



Legislative Assembly for the
Australian Capital Territory

Standing Committee on Environment,
Planning, Transport and City Services

Submission Cover Sheet

Inquiry into the procurement and delivery of MyWay+

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Submission to the inquiry into the procurement and delivery of MyWay+

Andrew Donnellan

Introduction

I am a public transport user who has used the ACTION/Transport Canberra bus network for my entire 15 years in Canberra, and who was a member of the MyWay+ User Testing Program. I am also a software engineer with undergraduate and postgraduate qualifications in computer science, an active member of the Public Transport Association of Canberra, and am involved in a number of other community organisations which campaign for a more public transport-friendly city. However, this submission represents my own views and does not reflect the views of any organisation of which I am a member or employee.

This submission focuses on my observations of the delivery of the MyWay+ system after the user testing program was launched, rather than the earlier stages of the procurement process.

A system seemingly designed by people who don't use public transport

dogfooding To eat one's own dog food, to use products developed by oneself or by one's own company as end users.

Wiktionary, <https://en.wiktionary.org/wiki/dogfood>

In the software industry, it is widely understood that a key element of delivering quality products is to be your own customer. Dogfooding teaches you about the experience that your customers will ultimately have with your product. First-hand experience with the limitations and faults of a system provides a strong motivator to address issues that may otherwise not be prioritised.

The leadership at TCCS and NEC who signed off on the decision to launch should have been dogfooding, and it's hard for me to believe they were. Many of the problems which were experienced by the public on launch day were not problems that were impossible to see before launch day - they were obvious to the user testers who were out there using the system. If TCCS's executive leadership were themselves testing the system they would almost certainly be aware of the scale of the issues that were likely to be encountered at

launch. More broadly, many of the choices made during this project do not seem like choices that experienced, observant public transport users would make.

Recommendation: Transport Canberra and its contractors should ensure that as many of their own staff as possible, including executive leadership, are (a) encouraged to use public transport as their primary mode of transport and (b) engaged in user testing programs for major, public-facing projects such as MyWay+.

The user testing program felt like a waste of time

The MyWay+ user testing program felt pointless. I've been told that user testers tapping on and off helped collect data, of some nebulous kind, that helped, in some nebulous way, but that's all.

Testers who had been selected were sent an email inviting them to pick up their MyWay+ cards from the TCCS offices at 480 Northbourne Avenue. Upon receiving that email, I promptly hopped on the tram to go and pick mine up, only to learn on arrival that the email had been sent out too early and the cards hadn't arrived yet. In hindsight, that may have been a sign as to what was to come.

At the start, testers were given entirely useless advice on where the test vehicles were going to be. Testers were simply given a list of route numbers where you might, at some point over a multi-day period, happen to see a testing bus:

Dear applicant,

We would like to provide an update on your participation in the MyWay+ systems testing. Below, you will find important information regarding buses and routes to assist with the testing process.

Bus Number	Route	Date
812 & 813	3, 5, 6, 7, 57, 60, 66, 80 & 81	03-04 October

Additionally, the MyWay+ team will soon develop surveys to capture your feedback. You will receive further instructions on this process, along with details on testing additional features such as account creation and linking concessions.

Later, testers received a daily update with a list of MyWay+-enabled bus runs with routes and times, which was better, but still incomplete and inaccurate.

The promised feedback surveys did not, as far as I am aware, actually happen. This was a missed opportunity to collect valuable data - some testers such as myself still submitted feedback, but I suspect many testers never realised the surveys they were expecting would never come.

The Appendix contains the text of an email I sent to TCCS on 22 November 2024, prior to launch day. To their credit, they acknowledged receipt of my feedback promptly and

mentioned that several of the issues I raised were already known. However, some of these issues still haven't been addressed.

Dishonest communications destroy public trust

On launch day, the issues with the MyWay+ system were patently obvious. Over the ensuing days and weeks, Transport Canberra's statements to the media and to the public repeatedly attempted to downplay the severity of the issues and the confusion it was causing for both passengers and staff.

The Minister said in [an interview with the ABC on 29 November](#) that "it's only when you have 40,000 people using the new system that we have identified some of those issues". As I have already mentioned, many of the core issues had already been reported before launch day.

In a [Canberra Times article](#) on 4 December, TCCS was quoted as saying: "All mission critical issues were addressed prior to launch, with others triaged for priority to progressively be addressed". This could only be true for a rather strange definition of "mission critical".

