



Network Rail, MTR Crossrail

PPRP

Performance Planning Reform Programme

Performance Strategy 2018/19 to 2022/23

Endorsement & Authorisation

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Contents

Section 1 – Network Rail & MTR Crossrail Joint Commentary	3
Section 2 – Targets, Metrics & Trajectories	4
Section 3 – Analysis of Current Performance.....	6
Section 4 – Performance & Delivery Plan ('the Plan').....	10
Section 5 – Analysis of Future Performance	11
Section 6 – Performance Management Process	13
Appendices	14

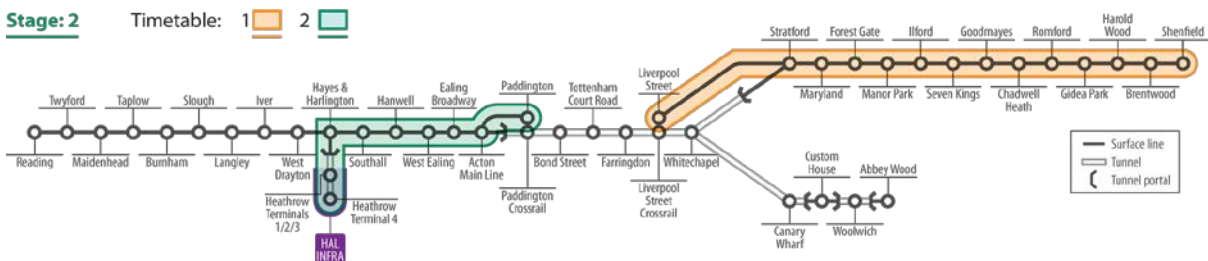
Section 1 – Network Rail & MTR Crossrail Joint Commentary

This performance strategy sets out the challenges affecting MTR Crossrail services during 2018/19 and into CP6, and plans to address them. The intent is to set out the targets, initiatives and forecasts that will measure and deliver improved performance. Risk will also be captured with mitigations and the document will be reviewed on a quarterly basis to revise and update the plans. Performance data sources are taken from the MTR Crossrail Operational Performance Plan, NR asset reliability plans and the joint NR/HEX and NR/GWR performance strategies.

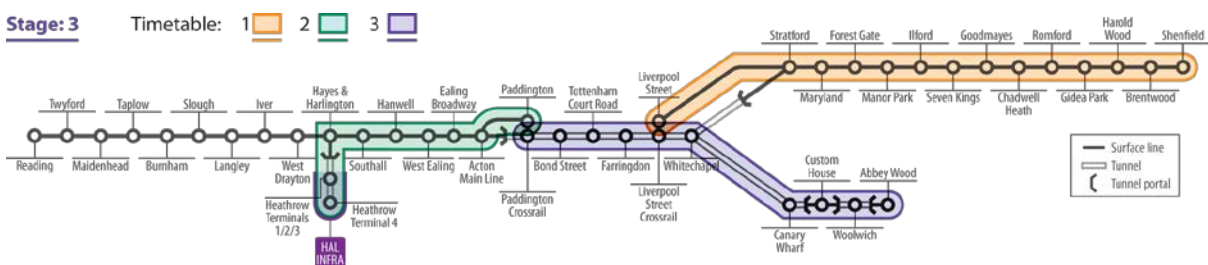
The management transition for services on the Western route will take place in May 2018 and will pose some challenges. Class 360s used for the Heathrow services will be enhanced, and the Class 345s on both Anglia and Western routes will continue to be a critical focus area by MTR Crossrail working with Bombardier and TfL to ensure that reliability is improved.

The key longer term challenge is to maintain and improve high performance levels during the staged transformation to full Crossrail operation - including the introduction of new infrastructure, fleet and routes towards the vision of a frequent, high performing railway that Crossrail is planned to be.

The next major milestone is the commencement of the Paddington – Hayes & Harlington and Heathrow Airport services on 20 May 2018. In the first phase Class 360s will operate to Heathrow Airport, and Class 345s to Hayes & Harlington. It is intended that Class 345 operation will extend to Heathrow later in 2018 once ETCS has been commissioned and the Hayes services will run through to Heathrow Terminal 4 to give a 15 minute service from Paddington.



Stage 3 sees the introduction of Paddington – Abbey Wood services from December 2018. By this time, MTR Crossrail’s Class 345 fleet will largely be based at the new depot at Old Oak Common meaning units will be required to travel on part of Western route to reach the Central Operating Section. This places a key focus on the 0 – 3 mile infrastructure and service management, to ensure the smooth operation of ECS moves to/from Paddington Low Level.

