2025

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Innovation Challenge

Context Aware Travel Innovation Challenge Brief

NSW GOVERNMENT

Transport Open Data

Acknowledgment of Country

Transport for NSW acknowledges the traditional custodians of the land on which we work and live.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the lands, waters and seas and their rich contribution to society.

Find out more:

www.transport.nsw.gov.au

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The Challenge

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Context Aware
Travel Brief

About our challenge

At Transport for NSW (TfNSW) we use innovation challenges as an efficient way to develop and deliver products and solutions that improve the customer experience across NSW. The Transport Open Data Hub runs innovation challenges periodically to seek out those best ideas from industry players to bring better outcomes for customers.

Innovation challenges are run when TfNSW has a good understanding of the potential solution or product which will solve a problem, and where we want to work with the startup community to develop a solution.

The Transport Open Data Hub runs innovation challenges with a variety of focuses based on different business needs within Transport for NSW. It enables a path for developers to have their products officially endorsed by TfNSW. Innovators, entrepreneurs, and the developer community are encouraged to participate in the challenges to address the problem and challenge statement with their proposed ideas and solutions.

Context Aware Travel

TfNSW is inviting innovators to trial context-aware solutions that transform how passengers access and use transport information, especially during unexpected disruptions. This relates to our goal of making public transport more safe, reliable, and accessible for everyone.

The “Context Aware Travel Innovation Challenge” seeks Proof-of-Concepts (PoC) and Proof-of-Value prototypes that use real-time data, smart analytics, and user-focused design to provide passengers with personalised, adaptive, and relevant information throughout their journey.

Seed funding from $5,000 to $50,000 is available to test your idea

Understanding the Challenge

We invite innovators to take on this challenge by addressing the outlined problem and challenge statements while delivering solutions that resonate with customer needs.

To help clarify what we’re seeking, here is a quick overview of the key terms:

Challenge Statement:
This describes the problem or opportunity that needs to be solved, setting the challenge’s scope and guiding the direction for developing potential solutions.

Problem Statement:
This outlines the specific issues that need to be addressed, providing context and highlighting the key pain points that the challenge aims to overcome.

Customer Value Proposition:
This details the benefits that the proposed solutions will bring to customers, explaining how they will deliver value and enhance the user experience.

Thought-Starters:
These are prompts or questions designed to inspire your thinking when creating a solution. They are intended as a source of idea generation, helping you explore different approaches without being prescriptive. Use these thought-starters to challenge your assumptions and consider innovative ways to solve the problem.

Innovation Challenge

This challenge aims to develop solutions that enhance how passengers access and interact with transport information, especially during unexpected disruptions. The goal is to improve the travel experience by equipping passengers with relevant and timely information that helps them better navigate their journeys, adapt to changes, and make confident decisions. Our vision is to empower passengers by delivering curated, contextually relevant information that reduces uncertainty, enhances situational awareness, and enables better travel choices.

Challenge Statement

How can context-aware solutions assist customers in making travel choices during disrupted journeys?

Problem Statement

Unexpected disruptions create significant uncertainty and inconvenience for passengers. One of the primary challenges is that customers often don't know the severity or duration of these disruptions, making it hard to understand how their journeys will be affected. Current communication channels lack the detailed context needed to inform passengers about how incidents will impact individual travel plans. While alerts are issued once an incident is classified as a disruption, customers remain in the dark during the evaluation period. This gap in information leads to frustration, anxiety, overcrowding, and a loss of trust in public transport as a dependable and accessible travel option

Customer Value Proposition

Putting passengers in control by delivering curated information, reducing uncertainty, increasing awareness, and empowering informed decisions.

What is context aware travel?

Context aware travel is a customer experience where we interact with customers through digital interfaces, delivering the right suggestions at the right time and place to meet their needs.

We need you to solve how we facilitate this customer experience.

You could suggest a new digital interface, a way to determine a customer's context or new technology for getting the right information to customers.

An innovation challenge is an opportunity for us to explore all possible solutions. If you have an idea we'd like to hear from you.

What is a Context Aware solution?

A context aware solution provides passengers with curated information based on their specific needs, preferences, and surroundings. It filters data like location, weather, and past behaviour to deliver the most relevant information at the right time. In simple terms, it's about giving the right information to the right person at the right time.

Possible Features

Some suggestions of features that could be included in a context-aware solution:

- **Personalisation Tools:** Customised passenger transport modes and travel options based on preferences, such as cost savings, carbon footprint, or healthy choices like walking or cycling.
- **Enhanced User Preferences:** Providing updates curated to specific needs like accessibility, off-peak travel, or travelling with kids and bulky items.
- **Intelligent Disruption Management:** Alerts about delays or changes, helping passengers adjust their plans smoothly.
- **AI-Driven Predictive Tools:** Predicting disruptions based on patterns, weather, or traffic, and offering alternative routes before issues arise.
- **NFC Tags:** Allowing passengers to tap their device to access personalised travel updates at stations, stops or on-board.

How is a context aware solution different from a journey planner?

Unlike a journey planner, which broadcasts general route information, a context-aware solution micro-targets passengers with personalised updates. While journey planners focus on point A to point B navigation, context-aware solutions dynamically adapt based on real-time conditions like disruptions, personal preferences, and events. It's about delivering specific, relevant information to individual passengers when they need it. Citymapper, in cities like London and Paris, uses context-aware principles through its "live operation room", which uses real-time data from a variety of sources to provide users with up-to-date information on transit disruptions and reroute them using a mix of transportation modes to ensure the smoothest possible travel experience.

Types of Solutions

We're seeking innovative ideas that help passengers navigate unplanned disruptions on public transport. We want solutions that can be trialled over a 10-week period to determine whether they make a meaningful impact. Your submission should demonstrate how your concept will support passengers in making informed travel decisions, ultimately helping to reduce disruption to their trip.

We encourage you to think creatively and submit proof-of-concept solutions that fit into one (or more) of the following categories:

- **Digital Products:** Tools that customers can interact with directly, such as mobile apps, websites, or add-ons that use open data to help passengers navigate disruptions and travel more smoothly.
- **Digital Experiences:** A new technology or system that improves the transport experience for customers. This could involve backend solutions, operational tools, or infrastructure enhancements that enables TfNSW to better manage unplanned disruptions.
- **AI Models:** Predictive and intelligent systems that use machine learning or data-driven insights to identify potential disruptions before they occur, guiding passengers and operators in making better-informed decisions.
- **Hybrid Solutions:** Combinations of digital products, digital experiences, and AI models that deliver a comprehensive approach, offering passengers a powerful set of tools to understand and respond to unplanned disruptions.

How advance does my solution need to be?

Your solution must be a working prototype that users can interact with and provide feedback on, rather than just a concept or design mock-up. It can be as early-stage as a functional prototype (alpha) with partially working features and limited capabilities, a more refined beta version that is ready for trial and user testing in a real-world setting, or even a fully released product already in use in other jurisdictions or industries. The key requirement is that your prototype offers a tangible experience, allowing stakeholders to understand its potential value and directly influence its improvement.

Who is buying your solution?

We're looking for creative solutions that use our open transport data to solve real-world challenges. Your idea can be designed for passengers directly — where they purchase and use the product themselves — or it can be developed for transport departments, like TfNSW, who would provide it to passengers as part of their public transport experience. Either way, the goal is to make navigating unplanned travel disruptions simpler and more user-friendly.

- **Passengers (Consumers):** You can create a solution that customers choose to pay for and use on their own, such as a mobile app that delivers real-time updates on delays and suggests alternative travel options. Past examples include apps like TripView, Deckee, and Anytrips, which were launched by developers and start-ups and are now trusted by customers every day.
- **Transport Departments:** Alternatively, you might build a solution aimed at transport departments. In this model, the department purchases the technology and integrates it into their services, delivering a better experience for passengers at no direct cost to them. Previous trials included tools like SeeMe and Hailo, which improved the boarding process on buses — enhancing service quality and boosting patronage.

Thought Starters

Do you have the answer to one or more of these questions?

Contextual Delivery:

How can we ensure that customers receive timely and relevant travel information at key moments of their journey, such as just before they need to make a connection, adjust a route, or decide on an alternative transport mode?

Integrated Decision-Making:

How can we offer customers a comprehensive decision-making tool that factors in cost, convenience, real-time conditions (e.g., parking availability, traffic), accessibility, and environmental impact (e.g., carbon footprint) to help them make informed, sustainable travel choices?

Customised User Experience:

How can we deliver tailored travel information based on personal needs and preferences, such as routes for those with mobility challenges, family-friendly routes, or quieter travel options for passengers seeking less crowded services?

Digital Inclusion:

How can we develop inclusive transport solutions that provide essential travel information for passengers without transport apps, passengers with limited digital literacy, or those who prefer alternative ways to receive real-time updates?

Difficulty Engaging Regular Public Transport Users:

Disengaged regular riders, who rely on frequent services, often don't check updates, making it harder to alert them about disruptions. How might we inform this disengaged audience?

Physical, psychological and psychosocial safety

How can we reduce the physical, psychological and psychosocial concerns passengers encounter during unexpected disruptions through transport information such as overcrowding, unfamiliarity and anxiety?

Proactive Disruption Alerts

How can we leverage data to anticipate potential disruptions and proactively alert passengers, offering alternative travel options before they encounter delays?

Change Management

How can we notify passengers a possible disruption is being assessed and be aware that their plans might be interrupted?

Improved Awareness

How can we classify or prioritise unexpected disruptions to help passengers modify their travel plans, notify friends and family, and adjust other commitments based on the potential impact to passengers?

Real-Time Alternative Route Suggestions

How can we quickly provide personalised alternative routes when a disruption occurs, considering factors like traffic, transport mode availability, and passenger preferences?

Dynamic Transport Mode Switching

How can we enable passengers to seamlessly switch between transport modes (e.g., from trains to buses, ride-sharing, or bikes) in real time when their current route is disrupted by traffic delays or accidents?

Local Event-Aware Adjustments:

How can we dynamically adjust passengers' travel recommendations based on the impact of local events (e.g., sporting event concerts) and provide alternative routes to help avoid unexpected congestion or service changes

Personalised Weather-Based Adjustments:

How can we create a solution that adjusts travel plans based on real-time weather changes, like suggesting public transport instead of cycling when it rains, or recommending indoor transit routes during extreme heat?

Incident-Aware Route Updates:

How can we deliver real-time updates when there are major incidents (e.g., accidents, road closures, emergencies) affecting specific areas, and automatically provide passengers with safe, efficient detours?

Context-Sensitive Alerts for Sudden Cancellations:

How can we provide immediate, context-sensitive alerts to passengers when a service is cancelled, and offer personalised suggestions, such as the next available service or nearby alternative transport?

