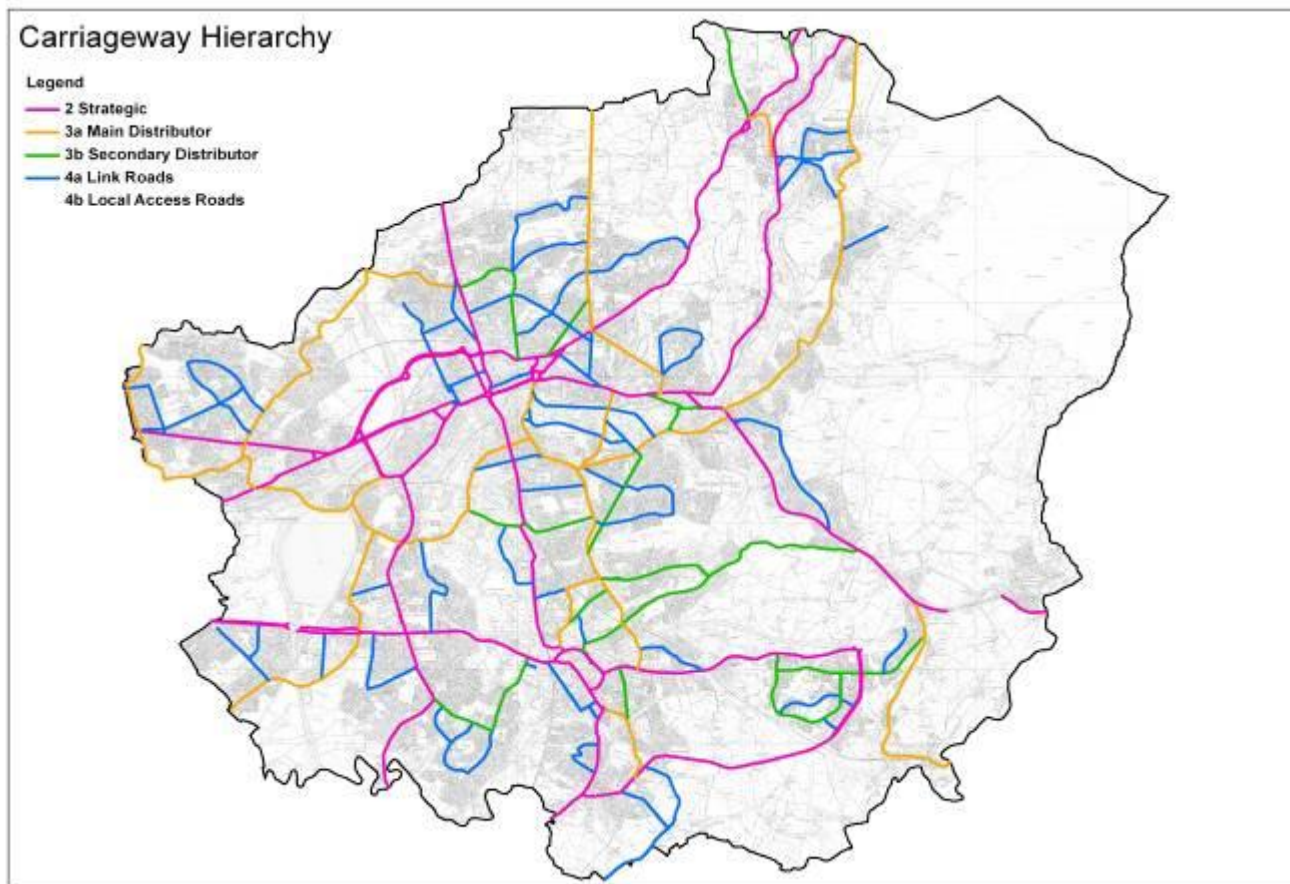
25,341 Street Lighting columns

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
<b>TOTAL</b>	<b>1,726.2</b>	<b>304.2</b>	<b>1,422.0</b>