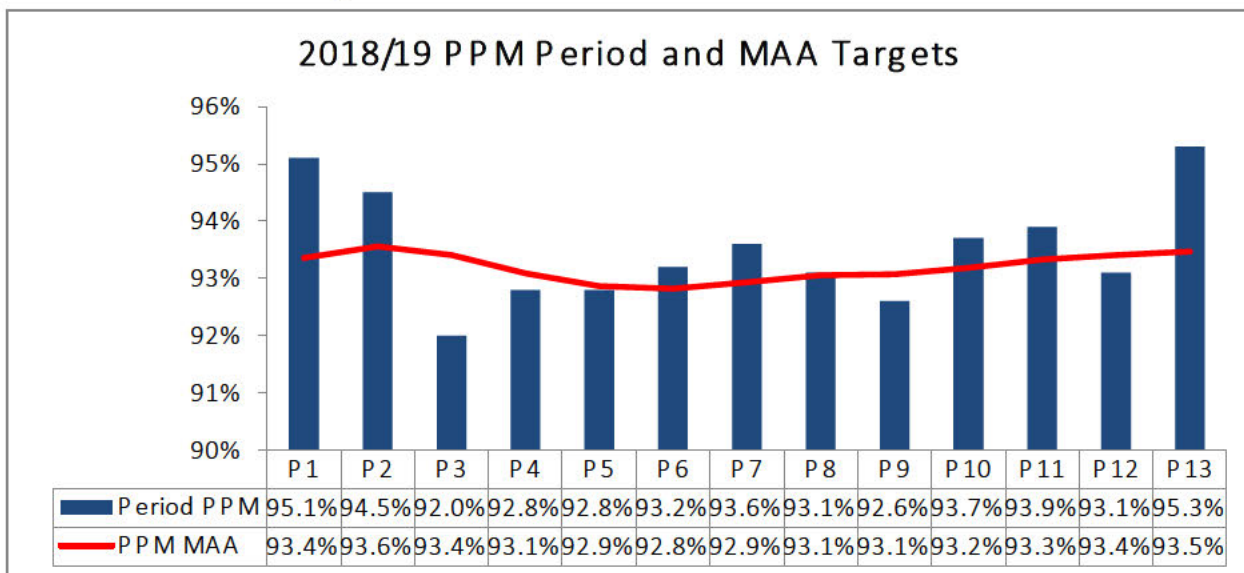


In parallel with completing this document and further to whole industry discussions, Network Rail and MTR Crossrail are positively developing the longer term, strategic plan for performance. This should strengthen the transformation plan towards full introduction of the Crossrail service and more positively link the shorter term focus in the delivery part of the performance strategy with the vision for performance of the full Crossrail service.

Section 2 – Targets, Metrics & Trajectories

Targets should be set collaboratively by mutually agreeing significant changes expected to take place in the next financial year, and modelling their impact and the benefits of any initiatives planned to mitigate their impact.

MTR Crossrail PPM Targets

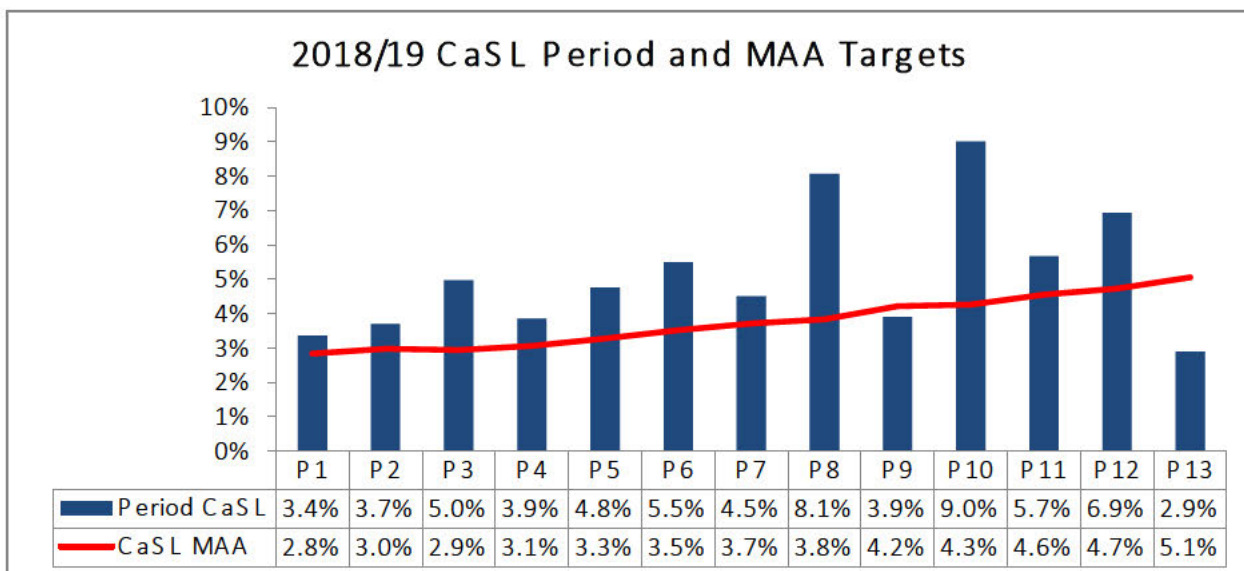


The 18/19 PPM MAA target of 93.5% will be challenging to achieve given the level of change taking place. The Anglia and Western service groups had different levels of performance as of P13 17/18, with MAAs of 93.4% and 83.5% respectively. A more detailed analysis of recent performance is in Section 3.

The Western service group’s PPM MAA is forecast to be 86.1% by P13 18/19. Improvements are forecast to come from:

- Train Crew: 0.9%
- Non-Track Assets: 0.7%
- Service Management (contingency plans, strengthening in control, strengthening in TVSC): 0.4%
- Subthreshold delay failures from Class 345 intro: 0.4%
- Network Management: 0.2%
- Fleet: 0.2%

MTR Crossrail CaSL Targets



The two service groups also experience different levels of CaSL. The Anglia service group's 17/18 P13 CaSL MAA was 3.1% and the Western service group's MAA was 6.1%. A stretch target would see the Western service group's period CaSL reduce to 3% by P13.

