

**Independent Quality Assurance
of the
Greater Wellington Regional Council
Fares Performance Review (2018/19)**

24 April 2020

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Executive Summary

Purpose

Greater Wellington Regional Council (GWRC) introduced a range of public transport fares policy and ticketing changes in July 2018 with the objectives of:

- ensuring a fares and ticketing system that attracts and retains customers
- rebalancing concession fares
- targeting to reward behaviours.

A Fares Policy Post Implementation Review (PIR) was undertaken by GWRC to assess the outcomes of the fares policy and ticketing changes in terms of actual versus forecast revenue and the impact of the changes on travel behaviour.

This Independent Quality Assurance (IQA) review provides independent scrutiny of the PIR.

Findings

The PIR involved detailed data collection, analysis and interpretation to determine whether the policy intent was achieved. This work resulted in a range of useful findings and insights and assessed whether the policy intent had been achieved.

The technical analysis was available in a very detailed document (Technical Information Report, Fares Performance Review (2018/19) in April 2020 with supporting Excel Spreadsheets and a Summary Findings Report (in PowerPoint format) to precis the overall results and the key achievements resulting from each individual policy change.

The methodology for the PIR was not fully documented which made the IQA review difficult, requiring multiple meetings and discussions to understand how the data collection, analysis and interpretation was undertaken and to satisfy ourselves of the logic, accuracy and robustness of the results.

The PIR findings were affected by other factors including public transport network and operator changes introduced concurrently, making it difficult to attribute increases in revenue and patronage solely to fares policy and ticketing changes. Also, cash on-board, paper tickets and manual passenger counts limit the ability to allocate patronage and revenue data to individual policy initiatives and estimates were therefore required to quantify these effects.

Conclusion

Our review of the fares data analysis and interpretation set out in the Post Implementation Review Summary Findings Report confirm the conclusion that the overall intent of the fares and ticketing changes has been achieved, particularly in terms of increased patronage and revenue effects.

Key recommendations

For future reviews:

- the PIR methodology, especially for data collection, analysis and interpretation, should be prepared, reviewed and agreed prior to undertaking the work. This should include identification of data limitations and how these will be addressed.
- Determining outcome measures when modelling or forecasting individual policy outcomes should specify the data required and whether the data can be practically collected.

The PIR Summary Findings Report (and the Technical Information Report) should be proof read prior to publication to improve the precision of wording and references and correct minor typing errors.

Introduction

In July 2018, Greater Wellington Regional Council introduced a range of fare policy changes and introduced an interim ticketing solution in anticipation of a national ticketing solution proposed for 2022/23.

A post implementation review of these changes was undertaken internally by GWRC with a draft report issued in April 2020.

This IQA review provides independent scrutiny of the post implementation review.

Objectives and scope

The objectives for this IQA were to ensure the fares PIR:

- Has followed an appropriate process to lead to findings and robust recommendations
- Is supported by reliable evidence and defensible assumptions
- Stands up to independent public scrutiny.

The scope of the IQA review includes an assessment of the PIR report to verify:

- The objectives are clearly defined and understood and focused on the expected outcomes
- The methods and analysis used to support the findings are robust and fit for propose
- The findings and recommendations are logical, unbiased, clearly presented, and directly linked to evidence
- To test certain findings where there may be particular public or stakeholder interest
- The review has identified and highlighted the main challenges, gaps, and achievements
- Anything else that may improve the quality or presentation of the report.

The following are out of the scope of this IQA review:

- Anything in scope of the LEK PIR Report
- Any analysis or modelling, unless they are reasonably required to verify accuracy or consistency of the review findings
- Any editing or proof-reading of supporting documents.

Summary of fare policy and ticketing changes

In July 2018, a range of fare policy and ticketing changes were introduced with the aim of attracting and retaining customers, rebalancing concessions and rewarding customer behaviours.

In summary, these fare policy and ticketing changes comprised:

- A simpler fare structure
- Discounted fares to reflect integrated journeys and to change behaviour away from cash tickets to electronic store value cards (Snapper), including free bus to bus transfers within a 30 minute period
- Concession fares that include:
 - 25% cash premium
 - 50% child discount
 - 25% off-peak discount
 - 25% peak tertiary concession
 - 50% discount for disabled persons
- Zoning changes to move towards the future introduction of integrated ticketing

- Introduction of an interim ticketing solution – Snapper on all buses
- 3% fare increase to partly fund discounted fares and concessions.

At the same time, other significant changes were introduced including:

- Network design (from an end-to-end design to a connected network)
- Bus operator contracts which were re-tendered to comply with PTOM
- A new bus fleet which includes double decker and electric buses.