## Highway Asset Groups

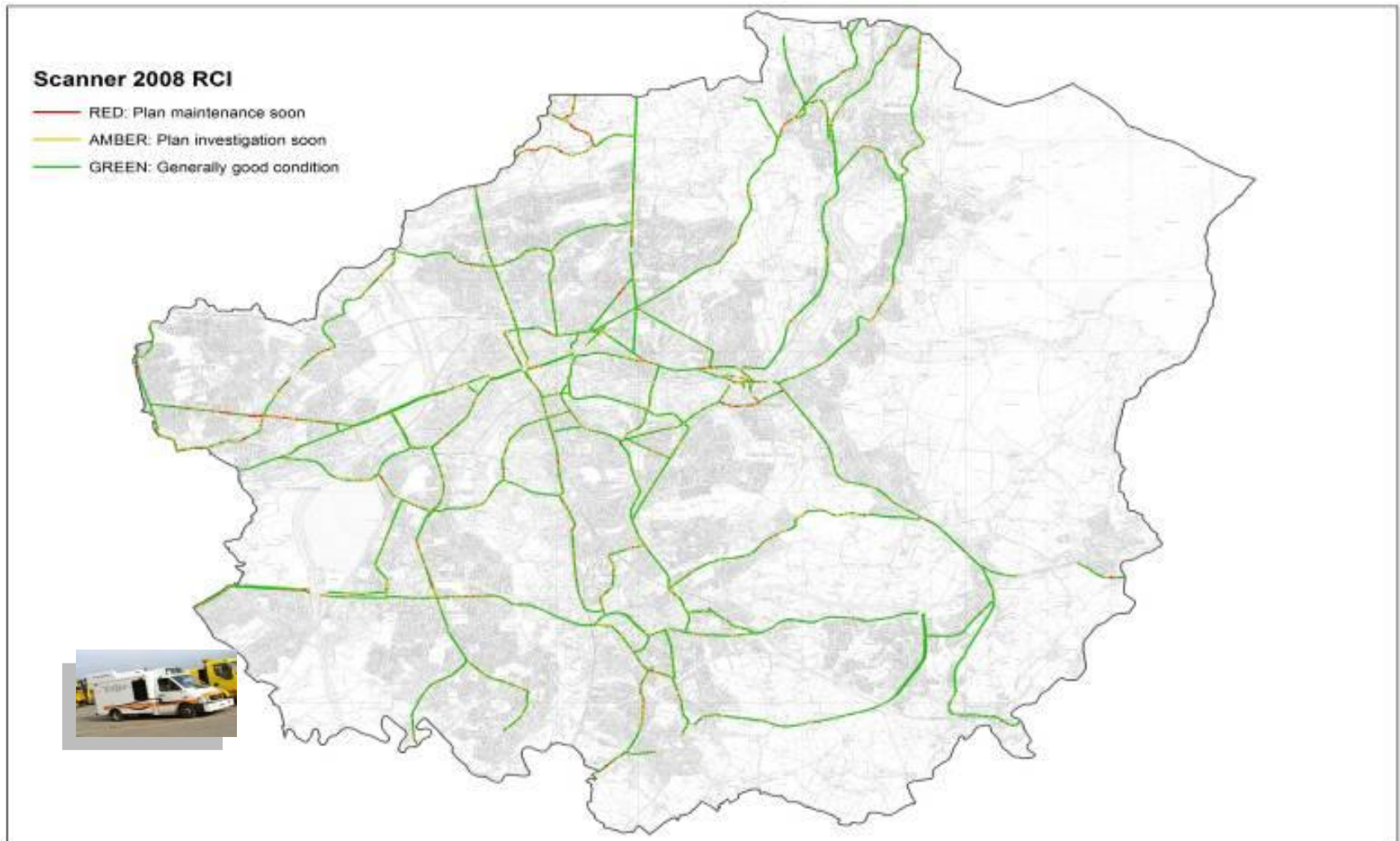
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- Highways (footways, roads and drainage)
- Structures (bridges and retaining walls)
- Street lighting (lighting columns or illuminated signs)
- Winter maintenance (gritting)

