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Last Mile Freight Innovation Challenge

Wednesday, 8 May, 2019

Sydney Startup Hub

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Richard Tubb

Innovation Lead, Open Data and Innovation

Transport for NSW

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@DataTfNSW

#LastMileFreight

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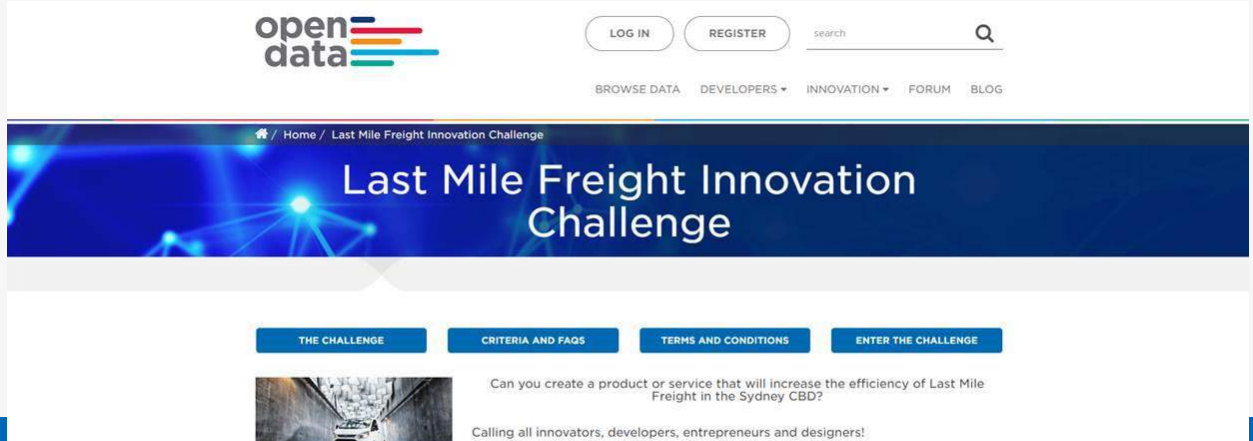
Visit our website

https://opendata.transport.nsw.gov.au/last-mile-freight-innovation-challenge



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Email questions to

freightchallenge@transport.nsw.gov.au

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Agenda

- Welcome Address
- Transport Digital Accelerator - Last Mile Freight Showcase
- Sydney Coordination Office Perspective
- Innovation Challenge Process
- Q&A Panel

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Chris Bennetts PSM

Executive Director, Digital Products Delivery

Transport for NSW

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Melissa Liu

Service Designer, Transport Digital Accelerator

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Last Mile Freight

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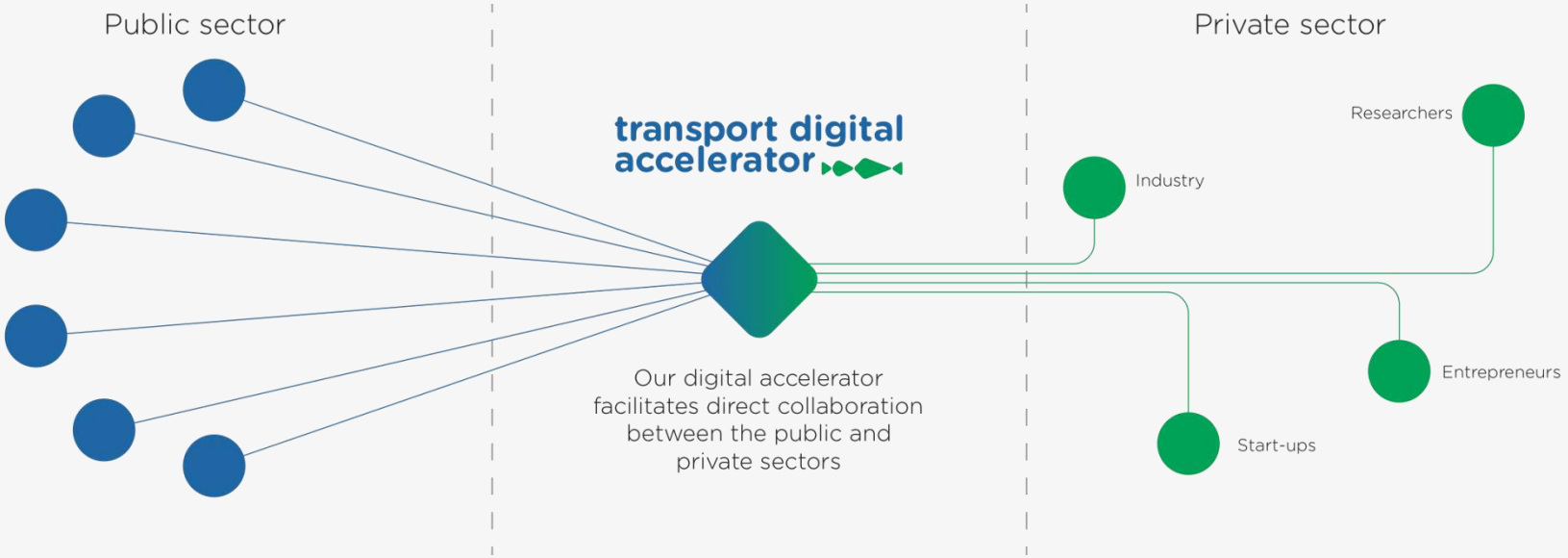
How we work



