DESKTOP ANALYSIS OF PERFORMANCE STATISTICS ON THE EAST COAST

A. Introduction

1. The five worst train operating companies (TOCs) for PPM performance relative to target in 2018-19 all operate in full or in part on the East Coast Main Line (ECML). They were TransPennine Express (TPE), Hull Trains, Northern, London North Eastern Railway (LNER) and Grand Central (see Annex 1).

2. To help understand why train operators that use the East Coast performed poorly relative to 2018-19 punctuality targets, we have focused on the latest performance on London North Eastern Route (LNE) (the year to 2019-20 P1) and compared this to the previous year (the year to 2018-19 P1). In particular we have looked at:

    a. Delay levels: who delay attributed to e.g. Network Rail (NR), TOCs and category/ cause of delay e.g. fatalities and trespass, traincrew

    b. Delay incidents: number and delay per incident (DPI)

    c. Number of high delay incidents

3. To put the latest performance on LNE into context, we have also looked at the performance of the rest of the country excluding LNE.

4. The delay data presented in this paper only includes delay that has been attributed, also known as threshold delay. Delays of three minutes or less, deemed not to cause any reactionary delay of three minutes or more, are not attributed.

B. Findings

5. The broad headlines are:

    a. In terms of who caused delay – the share of delay has been broadly static over the year with the share of delays that train operators cause other train operators rising the most (by 1.5pp).

    b. In absolute terms of delay minutes – NR's apportionment rose by around 400k minutes (largest categories being suicides/trespass and timetable planning). Delays caused by train operators on themselves rose by around 340k (driven by fleet delays, operations and delays leaving depots). The knock on delays caused by one train operator on another rose by about 185k (driven by fleet issues).

c. Of the worst five incidents occurring during the last year, the top three were the result of severe weather.

d. The findings are broadly consistent with the GB picture in absolute terms, but the percentage increases in delay were much greater on LNE than the rest of GB. Also the rise in the amount of delay minutes train operators have caused themselves contrasts with a reduction nationally.

6. Total delay minutes attributed to NR increased by 33.8% in the latest year (the year to 2019-20 P1) (see Annex 2) compared with a 4.2% increase in delay minutes attributed to NR on all other routes (Annex 3). Train operators on LNE generated 32.4% more TOC-on-Self delay minutes (in contrast to a 2.2% decrease on the rest of the network) and 50.1% TOC-on-TOC delay minutes (in contrast to a 7.2% increase on the rest of the network).

7. The share of delay minutes on LNE attributed to NR was slightly less in the latest year compared to the previous year (the year to 2018-19 P1) (45.4% down from 46.0%, see Annex 2). For the rest of the network, the share of delay minutes attributed to NR was up from 55.1% to 56.1% in the latest year (Annex 3). These changes in the share of delay should be viewed in the context of changes to delay minutes e.g. despite NR's share of total delay on LNE decreasing in the latest year, there has been a large increase in NR attributed delay minutes on LNE over the same period. The reason for this is due to larger increases in delay attributed to train operators over the same period.

8. Looking at changes in delay minutes on LNE over the last three years, the share of NR attributed delay fell steadily from the start of 2017-18 to the end of CP5. However, the level of NR attributed delay was broadly stable from 2016-17 up to the beginning of 2018-19, before increasing during 2018-19 (Annex 4).

9. In terms of the causes behind the increase in delay minutes, the number of delay incidents and the delay per incident (DPI) on LNE in the latest year, there were increases across most cause categories and these were generally larger percentage increases for these categories on LNE route compared with the rest of the network. See Annexes 5 to 8.

10. All five main categories of NR attributed delay increased by at least 20% on LNE in the latest year (compared to the previous year). External delays (up 38%) and network management / other delays (up 53%) increased by the most. Increases in Fatalities and Trespass (up 32%) and Timetable planning delays (up 111%) are noticeably bigger on LNE in the latest year compared to the year before. Timetable planning delay minutes are consistently higher now than prior to the May 2018 timetable change.