Time-Sensitive Decision Support:

How can we help passengers make quick decisions during unexpected disruptions by delivl'ering real-time, easy-to-understand updates about the next best available travel option, including arrival times and connection points?

Local Event-Aware Adjustments:

How can we dynamically adjust passengers' travel recommendations based on the impact of local events (e.g., sporting events, concerts) and provide alternative routes to help avoid unexpected congestion or service changes?

How is a context aware solution different from a journey planner?

Journey Planner

Broadcasting

Broadcasting refers to delivering the same information to all passengers, such as schedules or service announcements, without considering individual needs or preferences.

Trip Planner

A trip planner provides fixed-route suggestions and schedules for a specified journey, based on static data.

Timetable

Timetable information offers pre-determined schedules for transport services, typically not considering real-time changes or disruptions.

Ticket Prices

Ticket prices involve static information about fares, which do not change based on real-time conditions or individual passenger needs.

Accessibility

Accessibility information provides details on transport features like ramps or elevators but is not updated in real-time to reflect current conditions.

Dynamic

Dynamic systems adjust travel information in response to real-time conditions, such as changing routes during delays.

Context Aware

Narrowcasting

Narrowcasting involves delivering personalised information to specific passengers based on their individual circumstances, preferences, or current location.

Personalisation

Personalisation tailors travel information to individual passengers based on their preferences, habits, and specific needs.

Occupancy

Occupancy data informs passengers about the current capacity or crowd levels on a transport service, allowing for decisions to avoid crowded conditions.

User Preferences

User preferences allow travellers to customise the information they receive, such as choosing to be notified about quieter routes or avoiding certain stops.

Service Alerts

Service alerts provide updates on disruptions, delays, or cancellations, often tailored to the user's journey context.

Time Awareness

Time awareness provides updates and alerts that consider the passenger's schedule or time of travel, offering the most relevant information.

Vehicle Tracking

Vehicle tracking offers real-time location updates for transport services, helping passengers anticipate delays or arrival times.

Activity Recognition

Activity recognition detects the passenger's mode of transport or activity (e.g., walking, cycling), adjusting information accordingly.

Proximity Awareness

Proximity awareness delivers relevant updates based on the passenger's distance to certain locations, such as upcoming stops or nearby stations.

Responsive

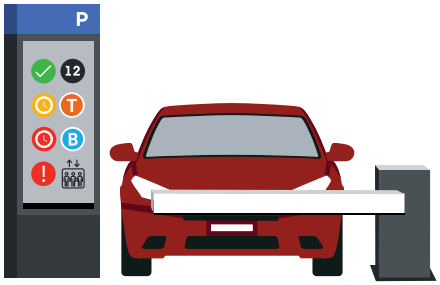
Responsive solutions adapt quickly to the user's changing context or environment, providing the most current and helpful information

Context Aware Data Thought Starters

What type of information might a context-aware solution share with customers?

Near Real-Time Updates

Live updates about parking availability, traffic and delayed services can help passengers adjust their route, avoid disappointment or select other travel modes.



User Preferences

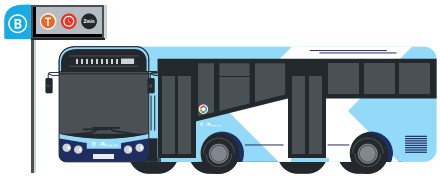
Passenger can receive updates based on their preferences and needs such as accessibility options or frequently travelled routes.

Time-Sensitive Updates

Sharing arrival and departure times and service changes at interchanges between modalities could reduce missed connections.

Activity-Based Information

Alerts on the impact of local activities on services such as, festivals, conferences, protests and sporting events. As well as optimised routes to and from major activations.



Network Updates

Updates to frontline workers on how network changes and disruptions are affecting their station or interchange in real-time can help them better inform and assist customers.

Travel Choices

Passengers can choose when to travel on different routes or transport modes based on whether it's peak or off-peak hours, or other goals such as health, cost, weather or carbon footprint.

Context-Aware Solution Thought Starters

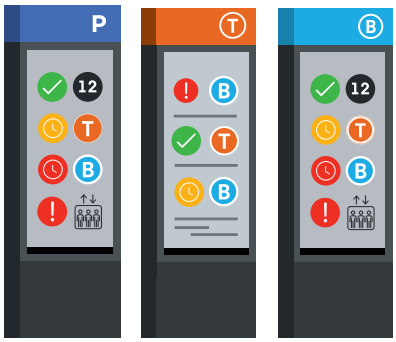
What type of technologies might be used in a context-aware solution?

Near-field communication (NFC)

Allowing passengers to tap their phone to receive personalised travel information at stations or bus stops.

Digital displays and voice assistants:

Providing real-time updates at stations or transport hubs to keep passengers informed without relying on smartphones.

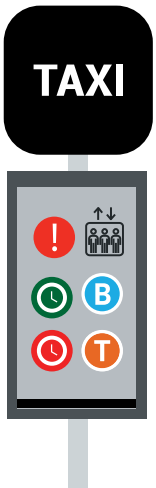


Geofencing tools

Sending location-specific updates about disruptions or service changes based on where a passenger is located.

Wearable Devices:

Smartwatches and fitness trackers can receive notifications about delays or disruptions, providing updates through vibration or on-screen alerts.



AI-driven tools

Offering predictive suggestions and alternatives to prevent passengers from getting stuck in delays.

Augmented Reality (AR) Tools

AR-enabled devices can display real-time directions to alternative routes or accessible paths during disruptions.

Predictive Model Thought Starters

What type of models might be used in a solution?

Statistical Time Series Models

These models can look at patterns of past delays or disruptions to predict future ones based on the time of day, day of week, and known seasonal patterns.

For instance, they might notice that certain bus lines tend to run late more often during morning peak hours or holidays, and use that pattern to forecast future lateness.

Machine Learning Regression Models

These models can combine a wide variety of inputs — like real-time GTFS updates, weather conditions, nearby events, and current traffic levels — into a single prediction of whether a service will be delayed.

For example, they might use the current amount of congestion on the roads, coupled with historical data showing how similar conditions affected bus arrival times, to predict a delay in the next half hour.

Neural Network-Based Models

Neural networks can learn complex patterns and relationships in data, making them well-suited for understanding how factors like rain, special events, and ongoing traffic incidents interact with historical service alerts and scheduling data.

For example, an LSTM model could learn that a certain route often experiences delays on rainy Tuesdays when there's also an event at a nearby stadium and use that information to alert passengers in real time.

Hybrid and Specialised Models

These models blend the strengths of simple statistical patterns with the deeper insight of neural networks, helping them better handle sudden changes and complex influences like unexpected road closures.

For instance, they might quickly adapt to a surprise protest blocking a main road, using the statistical trend of similar past events plus the neural network's ability to recognise the current state of multiple related conditions.

Bayesian Models

Bayesian models focus on providing probabilistic forecasts, giving not just a prediction but also a sense of how confident the model is in that prediction.

For example, a Bayesian model could tell operators that there's a 70% chance of a significant delay if traffic is currently heavy and rain is forecast, helping them plan contingency measures or inform passengers about the level of uncertainty.

Recommendation Systems Thought Starters

What type of models might be used in a solution?

Content-Based Filtering

By analysing the characteristics of each transport service — such as travel time, comfort, frequency, or reliability — content-based systems can suggest alternative routes or modes of transport that closely match a passenger's usual preferences.

For instance, if a train line is down, a system might recommend a similar bus route with similar travel duration and minimal transfers to help the passenger avoid unnecessary inconvenience

User-Based Collaborative Filtering

These systems look at the habits and ratings of a passenger's "neighbours" (people with similar travel patterns), and recommend what worked well for them in similar situations.

If other passengers who tend to travel at the same time and place switched to a particular bus or tram line when their regular train route was disrupted, the system can suggest that same alternative to the user experiencing the disruption.

Hybrid Recommendation Systems

These combine both user-based and content-based approaches (and sometimes others) to create more robust and accurate suggestions.

For example, a hybrid system can consider both the passenger's personal preferences (content-based) and the experiences of similar passengers (collaborative filtering) to recommend the best alternative route during an unexpected cancellation or delay.

Context-Aware Recommendation

These systems factor in the passenger's current circumstances — such as time of day, location, weather conditions, or upcoming events — and tailor recommendations accordingly.

For example, if a major sporting event is causing traffic in a certain area and the usual tram route is disrupted, the system might suggest an alternative set of bus routes that skirt around the congestion area, helping the passenger save time and hassle.

Knowledge-Based Recommendation

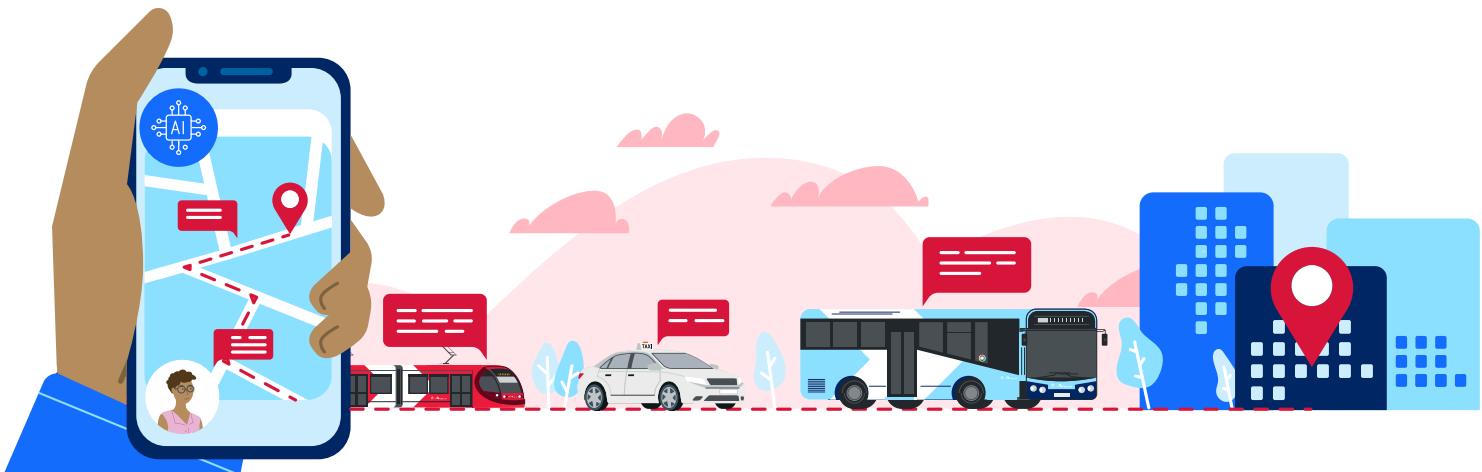
Leveraging domain expertise and rules about the network, these systems use detailed knowledge of the transport network (e.g. known transfer points, typical delays on certain routes, seasonal event schedules) to provide well-informed alternatives.