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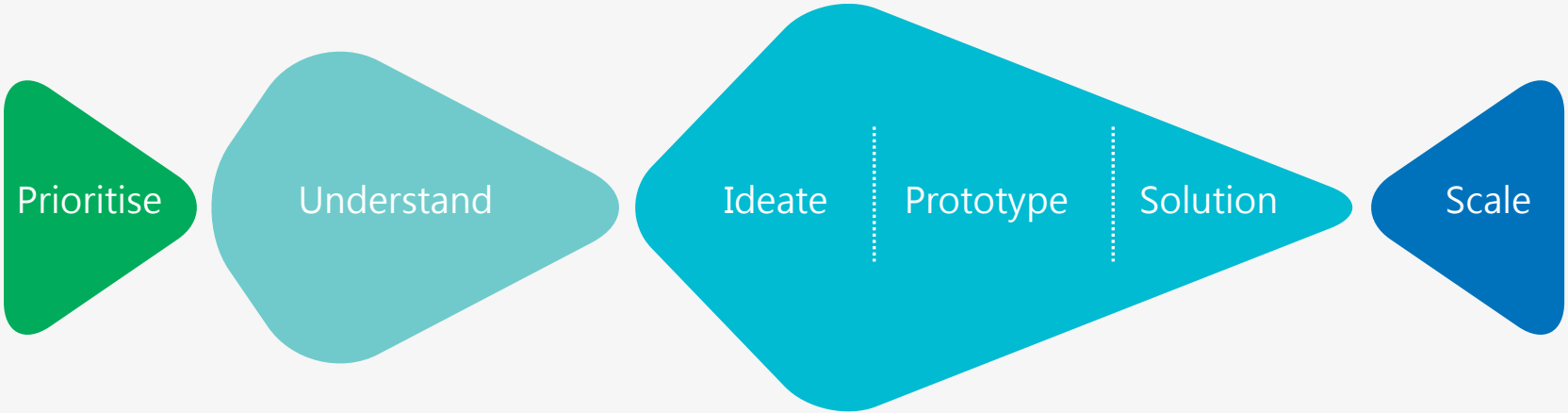
Transport Digital Accelerator Framework



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Problem Space…

Freight congestion within the CBD

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1. Sydney is growing!

With this growth our CBD roads are stretching at the seams…

- Population set to reach 2.1m within the next 20 years
- City trips to increase by 25% by 2031

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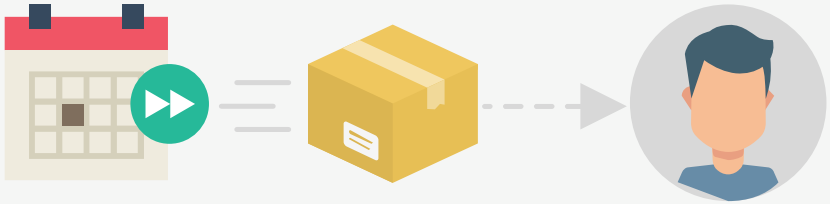
2. Convenience & immediacy are key for both B2B & B2C

Convenience



Immediacy

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The problem space

How might we **reduce** the number of freight trips coming into the city?

