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REPORT

South Cambridgeshire District Council four-day work week trial: evaluation of the key performance indicators

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South Cambridgeshire District Council four-day work week trial: evaluation of the Council's key performance indicators

This report evaluates the key performance indicators (KPIs) during the first trial of a four-day working week (4DW) in a local authority, the South Cambridgeshire District Council (SCDC). This trial took place from January 2023 to March 2023 and included around 500 desk-based staff.

Introduction

Prior to this pilot, SCDC had made significant changes to the way it operates as a result of the Covid pandemic, with an increased focus on the use of technology, flexible working and home working, while seeking to ensure it maintained service standards for residents and businesses. However, the Council has struggled to recruit and retain staff, in an increasingly difficult financial environment. The need to maintain service standards for residents and businesses, and also motivate its workforce led to its decision to trial a 4DW, initially for office staff.

The success of the three-month trial was to be assessed against two criteria:

- Performance (measured by the standard set of KPIs and planning service results)
- Health and wellbeing (using an industry standard survey)

The Bennett Institute for Public Policy at the University of Cambridge has conducted an independent evaluation of the KPIs, with all the relevant data provided by SCDC. We also conducted a focus group study of managers and elected council members. Our report is a supplement to the SCDC's own report. In addition to the KPI analysis performed by the Bennett Institute, a health and wellbeing survey was conducted by another external evaluator, Robertson Cooper. The result from that survey was published on the Council's website.

The data

Data was collected on 16 standard KPIs (Table 1) as well as two Planning Services Measures, across a range of council services: Housing, Transformation[1], Human Resources (HR) & Corporate Services, Finance and Shared Planning services.

Monthly data was collected for 12 of the 16 KPIs for each of the three months of the trial period (January, February and March 2023), and Quarterly (Q4, 2022/23) for the remaining four KPIs. The analysis for both monthly and quarterly KPI included historical data dating back to April, 2016/Q1 2016-2017 to allow us to look at the trends.

[1] Transformation Service includes a range of teams led by the Head of Transformation. These teams feed into changing the way that the SCDC operates, with a focus on identifying and implementing efficiencies and improvements to customer service across policy and performance, communications, communities, customer contact centre, PMO, and transformation project teams.

Table 1

List of all KPIs	Time period	KPI description	Service
AH211	Monthly	Average days to re-let all housing stock[2]	Housing
CC302	Monthly	% of calls to the contact centre resolved first time	Transformation
CC303	Monthly	% of calls to the contact centre that are handled (answered)	Transformation
CC307	Monthly	Average call answer time (seconds)	Transformation
FS102	Monthly	% of Housing rent collected (year to date)	Finance
FS104	Monthly	% of business rates collected (year to date)	Finance
FS105	Monthly	% of council tax collected (year to date)	Finance
FS109	Monthly	% of undisputed invoices paid in 30 days	Finance
FS112	Monthly	Average number of days to process new HB/CTS claims	Finance
FS113	Monthly	Average number of days to process HB/CTS change events	Finance
SH332	Monthly	% of emergency repairs completed in 24 hours	Housing
SX025	Monthly	Average land charges search response days	Shared Planning
AH204	Quarterly	% of satisfaction with repairs	Housing
CC305	Quarterly	% of formal complaints resolved within timescale (all SCDC)	Transformation
FS117	Quarterly	Staff turnover (non-cumulative)	HR and Corporate Services
FS125	Quarterly	Staff sickness days per FTE (full-time employment) excluding SSWS (non-cumulative)	HR and Corporate Services

The two planning services measures examined are:

Planning measures	
Major planning application decisions	SCDC & Cambridge City Council (CCC)
Non-major planning application decisions	SCDC & Cambridge City Council

A couple of important points are worth noting with the data:

- Planning services KPIs are new, and so do not have code names or targets attached. Also, the main planning KPIs such as the *percentage of applications (major and non-major) determined within a given time* and the *percentage of appeals against planning permission refusal allowed* are cumulatively reported in a 2-year period, and could not be evaluated as at the time of this report. As a result, we have simply used the number of planning decisions (major and non-major) made – although this is not a very sufficient measure.
- Planning KPIs are excluded from the RAG (red, amber, green) Outlook presented in the analysis session. In April 2022, changes were made as to what planning applications could be categorised as major or non-major. The analysis of planning

[2] . The 'all' here refers to different types of council homes, which is to indicate that it doesn't, for example, relate only to 'sheltered housing'.

figures for this report therefore begins only from April 2022, for consistency, although earlier data has provided useful insights.

- Overall, the Council reports on 26 KPIs across six services. However, 10 KPIs have been excluded from our analysis:

    - Three KPIs: ***AH230** [Number of households with children leaving B&B (bed & breakfast) accommodation after longer than six weeks], ***CC314** [% of public hybrid meetings run without issues causing downtime exceeding five minutes] and ***PN519** (average time to determine validated householder planning applications – in weeks) were only introduced in the 2023/24 financial year, so lack enough historical data for comparison.
    - Four KPIs in Shared Planning Services are reported as cumulative figures, over a two-year performance period: ***PN510** [% of major applications determined within 13 weeks or agreed timeline], ***PN511** [% of non-major applications determined within eight weeks or agreed timeline] ***PN512** [% of appeals against major planning permissions refusal allowed] and ***PN513** [% of appeals against non-major planning permission refusal allowed]. These KPIs assess performance over a two-year period (October 2021 to September 2023 / April 2021 to March 2023) in alignment with the required central government methodology for monitoring local authority planning performance. These data are therefore not useful for monitoring performance of the 4DW. As noted above, alternative Planning Service measures have been included.

    - Three KPIs in Shared Waste Service: ***ES418** [% of household waste sent for reuse, recycling and composting], ***ES408** [% of bins collected on schedule], and ***SF786a** [staff sickness days per FTE - Shared Waste Service only] – all belong to Shared Waste Service, which is currently not part of the trial.

Analysis

Methodology

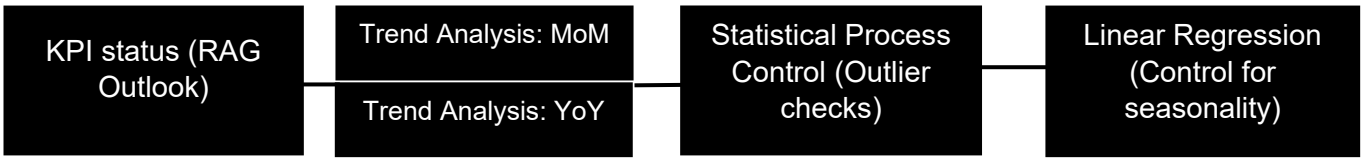
There were four levels of analysis.

1. a. First, the status of each KPI is presented in a table format in relation to its target and intervention figures using four colour codes: red, amber and green.
   b. Planning services results are presented as a trend.

2. The second analysis shows the trend of historical data for each KPI up until the last reporting period of the trial: i) Line charts showing full series; ii) Line charts showing the year on year (YoY) comparison of the data (i.e. data for January – March 2023 was compared with January – March of previous years).

3. Third, we employ statistical process control (SPC)[3] to identify outliers based on the averages of all past data for each KPI, showing where performance may have been well above the upper limit or below the lower limit.

4. We also use regressions to account in a simple way for the seasonality of the data, removing the effect that certain times of the year could have on KPI performance, e.g., whether repair requests are higher in winter, which influence how repair KPIs behave differently in winter months versus summer.



Findings

1. a. KPI Status

Table 2 shows the analysis of 16 KPIs. The colour codes, green, amber and red are used to represent the status of the performance against the target and intervention benchmarks. If a KPI is at or above target level, it is coded *green*, while KPIs slightly below the target but above intervention level are labelled *amber* and those below intervention levels are labelled *red*. Both the target and intervention levels are set by the Council at the beginning of each financial year, considering previous performance and other expected influences for the coming year.

For the monthly KPIs, four of the 12 achieved 'green' status (met or exceeded target) in every month of the trial – these are: *Average number of days to process new HB/CTS claims (FS112)*; *average number of days to process HB/CTS change events (FS113); % of emergency repairs in 24 hours (SH332);* and *average Land Charges search response days (SX025)*. **Two KPIs achieved green status in at least two of the three months of the trial**, these are: % of calls to the contact centre that are handled (answered) (CC303); % of housing rent collected (FS102). **Four KPIs achieved green status in at least one of the three months of the trial**, these are: *% of undisputed invoices paid in 30 days (FS 109)*; *% of council tax collected (year to date) (FS 105)*; *% of business rates collected (year to date) (FS104)*; and *the % of calls to the contact centre resolved first time (CC302).* **Two KPIs consistently performed below the target across all three months of the trial**, these are: *Average days to re-let all housing stock (AH211),* and *average call answer time (seconds) (CC307).*

For quarterly KPIs, three out of four met the targets (green status) during the trial period, these are: *% of formal complaints resolved within timescale (all SCDC) (CC305)*; *staff turnover (non-cumulative) (FS 117)*; *staff sickness days per FTE excluding SSWS (non-cumulative) (FS 125)*. One KPI – *% of satisfaction with repairs (AH204)* – performed below the target but above intervention levels.

[3] Adopted from the manufacturing industry, SPC is a statistical technique used to monitor an output/production process. Mostly used by the NHS in the UK public sector, the procedure plots performance data overtime, showing the upper limit control, mean and lower limit control and using these to reveal peculiar changes in the data (outliers) at specific time periods. These outliers could be positive or negative.

Table 2: KPI status (RAG Outlook)

KPI	2023	January	February	March
Average days to re-let all housing stock (AH211)	Actual	25	27	25
	Target	17	17	17
	Intervention	25	25	25
% of calls to the contact centre resolved first time (CC302)	Actual	81.04	77.78	78.76
	Target	80	80	80
	Intervention	70	70	70
% of calls to the contact centre that are handled (answered) (CC303)	Actual	91.02	91.61	88.01
	Target	90	90	90
	Intervention	80	80	80
Average call answer time (seconds) (CC307)	Actual	139	141	178
	Target	100	100	100
	Intervention	180	180	180
% of housing rent collected (FS102)	Actual	97.66	97.79	97.96
	Target	97.3	97.9	97.7
	Intervention	95.35	95.94	95.75
% of business rates collected (year to date) (FS104)	Actual	93.8	97.7	98.18
	Target	95.5	98.4	86.3
	Intervention	93.59	96.43	84.57
% of council tax collected (year to date) (FS 105)	Actual	95.4	98.2	99.21
	Target	97.8	98.6	88.5
	Intervention	95.84	96.63	86.73
% of undisputed invoices paid in 30 days (FS 109)	Actual	98.74	97.76	95.65
	Target	98.5	98.5	98.5
	Intervention	96.5	96.5	96.5
Average number of days to process new HB/CTS claims (FS112)	Actual	6	10	14
	Target	15	15	15
	Intervention	20	20	20
Average number of days to process HB/CTS change events (FS113	Actual	4	3	6
	Target	10	10	10
	Intervention	15	15	15
% of emergency repairs in 24 hours (SH332)	Actual	100	100	100
	Target	100	98	98
	Intervention	98	95	95
Average land charges search response days (SX025)	Actual	11.73	9.31	8.73
	Target	12	12	12
	Intervention	15	15	15
	Q4, 22-23	**Actual**	**Target**	**Intervention**
% of satisfaction with repairs (AH204)		92	97	92
% of formal complaints resolved within timescale (all SCDC) (CC305)		86.67	80	70
Staff turnover (non-cumulative) (FS 117)		1.66	3.25	4
Staff sickness days per FTE excluding SSWS (non-cumulative) (FS 125)		1.64	1.75	2.5

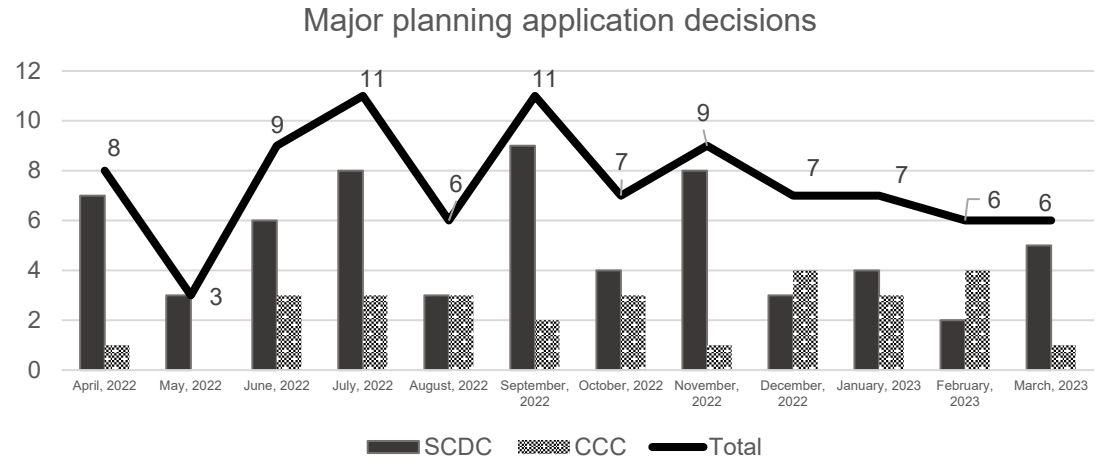
Some of the results will also have been influenced by specific factors during the pilot period. For example, while the percentage of council tax collected was below the target for both January and February during the trial, the cost-of-living crisis will have affected the ability of some residents to pay on time.

Another consideration is the historical context/data in assessing the status of each KPI. For example, while the average days it takes to re-let all housing stock (AH211) has consistently tracked as amber or red throughout the trial, this is an improvement on the average performance during the six months before the trial. The following section turns to the comparison with past data, from April 2016 or Q1, 2016/17, as applicable.

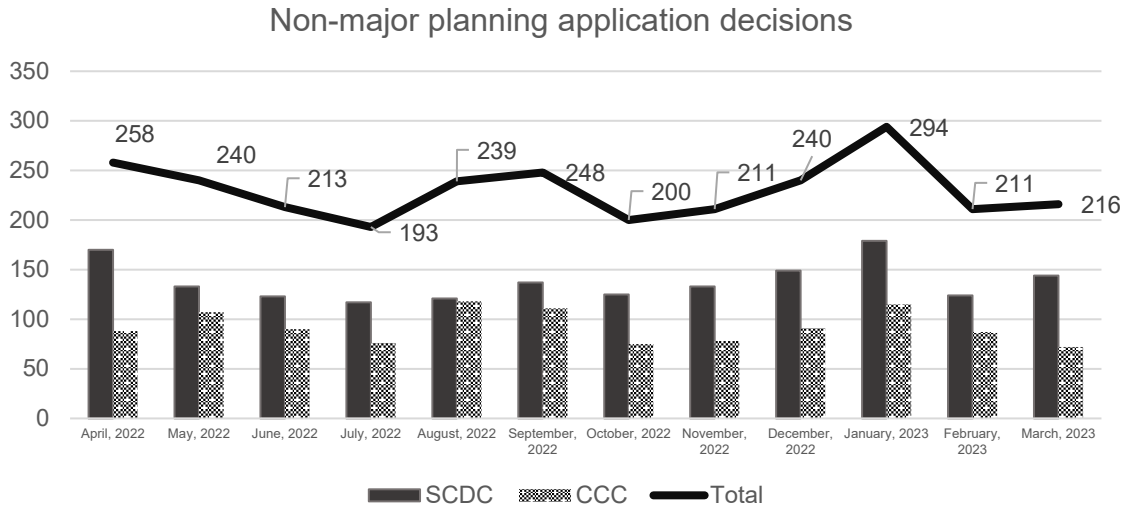
1. b. Planning performance indicators

Major planning application decisions have remained at normal levels for both the SCDC and the City Council during the trial. Although results for January – March 2021 and January – March, 2022 are not included in the chart below (due to slight changes in planning reporting methods), these results are comparable with what is obtainable in the trial period[4].

The picture is similar for non-major planning application decisions. Planning figures remain within historical range, although the total number of decisions fell between January and February 2023 for both the SCDC and City Council, and further reduced in March 2023 for the City Council only.



[4] Ideally, planning KPIs should be measured as "planning decisions made as a percentage of total planning applications". However, these KPIs are reported within a 2-year cumulative period, and were not available at the time of this report. We have instead used the more simplistic measure: number of planning decisions made (major and non-major), as provided by the Council.



2. Trend analysis

This analysis shows the historical series for each monthly/quarterly KPI, dating back to the first period the Council began tracking each respective KPI (i.e. April 2016 for most monthly KPIs, and Q1 2016-17 for the quarterly KPIs).

This is done in two ways: in the first group of charts for each KPI, KPI performance is shown over all past periods, while the second group of charts shows KPI performance as 'same period previous years' (e.g., Q4 2023 is compared against other Q4s for previous years).

The first set of charts looks at performance for several months prior to the study to see if the KPIs show any deviations from the norm (noted as 'MoM'- 'Month on Month' on the charts). This is important, given that it is possible for a KPI in 'Month A' of the trial to track below performance in the preceding month, yet such level of underperformance may have occurred on several occasions in the past. Using this approach ***none of the KPIs show an abnormal performance throughout the trial period.***

In the second set of charts, KPI performance was compared for the period of the trial (January – March 2023) against January – March of previous years (noted as 'YoY' – 'Year on Year' on the charts). For monthly KPIs, this was done by using the average of the three months for each comparison year. ***Overall, none of the KPIs show an unusually low level of performance compared with previous periods.***

A few KPIs with distinct changes in YoY performance levels are worth highlighting:

- ***HB/CTS change event processing days (FS113); New HB/CTS claims processing days (FS112); Percentage of emergency repairs completed in 24 hours (SH 332); and Percentage of complaints responded to within timescale (CC305)*** all have the highest performance level in the trial period (January – March 2023) compared to January – March of all previous years.

The details and further interpretation can be found in Appendix 1.

3. Statistical process control (SPC)

The SPC helps to visualise how the KPIs perform compared to the average overtime (from April 2016). Importantly, it identifies outliers in the data by highlighting statistically significant changes. The dotted lines represent the expected range for data points if variation is within the usual limits for the data. Anything outside of the upper or lower limits is considered an outlier.

For analytical purposes, this method is only applicable to six KPIs, as it cannot be used for cumulative/year-to-date variables. The six are: *percentage of calls resolved first time*; percentage *of total calls handled; percentage of undisputed invoices paid in 30-days; percentage of emergency repairs completed within 24-hours; percentage of satisfaction with repairs;* and *percentage of complaints responded to within timescale.*

Overall, the six KPIs either remained at a normal level or had improved more than expected given past performance.

Further detail can be found in the Appendix 2.

4. Regression analysis: seasonality

Seasonality affects many of the KPI figures; for instance, it is observed that for the KPI CC307 (average call answer time – seconds), call times are often up in March and quite low in December. So, comparison of January 2023 performance with December's would not reflect the true performance picture. The next step in the analysis is to therefore control for this seasonality. Using seasonal dummies in a regression, we remove the purely seasonal component from the KPI.

When seasonality is controlled for, the KPIs show broadly normal performance, with only a few cases in which the KPI average result is slightly down. A few positive effects are also observed. An important note of caution is that there may be other factors responsible for KPI performance, such as the cost of living crisis, that cannot be accounted for in this analysis, in addition to the 4DW. Besides, none of these effects was statistically significant. The detailed results are presented for each KPI in Appendix 3.

Summary

For most KPIs, performance is maintained at the level they were shortly before the trial, while some KPIs experience significant improvement compared to recent data.

Nine out of 16 KPIs show substantial improvement when comparing the trial period (January – March 2023) with the same period last year (January – March 2022). These are: *Average re-let days (monthly) (AH211)*; *average land charges search response days (SX025)*; *staff turnover (non-cumulative) (FS117)*; *HB/CTS change event processing days (FS113); new HB/CTS claims processing days (FS112)*; *percentage of calls to the contact centre resolved first time (CC302)*; *percentage of council tax collected (FS 105)*; *percentage of emergency repairs completed in 24 hours (SH 332)*; and *percentage of complaints responded to within timescale (CC305*).

