

Australian Business Awards Innovation

*Transport for
New South Wales*

March 2014

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1 *Organisational profile*

PwC Australia

PwC is one of Australia's leading professional services firms, bringing the power of our global network of firms to help Australian businesses, not-for-profit organisations and governments assess their performance and improve the way they work. Having grown from a one-man Melbourne accountancy practice in 1874 to the worldwide merger of Price Waterhouse and Coopers & Lybrand in 1998, PwC Australia now employs more than 6,000 people.

PwC Australia helps organisations and individuals create the value they're looking for. We are a member firm of the PwC network, made up of 161,718 people who are committed to delivering quality in assurance, advisory, tax & legal and private clients' services.

Our people are energetic and inspirational and come from a diverse range of academic backgrounds, including arts, business, accounting, tax, economics, engineering, finance, health and law. From improving the structure of the Australian health system, to performing due diligence on some of Australia's largest deals, and working side-by-side with entrepreneurs and high-net-worth individuals, our teams bring a unique combination of knowledge and passion to address the challenges and opportunities that face our community.

PwC Services

PwC provides industry-focused services for clients across a range of disciplines including the following areas of expertise:

Assurance

Assurance is the process of establishing the integrity and validity of disclosures - including statements and reports. PwC conduct high quality audit in accordance with the Australian Auditing Standards applicable to performance audits, and accordingly include the tests and procedures necessary to the circumstances.

Consulting

PwC's Consulting services help organisations work smarter and grow faster. We work with clients to help them innovate and grow, reduce costs and leverage talent. Consultants have a global outlook and deep functional skills. Not only do we design strategies for clients, we're committed to helping them execute to deliver value and ensure long-term success.

Key areas of expertise include Productivity, Digital Change, Performance Alignment, M&A Integration and Enterprise Performance Management.

Deals

PwC offers services across a wide range of advisory fields including Corporate Advisory and Restructuring, Corporate Value Advisory, Debt & Capital Advisory, Infrastructure Advisory, Mergers & Acquisitions, Real Estate Advisory and Transaction Services.

Indigenous Consulting

PwC's Indigenous Consulting specialises in providing advice, developing strategies and supporting their execution to help realise the commercial and community potential of

Indigenous policies, programs, projects, organisations and businesses. We offer a wide range of Indigenous consulting services.

Legal Services

PwC's Legal Services offer a wide range of legal solutions for clients including Corporate and Commercial, Corporate Tax, Employment and Workplace Relations, Immigration, Real Estate, Stamp Duty, Tax Controversy and Wills & Estates.

People Business

The People business is an integrated Joint Venture which offers end to end people consulting and tax services. Organisations can seek advice and implementation across the entire Human Resources spectrum - From pay and incentive structures, through to immigration tax, productivity, diversity and employment law.

Private Clients

Private Clients is an integrated service offering which provides solutions to private businesses, family business, entrepreneurs and high net wealth individuals. PwC Private Clients helps private business owners and individuals grow their personal and business ambitions through business advisory services.

Taxation

PwC's Taxation team solves tax problems from initial strategy through to implementation of systems and processes. Clients include Australian companies and organisations, trusts, partnerships and a host of internationally recognised organisations.

PwC Australia Vision and Values

PwC people from every part of our business worked together to define what inspires us, what's important to us, and what reflects our people and culture. We're inspired by potential – for individuals, teams, clients, communities, everyone – captured in our vision "to realise and discover the potential of..."

- *Performance matters* - PwC values outcomes, strive to achieve and to help others to do the same by trusting each other and teaming together; not micro-managing. We give responsibility, hold ourselves accountable and expect quality in everything we do.
- *Have a go* – we stand up to be counted with considered points of view and actions on topics that matter. We aren't scared to try new things that deliver value for society, our clients and our firm.
- *Be open and authentic* - PwC keep it real. We bring our true selves to work every day. We always look to be candid with each other and our clients.
- *Hunger for growth* - we value all opportunities to learn and grow. We are committed to using all our experiences, and what we have learnt from them to serve and benefit our clients, our firm and society.
- *Embrace differences* - PwC embrace and value all our differences because we understand that is how to have the biggest impact. We use our different points of view, backgrounds and experiences to create better outcomes.

