

# NGN Specified Streetworks Special Condition 3.24 Re-opener Submission

30<sup>th</sup> September 2024

## Contents

1	Executive Summary .....	3
2	The Needs Case .....	5
2.1	Influences on the rising cost of Streetworks .....	6
2.2	Alignment with overall business strategy and commitments .....	17
3	Detailed cost breakdown .....	20
3.1	Overview and description of key project costs .....	22
3.2	Justification of costs and efficient expenditure .....	23
3.3	Regulatory treatment of funding .....	26
4	Cost Benefit Analysis (CBA) .....	29
5	Stakeholder engagement and whole system opportunities .....	30
6	Appendices .....	30

## 1 Executive Summary

This is a funding revision application to Ofgem under the Specified Streetworks Re-opener mechanism Special Condition 3.24. The rationalisation of current costs relating streetwork activities, which is outlined below, is essential for us to be able to maintain a safe and reliable gas distribution service to our customer and employees; while facilitating our core business activities in accordance with our proposed programme of works for the RIIO-GD2 planning period. More specifically, under the Gas Act, we are obliged to develop and maintain an efficient and economical pipeline system for the conveyance of gas and to comply with any reasonable request to connect to our system any premises or any pipeline system operated by an authorised transporter. We have a duty of care to minimise disruptions to the public when performing works on all road types, under the New Roads and Street works Act 1991. The successful application for additional streetworks funding will contribute significantly to both core business requirements and negate the need to make difficult business decisions due to underfunding.

Table 1 - Relevant Ofgem Guidance and License Condition section for the Specific Streetworks Re-opener below maps out which sections of the application relate to individual requirements as set out in the relevant Re-opener Special Condition 3.24 and Chapter 3 of the Ofgem Re-opener Guidance And Application Requirements Document Version 3.

*Table 1 - Relevant Ofgem Guidance and License Condition section for the Specific Streetworks Re-opener*

Document Section	RIIO-2 Re-opener Guidance Document Paragraphs(s)	Re-opener license condition reference
Executive Summary	N/A	Special Condition 3.24 Specified Streetworks, 3.24.1-3.24.9  Special Condition 9.4 Re-opener Guidance and Application Requirements Document
Background and Justification	3.8-3.12, 3.22-3.23	
Options Section	3.8-3.15, 3.22-3.23	
Stakeholder Engagement and Whole System Opportunities	3.16-3.18	
Cost Information	3.19-3.21	
Summary	N/A	
Annex – Cost Benefit Analysis	3.22-3.23	

### The need for a re-opener

Funding requirements for streetworks, as part of the RIIO-2 price control were determined using cost data from the financial year 2018-19 as a benchmark and based on legislation and Local Authority requirements at the time. The combined £2.767m p.a. (£0.579m Permit Costs and £2.187m of Traffic Management) spent in 2018/19 regulatory year of RIIO-GD1 was used as a cost forecasted position for the combined total expenditure (Totex) across the Repex, Opex, Capex (incl. Connections & Fuel Poor) cost areas and profiled flatly across each year of the RIIO-GD2 planning period.

As of the financial year 23/24, NGN has experienced a significant increase in these streetworks costs to £6.290m (£1.605 of Permit Costs and £4.685 of Traffic Management) in FY 2023/24 (2018/19 prices). In addition, NGN is potentially facing further increased costs associated with Specified Streetworks before the end of GD2 due to the Environment Agency's removal of Regulatory Position Statement 211, which gave a hazardous waste disposal exemption for utilities. However, given uncertainty around the timing and impact of this, NGN have not included the costs of complying with RPS 211 removal in this re-opener and will be including costs for this into the GD3

Plan submission. Similarly, we are not including additional overheads or back office costs associated with an increase in workload.

### Summary NGN's proposed funding adjustment

Table 2 below highlights the Totex incurred by NGN for streetworks activities submitted as part of this reopener relating to Repex, Opex, Capex (incl. Connections & Fuel Poor) business activities, the forecasted streetworks allowance for GD2, the shortfall in streetworks totex funding over the period to date, and required adjustment that NGN are requesting as part of the streetworks re-opener for RIIO-2 GD2 (in cost base 2018/19). This re-opener only seeks additional allowances for those costs associated with additional local authority permit costs and the additional costs associated with traffic management. We have made exclusions due to their uncertainty for Local Authority lane rental schemes and associated costs with hazardous waste disposal. There have been productivity impacts across Totex as well as increases to back office overheads and additional IT investment that are not being claimed and instead these are increased costs NGN will absorb as part of its existing cost base. The proposed Streetworks reopener cost adjustment is £17,476,498.

Table 2 - Proposed Streetworks Cost Adjustment in 2018/19 prices<sup>1</sup>

	2018/19 Actual / GD2 Plan	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Forecast	2025/26 Forecast	Total GD2 Plan	GD2 Actual / Forecast	Variance / Reopener Application
Permit - Opex	£220,471	£490,393	£496,903	£402,384	£463,227	£463,227	£1,102,354	£2,316,134	£1,213,780
Traffic Management - Opex	£680,663	£968,706	£1,112,942	£1,094,163	£1,094,163	£1,094,163	£3,403,315	£5,364,135	£1,960,820
<b>Total - Opex</b>	<b>£901,134</b>	<b>£1,459,099</b>	<b>£1,609,845</b>	<b>£1,496,547</b>	<b>£1,557,390</b>	<b>£1,557,390</b>	<b>£4,505,669</b>	<b>£7,680,270</b>	<b>£3,174,601</b>
Permit - Repex	£287,947	£929,002	£1,301,743	£1,039,042	£1,089,929	£1,089,929	£1,439,737	£5,449,645	£4,009,907
Traffic Management - Repex	£1,345,216	£2,717,644	£2,808,186	£3,148,129	£3,148,129	£3,148,129	£6,726,082	£14,970,218	£8,244,135
<b>Total - Repex</b>	<b>£1,633,164</b>	<b>£3,646,646</b>	<b>£4,109,930</b>	<b>£4,187,171</b>	<b>£4,238,058</b>	<b>£4,238,058</b>	<b>£8,165,820</b>	<b>£20,419,862</b>	<b>£12,254,042</b>
Permit - Capex	£71,139	£252,512	£202,522	£163,214	£206,082	£206,082	£355,697	£1,030,412	£674,715
Traffic Management - Capex	£161,125	£467,774	£383,132	£442,621	£442,621	£442,621	£805,626	£2,178,767	£1,373,141
<b>Total - Capex</b>	<b>£232,265</b>	<b>£720,285</b>	<b>£585,653</b>	<b>£605,834</b>	<b>£648,703</b>	<b>£648,703</b>	<b>£1,161,323</b>	<b>£3,209,179</b>	<b>£2,047,855</b>
Permit - TOTEX	£579,558	£1,671,907	£2,001,168	£1,604,640	£1,759,238	£1,759,238	£2,897,789	£8,796,191	£5,898,402
Traffic Management - TOTEX	£2,187,005	£4,154,123	£4,304,260	£4,684,912	£4,684,912	£4,684,912	£10,935,024	£22,513,120	£11,578,096
<b>Total - TOTEX</b>	<b>£2,766,562</b>	<b>£5,826,030</b>	<b>£6,305,428</b>	<b>£6,289,552</b>	<b>£6,444,150</b>	<b>£6,444,150</b>	<b>£13,832,812</b>	<b>£31,309,311</b>	<b>£17,476,498</b>
Load Related Capex	£232,265	£720,285	£585,653	£605,834	£648,703	£648,703	£1,161,323	£3,209,179	£2,047,855
Non Load Capex									
Business Support Opex									
Directs Opex	£901,134	£1,459,099	£1,609,845	£1,496,547	£1,557,390	£1,557,390	£4,505,669	£7,680,270	£3,174,601
Repex	£1,633,164	£3,646,646	£4,109,930	£4,187,171	£4,238,058	£4,238,058	£8,165,820	£20,419,862	£12,254,042
<b>TOTEX</b>	<b>£2,766,562</b>	<b>£5,826,030</b>	<b>£6,305,428</b>	<b>£6,289,552</b>	<b>£6,444,150</b>	<b>£6,444,150</b>	<b>£13,832,812</b>	<b>£31,309,311</b>	<b>£17,476,498</b>

<sup>1</sup> Please note that Capex costs include Connections & Fuel Poor cost areas

## 2 The Needs Case

Our 2.7 million customers are spread across 24 local authorities, each with their own organisational cultures and stakeholder requirements. As a gas distribution company, NGN are committed to replacing circa 500km of iron gas mains per year through the replacement expenditure (Repex) and perform circa 19,000 reactive gas mains repairs activities p.a. across the NGN operating area through the operational expenditure (Opex). In addition, we maintain, upgrade, and install new above ground assets and fit circa 3,900 new connections p.a. into gas distribution network through capital expenditure (Capex). This combination of regional variances and workload volumes has historically made streetworks and associated traffic management a complex business activity to forecast.

Furthermore, to perform planned and reactive gas mains replacements and repairs, we have to apply for a streetworks permit prior to commencing work. The type of traffic management system is required, length (how long the permit will permit work for) and cost of the permit will be determined by a multitude of factors, including but not limited to:

- The geographical vehicle/pedestrian density within a local authority.
- Concurrent work being undertaken in area by other utilities or service providers.
- Method of work required and allowed operational hours for planned work.
- Type of road or street the work will be carried out on.

The purpose of a suitable traffic management system is to allow safe passage of vehicles and pedestrians past ongoing gas works and to create sufficient space and protection for those working on the site. Secondly, it is to meet the requirements of the permits and minimise disruption to vehicle and pedestrian traffic. The types of traffic management systems that NGN employ includes<sup>2</sup> both automated and person operated / monitored traffic lights, road/lane/footpath closure, barriers/signs/lamps, pedestrian crossing, and traffic control systems. Those systems that require being staffed permanently increase the overall streetworks costs and are typically employed for traffic sensitive areas only.