The remaining seven KPIs either remain at similar levels compared to same period last year or experienced a slight decline. These are: *Percentage of satisfaction with repairs (AH204)*; *Staff sickness days per FTE excluding SSWS (non-cumulative) (FS125)*; *Percentage of business rates collected (FS104)*; *Percentage of undisputed invoices paid in 30 days (FS109)*; *Percentage of housing rent collected (FS102)*; *Average call answer time (seconds) (CC307)*; *Percentage of calls to the contact centre that are handled (answered) (CC303)*.

Importantly, there were no outliers indicating a need for concern.

Planning decisions have remained at comparably normal levels when compared with both recent data (from April 2022) and earlier planning measures (2020-2021).

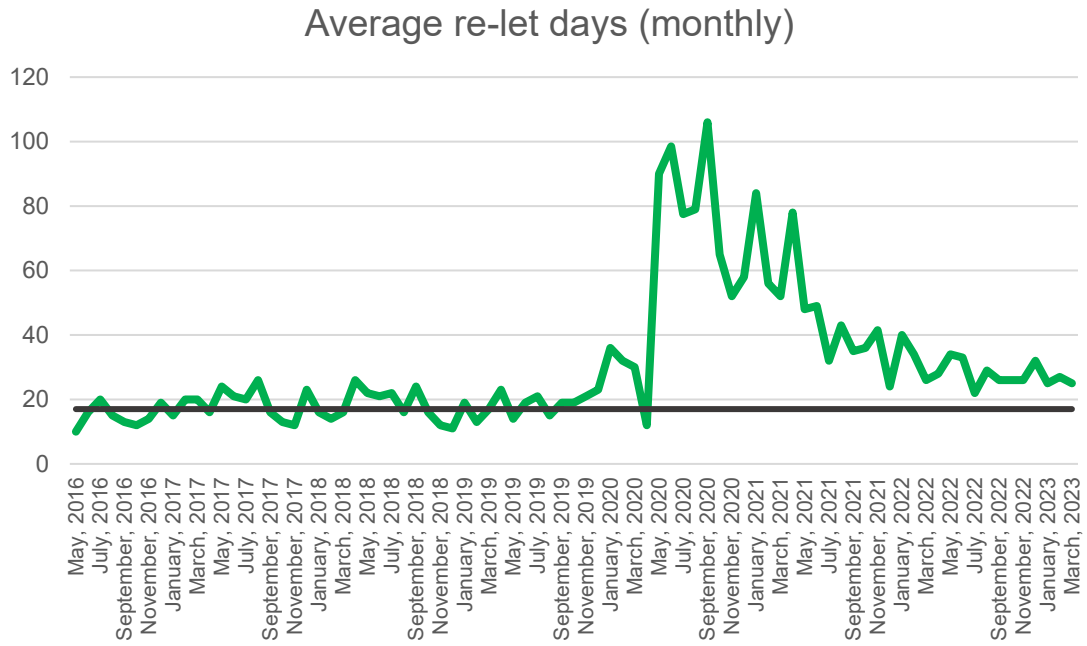
While the 4DW does not appear to have had a negative impact on service performance, and a few measures improved during the pilot, most KPIs are still below pre-pandemic performance levels. As SCDC continues the pilot scheme, extending it to other employees, it would be useful to also take into account 2017 – 2018 performance levels, rather than just the most recent data when preparing targets and intervention benchmarks.

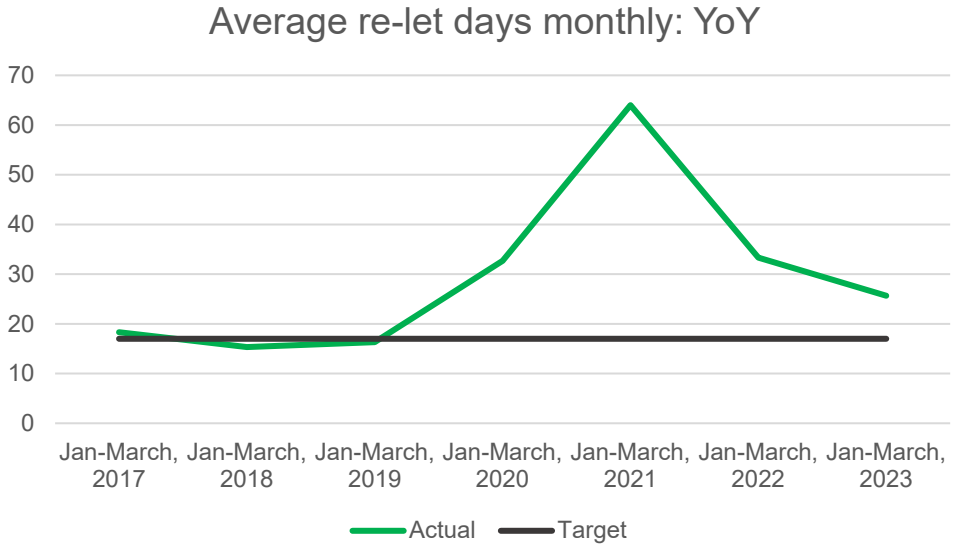
The data Appendix 1: KPI series

Monthly KPIs

Average re-let days (monthly): AH211

The average monthly re-let days for each of the three months of the trial was well within range for previous period, but still above the target level for each month, and in some cases (e.g., February) above the intervention level. One glaring fact from the data is that performance has yet to return to its pre-pandemic levels. However, the performance for January – March 2023 is still better than same period previous year (January – March 2022)

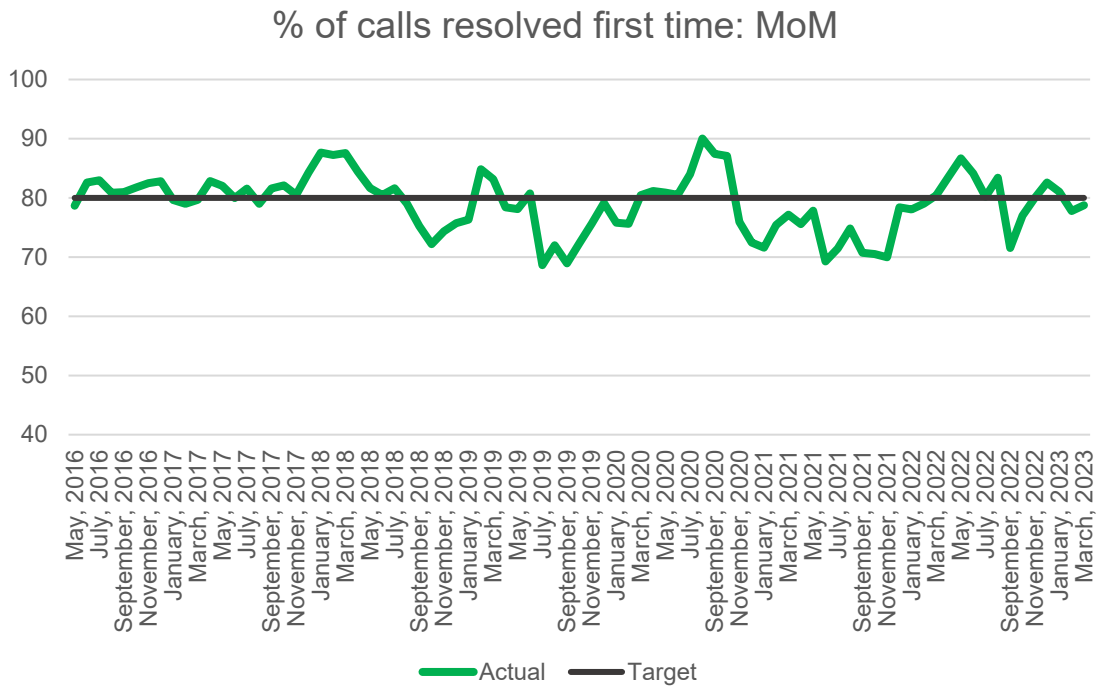


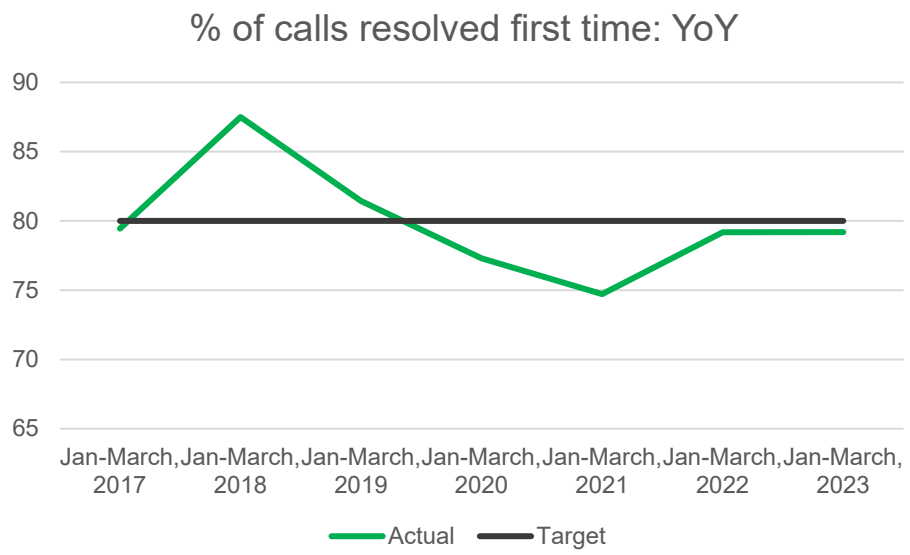


Percentage of calls to the contact centre resolved first time: CC302

The percentage of first time resolutions for January, February and March 2023 are 81.04, 77.78, and 78.76 percent respectively. Although the performance across the three months of the trial is below that of December and November 2022, this performance level is consistent with what is obtainable in the past. February and March 2023 are slightly below the target, and might require further attention for the next month.

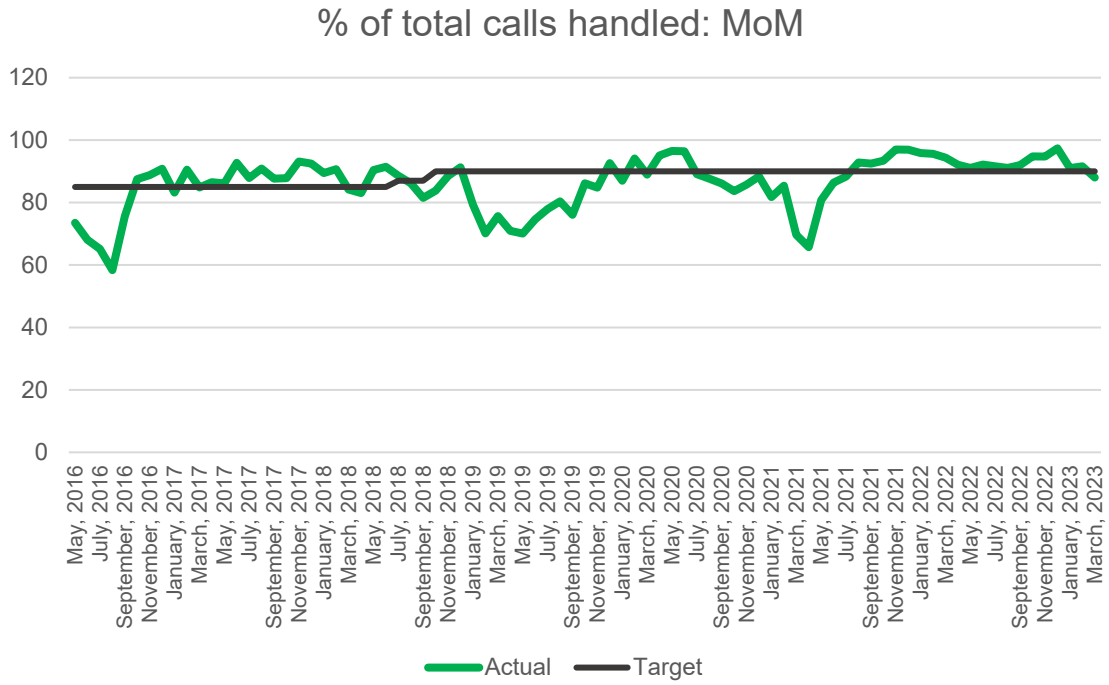
Looking at the year-on-year performance for this target, the combined average of January – March 2023 is the same as the previous year, higher than 2021 and 2020, but is slightly below its pre-2020 levels. It appears this KPI began witnessing a decline during Covid times, and has yet to recover to its pre-Covid levels.

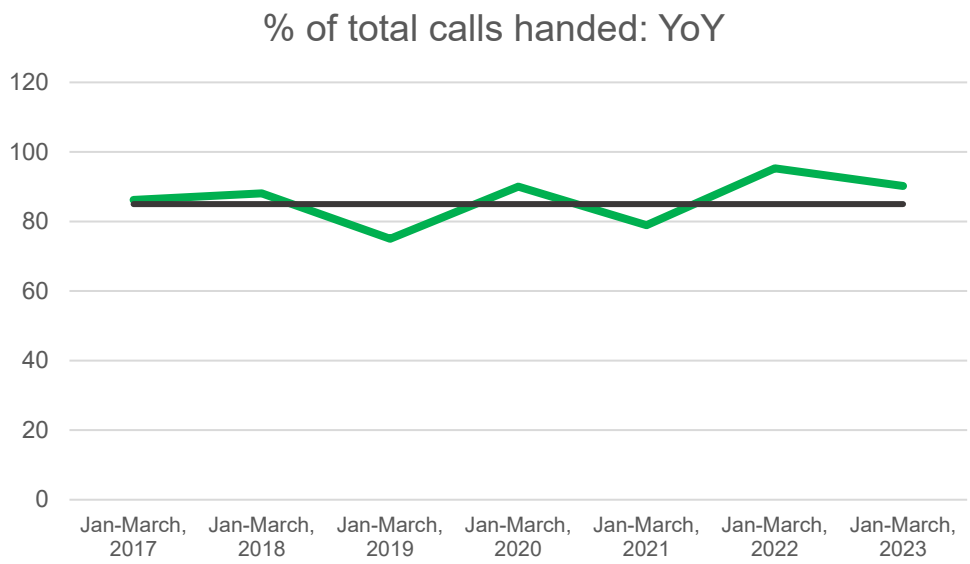




Percentage of calls to the contact centre that are handled (answered): CC303

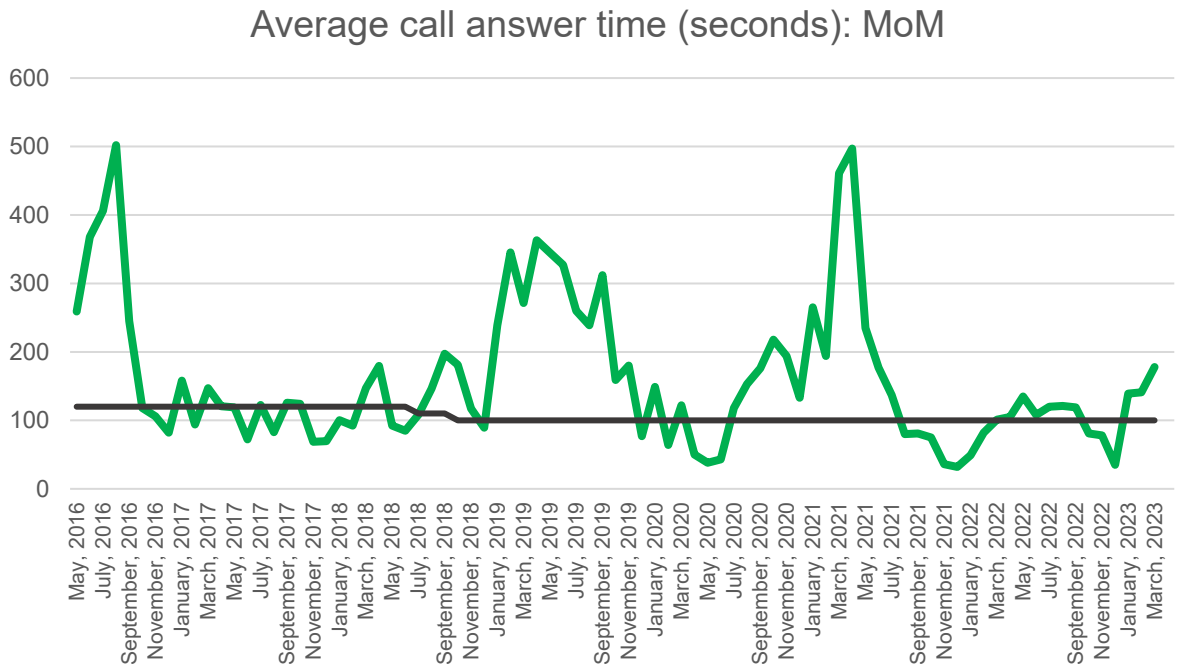
The percentage of calls to the contact centre that were handled for the trial period seems to be slightly below the average performance for six months prior. The same period the previous year (January – March 2022) also had a higher percentage of calls handled than the trial period. This is however nothing extraordinary, as the lowest performance level during the trial (March) is still very much within threshold of the historical data.

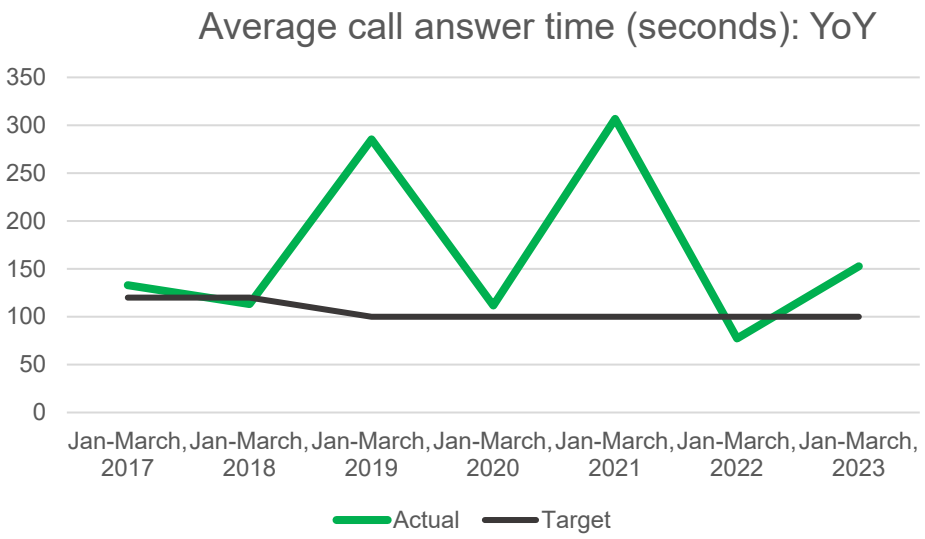




Average call answer time (seconds): CC307

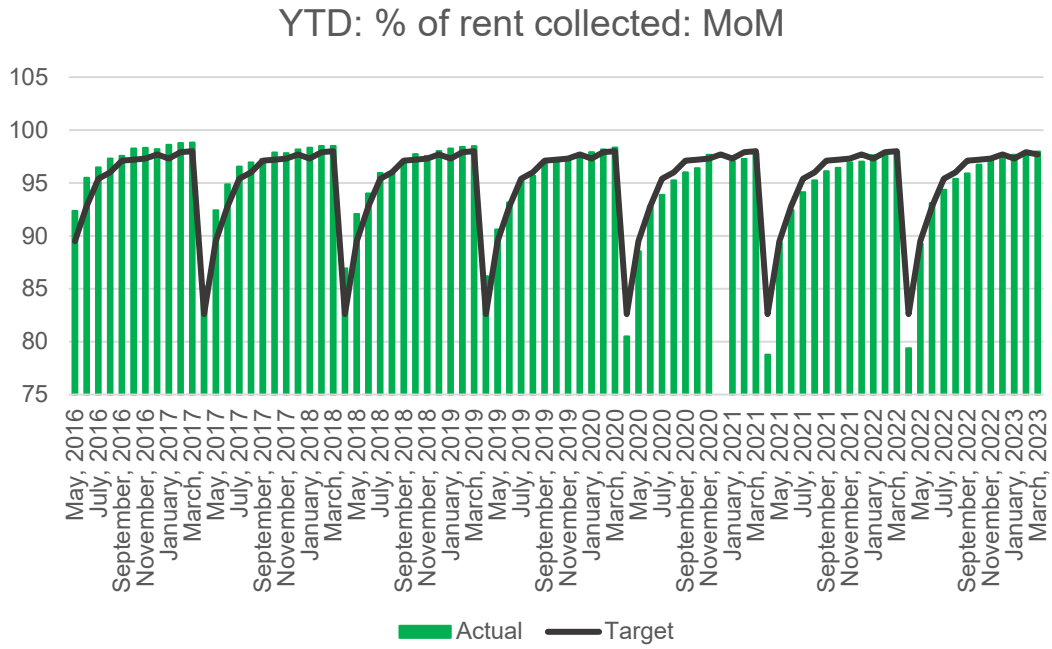
The average call answer time for previous periods has generally been erratic and does not follow a distinct pattern. However, the average call answer time for each of the trial months is higher than those in at least 18-months before the trial. While this is nothing out of ordinary, further attention should be paid to this KPI during the extension of the trial.