- *Care* - PwC care about building great relationships - within PwC, with our clients and in society. We always have others' backs - and care about our clients and giving back to society.

Responsible Business

Responsible Business - we seek to positively impact society through ethical conduct, the creation of shared value and having a public voice.

We do the right thing through commitments such as our Code of Conduct, Ethics Committee and our Sustainable Supply Chain Policy.

Corporate Responsibility

At PwC we believe in being 'part of it': part of the global conversation and movement towards responsible business practices that create positive change in the world.

However we want to go further and through our own corporate responsibility agenda we can be part of the solution to global challenges in two ways:

- Doing the right thing, which means playing our part on responsible business issues that are central to our business - from the quality of our services and the diversity of our people, to our engagement with communities and our environmental footprint.
- Being a catalyst for change, which is about using our skills, voice, and relationships to work with others and influence activities that make a difference, create change and have a lasting impact on the world around us.

We believe in the collective responsibility of business, government and the community to create a sustainable future together. We act responsibly and strive for change by focusing our skills and resources where we believe we are most relevant to society.

PwC build corporate responsibility into everything we do - when making decisions at PwC, we consider our wider impacts along four focus areas:

- Responsible Business, Diversity & Inclusion, Community Engagement and Environmental Stewardship. Responsible Business - we seek to positively impact society through ethical conduct, the creation of shared value and having a public voice
- Diversity & Inclusion - we embrace and value all our differences
- Community Engagement - we realise the potential of our people to strengthen the community
- Environmental Stewardship - we strive to be environmentally responsible, and to grow environmental intelligence more broadly

2 Method

In an initiative to put the ‘customer at heart of everything we do’, PwC partnered with the Transport for New South Wales (TfNSW) to deliver real-time travel information on customers’ smartphones to greatly improve customer experience on across NSW buses, trains and ferries. Research showed customers were eager for better service journey information so PwC’s Customer Experience team strategised and implemented the “Voice of the customer” methodology to allow access to timely and accurate information.

After asking 2960 NSW transport customers what they thought of their experience with buses across NSW, the PwC customer team found that 14% of customers would use buses more if they could reduce waiting time at the bus stop by accessing real-time information of their buses. Although TfNSW had this data available, they were unsure how to operationalise it and put it into a format that was customer-friendly and easily accessible.

Traditional approaches to solve this problem were estimated to cost \$2.5m and would have taken 18 months to implement and deliver. PwC’s Customer Experience team asked the question, “What if there was a better way?” What if we were able to leverage third-party innovation and embrace a powerful movement of Open Data for all to establish and build from, ultimately assisting TfNSW from strategy to execution.

The key objectives of the project were to reduce the total cost to below \$180,000, deliver a cost saving of over \$2m, and ultimately provide a faster time-to-market reducing development time from 18 months to less than six months.

The first stage was to define a strategy for their organisational readiness to release real-time information to third-parties and develop a roadmap to address the gaps. We looked to understand their technical capability, identify the customer requirements, the support-framework associated with providing this data to third-parties and to customers, a communications plan and a governance structure to ensure this project meets the organisational goals as well as wider state government goals. The strategy map is indicated in Figure 1.



Figure 1 – TfNSW strategy

PwC presented the App Hot House model - an open innovation process that collaborates with the wider technology community to co-create customer-centric digital products and services to solve TfNSW's business issue. The model provided an innovative, gamified and cost-effective approach that would operationalise TfNSW's real-time data and take mobile apps into the marketplace in an accelerated timeframe. At the time, there were 11 software providers in the market with technology in the Apple App Store and Google Play Store (as shown in Figure 2 to right). PwC sought to work with these third-parties and more to build real-time information into their product offerings.



The App Hot House model focused on allowing TfNSW external software developers that were recognised in delivering products that were desirable for customers, viable as a business venture and feasible technologically at a greatly reduced project cost.

Figure 2 – Technology apps

PwC invited and created a work zone with over 50 individuals for one weekend to produce a functional prototype with the real-time data. PwC created an open competition to develop innovative products for the NSW public transport customer. PwC initially piloted the project with real-time bus information, and were subsequently invited to deliver real-time train information.