As part of the RIIO-2 price control planning, we submitted our assessments for the required funding to deliver the outlined programme of works for all cost areas. Our method for calculating the contribution of streetworks to the Repex, Capex, Opex, Connections, and Fuel Poor cost areas was to apply a set cost to each cost area based on known data from financial year (FY) 2018-19 of GD1. Data sets prior to this were difficult to ascertain due to a migration to a new data holding software (Insight) and historic practices that did not explicitly separate the streetworks costs from the overall project totex.

At the time of compiling our plan for GD2, the Traffic Management Authority (TMA) permit scheme was being introduced and implemented by local authorities but with no agreed dates as to when specific local authorities would be on-line. NGN therefore based permit costs for GD2 upon the 9 active local authorities and the corresponding costs at that time, with the knowledge from consultation with Ofgem as part of the GD2 plan that this reopener would cover any additional costs incurred for the introduction of permits across the wider population of 24 local authorities.

Figure 1 below has been categorised using the costs for streetworks traffic management year on year from data captured in Insight (NGN and Local Authority Streetworks management system). There are clear trends across all cost areas showing a significant increase in the cost of streetworks, from RIIO-GD1 to RIIO-GD2, with FY2020/21 being the outlier in the trend. The significant disruption during FY20/21 caused by the Covid-19

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<sup>2</sup> As directed by the local authorities as part of awarding a permit.

pandemic should be noted and account for some of the exceptional figures seen below so excluded from any trending. During this time NGN took the opportunity to complete works in city centres while they were locked down and therefore would be least disruptive to complete. There is no one clearly identifiable cause as to why traffic management totex has increased significantly from FY18/19, rather, it is a combination of influences within the repex, capex, and opex cost areas that brought about these cost rises. These are examined fully below.

Figure 1 - Year on year trend by Streetworks cost areas (TMA permits + Traffic Management Costs)

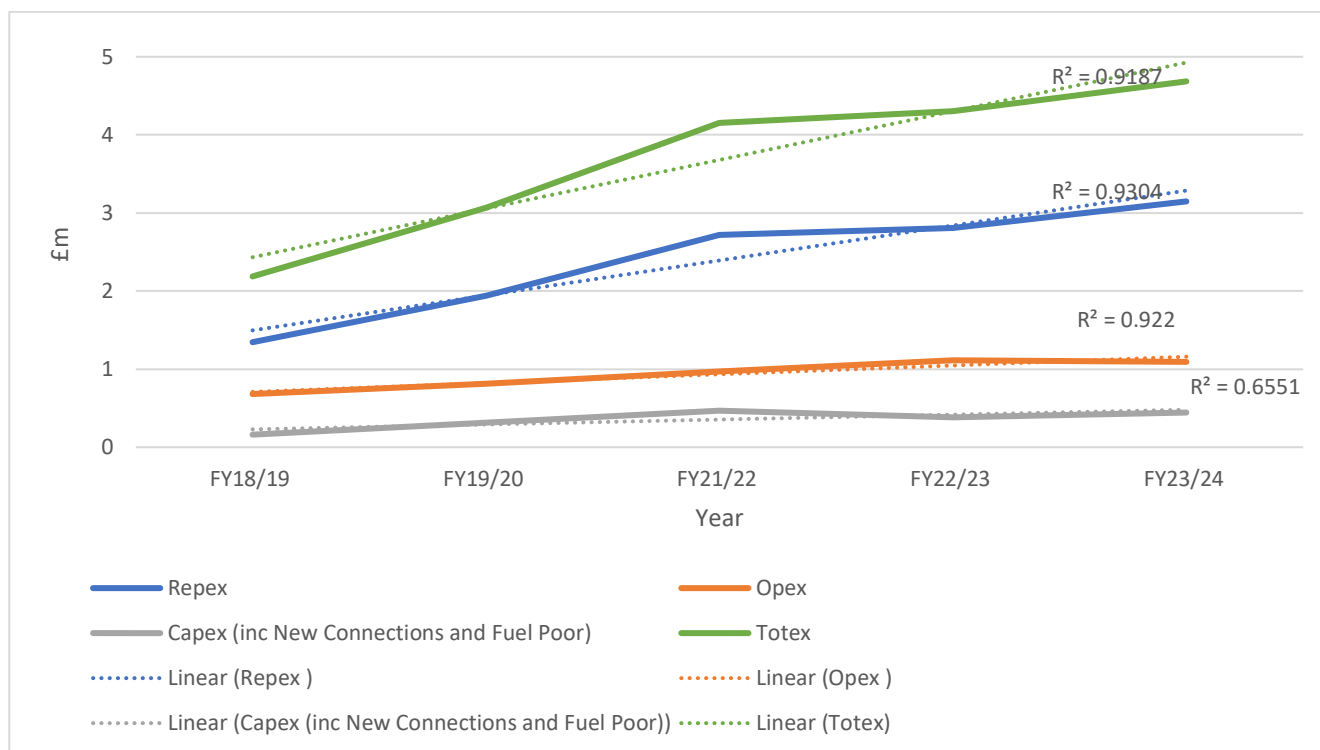


Table 3 - Year on year cost data by Streetworks cost areas (TMA permits + Traffic Management Costs)

2018/19 Prices	Column Labels					
	FY18/19		FY21/22	FY22/23	FY23/24	GD2 AVERAGE
Repex	1,345,216		2,717,644	2,808,186	3,148,129	2,891,320
Opex	680,663		968,706	1,112,942	1,094,163	1,058,603
Capex (incl. Connections & Fuel Poor)	161,125		467,774	383,132	442,621	431,175
<b>Grand Total</b>	<b>2,187,005</b>		<b>4,154,123</b>	<b>4,304,260</b>	<b>4,684,912</b>	<b>4,381,098</b>

## 2.1 Influences on the rising cost of Streetworks

### 2.1.1 TMA Permits

At the time of compiling cost forecasts for inclusion in GD2 plan there were 9 local authorities of the 24 in the network who had launched and were applying TMA Permits to streetwork activities (as shown in table 4). This provided NGN with a challenge in forecasting cost for GD2 as it was not known when the other local authorities would go-live with TMA Permits and what their permit costs would be. This was discussed with Ofgem as part of GD2 consultation and agreed that the Streetworks reopener would be used as a mechanism to recover any additional costs incurred above those assumed in the plan based upon only 9 local authorities with known

charges forming our permittry forecasted GD2 costs across Totex. All local authorities have since launched their TMA permit programmes and our forecasted costs for the remainder of GD2 reflects this.

Table 4 - TMA permit launch dates by Local Authority

Local Authority	TMA Go-Live Date	Local Authority	TMA Go-Live Date
LEEDS	12/06/2012	SUNDERLAND	23/03/2020
KIRKLEES	12/06/2012	GATESHEAD	23/03/2020
DONCASTER	12/06/2012	REDCAR AND CLEVELAND	02/03/2020
BARNSLEY	12/06/2012	HARTLEPOOL	30/03/2020
NORTH TYNESIDE	09/02/2015	STOCKTON	30/03/2020
WAKEFIELD	31/03/2015	DARLINGTON	02/03/2020
BRADFORD	31/03/2015	DURHAM	30/04/2020
CALDERDALE	31/03/2015	HULL	01/04/2020
NORTH YORKSHIRE	07/02/2018	MIDDLESBROUGH	01/04/2020
CUMBRIA	03/02/2020	NEWCASTLE	14/04/2020
NORTHUMBERLAND	03/02/2020	EAST RIDING	01/12/2021
SOUTH TYNESIDE	02/03/2020	YORK	01/02/2022

The volume of TOTEX permits and effects of TMA permitting being rolled out across all local authorities in our network has significantly increased Totex expenditure on Streetworks. The total number of permits have increased from 7,830 in 18/19 to 32,446 in 23/24 with costs of permits increasing from £0.580m in 18/19 to £1.605m in the latest regulatory year (23/24). The average cost of permits in GD2 is £1.759m, which is a realistic annualised cost for the TMA permits across the network and £1.180m above GD2 Plan. The trends by cost area are further explained in section 3.1.3, 3.1.6, and 3.1.8.

Table 5 - Changes in TMA permit numbers and costs from FY18/19 to GD2<sup>3</sup>

Metric	Unit	FY2018/19	FY 2021/22	FY2022/23	FY2023/24
<b>Number of permits/year</b>	<b>Number</b>	<b>7,830</b>	<b>30,518</b>	<b>33,306</b>	<b>32,446</b>
Number of permits granted/year	Number	4,045	15,861	15,484	15,408
Number of permit variations/year	Number	3,785	14,657	17,822	17,038
<b>Net cost of Permits/year</b>	<b>£m</b>	<b>0.580</b>	<b>1.672</b>	<b>2.001</b>	<b>1.605</b>
Net cost of permits granted/year	£m	0.449	1.310	1.542	1.205
Net cost of permit variations/year	£m	0.131	0.362	0.460	0.399

### 2.1.2 Repex Streetworks and Traffic Management

The total number of Repex notices agreed with local authorities as part of the Repex programme in FY23/24 was 7,821, of which 29.3% were classified as traffic sensitive (Appendix - A1 - NGN TOTEX Notices - Traffic

<sup>3</sup> Appendix – A2 NGN Totex Permits – Volume & Cost provides the supporting detail that was used for the summary tables above.

Sensitive - Notices - Road Status). This is an increase from the FY18/19 Repex work programme used for the GD2 Plan when only 1,138 (19.6%) of 5,815 notices were traffic sensitive (see table 6 below). The overall number of notices applied for has increased by 34% in the same timeframe, which highlights that the relative number of traffic sensitive permit issues has increased irrespective of the overall number of permits being issued in the Repex programme of works. Similarly, this consistent trend of annual increases of traffic sensitive permits will result in far greater traffic managements costs incurred.