So that we decrease congestion and drive improved economic activity.

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Our Research

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We spoke to subject matter experts

NSW GOVERNMENT | Transport for NSW

Sydney Planning • CBD Planning • Freight Strategy • Freight Transport

SYDNEY BUSINESS CHAMBER

THE UNIVERSITY OF MELBOURNE

Transport Engineering

CITY OF SYDNEY 2030

City Access & Transport • Transport Policy

THE UNIVERSITY OF SYDNEY

Transport Management

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We spoke to Customers

THE GROUNDS of THE CITY

Paddy Pallin SINCE 1930

OPTUS

coles

Showpo

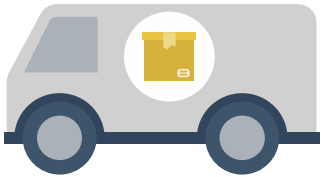
Mountain Equipment

Telstra

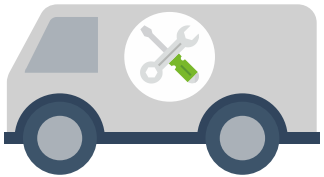
CommonwealthBank

booktopia

THE ICONIC



8
Delivery
Drivers



2
Service
Technicians

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We spoke to Industry

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We made site visits to observe operations

BONDS TRANSPORT GROUP

AUSTRALIA POST

STARTRACK

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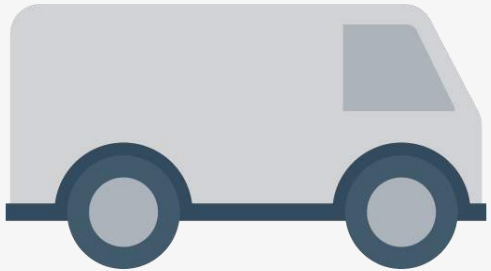
Types of Vehicles coming into Sydney CBD per day



12% are light commercial vehicles (LCV)

3% are heavy commercial vehicle going to the Sydney CBD per day

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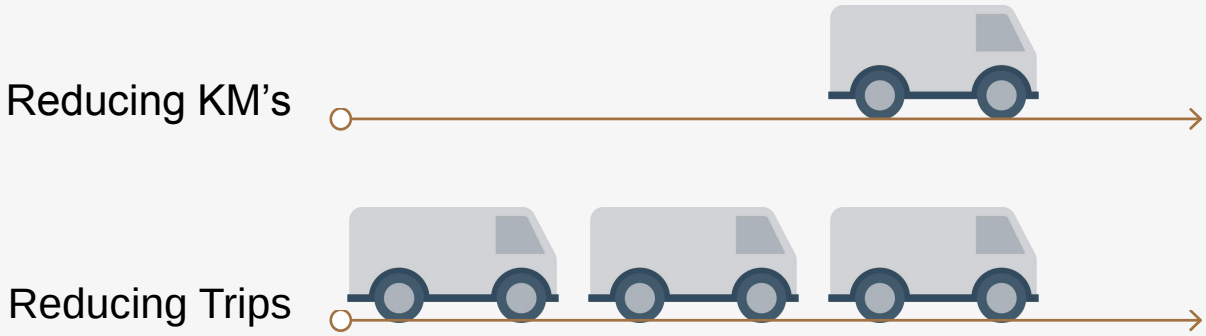
We want your help to reduce congestion in the city through two different ways:



