



THE PROJECT

London today



On average, **39 million tonnes of untreated sewage** was entering the tidal River Thames every year. If nothing was being done about it, this would reach **70 million tonnes by 2020**.

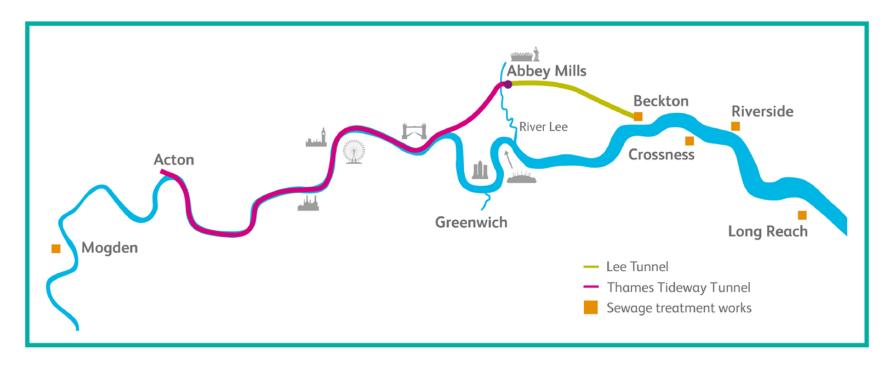


Now that the sewage treatment works upgrades and the Lee Tunnel have been implemented, the annual average volume of all CSO discharges to the River Thames would be 18 million cubic metres. However, discharges would still occur nearly 60 times in a typical year by 2020.

With the Thames Tideway Tunnel in place the system will discharge only four times in a typical year, up to **2.4 million cubic metres**.



The solution



THE THAMES TIDEWAY TUNNEL WILL STOP SEWAGE OVERFLOWING INTO THE RIVER, TRANSPORTING IT VIA THE LEE TUNNEL TO BECKTON SEWAGE TREATMENT WORKS FOR PROCESSING

Thames Tideway Tunnel – Route Map and Drive Strategy SEMMOND. 00 CHARLES Acton Storm Carnwath Road **Abbey Mills Pumping Station** Tanks Riverside **Kirtling Street** Chambers Wharf Clay Sand Chalk < 25km (approx)

Central

East

West

Main Works Contractors

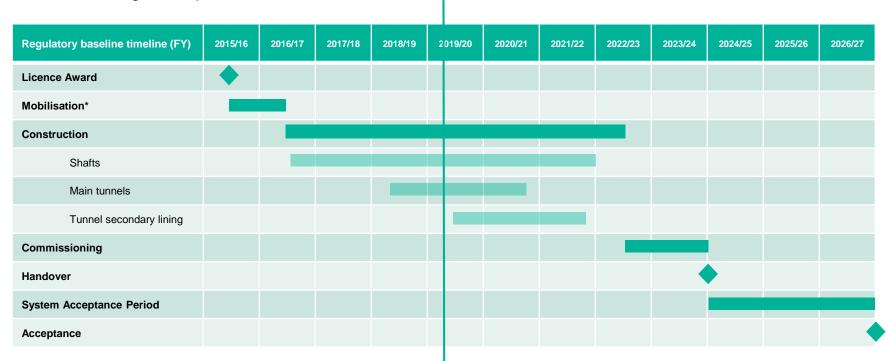
REGION WEST CENTRAL **EAST** MAIN CARNWATH **CHAMBERS KIRTLING DRIVE SITE** ROAD WHARF STREET **JOINT CVB BMB** FLO **VENTURE** bam ferrovial COSTAIN nuttall agroman **MORGAN** SINDALL LAING O'ROURKE **Balfour Beatty SYSTEMS INTEGRATORS**

The scale of the project



Regulatory Baseline

As we are now present on 20 of our 21 sites, this outline schedule remains broadly representative of the project and its overall progress, although as we deliver the project we have made and will continue to make changes to specific site schedules.

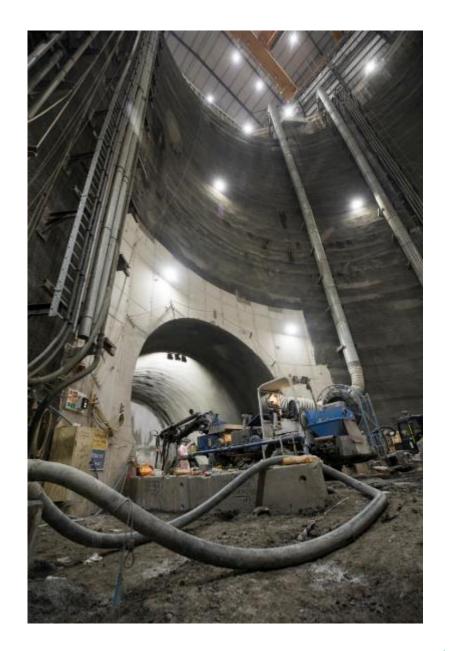


^{*} Mobilisation activities shown from Licence Award to the start of Construction at the three main drive sites. Additional Mobilisation activities continue throughout construction (i.e. consents, procurement). ** The gap between shafts and commissioning reflects the need to complete additional construction activities after shafts are complete, prior to the start of commissioning (i.e. air management systems, structures, landscaping).

