



SuDS For Camden

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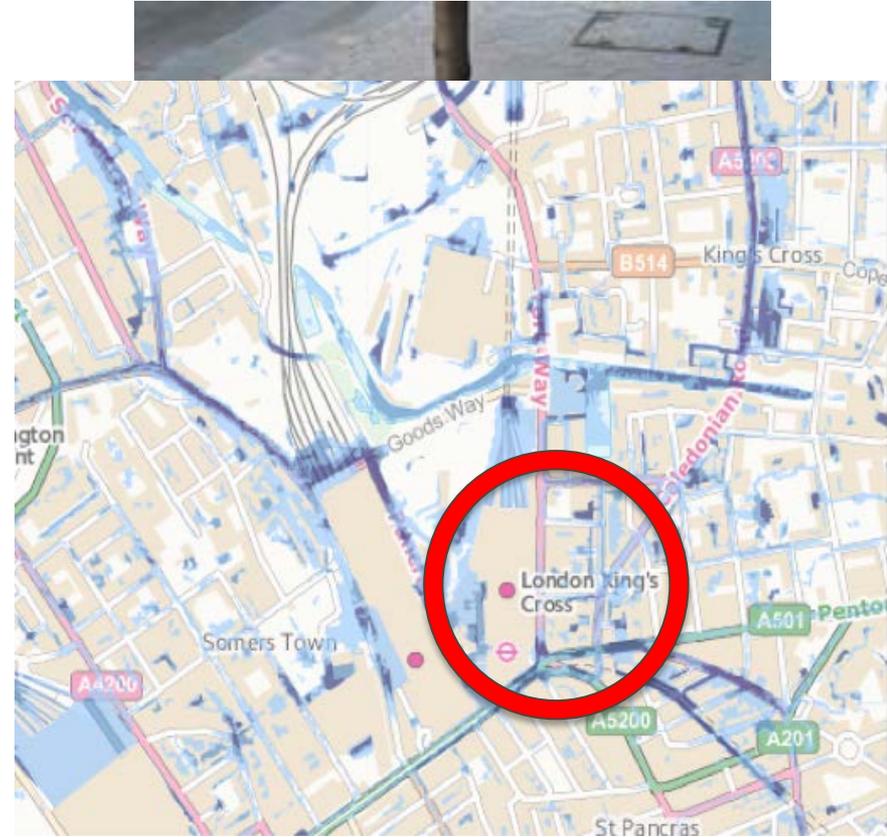
Outline

- Nature of Problem
- Goal of The Project
- Policy Drivers
- Flood Mitigation Projects
- Benefits
- Barriers
- Missed Opportunities
- Case Study
- Potential Opportunities
- Recommendations