Network Rail Delay Minute Targets

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	P13	Total
Anglia	2,206	2,686	3,451	2,830	3,009	2,968	2,603	3,354	3,550	1,709	3,353	2,796	2,578	37,093
Western	2,644	2,595	3,145	3,872	2,608	3,954	2,756	3,327	3,589	3,013	3,106	2,669	2,724	40,000
Total	4,849	5,281	6,596	6,702	5,616	6,922	5,359	6,681	7,139	4,722	6,458	5,466	5,302	77,093

The Western delay minute target takes into account the transition to MTR Crossrail. A different operational approach will reduce cancellations with the risk of increasing delay minutes.

Other MTR Crossrail Performance Metrics

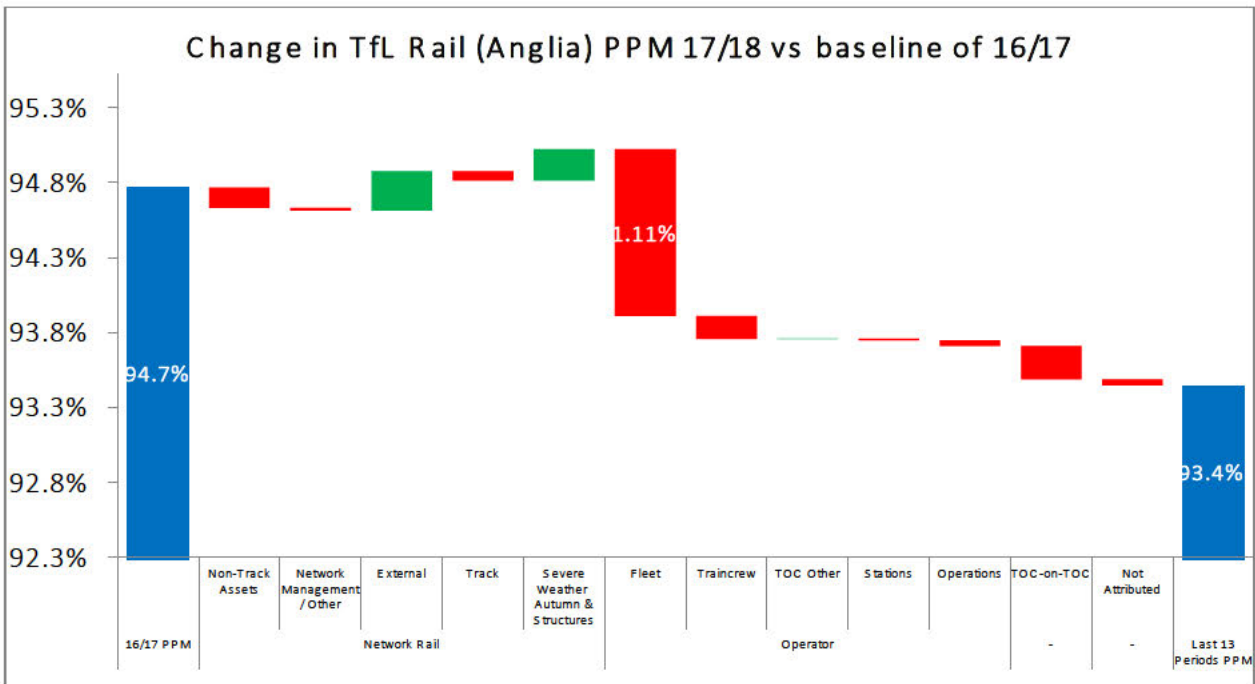
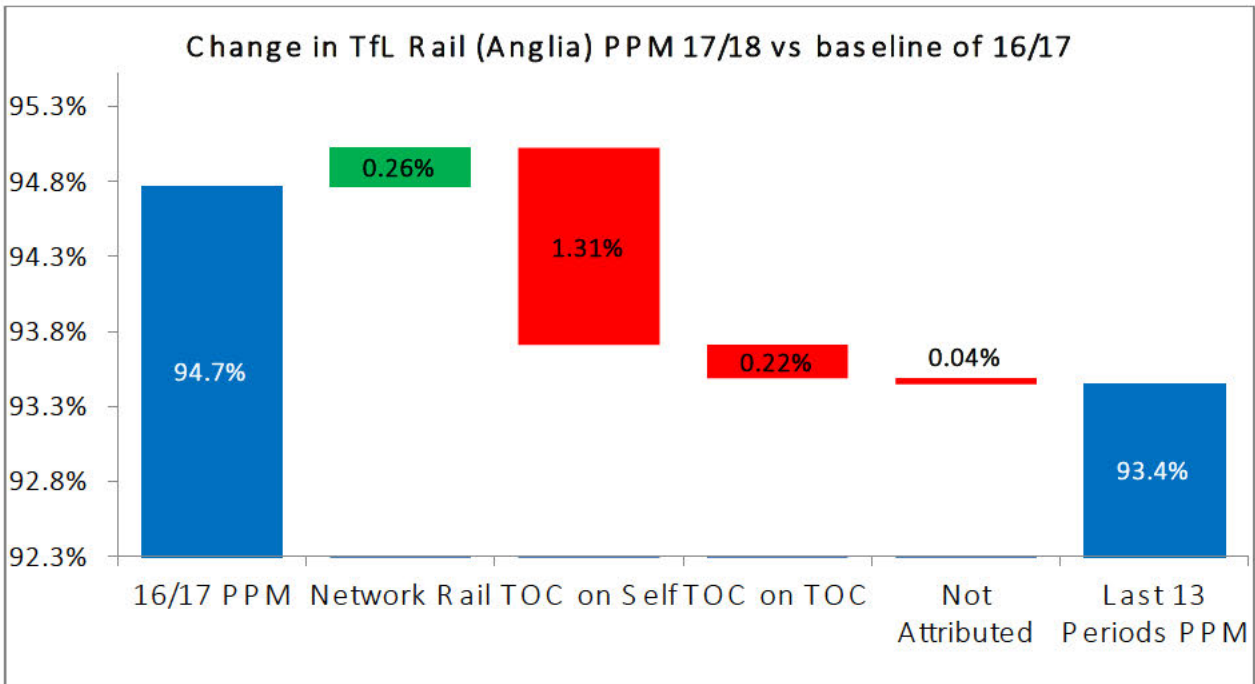
MTR's goal is to be the best performing TOC in the UK. In order to achieve this all MTR Crossrail objectives across the business will have to be delivered incorporating safety, performance and operations.