JUNE 2019 UPDATE

Overview

- Project 42.5% complete
- Four of six TBMs running, 2.7/25km of tunnel complete
- Enough liquidity to complete construction
- New cost estimate £3.8bn eight per cent increase and still within £20-25 bill impact range
- Health and safety performance above industry norms, commitment remains to influence industry
- Legacy commitments including jobs, skills and environment – on track
- Strong reputation positive public profile and stakeholder relations
- Key challenges: commercial position with contractors; individual site programmes; maintaining health and safety performance; increase in marine logistics

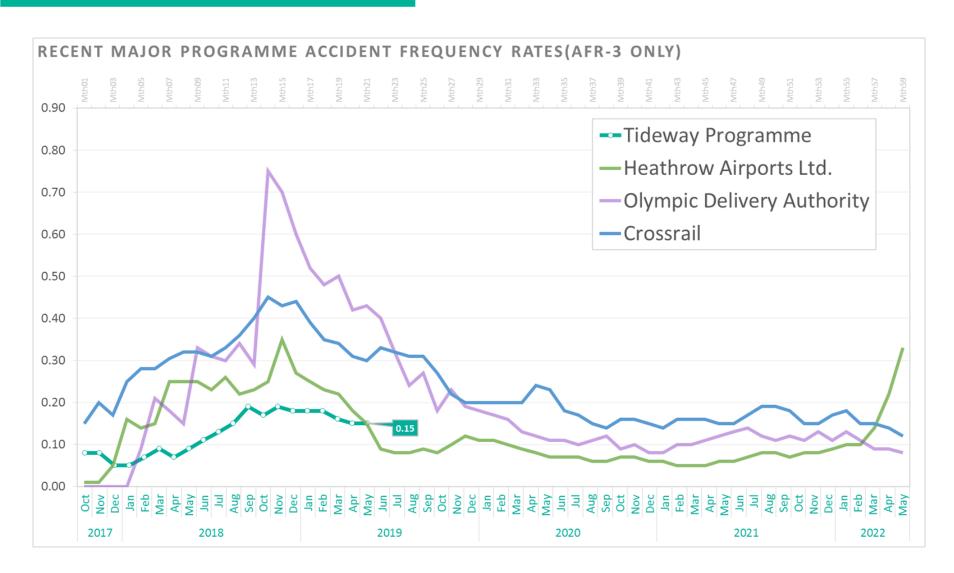


Health, safety and wellbeing

- Set a target of being "transformational"
- Key measure Accident Frequency Rate (AFR3)
 - 13.6m work hours
 - 15 three-day lost time incidents and 3 seven-day lost time incidents, none life changing
 - AFR3 of 0.15 on project to date
- Focus to maintain / improve on this
- Playing an industry-leading role on mental health (case study to follow)
 - Now have 167 Mental Health First Aiders
 - Founding partner of Mates in Mind charity
- Major challenges ahead
 - Maintaining general site health and safety
 - Working in shafts and tunnels
 - Marine logistics

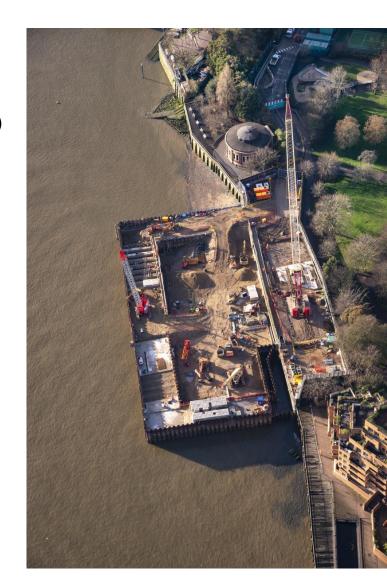


Benchmarking



What has been done to date

- The project is 42.5% complete
- RCV at £1,730 million (£1,542 million at 2014/15 prices)
- Four TBMs launched three in main tunnel, one in connecting tunnel
 - Total Main Tunnel primary lining built is 2.69km
 - Rachel = 0.1km
 - Millicent = 2.25km
 - Ursula = 0.34km
 - Frogmore Connection Tunnel built is 84m
- Built eight cofferdams
- Total of 21 shafts to be built:
 - 5 are at full depth with base slab poured
 - 10 are under excavation
 - 1 is in walling construction
 - 5 have yet to start
- Implemented river strategy to transport equipment, materials and spoil by river - more than one million tonnes of material transported to date (case study to follow)