## Highway Assets Annual Maintenance Investment

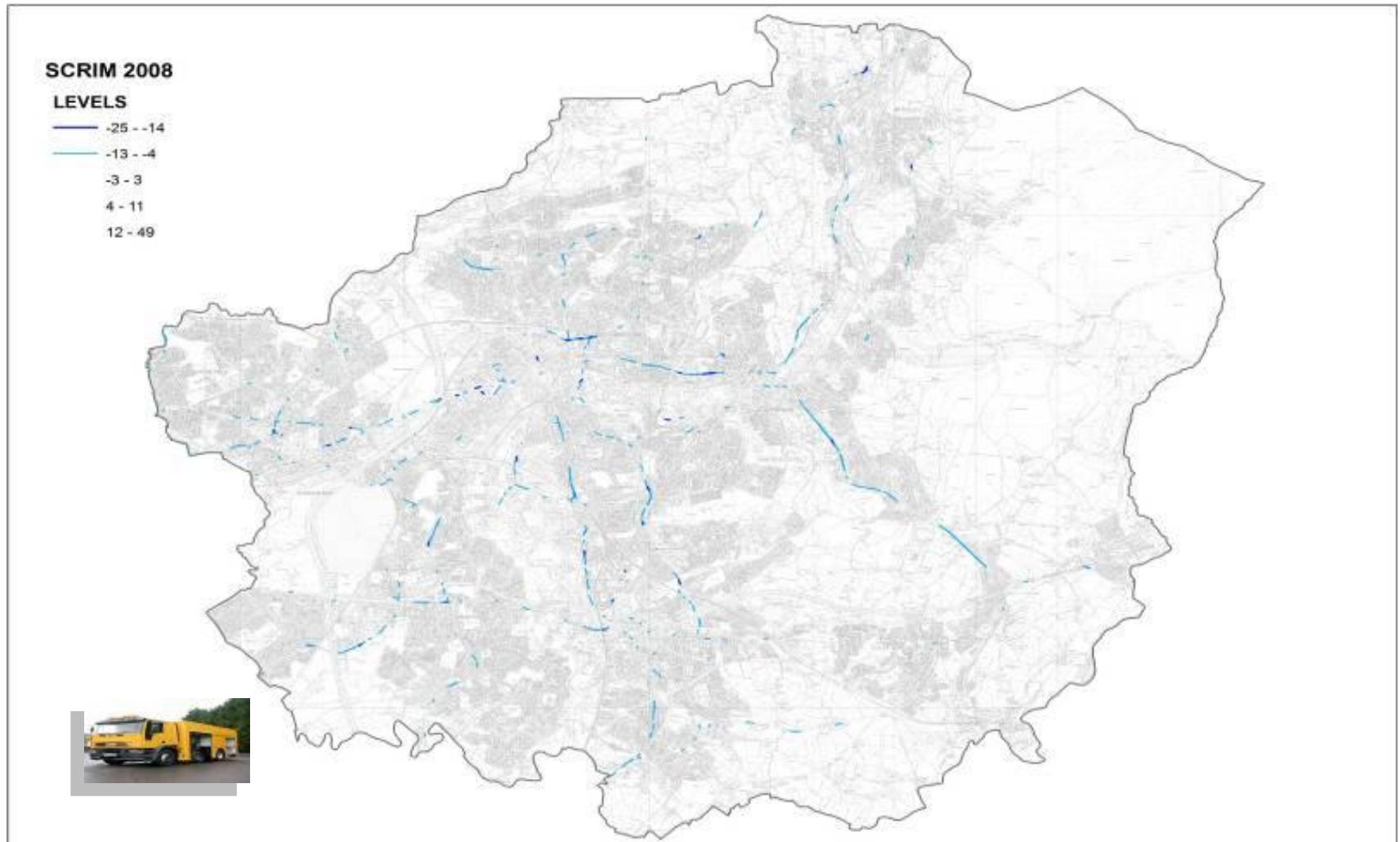
<b>Highway Annual Maintenance Investment</b>		
	DfT Toolkit for steady state (£m)	DfT & TMBC allocations (£m)
Highways	£6.18	£3.12
Structures	£2.26	£0.58
Street Lighting	£2.00	£0.61
<b>Total:</b>	<b>£10.44</b>	<b>£4.31</b>