Secondly, we worked with TfNSW to execute the roadmap including an extensive preparation phase for six weeks which included a marketing phase and finally the App Hot House event. Our action plan saw us contact over 1000 NSW citizens that had participated in previous NSW Government Open Data events, of which over 80 individuals attended the competition.

A critical step of the development phase was to promote the real-time applications to help the entrepreneurs acquire customers to build sustainable businesses. In turn this also served to help TfNSW gain wide adoption of real-time apps and drive wider use of public transport in NSW.

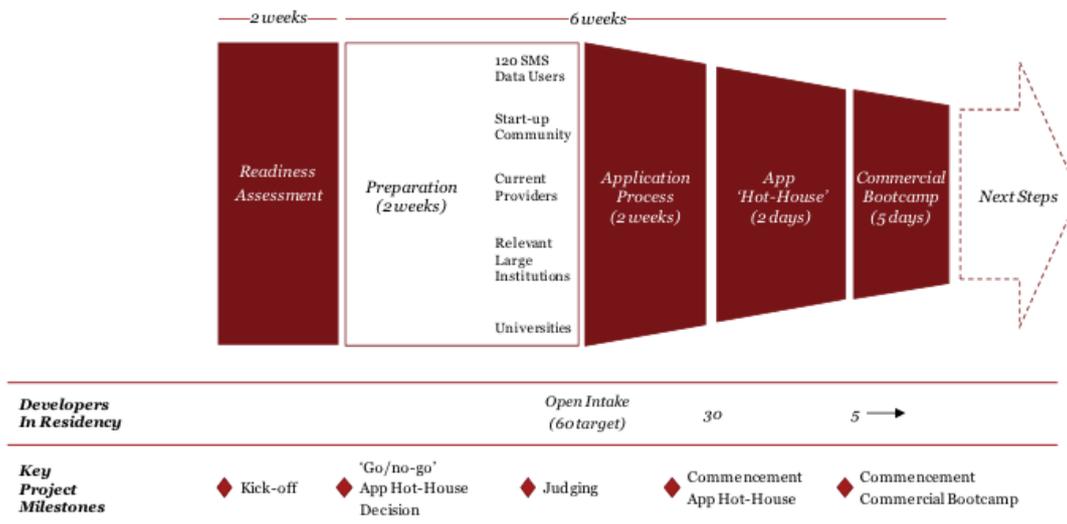


Figure 3 – TfNSW road map

The measure of success occurred when there was 1 million downloads of Real Time Bus Apps after only three months of the app going live. In March 2014, real-time data was accessed over 40 million times a month. To date, approximately 22m real-time data requests are made a month.

Method

The initial App Hot House project objective was to reach 50 people whilst the session attracted 80 software developers.

Key dates

- **September 2012:** First project kickoff
- **October 2012:** 130 applications to develop solutions were received
- **November 2012:** 30 teams were approached, from which 10 teams were shortlisted, and 5 teams were selected to participate
- **December 2012:** 3 real-time bus applications were made live in the market, with immediate customer take-up.
- **January 2013:** Second project kick-off
- **February 2013:** 20 applications to develop solutions were received, 11 teams shortlisted, 6 teams were selected to participate.
- **April 2013:** 6 real-time train & bus applications were made live in the market – with the bus applications that went live in December 2012 accumulating over 1m downloads
- **May 2013:** 22m real-time data requests per month
- **March 2014:** 40m real-time data requests per month

[TfNSW Media Release – Real Time Bus Apps Available for Customers \(December 2012\)](#)

[TfNSW Media Release – Real time bus apps reach one million downloads \(April 2013\)](#)

[TfNSW Media Release - Number of customers using real time transport apps surges \(March 2014\)](#)

3 Execution

TfNSW engaged PwC to open up its real-time data and connect with third-party developers in order to develop tangible solutions that would benefit Sydney commuters. We conducted a high-level assessment of the technical readiness of TfNSW and collaborated with them to ensure their systems, process and people were ready for this new approach.

We also managed the competition phase of the App Hot House from end-to-end, actively engaging the local start-up community and attracting over 80 entrepreneurs to the event. Prior to the App Hot House, we fielded, managed and, together with a sourced panel of expert judges and mentors, evaluated submissions on behalf of TfNSW.

