



# Innovation on the Highway

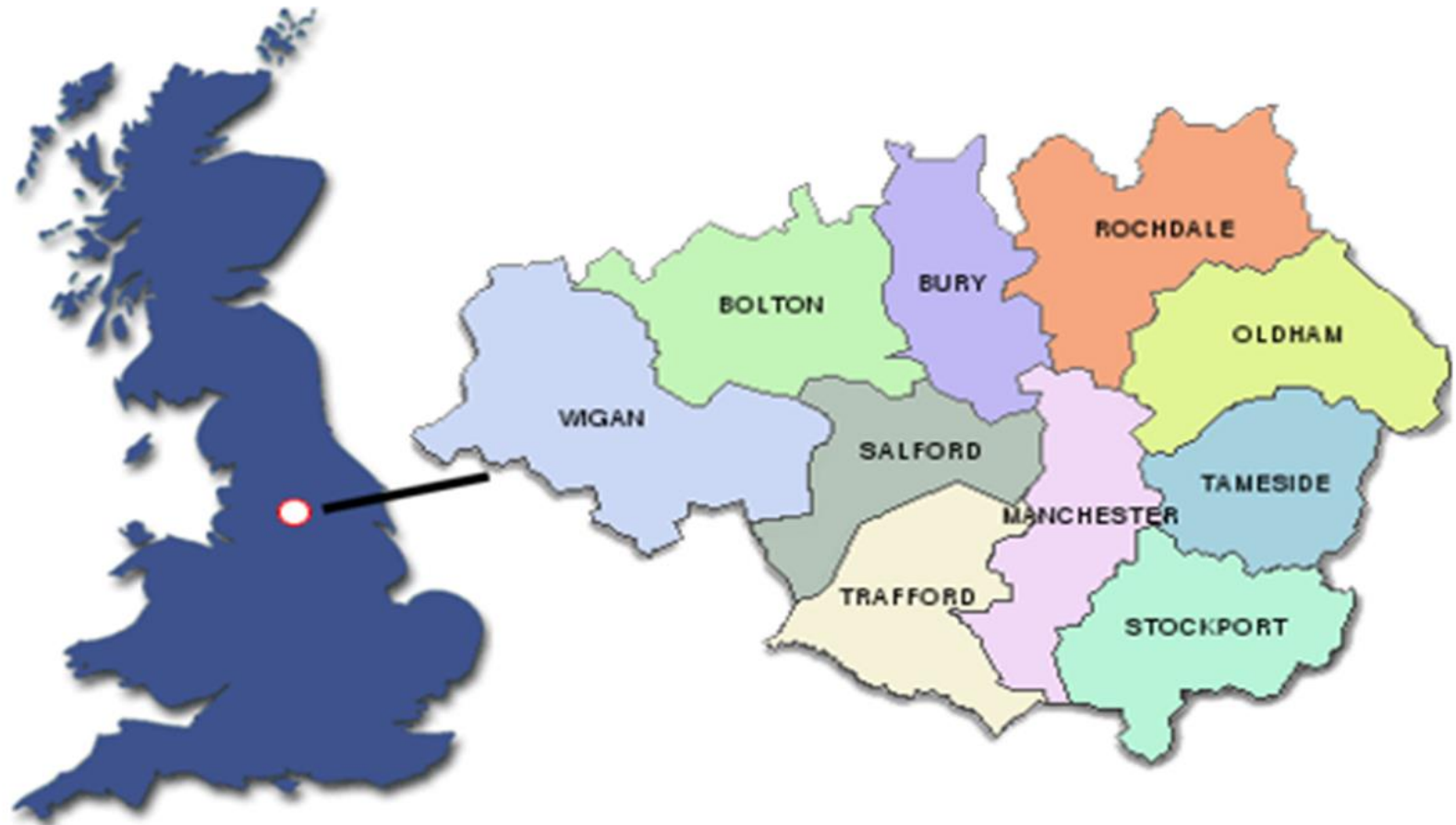
Laura Morrison  
Flood Risk Engineer

Date: 20 March 2024

# Overview

- **Wigan Council**
- **Drivers for Innovation**
- **Successful Innovation**
- **Flood Risk Innovation**
- **What's Next**