Nature of Problem

Camden is at surface water flood risk

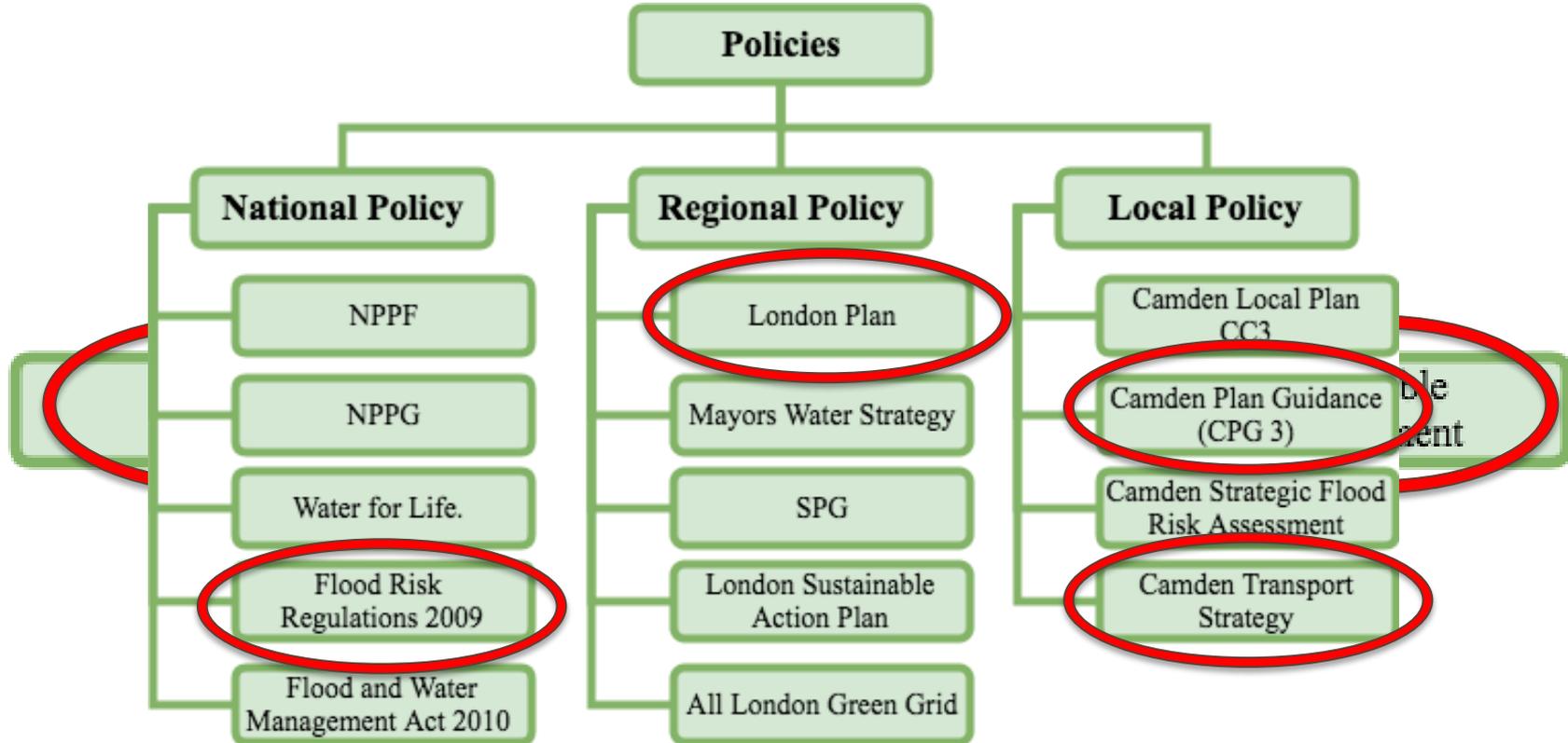


Goal

Determine a strategy to mainstream Sustainable Urban Drainage Systems (SuDS) into the public realm's highways and streetscapes projects of Camden.