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Customer Personas

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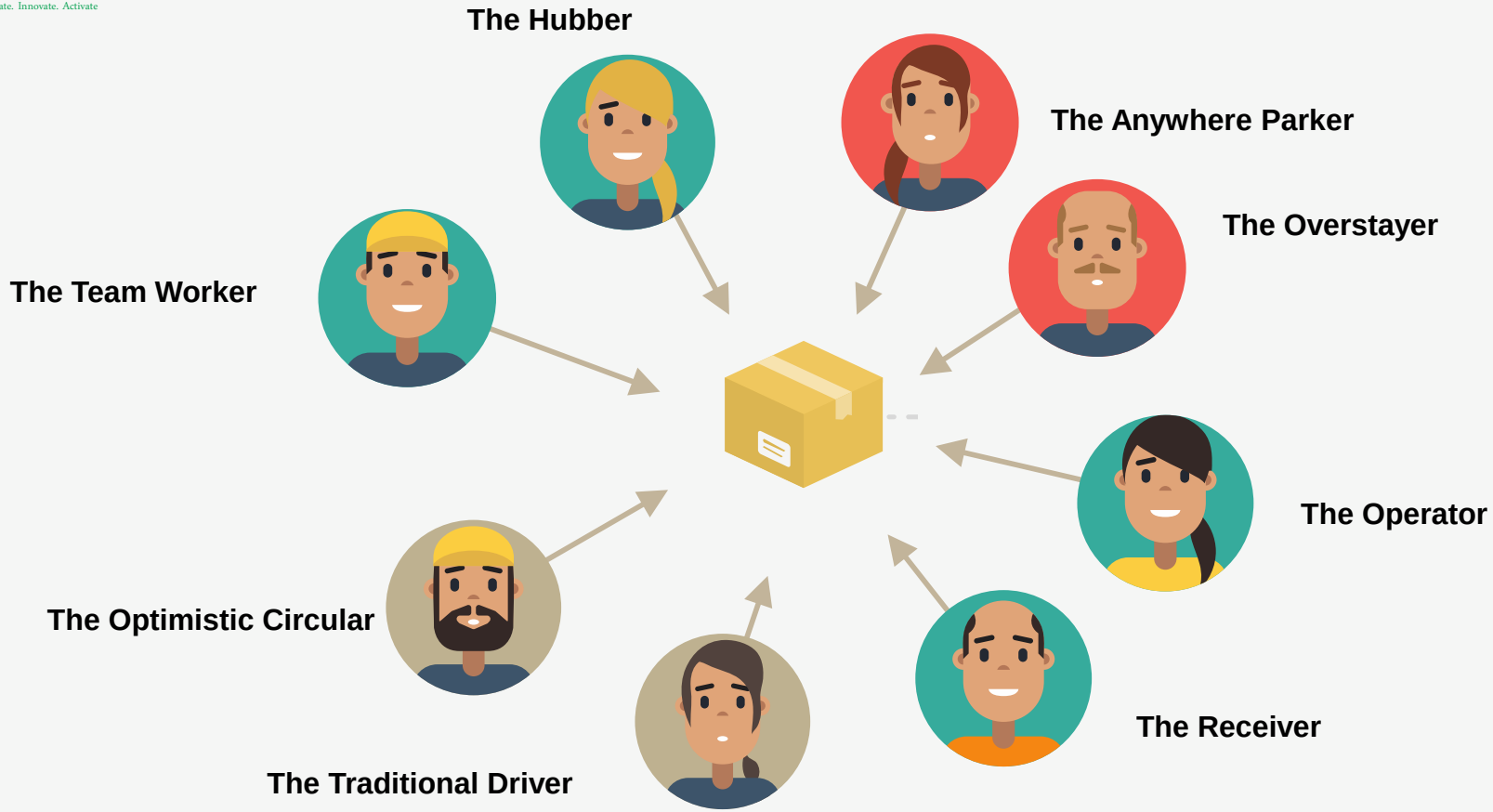

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Problem Statements

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How might we…

1. Create awareness of the bigger transport picture?
2. Maximise positive behaviours?
3. Make deliveries more efficient?
4. Encourage greater end to end collaboration?

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1. Creating awareness of the bigger transport picture

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Opportunities for government and delivery operators

How might we build a system that allows the government to monitor how freight is delivered in the CBD?

So that we have a deeper understanding of how to improve freight movements going forward for government and delivery operators.

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Concept Thought Starters

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Smart Loading Zones

A system that supports the correct use of loading zones, provides a view on how freight is delivered in the city and creates a case for change.