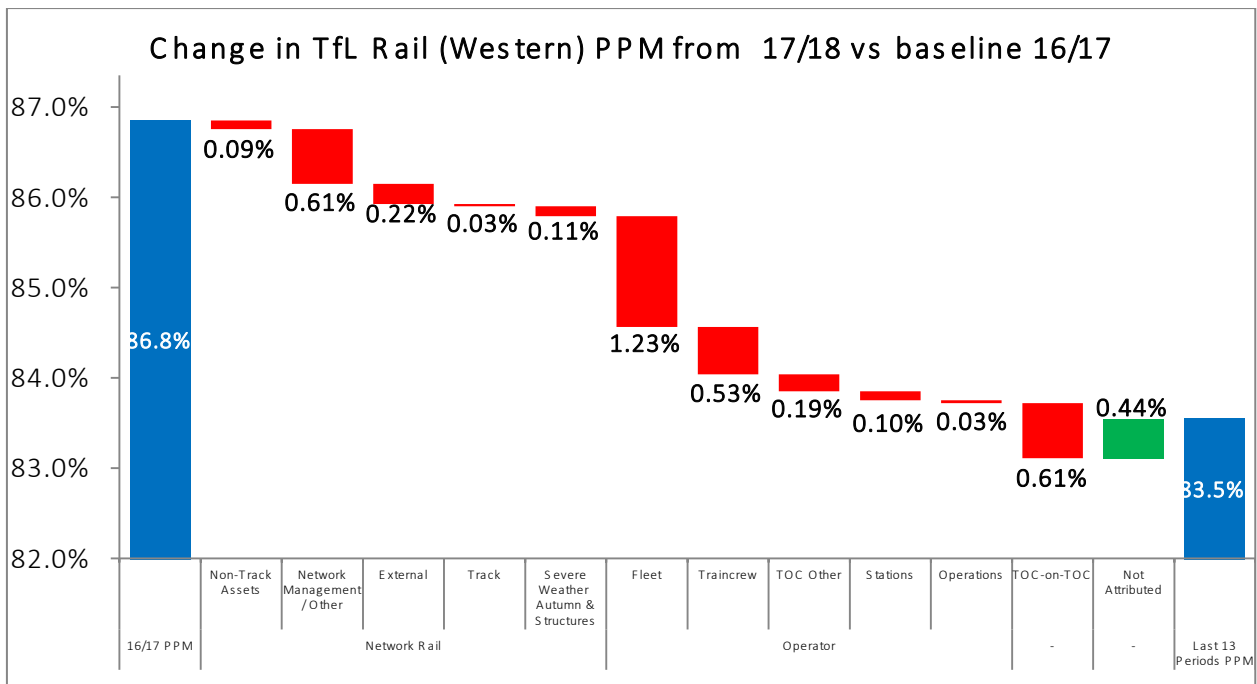
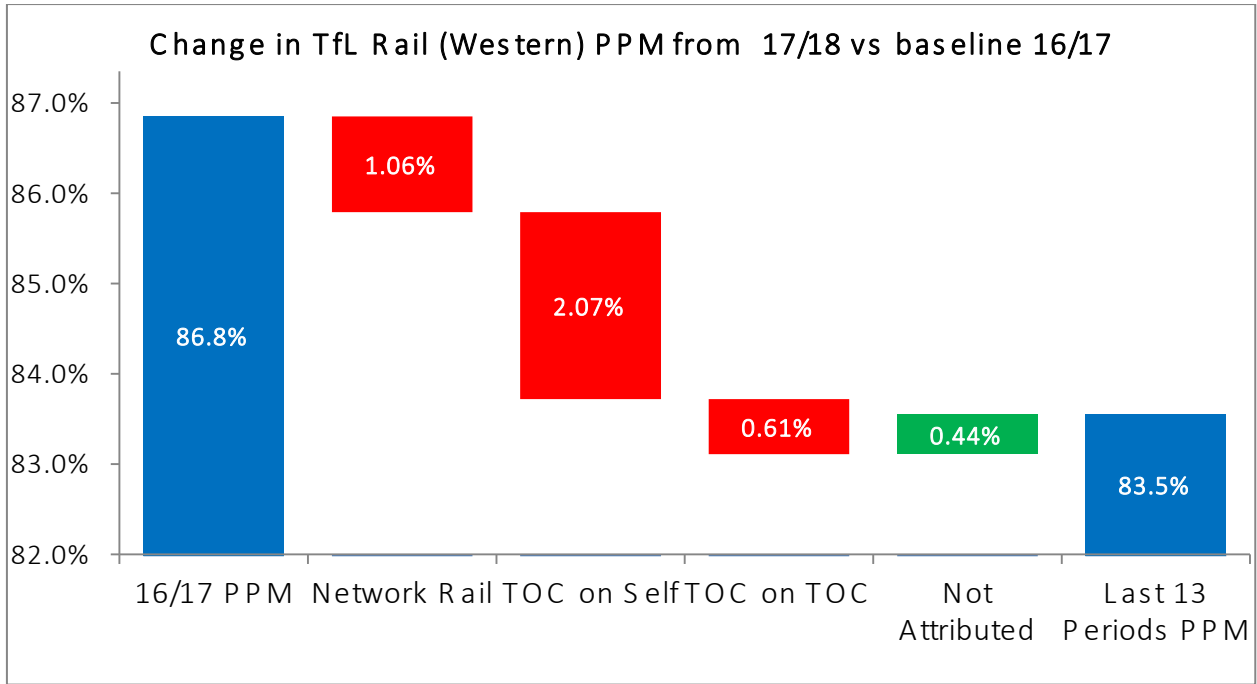
A reduction in safety incidents will lead to operational performance improvements; eg SPADs, station overruns and passenger accidents. Similarly, improving operational incidents will positively impact on performance eg customer experience objective of delivering the best rail travel experience in London depends in part on delivering trains on time for customers.