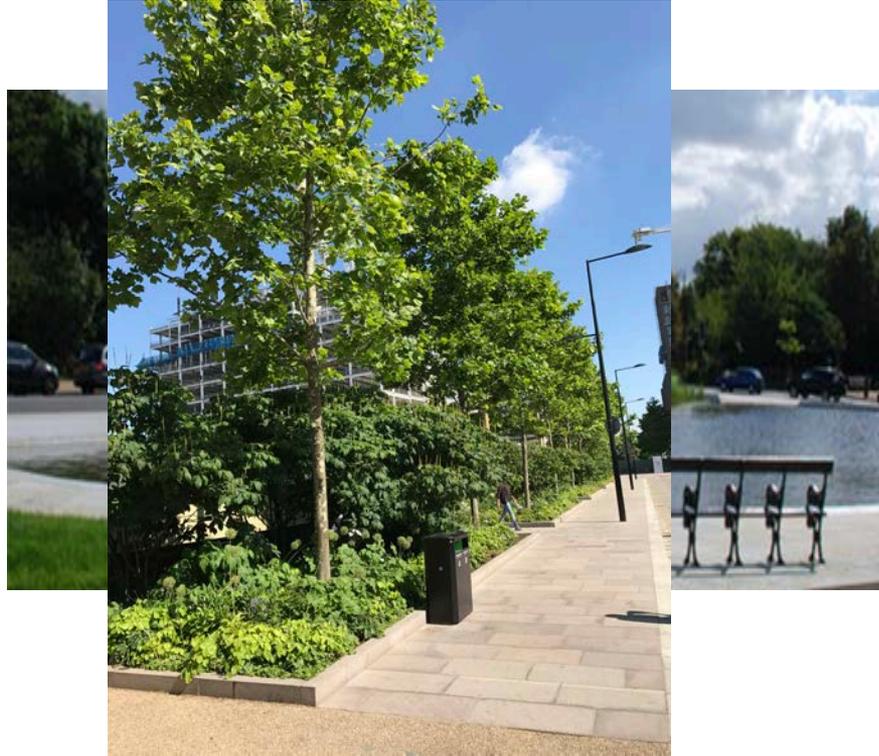


Policy Drivers

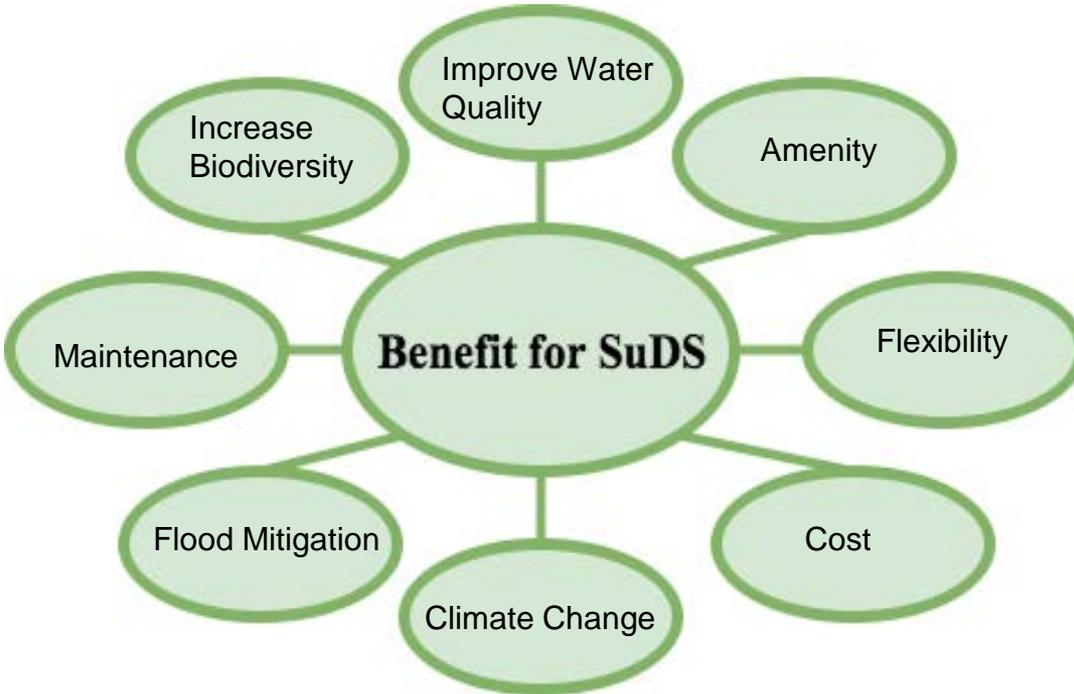


Previous Flood Mitigation Projects

- Whitestone Ponds
- King's Cross Project



Benefits



Costs

Permeable Paving

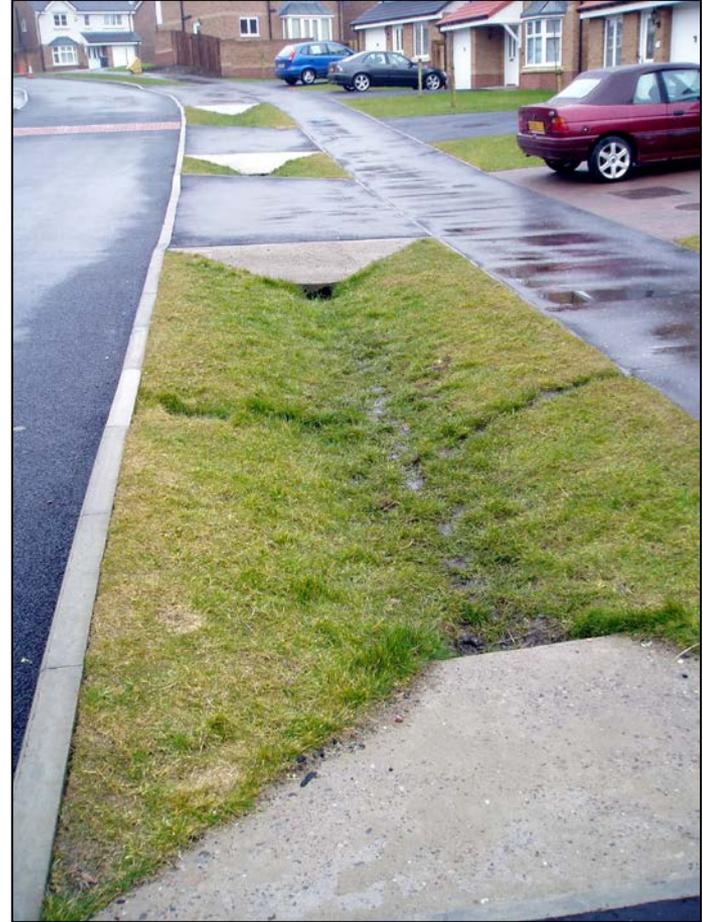
- Cost: £30-£40 per square meter