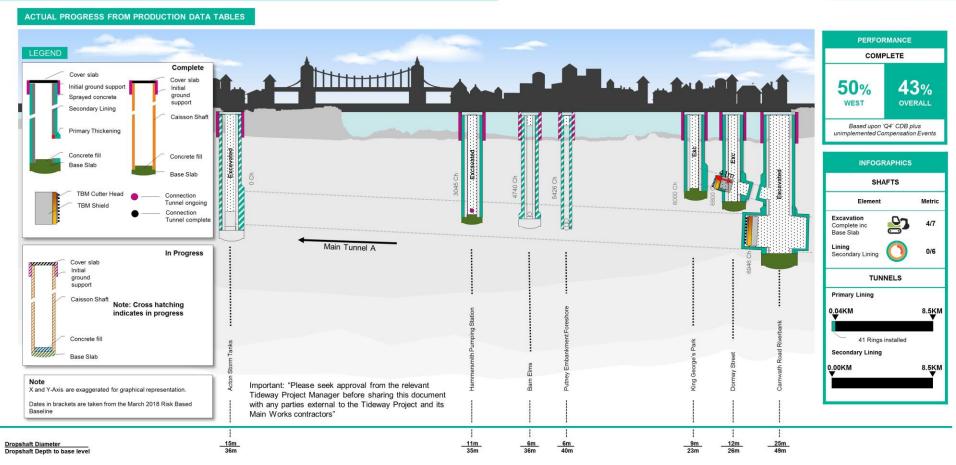


Tideway Schedule – West Delivery Area

The Slice Report





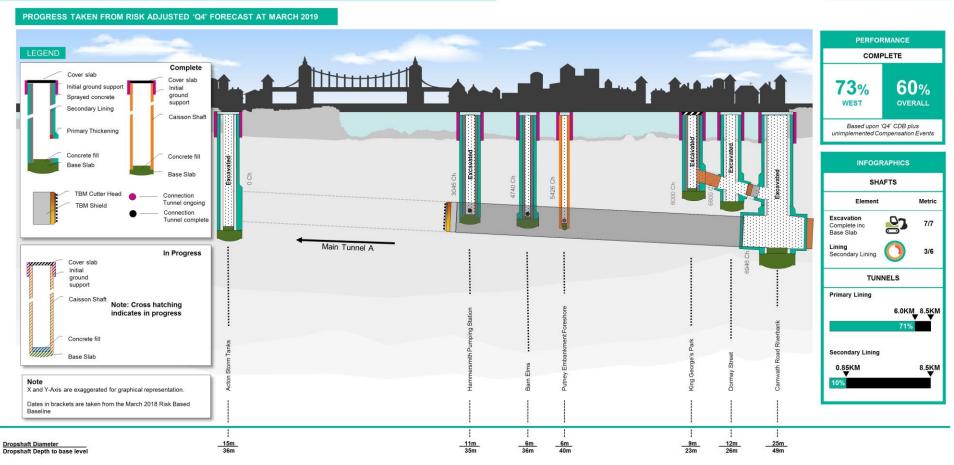


Tideway Schedule – West Delivery Area

The Slice Report

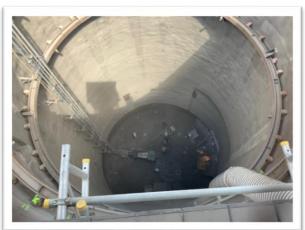






Acton Storm Tanks









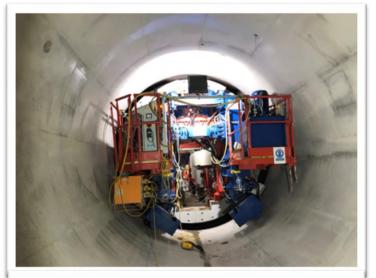




Hammersmith Pumping Station









Putney Embankment Foreshore



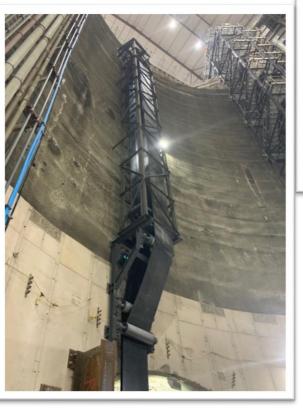








Carnwath Road Riverside









Dormay Street







King Georges Park











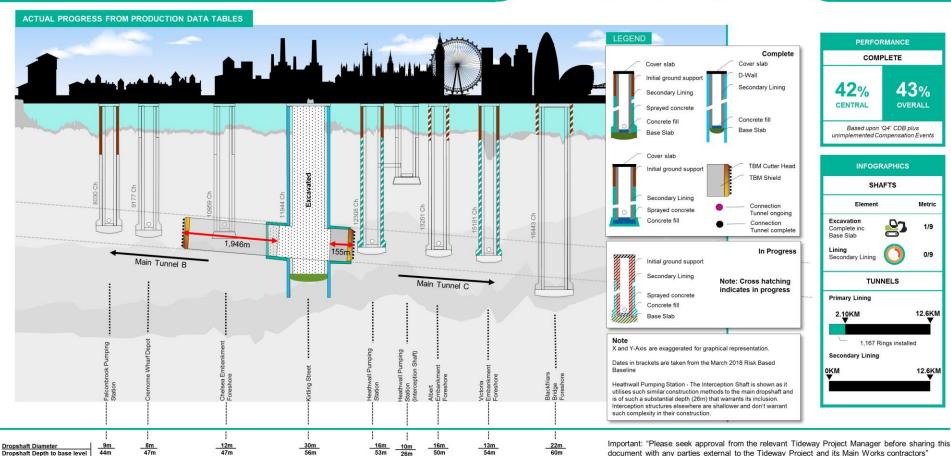
Tideway Schedule – Central Delivery Area

The Slice Report

Dropshaft Depth to base level







document with any parties external to the Tideway Project and its Main Works contractors"