MTR Crossrail will work together with NR Anglia and Western routes as well as other train operators to deliver improvements in all these areas. These will be reflected in the NR scorecards for each route.

Section 3 – Analysis of Current Performance

There has been a decline in the MTR Crossrail Anglia service group PPM MAA between year-end 2016/17 and year-end 2017/18. This worsenment has largely been due to new fleet introduction, impact of major infrastructure upgrades and corresponding reduction in infrastructure flexibility, and significant weather events. The table in appendix 1 shows the improvement plans for MTR that were planned to take place in 2017/18.





Western Service Group CaSL

Causes of CaSL in 2017/18									
Fleet	NTA	Net Mgt	Traincrew	TOC Other	External	Track	SWA&S	Stations	Toc Operations
32.3%	30.4%	11.0%	9.9%	4.5%	4.0%	3.5%	2.9%	0.8%	0.7%

The key causes of CaSL failures in 17/18 were fleet (32.3%) and non-track assets (30.4%). CaSL has risen dramatically over 2017/18 as the Connect and Hayes & Harlington shuttles are the first services to be cancelled to create capacity on the 0 to 12 corridor (a result of the Greenford services becoming isolated, the increase in services and the relative ease of reinstatement post-incident). The change to MTR Crossrail will see a different operational approach that will reduce cancellations, with the risk of increasing delay minutes.

Delay Minutes by JPIP Comparison

Anglia service group

JPIP Category	% 1617 Delay Minutes	% 1718 Delay Minutes
External	11.3%	7.8%
Fleet	9.0%	19.5%
Network Management / Other	23.0%	19.6%
Non-Track Assets	12.7%	12.2%
Operations	1.2%	1.8%
Severe Weather, Autumn & Structures	5.7%	6.5%
Stations	4.9%	3.2%
TOC Other	7.6%	4.8%
Track	7.2%	5.7%
Train Crew	3.3%	4.2%
TOC-on-TOC	14.2%	14.8%

Western service group

JPIP Category	% 1617 Delay Minutes	% 1718 Delay Minutes
External	4.1%	5.2%
Fleet	6.1%	11.7%
Network Management / Other	23.1%	22.7%
Non-Track Assets	30.3%	23.2%
Operations	0.4%	0.7%
Severe Weather, Autumn & Structures	2.7%	1.8%
Stations	0.6%	1.3%
TOC Other	3.2%	3.3%
Track	3.4%	2.8%
Traincrew	3.1%	7.2%
TOC-on-TOC	23.1%	20.0%

Delay Minute Responsibility Comparison

Anglia service group

DM Responsibility	2016/17	2017/18
Network Rail	59.7%	51.8%
TOC-on-Self	26.0%	33.4%
TOC-on-TOC	14.2%	14.8%

Other operators were responsible for 14.8% of delay minutes. This is a solid result, particularly bearing in mind some of the late-notice freight diversions onto the Great Eastern route as a result of the Gospel Oak – Barking blockade work. It will be important to ensure that MTR Crossrail applies a similar focus to freight performance on Western route as we currently do on Anglia route. MTR Crossrail has already engaged with and attended meetings in relation to freight operators on Western.

The operator having the biggest impact on MTR Crossrail services was Greater Anglia. Some of the worst incidents were related to Ilford Depot where operations have been constrained at different times by engineering work and increased rolling stock allocations. An Ilford Depot working group has been meeting since October 2017, to formulate plans and mitigations for key performance issues.

Western service group

DM Responsibility	2016/17	2017/18
Network Rail	63.5%	55.8%
TOC-on-Self	13.4%	24.2%
TOC-on-TOC	23.1%	20.0%

Apart from the interaction between Heathrow Express Ltd, GWR and Heathrow Connect, in the TSCs that will transition to MTR Crossrail in May 2018, the biggest impact is from DB Cargo.

Section 4 – Performance & Delivery Plan ('the Plan')

The 'Plan' Commentary

The performance delivery plan has been agreed jointly and requires a number of key initiatives as well as 'business as usual' schemes.