## Programme Building Classified Roads – SCANNER

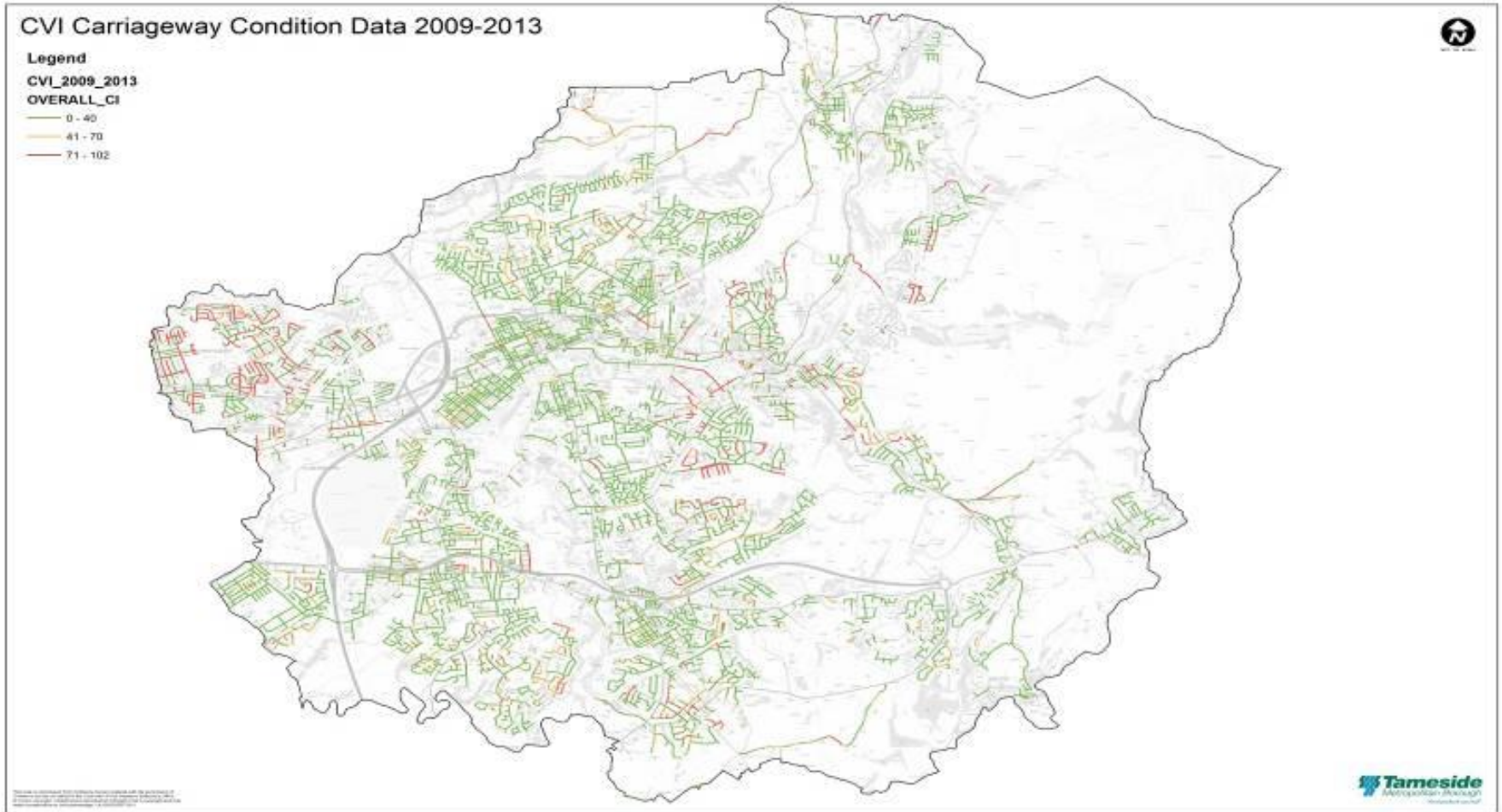




# Programme Building Classified Roads – SCRIM



# Programme Building Unclassified Roads - CVI



# Condition Rating – ‘Traffic Light’

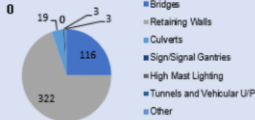
<u>Condition Rating</u>			<u>Description</u>
9	Very Poor	RED	Very poor condition, regular repairs needed, should be consider for major works as soon as possible
8	Poor	RED	Difficult to keep serviceable, major works may be the only way to achieve improvements
7	Deteriorating	RED	Repairs needing to be 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



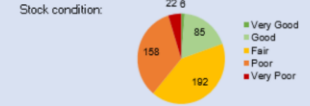
## Valuation Dashboard

Organisation: **Local Authority**  
 Authority type: **Local Authority**  
 Date data input: **00/01/2020**  
 No. of Structures: **463**  
 No. of Elements: **2444**



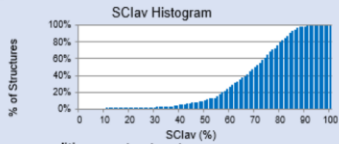
Stock Gross Replacement Cost: **£ 269,253,006**  
 Stock Depreciated Replacement Cost: **£ 164,002,203**