Tideway Schedule – Central Delivery Area

12m 47m

8m 47m

Dropshaft Diameter

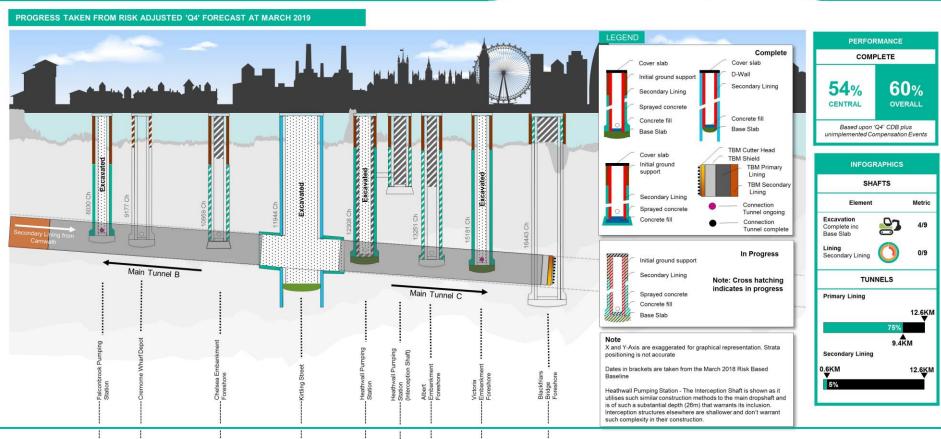
Dropshaft Depth to base level

30m 56m

The Slice Report







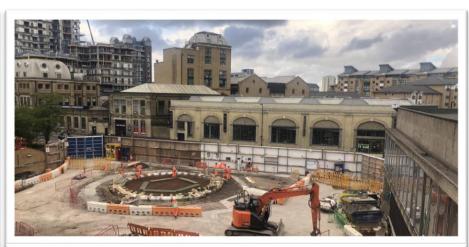
16m 50m

10m

13m 54m 22m 60m

Falconbrook Pumping Station









Cremorne Wharf











Chelsea Embankment



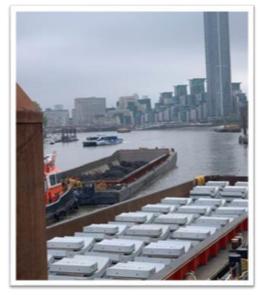


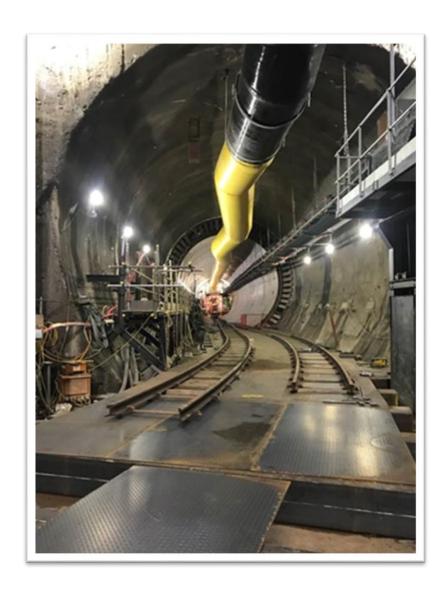




Kirtling Street - TBM B and TBM C





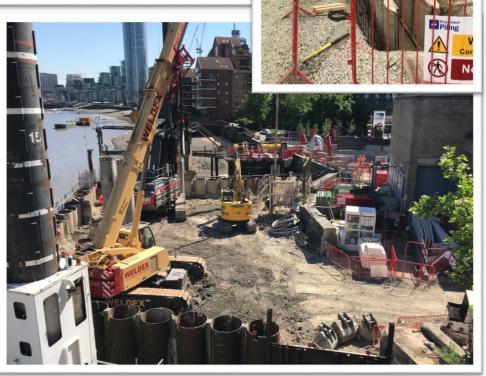


Heathwall Pumping Station







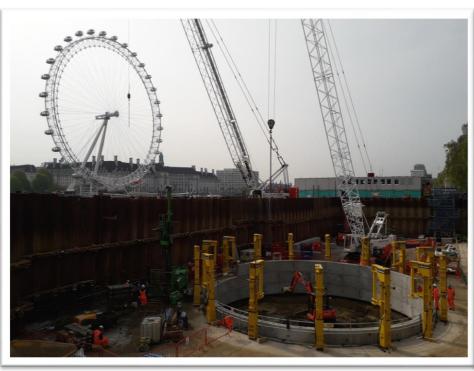


Albert Embankment Foreshore



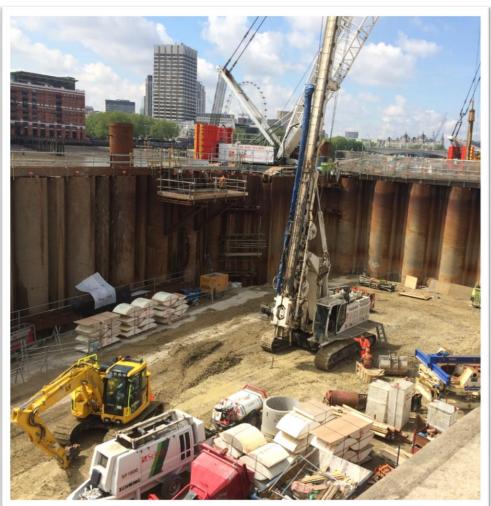


Victoria Embankment Foreshore