If there's a known pattern that heavy rain often affects certain train lines, the system might proactively recommend a bus route that is less affected by weather conditions when rainfall is predicted.

Item-Based Collaborative Filtering

Instead of focusing on similar travellers, this approach looks at similarities between different transport options.

If a certain express bus route is frequently chosen by users whenever a certain train line is disrupted, the system will recommend this bus route as an alternate option when the train line fails again, knowing that it has been a good fallback in the past.



Our Customer

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02

Context-aware Journeys Brief

Who are we solving for?

We've used user journeys and the value proposition canvas to understand our customers.

User Journeys

A user journey is a simple way to describe the steps a person takes when trying to accomplish a task or solve a problem using a product or service. It maps out the user's experience from start to finish, showing what they do, think, and feel at each stage. For example, a user journey might include how someone finds information about a bus, waits at the stop, and deals with any disruptions during the ride.

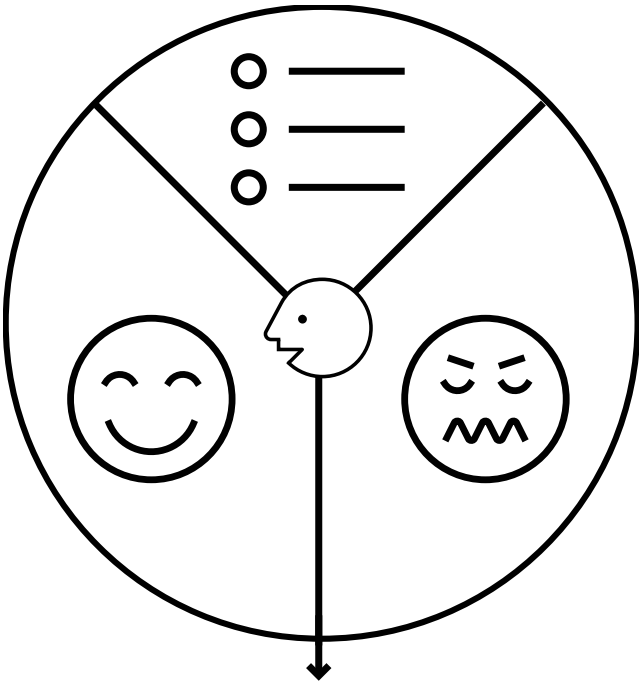
Understanding the user journey will help when designing your solution for the innovation challenge because it shows where users might face problems or get frustrated. By seeing the whole journey, you'll be able to create a solution that addresses specific pain points, making the experience smoother and more enjoyable for our customers. It ensures that the solution not only works technically but also feels helpful and easy to use in real-life situations. Think about your own transport experiences and try creating a user journey yourself.

Value Proposition Canvas

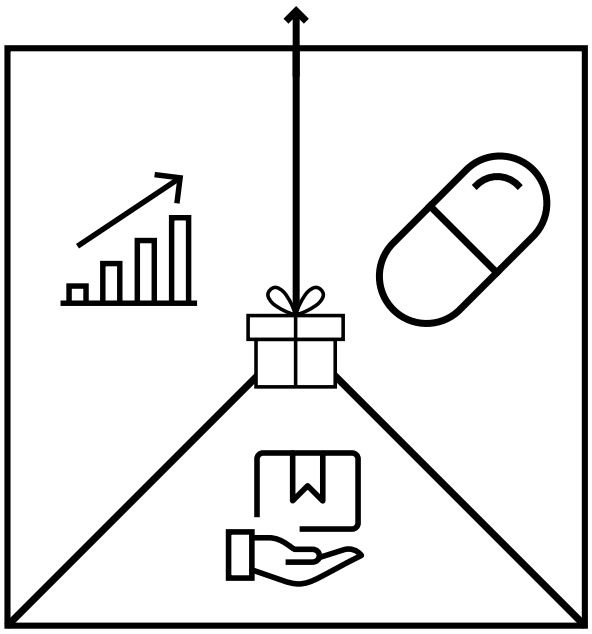
A Value Proposition Canvas is a simple tool used to understand how a product or service can create value for its users. It helps match what customers need and want with what a solution could offer. The canvas has two main parts:

- **Customer Profile:** This side helps identify who the target users are, what they are trying to do (Customer Jobs), their problems (Pains), and what benefits or improvements they're looking for (Gains).
- **Value Map:** This side describes the product or service, focusing on how it addresses the customer's problems (Pain Relievers) and delivers benefits (Gain Creators) to meet their needs.

Using the Value Proposition Canvas for the innovation challenge helps ensure that the solution is designed to solve real problems faced by transport customers and deliver the benefits they care about. It guides the design process to create a solution that truly fits the users' needs, leading to a more desirable and impactful outcome. The features described in the canvases are thought starters and not prescriptive. Try matching the features of your solution to the customer profile to see what pail relievers and gain creators you can solve.



Value Proposition



User Journey: Jamie navigates a busy festival

Festival Crowds Everywhere

Jamie enjoys the festival atmosphere, but getting around is becoming a challenge. As she head towards the station to catch a train home, thick crowds make it hard to navigate.

Reaching the Station

After manoeuvring through the busy crowd, she arrives at the station. Just as relief sets in, she discovers the lift is broken. With no easy way to reach the platform, frustration builds, and she feels trapped, unsure how to get to her train. The setback seems unfair and overwhelming.

Searching for Assistance

Jamie finally reaches the platform, but now another obstacle emerges: she can't find an attendant to help with the ramp. Time is running out as the train approaches, and she begins to worry whether she'll be able to board at all. The uncertainty is draining, adding stress to an already difficult situation.

Feeling Stranded

As the train leaves without her, Jamie is left with a growing sense of helplessness. The excitement of the festival now feels distant as she struggles to find a new plan to get home. The lack of accessible solutions has made what should have been a simple trip into a disheartening ordeal.

Disclaimer: The user journey described above is entirely fictional and provided for illustrative purposes only. It does not reflect any actual customer experiences, nor does it represent the views, policies, or opinions of Transport for NSW. Any resemblance to real individuals or events is purely coincidental.

Jamie's Value Proposition Canvas

Customer Profile

1.Customer Jobs

- Navigating a crowded environment to reach the public transport station safely.
- Accessing the station and boarding the train without encountering barriers.
- Finding alternative ways to continue their journey if lifts or accessible routes are unavailable.
- Locating staff assistance quickly to facilitate boarding (e.g., accessing ramps).
- Maintaining a safe, stress-free travel experience despite the challenges.

2. Customer Pains

- Difficulty accessing the station due to crowds and physical barriers.
- Frustration or stress when lifts are broken, preventing access to platforms.
- Anxiety from not being able to locate staff or find assistance for boarding.
- Feeling stranded or helpless when faced with unexpected accessibility issues.
- Physical discomfort from navigating long distances or crowded areas without adequate support.

3. Customer Gains

- Assurance that accessible routes and facilities are available and functioning.
- Peace of mind knowing there are alternative solutions when accessibility issues arise.
- Confidence in being able to reach transport staff or assistance quickly when needed.
- Reduced stress through clear, accessible information about the best routes and options.
- Improved safety and comfort by minimising unnecessary detours or obstacles.

Value Map

1.Products & Services

- Real-time notifications about accessibility features and their status (e.g., lift availability).
- Context-aware directions to alternative accessible routes when standard routes are blocked or broken.
- Integration with a customer service chat or hotline to quickly connect with staff for assistance.
- Alerts that guide the passenger to nearby attendants or staff members for support.
- Visual and audio aids that provide detailed instructions for accessing alternative entrances or paths.

2.Pain Relievers

- Reduces uncertainty by providing real-time updates on accessibility features, such as lifts and ramps.
- Minimises frustration by suggesting alternative routes with step-by-step guidance when standard options are unavailable.
- Provides peace of mind through quick access to staff assistance via integrated communication features.
- Alleviates stress by offering detailed, easy-to-understand directions to accessible options.
- Prevents physical strain by avoiding unnecessary detours or long, crowded routes.

3.Gain Creators

- Increases confidence in the transport system by ensuring real-time updates on accessibility.
- Improves safety and comfort by guiding the passenger to less crowded, accessible paths.
- Enhances the travel experience by providing reliable assistance when staff are hard to locate.
- Empowers the passenger with clear, accessible information tailored to their specific needs and situation.
- Supports a seamless journey home by minimising the impact of unexpected barriers.

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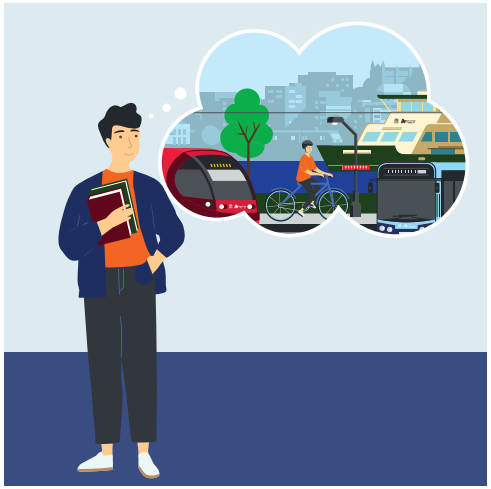
User Journey: Tim the occasional commuter

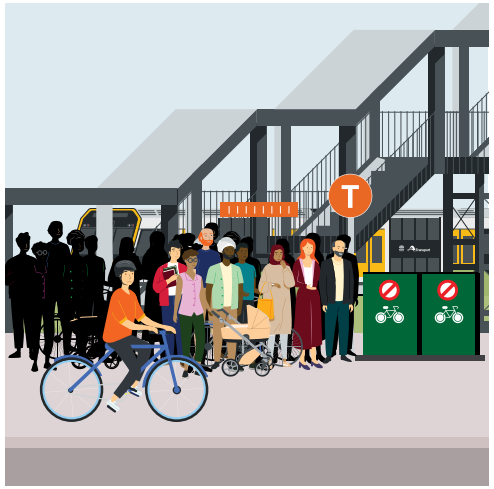


Planning the Journey

Tim is traveling to the university to give a guest lecture, an infrequent routine for him. He weighs his travel options: train, bus, or cycling, unsure about the weather. With limited information, he opts for the train, assuming it will be the most convenient choice. He makes his way to the station by cycling.