*Table 6 - Change in volumes by permit type between FY18/19 and GD2*

Permit Types	FY18/19		FY21/22		FY22/23		FY23/24	
	No. of Notices	% of Total	No. of Notices	% of Total	No. of Notices	% of Total	No. of Notices	% of Total
Traffic Sensitive	1,138	19.6%	1,357	22.1%	1,479	24.3%	2,289	29.3%
Non-Sensitive	4,677	80.4%	4,782	77.9%	4,615	75.7%	5,532	70.7%
Total	5,815	100%	6,139	100%	6,094	100%	7,821	100%

Another influence on the increase in Repex is the type of road the mains replacement will take place on. The cost of traffic management system needed for public roads versus private roads is much higher due to the higher frequency of usage of both pedestrian and vehicular traffic. There has been a shift in the number of permit schemes being requested on public roads from FY18/19 to FY23/24. Table 7 highlights that 94.7% of all permit schemes were on public roads whereas this figure is 97.3% in FY23/24 in conjunction with an increase in the number of permit schemes. Evidently, NGN are completing more mains replacements on public roads across a larger programme of works which has a direct influence on the volume and value of required permitry and Traffic Management.

*Table 7 - Changes in Street Type volumes between FY18/19 to FY23/24*

Road Type	FY18/19		FY21/22		FY22/23		FY23/24	
	No. of Notices	% of Total	No. of Notices	% of Total	No. of Notices	% of Total	No. of Notices	% of Total
Public	5,499	94.7%	5,952	97.0%	5,900	96.9%	7,604	97.3%
Private	306	5.3%	184	3.0%	187	3.1%	209	2.7%
Total	5,805	100%	6,136	100%	6,087	100%	7,813	100%

Figure 2 below illustrates the cost trend for each traffic management category for the repex programme of works. Firstly, it highlights that the overall spend on person operated/monitored traffic lights, traffic lights, welfare, barriers/signs/lamps, and pedestrian crossings all have a positive trend of increasing spend since the streetworks allowances were submitted in FY18/19, with the exception of traffic control having a decreasing correlation. With an increase in the requirement for traffic lights and person operated / monitored traffic lights there will be a decrease in the demand for traffic control systems.

Secondly, the trends illustrated in figure 2 directly correlates with the findings in table 6 and 7 in that an increase in mains replacements in traffic sensitive areas and public roads will require a higher volume of person staffed traffic lights (on average the costliest traffic management system per unit). And finally, a requirement for more person operated / monitored traffic light systems will lead to an increase in the welfare requirements and labour costs per job. Ultimately, the increase in person operated traffic systems exhibited in figure 2 below will increase



streetworks costs, which is evidenced in unit cost summary (Table 9). Traffic Management unit costs over GD2 compared to 18/19 (GD1) show a 155% increase due to the factors referenced above. In 18/19 Traffic Management costs were c£2.05 per metre compared to £5.24 in 23/24.

Figure 2 – 5-year analysis of Streetworks spend by traffic management system for Repex

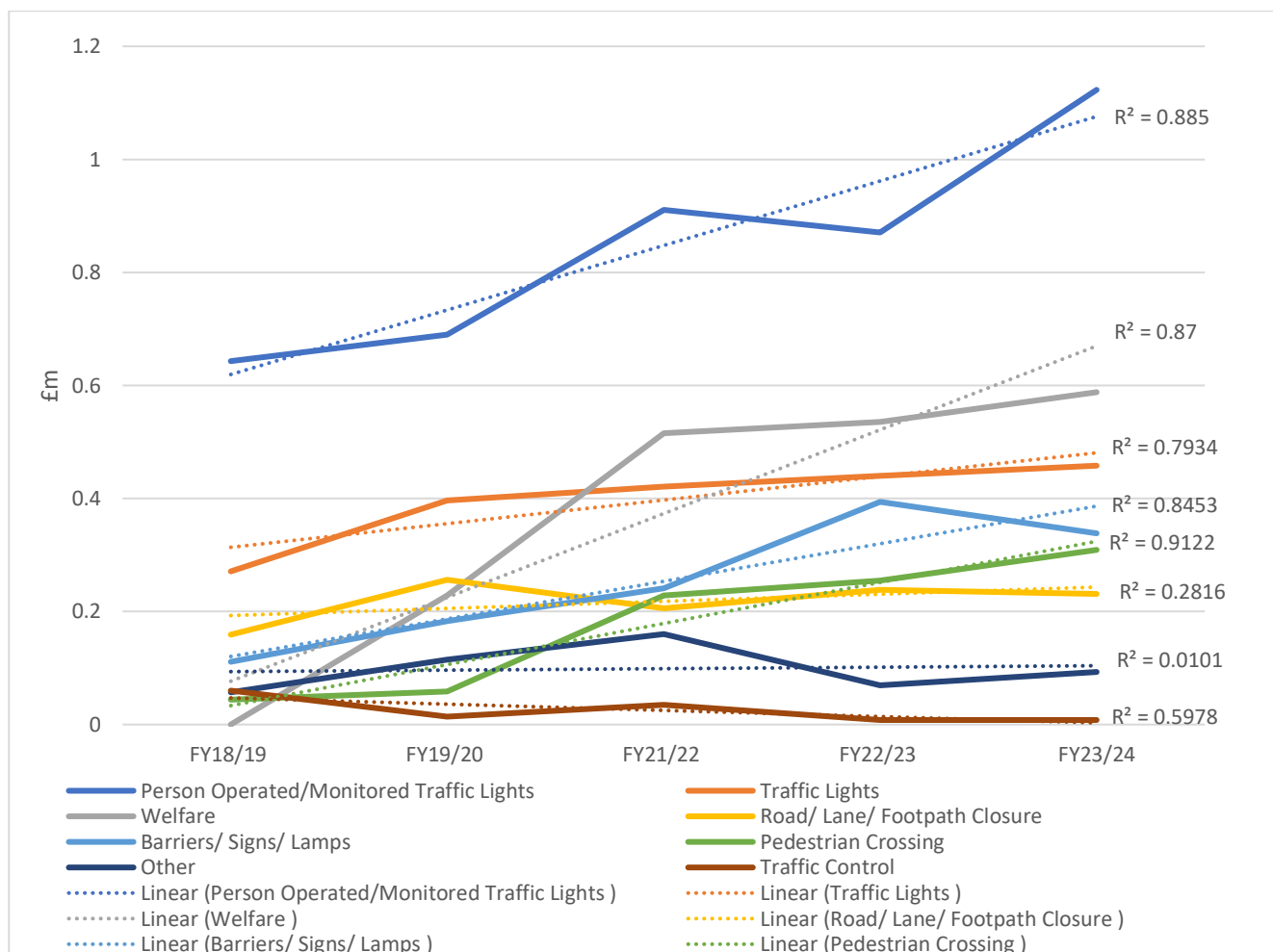


Table 7 – Cost breakdown of Streetworks spend by traffic management system for Repex

2018/19 Prices	Column Labels FY18/19	FY21/22	FY22/23	FY23/24	GD2 AVERAGE
<b>Repex</b>	<b>1,345,216</b>	<b>2,717,644</b>	<b>2,808,186</b>	<b>3,148,129</b>	<b>2,891,320</b>
Man on Site/ Manned Traffic Lights	643,082	910,956	870,517	1,123,819	968,431
Traffic Lights	271,019	420,956	439,851	458,072	439,627
Welfare	-	515,127	534,625	587,973	545,909
Barriers/ Signs/ Lamps	111,046	241,400	393,606	338,046	324,351
Road/ Lane/ Footpath Closure	159,049	205,629	237,877	230,824	224,777
Pedestrian Crossing	44,067	228,321	254,521	308,799	263,880
Other	57,325	159,991	68,848	92,952	107,264
Traffic Control	59,628	35,263	8,341	7,643	17,082

Table 8 – Repex Traffic Management Unit Costs FY18/19 to FY23/24

Repex	Unit Cost £/m Traffic Management	% Change on 18/19 UC Traffic Management
18/19	2.05	
21/22	4.55	122%
22/23	4.97	142%
23/24	5.24	155%

### 2.1.3 Repex TMA Permitry

With the GD2 Plan based on only 9 local authorities using TMA Permitry schemes, there has been a significant increase in both permits and costs in GD2 compared to the base year used for GD2 cost forecasts (18/19).

Table 9 - Repex TMA Permitry FY18/19 to FY23/24

		2018/19	2021/22	2022/23	2023/24
		Repex	Repex	Repex	Repex
<b>Number of permits/year</b>	<b>Num</b>	<b>2,443</b>	<b>14,812</b>	<b>17,513</b>	<b>17,672</b>
Number of permits granted/year	Num	1,207	6,106	6,217	6,339
Number of permits variations/year	Num	1,236	8,706	11,296	11,333
<i>of which: chargeable variations</i>	<i>Num</i>	<i>1,081</i>	<i>457</i>	<i>1,218</i>	<i>1,167</i>
<i>of which: non-chargeable variations</i>	<i>Num</i>	<i>155</i>	<i>8,249</i>	<i>10,078</i>	<i>10,166</i>
<b>Total Net Cost of Permits (£'m) - excluding income related to customer contribution</b>	<b>£m</b>	<b>0.288</b>	<b>0.929</b>	<b>1.302</b>	<b>1.039</b>
- total net costs of permits granted	£m	0.244	0.733	1.018	0.779
- total net costs of chargeable variations	£m	0.044	0.196	0.284	0.260

Total Repex Permits have increased from 2,443 in 18/19 to 17,672 in 23/24 with costs of permits increasing from £0.288m to £1.039m. Cost of permits in GD2 have averaged £1.090m which is now a realistic permitry cost for Repex per annum, based upon GD2 Repex programme and delivery targets and is £0.802m above GD2 Plan allowances (see table 10 above).