On 14 January, Ben McHugh, Deputy Director-General Transport Canberra and Business Services, stated in [an interview with the ABC](#) that: "I think that they were up to scratch for what we intended to be on day 1".

The tone of the communications that TCCS were putting out via several channels in the first few weeks was entirely wrong and missed the mark. Where TCCS needed to be seen as sincerely apologetic, it instead claimed that everything was more or less fine and the issues were minor.

The public does not buy this, because the public has eyes and ears of their own.

Inconsistent fare collection stole unfairly from passengers

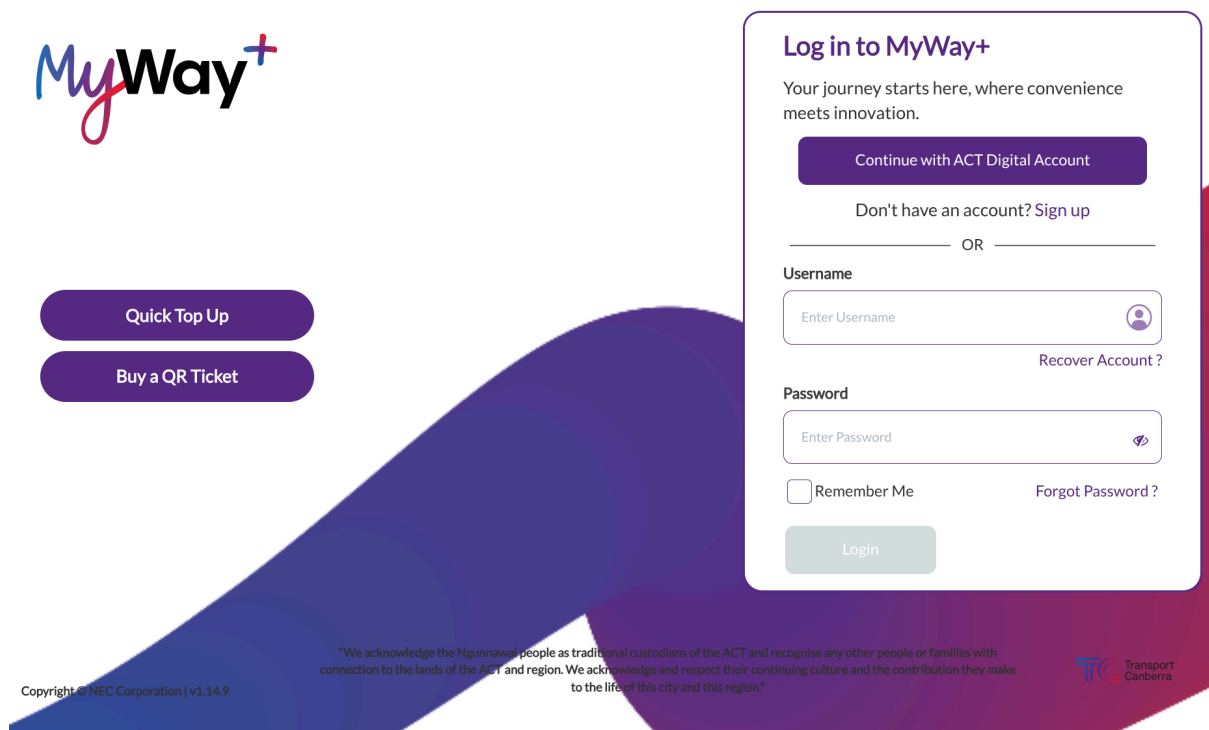
Upon observing the launch day problems, TCCS should have immediately announced an extension of the fare-free period, with passengers encouraged to tap on and off at no charge to help familiarise themselves with the new system while providing data to help diagnose and address issues. It astounds me that they didn't do this.

Instead, some passengers paid and others didn't. If you got on at a stop where the readers weren't correctly recognising their location, congratulations - you got a free ride. If you got on a stop later when the readers were working again, you got charged. If you lived along the R2, a route which seemed to suffer unusually from technical issues, you got mostly-free rides for weeks, while on some other routes you were charged consistently. If your trip involved a transfer but you couldn't tap off your first bus, good luck working out whether you were charged correctly.

The Government has confirmed that NEC had been ordered to conduct audits on passengers who were overcharged. More information about the result of these audits should be published to reassure the public that these audits were meaningful.