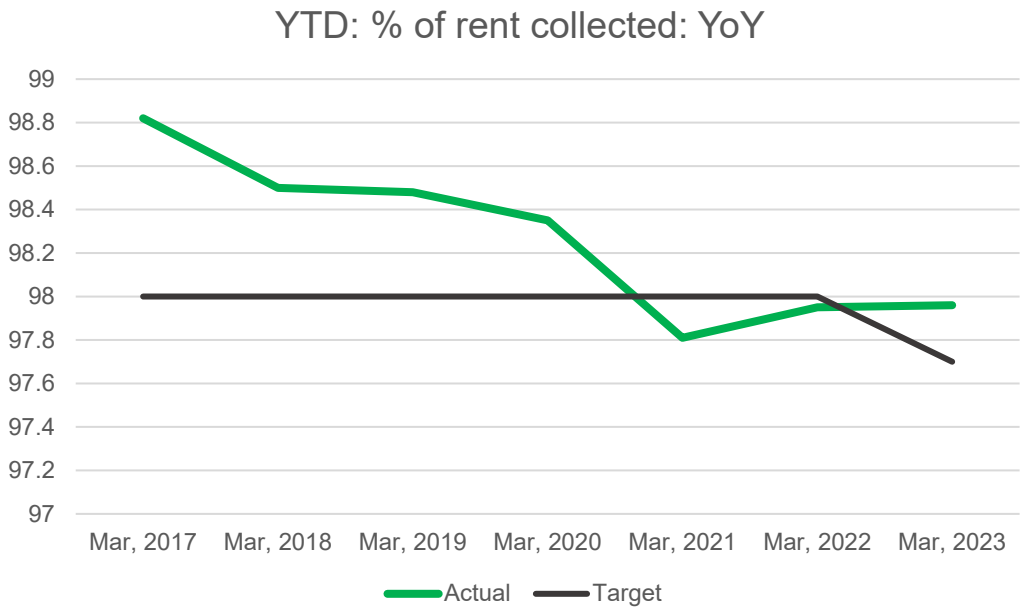




Percentage of housing rent collected: FS102

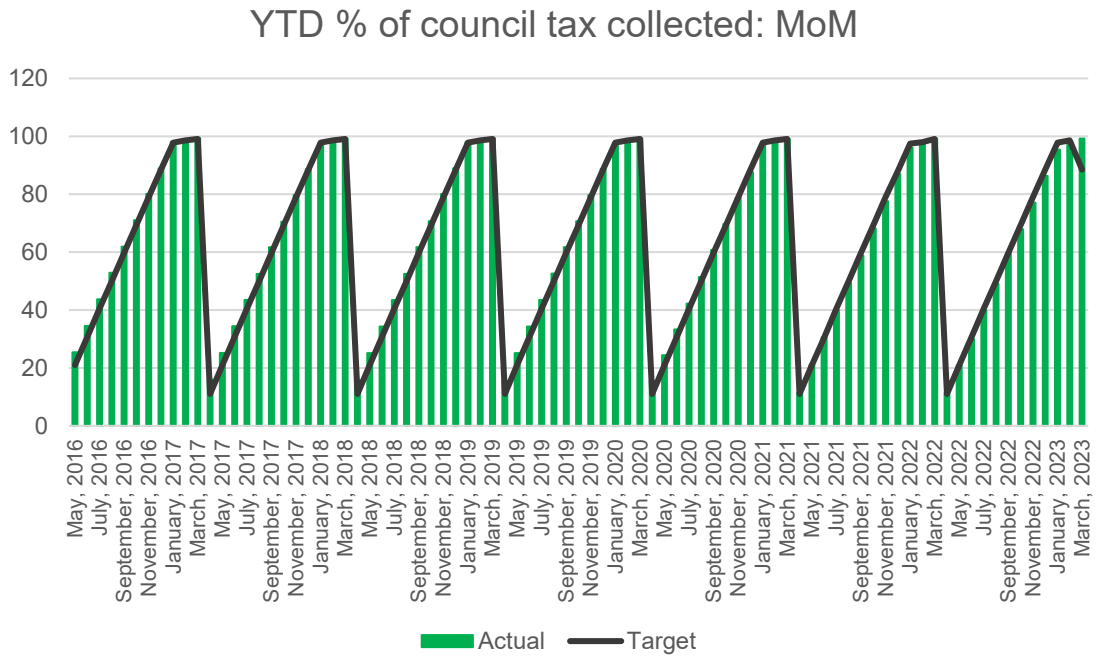
This is a year-to-date KPI, as such, as shown in the first chart below, April represents the baseline during which the data dips in each of the years. The first chart below allows to do a 'same period previous year' comparison, for each month, since we can only capture a single month for the year-on-year chart due to the cumulative nature of the data. Looking at the year-on-year comparison for the cumulative data in March, we see that the percentage of rent collected has been on the decline since 2017, and March 2023 only saw a slight increase compared with the same period last year. It is clear that the 4DW has not had any impact on the performance level of this KPI. Quite possibly, a number of other factors, such as increased living costs, may be driving down the rate of housing rent collection over the years.





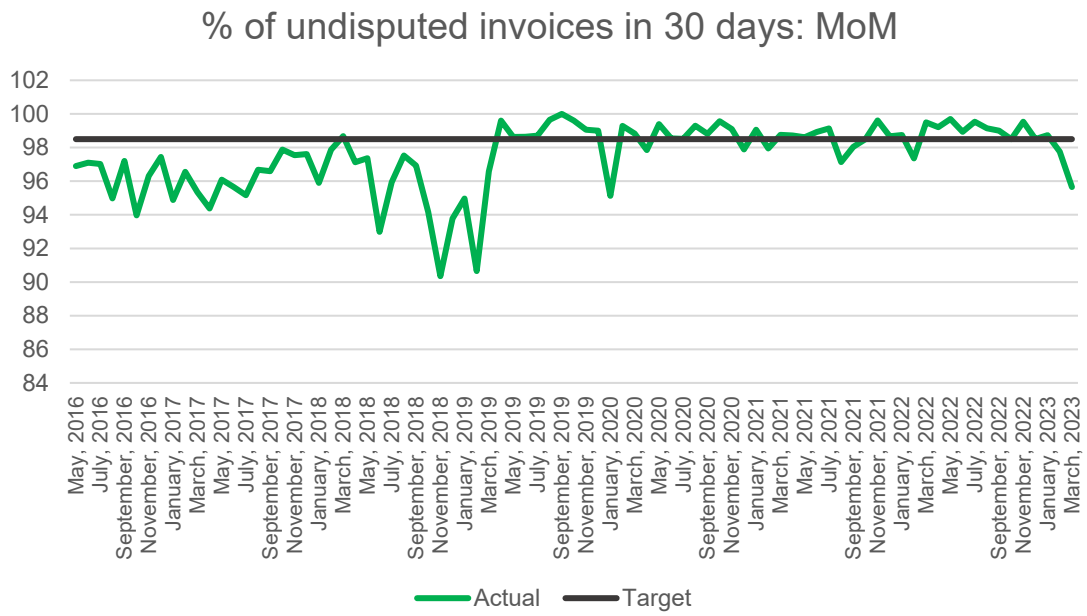
Percentage of council tax collected: FS 105

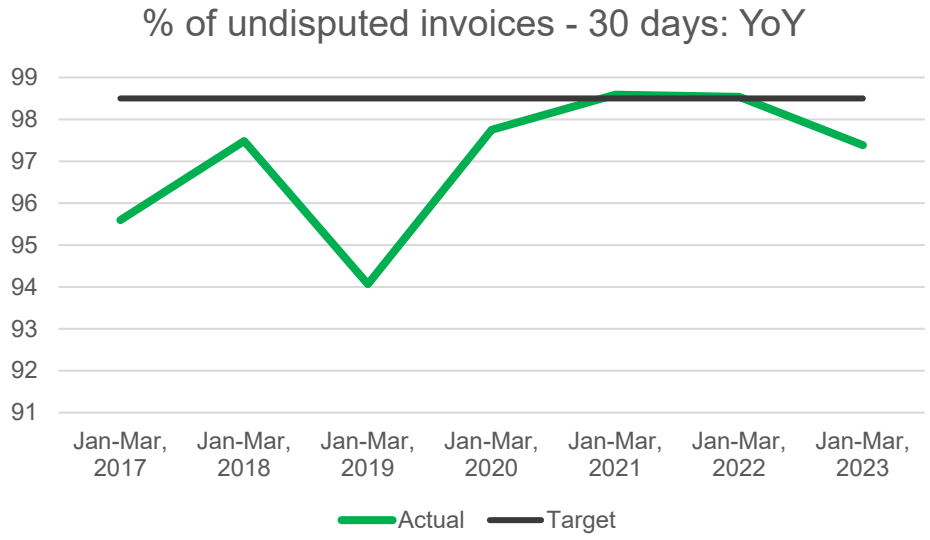
Similar to FS102 above, this is a YTD KPI, and the first chart below shows the YTD council tax collected per month since April 2016. The YTD council tax collected for March 2023 is about the same level as previous years (year-to-year chart excluded).



Percentage of undisputed invoices paid in 30 days: FS109

The percentage of undisputed 30-day invoices for the three months of the trial hovers around the average range for previous periods. The year-on-year chart shows that the average percentage undisputed invoices for the trial period (January – March 2023) is slightly below January – March 2022; but this is not concerning as the performance in this period still tracks well above previous years.

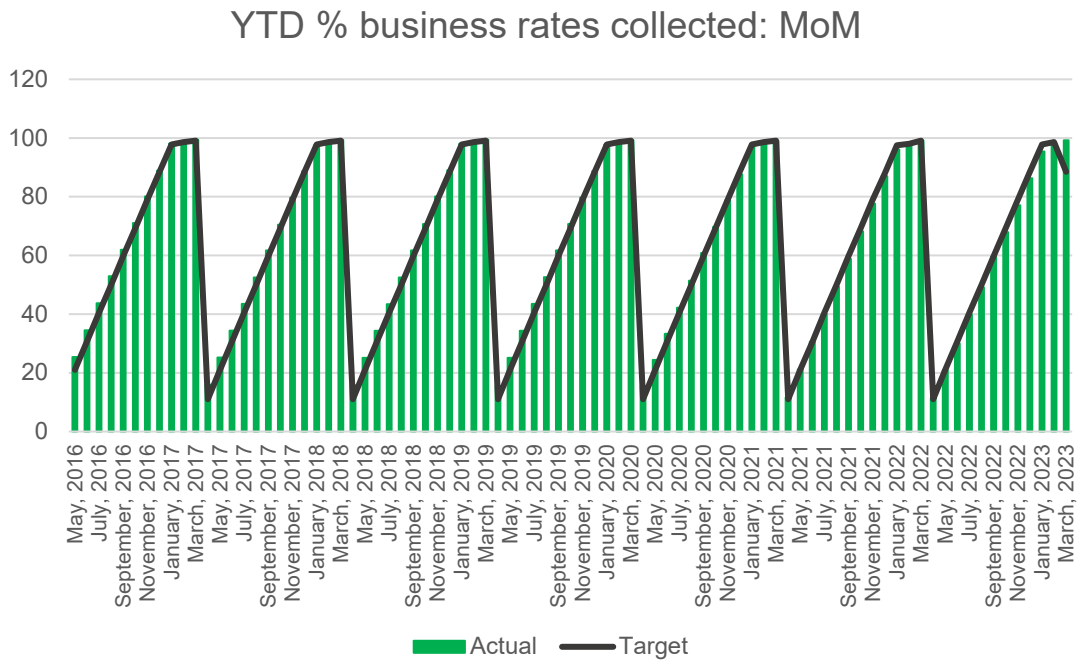




Percentage of business rates collected: FS104

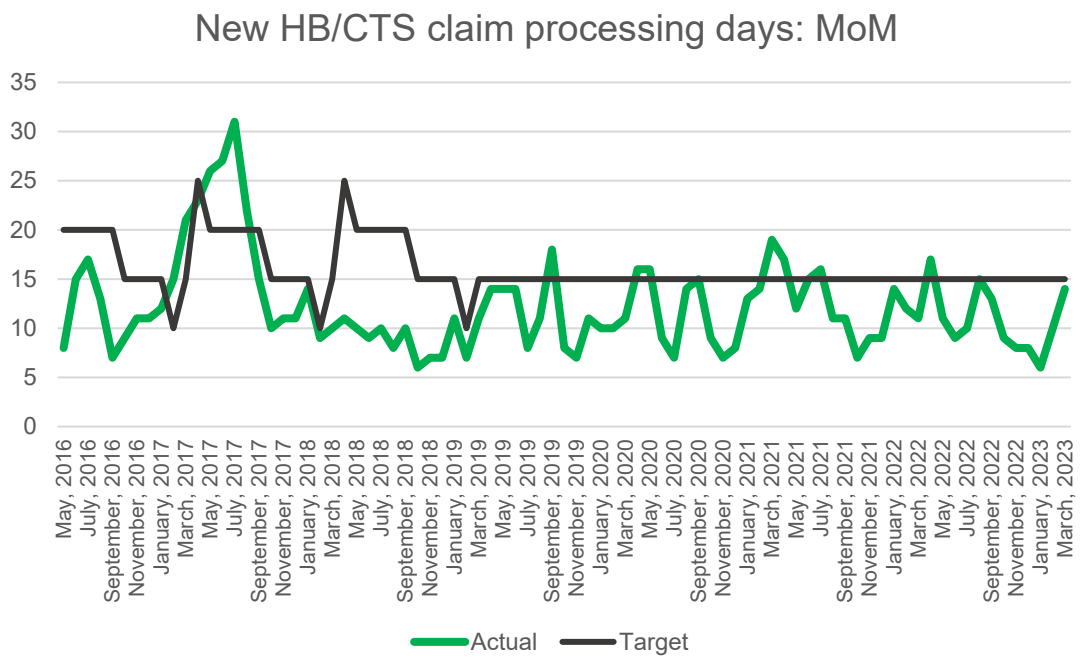
Much like the two previous KPIs, FS104 is a year-to-date KPI. The chart below provides a quick scan of YTD business rates per month from April 2016. A year-on-year comparison of

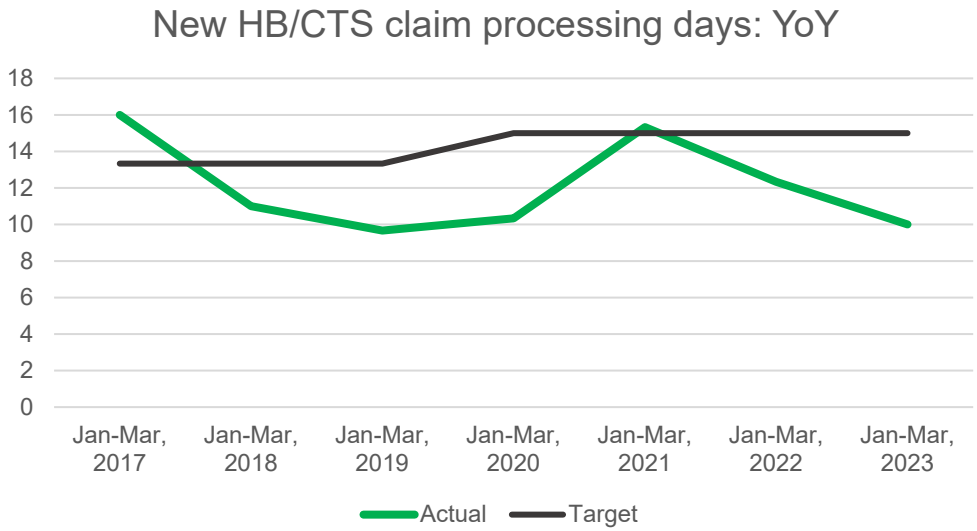
March 2023 with the same period during previous years does not show much distinguishable difference, which implies that performance during the 4DW is just as normal.



Average number of days to process new HB/CTS claims: FS 112

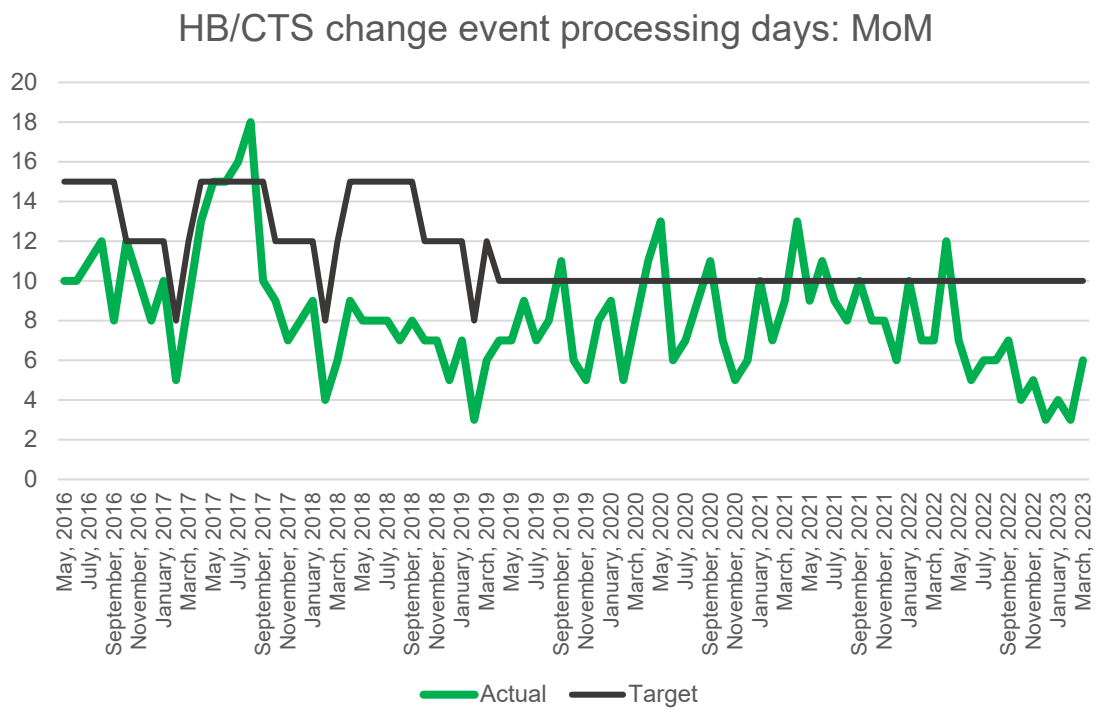
This KPI has consistently tracked above target in the last eight months leading up to the 4DW trial, and continues to meet up target during the trial. The performance during the 4DW period also stands within the range of previous periods. Specifically, the year-on-year comparison actually shows significant improvement for the trial period (January – March 2023) compared with the same period for all previous years.