Blackfriars Foreshore







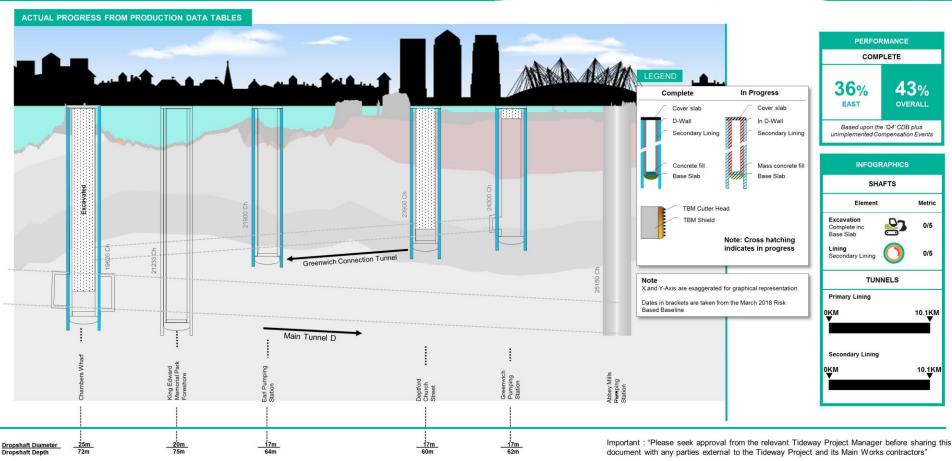
Tideway Schedule – East Delivery Area









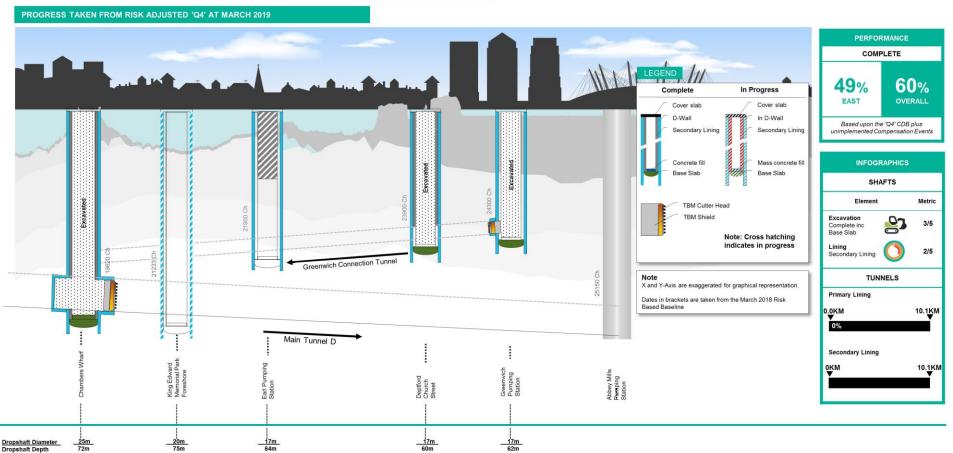


Tideway Schedule – East Delivery Area

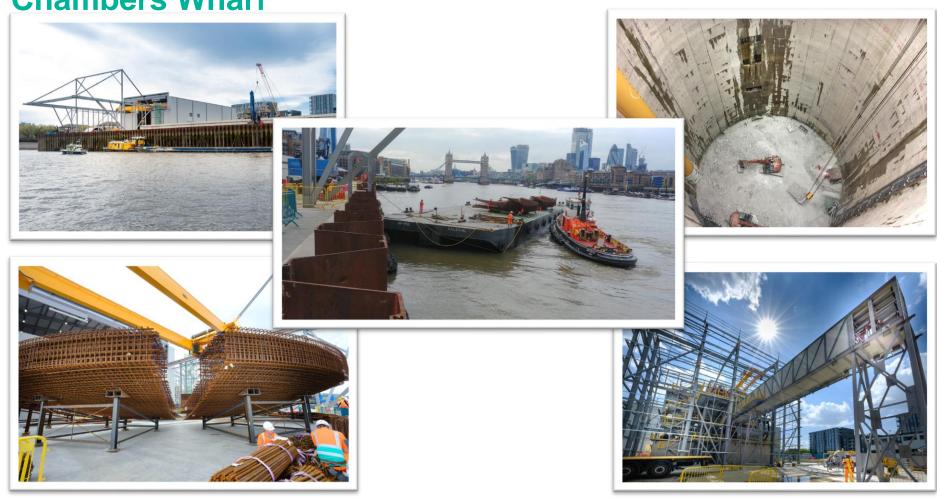
The Slice Report







Chambers Wharf



Earl Pumping Station







Greenwich Pumping Station







Deptford Church Street





King Edward Memorial Park Foreshore







East TBM Selina





Creating a Legacy



Legacy Plan

- Legacy strategy to boost the river economy, increase jobs, improve safety standards and drive down carbon emissions
- 5 themes Environment; Health, Safety and Wellbeing; Economy; People; and Place
- 54 commitments 39 live of which 35 on target (90%)
- Legacy commitments contributing to the UN Sustainable Development Goals











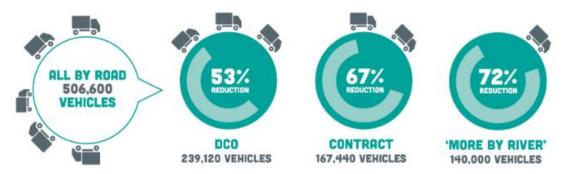








More by River



- 114,800 lorry movements avoided to date one million tonnes of material moved by River so far
- One 1,000-tonne barge can carry the same load as 50 lorries



Air quality study – 1,000 tonne barge will, on average, produce:

- 54% fewer nitrogen oxides
- 86% less nitrogen dioxide
- 95% less carbon monoxide
- 90% less carbon dioxide than its standard HGV equivalent

Regatta London



KAYAK, CANOE, SUP OR ROW 12 MILES THROUGH THE HEART OF LONDON ICONIC AND UNIQUE
EXPERIENCE; NO OTHER
BOATS AND STOPPING
THE TIDE