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



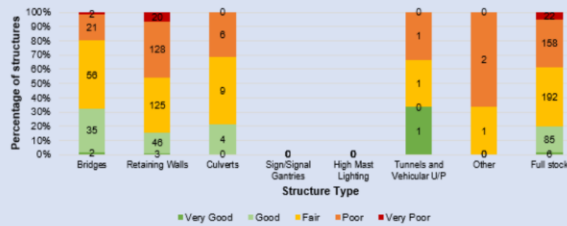
## Stock Summary

### Average condition across the stock



Condition Band	No. of assets
Very Good	6
Good	85
Fair	192
Poor	158
Very Poor	22
<b>Total</b>	<b>463</b>

### 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%
<b>Stock</b>	<b>65.9</b>	<b>56.6</b>	<b>57.6%</b>

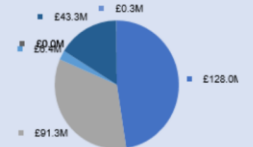
### Valuation results per structure type

Structure Type	No. Structures	GRC	DFC	Depreciation	DFC 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	£ 10,017,546	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%
<b>Full stock</b>	<b>463</b>	<b>£ 269,253,006</b>	<b>£ 164,002,203</b>	<b>#####</b>	<b>60.9%</b>

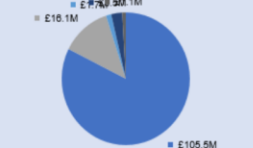
### Valuation results per structure group

Asset Type	No. Structures	GRC	DFC	Depreciation	DFC 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%
Cantilever Road 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	£ 28,258,874	£ 11,091,963	£ 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%
<b>Total</b>	<b>463</b>	<b>£ 269,253,006</b>	<b>£ 164,002,203</b>	<b>#####</b>	<b>60.9%</b>

### Valuation by Structure Type



### Valuation by Bridge Type



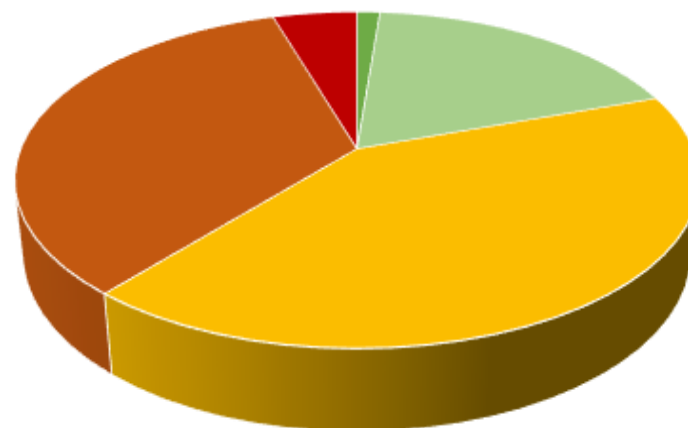
# Highway Structures

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
<b>Total</b>	<b>463</b>	

Highways Structures Condition



■ Very Good ■ Good ■ Fair ■ Poor ■ Very Poor

# Street Lighting

TAMESIDE MBC LIFE CYCLE INVESTMENT SUMMARY				
STREET LIGHTING				
2022	ACTION			
	TARGET	TESTING	TESTING	REPLACE
	CONDITION AND AGE PROFILE			
	GOOD THREAT RISK 0 0-15 years	FAIR THREAT RISK 1 16-25 years	POOR THREAT RISK 2 26-30 years	BAD THREAT RISK 3 31+ years
<b>ASSETS</b>				
≤ 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
<b>COLUMNS &amp; SIGNS INVESTMENT</b>	<b>£341,770</b>	<b>£1,103,025</b>	<b>£306,810</b>	<b>£14,313,700</b>
<b>BOLLARDS</b>				
	GOOD	FAIR	POOR	BAD
	0-5 YEARS	6-10 YEARS	11-15 YEARS	16+ YEARS
BOLLARDS	£5,005	£10,000	£5,000	£420,000
<b>BOLLARD INVESTMENT</b>	<b>£5,005</b>	<b>£10,000</b>	<b>£5,000</b>	<b>£420,000</b>
<b>INVESTMENT VALUE ALL ASSETS</b>	<b>£346,775</b>	<b>£1,113,025</b>	<b>£311,810</b>	<b>£14,318,700</b>