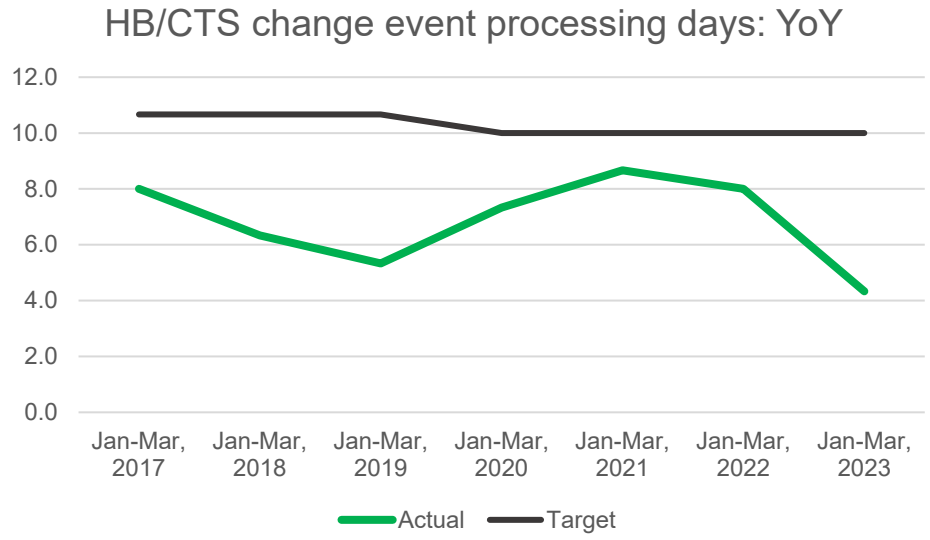




HB/CTS change event processing days: FS113.

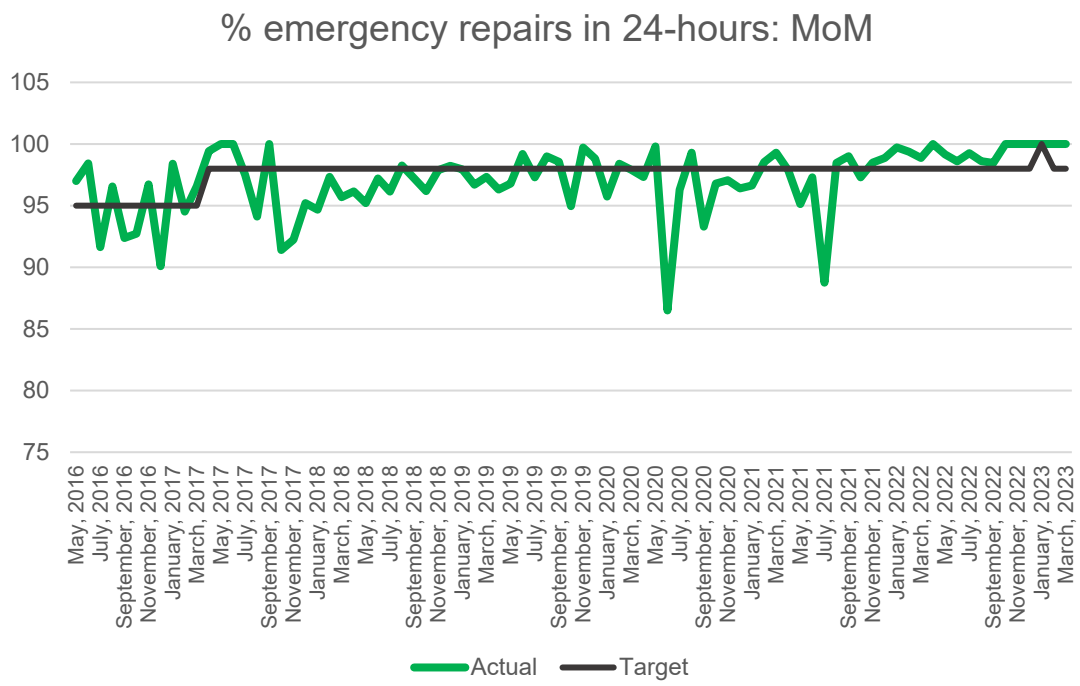
For the 4DW trial, this KPI has consistently performed beyond target and well within range of historical performance. The year-on-year comparison of January – March 2023 with the same period in previous years also shows significant improvement in the KPI.

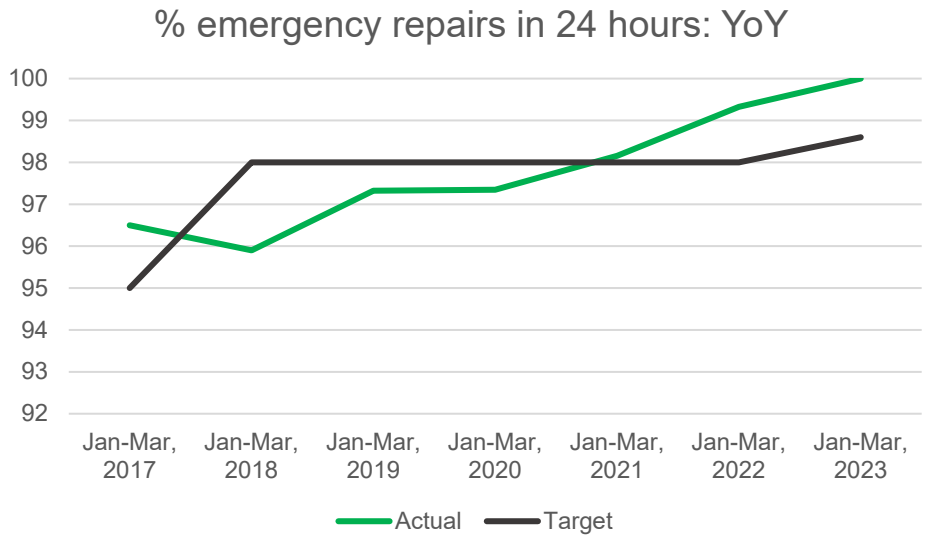




Percentage of emergency repairs completed in 24 hours: SH 332

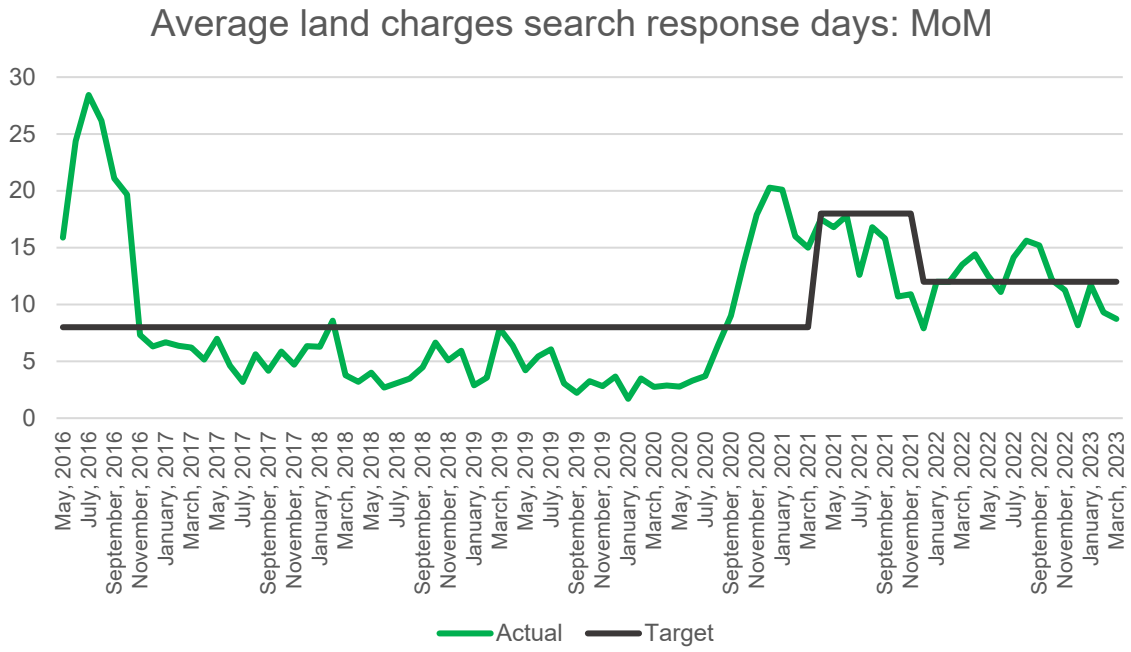
The percentage of emergency repairs completed within 24-hours during the 4DW trial has remained at 100 for each of the trial months, exceeded the target, and tracked above previous months before the trial. The YoY average for the 4DW trial from January – March 2023 is also the highest compared to the same period for previous years.

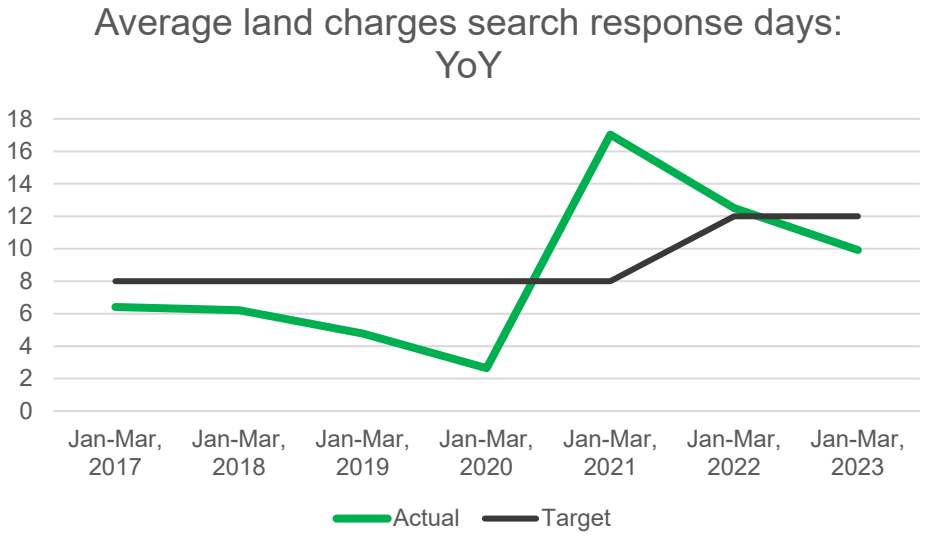




Average land charges search response days: SX025

This KPI performed above the target for each month of the trial. The year-on-year comparison of the trial period within January – March of previous years, shows that performance on this KPI improved significantly compared to the two years before it. An important point however is that since September – October 2020, the average number of response days has increased significantly and has not returned to its pre-Covid levels. Currently, the best performance on this KPI is about eight days, which is far below the average of three to five days in 2018 – 2019. While this is not a 4DW issue, it would be worthwhile to pay attention to improving it in the coming months.



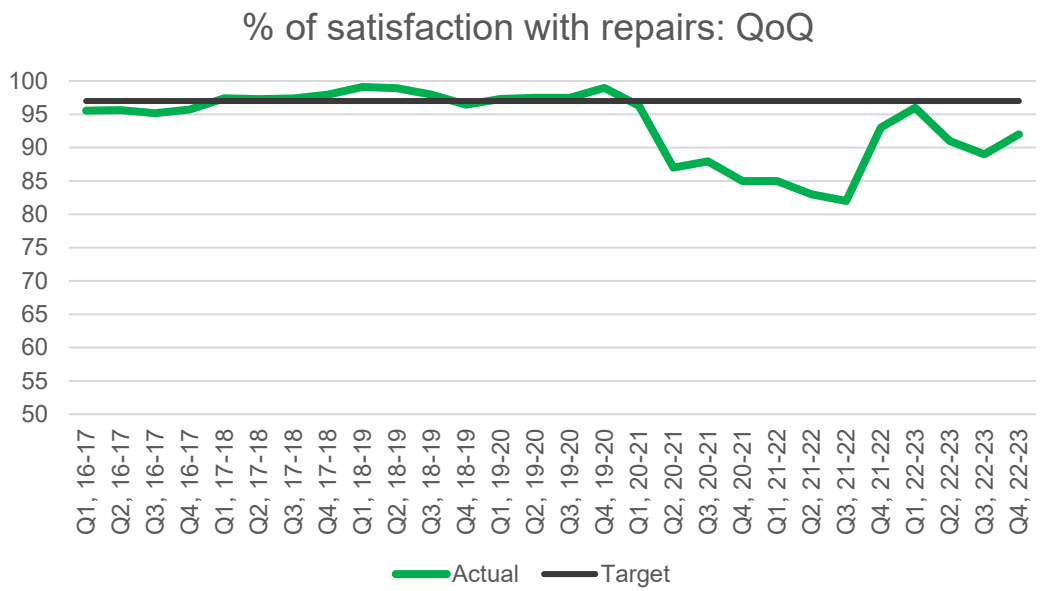


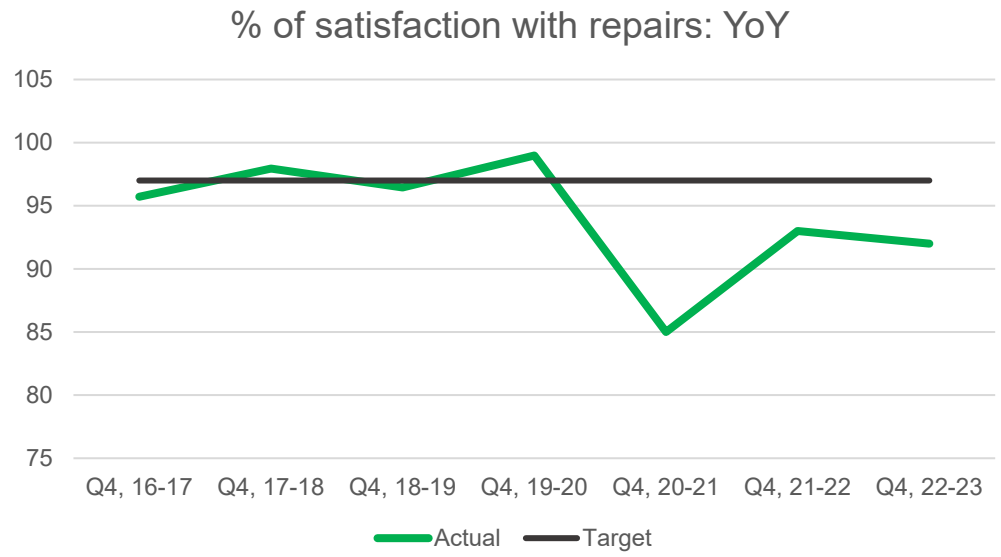
Quarterly KPIs

Percentage of satisfaction with repairs: AH204

The percentage of satisfaction with repairs increased slightly during the 4DW compared to two Quarters preceding it, although this is still below the target point. However, the year-on-year comparison between January – March 2023 and January – March 2022 shows a slight drop in KPI performance during the trial; it is also the lowest besides the Covid periods (January – March 2020 – 2022).

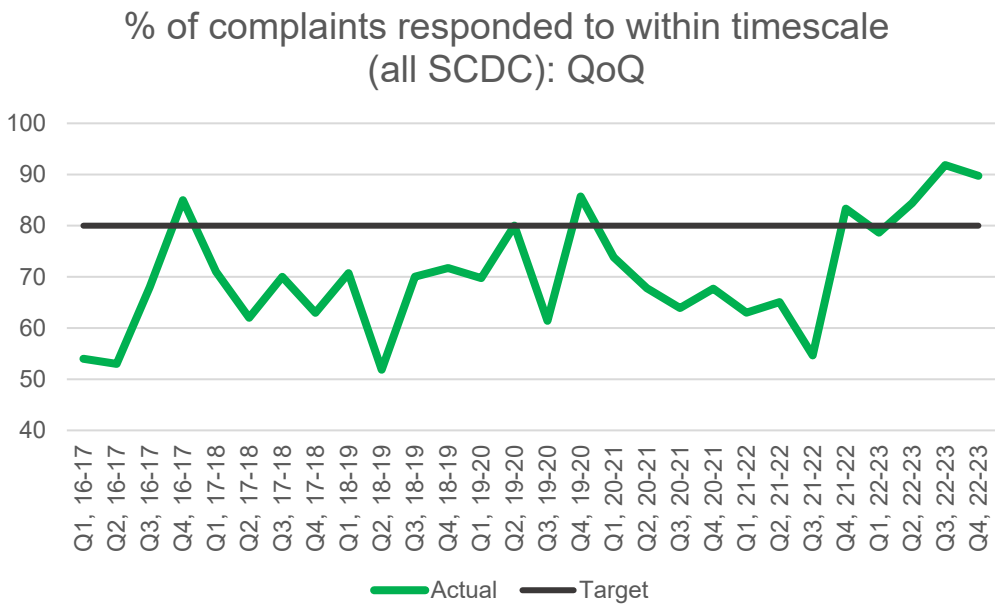
It is worth noting though that the Council recently began a new repair contract with Mears, which is expected to “show improvements in service delivery and customer satisfaction”; this should have even better impacts on repair KPIs in the long run.

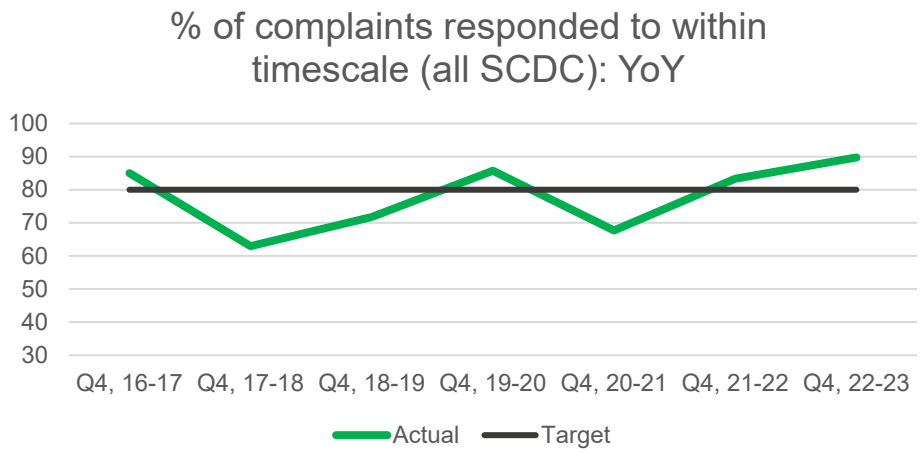




Percentage of complaints responded to within timescale: CC305

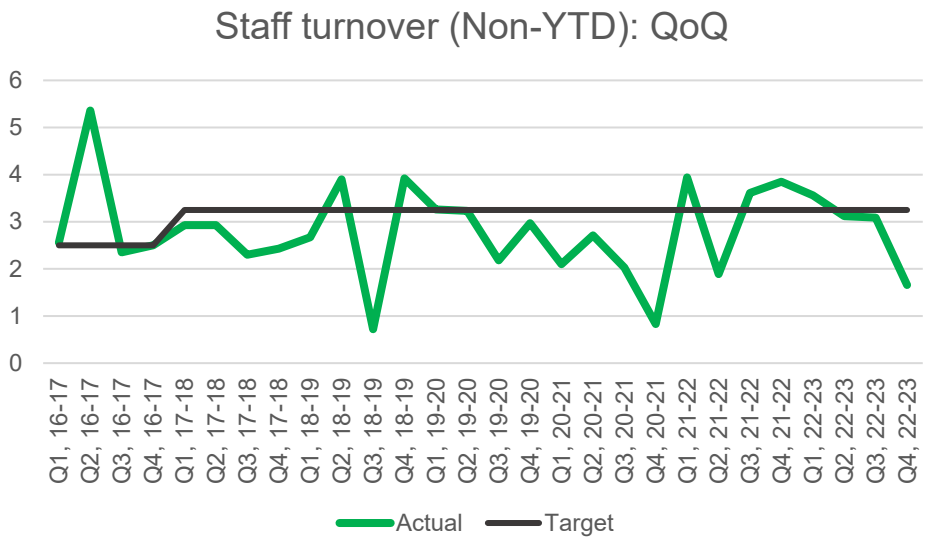
While this KPI has seen a slight decline during the 4DW (Q4, 2022/2023), compared to Q3 of the same period, it is still above the target and is the second highest performance since the inception of this KPI. The year-on-year comparison clearly shows evidence of this improvement.