### 2.1.4 Repex – Person Operated Traffic Lights & Automated Traffic Lights

A significant cost driver for Repex traffic management increases, referenced in the Unit Cost calculations in Table 9 and reopener application, is the policy of local authorities to have person operated traffic lights on an ever-increasing amount of NGNs projects across the annual Repex programme. From a cost perspective, the person operated traffic light element of traffic management costs has increased from £0.643m in 18/19 to £1.124m in 23/24 with automated traffic lights also increasing from £0.271m in 18/19 to £0.458m in 23/24. Total Traffic lights costs on Repex has increased from £0.914m to £1.582m between 18/19 and 23/24 (see table 8)

This cost increase is directly linked to the volume and duration that traffic lights are insisted upon by Local Authorities as part of the permits that are requirements of the local authority. The table below shows the significant increase from 18/19 where 16,144 days of traffic lights were required as part of the annual Repex programme compared to an average of 19,532 days in GD2 programme, a 21% increase. Person Operated Traffic lights have increased from 12,569 to ave.13,927, a 11% increase. Automated traffic lights required on sites increased from 3,575 to ave. 5,605, a 57% increase. All lights come with a cost which results in a natural increase in costs linked to traffic light volumes.

The requirement to have person operated traffic lights on sites is challenged and discussed with local authorities prior to hire of equipment or engagement with partners for provision of services but, due to the mandatory requirements of Repex delivery, if the local authority insists upon specific traffic management such as traffic lights (person operated or automated) than we must accept the requirements and provide the traffic management in order to deliver the Repex programme targets in-line with HSE and Regulatory requirements.

*Table - Number of days on-site for person operated and automated operated traffic systems<sup>4</sup>*

Traffic System	Unit	FY18/19	FY21/22	FY22/23	FY23/24
Person Operated	Days	12,569	15,234	12,989	13,558
Automated	Days	3,575	5,817	5,645	5,354
<b>Total</b>	<b>Days</b>	<b>16,144</b>	<b>21,051</b>	<b>18,634</b>	<b>18,912</b>

### 2.1.5 Opex Streetworks & Traffic Management

The volume of actioned repairs on gas mains due to damage/gas leak detection on gas mains has increased by 75% on average in the first 3 years of GD2 compared to FY18/19 (see table 6). Gas main leaks are more likely to be discovered and occur in populous/traffic sensitive areas. Actioning this increased volume of damages would therefore require more costly traffic management systems in place to complete the reactive repairs in traffic sensitive areas. Actioned repairs to gas services have also increased since FY18/19, with reactive repairs instigated by condition and reactive repairs instigated by a damage increasing on average by 12% in GD2. This volume increase has directly contributed to the rise in streetworks costs in the Opex cost area.

*Table - Changes in Actioned Repairs volume between FY18/19 and FY22/23*

	FY18/19	FY21/22	FY22/23	FY23/24
Actioned Repairs Categories	Number	Number	Number	Number
Actioned Repairs/reports to mains interference (damage)	273	471	571	389
Actioned Repairs to services (condition)	9,415	10,416	10,942	10,234
Actioned Repairs to services interference (damage)	1,371	1,423	1,779	1,353

Figure 3 below illustrates the cost breakdown for each traffic management category for the Opex programme. Cost for most categories has increased significantly since the streetworks allowances were submitted in FY18/19, except for traffic control. This can be explained by the fact that as there is an increase in the requirement for traffic lights and person operated staffed traffic lights there will be a decrease in the demand for traffic control systems. Secondly, it directly correlates with the findings in table 6 and 7 in that an increase in mains

<sup>4</sup> Please note that some days require multiple resources i.e. more than 1 person which impacts costs

replacements in traffic sensitive areas and public roads will require a higher volume of person operated person operated / monitored traffic lights (the costliest traffic management system). And finally, a requirement for more person operated traffic light systems will lead to an increase in the welfare requirements.

Figure 3 - 5-year analysis of Streetworks spend by traffic management system for Opex

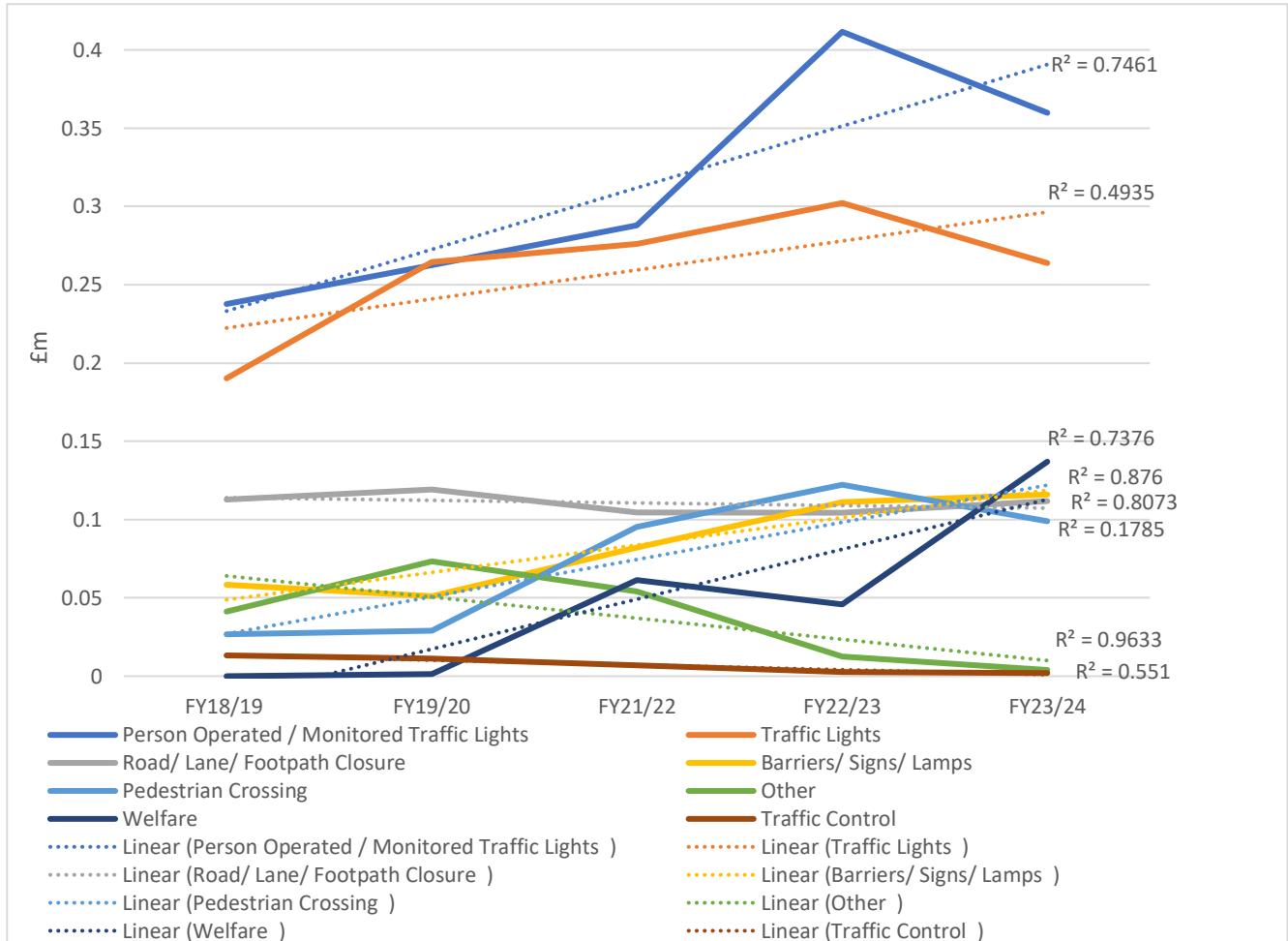


Table 10 – Cost breakdown of Streetworks spend by traffic management system for Opex

2018/19 Prices	Column Labels FY18/19	FY21/22	FY22/23	FY23/24	GD2 AVERAGE
<b>Opex</b>	<b>680,663</b>	<b>968,706</b>	<b>1,112,942</b>	<b>1,094,163</b>	<b>1,058,603</b>
Man on Site/ Manned Traffic Lights	237,718	287,892	411,590	360,231	353,238
Traffic Lights	190,256	276,126	302,211	263,658	280,665
Road/ Lane/ Footpath Closure	112,892	104,741	104,425	112,254	107,140
Barriers/ Signs/ Lamps	58,548	82,162	111,084	116,076	103,108
Pedestrian Crossing	26,784	95,384	122,284	98,794	105,487
Welfare	-	61,453	46,000	137,313	81,589
Other	41,192	54,061	12,613	4,242	23,639
Traffic Control	13,272	6,887	2,733	1,594	3,738

Traffic Management Unit Costs over GD2 compared to 18/19 (GD1) show a 96% increase due to the factors referenced above. In 18/19 Traffic Management costs were £127.49 per mains PRE compared to £249.39 in 23/24.

Table 11 – Opex Traffic Management Unit Costs FY18/19 to FY23/24

Opex	Unit Cost £/Mains PRE	% Change on 18/19 UC
	Traffic Management	Traffic Management
18/19	127.49	
21/22	210.13	65%
22/23	250.78	97%
23/24	249.39	96%

### 2.1.6 Opex TMA Permits

With GD2 Plan based upon only 9 local authorities using TMA Permits scheme there has been a significant increase in both permits and costs in GD2 compared to the base year used for GD2 cost forecasts (18/19).