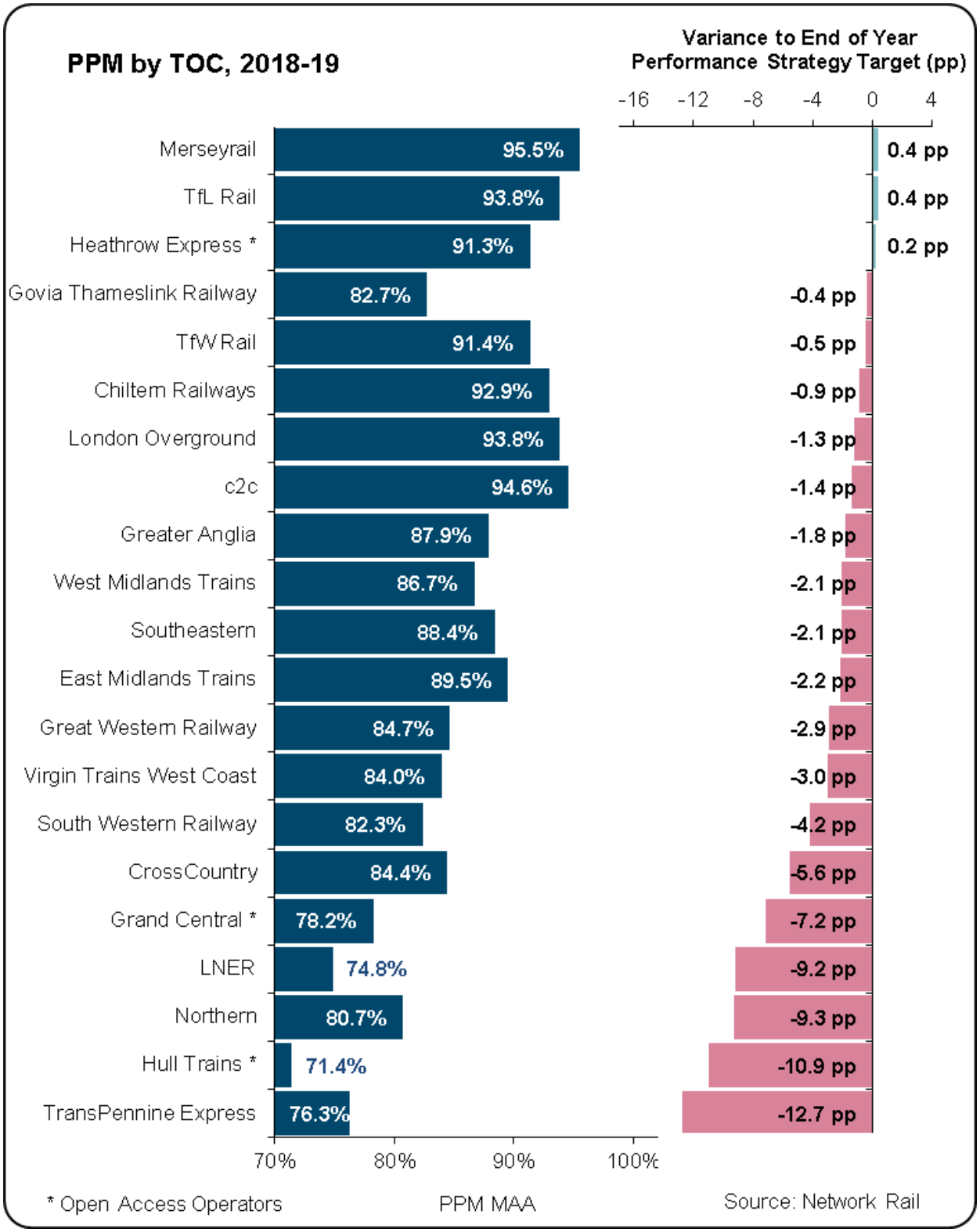
11. All five main categories of both TOC-on-self and TOC-on-TOC attributed delay on LNE also increased in the latest year. For TOC attributed delays on LNE, Traincrew (up 62% TOC-on-self delays), Technical fleet failures (up 31% TOC-on-TOC delays) and Freight Terminal/ Yard issues (up 21% TOC-on-self delays) are examples where significantly more delay minutes have been generated in the last year.

12. The number of NR attributed delay incidents on LNE increased by 21% in the latest year compared to the previous year, with an increase in the DPI of 10%. This compared to a 1% increase in the number of incidents and a 3% increase in the DPI for the rest of the country over the same time period. The number of TOC attributed delay incidents on LNE increased by a greater percentage over the same time period, but the number was largely unchanged for the rest of the country.

13. Delay incidents on LNE generating more than 4,000 minutes of delay have increased from 11 to 24 in the latest year (Annex 9 and 10). This is compared with the rest of the network for which such incidents increased from 149 to 154 in the same time period.

14. The increase in these high delay incidents on LNE relates entirely to the change in NR attributed incidents, up from 6 to 20 in the latest year. Over the same time period the number of these high delay incidents attributed to TOCs actually fell from 5 to 4.

Annex 1: PPM by TOC and variance to Performance Strategy Target, 2018-19



Annex 2: Threshold delay minutes to all operators by perpetrator, LNE Route, P1 moving annual total, 2018-19 and 2019-20

LNE	P1 Delay Minutes Moving Annual Total				
	2018-19	2019-20	Change	% Change	% of Total Change
NR	**1,218,308**	**1,629,510**	**411,203**	**33.8%**	**43.7%**
Track	210,022	257,809	47,788	22.8%	5.1%
Non-Track Assets	337,189	418,548	81,359	24.1%	8.6%
Network Management/Other	274,401	418,901	144,500	52.7%	15.4%
External	270,188	373,613	103,424	38.3%	11.0%
Weather and Structures	126,508	160,639	34,131	27.0%	3.6%
TOC-on-Self	**1,062,081**	**1,406,266**	**344,185**	**32.4%**	**36.6%**
TOC-on-TOC	**370,590**	**556,425**	**185,835**	**50.1%**	**19.7%**
Total	**2,650,979**	**3,592,202**	**941,223**	**35.5%**	**100.0%**