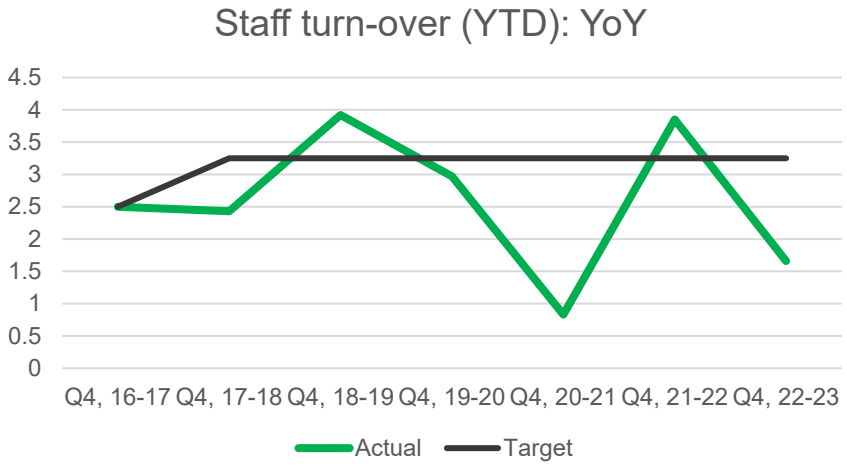




Staff turnover (non-cumulative): FS117

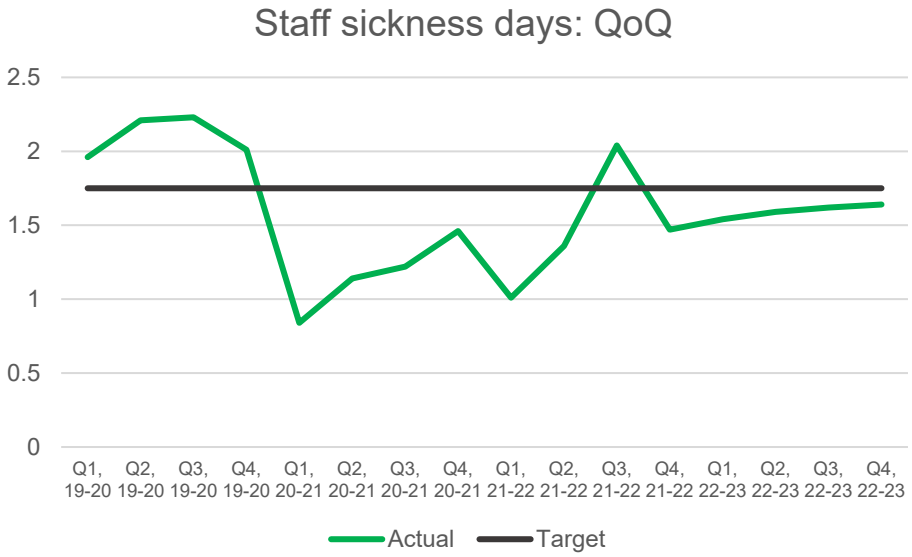
Perhaps one of the most significant KPIs for the 4DW trial is 'staff turnover'. Commendably, the trial period (Q4 2022/2023) shows a significant reduction in staff turnover compared to the last 18-months.

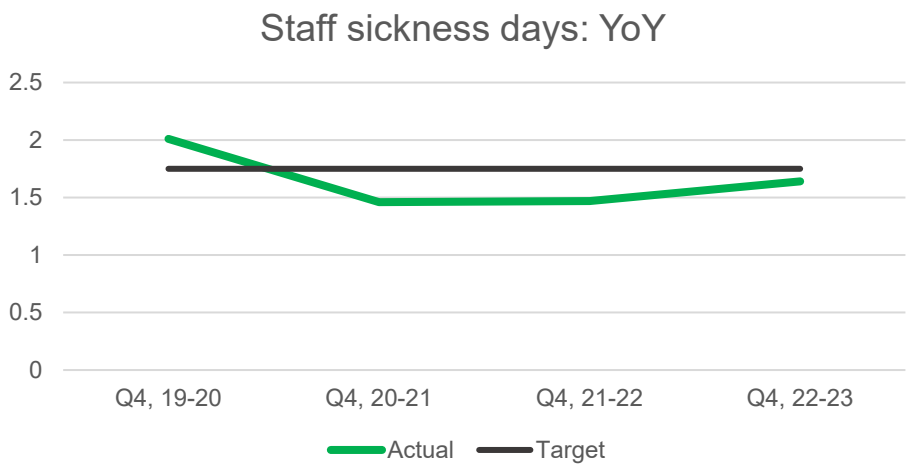




Staff sickness days per FTE excluding SSWS (non-cumulative): FS125

Interestingly, staff sickness days during the 4DW seems slightly higher than each of four quarters before the trial. It is also slightly higher than same period (Q4) for 2021/2022 and 2020/2021. However, this figure is within historical range, and may not be connected to the 4DW in any way.


Staff sickness days: QoQ
2.5
2
1.5
1
0.5
0
Q1, 19-20
Q2, 19-20
Q3, 19-20
Q4, 19-20
Q1, 20-21
Q2, 20-21
Q3, 20-21
Q4, 20-21
Q1, 21-22
Q2, 21-22
Q3, 21-22
Q4, 21-22
Q1, 22-23
Q2, 22-23
Q3, 22-23
Q4, 22-23
Actual
Target

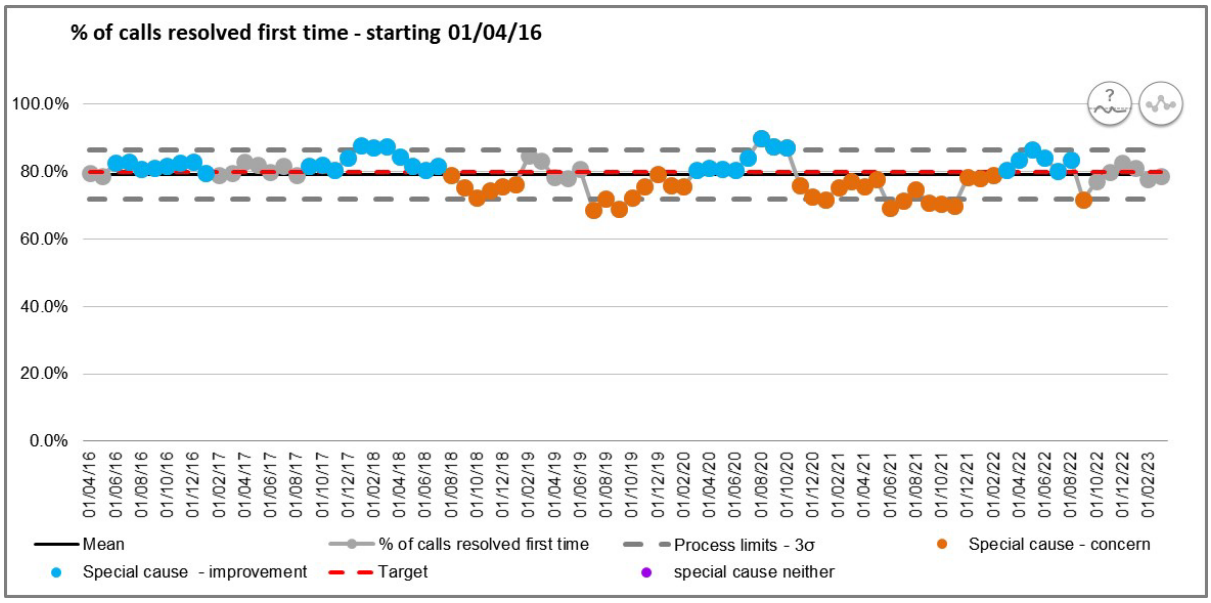

Staff sickness days: YoY
2.5
2
1.5
1
0.5
0
Q4, 19-20
Q4, 20-21
Q4, 21-22
Q4, 22-23
Actual
Target

Appendix 2: Statistical process control (SPC)

In the following charts, three key colour codes are important to pay attention to; the silver colour represents normal performance, blue shows special improvement in performance compared to the norm/mean, and the orange colour shows performances of special concern, i.e. way below norm.

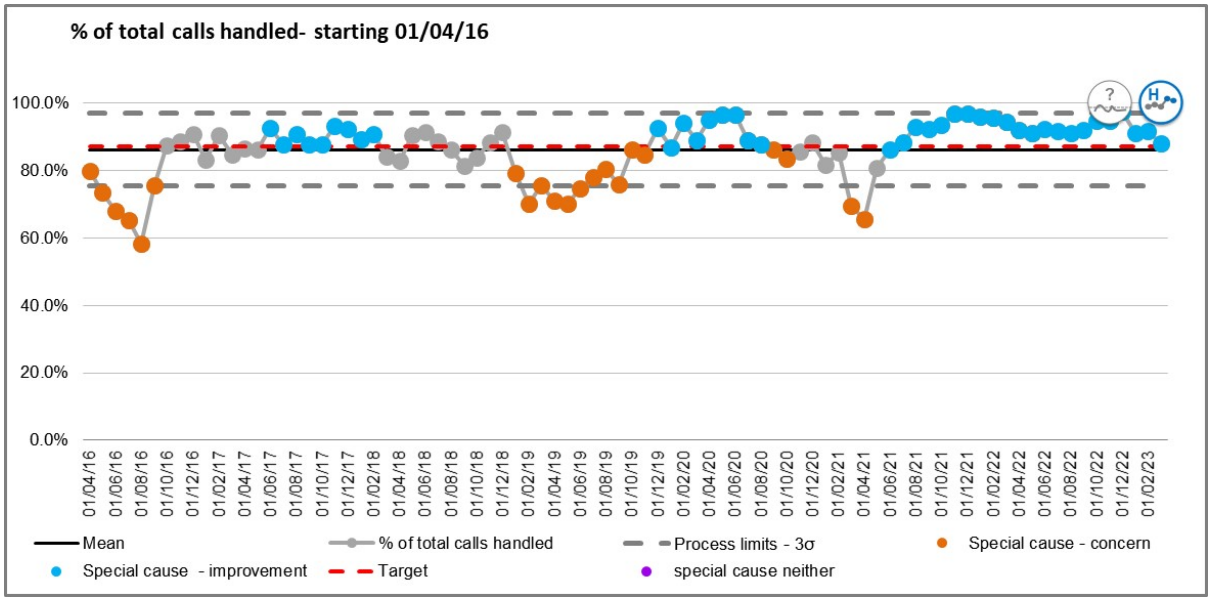
Percentage of calls resolved first time: CC302

The 4DW trial period (last three points on the data) show normal performance levels compared to the average overtime. From the charts, one can see that performances below the norm are mostly clustered around 2018-2019 and Covid times.



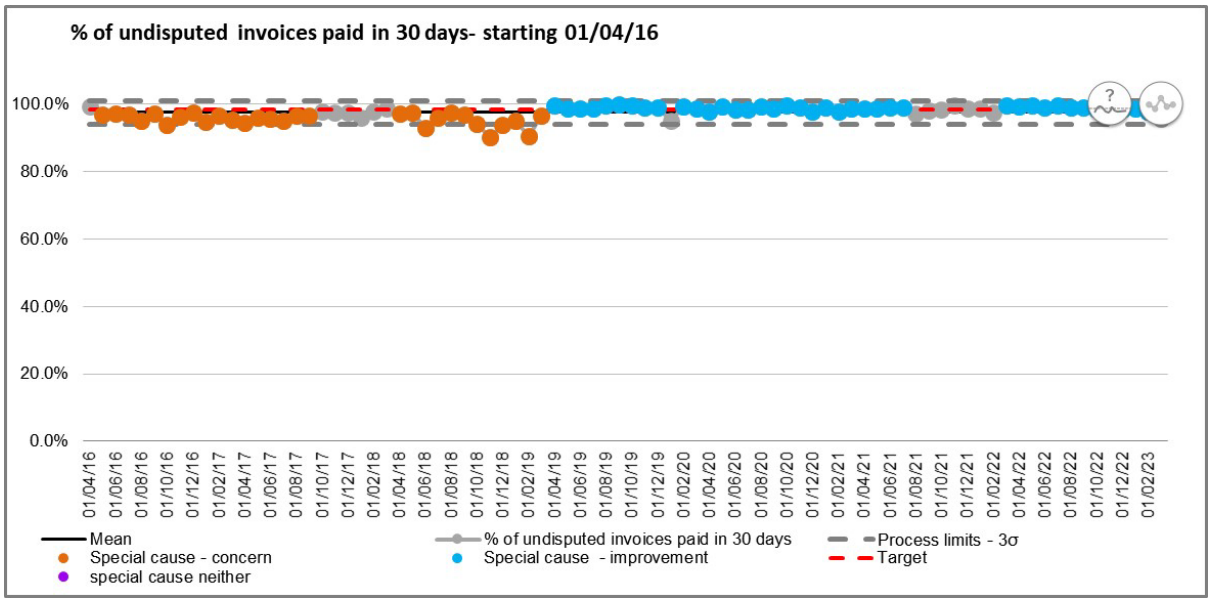
Percentage of total calls handled: CC 303

For this KPI, performance over 19-months before the trial showed special improvement and continues into the trial.



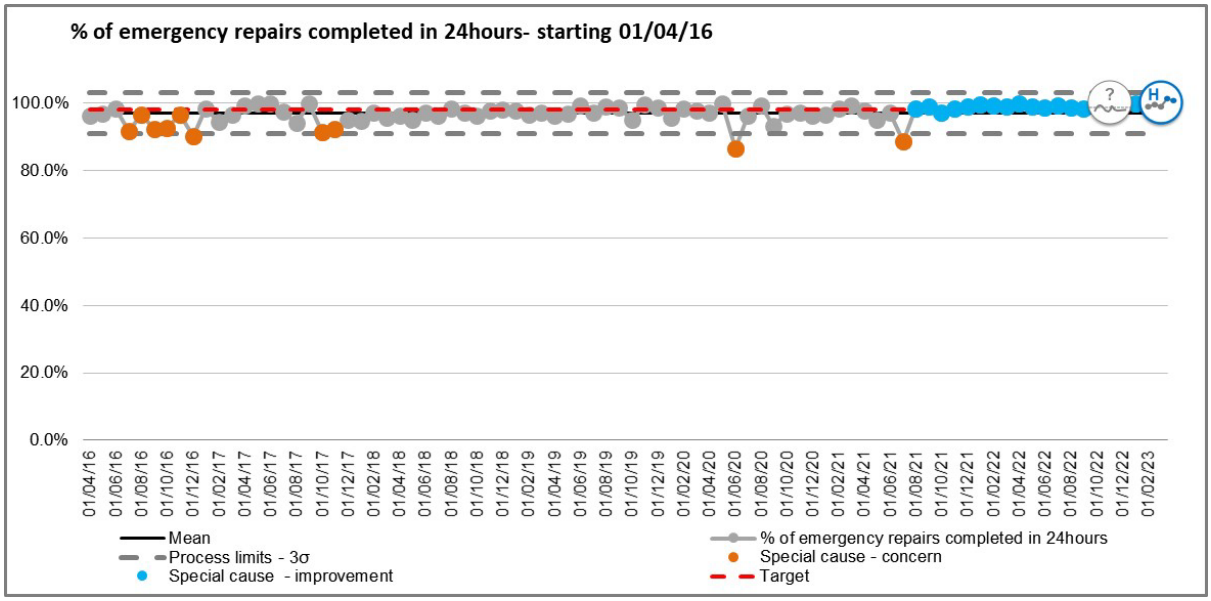
Percentage of undisputed invoices paid in 30-days: FS 109

The percentage of undisputed invoices paid within 30-days during the 4DW trial shows improvement, measured against the moving average. This improvement predates the trial, but the improved performance level is maintained during the trial.



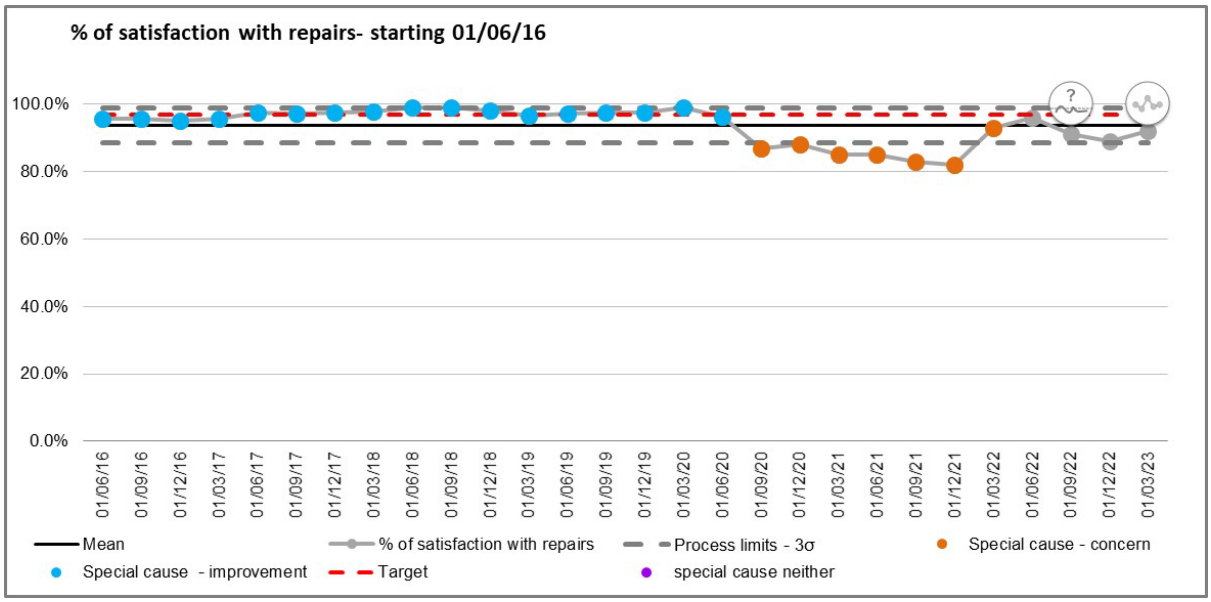
Percentage of emergency repairs completed within 24-hours: SH332

For this KPI, performance in the several months before the trial shows special improvement and continues into the trial.