Weather Woes

As he leaves, it's unclear whether biking all the way would be the best option. The weather seems unpredictable, and Tim isn't sure if it's safe to cycle. This uncertainty adds anxiety about whether he has made the right travel decision, especially if the weather clears midway through his journey. He'd rather not catch the train all the way.



Crowded Commute

Arriving at the station, Tim is overwhelmed by the bustling crowd. He had hoped for a quiet, smooth journey but finds himself squished in a packed train. The situation brings regret — he could have avoided the discomfort by cycling, if only he had known how busy it would be.

Stuck in the Rush

The train ride is uncomfortable, making Tim wish he'd had taken another mode. He feels stuck, helplessly watching as his once-simple commute turns stressful. Without a backup plan, he is left questioning whether next time he'll find a better way to get to the university.

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Tim's Value Proposition Canvas

Customer Profile

1.Customer Jobs

- Commuting to the university infrequently, around once a month.
- Choosing from several travel modes, including cycling, driving, or public transport.
- Deciding whether to take a train, bus, or bike, depending on the conditions.
- Avoiding peak commuter times for a less crowded travel experience.
- Minimising effort and time spent on planning the journey.
- Arriving at the university in a relaxed manner without rigid scheduling.
- Ensuring travel is smooth without dealing with multiple apps or excessive planning.

2. Customer Pains

- Crowded trains or buses during peak periods causing discomfort and stress.
- Uncertainty about whether conditions (e.g., weather, crowd levels) are ideal for biking or other transport modes.
- Lack of familiarity with current travel schedules or service changes since they no longer commute daily.
- Frustration with having to download and navigate multiple transport apps.
- Feeling overwhelmed by over-planning the journey when they just want a simple travel experience.

3. Customer Gains

- Ability to travel at off-peak times with real-time insights on crowd levels and weather conditions.
- Confidence in choosing the best travel mode (e.g., biking or train) based on current conditions.
- Peace of mind by receiving key information about any major service changes or disruptions.
- Convenient and straightforward journey planning with minimal effort required.
- Improved travel experience by avoiding the stress and inconvenience of crowded transport.

Value Map

1. Products & Services

- A simplified context-aware service providing key updates and recommendations (e.g., crowd levels, weather, major disruptions) without the need for multiple apps.
- Real-time information about quieter travel times, weather conditions, and biking-friendly routes based on historical and live data.
- Notifications only when significant disruptions, crowding, or adverse weather conditions could affect the chosen travel mode.
- One-click access to essential travel information, including biking recommendations, without requiring downloads or extensive setup.
- Option to receive updates through channels they already use (e.g., email, SMS).

2. Pain Relievers

- Eliminates the need to download multiple transport apps by consolidating essential information, including weather and crowd levels.
- Reduces stress by recommending off-peak travel times or biking-friendly conditions to avoid crowded or unpleasant journeys.
- Provides real-time alerts about significant disruptions, adverse weather, or crowding to ensure a smooth trip without planning extensively.
- Minimises uncertainty with reliable suggestions on the best travel mode and times based on current data.
- Offers a flexible travel approach, allowing them to "show up and go" without detailed pre-planning.

3. Gain Creators

- Increases convenience by delivering just the right amount of information for occasional commuters, including weather-based biking recommendations.
- Enhances peace of mind through proactive alerts for any significant changes that could disrupt the journey.
- Simplifies the commuting process with minimal interaction needed, aligning with a low-effort lifestyle.
- Improves the travel experience by helping them avoid the stress of peak-hour crowds and choose the best travel mode.
- Supports a more relaxed, flexible commute by aligning updates with their preferred start and finish times.

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User Journey: Sue the regular commuter

Another Routine Morning

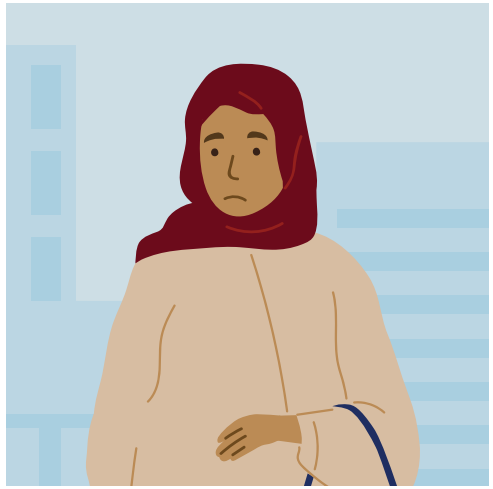
Sue begins her usual journey to work, following the same schedule she's relied on for years. Because the route is second nature, she doesn't check for updates or service changes, trusting that everything will go as planned.

A Sudden Disruption

As she approaches the station, Sue notices an unusually large crowd. Her train is delayed, and the reason is unclear. It's already busy, and the disruption leaves her stuck in a long wait, wishing she had known about the arising issue earlier so she could have considered taking a different route to work.

Crowded and Uncomfortable

When the unknown disruption clears the train finally arrives, it's packed with people who were also affected by the delay. Sue feels overwhelmed by the crowd and regrets not choosing another mode as the cramped conditions and slow pace make the journey stressful and uncomfortable.



Stuck in the Rush

Arriving at her destination later than expected, Sue reflects on the hectic journey. The lack of reliable information had left her stuck in a crowded situation, and she can't shake the feeling that she could have avoided it if she'd known about the disruption sooner.

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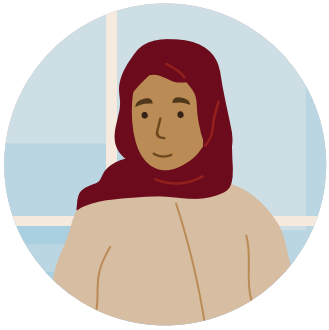

Sue's Value Proposition Canvas

Customer Profile

1.Customer Jobs

- Commuting regularly to work, school, or other daily destinations.
- Maintaining a predictable travel routine based on fixed schedules.
- Minimising disruptions to their daily commute.
- Arriving on time without needing to check updates frequently.

2. Customer Pains

- Unexpected delays or disruptions that disrupt their routine.
- Stress or frustration when last-minute changes affect their usual travel plans.
- Limited flexibility to adjust plans if they are unaware of disruptions in advance.
- Lack of real-time awareness about service changes that could impact their commute.
- Feeling unprepared when sudden transport issues arise.

3. Customer Gains

- Peace of mind knowing they'll receive updates only when their routine is affected.
- The ability to avoid delays or find alternative routes when disruptions occur.
- Time savings by being notified about any issues before they impact the commute.
- Greater confidence in the reliability of their routine travel plans.
- Reduced stress by not having to actively check for updates.

Value Map

1. Products & Services

- Context-aware notifications triggered only when relevant to the commuter's routine.
- Alerts about unexpected delays, disruptions, or changes along their regular route.
- Recommendations for alternative routes if their usual path is affected.
- Passive monitoring that requires no action from the commuter unless a disruption occurs.
- Integration with wearable devices or push notifications for seamless updates.

2. Pain Relievers

- Provides updates only when there are disruptions, eliminating the need for active checking.
- Reduces the risk of being caught off-guard by last-minute schedule changes.
- Minimises stress by offering timely alerts for critical disruptions that impact their journey.
- Saves time by automatically informing the commuter about the best alternative routes.
- Helps maintain routine and punctuality, even during transport service issues.

3. Gain Creators

- Enhances peace of mind by proactively notifying about changes relevant to the commuter's routine.
- Empowers commuters to make quick adjustments when issues arise, ensuring they stay on schedule.
- Improves the commuting experience by ensuring that disruptions cause minimal inconvenience.
- Increases trust in public transport reliability by making regular commutes more resilient to changes.
- Supports a hassle-free commute by integrating notifications seamlessly into their daily life

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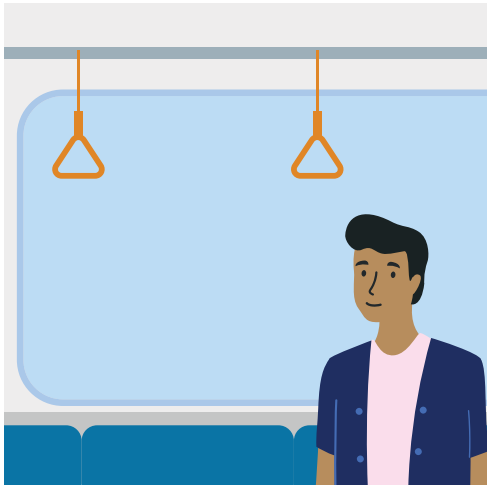
User Journey: Luke gets stuck



Navigating the Familiar

Luke sets off on his usual route, relying on the predictable routine to manage his anxiety. Luke feels comfortable knowing the journey is familiar and that everything is planned out. The consistent routine helps keep him calm and reduces the stress of traveling.

Routine Shattered

Luke looks out the window and see a building fire in the distance near the train tracks. The train stops at the next station throwing his entire routine out the window. He finds himself facing an unfamiliar situation, with no direction on what to do next. The change triggers intense anxiety, and Luke struggles to process all the new information at once.

Overwhelmed by Change

Luke attempts to find an alternative route, but the crowded new environment and confusing instructions make it difficult to focus. Sensory overload sets in, with the noise and chaos of the situation adding to his stress. He feels lost, unsure how to proceed.

Stuck and Anxious

Unable to navigate the disruption effectively, Luke remains in a state of heightened anxiety. The lack of a clear solution and information leaves him feeling stranded and overwhelmed. The journey has transformed from a routine experience into an exhausting ordeal that will make Luke think twice about using public transport again.

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Luke's Value Proposition Canvas

Customer Profile

1.Customer Jobs

- Navigating public transport smoothly and safely with minimal stress.
- Maintaining a predictable travel routine to manage anxiety and discomfort.
- Receiving clear, straightforward information to avoid sensory overload.
- Finding alternative routes quickly and easily when disruptions occur.
- Managing the emotional impact of unexpected changes in their travel plans.

2. Customer Pains

- Anxiety and stress caused by unexpected disruptions that throw off their routine.
- Feeling overwhelmed by too much information or conflicting instructions.
- Difficulty navigating alternative routes or changes in unfamiliar environments.
- Sensory overload in crowded, noisy, or chaotic transport settings.
- Fear of getting lost, missing connections, or not knowing what to do next.

3. Customer Gains

- Peace of mind from receiving simple, clear instructions tailored to their situation.
- Reduced stress by having real-time information on disruptions and alternative options.
- Confidence in navigating changes with step-by-step guidance.
- Assurance that they can access quieter, less crowded options whenever possible.
- Comfort in knowing there is a reliable support system or help available when needed.