Post implementation review analysis

Objectives

The Fares PIR objectives were to assess:

“The outcomes of the fare policy changes in terms of:

- *Actual versus forecast revenue*
- *The impact of the changes to travel behaviour.”*

The Fares PIR interpreted its purpose to:

1. Assess and explain how well the fare changes introduced in July 2018 have achieved or show evident progress towards achieving:
 - a. The fares policy objectives as set out in the current Greater Wellington Regional Public Transport Plan (PT Plan 2014 – and its Variation 3)
 - b. The major outcomes forecast from the changes to fares and fares policy in 2018
2. Explain any variation between actual results and forecast outcomes
3. Identify lessons learned to help GWRC move forward in managing fares and transition towards the planned integrated fares and ticketing.

Focus of the PIR

The PIR report covers the following key areas:

- *Changes to patronage and travel patterns* – including patronage growth and the likely effects of discounting and other fare policy changes, and shifts in behaviour such as from cash to smartcard use and from peak to off-peak travel
- *Fare revenue and funding impacts* – including the network-wide changes and their impact on fare revenue and funding
- *Ticketing and fare media transition* – including introduction of the interim bus ticketing solution and changes to paper tickets for rail
- *Improving affordability of fares* – including the effect of changes to fare levels and fare levels relative to the costs of living and driving.

IQA process

We reviewed and sample tested the logic and accuracy of the data analysis undertaken and noted that data volumes were large, the analysis was detailed, that best use was made of the available data, and that this analysis was sufficient to allow the confirmation of the primary report findings, namely:

- Increased patronage growth was on track with expectations because of the combined effect of fare policy, network and operator changes.
- Revenue declined by less than forecast, meaning this was a good result.

Also, we compared the revenue from the data analysis with the overall financial accounting results and, while these cannot be directly compared due to timing and recording differences, we noted

that actual revenue for 2018/19 exceeded budget and there were no obvious conflicting results. As an additional test of accuracy, we suggest that the overall revenue results in the PIR analysis are reconciled with the financial results.

We reviewed the reports comprising the Findings Summary Report and the Technical Information Report to ensure they accurately reflected the analysis and interpretation of data.

IQA Findings

The PIR attempted to collect, analyse and match actual patronage and revenue data against the forecast for each fare policy initiative. The data collection and analysis was extensive and in some cases required applying the forecast assumptions to the actual data to determine performance. We reviewed the analysis and sample tested calculation logic to ensure the reasonableness of the results. The PIR analysis could not determine actual performance for some policy initiatives given the limitations in the data and, in these cases, looked for corroborating evidence or provided related supporting information. We make the following observations about the forecast outcomes and data.

Forecast outcomes

The likely effects of the fares policy changes on patronage and revenue were forecast using economic modelling prepared by external transport economists prior to the introduction of the fares and ticketing changes. The PIR collected and analysed actual patronage and revenue data to assess the extent to which forecast outcomes were achieved.

Comparing overall patronage and revenue with forecasts is straight forward. However, aligning actual patronage and revenue data from bus and rail systems with the modelled forecast measures for each individual fare policy initiative was much more complex, requiring significant analysis and interpretation of detailed data. Because of the mix of cash and electronic ticketing on buses and the limitation of paper ticketing and manual passenger counts on rail, assumptions and estimates (consistent with the forecast model) had to be applied to assess the performance of some concessions, such as the impact of the 50% concession for the disabled and blind.

Data limitations

Confounding factors make it difficult to identify the results achieved that relate solely from fare policy and ticketing changes. These factors include:

- Simultaneous bus contracting, network, route and service changes (with associated teething problems involving reliability and cancellation issues).
- External factors such as increases in parking charges and fuel prices during 2018/19.
- Forecast uncertainty (i.e. the difficulty to assess the combined effects of policy initiatives and timing implications of forecasting based on 2017/18 but applied to 2018/19).
- Comparability limitations between actual 2017/18 results and 2018/19 results requiring some estimation and approximation.
- Use of comparative data to overcome forecast uncertainty was limited because of factors such as the previous fare policies, mix of multiple electronic ticketing systems and cash on buses, and the range of ticket products.

Also, the underlying trend in patronage growth that could have been expected to occur in all circumstances should be acknowledged and defined.

Examples of these data limitations include:

- *Bus data limitation example*
 - 2017/18 Snapper data is not available for all bus services

- *Rail data limitations example*
 - Count data is collected by train guard as a single point train occupancy count. This can be subject to error and variability. On/off or origin/destination data by station is not currently routinely collected.
 - Off peak travel is based on the number of tickets sold whereas actual boardings could be by cash strip tickets or other types of passes.
- *Changes in conditions example*
 - Revised definition of the timing of peak and off-peak periods (to align with SuperGold card conditions and to better manage ticketing control) between 2017/18 and 2018/19.