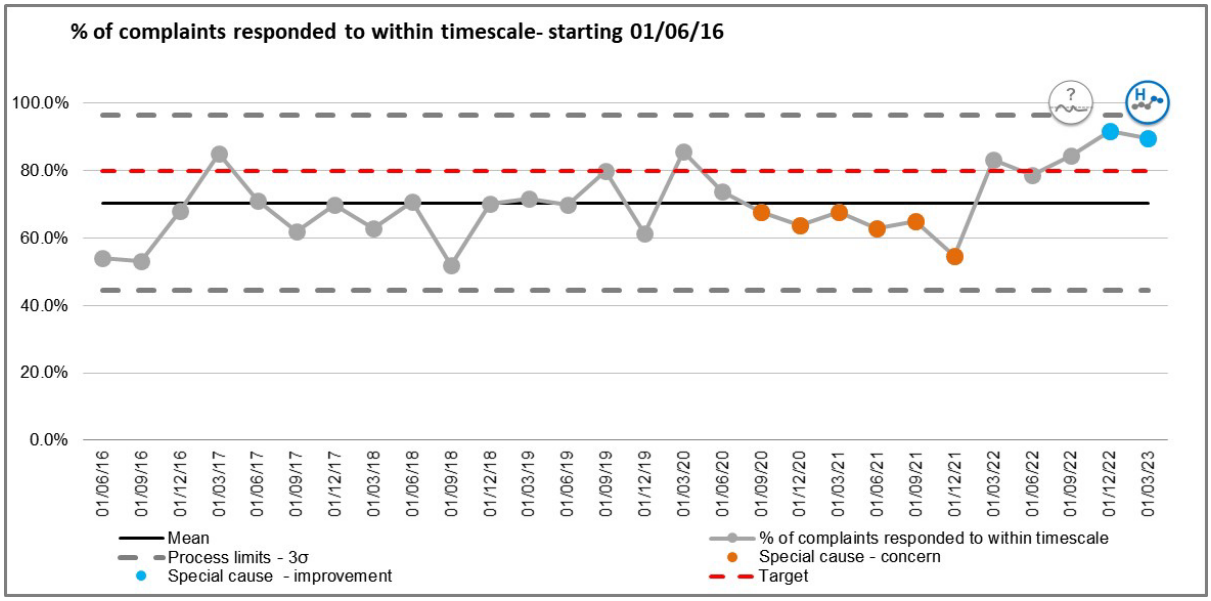
Percentage of satisfaction with repairs: AH204

The last data point on the chart represents the 4DW trial period. The percentage of satisfaction with repairs during the trial has been as normal, and in fact shows a slight improvement from previous quarters.



Percentage of complaints responded to within timescale: CC305

The last point on the chart represents the 4DW trial period (Q4, 2022/2023), and shows that the percentage of complaints responded to within timescale is within the ‘improvement’ range. However, there is a slight drop compared to the immediate quarter preceding it.


% of complaints responded to within timescale- starting 01/06/16
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
01/06/16
01/09/16
01/12/16
01/03/17
01/06/17
01/09/17
01/12/17
01/03/18
01/06/18
01/09/18
01/12/18
01/03/19
01/06/19
01/09/19
01/12/19
01/03/20
01/06/20
01/09/20
01/12/20
01/03/21
01/06/21
01/09/21
01/12/21
01/03/22
01/06/22
01/09/22
01/12/22
01/03/23
Mean
Process limits - 3σ
Special cause - improvement
% of complaints responded to within timescale
Special cause - concern
Target

Appendix 3: Regression results

Interpreting the regression results

This section presents the regression tables and line graphs for each KPI after controlling for seasonality. For monthly KPIs, December serves as the reference month (that is, the results for each month of the year would be interpreted with reference to results in December).

Two columns in the tables are worth paying attention to: i) the figures in the 'Coef' (coefficient) column shows the difference between the mean KPIs of each month (January – November) and December. Each coefficient is interpreted using the units of the specific KPI (days, percentage, absolute numbers, etc.); ii) the P-value column shows whether the results in the 'Coef' column is statistically significant – anything greater than 0.05 is not.

In each table is also the coefficient 'DUM_4DW' which shows how much the four-day work week changes the difference between the means of the reference month (December) and the four-day-work-week months. **In the table below, for example, it could be interpreted that, on average the four-day work week reduces the gap between the average re-let days of January – March 2023 and December by 27 days. In other words, controlling for seasonality, the four-day work week has a positive effect, and it reduces re-let days; however, this difference is not statistically significant.**

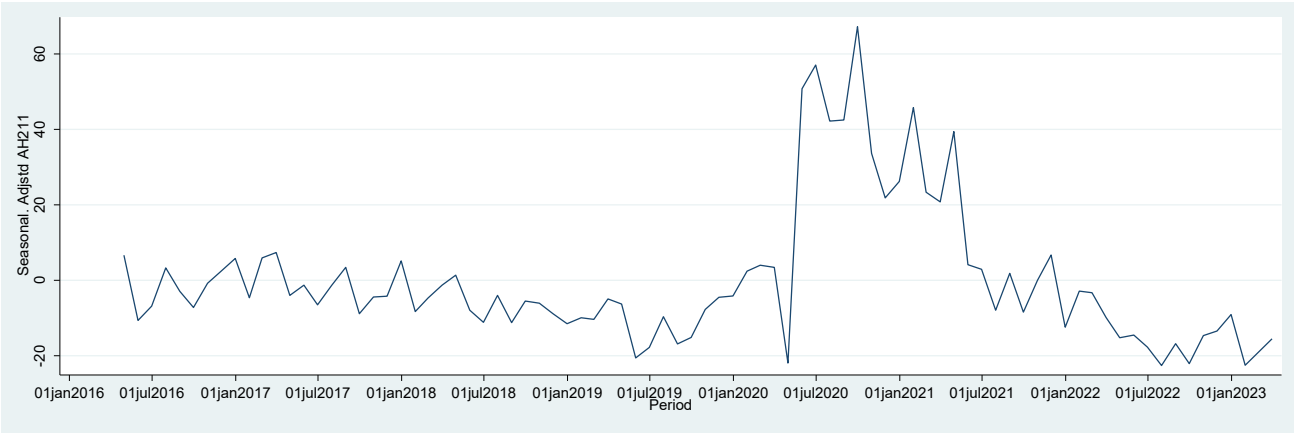
The graph below each table shows the difference between the predicted value (point 0) and the actual value of the KPI after we have removed the seasonal effects. In other words, the distance between point 0 and each data point on the graph shows us by how much each KPI deviates from the results expected per time period, having controlled for seasonality. For this KPI, since the goal is to achieve fewer re-let days, this means that points below 0 (negative points) indicate a positive KPI performance, and vice versa, after accounting for seasonality. In the graph below, the results for January – March 2023 fall a few days below the predicted value – showing that, having removed seasonal effects, the KPI still performs better than what is expected.

Average re-let days (monthly): AH 211

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	-27.108	.219	-70.715	16.5	
DUM_JAN	5.413	.627	-16.722	27.548	
DUM_FEB	-2.015	.708	-12.692	8.662	
DUM_MARCH	-1.82	.612	-8.938	5.298	
DUM_APRIL	.536	.841	-4.774	5.846	
DUM_MAY	1.486	.488	-2.762	5.734	
DUM_JUNE	1.607	.368	-1.933	5.147	
DUM_JULY	.5	.743	-2.534	3.534	
DUM_AUG	.589	.659	-2.066	3.244	
DUM_SEPT	.778	.513	-1.582	3.138	
DUM_OCT	-.043	.968	-2.167	2.081	
DUM_NOV	-.149	.878	-2.08	1.782	
Year	4.888	0	2.685	7.09	***
Constant	-9841.456	0	-14288.341	-5394.572	***

Mean dependent var	30.399	SD dependent var	21.036
R-squared	0.243	Number of obs	84
F-test	1.733	Prob > F	0.073
Akaike crit. (AIC)	753.708	Bayesian crit. (BIC)	787.740

*** $p<.01$, ** $p<.05$, * $p<.1$



Percentage of calls to the contact centre resolved first time: CC302

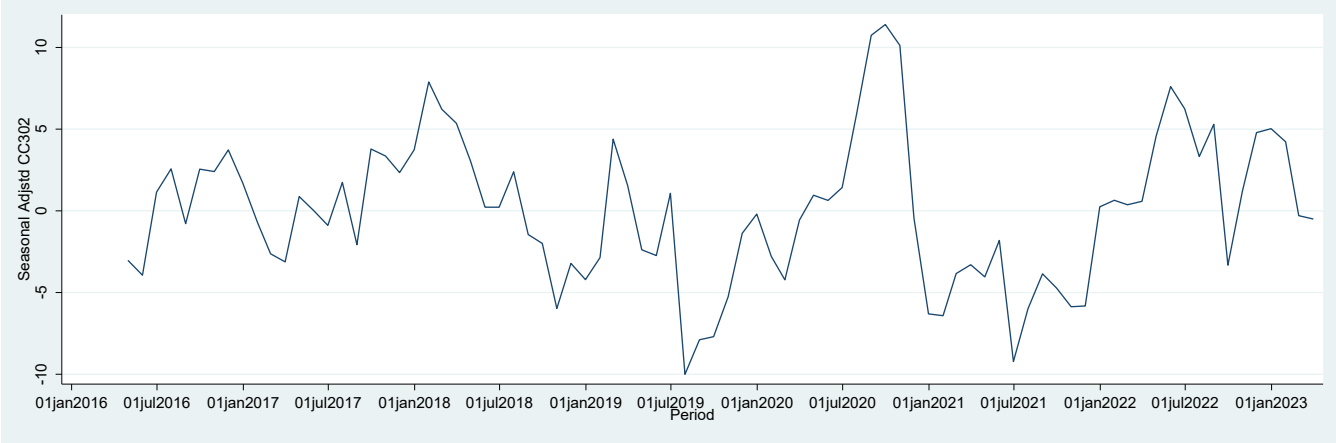
The four-day work week increases the gap between the averages of January – March 2023 and December by five percent. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, and it increases the percentage of calls resolved first time; however, this difference is not statistically significant.

For this KPI, data points higher above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January 2023 is slightly above what is expected having controlled for seasonality, while February and March 2023 are slightly below.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	5.092	.339	-5.449	15.634	
DUM_JAN	-.849	.753	-6.199	4.502	
DUM_FEB	.571	.66	-2.01	3.152	
DUM_MARCH	.776	.371	-.944	2.497	
DUM_APRIL	.362	.576	-.922	1.645	
DUM_MAY	.299	.563	-.727	1.326	
DUM_JUNE	.055	.898	-.801	.911	
DUM_JULY	-.1	.786	-.834	.633	
DUM_AUG	.066	.837	-.575	.708	
DUM_SEPT	-.301	.297	-.871	.27	
DUM_OCT	-.178	.493	-.691	.336	
DUM_NOV	-.215	.362	-.681	.252	
Year	-.637	.02	-1.17	-.105	**
Constant	1366.202	.013	291.274	2441.131	**

Mean dependent var	79.154	SD dependent var	4.828
R-squared	0.161	Number of obs	84
F-test	1.031	Prob > F	0.433
Akaike crit. (AIC)	515.157	Bayesian crit. (BIC)	549.188

*** p<.01, ** p<.05, * p<.1



Percentage of calls to the contact centre that are handled (answered): CC303

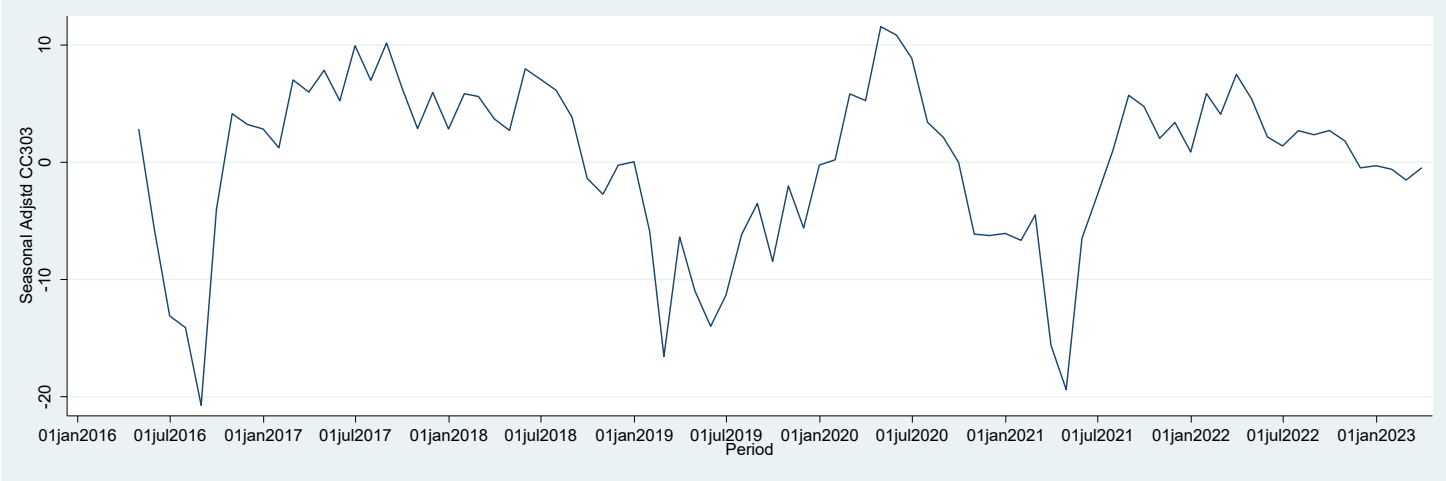
The four-day work week reduces the gap between the averages of January – March 2023 and December by 0.7 percent. In other words, controlling for seasonality, the four-day work week has a negative effect on this KPI performance, as it reduces the percentage of calls handled; however, this difference is not statistically significant.

For this KPI, data point above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January – March 2023 is slightly below what is expected, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	-.725	.932	-17.53	16.081	
DUM_JAN	-7.551	.082	-16.082	.979	*
DUM_FEB	-3.077	.14	-7.191	1.038	
DUM_MARCH	-3.6	.011	-6.343	-.857	**
DUM_APRIL	-2.733	.01	-4.779	-.686	***
DUM_MAY	-1.752	.036	-3.389	-.115	**
DUM_JUNE	-1.144	.099	-2.509	.22	*
DUM_JULY	-1.253	.036	-2.422	-.084	**
DUM_AUG	-1.117	.033	-2.14	-.094	**
DUM_SEPT	-.927	.046	-1.836	-.017	**
DUM_OCT	-.468	.258	-1.286	.351	
DUM_NOV	-.223	.552	-.967	.521	
Year	1.613	0	.764	2.462	***
Constant	-3164.322	0	-4878.081	-1450.563	***

Mean dependent var	86.218	SD dependent var	8.346
R-squared	0.286	Number of obs	84
F-test	2.159	Prob > F	0.021
Akaike crit. (AIC)	593.518	Bayesian crit. (BIC)	627.549

*** $p<.01$, ** $p<.05$, * $p<.1$



Average call answer time (seconds): CC307

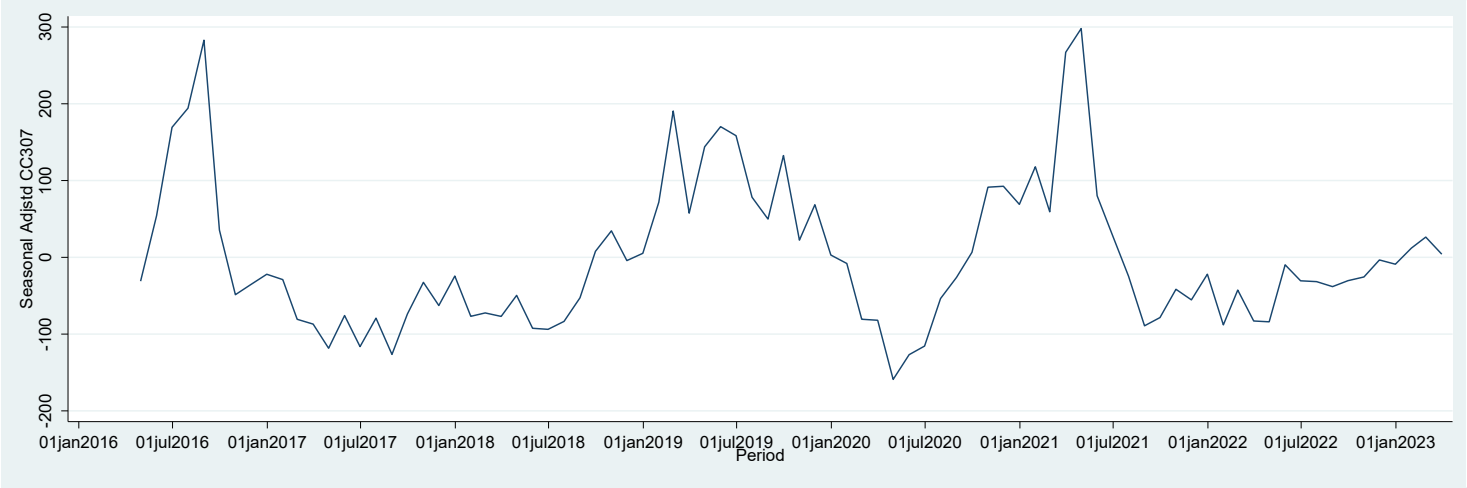
The four-day work week increases the gap between the averages of January – March 2023 and December by 14.5 percent. In other words, controlling for seasonality, the four-day work week has a negative effect on this KPI performance, as it increases the average call answer time; however, this difference is not statistically significant.

For this KPI, data points below the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January – March 2023 is slightly above what is expected, having controlled for seasonality. This could mean that the four-day work week (or some other factors unaccounted for) had a negative impact on performance in January – March 2023, after removing seasonal effects.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	14.485	.9	-214.106	243.076	
DUM_JAN	91.085	.122	-24.947	207.117	
DUM_FEB	40.406	.154	-15.564	96.375	
DUM_MARCH	46.695	.015	9.382	84.008	**
DUM_APRIL	36.258	.011	8.422	64.093	**
DUM_MAY	20.156	.075	-2.113	42.424	*
DUM_JUNE	15.768	.095	-2.789	34.325	*
DUM_JULY	15.385	.058	-.521	31.291	*
DUM_AUG	14.398	.043	.48	28.315	**
DUM_SEPT	11.715	.063	-.656	24.087	*
DUM_OCT	6.261	.266	-4.873	17.395	
DUM_NOV	3.402	.505	-6.72	13.524	
Year	-10.139	.084	-21.684	1.407	*
Constant	20543.667	.083	-2767.018	43854.352	*

Mean dependent var	161.684	SD dependent var	105.444
R-squared	0.173	Number of obs	84
F-test	1.123	Prob > F	0.355
Akaike crit. (AIC)	1032.035	Bayesian crit. (BIC)	1066.067

*** p<.01, ** p<.05, * p<.1



Percentage of housing rent collected: FS102

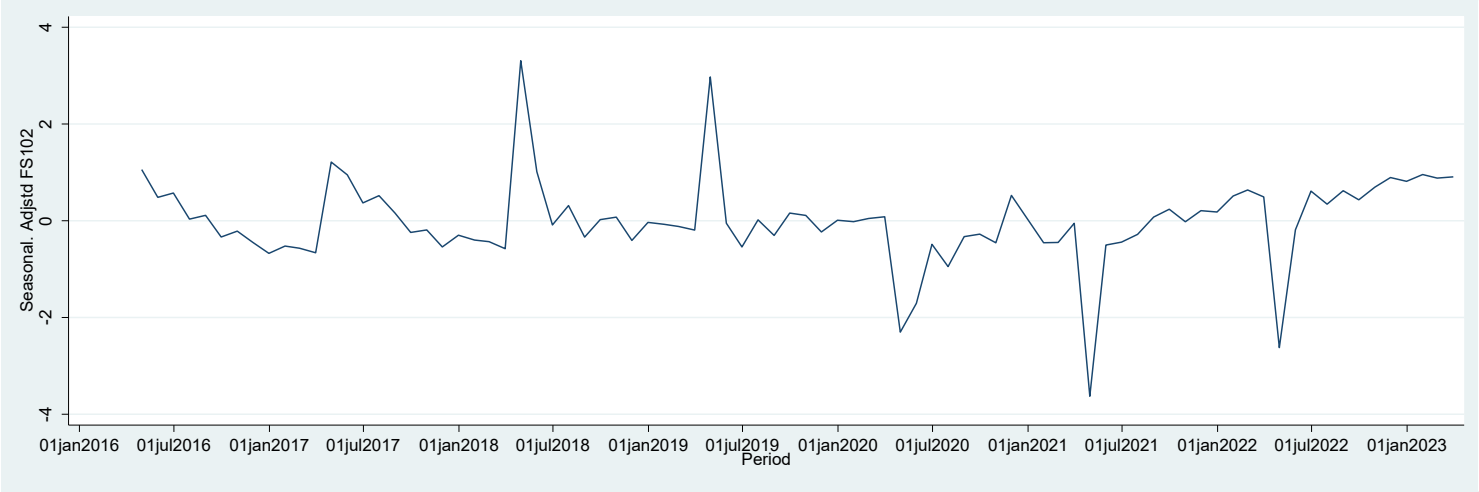
The four-day work week increases the gap between the averages of January – March 2023 and December by 1.151 percent. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, as it increases the percentage of housing rent collected; however, this difference is not statistically significant.