Value Map

1. Products & Services

- Context-aware notifications that provide clear, step-by-step guidance during disruptions.
- Personalised travel recommendations based on quieter routes or less crowded times.
- Real-time updates on disruptions with simplified options for alternative routes.
- Visual aids or maps that help navigate changes easily.
- Access to support channels (e.g., customer service, emergency assistance) for additional help.

2. Pain Relievers

- Minimises anxiety by providing early notifications about disruptions before they cause problems.
- Reduces sensory overload by limiting the amount of information delivered to only what is essential.
- Offers step-by-step navigation to alternative routes, including visual aids to reduce confusion.
- Ensures that alternative options consider quieter, less stressful environments.
- Provides access to help or support when the passenger feels overwhelmed or lost.

3. Gain Creators

- Increases confidence by providing a clear, calm, and reliable response plan for disruptions.
- Enhances comfort by prioritising quieter travel routes and times.
- Supports emotional well-being by reducing uncertainty and offering predictable, structured information.
- Improves the travel experience by minimising surprises and ensuring the passenger knows exactly what to do.
- Builds trust in public transport as a viable travel option by consistently delivering supportive, context-aware guidance.

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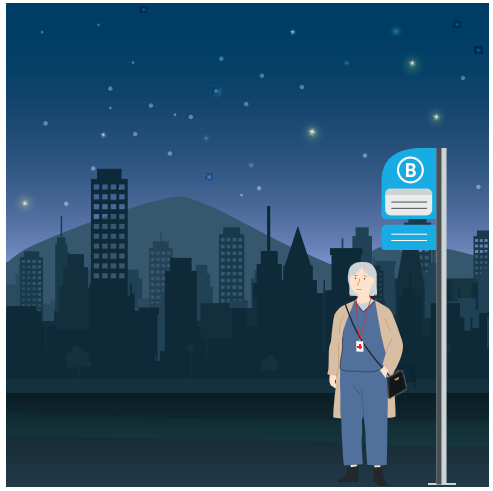
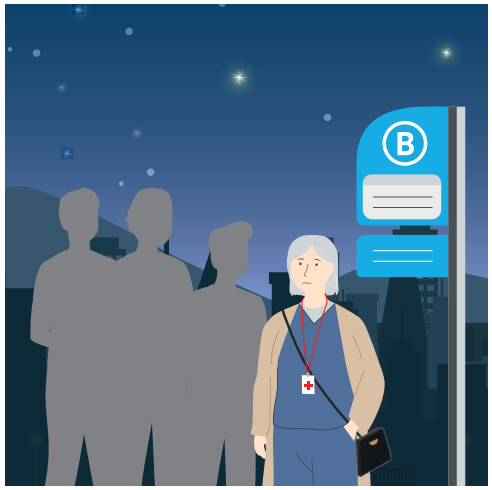
User Journey: Jill in the dark



Waiting in the Dark

Jill has finished a 12 hour shift at the hospital finishing late at night. Jill stands at the bus stop anxiously checking her phone. The bus is supposed to arrive soon, but she's been waiting much longer than expected. She's starting to wonder if the bus will ever come, especially since her app shows it at the top of the street, yet there's no sign of it.



A Growing Sense of Unease

As time passes, the darkness feels more oppressive, and the streets become quieter. She notices young men walking home from the pub nearby and feels increasingly unsafe. Her thoughts turn to whether she should stay or leave, but there aren't any other buses for over an hour. The situation feels like it's closing in.

Weighing Her Options

She's torn between continuing to wait and finding another way home. If the bus arrives, she'll have endured the anxiety for nothing. But if it doesn't, she'll be left stranded even longer. Jill check ride-share apps and finds its over $60 to get home. Every passing minute adds to her uncertainty, making the decision feel more critical and stressful.

Stuck with No Clear Choice

Jill's confidence in the transport system fades as she contemplates walking alone in the dark. The bus's absence, despite real-time updates, leaves her feeling abandoned and vulnerable. She needs a way home but doesn't know who to trust or what step to take next.

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Jill's Value Proposition Canvas

Customer Profile

1.Customer Jobs

- Getting home safely and quickly during late-night travel.
- Relying on public transport to arrive as scheduled.
- Avoiding unsafe situations or environments while waiting.
- Deciding whether to wait for the bus or seek alternative transport options.
- Minimising time spent waiting alone in the dark, especially around potentially unsafe individuals.

2. Customer Pains

- Anxiety and fear due to feeling unsafe in the dark with unfamiliar or potentially threatening people nearby.
- Frustration and uncertainty when the bus does not arrive as indicated by real-time information.
- Lack of alternative transport options when the scheduled bus is delayed or missing.
- Increased vulnerability due to long wait times in exposed or poorly lit areas.
- Distrust in the accuracy of real-time location updates from transit apps.

3. Customer Gains

- Peace of mind through accurate, reliable real-time updates on the bus location and arrival time.
- Confidence in making informed decisions about waiting or finding alternative transport.
- Quick access to alternative safe travel options when the bus is delayed or not arriving.
- Reduced anxiety by knowing there is a backup plan in place if transport fails.
- Enhanced safety measures or services available to assist if she feels threatened.

Value Map

1. Products & Services

- Real-time, verified bus tracking that alerts passengers if a vehicle is delayed or out of service.
- Notifications with alternative transport suggestions (e.g., rideshare or nearby safe pickup points) if the bus is delayed beyond a certain time.
- Integrated safety features, such as a "safe mode" that tracks the user's location and allows them to share it with a trusted contact.
- Access to a helpline or security assistance that can be called directly from the app if the user feels threatened.
- Nearby transportation options (e.g., taxis, rideshares) highlighted as quick alternatives.

2. Pain Relievers

- Alleviates anxiety by providing real-time updates on the bus's true location and potential delays.
- Reduces vulnerability by suggesting nearby safe locations or alternatives to wait for transport.
- Offers peace of mind through safety features, like location sharing and emergency assistance options.
- Minimises uncertainty by proactively notifying the user if the bus is cancelled or significantly delayed.
- Builds trust in transport information through verified updates and service status alerts.

3. Gain Creators

- Increases safety by providing alternative options quickly when the scheduled bus is unreliable.
- Enhances confidence through accurate, verified updates and proactive notifications.
- Improves the travel experience by offering safety-focused features that help the passenger feel secure.
- Supports decision-making with reliable information on transport status and alternative routes.
- Empowers the user to take control of the situation, reducing anxiety and uncertainty.

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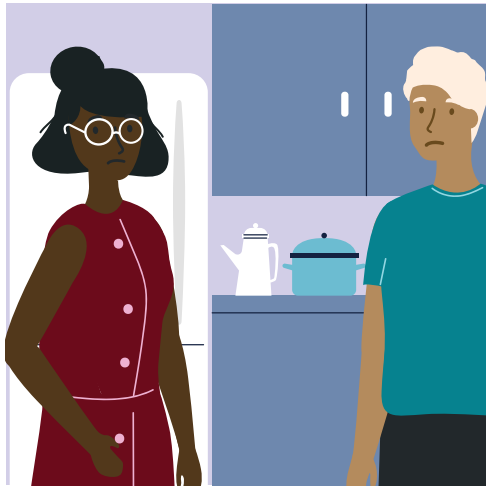
User Journey: Getting home from school

A Routine Journey

Blake starts his regular trip home after school, expecting to catch the usual bus. Everything seems normal until he hears sirens and emergency vehicles speed past. Another passenger checking their phone complains aloud that the bridge ahead is closed. With the bus stuck on the other side of the closed bridge, Blake is suddenly unsure how he will get home, feeling lost without clear directions or a familiar routine.

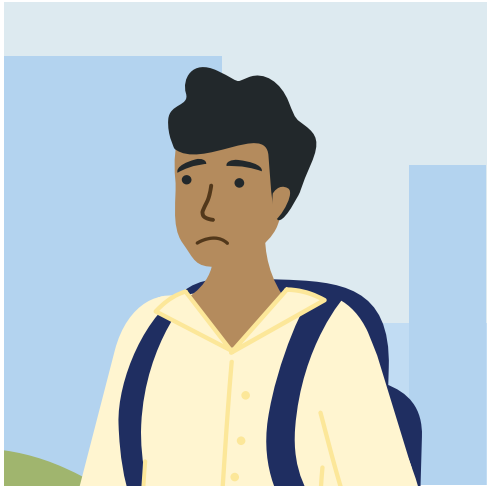
Confusion Sets In

The disruption causes Blake anxiety, and he doesn't know which route to take instead. As his options narrow, he feels overwhelmed by the complexity of the situation, especially since he doesn't have a smart phone to guide him. With no immediate answers, the situation becomes increasingly stressful.



Worried Parents

Meanwhile, the student's parents are concerned when Blake is not home as usual, not knowing if he is safe or on the way home. The lack of communication and updates leaves them anxious. Blake is to young for a smart phone and their school has a no phone policy.



Feeling Stranded

As Blake continues searching for an alternative way home, his worry deepens. Every step feels like a struggle, and he can't find a simple, reliable path. What started as a straightforward journey has turned into a daunting experience, with no clear end in sight.

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Student's Value Proposition Canvas

Customer Profile

1.Customer Jobs

- Getting home safely from school, even if the regular transport service is disrupted.
- Navigating alternative routes or transport modes when necessary.
- Communicating with parents to keep them updated on travel status.
- Minimising stress and anxiety about being stranded or lost.
- Ensuring a straightforward travel experience without needing to download apps.

2. Customer Pains

- Anxiety about navigating unexpected disruptions without easy access to travel apps.
- Fear of getting lost or not knowing the best alternative way home.
- Parents' concern about the child's safety during transport disruptions.
- Limited access to real-time travel updates and alternative route information.
- Lack of communication, causing parents to worry about the child's location and situation.
- Distrust in the accuracy of real-time location updates from transit apps.

3. Customer Gains

- Assurance that there is a reliable plan in place if the regular service is disrupted.
- Ability for parents to track the child's location and receive updates on their travel status.
- Peace of mind for parents and children knowing there are safe and clear alternatives.
- Confidence in receiving simple instructions for navigating changes in the journey.
- Effective communication that keeps parents informed about the child's safety.

Value Map

1. Products & Services

- A web-based platform accessible without the need to download an app, providing real-time updates on transport status and disruptions.
- Notifications sent directly to parents when a disruption affects the child's route, with suggested alternatives.
- Location tracking or location-sharing options that let the child share their whereabouts with parents for reassurance.
- Emergency contact options that allow parents or children to speak with a transport representative for guidance.
- Step-by-step instructions for the student to follow alternative travel routes, including walking directions to safe pickup points.