- Maintenance: £28-£30 per hour



Costs

Swale

- Cost: £ 10-15 per square meter
- Maintenance: £5-£100 (depends on contractor) per visit



Cost

Rain Garden

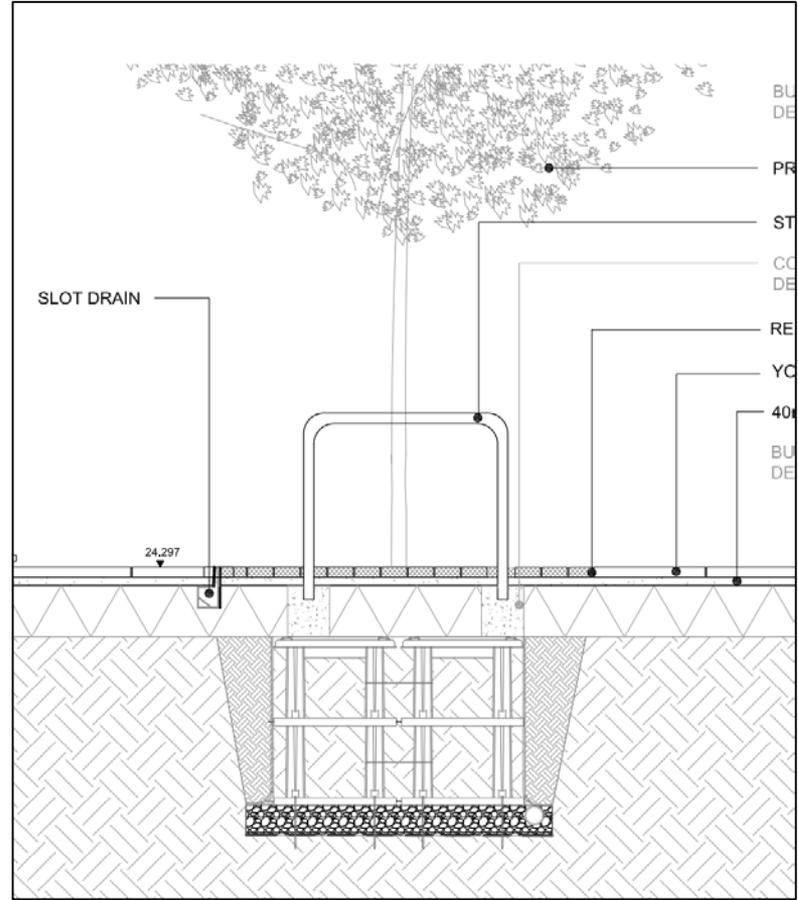
- Cost: £ 300 per square meter
- Maintenance: £0.60 per square meter per year