Recommendation: For the sake of transparency, the Government should publish a detailed summary of the fare audits that were conducted after the launch and the refunds that were issued.

Graphic (and user experience) design is my (or NEC's) passion



Really. Just look at this. The visibly-pixelated background image (loaded from a file inexplicably named “train-by-night-dubai.png”). The copyright notice and acknowledgement of country at the bottom that are barely readable. The incredibly weird layout where the login form is in the top-right corner while the ticket purchase buttons are on the far left. (And this is the *much* improved version, in response to a tonne of feedback they got!)

The rest of the web portal is also a usability mess. Menu items are arranged illogically. Various graphic elements are in strange locations. My favourite discovery during the initial launch was the worst attempt at a captcha that I have ever seen: some JavaScript that generates a random number, then injects it as text on the page with a random font size, making it look kind of like a real captcha but serving absolutely no purpose. This has

thankfully been fixed, but is indicative of the quality of the web portal engineering work more broadly.

My email in the Appendix gives further details of the issues related to the web portal that I raised with the MyWay+ team prior to launch.

The mobile app is awful

The choice to emphasise QR codes as a method of tapping on was bizarre, but even more so with the poor implementation. The QR codes were originally too large to be easily scanned. The app takes considerable time to open (several seconds on my phone), and retrieving the QR code depends on having a solid internet connection. The validators have no guidance as to where to place your phone for scanning - not even a sticker with some arrows on it. Every time I see someone holding up the bus as they are trying to scan their QR code I want to scream at them to use a credit card. What people want, for the most part, is contactless NFC payment integrated with platform wallets. It's unclear why this approach wasn't taken.

The app's other functions - the journey planner and live tracking - are also painful to use. My email in the Appendix gives further details of the issues related to the mobile app, including the journey planner, that I raised with the MyWay+ team prior to launch.

Live tracking is a basic expectation of a 2024 transport system

Many passengers were eagerly awaiting the MyWay+ launch so that they would once again have working live tracking, a feature that makes the TC network far more usable. Unfortunately, they were left disappointed for quite some time, and it feels like TCCS didn't treat this with the importance it deserves. Now that the feature has launched, using the map in the MyWay+ app to find bus stops and check upcoming departures is still slow and buggy (though it has improved a bit with recent updates).

I have been informed that until very recently, the live tracking feature couldn't cope with the idea that a bus might run early - an occurrence which is extremely common on the TC network. I believe I have personally on one occasion missed the final bus home in the evening because MyWay+ was claiming that my bus was still several minutes away when it had already gone. Once again, the requirements of this system were seemingly designed by people who don't understand the realities of Canberra buses.

There is still, to the best of my knowledge, no definitive timeframe for real-time data to be made available to third party apps like AnyTrip, NextThere and Google Maps. These apps are much nicer to use than the MyWay+ app, and are also used by interstate visitors.

Recommendation: The Government should update the public on the plan to make real-time data available to third-party applications.

Hackers don't care about the security policies in your contract

Part 8 of the publicly-available version of the NGT Contract specifies 12 pages of detailed security requirements. These requirements cover all aspects of the MyWay+ system, and on their face, seem like what you would expect for an important government project.

Compliance with the ACT Cyber Security Policy. Access control with multi-factor authentication and strong passwords. Firewalls. Physical access key cards. Employee background checks. Encryption. The ASD Essential Eight. The Payment Card Industry Data Security Standard. Audits. Assessments. Tests. Reports.

None of these clauses prevented the [Infinite Money Glitch](#) and multiple [unauthenticated API routes that could be used to access personal information for every single registered account holder](#), which were discovered by some ANU undergraduates within a matter of days.

These vulnerabilities are obvious. They are not sophisticated or difficult to exploit. They were discoverable nearly by accident. They are so obvious that they betray fundamental misunderstandings on the part of NEC's developers as to the nature of Internet-facing client-server applications and the very basics of secure web application design.

These vulnerabilities are also so obvious that they raise concerns about whether TCCS actually conducted appropriate vulnerability assessment or penetration testing, as envisaged by the contract. It's hard for me to imagine that any appropriately-scoped test by appropriately-experienced security consultants would have missed these.