Table 12 – Opex TMA Permits FY18/19 to FY23/24

		2018/19	2021/22	2022/23	2023/24
		Opex	Opex	Opex	Opex
<b>Number of permits/year</b>	<b>Num</b>	<b>4,233</b>	<b>11,466</b>	<b>12,934</b>	<b>12,626</b>
Number of permits granted/year	Num	2,000	7,074	7,581	7,406
Number of permits variations/year	Num	2,233	4,392	5,353	5,220
<i>of which: chargeable variations</i>	<i>Num</i>	<i>1,764</i>	<i>49</i>	<i>183</i>	<i>70</i>
<i>of which: non-chargeable variations</i>	<i>Num</i>	<i>469</i>	<i>4,343</i>	<i>5,170</i>	<i>5,150</i>
<b>Total Net Cost of Permits (£'m) - excluding income related to customer contribution</b>	<b>£m</b>	<b>0.220</b>	<b>0.490</b>	<b>0.497</b>	<b>0.402</b>
- total net costs of permits granted	£m	0.142	0.358	0.354	0.288
- total net costs of chargeable variations	£m	0.078	0.132	0.143	0.115

Total Opex Permits have increased from 4,233 in 18/19 to 12,626 in 23/24 with costs of permits increasing from £0.220m to £0.402m. Cost of permits in GD2 have averaged £0.463m which we now believe is a realistic permits cost for Opex per annum, which is £0.243m (91%) above GD2 Plan.

### 2.1.7 Opex – Person Operated Traffic Lights & Automated Traffic Lights

Similar to Repex, traffic management costs have also increased in Opex by the insistence from local authorities to have person operated traffic lights on an ever-increasing amount of NGNs works across the Network. This is referenced in the Unit Cost calculations (Table 11) and reopener application. From a cost perspective the person operated traffic light element of traffic management costs has increased from £0.238m in 18/19 to £0.360m in 23/24 with automated traffic lights also increasing from £0.190m in 18/19 to £0.264m in 23/24. Total Traffic lights costs in Opex has increased from £0.428m to £0.624m between 18/19 and 23/24. The cost increase is directly linked to the volume and duration that traffic lights are insisted upon as part of the permit requirements

approved by the local authority. The table below shows the significant increase from 18/19 where 3,518 days of person operated traffic lights were required as part of the annual Opex works compared to ave. 5,288 days in GD2 to date, a 50% increase. Automated increased from 3,607 to ave. 5,047 in the same timeframe, a 40% increase. Total days of traffic lights required on sites increased from 7,125 to ave. 10,335, a 45% increase.

Table 13 - Number of days on-site for person operated and automated operated traffic systems<sup>5</sup>

Traffic System	Unit	FY18/19	FY21/22	FY22/23	FY23/24
Person operated	Days	3,518	4,403	6,078	5,384
Automated operated	Days	3,607	5,770	5,391	3,980
<b>Total</b>	<b>Days</b>	<b>7,125</b>	<b>10,173</b>	<b>11,469</b>	<b>9,364</b>

The requirement to have person operated traffic lights on sites is challenged and discussed with local authorities prior to hire of equipment or engagement with partners for provision of services but, due to the mandatory requirements of gas escape repairs to protect life and property, if the local authority insists upon specific traffic management such as traffic lights (person operated or automated operated) then we have an obligation to accept the requirements and provide the stated traffic management.

### 2.1.8 Capex (incl. Connections) Permits

With GD2 Plan based upon only 9 local authorities using TMA Permits scheme there has been a significant increase in both permits and costs in GD2 compared to the base year used for GD2 cost forecasts (18/19).

Table 11- Capex (incl. Connections & Fuel Poor) TMA Permits FY18/19 to FY23/24

		2018/19	2021/22	2022/23	2023/24
		Capex	Capex	Capex	Capex
<b>Number of permits/year</b>	<b>Num</b>	<b>1,154</b>	<b>4,240</b>	<b>2,859</b>	<b>2,148</b>
Number of permits granted/year	Num	838	2,681	1,686	1,663
Number of permits variations/year	Num	316	1,559	1,173	485
<i>of which: chargeable variations</i>	<i>Num</i>	<i>229</i>	<i>27</i>	<i>53</i>	<i>31</i>
<i>of which: non-chargeable variations</i>	<i>Num</i>	<i>87</i>	<i>1,532</i>	<i>1,120</i>	<i>454</i>
<b>Total Net Cost of Permits (£'m) - excluding income related to customer contribution</b>	<b>£m</b>	<b>0.071</b>	<b>0.253</b>	<b>0.203</b>	<b>0.163</b>
- total net costs of permits granted	£m	0.063	0.219	0.170	0.139
- total net costs of chargeable variations	£m	0.008	0.034	0.032	0.024

<sup>5</sup> Please note that some days require multiple resources i.e. more than 1 person which impacts costs

Total Capex (incl. Connections & Fuel Poor) Permits have increased from 1,154 in 18/19 to 2,148 in 23/24 with costs of permits increasing from 0.071m to £0.163m. Cost of permits in GD2 have averaged £0.206m which we now believe is a realistic permitry cost for Opex per annum, which is £0.135m above GD2 Plan.

### 2.1.9 Capex (incl. Connections) – Person operated Traffic Lights & Automated Traffic Lights

As per the cost increases across Repex and Opex, traffic management costs have increased in Capex (incl. Connections & Fuel Poor). More specifically, the person operated traffic light element of traffic management costs has increased from £0.037m in 18/19 to £0.1533m in 23/24 with automated traffic lights also increasing from £0.065m in 18/19 to £0.105m in 23/24. Total Traffic lights costs in Capex has increased from £0.102m to £0.250m between 18/19 and 23/24. The cost increase is directly linked to the volume and duration that traffic lights are insisted upon as part of the permit requirements approved by the local authority. The table below shows the significant increase from 18/19 where 524 days of person operated traffic lights were required as part of the annual Capex (incl. Connections) works compared to 8,195 days in the 23/24 programme. Automated operated increased from 708 to 2,366. Total days of traffic lights required on sites increased from 1,232 to 10,561, a 757% increase.

*Table – Number of days on-site for person operated and automated operated traffic systems<sup>6</sup>*

Traffic System	Unit	FY18/19	FY21/22	FY22/23	FY23/24
Person operated	Days	524	6,043	4,263	8,195
Automated operated	Days	708	2,735	1,948	2,366
<b>Total</b>	<b>Days</b>	<b>1,232</b>	<b>8,778</b>	<b>6,211</b>	<b>10,561</b>

The requirement to have person operated traffic lights on sites is challenged and discussed with local authorities prior to hire of equipment or engagement with partners for provision of services but if the local authority insists upon specific traffic management such as traffic lights (person operated or automated operated) than we have an obligation to accept the requirements to enable the works to be completed. In the connections element of this area customers are paying for the required services and we are very much aware of the customer experience and therefore work with the local authority and customer to ensure an efficient outcome for the customer.

### 2.1.10 Looking Forward

#### Hazardous Waste Disposal

There is another significant contributing factor that is increasing the Streetworks costs, the legislation that covers the safe disposal of hazardous waste encountered when the road is dug up. The Environment Agency's Regulatory Position Statement 211 gave utilities exemptions from this legislation until January 2019 – and a subsequent temporary extension now applies until April 2025. This extension has been put in place to give the

<sup>6</sup> Please note that some days require multiple resources i.e. more than 1 person which impacts costs

utility industry time to formulate some alternative approaches to that laid out in the legislation that could satisfy the requirements with lower operational and cost impacts.

NGN have actively participated in Street Works UK's programme to develop a sampling and assessment protocol that would effectively replace RPS 211 after 31st October 2020. This work has identified that considerably more utility excavation spoil is classified as hazardous waste than previously thought. NGN typically generate c,189,000 to 206,160 tonnes of excavation spoil each year, of which effectively all is disposed as non-hazardous waste. From the 135 work sites sampled phase 1 and (2019) phase 2 (2022) sample data analysed by NGN during the 2019 Street Works UK sampling trial, 9.17% of tarmac and 10.98% of mixed excavation spoil was found to be classified as hazardous waste (nationally this was 16% for tarmac and 9% for mixed excavation spoils). Based on current disposal cost rates across the NGN network, hazardous waste is 295 times more expensive than non-hazardous disposal (£282.90 and £9.54 per tonne respectively).

Based on the findings of this trial and the subsequent assessment protocol being developed by Street Works UK, we have forecast a potential annual increase of excavation spoil disposal costs to NGN of £6.158m associated with increased requirements for laboratory analysis of excavation spoil and resultant requirements for increased disposal of excavation spoil as hazardous waste. Our cost estimate methodology and assessment have been independently reviewed by a third-party environmental consultant with waste assessment expertise and confirmed as appropriate and in accordance with current waste disposal and laboratory/third party testing costs.

There are additional associated costs with hazardous waste disposal, namely, laboratory analysis of spoil for classification purposes and operator training in the handling and disposal of hazardous waste. None of these costs have been included in this reopener but will be better understood for the GD3 business plan submission.

### Introduction of Lane rentals

A lane rental scheme would involve a Local Authority charging any works promoter carrying out any registerable works in the street for the time those works occupy the highway on the very busiest streets at the busiest times. As of 2023, no lane rental schemes have been introduced in our network, however we expect lane rental schemes to come into effect across 3 local authorities in 24/25, with an uptake across the remaining authorities in GD3. The cost for a lane rental is projected to be a maximum of £2,500 per day. Assuming that lane rental schemes will be applicable to traffic sensitive areas only, then the financial impact can be calculated using the average permit duration by cost area and multiplying it by the previous two factors, as shown in scenario 1 in table 8 below.