Costs

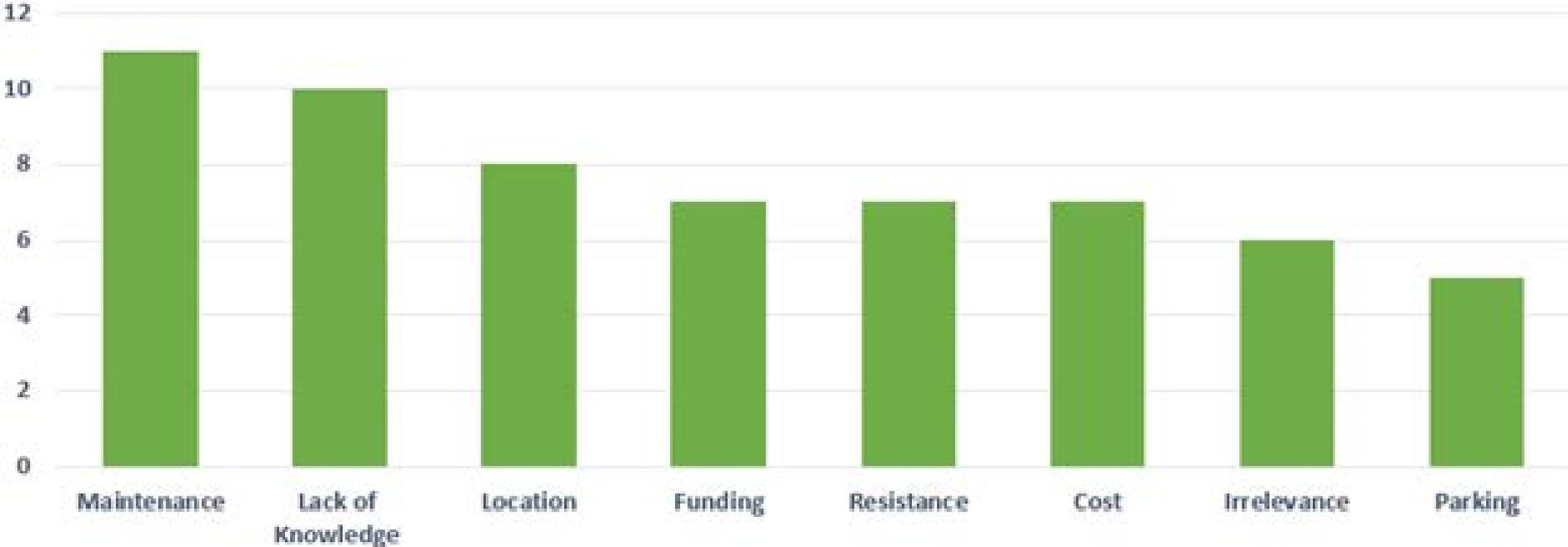
Tree Pits With Attenuation Tank

- Tree with urban soil: £ 3500 per tree
- Maintenance: £ 20.50 per 3 year cycle
- Attenuation Tank: £ 344 per square meter
Maintenance: None



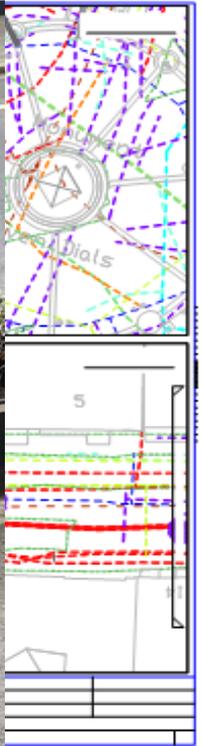
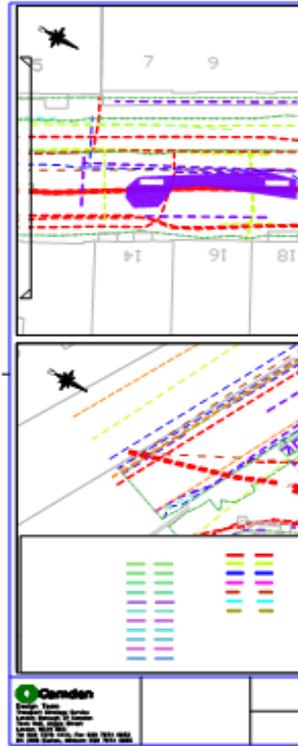
Barriers