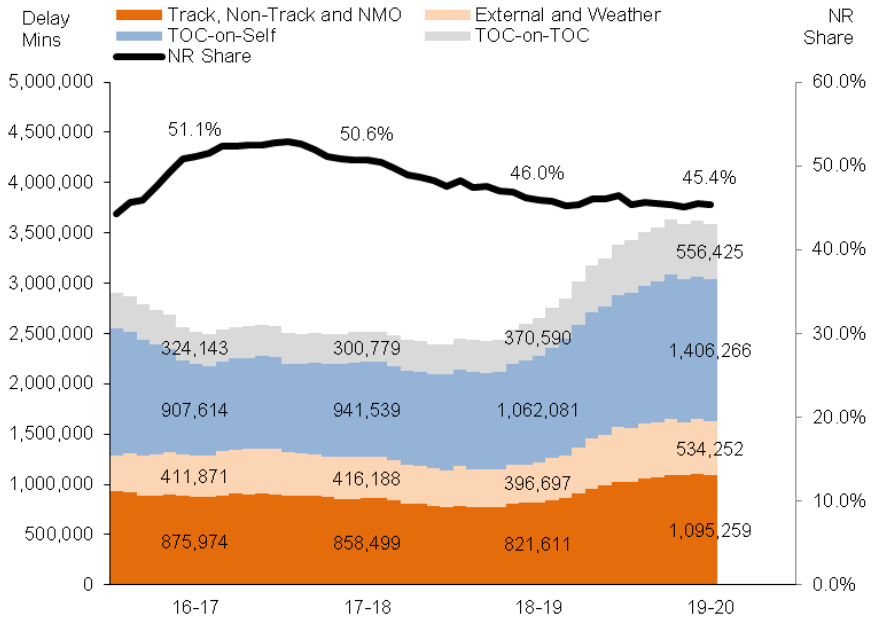
LNE	Share of Delay Minutes		
	2018-19	2019-20	PP Change
NR	**46.0%**	**45.4%**	**-0.6 pp**
Track	7.9%	7.2%	-0.7 pp
Non-Track Assets	12.7%	11.7%	-1.1 pp
Network Management/Other	10.4%	11.7%	1.3 pp
External	10.2%	10.4%	0.2 pp
Weather and Structures	4.8%	4.5%	-0.3 pp
TOC-on-Self	**40.1%**	**39.1%**	**-0.9 pp**
TOC-on-TOC	**14.0%**	**15.5%**	**1.5 pp**
Total	**100.0%**	**100.0%**	**0.0 pp**

Annex 3: Threshold delay minutes to all operators by perpetrator, Great Britain excluding LNE Route, P1 moving annual total, 2018-19 and 2019-20

GB Excl. LNE	P1 Delay Minutes Moving Annual Total				
	2018-19	2019-20	Change	% Change	% of Total Change
NR	**8,919,527**	**9,289,993**	**370,466**	**4.2%**	**102.3%**
Track	997,434	1,201,399	203,965	20.4%	56.3%
Non-Track Assets	2,390,640	2,316,597	-74,043	-3.1%	-20.5%
Network Management/Other	3,123,660	3,078,039	-45,621	-1.5%	-12.6%
External	1,570,633	1,788,724	218,091	13.9%	60.2%
Weather and Structures	837,160	905,233	68,073	8.1%	18.8%
TOC-on-Self	**5,655,055**	**5,530,371**	**-124,684**	**-2.2%**	**-34.4%**
TOC-on-TOC	**1,615,520**	**1,731,774**	**116,255**	**7.2%**	**32.1%**
Total	**16,190,102**	**16,552,138**	**362,036**	**2.2%**	**100.0%**

GB Excl. LNE	Share of Delay Minutes		
	2018-19	2019-20	PP Change
NR	**55.1%**	**56.1%**	**1.0 pp**
Track	6.2%	7.3%	1.1 pp
Non-Track Assets	14.8%	14.0%	-0.8 pp
Network Management/Other	19.3%	18.6%	-0.7 pp
External	9.7%	10.8%	1.1 pp
Weather and Structures	5.2%	5.5%	0.3 pp
TOC-on-Self	**34.9%**	**33.4%**	**-1.5 pp**
TOC-on-TOC	**10.0%**	**10.5%**	**0.5 pp**
Total	**100.0%**	**100.0%**	**0.0 pp**

Annex 4: Threshold delay minutes by cause, moving annual total, LNE Route, 2015-16 P8 to 2019-20 P1



Annex 5: Network Rail attributed (threshold) delay minutes, incidents and DPI by cause, LNE Route, P1 moving annual total, 2018-19 and 2019-20