CELEBRATE THE RIVER
AND THE ENVIRONMENT
THROUGH SPORT

OF THOUSANDS OF
POUNDS FOR AMAZING
CHARITIES

Mental Health

- ONS 2017 study found that the risk of suicide among low-skilled male labourers, particularly those working in construction roles, was 3 times higher than the male national average
- Tideway is playing an industry-leading role on mental health
- Now have 167 Mental Health First Aiders
- Founding partner of Mates in Mind charity
 - a pioneering programme backed by Tideway and designed to tackle mental health issues in construction
 - It aims to provide clear information to employers on available support and guidance on mental health, mental illness and mental wellbeing, and how they can address this within their organisations





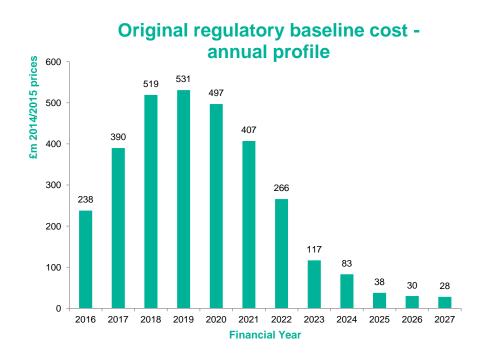


Tideway Delivery Model

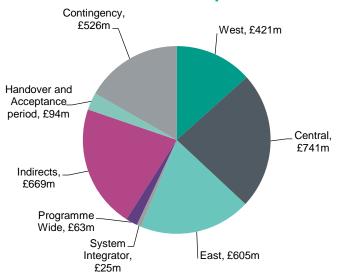
- First project to be developed under the Specified Infrastructure Projects Regulations
 - New company independent from Thames Water
- Tideway's business as a regulated utility company is to design, build, commission and maintain the Thames Tideway Tunnel, a simple asset with 120 year design life
- Being delivered through "design and build" contracts by major contracting joint ventures
- RPI-linked revenue collected from Thames Water's wastewater customers
- Fixed real WACC until 2030
 - No direct impact from PR19
- Benefits from a support package provided by the UK Government
- Owned by Allianz (34.26%), Amber (21.32%), Dalmore (33.76%) and DIF (10.66%)

Investment Programme

- Original regulatory baseline cost of £3,144m (14/15 prices)
 - Direct Works of £1,855m (Main Works Contractors, System Integrator and Programme Wide)
 - Indirects of £669m (resources, insurances, facilities, IT)
 - Handover and Acceptance period £94m
 - Contingency of £526m
- Annual profile reflects regulatory baseline construction programme



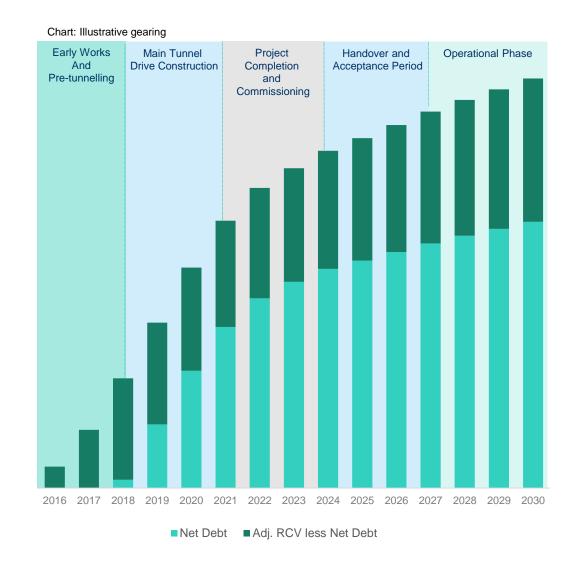
Illustrative management build up to original regulatory baseline cost 2014/2015 prices*



*Set in August 2015

Financing Strategy

- Maintain a low risk financing position, preserving the Baa1/BBB+ credit ratings and a strong liquidity position at all times
- "Equity first": £1.3bn equity (committed and backed by LCs) is funding the investment programme to start of tunnelling
- Leverage only rises at the back end of construction, hand-in-hand with progress on the delivery of the investment programme
- Debt programme combining inflation linked debt to match RCV growth with nominal issuance



Tideway financing – as of 31 March 2019

Total liquidity of £2.5bn, comprising £655m of cash and £1.84 bn of undrawn debt facilities

Funding raised to date provides Tideway with liquidity through construction

Innovative strategy of pricing bonds with long deferral periods to match our investment profile

Implemented green bond strategy

£1.3bn shareholder funds contributed 2015-2017

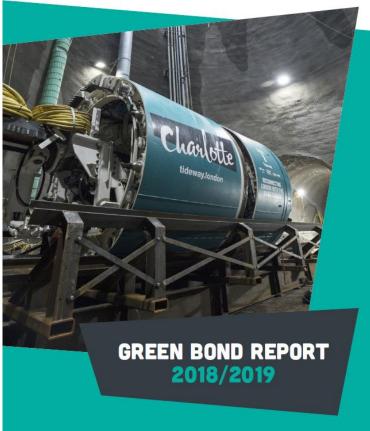
£2.5bn long-term debt raised 2016-2018 £500m revolver credit facility