Barriers According to Interviews



Barriers

- **Location**
- Heritage Areas
- Accessibility
- Utility cables



Barriers

- Funding



Barriers

- Parking



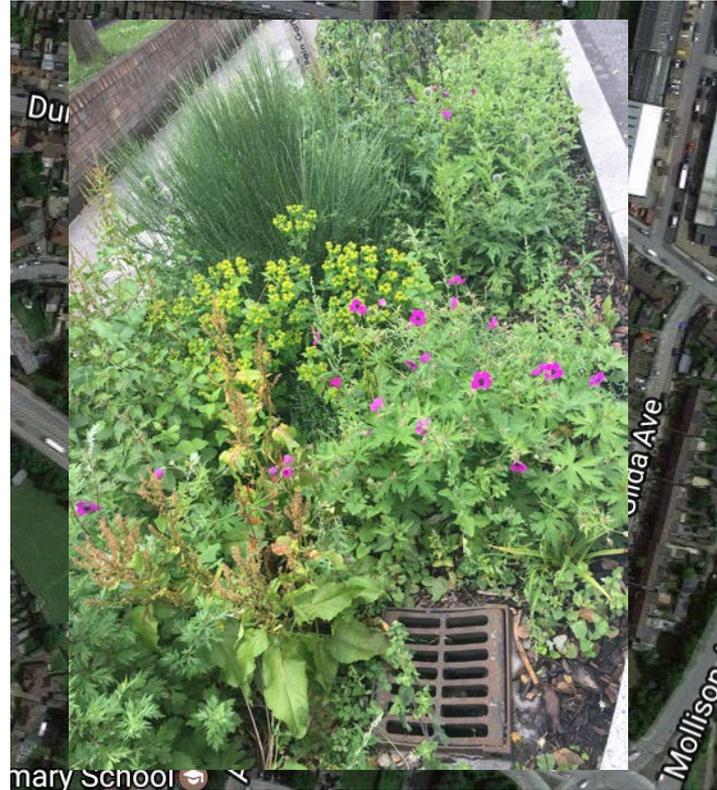
Missed Opportunities

- Earlham Street
- Holborn Circus
- Royal College Street



Alma Road Rain Gardens

- Location: LB of Enfield
- Type: Trial Scheme
- SuDS Component: Rain Garden
- Objective
- Area: 130 m²



Alma Road Rain Gardens

Cost and Maintenance

- £50,000 total scheme
- Maintenance Cost: £0.60/m²
- Litter removal and weeding



Alma Road Rain Gardens Issues

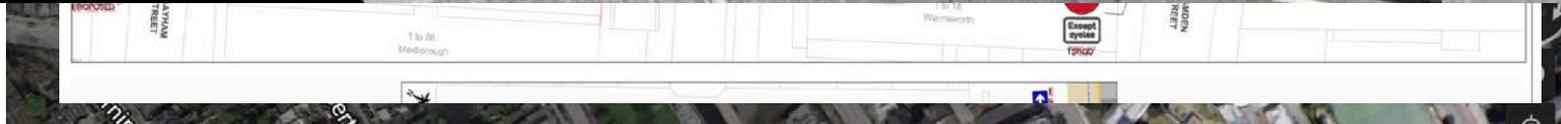
- Damaged Infrastructure
- Utility Cables
- Contractors



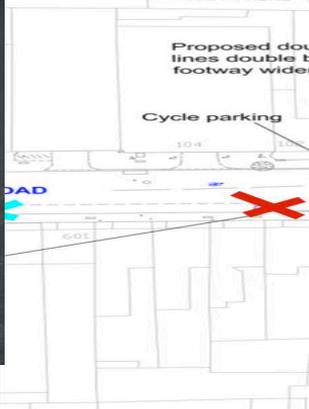
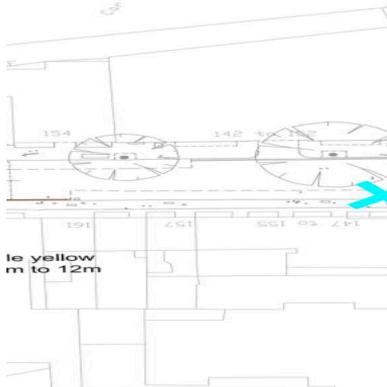
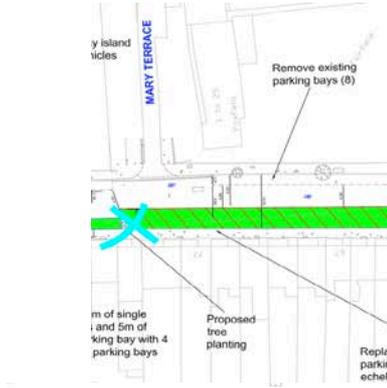
Potential Opportunities