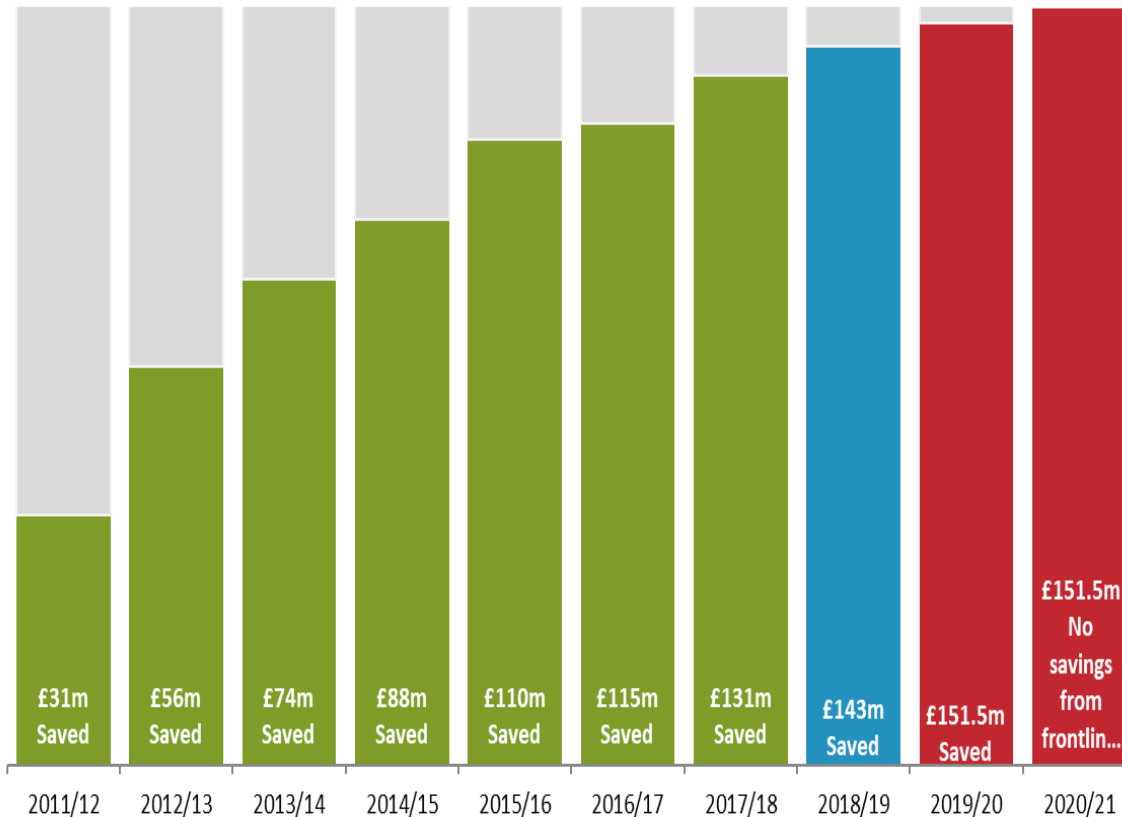
# Wigan Council - Overview



Confident Place, Confident People.

# Drivers for Innovation

Our response to austerity meant we have had to save over **£160m** since 2010 – and more to come



Confident Place, Confident People.

# Successful Innovation

- Asset Management
- Planned Maintenance
- Street Lighting LED
- Winter Maintenance



[www.wigan.gov.uk/LetsInnovate](http://www.wigan.gov.uk/LetsInnovate)



Let's Innovate

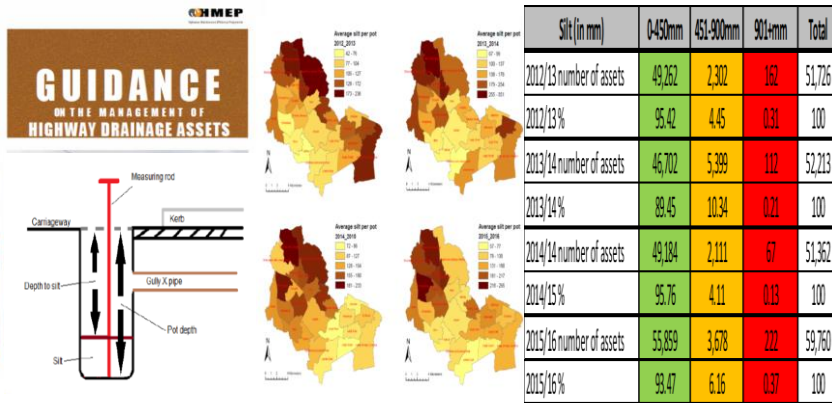


Confident Place, Confident People.

# Flood Risk

- Last year was sixth wettest period since records began in the 1800's
- Increased number of severe weather events across the country
- Sewer systems and water courses unable to cope with increased demand
- Increasing numbers of highway flooding events, resulting in:
  - disruption to highway users
  - damage to highway infrastructure
  - flooding to residential/commercial properties

# Flood Risk Innovation



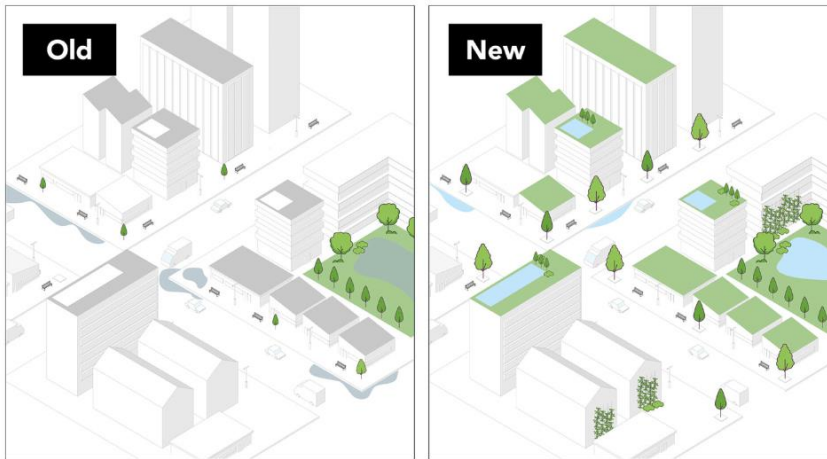
Silt (in mm)	0-450mm	451-900mm	901+mm	Total
2012/13 number of assets	49,262	2,302	162	51,726
2012/13 %	95.42	4.45	0.31	100
2013/14 number of assets	46,702	5,399	112	52,213
2013/14 %	89.45	10.34	0.21	100
2014/15 number of assets	49,184	2,111	67	51,362
2014/15 %	95.76	4.11	0.13	100
2015/16 number of assets	55,859	3,678	222	59,760
2015/16 %	93.47	6.16	0.37	100