Category	Delay Minutes Moving Annual Total				Delay Incidents Moving Annual Total				Delay Minutes Per Incident (DPI) Moving Annual Total			
	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change
External	**270,188**	**373,613**	**103,424**	**38.3%**	**3,579**	**3,678**	**99**	**2.8%**	**75**	**102**	**26**	**35%**
Bridge strikes	27,247	29,050	1,803	7%	172	183	11	6%	158	159	0	0%
External fatalities and trespass	170,419	224,352	53,934	32%	1,850	1,896	46	2%	92	118	26	28%
External fires	4,123	6,139	2,016	49%	36	65	29	81%	115	94	-20	-18%
External infrastructure damage - Vandalism/Theft	29,629	33,842	4,213	14%	364	264	-100	-27%	81	128	47	57%
External level crossing/road incidents (not bridges)	12,431	33,007	20,577	166%	590	783	193	33%	21	42	21	100%
External other	25,323	38,809	13,486	53%	543	426	-117	-22%	47	91	44	95%
External police on line/security alerts	513	2,112	1,599	312%	16	17	1	6%	32	124	92	288%
Fires starting on Network Rail Infrastructure	504	6,301	5,797	1150%	8	44	36	450%	63	143	80	127%
Network Management / Other	**274,401**	**418,901**	**144,500**	**53%**	**19,601**	**25,821**	**6,220**	**32%**	**14**	**16**	**2**	**16%**
All Z codes - Unexplained	56,131	74,032	17,901	32%	7,942	8,930	988	12%	7	8	1	17%
Mishap - infrastructure causes	19,394	36,631	17,237	89%	212	240	28	13%	91	153	61	67%
Network Rail commercial takeback/other	18,137	37,862	19,725	109%	2,295	4,385	2,090	91%	8	9	1	9%
Network Rail Operations - control	7,208	9,035	1,827	25%	276	207	-69	-25%	26	44	18	67%
Network Rail Operations - other	14,026	24,571	10,544	75%	988	1,447	459	46%	14	17	3	20%
Network Rail Operations - railhead conditioning trains	3,579	5,893	2,314	65%	94	127	33	35%	38	46	8	22%
Network Rail Operations - signalling	37,261	60,026	22,764	61%	2,969	3,888	919	31%	13	15	3	23%
Other infrastructure	45,059	48,065	3,007	7%	528	514	-14	-3%	85	94	8	10%
Other possession related delay	7,372	2,072	-5,300	-72%	20	15	-5	-25%	369	138	-230	-63%
Possession over-run and related faults	10,249	14,206	3,957	39%	247	326	79	32%	41	44	2	5%
Problems with trackside signs including TSR boards	1,741	3,705	1,965	113%	63	76	13	21%	28	49	21	76%
Timetable Planning	41,757	88,187	46,430	111%	3,716	5,370	1,654	45%	11	16	5	46%
Track Patrols & related possessions	2,047	1,009	-1,038	-51%	73	77	4	5%	28	13	-15	-53%
Uninvestigated Delays	3,737	5,242	1,505	40%	116	137	21	18%	32	38	6	19%
Vegetation Management Failure	6,702	8,364	1,662	25%	62	82	20	32%	108	102	-6	-6%
Non-Track Assets	**337,189**	**418,548**	**81,359**	**24%**	**3,979**	**3,816**	**-163**	**-4%**	**85**	**110**	**25**	**29%**
Axle Counter Failures	7,629	12,172	4,543	60%	118	117	-1	-1%	65	104	39	61%
Cable faults (signalling & comms)	24,902	32,624	7,722	31%	184	183	-1	-1%	135	178	43	32%
Level crossing failures	26,933	36,408	9,475	35%	528	621	93	18%	51	59	8	15%
OLE/Third Rail faults	56,460	51,318	-5,143	-9%	224	174	-50	-22%	252	295	43	17%
Other Signal Equipment Failures	7,539	9,986	2,447	32%	169	153	-16	-9%	45	65	21	46%
Points failures	58,412	71,594	13,182	23%	545	434	-111	-20%	107	165	58	54%
Signal Failures	27,370	29,509	2,139	8%	684	643	-41	-6%	40	46	6	15%
Signalling System & Power Supply Failures	75,281	104,760	29,479	39%	846	755	-91	-11%	89	139	50	56%
Telecoms failures	9,184	17,897	8,713	95%	298	318	20	7%	31	56	25	83%
Track Circuit Failures	43,479	52,280	8,801	20%	383	418	35	9%	114	125	12	10%
Severe Weather, Autumn, & Structures	**126,508**	**160,639**	**34,131**	**27%**	**3,383**	**3,936**	**553**	**16%**	**37**	**41**	**3**	**9%**
Civil Engineering structures, earthworks & buildings	4,427	14,573	10,147	229%	31	68	37	119%	143	214	72	50%
Low adhesion inc. Autumn (Network Rail)	22,115	30,018	7,903	36%	2,464	3,165	701	28%	9	9	1	6%
Other weather (impact on infrastructure or network operations	20,656	18,562	-2,094	-10%	190	202	12	6%	109	92	-17	-15%
Severe weather (beyond design capability of infrastructure)	55,208	74,924	19,717	36%	436	262	-174	-40%	127	286	159	126%
Track circuit failures - leaf fall	11,881	13,334	1,453	12%	111	106	-5	-5%	107	126	19	18%
Wheel slip due to leaf fall	12,222	9,227	-2,995	-25%	151	133	-18	-12%	81	69	-12	-14%
Track	**210,022**	**257,809**	**47,788**	**23%**	**1,554**	**1,700**	**146**	**9%**	**135**	**152**	**17**	**12%**
Reactionary delay to P-coded TSRs	15,786	38,404	22,618	143%	343	447	104	30%	46	86	40	87%
Track Faults including Broken Rails	145,136	144,177	-959	-1%	863	891	28	3%	168	162	-6	-4%
TSRs Due to Condition of Track	49,100	75,228	26,129	53%	348	362	14	4%	141	208	67	47%
Total	**1,218,308**	**1,629,510**	**411,203**	**34%**	**32,096**	**38,951**	**6,855**	**21%**	**38**	**42**	**4**	**10%**

Annex 6: TOC-on-Self (first table) and TOC-on-TOC (second table) attributed (threshold) delay minutes, incidents and DPI by cause, LNE Route, P1 moving annual total, 2018-19 and 2019-20