Recommendation: The Government should independently review:

- **to what degree NEC has complied with the terms of Part 8 of the NGT Contract and the security-related requirements of the Statement of Work**
- **whether TCCS has exercised sufficient oversight of NEC in relation to security matters**
- **whether the security-related terms of the NGT Contract meet current best practice.**

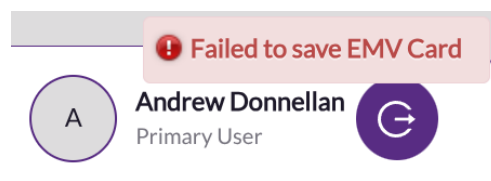
The researchers who reported these vulnerabilities did so via the Australian Cyber Security Centre (a division of the Australian Signals Directorate). They could have reported the issue directly to the ACT Government via the ACT Cyber Security Centre, which would have saved a step in the process and potentially saved some time for all involved. However, it's quite hard to find details about the ACT Cyber Security Centre and the ACT Cyber Security Policy, whereas it is much easier to find contact details for the ACSC and the vulnerability disclosure policies of Commonwealth agencies.

Recommendation: The ACT Cyber Security Centre should have a stronger web presence that makes it easier for security researchers to find the ACT Cyber Security Policy and contact details for vulnerability disclosure.

Three months in, the system still doesn't fully work

...well, to be fair, it works a heck of a lot better than it did at launch, and credit is due to the staff at TCCS and NEC who were put in the unfortunate position of having to fix the most urgent issues. Tapping on and tapping off works pretty consistently now, as do various other core features.

But not everything. As I'm writing this, on 4 March 2025, I still can't successfully link my new credit card to my MyWay+ account in the web portal. Luckily, I'm an adult who isn't eligible for concessions, so the only downside to not linking my card is that I can't view my transaction history.



On-board audio messaging, a hugely useful aid for vision-impaired passengers, and indeed many non-impaired passengers, disappeared with the new system, with no notice or reasons given. When I raised this in my feedback email (see Appendix) I was informed on 22 November 2024 that voice announcements were a known issue that would be rectified by go-live. The public has since been told (in the [January 2025 update](#)) that this feature should launch in February. Now that it's March, I look forward to this launching any day now.

Conclusion

The MyWay+ debacle has severely damaged my confidence in TCCS's ability to deliver public transport projects. It goes down as yet another example of a government technology project which has exposed fundamental gaps in the capabilities of the public service and its contractors.

I firmly believe that it did not have to be this way. The ACT Government needs to hold itself to higher standards and develop more capacity for managing complex technology projects, like the NSW Government has been doing with great success. But it also needs more people who are able to see the obvious and confidently intervene when things are clearly not going to plan.

Appendix

This email was sent to the MyWay+ program office on 22 November 2024, prior to the public launch of MyWay+.

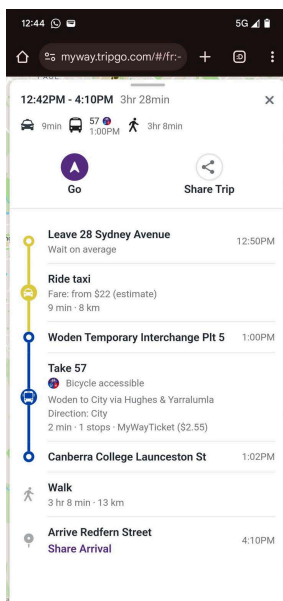
Dear MyWay+ team

Please find below my feedback from my testing. I regret that this feedback is largely negative, but I think it important to communicate honestly the issues I've noticed.

- **Validators:**
 - The validators seem to have trouble activating at the right times, especially in the interchanges, and seem to take a while to activate after the bus arrives at a stop.
 - No auditory confirmation of a successful or unsuccessful tap - this is a significant usability and accessibility regression, especially for passengers with vision impairments, as well as presumably making it harder for drivers to make sure that everyone taps on.
 - Once the validators do activate, though, a MyWay+ card tap seems to be pretty quick. I haven't tried with a credit card yet.
 - I have noticed that some of my trips have exits incorrectly recorded as entries on new trips in the account portal. I wonder if this is a validator issue, or whether the driver is operating their console incorrectly and starting a new run or something.
 - See below regarding QR codes.
- **Passenger information displays:**
 - As with the lack of auditory features on the validators, I hugely miss the voice announcements! Sure hope this isn't permanent - it's a very important usability and accessibility feature.
 - Why do the PIDs display the place the bus started? I don't need to know that, and it will confuse customers who have seen "City ANU" on the desto on the front of the bus, right next to the route number, then walk on board and see "Woden Temporary Interchange" right next to the route number.
 - Rapid routes should say "R2", "R3", etc rather than "#2", "#3" on the PIDs.
 - A larger font size should be used that will be more visible down the back of the bus.
- **Account portal:**
 - In general, the account portal appears to be of... questionable engineering quality. The overall frontend appearance and UX is pretty janky. I'll be honest, the general feel of the frontend leaves me questioning whether the backend ought to be trusted with sensitive personal information.
 - The swish motif used as the background of the login page is a PNG that isn't of sufficient resolution to display cleanly on larger devices such as PCs.
 - Page elements are poorly and inconsistently laid out, all over the place.