2. Pain Relievers

- Reduces anxiety by providing clear instructions for navigating travel disruptions without needing to download additional apps.
- Alleviates parents' concerns by sending updates directly to them about the child's travel status.
- Provides peace of mind through location-sharing features that allow parents to track the child's progress.
- Minimises the risk of getting lost by offering simple, clear directions for alternative routes.
- Ensures easy access to help if needed, via emergency contact options.

3. Gain Creators

- Increases safety by allowing parents to stay informed and involved in the child's journey home.
- Enhances confidence for both parents and children by providing reliable travel alternatives during disruptions.
- Supports seamless communication, enabling parents to monitor the child's location and receive timely updates.
- Improves the travel experience by offering user-friendly solutions that don't require downloading new apps.
- Ensures a straightforward and safe travel plan, giving both parents and children a sense of security.

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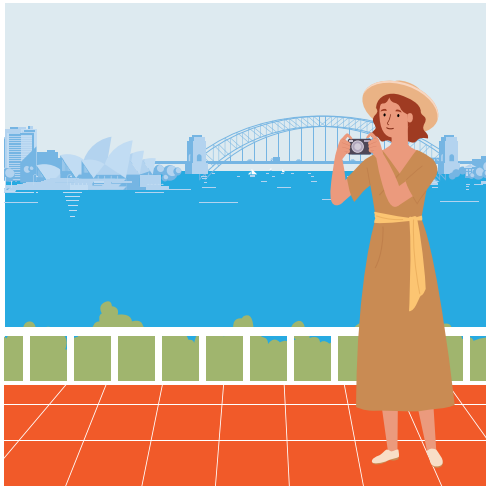
User Journey: Exploring a new city



Exploring a New City

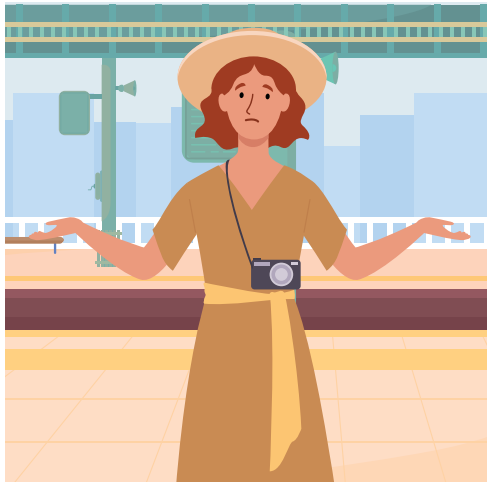
Mia eagerly sets out to explore, planning her day around the local attractions. She carefully mapped out her route, relying on the public transport schedule she found online. However, an unknown outage to the train system throws the entire plan into chaos, leaving her confused and unsure of where to go.

Lost in Translation

Navigating an unfamiliar city becomes even harder when the announcements aren't in a language Mia fully understands. With no clear instructions, anxiety builds as she tries to figure out how to reach her destination. Every minute spent trying to solve the puzzle feels like lost time.

Crowds and Uncertainty

Mia notices crowded platforms and unclear signage due to station upgrades, which make the situation worse. She struggles to find someone who can help or provide guidance in a language she speaks. The unfamiliar environment adds to her stress, making the city feel larger and more chaotic than it seemed earlier.



Plans Derailed

As Mia scrambles to find an alternative route, the day's carefully planned schedule falls apart. Unable to make sense of the available transport options, she feels defeated. The disruption has not only derailed her journey but also overshadowed the excitement of exploring the city.

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Tourist's Value Proposition Canvas

Customer Profile

1.Customer Jobs

- Navigating an unfamiliar public transport network to reach tourist destinations.
- Staying informed about the correct routes, schedules, and any service changes.
- Minimising delays and disruptions to make the most of limited travel time.
- Avoiding confusion or getting lost due to unexpected changes in the journey.
- Finding assistance or reliable guidance quickly if needed.

2. Customer Pains

- Confusion and anxiety about navigating an unfamiliar transport system, especially during disruptions.
- Language barriers that may make it difficult to understand transport updates or ask for help.
- Uncertainty about alternative routes or travel options when the planned route is disrupted.
- Fear of missing out on planned activities or attractions due to unexpected delays.
- Lack of knowledge about where to find help or information in an unfamiliar city.

3. Customer Gains

- Clear, easy-to-follow instructions for navigating the transport system during disruptions.
- Alternative travel options presented promptly to avoid delays and confusion.
- Assurance that there is guidance available in multiple languages to help with navigation.
- Confidence in reaching their destination without major setbacks.
- Real-time updates and directions to ensure they stay on track.

Value Map

1. Products & Services

- Real-time alerts about disruptions with step-by-step instructions for alternative routes in an easy-to-understand format.
- Multilingual support for notifications and travel guidance, catering to tourists who may not speak the local language.
- Location-based guidance that provides directions to the nearest transport options or tourist information centres.
- An interactive map that highlights nearby attractions or safe waiting areas while alternative arrangements are made.
- Access to customer service through chat or call options for immediate assistance.

2. Pain Relievers

- Reduces confusion by providing clear, step-by-step instructions for alternative routes.
- Alleviates language barriers with multilingual alerts and guidance.
- Minimises disruption by suggesting the quickest available alternative to stay on schedule.
- Provides reassurance by offering access to customer service for personalised help.
- Helps tourists make informed decisions about where to go next, avoiding aimless wandering in an unfamiliar area.

3. Gain Creators

- Increases tourists' confidence by offering reliable, real-time updates and easy-to-follow guidance.
- Enhances the travel experience by reducing stress and ensuring tourists can adapt to disruptions seamlessly.
- Supports multilingual users by delivering information in their preferred language, making navigation easier.
- Improves time management by quickly presenting alternative travel options to minimise delays.
- Ensures tourists feel supported, with clear access to help and guidance throughout their journey.

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User Journey: Getting to an appointment

Balancing Act

Tamara starts her day early, juggling a busy schedule. Her father has a medical appointment, and she needs to fit this around work commitments. She weighs her travel options, torn between waiting for an accessible taxi or taking public transport. With no personal vehicle equipped for wheelchair transport, every minute counts.

Uncertainty Looms

The clock is ticking, and the accessible taxi still hasn't arrived. She wonders if she should switch plans and take public transport, but worries about whether the buses and trains are running smoothly. Delays or disruptions could throw off her entire day, especially since she has a workshop she's been looking forward to in the afternoon.

Navigating the Unknown

Tamara decides to take public transport, but as they arrive at the station, she discovers the lift is broken, the only accessible route to the platform. Anxiety sets in as she tries to find an alternative route. She can't afford to get stuck with her father, and the uncertainty of the situation adds to her stress. Her carefully planned day is at risk.

Day Derailed

The delays continue, forcing her to miss the workshop she'd been excited about. Her father's health appointment adds pressure, and the lack of reliable information on accessible travel options leaves her feeling frustrated and defeated. What should have been a simple journey has become a significant disruption, impacting both her and her mother's well-being.

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Tamara's Value Proposition Canvas

Customer Profile

1.Customer Jobs

- Transporting her sick father, who uses a wheelchair, to a medical appointment on time.
- Balancing caregiving responsibilities with a busy work schedule.
- Deciding whether to wait for an accessible taxi or take public transport.
- Minimising travel delays to prevent disruptions to her work commitments.
- Ensuring the journey is smooth and stress-free for both her mother and herself.

2. Customer Pains

- Anxiety about potential delays or disruptions affecting the journey to the appointment.
- Lack of reliable information on whether public transport is fully accessible and running on time.
- Stress from trying to fit her father's appointments around a hectic work schedule.
- Uncertainty about whether it's better to wait for an accessible taxi or risk public transport delays.
- Fear of getting stuck with her mother during an unexpected disruption, which could derail the entire day.

3. Customer Gains

- Confidence in making the best travel decision based on real-time updates about accessibility and delays.
- Peace of mind from knowing the journey will be smooth and free of obstacles.
- Ability to plan the day more effectively by receiving reliable information on travel options.
- Reduced stress by avoiding delays and ensuring the appointment is reached on time.
- Flexibility to adapt quickly to changes in the situation, minimising disruption to her schedule.

Value Map

1. Products & Services

- Real-time information on public transport accessibility, delays, and disruptions.
- Notifications with updates on the status of accessible taxis and their estimated arrival times.
- Integrated travel suggestions that consider accessibility, speed, and reliability for both public transport and taxis.
- Customised alerts about potential delays affecting the chosen travel mode.

2. Pain Relievers

- Reduces uncertainty by providing accurate, up-to-the-minute information on accessible travel options.
- Minimises stress by offering reliable updates on travel delays or disruptions, allowing for better planning.
- Prevents scheduling conflicts by keeping the customer informed of the fastest, most accessible way to reach the appointment.
- Alleviates anxiety about getting stuck during the journey by offering backup options.

3. Gain Creators

- Increases confidence by ensuring travel plans are based on reliable, accessible information.
- Enhances peace of mind through proactive alerts about any changes that could disrupt the journey.
- Improves scheduling flexibility by providing real-time updates and adaptable travel options.
- Supports a smoother travel experience by offering seamless information on accessibility and delays.
- Empowers the user to make informed decisions quickly, reducing the impact of disruptions on her day.

Disclaimer: The user journey described above is entirely fictional and provided for illustrative purposes only. It does not reflect any actual customer experiences, nor does it represent the views, policies, or opinions of Transport for NSW. Any resemblance to real individuals or events is purely coincidental.

Open Data

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3 Additional Datasets 34

03

Context-aware Journeys Brief

Available Open Data

The Open Data Hub is the central location for all TfNSW open data and hosts over 200 datasets with over 1000 resources. Visit opendata.transport.nsw.gov.au to find resources and data to support your solution.

Datasets to help your solution

To help you get started, these data sets are available on the open data hub, along with many more useful resources. You are allowed to use any available open data sources, even from other organisations such as councils, provided you have the correct permissions. On the following page, you can see where this data is clustered in certain geographic areas around the state; these are suggested locations for your trial. If you have a more suitable location in NSW, please outline it in your submission.