£700m forward start EIB loan £625m bonds of which £450m are Green Bonds £800m forward starting bonds of which £325m are Green Bonds

£100m forward start inflation-linked loan £300m US private placement

Tideway Green Bonds - £775 million

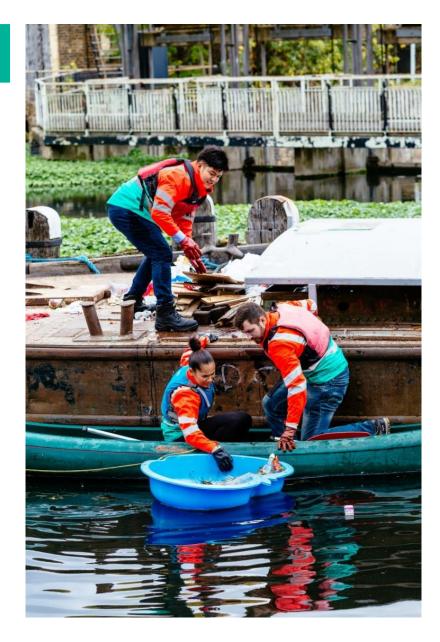




- Tideway published Green Bond Framework in November 2017, aligning financing with the company's mission
- Issued six Green Bonds since November 2017 - £775 million
- Green evaluation by Standard & Poor's - joint-highest overall score of 95/100
- Green Bond Report in 2018/19 to report on allocation of proceeds and impact of project

Financing Plan

- In April 2019, we updated our estimate of overall costs based on work left to do - £3.8bn compared to a £3.5bn regulatory baseline which represents an 8% increase
 - £140m Blackfriars a redesign and reprogramming of the works at Blackfriars Bridge Foreshore
 - £120m King Edward Memorial Park Foreshore site – unforeseen ground condition issues
 - £54m More by River strategy
- This adds c£100m to the long-term financing needs at current gearing targets, which is well within the £500m RCF
- Gearing Senior RAR 2018/19 32.2%
- Interest cover FFO ICR 2018/19 3.4x
- We remain an opportunistic issuer



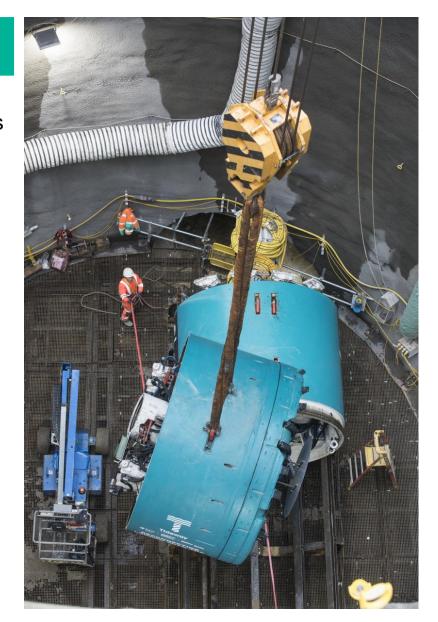
Regulation Update

- Regulatory period to 2030 with RPI
- Ofwat consulting on modifying the ring-fencing provisions of water companies' licences, including strengthening the provisions on maintaining an investment grade credit rating and reporting of material issues
- Informally agreed with Ofwat a number of licence modifications intended to:
 - simplify and clarify certain elements of the licence
 - align its Board leadership, transparency and governance obligations to Ofwat's updated expectations
- Expected to come into effect in summer 2019 none of the modifications are expected to have a material effect



Interface with Thames Water

- Thames Water has completed the enabling works for the Company to mobilise onto its sites
- Now working on the facilitation of the connection of the TTT to the Sewer Network
- Tideway and Thames Water are implementing detailed asset protection arrangements for the Sewer Network
- Developed a joint approach to address the requirements for the second half of the TTT project including those relating to land and commissioning
- Developing proposed performance commitments and incentives for the 2020-25 regulatory period that align Thames Water's interests with the TTT project.
- These proposals are being discussed with Ofwat with the aim of securing their inclusion in the final determinations of the 2019 price review for Thames Water



Credit Highlights

Critical UK infrastructure
Strong delivery capability
Supportive regulatory and contractual framework
Stable and highly visible revenue profile
Creditor friendly financial structure
Over 40% project completion
Financing plan substantially de-risked