For this KPI, data points above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January – March 2023 is above what is expected, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	1.151	.286	-.986	3.288	
DUM_JAN	.522	.359	-.605	1.648	
DUM_FEB	.445	.108	-.1	.991	
DUM_MARCH	.345	.063	-.019	.709	*
DUM_APRIL	-3.61	0	-3.881	-3.339	***
DUM_MAY	-1.399	0	-1.616	-1.183	***
DUM_JUNE	-.659	0	-.84	-.479	***
DUM_JULY	-.347	0	-.501	-.192	***
DUM_AUG	-.209	.003	-.345	-.074	***
DUM_SEPT	-.107	.08	-.228	.013	*
DUM_OCT	-.04	.467	-.148	.069	
DUM_NOV	-.01	.846	-.108	.089	
Year	-.415	0	-.523	-.307	***
Constant	935.906	0	717.623	1154.189	***

Mean dependent var	95.156	SD dependent var	4.406
R-squared	0.959	Number of obs	83
F-test	123.220	Prob > F	0.000
Akaike crit. (AIC)	244.191	Bayesian crit. (BIC)	278.054

*** p<.01, ** p<.05, * p<.1



Percentage of council tax collected: FS 105

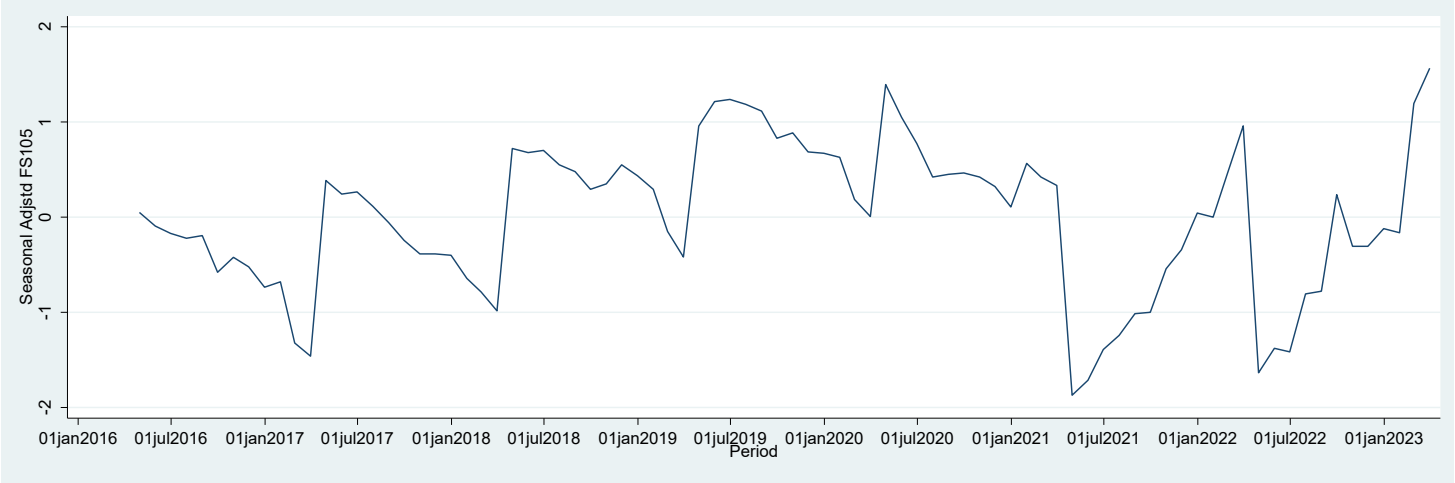
The four-day work week reduces the gap between the averages of January – March 2023 and December by 0.19 percent. In other words, controlling for seasonality, the four-day work week has a negative effect on this KPI performance, as it increases the percentage of housing rent collected; however, this difference is not statistically significant.

For this KPI, data points above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January – March 2023 is above what is expected, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	-.197	.835	-2.076	1.681	
DUM_JAN	9.705	0	8.752	10.659	***
DUM_FEB	5.56	0	5.1	6.02	***
DUM_MARCH	3.919	0	3.613	4.226	***
DUM_APRIL	-18.371	0	-18.6	-18.143	***
DUM_MAY	-12.829	0	-13.012	-12.646	***
DUM_JUNE	-9.161	0	-9.313	-9.008	***
DUM_JULY	-6.531	0	-6.661	-6.4	***
DUM_AUG	-4.568	0	-4.682	-4.453	***
DUM_SEPT	-3.017	0	-3.119	-2.916	***
DUM_OCT	-1.821	0	-1.913	-1.73	***
DUM_NOV	-.819	0	-.903	-.736	***
Year	-.534	0	-.629	-.439	***
Constant	1166.503	0	974.934	1358.073	***

Mean dependent var	63.172	SD dependent var	29.099
R-squared	0.999	Number of obs	84
F-test	7332.854	Prob > F	0.000
Akaike crit. (AIC)	225.397	Bayesian crit. (BIC)	259.429

*** p<.01, ** p<.05, * p<.1



Percentage of undisputed invoices paid in 30 days: FS109

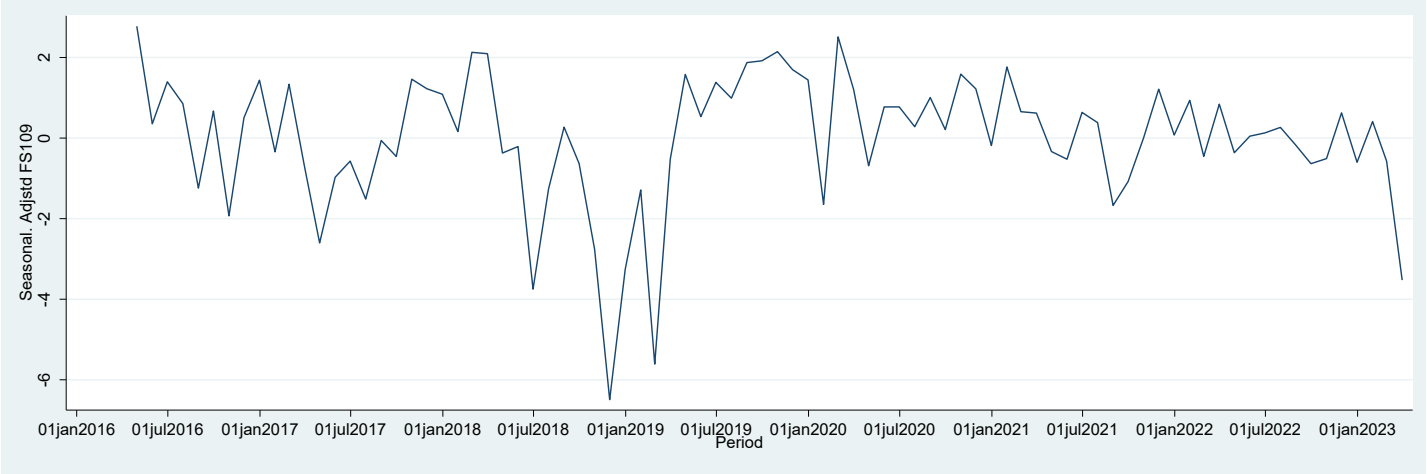
The four-day work week increases the gap between the averages of January – March 2023 and December by 0.5 percent. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, as it increases the percentage of undisputed invoices paid within 30 days; however, this difference is not statistically significant.

For this KPI, data points above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January and February 2023 is above what is expected, whereas March 2023 is slightly below expected values, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	.494	.801	-3.401	4.389	
DUM_JAN	-1.366	.173	-3.343	.611	
DUM_FEB	-.647	.181	-1.6	.307	
DUM_MARCH	-.15	.64	-.786	.486	
DUM_APRIL	.115	.629	-.359	.59	
DUM_MAY	.108	.571	-.271	.488	
DUM_JUNE	-.05	.753	-.366	.266	
DUM_JULY	.023	.865	-.248	.294	
DUM_AUG	.027	.819	-.21	.264	
DUM_SEPT	.058	.583	-.153	.269	
DUM_OCT	-.01	.914	-.2	.179	
DUM_NOV	-.018	.836	-.19	.155	
Year	.514	0	.317	.71	***
Constant	-939.452	0	-1336.646	-542.258	***

Mean dependent var	97.541	SD dependent var	1.987
R-squared	0.323	Number of obs	84
F-test	2.572	Prob > F	0.006
Akaike crit. (AIC)	347.899	Bayesian crit. (BIC)	381.930

*** *p<.01, ** p<.05, * p<.1*



Percentage of business rates collected: FS104

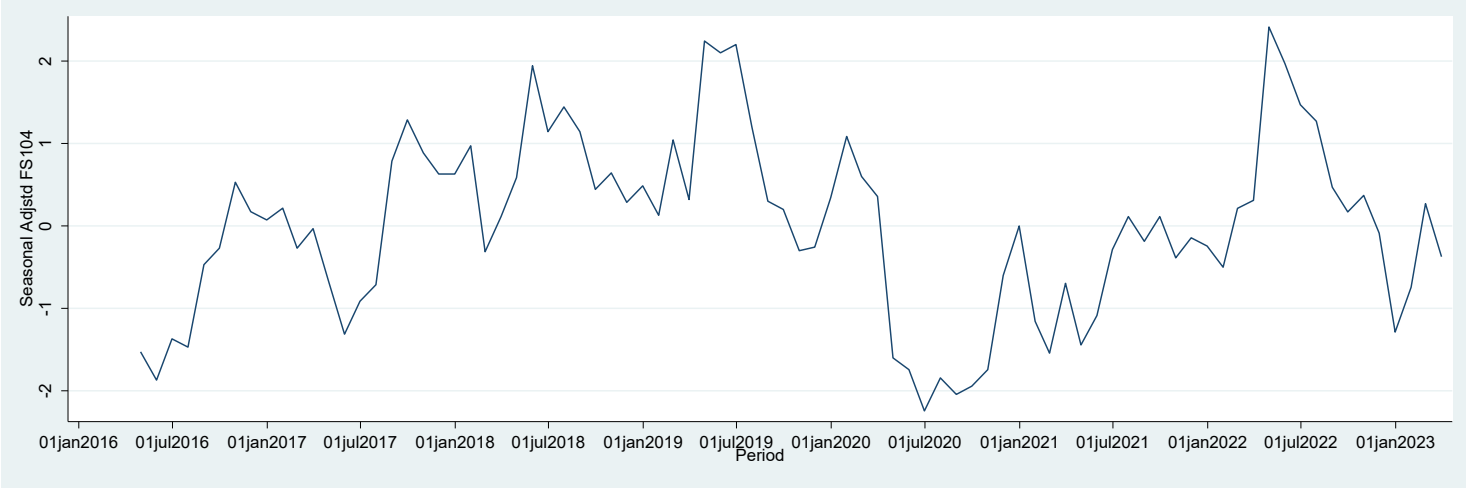
The four-day work week reduces the gap between the averages of January – March 2023 and December by 0.9 percent. In other words, controlling for seasonality, the four-day work week has a negative effect on this KPI performance, as it reduces the percentage of business rates collection; however, this difference is not statistically significant.

For this KPI, data points above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January and February 2023 is above what is expected, whereas March 2023 is slightly below expected values, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	-.896	.49	-3.473	1.68	
DUM_JAN	9.034	0	7.726	10.342	***
DUM_FEB	5.896	0	5.265	6.527	***
DUM_MARCH	4.305	0	3.884	4.725	***
DUM_APRIL	-18.175	0	-18.489	-17.861	***
DUM_MAY	-12.651	0	-12.902	-12.4	***
DUM_JUNE	-8.91	0	-9.119	-8.7	***
DUM_JULY	-6.38	0	-6.559	-6.2	***
DUM_AUG	-4.407	0	-4.564	-4.25	***
DUM_SEPT	-2.906	0	-3.046	-2.767	***
DUM_OCT	-1.746	0	-1.871	-1.62	***
DUM_NOV	-.791	0	-.905	-.677	***
Year	-.149	.026	-.279	-.018	**
Constant	386.347	.005	123.589	649.104	***

Mean dependent var	62.217	SD dependent var	28.898
R-squared	0.999	Number of obs	84
F-test	3841.651	Prob > F	0.000
Akaike crit. (AIC)	278.482	Bayesian crit. (BIC)	312.514

*** p<.01, ** p<.05, * p<.1



Average number of days to process new HB/CTS claims: FS 112

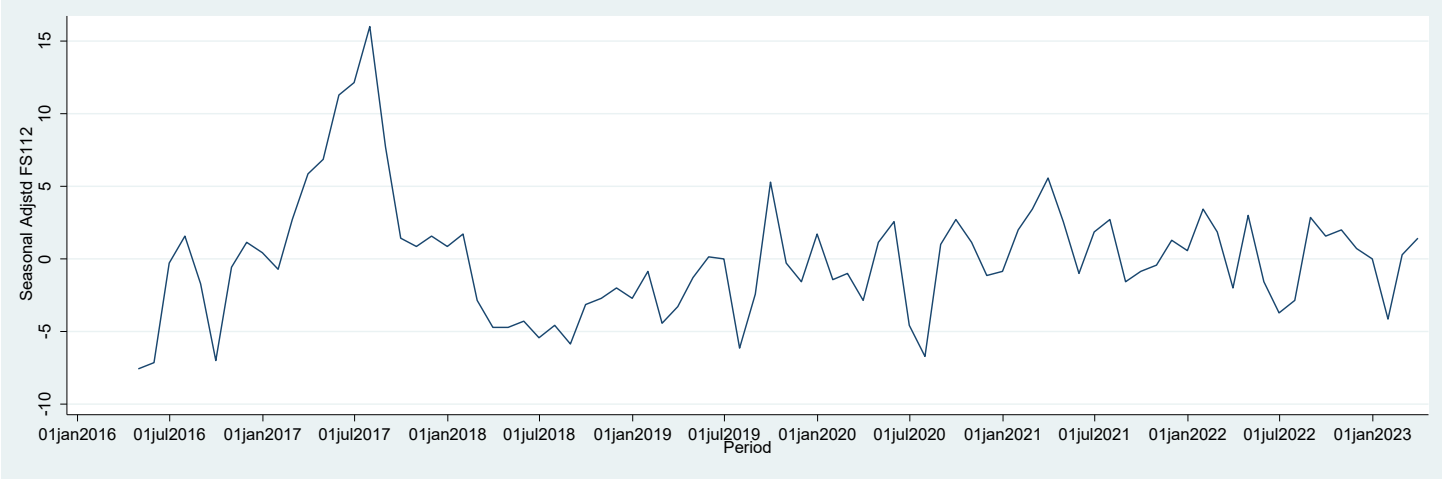
The four-day work week reduces the gap between the averages of January – March 2023 and December by 4.5 days. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, as it reduces the average number of days it takes to process new HB/CTS claims; however, this difference is not statistically significant.

For this KPI, data points below the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January 2023 is below what is expected, whereas February and March are slightly above expected values, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	-4.989	.31	-14.711	4.732	
DUM_JAN	3.24	.195	-1.695	8.174	
DUM_FEB	1.049	.382	-1.331	3.429	
DUM_MARCH	1.652	.042	.065	3.239	**
DUM_APRIL	1.5	.014	.316	2.684	**
DUM_MAY	.914	.058	-.033	1.861	*
DUM_JUNE	.786	.051	-.003	1.575	*
DUM_JULY	.694	.045	.017	1.37	**
DUM_AUG	.518	.085	-.074	1.11	*
DUM_SEPT	.381	.153	-.145	.907	
DUM_OCT	-.1	.675	-.574	.374	
DUM_NOV	-.065	.764	-.495	.366	
Year	-.384	.123	-.875	.107	
Constant	784.631	.119	-206.745	1776.007	

Mean dependent var	12.155	SD dependent var	4.788
R-squared	0.274	Number of obs	84
F-test	2.035	Prob > F	0.030
Akaike crit. (AIC)	501.563	Bayesian crit. (BIC)	535.595

*** $p<.01$, ** $p<.05$, * $p<.1$



HB/CTS change event processing days: FS113

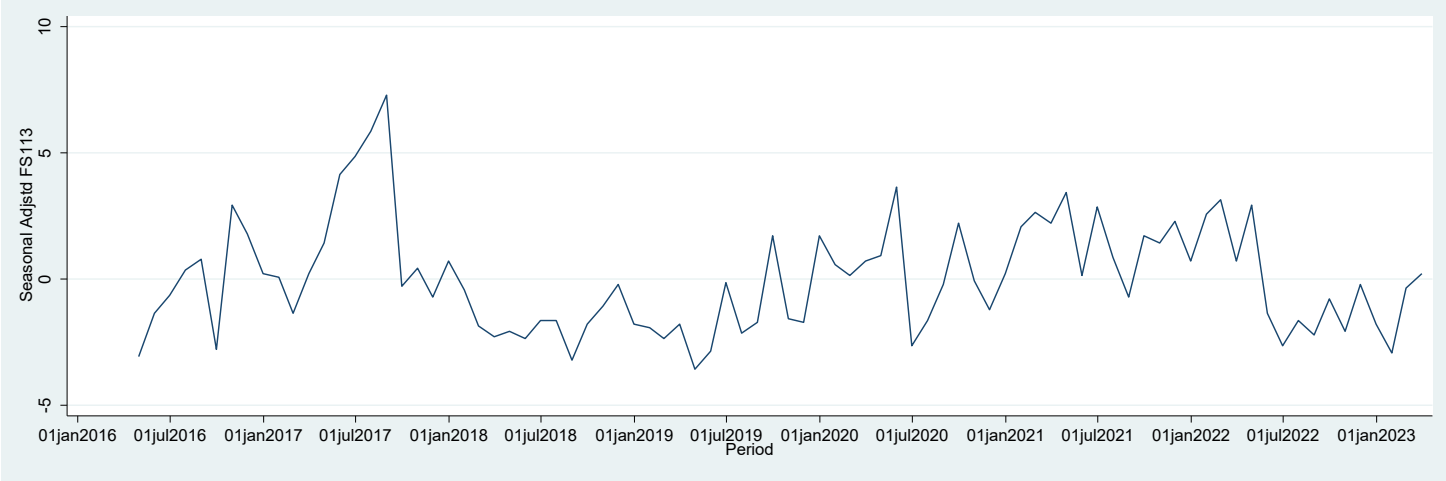
The four-day work week reduces the gap between the averages of January – March 2023 and December by 0.35 days. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, as it reduces the number of days it takes to process HB/CTS changes; however, this difference is not statistically significant.