PwC provided staff for the project comprised of:

- transport customer experience experts
- start-up mentors
- digital industry experts including Tim Howard (ex-Seven Digital & Vivid Wireless), Nick Spooner (ex-CEO Salmat), Andy White (startup entrepreneur), Tony Mittelmark (startup incubator mentors).

The value of these expert judges was to bring an industry-lens to the evaluation of entrepreneurs to provide a balance of majority industry as compared with a government panel. In addition, we provided expert mentors who had a track record of success working with digital products to help entrepreneurs overcome the technical, business and user issues that would be involved in building a mobile application.

The developer teams competed over a two-day period to create consumer-focused mobile prototypes, which they pitched to our panel of judges. Crucial to the challenge was each team's ability to illustrate how their business model would enhance the customer's travel experience and demonstrate their ability to execute the proposed idea.

The winning teams were competing to receive:

- first access to the real time information
- the opportunity to collaborate with TfNSW stakeholders
- promotional support from TfNSW for their apps.

Receiving beta access to real time information and the opportunity to collaborate with TfNSW stakeholders were enablers to building their digital products however it was in the co-designing of promotional materials and support that TfNSW provided that cemented this project's success. We had advised our client that the single hardest component for an entrepreneur was the cost of customer acquisition and this would also deliver the mutually beneficial result of gaining stronger uptake of real-time information. To achieve this, TfNSW provided digital promotions in-buses, at train-stations and through their website. As of March 2014, real-time data was accessed 40 million times a month.

4 Outcomes

The App Hot House resulted in the development of six mobile applications communicating real-time bus and train data to customers. There is a significant improvement to the end-commuter experience, with the winning apps downloaded with real-time data accessed four million times over the first three months (January to April 2013). This has since increased rapidly to 40 million times per month in March 2014.

The approach helped TfNSW solve an acute customer pain point at significantly lower cost - and in quicker timelines - than originally anticipated. There are now multiple mobile applications in the market available for customers to download, all of which have unique features that target different customer needs (from frequent commuters to tourists). The Sydney Morning Herald voted TripView (a winning app) as one of the top 10 apps you couldn't live without.

The App Hot House process created an opportunity for entrepreneurial startups to build viable businesses in collaboration with government, thereby contributing to the state's ICT plans and to the broader Australian digital economy.

This process saved over \$2m in immediate development costs for TfNSW and delivered 6 market-relevant apps for under \$180,000. It also demonstrated the department's ability to quickly respond to customer needs, by connecting with the local community. The App Hot House has been heralded as delivering innovative results from all stakeholders, in the press and throughout the startup community.

- [SMH – Timetable troubles ease with bus tracker](#)
- [SMH, The Age and WA Today - Sydney gets real time train apps](#)
- [The Australian – App offers real time bus tracking](#)
- [Ten News Sydney – Live train tracking on Sydney public transport app](#)

On the value that we delivered, Tony Braxton-Smith, Deputy Director General of TfNSW said “PwC have played a very effective role in helping us structure a system and process that gets us the business outcomes that we want.”

- [Digital Pulse – ‘Appy travellers’ – Open innovation brings real time train apps to life](#)

The delivery of real-time mobile apps has been the catalyst of further innovation within TfNSW. The organisation is now developing an iPad application to capture and integrate Train Control decisions with consumer smart-phones. Not only will this further improve the accuracy and timeliness of customer information, but also heralds the introduction of new ways of working – supported by mobile technology - in a critical operational environment.

5 *Performance*

Our approach allowed us to have a fresh conversation with TfNSW, which has strengthened our relationship and resulted in further innovation with TfNSW. We have proven that this model works: with uplift from 22 million per month to 40 million data-requests per month. And now we are learning from our experience with TfNSW and we are continuing to improve and develop the approach – and are currently applying this method to one of Australia’s largest financial institutions, a large Queensland state agency and a large NSW university.

The process includes direct & ongoing feedback from clients, participants & start-up industry. For example we have now included processes and support tools to educate participants in the management of intellectual property in an open innovation format.

The App Hot House model now forms the basis of PwC’s Open Innovation initiative that is being adopted by leading financial institutions, health insurers, and government departments country-wide to accelerate innovative outcomes.