Live	3	CDCP7404	KingX and wider area ABS
Live	6	CDCD7336	Gospel Oak - ABS
Live	19	sub-scheme	STP-Christopher hatton
Live	8	CDCD7438	Farringdon ABS
Live	52	CDCP7519	St Pancras Way to Parkway via Delancey and Pratt St
Live	54	CDCP7522	Jamestown Road South along Arlington Road and Hampstead Road to Euston Road
Live	57	Code Needed	Q3 Regents Pk to Gladstone Pk

Pratt St Scheme

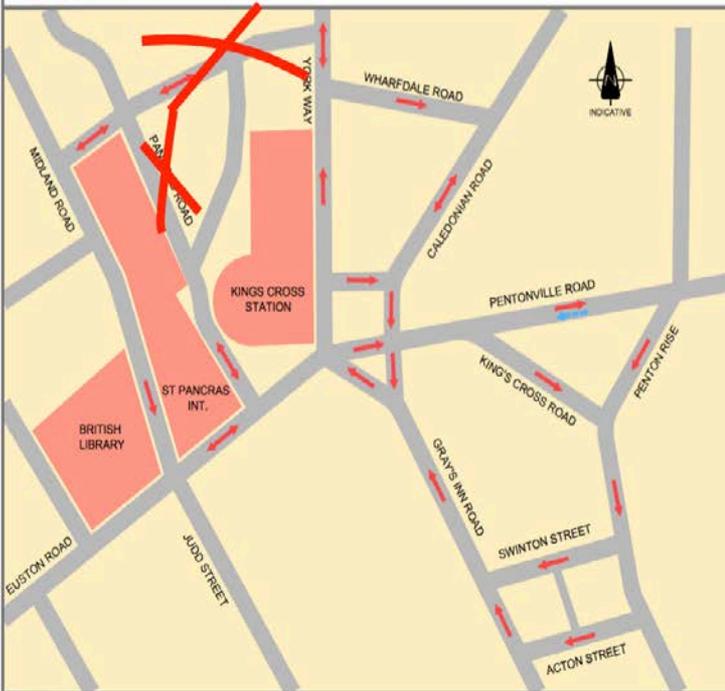


Arlington Scheme

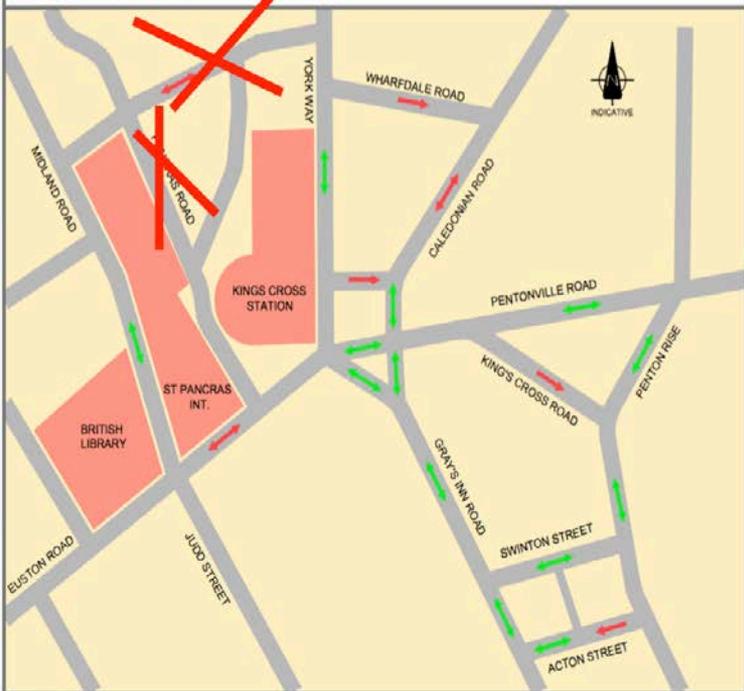


Gyratory Scheme

EXISTING NETWORK OPERATION



PROPOSED NETWORK OPERATION



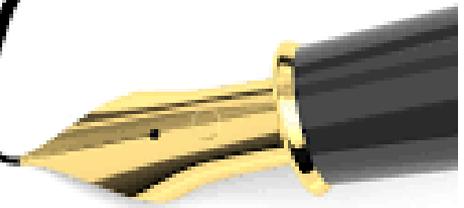
Recommendations

- Revise Camden Transport Strategy to include SuDS
- Further Research on Costs and Cost Analysis
- Further Research on Funding
- Speak to George Warren from Hammersmith and Fulham