Category	TOC-on-Self Delay Minutes MAT				TOC-on-Self Delay Incidents MAT				TOC-on-Self DPI MAT			
	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change
Fleet	**300,069**	**398,285**	**98,216**	**33%**	**10,029**	**12,321**	**2,292**	**23%**	**29.9**	**32.3**	**2.4**	**8%**
Non-technical Fleet delays	41,423	92,624	51,201	124%	2,799	4,715	1,916	68%	14.8	19.6	4.8	33%
Technical Fleet delays	258,646	305,661	47,015	18%	7,230	7,606	376	5%	35.8	40.2	4.4	12%
Operations	**110,644**	**176,316**	**65,672**	**59%**	**9,656**	**15,323**	**5,667**	**59%**	**11.5**	**11.5**	**0.0**	**0%**
Train operations	110,644	176,316	65,672	59%	9,656	15,323	5,667	59%	11.5	11.5	0.0	0%
Stations	**58,170**	**76,763**	**18,593**	**32%**	**9,733**	**10,576**	**843**	**9%**	**6.0**	**7.3**	**1.3**	**21%**
Station delays	58,170	76,763	18,593	32%	9,733	10,576	843	9%	6.0	7.3	1.3	21%
TOC Other	**453,529**	**528,164**	**74,635**	**16%**	**18,715**	**20,030**	**1,315**	**7%**	**24.2**	**26.4**	**2.1**	**9%**
External Causes (Train Operator)	80,253	74,146	-6,106	-8%	4,160	3,698	-462	-11%	19.3	20.1	0.8	4%
Freight Terminal/Yard delays	353,597	429,401	75,804	21%	11,623	13,080	1,457	13%	30.4	32.8	2.4	8%
Low Adhesion inc. Autumn (Train Operator)	19,680	24,618	4,938	25%	2,932	3,252	320	11%	6.7	7.6	0.9	13%
Traincrew	**139,668**	**226,738**	**87,070**	**62%**	**7,825**	**12,186**	**4,361**	**56%**	**17.8**	**18.6**	**0.8**	**4%**
Traincrew causes	139,668	226,738	87,070	62%	7,825	12,186	4,361	56%	17.8	18.6	0.8	4%
Total	**1,062,081**	**1,406,266**	**344,185**	**32%**	**55,958**	**70,436**	**14,478**	**26%**	**19.0**	**20.0**	**1.0**	**5%**

Category	TOC-on-TOC Delay Minutes MAT				TOC-on-TOC Delay Incidents MAT				TOC-on-TOC DPI MAT			
	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change
Fleet	**208,911**	**299,604**	**90,692**	**43%**	**5,008**	**6,684**	**1,676**	**33%**	**41.7**	**44.8**	**3.1**	**7%**
Non-technical Fleet delays	23,296	56,548	33,251	143%	1,304	2,436	1,132	87%	17.9	23.2	5.3	30%
Technical Fleet delays	185,615	243,056	57,441	31%	3,704	4,248	544	15%	50.1	57.2	7.1	14%
Operations	**24,860**	**46,447**	**21,588**	**87%**	**2,079**	**3,343**	**1,264**	**61%**	**12.0**	**13.9**	**1.9**	**16%**
Train operations	24,860	46,447	21,588	87%	2,079	3,343	1,264	61%	12.0	13.9	1.9	16%
Stations	**32,127**	**40,013**	**7,886**	**25%**	**2,732**	**2,761**	**29**	**1%**	**11.8**	**14.5**	**2.7**	**23%**
Station delays	32,127	40,013	7,886	25%	2,732	2,761	29	1%	11.8	14.5	2.7	23%
TOC Other	**64,206**	**85,102**	**20,896**	**33%**	**3,497**	**4,041**	**544**	**16%**	**18.4**	**21.1**	**2.7**	**15%**
External Causes (Train Operator)	34,969	43,252	8,284	24%	1,320	1,245	-75	-6%	26.5	34.7	8.2	31%
Freight Terminal/Yard delays	22,873	34,315	11,442	50%	1,606	2,111	505	31%	14.2	16.3	2.0	14%
Low Adhesion inc. Autumn (Train Operator)	6,364	7,535	1,170	18%	571	685	114	20%	11.1	11.0	-0.1	-1%
Traincrew	**40,486**	**85,259**	**44,773**	**111%**	**2,205**	**3,532**	**1,327**	**60%**	**18.4**	**24.1**	**5.8**	**31%**
Traincrew causes	40,486	85,259	44,773	111%	2,205	3,532	1,327	60%	18.4	24.1	5.8	31%
Total	**370,590**	**556,425**	**185,835**	**50%**	**15,521**	**20,361**	**4,840**	**31%**	**23.9**	**27.3**	**3.5**	**14%**

Annex 7: Network Rail attributed (threshold) delay minutes, incidents and DPI by cause, Great Britain excluding LNE Route, P1 moving annual total, 2018-19 and 2019-20