Metro

SIRI FM - Coming Soon

Multi-modal

GTFS/R feeds & Trip Planner API
GTFS pathways
Facilities Information
Digital Inclusion Index
Service Alerts
Occupancy Status
Accessibility

Park&Ride

Park&Ride API
On-Street Parking API

Active Transport

Biker Locker Locations
Bike Shed Storage Locations
Cycleways Infrastructure

Car

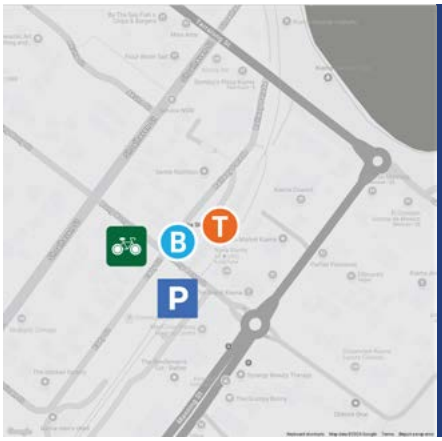
Toll Calculator API
Live Traffic API
EV Charging Stations

Taxi Rank

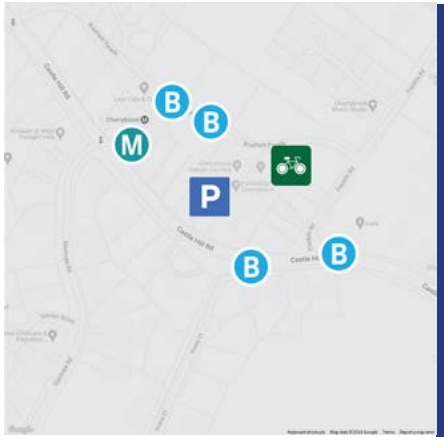
Taxi Rank API

Suggested Trial Locations

Sydney



Kiama



Cherrybrook

Campbelltown

Macquarie Park

Newcastle

Tallawong

	Shared Bike Path
	EV Charging
	Active Transport Data
	Light Rail Data
	Bus Data
	Metro Data
	Train Data
	Taxi Rank Data
	Ferry Data
	Parking Data

Data

Disruption Insights

Information on service interruptions or delays, both planned and unplanned, that affect the regular running of transport services.

- Service Alerts
- Historical Service Alerts
- Live Traffic Site Status
- Live Traffic Hazards
- Historical Traffic
- Live Traffic Cameras
- Bus performance reports
- New Customer On-Time measure
- Sydney Trains and NSW TrainLink (Intercity) performance reports
- Ferries - Performance reports

Event Information

Data on planned events that may increase the number of passengers using transport services or cause delays due to road closures, detours, or increased crowding.

- Eventfinda API
- Eventbrite API
- Humanitix API
- Ticketek API
- Ticketmaster API
- Australian Tourism Data Warehouse (ATDW)

Weather

Data on how various weather conditions, particularly extremes in temperature or precipitation, affect transport services, often resulting in speed restrictions, delays, crowding, or other operational changes to ensure safety.

- Bureau of Meteorology
- NSW Flood Data Portal

Patronage Levels

Information detailing how many people are using various transport modes, highlighting how busy or quiet services are over time.

- BOAM - Bus Opal Assignment Model
- LOAM - Light Rail Opal Assignment Model
- ROAM - Rail Opal Assignment Model
- Public Transport Trips - All Modes
- Sydney CBD Trips
- Walking and cycling counts
- GTFS

Local Government

Data provided by local councils or municipalities, often available through open data platforms, including metrics like pedestrian counts, to inform transport planning and community services.

- Cumberland City Council
- City of Sydney
- Maitland City Council
- Lake Macquarie City
- Western Parklands

NSW Government

Publicly accessible data from New South Wales government departments and agencies, covering a wide range of information useful for transport analysis, planning, and decision-making.

- API.NSW
- SEED
- HealthStats NSW
- NSW Bureau of Crime Statistics and Research
- Spatial Collaboration Portal
- NSW Planning Portal
- State Insurance Regulatory Authority

Challenge Process

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04

Context-aware Journeys Brief

How will the challenge work?

This innovation challenge is seeking to trial digital solutions.

What is a digital solution trial?

In an innovation challenge, a digital solution trial is a short-term test run of a new technology or digital product. This trial allows both the innovators and TfNSW to see how the solution performs in a real-world setting. It's a way to evaluate whether the idea is practical, effective, and worth investing in further.

The trial is not just an opportunity to see if a digital solution works. We also want to know if it actually brings meaningful benefits. Essentially, we're looking for clear evidence that the new solution adds significant value compared to what's currently in use.

In this particular challenge, the trial will be set up as a 10 week proof of concept. Over these 10 weeks, participants will have the opportunity to implement their solutions on a small scale. This period allows them to demonstrate not only that their technology works but also that it provides real value. The goal is to show, within this time frame, that the innovation is both functional and beneficial.

What is a proof-of-concept?

A proof-of-concept (PoC) trial is a short-term experiment, typically 10 weeks, that aims to validate the fit between the identified problem and the proposed solution. The primary purpose of a PoC is to test the viability, desirability, and feasibility of a solution. In other words, the PoC helps determine whether the solution can be successfully implemented, whether it meets the needs and preferences of the target users, and whether it is technically and financially feasible.

It's important to note that a successful PoC does not result in an endorsement or a guarantee that the solution will be implemented on a larger scale. Instead, the PoC serves as a stepping stone to build a stronger business case for further exploration and development. By conducting a PoC, TfNSW can gather valuable insights, test assumptions, and identify potential risks or challenges. This information can then be used to refine the solution, make informed decisions, and develop a more robust business case for the next stage of the innovation process.

At the end of the proof of concept trial your solution must be removed and any changes to TfNSW assets and data returned to their original condition. Further, the solution must no longer be made available to the public and unpublished on all channels.

1

Submit

Share your idea through our Online form, explaining how it works, what support you'll need, and what a trial would look like. Ideas are assessed with up to 5 invited to Pitch.

2

Pitch

Present a 5-minute pitch of your idea to a panel of experts and answer their questions. The best solutions will be chosen for a trial.

3

Incubate

We'll help you get your solution ready for testing, making sure it meets standards and works in a test environment.

4

Trial

Your solution will be live on the transport network for 12 weeks, where customers will use it and provide feedback. You'll run experiments to collect data to see what works and what needs improvement.

5

Evaluate

After the trial, gather feedback and insights to see if the solution met the challenge. Remove the solution and make good changes made during the trial.

Timeline

Date	Phase	Action
January 2025	Submit	• Attend the virtual information session to learn more about the challenge. • Design your solution, keeping the challenge requirements in mind. • Complete the online submission form. • Submit your idea.
March 2025	Pitch	• Prepare a 5-minute pitch that highlights the benefits of your solution. • Be ready to answer questions from a panel of experts.
March / April 2025	Incubate	• Prepare your solution to comply with government guidelines including cybersecurity and privacy controls. • Select a trial environment • Prepare trial readiness plan • Meet with transport experts to refine your solution. • Agree on performance measures for evaluating the trial. • Decide on data collection methods (e.g., surveys). • Create a communication plan.
April / June 2025	Trial	• Launch your solution on the transport network. • Test experiments and collect data. • Address any errors or outages that occur. • Continuously monitor the solution's performance. • Complete Mid Trial Report.
June / July 2025	Evaluate	• Collate the trial results and review the collected data. • Provide answers to the agreed performance measures. • Prepare and submit an evaluation report. • Unpublish the solution and make any necessary changes.

Deliverables

Submit Stage

- **Completed Online Submission Form:** Includes details about the solution, required support, and trial proposal.

Pitch Stage

- **5-Minute Pitch Presentation:** A concise pitch explaining the solution, benefits, and unique features.
- **Q&A Readiness:** Ability to answer questions from the expert panel.

Incubate Stage

- **Compliance Documentation:** Proof that the solution meets government guidelines, including cybersecurity and privacy controls if accessing NSW Government platforms.
- **Integrate Datasets and APIs (if applicable):** Integrate our data with your solution.
- **Trial Readiness Plan:** Detailed plan outlining objectives, timeline, and methodology (e.g., Lean Startup).
- **Select Trial Environment:** Designate where the solution will be trialled.
- **Agreed Performance Measures:** Defined metrics for evaluating the trial's success.
- **Data Collection Methods:** Approved methods for gathering data (e.g., surveys).
- **Communication Plan:** Strategy for informing stakeholders and managing trial communications.
- **Work in Progress Meetings:** Conduct a twice weekly meeting with TfNSW on incubation progress.

Trial Stage

- **Live Solution Deployment:** Launch of the solution on the transport network.
- **Experimentation and Testing Reports:** Documentation of tests conducted during the trial.
- **Data Collection Records:** Logs of all data collected throughout the trial.
- **Issue Resolution Log:** Records of any errors or outages and the steps taken to address them.
- **Monitoring Reports:** Regular updates on the solution's performance during the trial.
- **Mid Trial Report:** Detail progress, initial observations and any changes from the trial readiness plan.
- **Work in Progress Meetings:** Conduct a weekly meeting with TfNSW on trial updates.

Evaluation Stage

- **Evaluation Report:** Comprehensive report summarising trial results and insights.
- **Performance Measure Analysis:** Assessment of the trial's results against the agreed performance measures.
- **Shutdown and Removal:** Plan for taking the solution offline and implementing necessary changes.
- **Final Feedback Summary:** Collated feedback from stakeholders and customers during the trial.

Scope

Outcomes

The funded solutions are expected to achieve the following outcomes:

Customer-First Approach:

Curated updates that ensure passengers feel informed and confident, making public transport more safe, reliable, and accessible for everyone.

Public Transport First Approach:

Offering relevant, trustworthy, and personalised information to encourage passengers to choose public transport over other modes, knowing it meets their needs and preferences.

Improved Accessibility:

Context-aware solutions that make it easier for passengers to navigate public transport by providing specific, relevant information suited to their needs.

Reduced Uncertainty:

Solutions that minimise the impact of disruptions by providing timely, actionable information, reducing stress, and making travel more dependable.

Proactive Disruption Management:

Solutions that gauge disruptions, improving customer awareness and closing the gap between disruption occurring and alerting customers.

Curated Information:

Solutions that could offer a range of features like reducing carbon footprint, cost savings and healthy choices, all designed to enhance the passenger experience.

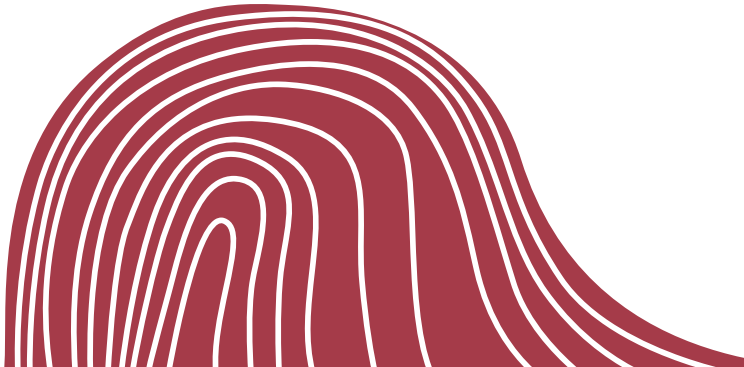
The trial should aim to:

- Validate that providing integrated transport information can help passengers during unexpected disruptions.
- Determine the feasibility of using context-aware solutions to communicate with customers during disruptions.
- Assess the desirability of context-aware solutions as an aid for passengers during unexpected disruptions.
- Demonstrate the Proof-of-Value of the solutions to Transport for NSW.