The Anglia One Plan contains all performance plans related to the route. Key identified plans are reviewed at the biweekly Anglia performance meeting, performance visualisation and periodic reviews. The One Plan is devolved into JPIP categories and associated TOCs and contains those initiatives that will have a realised benefit as well as enabling schemes that target culture and training. Each scheme will have a benefits analysis identified against it, predominantly in minutes' savings. This will be monitored and reviewed for effectiveness at the periodic and quarterly reviews. A key part of the One Plan is to strengthen the line of route focus, in so doing enabling better focus on specific issues which disproportionately affect service delivery such as repeat failures, infrequent but heavy impact failures etc.

Each performance scheme will have identified owners who will be expected to provide an update against the plan including key milestone dates, risks to delivery and delivery completion dates. The category against which it is associated will then be tracked for improvements.

Identifying risks and forecasting will also be a component part of the plan. Forecasting of the performance impact will be a rolling analysis reviewed at quarterly reviews in line with the national template. This will be an ongoing rolling forecast which may have different outcomes to those in this strategy as they will be modified over time.

There are a number of performance initiatives which are collectively split between MTR Crossrail and Network Rail, which will form a key part of this strategy to deliver the expected PPM and right time improvements. These are split by function, with an expected delivery date and description below. Detail of the plans can be found in appendix 1.

The key areas of focus are:

- External – trespass and fatalities
- Non-Track Assets – critical junctions focus
- Operations – reduction in reactionary delay, integration of MTR Crossrail services within the overall Western route Paddington to Airport Junction operational plan
- Intelligent Infrastructure – increase number live to control
- Track – reduction in ESRs for rail defects
- Fleet – improvement in CI 345 introduction, maintenance of CI 315 reliability through the CI 345 replacement programme, strengthen reliability of the CI 360 Heathrow Connect rolling stock
- Incident Management – SIO structure and MTR in the ROC Romford and links to Western route incident management structure
- Weather management – better forecasting
- Freight – Acton and Southall yard

Section 5 – Analysis of Future Performance

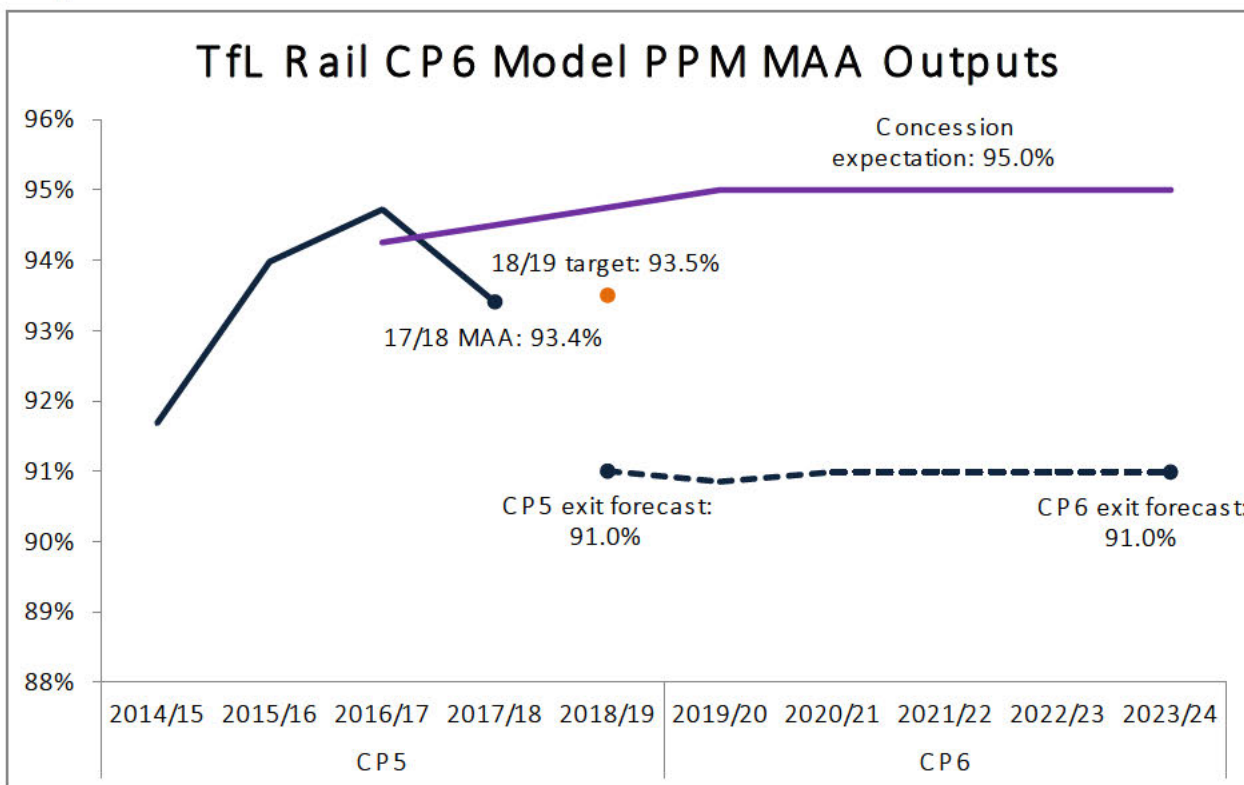
The level of change taking place in 2018 and 2019 makes forecasting future performance more difficult than it typically would be. The full implementation of Crossrail will be realised in December 2019, but performance improvement activity will not end there. It will be crucial to learn quickly following the full opening of the line to mitigate any performance issues.