Category	Delay Minutes MAT				Delay Incidents MAT				DPI MAT			
	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change
External	**1,570,630**	**1,788,724**	**218,094**	**13.9%**	**15,456**	**16,018**	**562**	**3.6%**	**102**	**112**	**10**	**9.9%**
Bridge strikes	134,967	179,541	44,574	33%	1,038	1,074	36	3%	130	167	37	29%
External fatalities and trespass	918,314	1,079,296	160,982	18%	8,262	8,774	512	6%	111	123	12	11%
External fires	27,749	38,667	10,919	39%	145	202	57	39%	191	191	0	0%
External infrastructure damage - Vandalism/Theft	107,992	101,573	-6,420	-6%	1,047	912	-135	-13%	103	111	8	8%
External level crossing/road incidents (not bridges)	74,039	71,590	-2,449	-3%	1,773	1,902	129	7%	42	38	-4	-10%
External other	249,544	245,191	-4,353	-2%	2,868	2,782	-86	-3%	87	88	1	1%
External police on line/security alerts	35,226	4,090	-31,136	-88%	167	61	-106	-63%	211	67	-144	-68%
Fires starting on Network Rail Infrastructure	22,800	68,776	45,976	202%	156	311	155	99%	146	221	75	51%
Network Management / Other	**3,123,626**	**3,078,018**	**-45,608**	**-1%**	**202,441**	**203,618**	**1,177**	**1%**	**15**	**15**	**0**	**-2%**
All Z codes - Unexplained	896,380	801,313	-95,067	-11%	102,917	98,455	-4,462	-4%	9	8	-1	-7%
Mishap - infrastructure causes	212,035	171,845	-40,190	-19%	1,040	1,101	61	6%	204	156	-48	-23%
Network Rail commercial takeback/other	118,596	178,281	59,686	50%	14,796	16,832	2,036	14%	8	11	3	32%
Network Rail Operations - control	49,089	68,752	19,663	40%	2,254	3,059	805	36%	22	22	1	3%
Network Rail Operations - other	137,757	188,761	51,004	37%	7,786	10,342	2,556	33%	18	18	1	3%
Network Rail Operations - railhead conditioning trains	33,319	38,563	5,244	16%	1,322	1,581	259	20%	25	24	-1	-3%
Network Rail Operations - signalling	547,506	528,099	-19,407	-4%	41,450	41,564	114	0%	13	13	-1	-4%
Other infrastructure	214,075	266,691	52,616	25%	2,925	2,253	-672	-23%	73	118	45	62%
Other possession related delay	60,443	70,068	9,625	16%	320	381	61	19%	189	184	-5	-3%
Possession over-run and related faults	145,849	145,529	-321	0%	1,746	1,626	-120	-7%	84	90	6	7%
Problems with trackside signs including TSR boards	19,731	30,515	10,785	55%	354	440	86	24%	56	69	14	24%
Timetable Planning	293,970	316,723	22,754	8%	17,554	19,045	1,491	8%	17	17	0	-1%
Track Patrols & related possessions	81,636	51,390	-30,246	-37%	1,979	2,215	236	12%	41	23	-18	-44%
Uninvestigated Delays	262,493	143,689	-118,804	-45%	5,461	4,035	-1,426	-26%	48	36	-12	-26%
Vegetation Management Failure	50,749	77,798	27,050	53%	537	689	152	28%	95	113	18	19%
Non-Track Assets	**2,390,632**	**2,316,597**	**-74,035**	**-3%**	**17,877**	**17,196**	**-681**	**-4%**	**134**	**135**	**1**	**1%**
Axle Counter Failures	180,470	215,910	35,439	20%	869	1,020	151	17%	208	212	4	2%
Cable faults (signalling & comms)	80,216	71,610	-8,606	-11%	285	285	0	0%	281	251	-30	-11%
Level crossing failures	80,676	81,966	1,289	2%	1,350	1,292	-58	-4%	60	63	4	6%
OLE/Third Rail faults	213,817	195,891	-17,926	-8%	967	1,035	68	7%	221	189	-32	-14%
Other Signal Equipment Failures	48,767	43,314	-5,452	-11%	867	898	31	4%	56	48	-8	-14%
Points failures	506,051	446,543	-59,508	-12%	3,067	2,689	-378	-12%	165	166	1	1%
Signal Failures	207,476	193,284	-14,192	-7%	3,011	2,657	-354	-12%	69	73	4	6%
Signalling System & Power Supply Failures	485,444	546,287	60,843	13%	3,016	3,104	88	3%	161	176	15	9%
Telecoms failures	102,143	80,445	-21,698	-21%	1,902	1,742	-160	-8%	54	46	-8	-14%
Track Circuit Failures	485,572	441,348	-44,224	-9%	2,543	2,474	-69	-3%	191	178	-13	-7%
Severe Weather, Autumn, & Structures	**837,160**	**905,233**	**68,073**	**8%**	**17,769**	**19,862**	**2,093**	**12%**	**47**	**46**	**-2**	**-3%**
Civil Engineering structures, earthworks & buildings	52,509	179,454	126,945	242%	301	694	393	131%	174	259	84	48%
Low adhesion inc. Autumn (Network Rail)	122,982	164,596	41,614	34%	12,960	15,448	2,488	19%	9	11	1	12%
Other weather (impact on infrastructure or network operations	118,068	236,643	118,575	100%	955	1,158	203	21%	124	204	81	65%
Severe weather (beyond design capability of infrastructure)	471,633	245,758	-225,875	-48%	2,318	1,322	-996	-43%	203	186	-18	-9%
Track circuit failures - leaf fall	13,243	20,755	7,512	57%	84	87	3	4%	158	239	81	51%
Wheel slip due to leaf fall	58,725	58,026	-698	-1%	1,151	1,153	2	0%	51	50	-1	-1%
Track	**997,434**	**1,201,399**	**203,965**	**20%**	**5,021**	**5,647**	**626**	**12%**	**199**	**213**	**14**	**7%**
Reactionary delay to P-coded TSRs	72,500	68,661	-3,838	-5%	1,052	1,225	173	16%	69	56	-13	-19%
Track Faults including Broken Rails	812,904	1,009,207	196,303	24%	3,351	3,793	442	13%	243	266	23	10%
TSRs Due to Condition of Track	112,031	123,531	11,500	10%	618	629	11	2%	181	196	15	8%
Total	**17,838,964**	**18,579,944**	**740,979**	**4%**	**517,128**	**524,682**	**7,554**	**1%**	**34**	**35**	**1**	**3%**