- HMEP Guidance on the Management of Highway Drainage Assets (2012)
  - Improved asset data inventory
  - Efficient and effective use of budgets
- Developing our risk based approach
  - Asset condition data and performance
  - Profile on silt build up
  - Hierarchy - flood risk zone, resilient network
  - Defect category, investigation levels, response time
- Frequency – planned clean / inspection

Factor	Criteria		Likelihood of Event Occurring	Consequence of Event Occurring				
				Negligible	Low	Medium	High	Severe
Road classification	Strategic network, A, B, C, unclassified network		Negligible	1	2	3	4	5
Traffic use	Traffic flow data, footfall data		Negligible	1	2	3	4	5
Characteristics of street	Highway Gullies – Planned Cleaning Frequency							
	Category	Reference	Frequency		4	66	8	10
Condition data	A, B, C roads	1	Priority	Response (working days)				
Insurance claims data	Resilient Network	1	1	2 Hours		2	15	
			2	10 Days		3	20	
Wider policy or operational considerations.	Known Flood Risk Areas	1	3	20 Days		4	25	
			4	Considered For Future Investment		5	30	
	All Other areas	2	4			5		



# SuDS



- Not a new concept
- Above and below ground
- Can help improve water quality and support the natural environment
- Pitt Review and Schedule 3

The SuDS Manual





# Natural Flood Management

- Natural flood management (NFM) uses natural processes to reduce the risk of flooding.
- In September 2023 the Environment Agency and Defra announced £25 million funding for improving flood resilience through a new NFM programme.
- The EA/Defra target is for 260 NFM projects between 2021 and 2027.

# Case Study - Leaky Dams



- Flooding to highway
- Closure of key route
- Restricted access to Crooke Village and nursery
- No issue on culvert
- Flooding from private land





- Upstream catchment  
– wooded area



Using NFM saved us :

- 29 days of disruption
- Approx. £150k
- 700 tonnes of material not needed to be removed from site



# Project Yellow Fish

- Project Yellow Fish focuses on the importance of protecting our highway gullies
- Highlighting the importance of flooding and how we impact on the risk



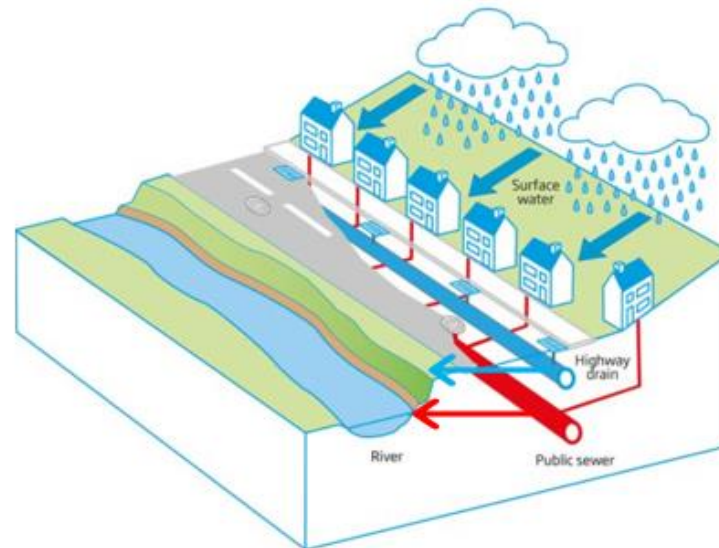
# Ollies Journey!







**How does water pollution affect flooding?**



Confident Place, Confident People.

# What's Next?

- Develop a Culture of Innovation
- Create the conditions that unlock staff potential and ideas
- Empower and Engage staff in transforming services
- Build Partnerships – public / private
- Collaborate with others
- Share Risk and Benefits
- Next Areas
  - Artificial Intelligence
  - Highway materials
  - Sensor technology
  - EA funding
  - Surface Water Mapping



## BeWigan

Because how we do things is just as important as what we do

### Our Behaviours

Everyone:

- **Be Positive**... take pride in all that you do
- **Be Accountable**... be responsible for making things better
- **Be Courageous**... be open to doing things differently



Confident Place, Confident People.





**Thank you for your time  
and attention.**

**Q&A at end of session**