Overall results

Were objectives met for each fare policy initiative?

The PIR Summary Findings Report (pages 12 to 16 inclusive) concludes that the fare policy initiatives have been achieved and, in summary, describes the rationale. In our opinion the data analysis and interpretation supports the rationale and conclusions.

What was the impact of the changes on travel behaviour?

We reviewed the analysis of travel behaviour resulting from the fare policy changes. The analysis revealed a growing number of bus passengers using electronic cards (Snapper) and that the use of cash has halved compared with 2017/18, and, for rail, increased use of 10-trip and monthly passes and a continuing decline in cash use.

We reviewed the reasonableness of the public transport affordability estimates and agree with the conclusion that affordability has improved for some users such as tertiary students and blind and disabled passengers with an average fare decrease of almost 17% (from \$2.35 to \$1.96) and, for longer distance journeys, public transport continued to be cheaper than using a car.

What was the impact of changes for customers?

A key area of public interest is the impact of fare policy changes on customers, particularly around clarity and understanding of the changes, and to ensure effective communication across multiple channels.

We noted that the fare policy changes involved a comprehensive public communications campaign and interviewed key personal¹ within GWRC, operators and providers to assess customer impact and ensure this was fairly reflected in the PIR report. Our findings revealed that:

- There were very few customer complaints relating to fares and ticketing
- The communications campaign was effective
- Electronic cards for the superseded systems were swapped free of charge
- Where charging errors were made, they were largely a result of new bus operators and drivers becoming accustomed to the new electronic ticketing and new routes, and were very quickly rectified by the ticketing provider
- There was good support from operators and the ticketing providers to ensure a seamless change and all have a strong emphasis on customer assistance.

We note that for many customers, there have been reduced fares, for example, by using Snapper or where their journey involves bus-to-bus transfers, or where they now receive a concession, such as tertiary students.

¹ Interviews were conducted with David Boyd, Alan Bird, Luke Baron, Wayne Hastie and Jonathon Hales from GWRC, Amish Vallabh from Transdev Wellington, Craig Chin from Mana Coach Services and Mike Perry from Snapper Services

Does the report accurately reflect the facts?

The data limitations, especially the other changes introduced at the same time, the long run average increase in patronage resulting from population increases and demographic shifts, and other external influences mean the specific effects of policy changes cannot be precisely determined. The overall effect of the policy initiatives are likely to result in a patronage increase in the range of 3% – 4%. Alternatively, we suggest for each policy initiative an estimate of the upper and lower boundaries within which the actual figure is likely to sit, for example + or – 20%, with some rationale included.

Taking account of these data limitations, we are satisfied that the report reflects the facts and we have a high level of confidence in the reasonableness of the report's conclusions.

Is the report easy to read and understandable?

Overall the PIR Summary Findings Report is easy to read, focuses on the key high level information and uses tables and graphs to convey the results of the analysis.

The Technical Information Report which sets out the detailed data analysis is more difficult to read due to the amount of detailed information provided. Also, we note in some sections it contains information that goes beyond the scope of the PIR review and in some cases, this should be removed, especially where it is not fully supported by detailed explanations and, in doing so, would make some parts easier to understand. For example, reference to operational costs or farebox recovery should be excluded from the report unless there are other reasons (which should be stated) for providing this information; and specifically the current inclusion in Table 1 of the Technical Information Report of identical estimates of operational costs for two successive years is not informative.

The Technical Information Report should refer to the Summary Findings Report and ideally include the key information from the Summary Findings Report about whether policy initiatives have been achieved.

We noted other minor presentational issues mainly concerning more precise wording (such as being clear about defining comparisons as forecast or 2017/18 rather than “compared with the past”) and being precise about references (for example, rather than referring in general to public transport policies, state or footnote the reference – “*Variation to fare policies in the Regional Public Transport Plan 2014, Variation 3 2017*” – or whatever the policies referred to actually are). Proof reading is required to correct small typing errors.

Conclusion and recommendations

Our review of the fares data analysis and interpretation confirm the achievement of the intent of the fares changes set out in the Post Implementation Review report.

We have no recommendations that affect the accuracy and completeness of the PIR report.

With regard to methodology and outcome measures, we recommend that for future reviews:

- The PIR methodology, especially for data collection, analysis and interpretation, should be prepared, reviewed and agreed prior to undertaking the work. This should include identification of data limitations and how these will be addressed.
- Determining outcome measures when modelling or forecasting individual policy outcomes should specify the data required and whether the data can be practically collected.

We recommend that the PIR Summary Findings Report (and the Technical Information Report) should be proof read prior to publication to improve the precision of wording and references and to correct minor typing errors.

We recommend that the Technical Information Report is not published online but made available on request or used as a basis to provide additional information where required.