Table 12 - Projected Lane Rental Costs

£2500 per day Lane Rental for 3 Local Authorities (LA) using FY23/24 data				
Cost Area	Total No. of Traffic Sensitive Permits across 24 LAs	No. of Traffic Permits across 3 LAs	Average Permit Duration (days)	Projected Cost (£m)
Repex	2,289	286	13	9.295
Opex	2,203	275	6	4.125
Connections	1,148	144	6	2.160
Total	5,640	705		£15.580



The above scenarios illustrate that there will be a significant increase in streetworks cost, from an additional £3.116m to £15.580 depending on the cost apportioned to lane rental schemes by Local Authorities. However, as each local authority is distinct in its population size, urban distribution, and geographical area the additional cost will depend on the order of which local authorities decide to introduce the lane rental scheme. For example, Cumbria had significantly less traffic sensitive permits for both Repex, 80 permits, and Opex, 90 permits, programmes in comparison to East Riding where the number of permits was 220 and 318 respectively. Similarly, it is yet unclear if all traffic sensitive permits which lead to lane rental permits and as such this aspect of future streetworks cost is not included in the cost adjustment for this re-opener.

## 2.2 Alignment with overall business strategy and commitments

### 2.2.1 Alignment with NGN's RIIO-2 business plan and obligations

Through agreeing the proposed cost allocation revision, we will be able to deliver our legislative obligations efficiently and on the same basis as other networks who already had full LA permit coverage at the start of RIIO-2. More specifically, we will be able to both deliver the Repex programme of works unencumbered and react in a safe, timely manner to repair/replacement jobs as there will no longer be the financial constraint of prioritising workloads. Furthermore, through the identification and exclusion of future influences on streetworks costs, we have identified the basis of these costs in RIIO-3 and will carry any transitional risk with the exclusions we have made prior to the end of RIIO-2. Everything we do is focused on our vision as set out in Figure 15 below.

Figure 4 – NGN's overall vision.



In order to provide a focus for our efforts as we work towards achieving our vision, we have identified four pillars, each of which is built upon the bedrock of our people and our genuine desire to deliver a safe, conscious and supportive working environment. These are safety, efficiency, customer and business integrity.

#### Safety

Safeguarding our colleagues, customers and the wider environment is an unshakable foundation of our business and we are dedicated to establishing the processes, practices and procedures that are necessary to ensure that everyone stays safe and, just as importantly, feels safe.

This is incredibly important to us so we work closely with our regulators - Ofgem and the Health & Safety Executive - to ensure we continue to outperform all our safety and environmental targets.

In summary, we promise to:

- Put safety before everything.
- Take steps to ensure that no-one goes home harmed.
- Make sure that customers and members of the public are protected from our works.

### **Efficiency**

Ultimately, we are accountable to our customers because a percentage of your gas bill is allocated to us to pay for the services we provide. It's important therefore that we carefully balance our trailblazing vision with the need to establish responsible measures that are designed to ensure the service we provide is not just safe and reliable, but also affordable.

It simply isn't in our nature to waste our resources, our time and our money on ideas that don't significantly contribute to the success of our business, the security and wellbeing of our customers and people and, therefore, the success of our region and our local economy.

In summary, we promise to:

- Take steps to minimise inefficiency.
- Think smart and operate as effectively as possible.
- Manage our time: right person for the right job at the right time.

### **Customer**

We have always aimed to deliver beyond expectations and to delight all our customers by taking to them regularly, listening to their views, ideas and needs, and positively acting upon what we've heard. This plays into the way that we go above and beyond to support vulnerable people across our region by working hard to better understand the impact of what we do through their eyes taking into account their individual circumstances and responding accordingly with sensitivity and a heartfelt desire to get it right for them.

As a direct result of all this, we are not only outperforming our sector, we're acknowledged as best in class in UK for achieving unprecedented levels of customer satisfaction. We love what we do and we don't exist win awards for our customer service but when we do, we're as proud as punch that our colleagues are recognised for their work and everything we achieve as a team. It means a lot to us but we don't rest on our laurels, we constantly strive to raise the bar even further.

In summary, we promise to:

- Provide the best possible customer experience.
- Go beyond customer expectations.
- Respond quickly if things go wrong, and take steps to put them right.

### **Business Integrity**

We hold ourselves accountable for everything we do; indeed, this is a huge part of collective consciousness so we don't just talk about the ways in which we might deliver sustainable transformation, we actually do it.

We are reviewing and radically upgrading all our business systems to build a coherent and joined up framework of interlinked initiatives that will support the delivery of exciting, effective and efficient tools that will enable us to work in ways that are unprecedented for such a huge business with a workforce that is dispersed across many hundreds of miles.

Delivering our dream will ensure that we are able to operate in the most efficient way possible as well as opening the doors to new levels of doing business really well which will deliver a strong and respected business, delighted customers, a happy and fulfilled team and a sustainable future for all.

In summary, we promise to:

- Provide up to date and accurate data
- Be responsive when asked for data
- Be professional in all that we do (written, verbal, physical)

By providing sufficient funding for meeting the Specified Streetworks requirements and mitigating the health and safety risks associated with working in proximity to roads, we are in turn creating a better working environment for our employees, which will inevitably lead to better individual and business performance. Also, removing the risk of financial penalties from Local Authorities will enable NGN to re-invest more money into business improvement activities. Therefore, this will contribute to all four of our pillars above.

### 2.2.2 Alignment with Ofgem's strategy and priorities

The proposed cost allocation outlined in table 2 of this document will assist in the achievement of national net zero carbon targets by mitigating the gas leaks and system losses that are an endemic feature of distribution networks with ageing asset bases. The additional streetworks allowance also contributes to Ofgem's priority of establishing an efficient, fair and flexible energy system. Fully funded permitting and traffic management will enable NGN to minimize network disruptions, increase operational resilience in response to leaks, and share the responsibility of cost increases when delivering repex, opex, and capex work programmes.

Furthermore, through socialising these costs to gas consumers bills, it will remove the necessity for NGN to make difficult business decision with regards to prioritising workloads, ensuring that current gas users are not impacted.

### 3 Detailed cost breakdown

This section details how the cost requirements have been developed for this re-opener submission and how they comply with the requirement of RIIO-GD2. The supporting excel spreadsheets are contained within the following Appendices:-

- *Appendix 1 – NGN TOTEX Notices - Traffic Sensitive*
- *Appendix 2 – NGN TOTEX Permits - Volume & Cost*
- *Appendix 3 – NGN TOTEX - Traffic Light Provision (Person operated & Automated operated)*
- *Appendix 4 – NGN TOTEX Traffic Management Costs*
- *Appendix 5 – Summary of Total Streetworks Application*

Costs for the Streetworks Reopener submission are split into 2 key areas:-

- 1) Permit costs associated with increased TMA permits
- 2) Traffic Management (incl. Traffic Lights) associated with increased requirements imposed by Local Authorities to grant permits.

The files included in the appendices provide the supporting detail that has been used to arrive at the reopener submission values and has been extracted from NGN systems at source. Each appendix is summarised below.

#### ***Appendix 1 – NGN TOTEX Notices - Traffic Sensitive – Notices – Road Status***

This file provides detailed information showing all notices raised over the last 6 regulatory years (18/19 – 23/24) via our Insight system which communicates with local authorities on notice applications and associated parameters. This is all system captured data extracted directly from NGN systems which has been captured daily by our Operational Teams and Management on site in collaboration with our Streetworks back office team and local authorities.

Within the file there is a tab for each of the 6 regulatory years detailing the notices individually across multiple parameters shown in the columns. Below is an overview of the key information:-

- Prefix 2 – This shows the sub-region in our network where the work is occurring
- Works Type – Classification of works
- Start – Start Date of Notice
- End – End date of notice
- Notice Duration – Duration of notice period in days
- Address 1 – Site Address
- Address 2 – Site Address
- Street C/W – Surface of Road/Area
- Notifiable Organisation Name – Local Authority
- Project Description – Brief Additional Info of works
- Description – Further information regarding job
- Road Status – Public or Private
- Excavation Type – Type of Excavation technique used

All data is split across TOTEX areas as well as summarised into a TOTEX total.

This annual data is then used to summarise annual quantity and percentages of Traffic Sensitive works, volume of Notices and Road Status which are all key drivers of Streetworks and Traffic Management.

This information has been used within the reopener case to demonstrate the key changes in these areas to support the cost increases NGN have experienced across Streetworks and Traffic Management.

### **Appendix 2 – NGN TOTEX Permits - Volume & Cost**

This file provides a summary of the annual NGN CRRP returns for the Streetworks table (3.13 – RIIO-GD1 for 18/19 as a base and 4.12 for the completed 3 years of RIIO-GD2).

A summary of the 4 years is shown on the 'Permits Summary (18-19 Prices)' tab to evidence both the increase to volume of permits and associated cost of permits to NGN. Key data included by year:

- Number of permits/year
- Number of permits granted/year
- Number of permits variations/year
  - of which: chargeable variations
  - of which: non-chargeable variations
- Total Net Cost of Permits (£'m) - excluding income related to customer contribution
  - total net costs of permits granted
  - total net costs of chargeable variations

Each CRRP return is included in specific tabs along with a record of when the local authorities in the Network commenced go-live of TMA Permitry. This provides evidence of the 9 local authorities applying TMA at the time of GD2 plan submission (18/19) and the go-live dates of the remaining 15 local authorities applying TMA permits after that time. This resulted in all 24 applying TMA permits against a cost forecast of only 9 – clearly demonstrated by the volume and cost increases between 18/19 and the RIIO-GD years.

All financial numbers are in 18/19 prices.

### **Appendix 3 – NGN TOTEX - Traffic Light Provision (Person Operated & Automated)**

This file provides the quantity of Traffic Light days (person operated and automated operated) incurred across NGN TOTEX focusing on 18/19 as the base year used for RIIO-GD2 Forecasting/Plan and the resulting RIIO-GD2 completed regulatory periods.

The 'Traffic Light 1819-2324 Summary' tab supports the reopener case through demonstrating the increased Traffic Lights (person operated and automated operated) incurred.