Annex 8: TOC-on-Self (first table) and TOC-on-TOC (second table) attributed (threshold) delay minutes, incidents and DPI by cause, Great Britain excluding LNE Route, P1 moving annual total, 2018-19 and 2019-20

Category	TOC-on-Self Delay Minutes MAT				TOC-on-Self Delay Incidents MAT				TOC-on-Self DPI MAT			
	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change
Fleet	**1,902,766**	**1,913,295**	**10,530**	**1%**	**53,732**	**55,545**	**1,813**	**3%**	**35.4**	**34.4**	**-1.0**	**-3%**
Non-technical Fleet delays	252,981	285,790	32,809	13%	12,069	14,189	2,120	18%	21.0	20.1	-0.8	-4%
Technical Fleet delays	1,649,784	1,627,506	-22,279	-1%	41,663	41,356	-307	-1%	39.6	39.4	-0.2	-1%
Operations	**533,141**	**593,213**	**60,073**	**11%**	**57,820**	**55,716**	**-2,104**	**-4%**	**9.2**	**10.6**	**1.4**	**15%**
Train operations	533,141	593,213	60,073	11%	57,820	55,716	-2,104	-4%	9.2	10.6	1.4	15%
Stations	**424,607**	**412,226**	**-12,381**	**-3%**	**53,568**	**54,370**	**802**	**1%**	**7.9**	**7.6**	**-0.3**	**-4%**
Station delays	424,607	412,226	-12,381	-3%	53,568	54,370	802	1%	7.9	7.6	-0.3	-4%
TOC Other	**1,594,832**	**1,427,557**	**-167,275**	**-10%**	**70,791**	**69,325**	**-1,466**	**-2%**	**22.5**	**20.6**	**-1.9**	**-9%**
External Causes (Train Operator)	608,977	570,057	-38,920	-6%	25,453	24,737	-716	-3%	23.9	23.0	-0.9	-4%
Freight Terminal/Yard delays	859,139	710,222	-148,917	-17%	28,455	26,206	-2,249	-8%	30.2	27.1	-3.1	-10%
Low Adhesion inc. Autumn (Train Operator)	126,716	147,278	20,562	16%	16,883	18,382	1,499	9%	7.5	8.0	0.5	7%
Traincrew	**1,199,665**	**1,184,059**	**-15,606**	**-1%**	**60,891**	**66,342**	**5,451**	**9%**	**19.7**	**17.8**	**-1.9**	**-9%**
Traincrew causes	1,199,665	1,184,059	-15,606	-1%	60,891	66,342	5,451	9%	19.7	17.8	-1.9	-9%
Total	**5,655,010**	**5,530,350**	**-124,660**	**-2%**	**296,802**	**301,298**	**4,496**	**2%**	**19.1**	**18.4**	**-0.7**	**-4%**

Category	TOC-on-TOC Delay Minutes MAT				TOC-on-TOC Delay Incidents MAT				TOC-on-TOC DPI MAT			
	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change	2018-19 P01	2019-20 P01	Change	% Change
Fleet	**747,991**	**810,040**	**62,049**	**8%**	**21,603**	**22,540**	**937**	**4%**	**34.6**	**35.9**	**1.3**	**4%**
Non-technical Fleet delays	80,194	102,861	22,667	28%	4,601	5,391	790	17%	17.4	19.1	1.7	9%
Technical Fleet delays	667,797	707,179	39,382	6%	17,002	17,149	147	1%	39.3	41.2	2.0	5%
Operations	**140,436**	**167,885**	**27,449**	**20%**	**12,447**	**12,775**	**328**	**3%**	**11.3**	**13.1**	**1.9**	**16%**
Train operations	140,436	167,885	27,449	20%	12,447	12,775	328	3%	11.3	13.1	1.9	16%
Stations	**112,937**	**116,081**	**3,144**	**3%**	**11,899**	**10,462**	**-1,437**	**-12%**	**9.5**	**11.1**	**1.6**	**17%**
Station delays	112,937	116,081	3,144	3%	11,899	10,462	-1,437	-12%	9.5	11.1	1.6	17%
TOC Other	**337,182**	**323,609**	**-13,573**	**-4%**	**16,777**	**16,247**	**-530**	**-3%**	**20.1**	**19.9**	**-0.2**	**-1%**
External Causes (Train Operator)	147,849	136,885	-10,964	-7%	6,011	5,866	-145	-2%	24.6	23.3	-1.3	-5%
Freight Terminal/Yard delays	161,707	144,243	-17,464	-11%	7,467	6,662	-805	-11%	21.7	21.7	0.0	0%
Low Adhesion inc. Autumn (Train Operator)	27,626	42,481	14,855	54%	3,299	3,719	420	13%	8.4	11.4	3.0	36%
Traincrew	**276,974**	**314,160**	**37,186**	**13%**	**15,040**	**16,035**	**995**	**7%**	**18.4**	**19.6**	**1.2**	**6%**
Traincrew causes	276,974	314,160	37,186	13%	15,040	16,035	995	7%	18.4	19.6	1.2	6%
Total	**1,615,520**	**1,731,774**	**116,255**	**7%**	**77,766**	**78,059**	**293**	**0%**	**20.8**	**22.2**	**1.4**	**7%**

Annex 9: Delay incidents resulting in more than 4,000 delay minutes, LNE Route, 2017-18 P2 to 2018-19 P1