For this KPI, data points below the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January – March 2023 is below what is expected, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	-3.527	.176	-8.676	1.622	
DUM_JAN	3.115	.02	.502	5.729	**
DUM_FEB	-.48	.45	-1.741	.781	
DUM_MARCH	.49	.249	-.351	1.33	
DUM_APRIL	1.071	.001	.444	1.698	***
DUM_MAY	.714	.006	.213	1.216	***
DUM_JUNE	.476	.026	.058	.894	**
DUM_JULY	.408	.026	.05	.766	**
DUM_AUG	.429	.008	.115	.742	***
DUM_SEPT	.333	.02	.055	.612	**
DUM_OCT	.129	.31	-.122	.379	
DUM_NOV	.039	.734	-.189	.267	
Year	-.469	.001	-.729	-.208	***
Constant	952.207	.001	427.151	1477.264	***

Mean dependent var	8.238	SD dependent var	2.915
R-squared	0.451	Number of obs	84
F-test	4.418	Prob > F	0.000
Akaike crit. (AIC)	394.784	Bayesian crit. (BIC)	428.816

*** $p<.01$, ** $p<.05$, * $p<.1$



Percentage of emergency repairs completed in 24-hours: SH 332

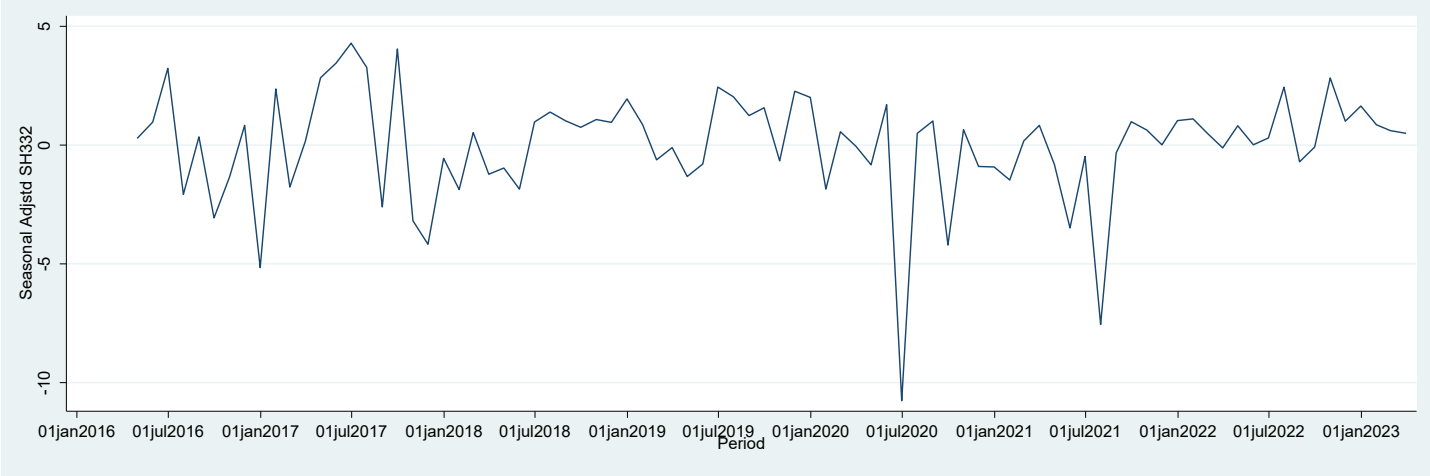
The four-day work week increases the gap between the averages of January – March 2023 and December by 1.031 percent. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, as it increases the percentage of emergency repairs completed in 24-hours; however, this difference is not statistically significant.

For this KPI, data points above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January – March 2023 is above what is expected, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	1.031	.712	-4.524	6.587	
DUM_JAN	.133	.926	-2.687	2.953	
DUM_FEB	.264	.7	-1.097	1.624	
DUM_MARCH	.214	.64	-.693	1.121	
DUM_APRIL	.207	.543	-.469	.884	
DUM_MAY	.156	.567	-.385	.698	
DUM_JUNE	-.01	.967	-.461	.441	
DUM_JULY	-.219	.262	-.606	.167	
DUM_AUG	.119	.484	-.219	.458	
DUM_SEPT	.021	.891	-.28	.321	
DUM_OCT	-.118	.387	-.389	.153	
DUM_NOV	.058	.639	-.188	.304	
Year	.509	.001	.228	.789	***
Constant	-930.159	.002	-1496.708	-363.611	***

Mean dependent var	97.101	SD dependent var	2.690
R-squared	0.249	Number of obs	84
F-test	1.784	Prob > F	0.063
Akaike crit. (AIC)	407.562	Bayesian crit. (BIC)	441.593

*** *p<.01, ** p<.05, * p<.1*



Average land charges search response days: SX025

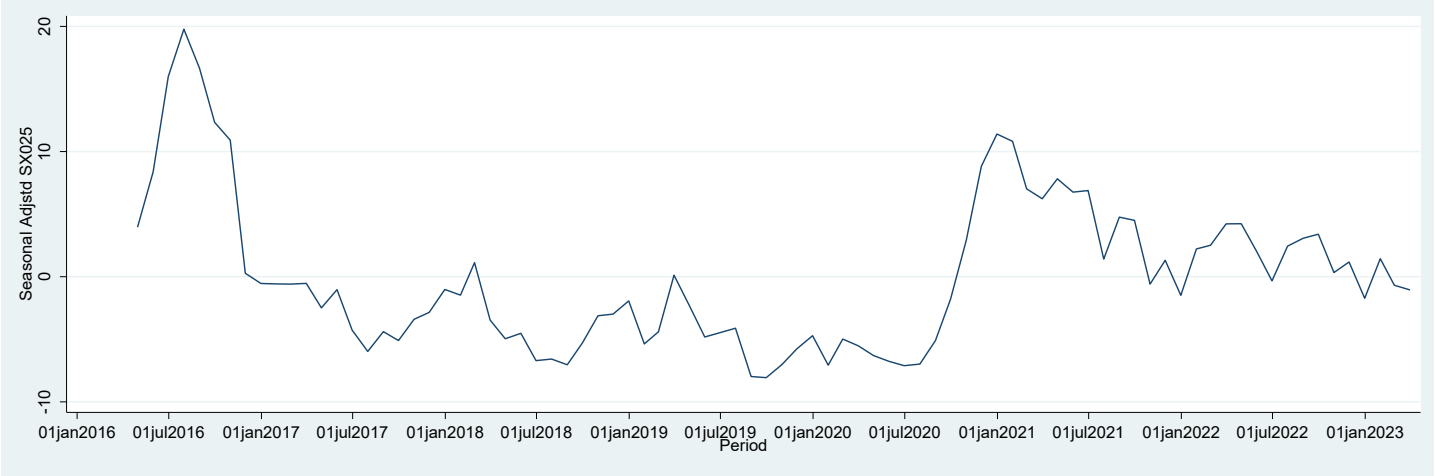
The four-day work week increases the gap between the averages of January – March 2023 and December by 1.7 days. In other words, controlling for seasonality, the four-day work week has a negative effect on this KPI performance, as it increases the number of days it takes to complete land search responses; however, this difference is not statistically significant.

For this KPI, data points below the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for January 2023 is above what is expected, while February and March 2023 are above expected values, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	1.738	.811	-12.669	16.145	
DUM_JAN	-.344	.926	-7.657	6.969	
DUM_FEB	-.195	.913	-3.723	3.332	
DUM_MARCH	-.2	.866	-2.551	2.152	
DUM_APRIL	.073	.934	-1.681	1.828	
DUM_MAY	.131	.852	-1.272	1.535	
DUM_JUNE	.255	.665	-.915	1.425	
DUM_JULY	.258	.61	-.745	1.26	
DUM_AUG	.332	.453	-.546	1.209	
DUM_SEPT	.213	.588	-.567	.992	
DUM_OCT	.191	.59	-.511	.892	
DUM_NOV	.018	.954	-.619	.656	
Year	.492	.182	-.236	1.219	
Constant	-983.979	.186	-2453.143	485.185	

Mean dependent var	9.316	SD dependent var	6.201
R-squared	0.050	Number of obs	84
F-test	0.281	Prob > F	0.993
Akaike crit. (AIC)	567.647	Bayesian crit. (BIC)	601.678

*** p<.01, ** p<.05, * p<.1



Percentage of satisfaction with repairs: AH204

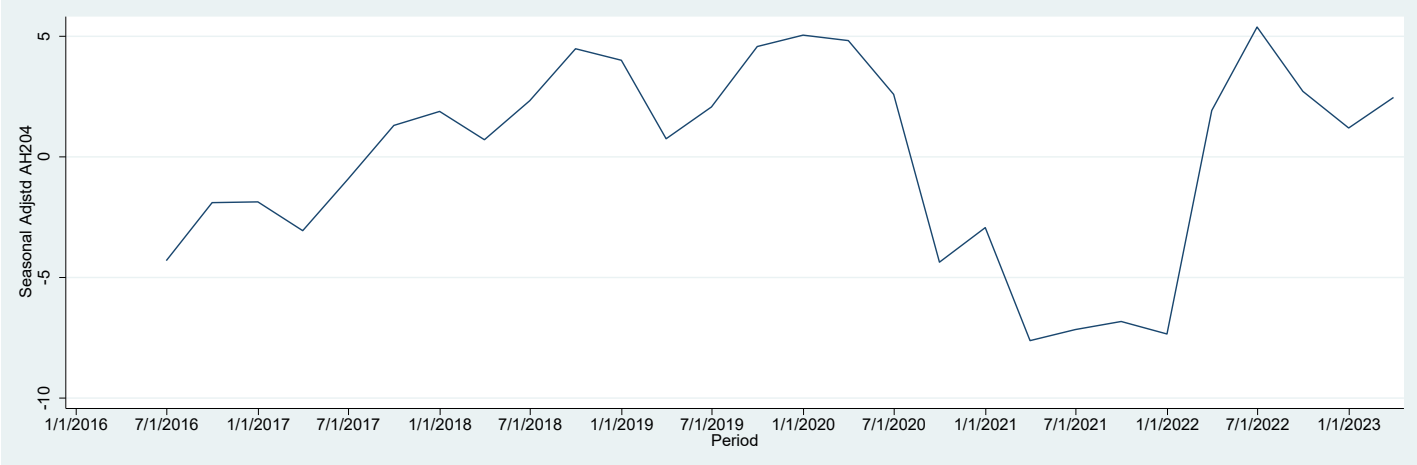
The four-day work week increases the gap between the averages of Q4, 2022/23 and Q1 by 3.2 percent. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, as it increases the percentage of satisfaction with repairs; however, this difference is not statistically significant.

For this KPI, data points above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for Q4, 2022/23 is above what is expected, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	3.173	.539	-7.368	13.714	
DUM_Q2	-1.167	.34	-3.65	1.316	
DUM_Q3	-.939	.252	-2.594	.717	
DUM_Q4	.023	.971	-1.275	1.32	
Year	-1.626	.001	-2.548	-.703	***
Constant	3377.357	.001	1515.584	5239.129	***

Mean dependent var	93.681	SD dependent var	5.267
R-squared	0.411	Number of obs	28
F-test	3.065	Prob > F	0.030
Akaike crit. (AIC)	168.682	Bayesian crit. (BIC)	176.675

*** *p*<.01, ** *p*<.05, * *p*<.1



Percentage of complaints responded to within timescale: CC305

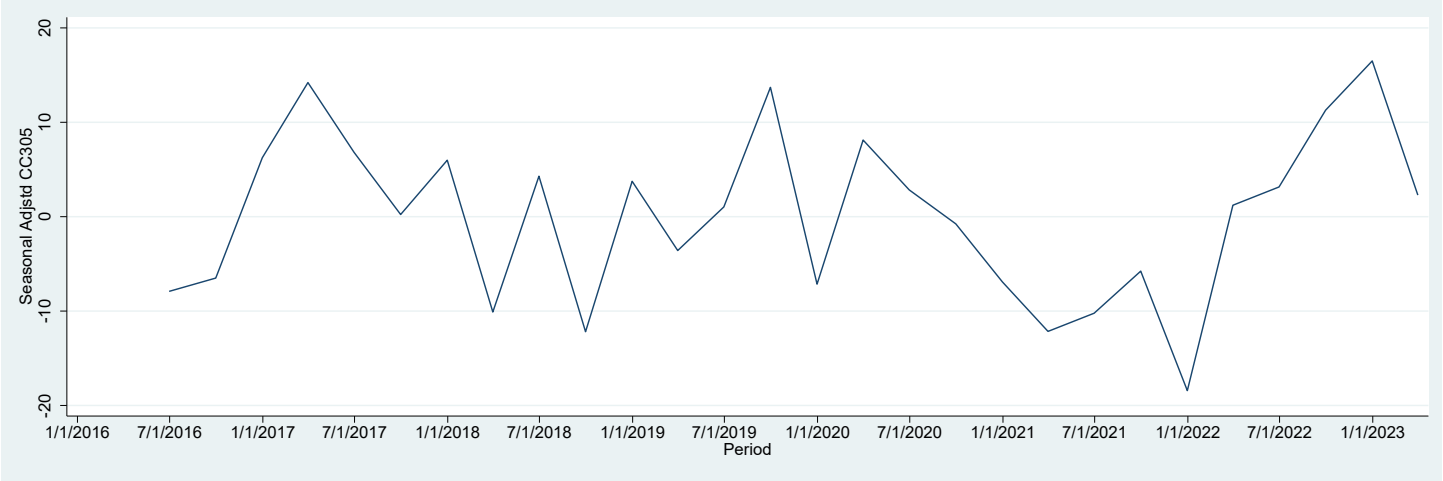
The four-day work week increases the gap between the averages of Q4, 2022/23 and Q1 by 6.0 percent. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, as it increases the percentage of complaints responded to within timescale; however, this difference is not statistically significant.

For this KPI, data points above the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for Q4, 2022/23 is above what is expected having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	6.016	.595	-17.086	29.118	
DUM_Q2	-1.204	.651	-6.645	4.238	
DUM_Q3	-.053	.976	-3.681	3.575	
DUM_Q4	1.569	.265	-1.275	4.412	
Year	2.186	.035	.165	4.207	**
Constant	-4344.649	.038	-8425.127	-264.172	**

Mean dependent var	70.394	SD dependent var	11.113
R-squared	0.364	Number of obs	28
F-test	2.519	Prob > F	0.060
Akaike crit. (AIC)	212.624	Bayesian crit. (BIC)	220.618

*** p<.01, ** p<.05, * p<.1



Staff turnover (non-cumulative): FS117

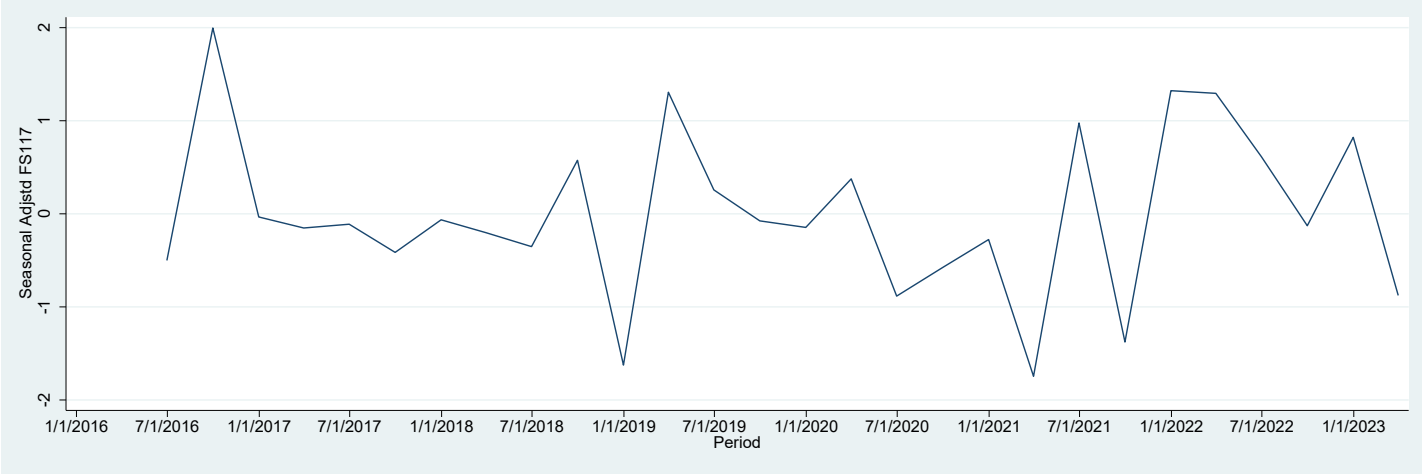
The four-day work week reduces the gap between the averages of Q4, 2022/23 and Q1 by 1.1 days. In other words, controlling for seasonality, the four-day work week has a positive effect on this KPI performance, as it reduces the staff turnover; however, this difference is not statistically significant.

For this KPI, data points below the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for Q4, 2022/23 is below what is expected, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	-1.128	.319	-3.421	1.164	
DUM_Q2	.151	.567	-.389	.691	
DUM_Q3	-.226	.207	-.586	.134	
DUM_Q4	-.065	.64	-.347	.218	
Year	.011	.911	-.19	.211	
Constant	-19.077	.923	-424.01	385.856	

Mean dependent var	2.807	SD dependent var	0.979
R-squared	0.192	Number of obs	28
F-test	1.049	Prob > F	0.415
Akaike crit. (AIC)	83.251	Bayesian crit. (BIC)	91.244

*** p<.01, ** p<.05, * p<.1



Staff sickness days per FTE excluding SSWS (non-cumulative): FS125

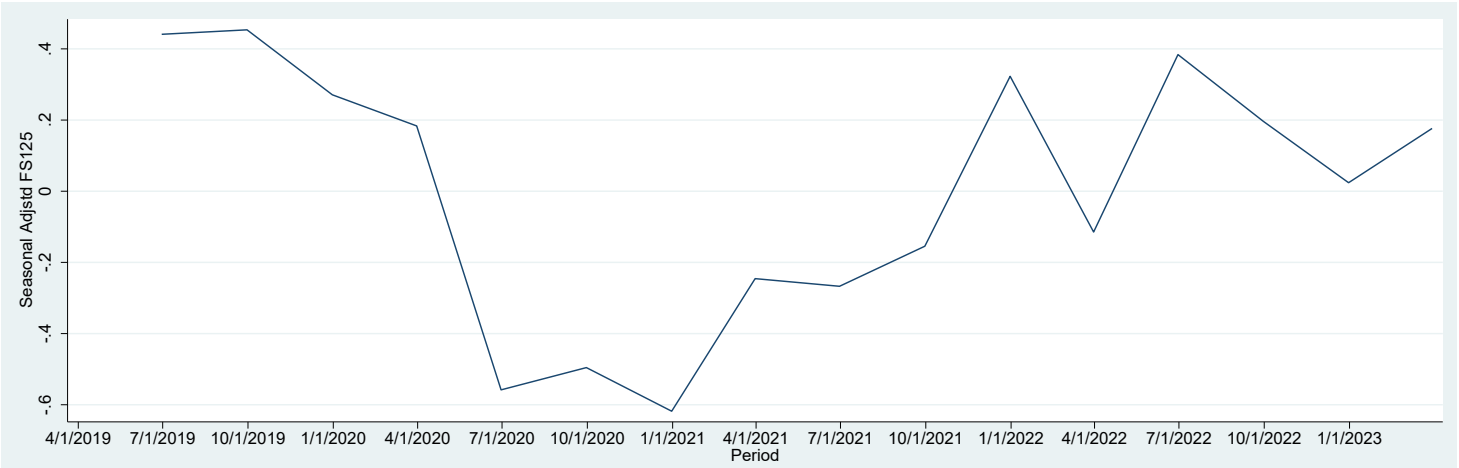
The four-day work week increases the gap between the averages of Q4, 2022/23 and Q1 by 0.28 day. In other words, controlling for seasonality, the four-day work week has a negative effect on this KPI performance, as it increases the staff sickness days; however, this difference is not statistically significant.

For this KPI, data points below the point 0 indicate good performance for that time period. In the graph below, it could be observed that performance for Q4, 2022/23 is above what is expected, having controlled for seasonality.

Actual	Coef.	p-value	[95% Conf	Interval]	Sig
DUM_4DW	.277	.622	-.936	1.489	
DUM_Q2	.119	.457	-.224	.461	
DUM_Q3	.147	.183	-.082	.375	
DUM_Q4	.095	.284	-.092	.282	
Year	-.142	.208	-.377	.093	
Constant	287.773	.206	-186.646	762.192	

Mean dependent var	1.584	SD dependent var	0.419
R-squared	0.284	Number of obs	16
F-test	0.794	Prob > F	0.578
Akaike crit. (AIC)	23.212	Bayesian crit. (BIC)	27.847

*** p<.01, ** p<.05, * p<.1


Seasonal Adjstd FS125
-.6
-.4
-.2
0
.2
.4
4/1/2019
7/1/2019
10/1/2019
1/1/2020
4/1/2020
7/1/2020
10/1/2020
1/1/2021
4/1/2021
7/1/2021
10/1/2021
1/1/2022
4/1/2022
7/1/2022
10/1/2022
1/1/2023
Period

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