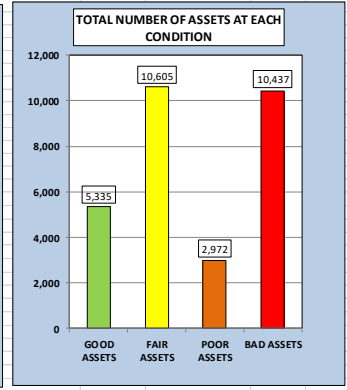
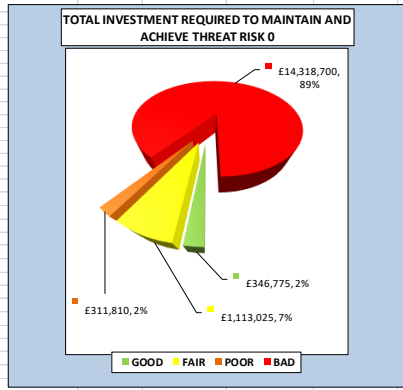
NOTES				
<b>FAIR</b>	is the point at which NDT (Non destructive column testing begins)			
<b>POOR</b>	is the point at which the column has exceeded its design life. Individual sheets assume that we keep testing until they hit threat risk 3. Additional funding required if columns in threat band 1 and 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 below 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	
<b>GOOD</b>	0	5,335	These supports are considered to have the least risk	
<b>FAIR</b>	1	10,605	These supports have manageable risk and should be considered for structural testing	
<b>POOR</b>	2	2,972	These supports have manageable risk but should be programmed for replacement as they have exceeded their design life by the manufacturer	
<b>BAD</b>	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)							
<b>GOOD</b>	→	Acceptable	→	Continue to monitor TR22			
<b>FAIR</b>	→	Medium to low priority	→	Continue to monitor TR22 and start structurally testing			
<b>POOR</b>	→	Medium to high priority	→	Continue to monitor TR22, Structurally test and replace if sufficient funds allow			
<b>BAD</b>	→	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
<b>TOTALS</b>	<b>28,422</b>	<b>5,258</b>	<b>10,505</b>	<b>2,922</b>	<b>9,737</b>	<b>28,422</b>	<b>£4,705</b>

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	Average investment needed per unit
£440,005	927	77	100	50	700	£475

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



## Street Lighting

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- 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

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# Risk Management

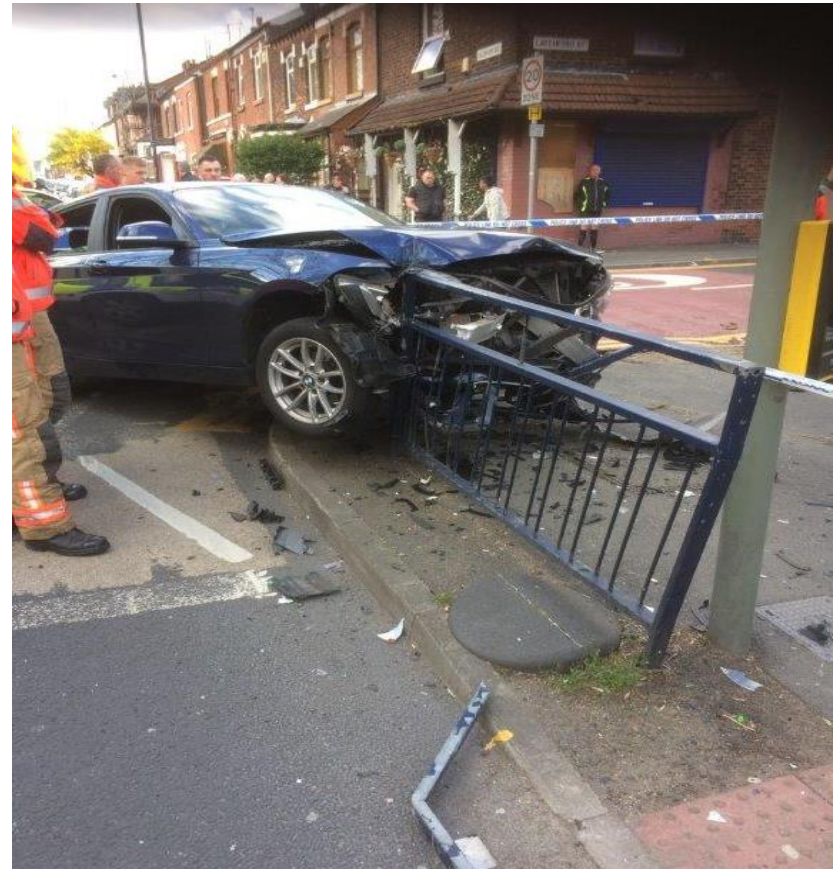


## Risk Management

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- 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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