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Driver registers their vehicle online in order to obtain access to the new loading zone system

Driver is supplied with DriverID and RFID sticker

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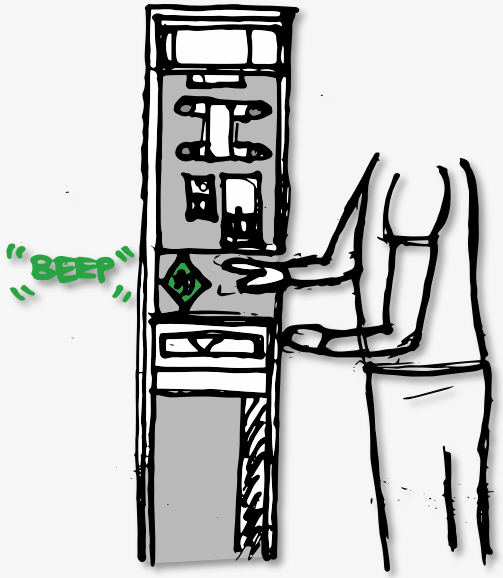
Driver taps on to activate free loading zone time

(Parking sensors also record time spent)



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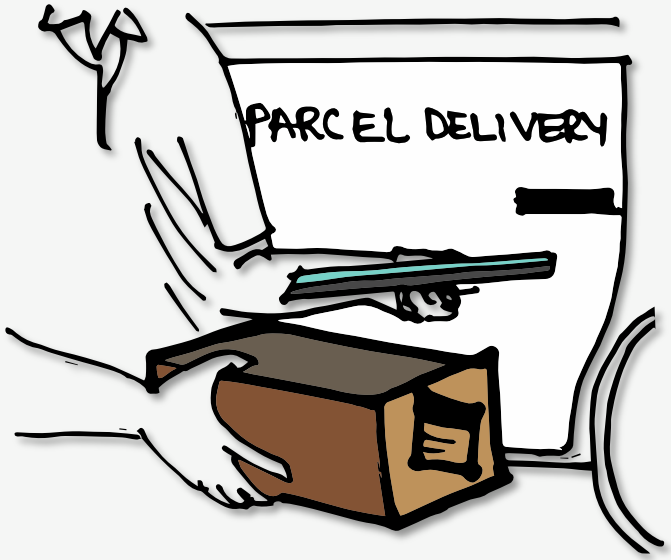
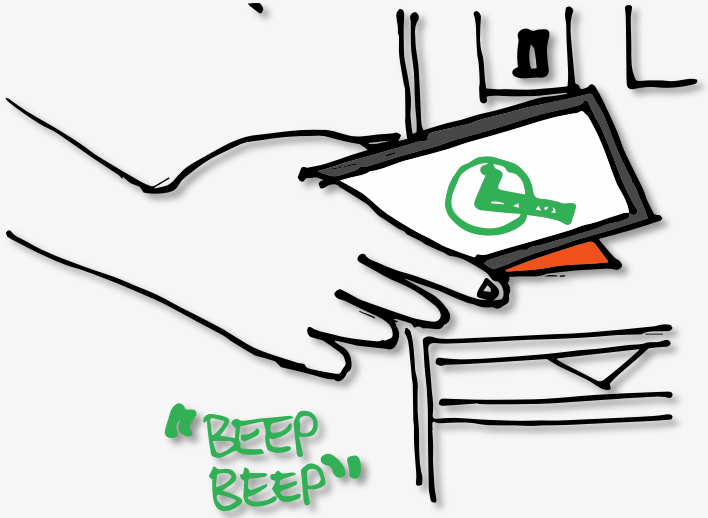
Driver proceeds to deliver parcels





Driver on completion taps off to record exit

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Smart Loading Zones

Outcomes

- Build an evidence base of freight data
- Parking compliance improvement
- Change the bad driver behaviours
- Build a case for new changes
  - Types of parking spaces
  - Understand the true delivery cost

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2. Maximising positive behaviours

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Opportunities for delivery drivers

How might we trial delivery spaces that operate in line with the needs of delivery operators and delivery drivers of light commercial vehicles?

So that we continue to create positive behaviours that foster improved and efficient freight deliveries.

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Dedicated Delivery Spaces

Allocating out spaces for delivery drivers to encourage different delivery behaviours.