Open Innovation brings together industry experts and the startup and developer communities to create solutions to problems worth solving. Large corporations and government organisations want to innovate but don’t know where to start. Open Innovation is an initiative to bring together the best of Australian innovators to work with large corporations and government organisations.

Appendix A Supporting information

Videos

- [Digital Pulse – ‘Appy travellers’ – Open innovation brings real time train apps to life](#)
- [Digital Pulse – Leveraging open innovation to respond to a Government challenge](#)
- [PwC and TfNSW: Real Time Trains Apps media release](#)

Media

- [TfNSW Media Release – Real Time Bus Apps Available for Customers](#)
- [TfNSW Media Release – Real time bus apps reach one million downloads](#)
- [SMH, The Age and WA Today - Sydney gets real time tran apps](#)
- [The Australian – App offers real time bus tracking](#)
- [Ten News Sydney – Live train tracking on Sydney public transport app](#)
- [Computer World – Sydney Bus Travellers Receive Real time Information](#)

Images:

Developers collaborating with Transport for NSW in creating real time information public transport apps.

Figure 1 insert



Figure 2 Insert



Figure 3 Insert



Figure 4 *Insert*



Figure 5 *Insert*



Figure 6 *Insert*



Figure 7 Insert



TransitTimes
By Quentin Zervou

TransitTimes provides you a trip planner, offline timetables, service alerts, and wheelchair accessibility information. You can download timetables for over 70 cities in Australia, New Zealand, the United States and Canada.

Availability: App Store and Google Play
Price: \$2.99

Features and benefits:

- Direction search
- Offline schedules for 70+ cities and ongoing updates
- Service alerts
- Wheelchair accessibility information
- Sync your favourites to iCloud (iOS only)



Hidden City
By Small Potions

Hidden City will take you on a mysterious and fun adventure that explores the secrets and wonders within Sydney. It will plan a trip for you using public transport, directing you step-by-step to a destination.

Availability: App Store and Google Play
Price: Free version available
\$0.99 for premium version

Features and benefits:

- Step by step guide to interesting places via public transport
- User friendly interface
- Save your home location for return directions via public transport
- Integrated feedback system for easy access to developers



Arrivo Sydney
By Riverstone Labs

Arrivo Sydney lets you view where your train or bus is. You can also see the location of nearby bus ticket sellers and tag trips to receive automatic alerts when you are near your bus stop.

Availability: Google Play
Price: Free version available
\$2.99 for premium version

Features and benefits:

- Save your favourite routes and stops for convenient access
- Notification when you are near one of your stops or stations and indicates the next departure
- Find the next departure for your stop by route, by stop name or from your saved Favourites
- View your trip details so you know where and when to get off
- View the stops for your trip on the map



TripView
By Gryflint

TripView lets you view the next time for your favourite bus, train and ferry trips - with a single tap. It also includes a full offline timetable viewer.

Availability: App Store, Google Play and Windows
Price: Free version available
\$2.99 for premium version

Features and benefits:

- Predicted departure times for your next train
- View timetable data for Sydney trains, buses, and ferries
- Create saved trips and view the next time for any trip with a single tap
- Trackwork and cancellation information for trains
- Interactive maps (create your trip by clicking on your station/stop)
Alarms (arrival/departure, time/distance)



TripGo
By SkatGo

TripGo shows all your door-to-door transport options across greater Sydney and lets you instantly see how to get to your favourite places using the fastest, cheapest and most environmentally friendly way.

Availability: App Store and Google Play
Price: Free

Features and benefits:

- See the next trip to any of your favourite locations
- Discover clever combinations such as cycling to the station to catch a train into the city
- Set trips by time, cost, convenience and carbon emissions
- View the total cost of any trip including tickets, taxi fare, tolls and car parking fares
- Alerts: Get notified of service alerts that affect your planned trips



Triptastic
By Rupert Hanson

Triptastic lets you see at a glance where you can go from your current location and the next available services to take you there. You can also explore interactive detailed maps for routes, stops and service frequencies.

Availability: App Store
Price: \$2.99

Features and benefits:

- Predicted departure times for your next train
- Explore detailed maps of transit routes, stops and service frequencies
- Search to quickly locate any suburb, station, route or stop
- Service alert information for trains
- Timetable information for buses, trains and ferries in the greater Sydney, Newcastle and Illawarra area