The final timetable is still being optimised, but once this is finalised there will be opportunities to carry out further modelling and analysis to identify where improvement opportunities exist. By this time, all frontline staff will be in place at stations, and all driver recruitment will have been completed. This will mean that there will be sufficient resource to have spare drivers in place in order to man ‘hot spare’ units, which will be used during disruption, maintaining an even headway on the COS.

The table below shows the strategic initiatives planned for the next five years, and the current forecast of their performance impact. Work is ongoing to include Western impact in the long term forecast so these figures are subject to change.

	CP5 Y5 18/19	CP6 Y1 19/20	CP6 Y2 20/21	CP6 Y3 21/22	CP6 Y4 22/23
SAF work banks	-	-0.01%	-	-	-
NR initiatives	0.45%	-	-	-	-
TOC risks and initiatives	0.05%	-	-	-	-
New fleet	-0.33%	-0.03%	-	-	-
Passenger growth	-0.06%	-0.03%	-0.02%	-0.02%	-0.02%
Timetable change	-	-0.08%	-	-	-
Strategic renewal investment	-	0.01%	-	-	-
Western additional PPMF	-2.51%	-	-	-	-
Year end PPM MAA	91.0%	90.8%	91.0%	91.0%	91.0%

Long term PPM MAA forecast



PPM failures by JPIP forecast

	CP5	CP6				
	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
TfL Rail						
External	1,040	1,447	2,170	2,211	2,253	2,295
Fleet	3,640	5,064	7,236	7,374	7,514	7,654
Network Management / Other	1,893	2,634	5,241	5,342	5,443	5,544
Non-Track Assets	1,635	2,275	4,906	5,000	5,095	5,190
Operations	187	260	519	529	539	549
Severe Weather, Autumn & Structures	608	847	1,008	1,027	1,047	1,066
Stations	146	203	471	480	489	498
TOC Other	841	1,170	1,775	1,809	1,843	1,878
Track	743	1,034	1,321	1,346	1,372	1,397
Train Crew	516	718	2,645	2,696	2,747	2,798
Total	11,250	15,652	27,292	27,814	28,342	28,869

Section 6 – Performance Management Process

Governance Arrangements

The performance management process agreed by Network Rail and MTR consists of the following meeting structure:

A periodic Performance Board which is the main meeting led by the MTR and Network Rail heads of operations and maintenance, along with performance leads for Anglia and Western routes and the MTR Crossrail performance team. These meetings review performance from the previous period, looking at trends for each JPIP category to allow scrutiny of any downward trend. An overview of any incident learning from the last period is undertaken and finally, a check on the performance plans from both MTR and Network Rail. A review of benefits realisation against plan also needs to take place in order to track that the plans are having the predicted benefit.

The third of the periodic reviews is given over to the quarterly review. This follows the broad areas outlined above but also includes the mandated question set from the centre which allows focus on confidence in plans delivery and benefit, and wider impact on CP5 exit. The meeting reports into the Alliance Board.

A two weekly performance visualisation focusing on the key milestone plans of the Performance One Plan. This is a multi TOC and FOC visualisation with Network Rail during which MTR Crossrail have their own section and board.

Underlying meetings and reporting are:

1. Network Rail and MTR Board reporting; industry reporting through NTF et al
2. Daily telephone drum beat conferences
3. Joint incident learning reviews for incidents over 1000 minutes when needed
4. Biweekly performance visualisation
5. Working groups on specific issues:
 - a. DPI programme/Anglia Performance One Plan
 - b. Traffic management
 - c. Operational management (service recovery)
6. A joint NR/MTR Group which oversees the work of work improvement team and sets remits
7. Western Performance Executive
8. Anglia Right Time steering group
9. Tactical Operations Group

Performance Reporting Structure

Reporting will be adapted starting P2 18/19 to include the new Western service group. TOC-level reports will be supplemented with service group reports to better understand the impact of the different challenges in the two routes.

Appendices

Appendix 1 – 2018/19 Performance Plans

Plans are subject to change and will be updated and tracked throughout the year.

PROJECT NAME	PROJECT DESCRIPTION
Rough rides team	Numerous slurried wet bed locations causing geometry faults and L2 repeat defects. Deflection accelerating fatigue failure of rails. Wet Bed and L1 removal campaign using contract resource on Thameside specifically at Barking
Heavy Maintenance Team - Additional Resources	The Romford TME / Stratford Section maintenance team would benefit from having a heavy maintenance team reintroduced to the business to tackle larger projects that allows maintenance to maintain rather than firefight 1x Supervisor 1x Team leader 2x Technicians 4x Operatives Allow maintenance to maintain and segregate response teams and ensure that critical maintenance is carried out. Either use of contract staff from TES or establishment change to create a heavy maintenance gang.
First Bolt Campaign	Chog Bolts - LTN1 Liverpool Street: Chog Bolts are failing due to fatigue and over stress. Replace all first bolts with high tensile bolts (hard wearing). (this is technically a critical junction scheme)
IBJ enhancement Liverpool Street	Lipping and swarf clogging up IBJs causing detection failures. From poor patrolling and productivity / vigilance on site. Incorporate enhanced inspection into Romford MDU Critical Junction Plan. Mentoring and coaching to patrollers using experienced managers from S&T and TRACK functions
Schwihag roller installation	Installation of Schwihag rollers at all point ends to prevent points failures by dry slide chairs Fit Schwihag rollers to all point ends across the DU and establish delivery team"
Intelligent infrastructure -	Intelligent Infrastructure: Loggers currently are not installed - Loggers to be installed HVI Track Circuit onto intelligent infrastructure between Mile End and Forest Gate
Stations - Station Dwell Times	Source: invest in performance workshop - Conversion to LED lighting - Use of PED doors on Eastern stations - Mobility access permanent ramps - Extend station canopies - Increase number of CIS screens - Previous station to advise next station of overcrowded carriages
TOC External - Trespass and Suicide Mitigation	Romford Fencing on platform 3
Redevelopment of Stratford Station	Source: invest in performance workshop - Improve signage - Platform hatching - Extend platform canopies - Pedestrian footfall analysis - Station redevelopment proposals for future growth - Option to close Maryland, extend Stratford