Date	Responsible	Incident Category	Description	Location	Cancelled	Delayed	Minutes
12-01-18	Network Rail	OLE/Third Rail faults	AAP SECT 8 OHL TRIP	Finsbury Park to Alexandra Palace	234	959	7,263
06-08-17	Virgin Trains East Coast	Technical Fleet delays	TEMPLHJ 112 & 114 OHL SEC TRIP	Temple Hirst Jn.	52	482	6,935
07-12-17	First Hull Trains	Technical Fleet delays	1H02 FUEL LEAK HELPSTN	Helpston Jn.	30	955	6,227
07-02-18	Northern	Technical Fleet delays	2U29 UNIT FLT LDS 150203	Leeds	79	740	6,180
23-03-18	Govia Thameslink Railway	Technical Fleet delays	HRN OHL SECTION 7	Alexandra Palace to Finsbury Park	73	964	5,972
06-11-17	Network Rail	External fatalities and trespass	HGY FATALITY	Finsbury Park to Alexandra Palace	164	594	5,853
05-12-17	Network Rail	OLE/Third Rail faults	XGN SECTION 85 TRIPPED	Woolmer Green Jn.	53	364	5,436
03-11-17	Network Rail	Other possession related delay	WLW OHL E35/09 OTMDMG	Woolmer Green Jn. to Welwyn Garden City	115	764	5,126
29-12-17	Network Rail	External fatalities and trespass	BIGLPL FATALITY	Hitchin to Sandy	46	412	4,711
20-02-18	Network Rail	External fatalities and trespass	HIT FATALITY	Sandy to Hitchin	47	546	4,533
26-03-18	Govia Thameslink Railway	Technical Fleet delays	1P65 ADD ACTIVATION HRN L2	Alexandra Palace to Finsbury Park	48	689	4,472

Annex 10: Delay incidents resulting in more than 4,000 delay minutes, LNE Route, 2018-19 P2 to 2019-20 P1

Date	Responsible	Incident Category	Description	Location	Cancelled	Delayed	Minutes
27-07-18	Network Rail	Severe weather (beyond design capability of infrastructure)	YRK LIGHTNING STRIKE	York	195	983	10,588
19-09-18	Network Rail	Severe weather (beyond design capability of infrastructure)	DHM OHL ISSUE	Durham to King Edward Bridge South Jn	164	1,228	9,529
27-07-18	Network Rail	Severe weather (beyond design capability of infrastructure)	LDS LIGHTNING STRIKE	Leeds	368	801	8,402
23-11-18	Network Rail	Mishap - infrastructure causes	DON OHL FIRE	Doncaster	53	1,223	8,040
01-05-18	Network Rail	OLE/Third Rail faults	HRN OHL FLR SECTIONS 1-10 L2	Alexandra Palace to Finsbury Park	257	578	6,372
03-08-18	Network Rail	Track Circuit Failures	LDS CCG C LINE TC FLR	Leeds to Whitehall Jn	28	553	6,161
23-07-18	DRS Infrastructure	Technical Fleet delays	6S31 DRAGGING BRAKES DON	Temple Hirst Jn. to Shaftholme Jn	47	754	6,016
18-05-18	Network Rail	External fatalities and trespass	LNGLNDJ FATALITY	Northallerton to Thirsk	48	753	5,866
14-01-19	Network Rail	External fatalities and trespass	PBR FATALITY	Potters Bar	196	713	5,676
09-10-18	Northern	Traincrew causes	SHF UNIT DERAILED	Sheffield	82	769	5,514
04-07-18	Network Rail	Signalling System & Power Supply Failures	MHS SIG FLR	Sheffield to Meadowhall	49	709	5,425
28-11-18	Network Rail	OLE/Third Rail faults	RET OHL TRIP	Retford to Newark North Gate	44	350	5,286
06-07-18	Network Rail	External fatalities and trespass	KGX TRESPASS	London Kings Cross	58	391	5,272
22-10-18	London North Eastern Railway	Technical Fleet delays	1E08 LINE LIGHT NTR	Northallerton	31	884	5,085
15-11-18	Network Rail	External fatalities and trespass	NNG FATALITY	Newark North Gate	37	715	4,972
14-03-19	Network Rail	OLE/Third Rail faults	BELFORD 1E02 STRUCK OBJECT OHL	Belford L.C. to Alnmouth	15	680	4,797
16-05-18	Network Rail	Signalling System & Power Supply Failures	WGC KBW PANEL	Welwyn Garden City to Woolmer Green Jn.	40	602	4,700
31-01-19	Network Rail	Points failures	SHF MHS 4110 PTS FLR	Sheffield to Meadowhall	76	607	4,663
30-05-18	Network Rail	External level crossing/road incidents (not bridges)	NNG RET CROSSING MISUSE	Newark North Gate to Retford	42	549	4,572
15-08-18	Network Rail	External level crossing/road incidents (not bridges)	FZW TRACTOR	Hare Park Junction to South Kirkby Jn	65	773	4,481
09-03-19	London North Eastern Railway	Technical Fleet delays	1E04 LOCO FAULT PBO HUN L2	Peterborough to Huntingdon	56	372	4,442
04-10-18	Network Rail	External fatalities and trespass	WLW TRESPASS	Welwyn Garden City	58	694	4,278
24-01-19	Network Rail	External fatalities and trespass	PBR FATALITY	Finsbury Park to Alexandra Palace	116	495	4,151
01-12-18	Network Rail	OLE/Third Rail faults	1E02 ADD ACTIVATION THI	Northallerton to Thirsk	35	653	4,143