Out-of-scope

What we don't want:

- Solutions that need to integrate with critical systems or requires access to data not available on the Transport Open Data website.
- Solutions that could be considered a journey planner or mobility as a service digital solution.
- Products that manage the communication of network disruptions to transport operators.
- Systems that manage disruption management processes or business systems.
- Solutions directly related to the operation of the transport management centre.
- Solutions that require specialised hardware installations or infrastructure changes at stations or on vehicles.
- Systems that rely on high levels of manual data entry or maintenance to function effectively.
- Products focused solely on providing fixed schedule or timetable information without real-time adaptability.
- Apps or services that duplicate existing transport information tools without adding unique functionality or context-aware features.
- Solutions that involve personalised travel planning but lack real-time responsiveness to changing conditions.
- Products that primarily target internal staff use rather than improving the passenger experience.
- Solutions that need proprietary or licensed third-party data not accessible through open data sources.
- Technologies that require the installation of cameras in public areas.
- Solutions that involve ticketing or payment processing rather than enhancing travel information accessibility.



Assessment Criteria

Your solution will be evaluated against the following assessment criteria out of 100.

Solution Overview (15 points)

- Provide a brief overview of the proposed solution.
- Explain how the solution addresses the customer value proposition, problem, and challenge statements.
- Outline how the solution will achieve the desired outcomes.

Customer Impact (15 points)

- Describe how the solution assists underserved communities.
- Explain how the solution will support customers before or during unexpected disruptions.

Innovation and Feasibility (20 points)

- Outline the innovative or unique aspects of the solution.
- Demonstrate the technical feasibility of the solution, including details on previous implementations.

Team Capability (15 points)

- Describe the skills and expertise of the team and how they will ensure a successful trial.
- Demonstrate a reasonable project plan, including a budget that represents value for money, risk management plan and performance measures.
- Details the extent to which the proposed solution would address the challenge statement, including the solution requirements.
- The proposed solution is ready to enter the Pitch Day stage.
- The proposed solution is superior to what is currently on the market.

Data Utilisation (10 points)

- Indicate whether the solution will use Transport for NSW Open Data or other datasets and list the specific datasets.

Implementation Plan (15 points)

- Outline the timeline and approach to achieving trial milestones, including beginning trials by May 2025.

Funding and Sustainability (10 points)

- Specify the amount of seed funding required and how it will be allocated.
- Describe the plan for continuing to grow the solution after the trial, such as through sponsorship, licensing, or consumer sales.
- Demonstrates a reasonable plan for the next steps towards commercialisation and adoption, including identifying potential barriers and how these will be mitigated

Scoring Rationale	Score
Exceptional: requirements are significantly exceeded in all areas, all claims are fully substantiated and the Responses are of an excellent standard.	10
Outstanding: requirements are exceeded in key areas, claims are all very well substantiated and Responses are of a very high standard.	9
Very good: requirements met to a very high standard in all areas, claims are well substantiated in all areas and Responses are of a high standard.	8
Good: requirements are met to a high standard in all areas, claims are well substantiated in key areas and Responses are sound.	7
Fair: requirements are met to a reasonable standard in all areas, claims are well substantiated in most areas and Responses credible.	6
Acceptable: requirements are met to an acceptable standard with no major shortcomings, all claims are adequately substantiated while some Responses are questionable.	5
Marginal: requirements are not fully met, some claims are unsubstantiated while others are only adequate with some Responses being unworkable.	4
Poor: requirements are poorly addressed in some areas or not at all, claims are largely unsubstantiated and the Responses are generally unworkable.	3
Very poor: requirements are inadequately addressed in most or all areas, claims are almost totally unsubstantiated, and the majority of Responses are unworkable.	2
Unacceptable: requirements are not met, claims are unsubstantiated and the Responses are unworkable	1
Non-compliant: Respondent completely failed or refused to provide a response.	0

Assessment Questions

The following questions will be asked in the application form to submit your solution. Your response will be assessed using the assessment criteria.

1. Provide a brief overview of your solution.
2. How does your solution address the customer value proposition, problem, and challenge statements?
3. How will your solution achieve our outcomes?
4. How does the solution assist under-served communities?
5. How will your solution assist customers before or during unexpected disruptions?
6. What makes your solution innovative or unique?
7. Is your solution technically feasible? Provide details on how it is technically feasible and share examples of any previous implementations.
8. Describe the skills and expertise of your team and how this will ensure a successful trial?
9. Describe the track record of your team in delivering similar solutions?
10. Will your solution use Transport for NSW Open Data or other datasets? If so, which data sets will it use?
11. Outline your timeline and how you will achieve the Innovation Challenge deliverables?
12. What features of your solution will you be testing during the trial and will you be conducting any experiments?
13. How will you measure the success of your trial and how will you collect insights such as customer feedback and adoption?
14. Up to $50,000 is available for seed funding per team, please outline the amount you require and how you would allocate these funds.
15. How will you continue to grow your solution after the trial? For example, through sponsorship, licensing, or consumer sales?

Measuring Success

1 Trial KPI 43

2 Solution KPI 44

05

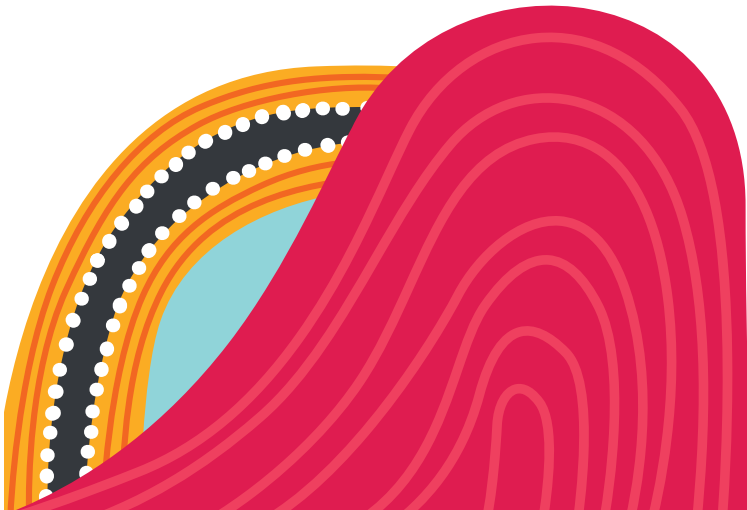
Context-aware Journeys Brief

Performance Measures

The success of the innovation challenge and trialled solution will be determined by the following key performance indicators. Context-aware journeys challenge specific key performance indicators have been developed without a solution in mind. These will be updated in collaboration with funded applicants prior to trial and serve as a guide.

Trial key performance indicators

- **Learning Velocity:** How many learnings did the solution create in a given time period which shed light on the problem and customer segment?
- **Cost per learning:** How much did the applicant spend to obtain one learning? Cost can be defined as time or resource allocation.
- **Stakeholder Satisfaction:** Feedback will be collected from key stakeholders involved in or affected by the trial to gauge their satisfaction with the outcomes.
- **Operational Improvement:** The impact of the solution on operational performance will be assessed by measuring improvements in key metrics such as efficiency, time savings, or error reduction.
- **User Adoption Rate:** The effectiveness of each solution will also be measured by the level of adoption by intended users during the trial. A high adoption rate will indicate that the solutions are practical and meet user needs.
- **Problem Resolution:** Each solution is expected to address the challenge identified prior to the trial. The success of the solutions will be measured by how effectively they resolve this challenge. Feedback from stakeholders and post-trial assessments will be used to determine the number and significance of the problems each solution successfully solves.
- **Customer Satisfaction:** This assesses how satisfied customers (end-users) are with the solution after using it during the trial from survey results.
- **Cost Savings Potential:** The cost-saving potential of each PoC will be evaluated based on the data collected during the trial phase. The goal is for each solution to show clear financial benefits, such as reducing operational costs or generating other efficiencies. The financial projections will be based on the performance of the solutions during the trial.
- **Scalability Potential:** after the trials are completed, an assessment will be made to determine whether each solution has the potential to be scaled beyond the initial trial. The scalability of the solutions will be important in deciding their long-term viability.
- **Number of assumptions identified and tested:** How many assumptions were identified prior to the trial and tested by the solution? An assumption being a hypothesis or belief about the solution or problem.
- **Value Proposition Learning Velocity:** How many learnings were identified during the trial responding to the value-proposition.
- **Experiment Efficacy:** The number of expected of unexpected experiments resulted in learnings.
- **Cost per learning:** What was the impact on timing, resources, and expenditure to achieve each learning.



Solution key performance indicators:

User Satisfaction with Notifications

- Percentage of users who rate notifications as timely and helpful, especially during unexpected disruptions.
- Average rating of notification usefulness in user feedback surveys (e.g., 1 to 5 scale).

Notification Accuracy and Timeliness

- Percentage of notifications delivered within a specific time frame of an unexpected disruption occurring (e.g., within 5 minutes).
- Accuracy rate of notifications regarding disruption details (e.g., location, duration, alternative routes).

User Engagement with Notifications

- Click-through rate (CTR) or interaction rate with notifications about disruptions and alternative travel options.
- Number of users who act on the information provided (e.g., take suggested alternative routes).

Reduction in Travel Delays Due to Disruptions

- Average reduction in passenger travel time delays due to the use of real-time context-aware notifications.
- Number of passengers who successfully avoid disruption-related delays due to the solution.

Adoption and Retention Rates

- Percentage of users who continue using the solution after initial use during the trial period.
- Growth rate of active users during the trial.

Customer Complaints Related to Disruptions

- Change in the number of customer complaints about unexpected disruptions before and after implementing the solution.
- Number of complaints specifically related to the accuracy or timeliness of notifications.

Frequency of Unexpected Disruption Notifications

- Number of unexpected disruption notifications sent per week, measured against actual occurrences.
- Ratio of false-positive notifications (notifications sent for disruptions that didn't significantly impact travel).

User Perceived Value of Alternative Route Suggestions

- Percentage of users who report that the solution was useful during disruptions.
- Feedback scores on the relevance and practicality of solution.

Impact on Public Transport Ridership

- Change in the number of public transport users during and after the trial, especially during known disruption events.
- Any increase in ridership attributed to improved reliability and communication through the solution.

System Scalability and Flexibility

- Ability of the solution to handle an increased number of users without a decline in function.
- Number of transport modes or routes effectively integrated into the solution.

NSW GOVERNMENT

Transport
Open Data