The data was compiled by extracting actual Purchase Order data from our SAP ECC and SAP S4 Systems (shown in 'Data' tab). NGN have a resourced Plant Desk which all hires are processed through to ensure governance and associated control over hire, off-hire, invoicing as well as governance with regards to accuracy of data capture/SAP coding. Each Traffic Management request has a unique PO and 'Activity Code' linked to the works which allows a split of data across TOTEX workstreams to demonstrate the step-change experienced across Opex, Repex, Capex and Connections/Fuel Poor along with the overall TOTEX position.

This data demonstrates through actual system data the significant increase in Traffic Light requirements imposed by local authorities in RIIO-GD2 compared to 18/19 in RIIO-GD1.

#### **Appendix 4 – NGN TOTEX Traffic Management Costs**

This file provides a detailed breakdown of the Traffic Management costs incurred by NGN across TOTEX activities for the last 6 completed regulatory years (18/19 – 23/24).

This cost data has been directly extracted from S4 (SAP) and via SAP AFO (Analysis for Office) for RIIO-D2 Data. SAP ECC was used for 18/19 Regulatory Year as the S4 upgrade was not completed at that time.

The data annual extracts are consolidated into the 'data' tab which provides detail of the actual traffic management procured, the cost, regional location, Supplier and Traffic Management category.

From this a PIVOT table is produced in the 'Traffic Management Summary' tab splitting costs across TOTEX workstreams and the following Traffic Management categories

- Traffic Lights
- Man on Site/ Person operated Traffic Lights
- Welfare
- Barriers/ Signs/ Lamps
- Road/ Lane/ Footpath Closure
- Pedestrian Crossing
- Other
- Traffic Control

The consolidated numbers in the pivot table are in real prices and then adjusted for deflation factors to report in columns U to AE in 18/19 prices for consistency.

#### **Appendix 5 – Summary of Total Streetworks Application**

This file summarises the reopener submission costs across Permits and Traffic Management as well as by TOTEX workstream (Opex, Repex and Capex incl. Connections & Fuel poor).

2018/19 regulatory year actuals are shown which formed the GD2 Plan submission along with actuals for the first 3 years of GD2 and associated forecasts for remaining 2 years, arriving at a total forecasted send compared to the assumed GD2 plan,

The summary table is linked to the other Appendices (1-4) referenced in this document to show the supporting data/calculations that arrives at the reopener value(s).

### **3.1 Overview and description of key project costs**

NGN are requesting £17,476,498 (in cost base 2018/19) of Totex funding for remuneration of additional streetworks incurred during RIIO-GD2 and projected additional costs for the remainder of RIIO-GD2. An overview of project cost is provided in table 17, in 2018/19 cost base.

Table 13 - Overview of additional cost allocation for RIIO-GD2

	2018/19 Actual / GD2 Plan	Total GD2 Plan	GD2 Actual / Forecast	Variance / Reopener Application
Permit - Opex	£220,471	£1,102,354	£2,316,134	£1,213,780
Traffic Management - Opex	£680,663	£3,403,315	£5,364,135	£1,960,820
<b>Total - Opex</b>	<b>£901,134</b>	<b>£4,505,669</b>	<b>£7,680,270</b>	<b>£3,174,601</b>
Permit - Repex	£287,947	£1,439,737	£5,449,645	£4,009,907
Traffic Management - Repex	£1,345,216	£6,726,082	£14,970,218	£8,244,135
<b>Total - Repex</b>	<b>£1,633,164</b>	<b>£8,165,820</b>	<b>£20,419,862</b>	<b>£12,254,042</b>
Permit - Capex	£71,139	£355,697	£1,030,412	£674,715
Traffic Management - Capex	£161,125	£805,626	£2,178,767	£1,373,141
<b>Total - Capex</b>	<b>£232,265</b>	<b>£1,161,323</b>	<b>£3,209,179</b>	<b>£2,047,855</b>
Permit - TOTEX	£579,558	£2,897,789	£8,796,191	£5,898,402
Traffic Management - TOTEX	£2,187,005	£10,935,024	£22,513,120	£11,578,096
<b>Total - TOTEX</b>	<b>£2,766,562</b>	<b>£13,832,812</b>	<b>£31,309,311</b>	<b>£17,476,498</b>
Load Related Capex	£232,265	£1,161,323	£3,209,179	£2,047,855
Non Load Capex				
Business Support Opex				
Directs Opex	£901,134	£4,505,669	£7,680,270	£3,174,601
Repex	£1,633,164	£8,165,820	£20,419,862	£12,254,042
<b>TOTEX</b>	<b>£2,766,562</b>	<b>£13,832,812</b>	<b>£31,309,311</b>	<b>£17,476,498</b>

### 3.2 Justification of costs and efficient expenditure

The costs relating to this reopener are split into Permit charges and Traffic Management (incl. Traffic Lights) costs. The permit charges incurred via local authorities are set by each local authority and NGN have no influence on the value set and are therefore subject to this expenditure and any associated increases.

Traffic Management costs are a result of the volume of traffic management incurred to manage the sites as part of the permit and also our procurement strategy for Traffic Management which arrives at our suppliers and their associated prices and standards of service.

NGN typically have a hire strategy around Traffic Management and ensure an efficient outcome via our procurement strategy.

NGN where practical will competitively source all requirements with an aggregated value of over £20,000 and award contracts following the most advantageous tender submissions, taking into consideration technical capabilities, Innovation, H&S and environmental aspects, sustainability subjects alongside contract risk and efficient commercials.

Our procurement strategies consider Contract lotting, geographical allocation, primary-secondary allocation, work package awarding, phased approach to tendering such as specialist contractor tendering separate to utilising Mains Works Contractor Framework to avoid sub management costs and other unnecessary commercial risks. We maintain high standards on contracting terms, with the majority of contracts being placed under NGN terms or industry standard terms such as NEC, not agreeing on high risk contract challenges but allowing compromise on terms that will benefit both parties with standard advantageous payment terms for the Supplier.

Innovation and value engineering is built in to all aspects of the business from concept at investment decision stage to delivery and is incorporated into our tender requirements which includes pre-market engagement activities, contract notices, expression of interests and competitive dialogue where appropriate, with then innovation and value engineering considered as part of the award criteria and tender assessments with options, where suitable to incentivise Suppliers by bringing innovative ideas throughout the lifetime of the Contract.

We ensure that all procurement at NGN benefits from a cross-functional input, whereby technical considerations are balanced with commercial and sustainability considerations. We aim to ensure that all procurement activity at NGN follows the principles of the Triple Bottom Line, which means that in addition to generating Profit, we are also committed to creating a greater value for People and Environment by focusing on four main objectives: Resilient Supply Chains, Social Sustainability, Environmental Sustainability and Internal Culture.



Figure 5 - NGN Supply Chain Resilience Model

Our Traffic Management framework partners were awarded following a full OJEU tender event to be carried out in line with NGN's procurement policy and the Utilities Contract Regulations 2016 (The Regulations). A multi-source framework was used so that multiple providers were awarded across Network sub-regions allowing multiple partners per area and driving competitiveness between partners on price and performance.



NGN multi-source Frameworks are based on non-guaranteed volumes where appropriate to ensure competitive tension remains through mini-tendering and where necessary refreshing Frameworks to ensure an adequate number of Suppliers are involved in competitive bidding under Frameworks.

The pricing schedule which is agreed with our successful framework partners is based on the set up, dismantle and hire rate for all Traffic Management services. This ensures that our partners have full end-to-end accountability on site and no inefficiency is embedded by separating elements of the on-site process to multiple partners at different stages.

We ensure that all procurement at NGN benefits from a cross-functional input, whereby technical considerations are balanced with commercial and sustainability considerations. We aim to ensure that all procurement activity at NGN follows the principles of the Triple Bottom Line, which means that in addition to generating Profit, we are also committed to creating a greater value for People and Environment by focusing on four main objectives: Resilient Supply Chains, Social Sustainability, Environmental Sustainability and Internal Culture.

Another element that ensures NGN are delivery efficiency is the speed at which work is completed. Below is a table taken from RIIO-GD2 regulatory reporting which shows that NGN cleared 91.3% of its gas escape repairs within 7 days in 23/24, 98.2% within 28 days. This ensures that impact to customers and wider stakeholders is minimised and the duration of permits and associated traffic management is minimised which directly positively influences cost.

*Table 18 - Splits of work duration for NGN work programmes for GD2*

Categories	Unit	RIIO-GD2			RIIO-GD2		
		2022	2023	2024	2022	2023	2024
0-7 Days	No.	14,111	14,671	14,128	90.3%	90.0%	91.3%
8-28 Days	No.	1,222	1,266	1,068	7.8%	7.8%	6.9%
29-35 Days	No.	81	106	89	0.5%	0.7%	0.6%
36-42 Days	No.	69	58	64	0.4%	0.4%	0.4%
43-49 Days	No.	29	44	30	0.2%	0.3%	0.2%
50-56 Days	No.	23	36	21	0.1%	0.2%	0.1%
>56 Days	No.	44	83	41	0.3%	0.5%	0.3%
Median Repair Time > 28 Days	No.	40	42	39	0.3%	0.3%	0.3%

For context below is a comparison with other GDNs for 23/24 which shows NGNs frontier position in this area of efficiency. We clear repairs which attract permits and traffic management due to excavations, significantly faster than other GDNs and have consistently delivered this frontier position throughout RIIO-GD2.