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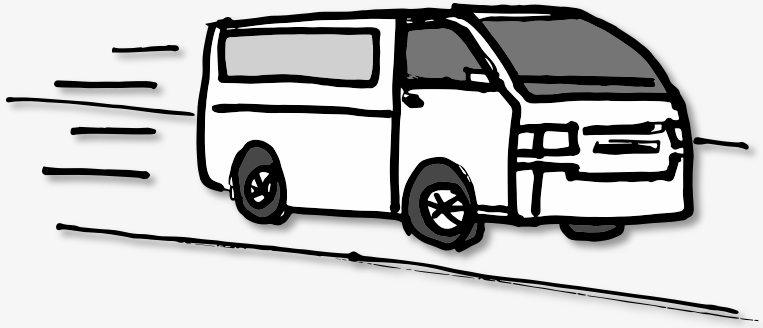
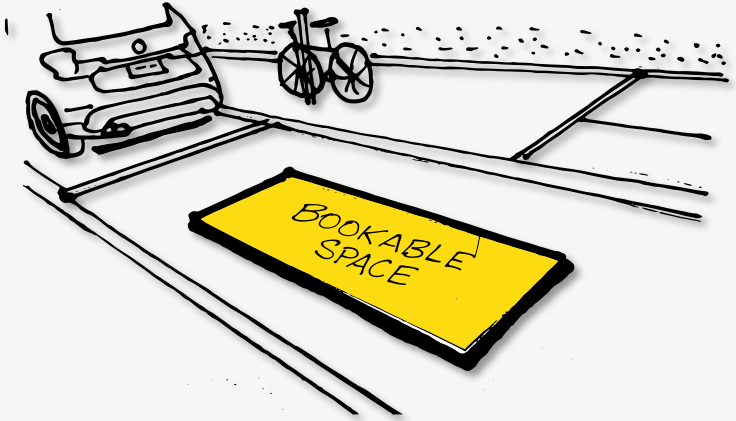


A delivery run commences

A delivery driver notices the empty “bookable space”.
A spot that will support their different (but beneficial) delivery needs



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Then setting up and running a street side delivery van hub

So that van drivers can deliver more, not risk a fine and reduce the kilometres they drive in the city

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Also working with new infrastructure to create handover and consolidation spots so that deliveries can be reallocated

And deliveries can be matched to the most suitable transport method for the last distance in the city

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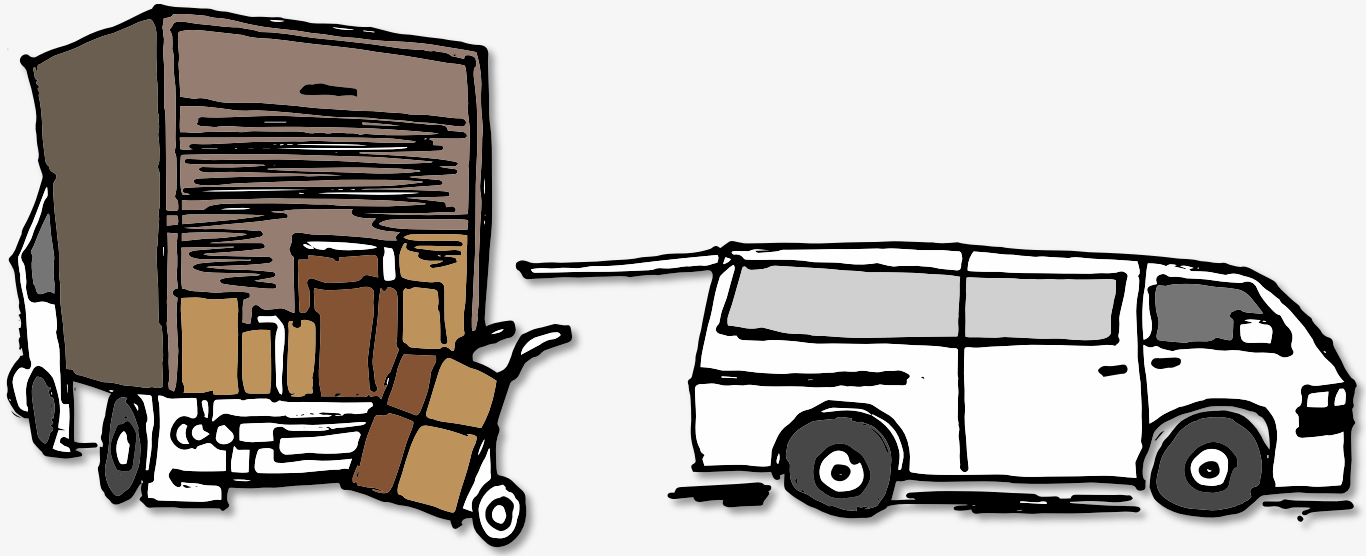
And enable van package top ups so that these behaviours can keep going.