- Speak to Ian Russell
- Speak to John Bryden from Thames 21
- Speak to Georgie Street from Camden Town Unlimited

Acknowledgements

- Sponsors
- Professors
- Interviewees

*Thank
you*

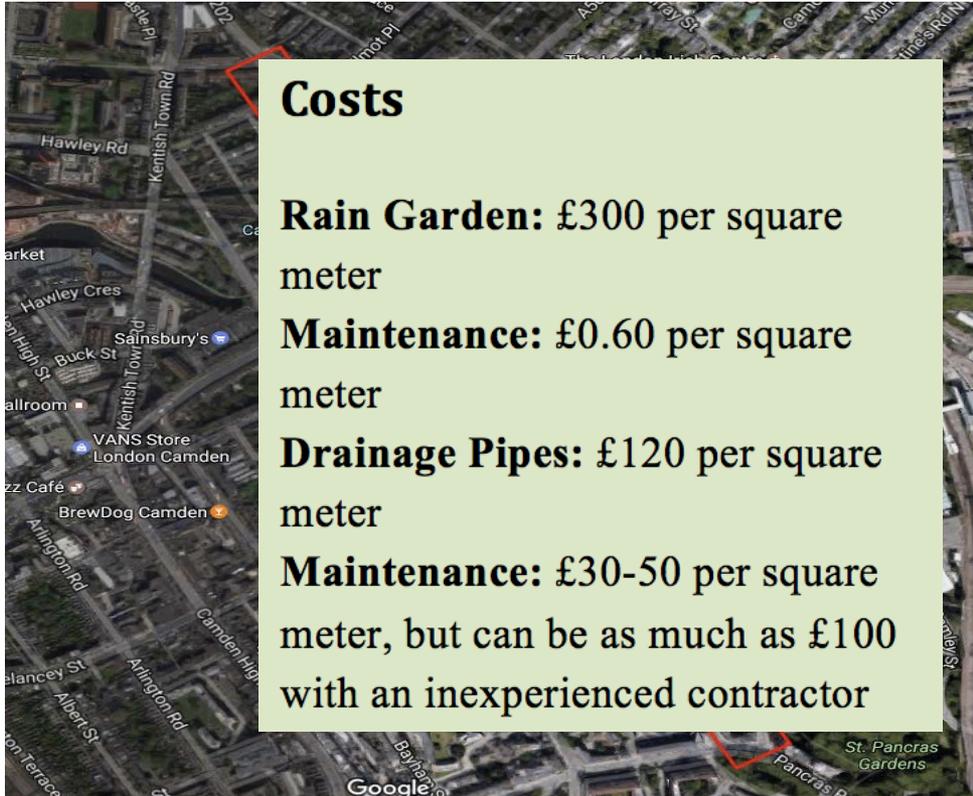


Questions?

Team e-mail alias: Camden-17E1@wpi.edu



Royal College Street



Costs

Rain Garden: £300 per square meter

Maintenance: £0.60 per square meter

Drainage Pipes: £120 per square meter

Maintenance: £30-50 per square meter, but can be as much as £100 with an inexperienced contractor

Picture Citations

<https://www.google.co.uk/maps/@51.5254506,-0.1292581,14z>

<http://www.thames21.org.uk/>

<https://www.cityoflondon.gov.uk/services/environment-and-planning/planning/design/Pages/flood-risk.aspx>

<http://www.susdrain.org/>