Table 19 – Splits of work duration for all GDNs in 23/24

RIIO-GD2 – 23/24									
Categories	Unit	NGN	WWU	Scotland	Southern	Eastern	NW	WM	London
0-7 Days	No.	91.3%	84.8%	79.0%	73.0%	72.1%	71.0%	68.8%	67.6%
8-28 Days	No.	6.9%	11.5%	16.5%	18.1%	19.4%	17.5%	20.0%	17.6%
29-35 Days	No.	0.6%	1.1%	1.7%	1.6%	2.3%	2.7%	2.9%	2.7%
36-42 Days	No.	0.4%	0.4%	0.9%	1.4%	1.5%	1.9%	2.3%	2.1%
43-49 Days	No.	0.2%	0.3%	0.6%	0.9%	1.2%	1.4%	1.5%	1.6%
50-56 Days	No.	0.1%	0.3%	0.3%	1.0%	0.7%	0.9%	0.9%	1.6%
>56 Days	No.	0.3%	1.6%	0.9%	4.0%	2.9%	4.6%	3.7%	6.9%

### What NGN are not submitting as part of this reopener application

NGNs reopener submission for Streetworks is fully linked to additional costs incurred through local authorities moving to permitry schemes that were not on-line in those LAs in 2018/19. There have also been more stringent streetworks demands and associated cost increases incurred through LAs requirements is associated with those permits.

Associated costs such as increased non-direct costs through the additional resourcing levels to manage the new permitry schemes and increased traffic management requirements are not being claimed. NGN have also invested significant time, resources and cost in development of IT systems and reporting to better manage Streetworks but feel that this is a requirement as a GDN to evolve and look at areas to drive efficiency in the back-office.

Productivity has been impacted by the additional streetworks demands of LAs, specifically the increased in person operated traffic lights which has been evidenced in this document. However NGN are committed to improving productivity of our workforce and, because of S4 HANA implementation in 2019 (GD1), have developed a productivity model that allows all Industrial colleagues time and outputs to be measured on a weekly basis against target(s). Step-changes in productivity have been achieved to off-set any increase in job times due to more stringent permits and streetworks. We have therefore not claimed for any such non-direct costs and will continue to drive efficiency as part of both back-office and front-line delivery to customers.

### 3.3 Regulatory treatment of funding

This application is necessary under Special Condition 3.24 Specified Streetworks<sup>7</sup> as the changes to requirements have caused NGN's Licenced Activity and costs to increase during the RIIO-2 Price Control Period.

There are several available approaches to Regulatory Treatment of Funding for the project. The table below summarises the potential options and their relative strengths and weaknesses.

<sup>7</sup> Ofgem, "Northern Gas Networks Limited Gas Transporter Licence Special Conditions," 2024

Table 20 - Description of the different funding mechanisms and their suitability to fund this project

Funding Mechanism	Pros	Cons
<b>Ex-Ante Allowance (Additional TOTEX)</b> <b>Preferred Approach</b>	<ul style="list-style-type: none"> <li>• Clear allowance based on forecasts.</li> <li>• Simple / low regulatory burden.</li> <li>• Incentive to outperform cost forecasts and share benefit with customers through the Totex Incentive Mechanism (TIM).</li> <li>• Network is liable for ~50% of any overspend based on RIIO-2 TIM factors, which shares the risk between customers and networks.</li> </ul>	<ul style="list-style-type: none"> <li>• Partial protection for customers and networks from uncertainty in forecasts.</li> <li>• Not ringfenced / no mechanism to claw back if underspend beyond TIM.</li> </ul>
<b>Use It Or Lose It (UIOLI)</b>	<ul style="list-style-type: none"> <li>• Accounts for Cost Uncertainties.</li> <li>• Flexible Mechanism.</li> <li>• Low Regulatory Burden.</li> <li>• Customer gets all of underspend back.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of incentive to outperform costs / drive efficiencies.</li> <li>• Network liable for any overspend, may encourage conservative cost forecasts.</li> </ul>
<b>Actual Cost Recovery (Pass Through)</b>	<ul style="list-style-type: none"> <li>• Accounts for Cost Uncertainties.</li> <li>• Flexible Mechanism.</li> <li>• Low Regulatory Burden.</li> <li>• Customer only pays for actual costs incurred.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of incentive to outperform costs / drive efficiencies.</li> <li>• Open ended risk to customers for overspend.</li> </ul>
<b>Price Control Deliverable</b>	<ul style="list-style-type: none"> <li>• Unused allowances automatically returned to customers.</li> <li>• Specific deliverables linked to funding.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of incentive to outperform costs / drive efficiencies.</li> <li>• Network liable for any overspend, may encourage conservative cost forecasts.</li> <li>• Requirement to demonstrate deliverables increase regulatory burden, plus challenges in measurement.</li> </ul>
<b>Volume Driver</b>	<ul style="list-style-type: none"> <li>• Not appropriate in this case, due to discrete large-scale project.</li> </ul>	<ul style="list-style-type: none"> <li>• No unit cost / standardised variable volume.</li> </ul>
<b>Delay to next price control</b>	<ul style="list-style-type: none"> <li>• No bill impact in GD2.</li> </ul>	<ul style="list-style-type: none"> <li>• Against GD2 / net zero commitments/ ambitions.</li> <li>• Risks delay, increasing net zero costs for industry / UK as per needs case and CBA.</li> </ul>

NGN support the selection of the most appropriate and least burdensome way to approach regulatory treatment of funding for the Works, which provides value for money to consumers. The approach should fairly share the risks between the network and consumers, whilst incentivising efficient delivery.

Given the routine nature of streetworks, NGN's preferred approach is to fund deficit via additional Totex allowance. Should the outturn costs be less than forecast, customers benefit from the return of funding via the Total Incentive Mechanism (TIM).

Should the outturn costs be higher, NGN will be liable for funding their proportion of the TIM, currently approximately 50% at RIIO-2 and 49% for NGN specifically. This approach has the advantage of fairly sharing risks between customers and networks and sharing costs between customers over time due to the partial capitalisation of costs through the Totex revenue mechanism and regulatory asset value. NGN must demonstrate that the programme of works has been efficiently delivered on its objectives at closeout and Ofgem could recover costs if that wasn't the case. This ensures that customers are adequately protected. Ex-Ante is the most appropriate and fair regulatory treatment of funding for consumers, therefore NGN propose this approach should be used.

## 4 Cost Benefit Analysis (CBA)

A conventional CBA has not been completed for the streetworks reopener due to its nature and this approach was confirmed with Ofgem on a bilateral on 6th September 2024. Instead a qualitative scenario assessment is provided to illustrate the importance of the additional funding requirement. The first scenario is the 'do minimum', the second scenario is 'partial funding', and the third scenario is the 'preferred option'. The difference between the scenarios is centred on when the additional streetworks funding will be provided, how much is agreed upon, and the implications of each.

The 'do minimum' scenario would occur should the additional streetworks funding not be agreed upon and provided during the GD2 planning period. This would result in NGN being unable to meet its statutory obligations with respect to repex of iron pipelines, new connections, and fuel poor programmes of work. It would also drive NGN to make short-term business decisions with respect to opex and capex programmes of work. For example, reactive capital maintenance of gas main/service infrastructure may be prioritised over proactive capital maintenance driven by gas main/service infrastructure condition. Similarly, the capex asset investment strategy would have to be re-prioritised. This could potentially exacerbate the inherent risk of gas leaks and supply interruptions to customers and businesses. There could also be implications on delivery efficiencies elsewhere in the business, as the required totex funding to streetworks would have to be covered.

The 'partial funding' scenario is that an allowance of additional streetworks is provided by Ofgem for the remainder of GD2 only. This would reduce the above risks for the remainder of GD2, however, due to the £17.476m shortfall in streetworks funding, there is still an inherent risk of NGN having to cover the expenditure from elsewhere in the business, and in turn, a reprioritisation of their asset investment strategy.

The 'preferred option' is that NGN and Ofgem agree to an additional £17.476m of streetworks funding allowance for both historic streetworks totex and projected totex for the remainder of GD2. This would minimise the risks outlined in the 'do minimum' scenario and enable Ofgem to potentially recover allowances through uncertainty mechanisms across the cost areas.

## 5 Stakeholder engagement and whole system opportunities

All GDNs have been engaging approximately bi-monthly throughout 2023 on the streetworks re-opener to ensure there is consistency in scope and basis across networks. We have all also engaged the Ofgem re-opener team at several points to ensure that this submission meets requirements.

Since 2018 NGN have actively participated in the collaborative workstream led by Street Works UK to develop alternative working arrangements for streetworks spoil management to RPS 211. NGN participated in the Phase 1 (2019) and Phase 2 (2022) street works spoil sampling trials, contributing the collection, laboratory analysis and interpretation of 250 samples at our own cost. NGN are members of the collaborative working group developing the technical guidance for the forthcoming Phase 3 (2024) sampling trial, sharing our learning from the previous trials to ensure the success of the 2024 works. NGN have taken a leading role in communicating the findings of the work to date with other gas distribution networks via the Energy Networks Association Gas Environment Manager Group.

Due to the nature of this re-opener and submission, whole system opportunities are not relevant. We continue to engage with and coordinate with local authorities to explore opportunities to ensure that streetworks are at least disruptive to customers as possible, including, for example, working outside of peak times, i.e. school holidays, for tourist areas. We also coordinate with LAs to ensure our works are phased appropriately with other utilities.

## 6 Appendices

Appendix number	Appendix title	Description
A1	<i>NGN TOTEX Notices - Traffic Sensitive</i>	<i>Collated historic data relating to volume splits by cost area and region of permit type</i>
A2	<i>NGN TOTEX Permits - Volume &amp; Cost</i>	<i>Collated historic data relating to Volume and Cost splits by Local Authority</i>
A3	<i>NGN TOTEX - Traffic Light Provision (Person operated &amp; Automated operated)</i>	<i>Collated historic data relating to person operated and automated operated traffic system volumes</i>
A4	<i>NGN TOTEX Traffic Management Costs</i>	<i>Collated historic data relating to traffic management system cost splits</i>
A5	<i>Summary of Total Application</i>	<i>Summary of total application split by TOTEX area, permits and streetworks elements as well as annual breakdown. This file links to the other appendices to demonstrate how values were calculated.</i>