- Why should the login form be in the top right when displayed on a PC?
 - Why is the text on the "Quick Top Up" and "Buy a QR Ticket" buttons not centred correctly?
 - Once logged in, clicking on the virtual representation of a card brings up a pop-up that depicts the same card except with the text elements scattered all over.
 - Why do, for example, the "Recover Account" and "Forgot Password" options, and the "Quick Top Up" vs "Buy a QR Ticket" options lead to pages that look completely different, with no consistency as to placement of various page elements?
- The logout button has no text saying "Logout", and no tooltip or alt text as far as I can tell - this is an accessibility issue.
- On the main account management page, there is a "Fare Type" card with a button that simply says "Register" - register what, exactly? The button label should be clarified to make it obvious that it's referring to concessions.
- Profile details - for users signed in using their ACT Digital Account, there should be a link that transfers them to the Digital Account management system rather than simply saying that details cannot be edited.
- Link MyWay+ Card - why is there a "Card Type" field which only has one option, unless there are plans to add more options?
- Why are there seemingly two places where you can link a credit card, Card Management -> Link Card, and Account Details -> Payment Settings? ...ah, the Payment Settings page seems like it might be cards that are used for in-portal purchases as opposed to linking the card for contactless payments, using Windcave rather than Littlepay? That's very, very confusing and not explained anywhere!
 - Also the Card Management -> Link Card page doesn't let you delink cards - that seems to only be doable by going to Home and clicking on the virtual card to see a Delink button? Again very confusing.
- Quick Top Up option - 1) is a captcha really necessary? Why is there a captcha here but seemingly nowhere else on the site? 2) the "captcha" is the worst attempt at a captcha that I have ever seen on the internet. It's not a captcha at all, it's just ordinary, selectable text with a bit of JavaScript that randomises the font size and margin properties of some spans.
- Transferring the balance from my old MyWay card was very quick and efficient.
- **QR codes:**
 - Overly difficult to scan - very fiddly, no visual feedback on the validator screen as to how the QR code needs to be positioned
 - No indicators on the validators as to where the camera is
 - No indicators as to where the optimum position to hold the phone or paper ticket is
 - No instructions in the mobile app, beyond "scan when boarding" - nothing to indicate where you need to hold your phone

- No instructions, as far as I can tell, on the website
- Android app doesn't increase screen brightness when displaying QR codes to make it easier to scan
- The mobile apps should just be using NFC anyway - why are we bothering with QR codes for anything other than paper tickets?
- **Journey Planner:**
 - The below picture depicts the very first attempt I made at using the Journey Planner. This was the top option that appeared, changing no settings from the default. I have absolutely no idea how it came up with this, let alone how it ranked it #1, other than perhaps that it saw that by getting me to take a taxi it could make me walk even further than if I'd just walked straight from the origin, therefore making it a "healthier" trip?
 - Get rid of "healthiest" ranking as the default. Honestly, get rid of it as an option altogether, since it will happily tell you to do, for example, an 8 hour walk from Tuggeranong to Gungahlin over any practical option, which isn't very useful.
 - Disable taxis, cars and motorbikes by default. No-one is going to go to the TC website or pull up the MyWay+ app to get car navigation directions.
 - Probably also need to disable cycling by default too - most PT users are not using bikes, and bike-based options always win out in the rankings against PT+walking options
 - Rapid buses need to be referred to with the "R" prefix on their route numbers.
 - Once I've disabled all the modes of transport that don't make sense, and set it to sort by Preferred rather than Healthiest or Cheapest, the routes it generates seem alright.



Regards
Andrew