PPRP – Performance Planning Reform Programme
Performance Strategy – MTR Crossrail

Driver accommodation	Source: invest in performance workshop - Mess rooms to be close to departing trains
Customer service	Source: invest in performance workshop - Use of apps to provide train loading - Joint CATs team - Review of passenger information - Permanent design for bus replacement
First Bolt Campaign	Chog Bolts - LTN1 Liverpool Street: Chog Bolts are failing due to fatigue and over stress. Replace all first bolts with high tensile bolts (hard wearing). (this is technically a critical junction scheme)
Flood forecasting	Granular flood forecasting for critical sites
Fitment of point rollers	Fitment of point rollers, 100% of S & C on the main lines to have point rollers fitted by April 2019.
Fitment of point auto lubes.	Fitment of point auto lubes on the GE mainlines and Thameside route.

Appendix 2 – Risk Register

Risk Register		See Notes page for Scoring & Risk Identifier key											
20/04/2018													
Risk Identifier	Risk Description [Cause + Effect]	Stage	Date	Probability	Impact	Priority	Mitigation Strategy	Mitigation Owner	Update	Last update	Status	Probability (post mitigation)	Impact (post mitigation)
MTR	HS2 Works restricting access to Old Oak Common Depot and associated engineering works	5		5	4	High	Confirm at the earliest opportunity with HS2/Network Rail, the planned works encompassing Old Oak Common, to ensure impact on MTR operations are contained	[Redacted]	No update at present, but being tracked at planning forums	20-Apr-18	Open	5	5
MTR	ETCS implementation at Heathrow Airport	2		5	4	High	Confirm the full testing programme and identify any early issues working with all suppliers to rectify technical challenges quickly	[Redacted]	No update at present, ongoing	20-Apr-18	Open	5	5
MTR	December 2018 Western Route Timetable recast	3		3	3	Medium	Ensure that MTR Crossrail are continually involved in December 2018 timetable discussions, between Network Rail, Great Western Railway, Heathrow Express and Freight operators. Track any issues and feedback to Train Service Delivery Director for escalation	[Redacted]	MTR Crossrail remain in close communication with Western Route, at industry forums	20-Apr-18	Open	3	4
NR	Western Route Christmas Possessions	3		4	5	High	A number of notable possessions are taking place on the Western Route over the Christmas 2018 period, including the replacement of Southall East Junction. This could pose a risk of a significant possession overrun to MTR Crossrail, so we will need to ensure contingency plans are in place, as well as tracking progress via the engineering conference calls through the period	[Redacted]	No update at present	20-Apr-18	Open	3	5
Other TOC	Class 332 reliability and availability	2		3	4	High	The Heathrow Express Class 332's have been noted to decline in reliability, with a limited lifespan given the introduction of Class 387's to HEX services. Understand from HEX the reliability programme to see the units through to end of life	[Redacted]	Awaiting further details from HEX	20-Apr-18	Open	3	3
MTR	Class 345 platform restrictions at Paddington, only certain platforms are able to be utilised owing to step-distances	2		4	3	Medium	To continue to work with Bombardier and Network Rail, to ensure Class 345's are able to be cleared for all platforms at London Paddington. As a mitigation, Signallers at TVSC are to be informed of restrictions, with a possible workaround in ARS to prevent trains being routed into 'barred' platforms	[Redacted]	Awaiting further updates	26-Apr-18	Open	3	2

Appendix 3 – Definitions

Performance Strategy (PS)

A seven-section document, setting out a five-year performance improvement strategy (known as the Performance Delivery Plan), derived jointly by NR LNW Route and MTR Crossrail, including action plans, targets and management arrangements for performance improvement on all of the routes operated on by MTR Crossrail. The PS delivers the obligations on NR and MTR Crossrail set out in the Network Code (currently delivered by the production of a JPIP). The PS is reviewed and reissued (unless it is unchanged) quarterly under the joint signatures of both parties.

Performance Strategy Template

A list of section headings and proposed contents, including text and tabulations, which, if adopted would lead to an essential degree of consistency in the production of Performance Strategies whilst allowing a large amount of local interpretation.

Performance Management Process

Plan, Do, Review process involving the production of daily, periodic and quarterly performance reports and the convening of review forums and response meetings and requiring the production (and then modification) of a Performance Strategy according to which improvement actions will be delivered and the railway operated and maintained.

Key Principles of a Performance Strategy

Statements of desirable practices and behaviours which if adopted during the production of a Performance Strategy (being a product of the Performance Management Process) are likely to result in a Performance Strategy which if delivered will lead to improved train performance outcomes.