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Dedicated Delivery Spaces

Outcomes

- Reduced km’s driven
- Trial is run to build evidence/data
- Build a case for supporting them further
- Understand the value these spaces present and charge accordingly

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3. Making deliveries more efficient

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Opportunities for delivery operators and drivers

How might we improve the visibility of delivery space usage?

So that we make it easier for drivers to obtain the ideal park for their needs.

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Searchable Loading Zones

Loading zone availability data is made accessible for use in a searchable map.

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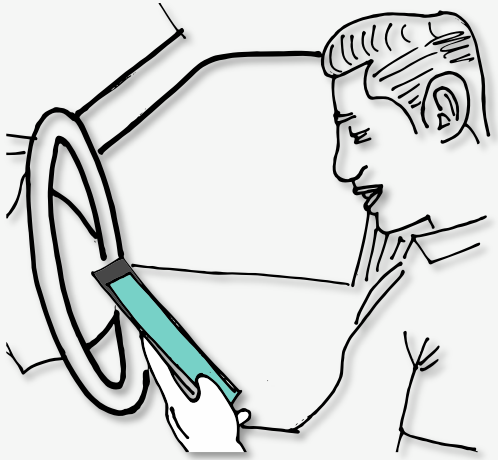
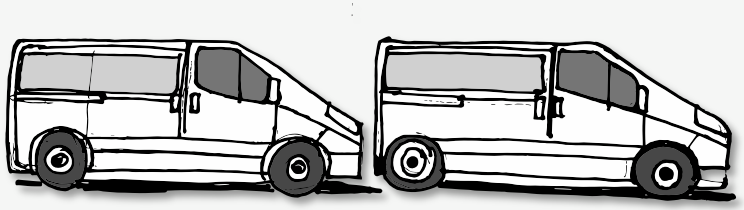
Delivery driver logs on to app while parked before making their delivery run





App returns data on used and unused parking spaces

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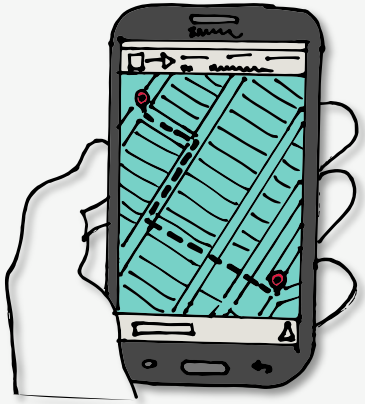
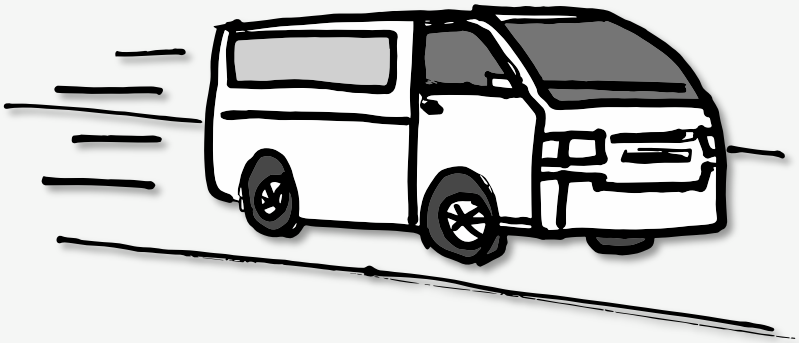
A vacant spot is located and the app directs the driver to the vacant spot by GPS mapping

(via the inbuilt sensors providing a data feed)





A delivery run commences

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Searchable Loading Zones

Outcomes

- Reduced km’s driven
- Improved situation for drivers
- Paint a picture of how the system is currently working
  - Is it that bad?

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4. Greater end to end collaboration

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Opportunities for all participants

How might we help retailers, drivers and receivers to start exhibiting more collaborative methods of delivery?

So that we make their inbound and outbound freight trips cause less CBD congestion.

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Concept Thought Starters

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Open Shared Delivery Platform

An open digital platform linked to a network of delivery banks that are multipurpose drop off and pick up centres for any participant in the CBD parcel delivery journey.

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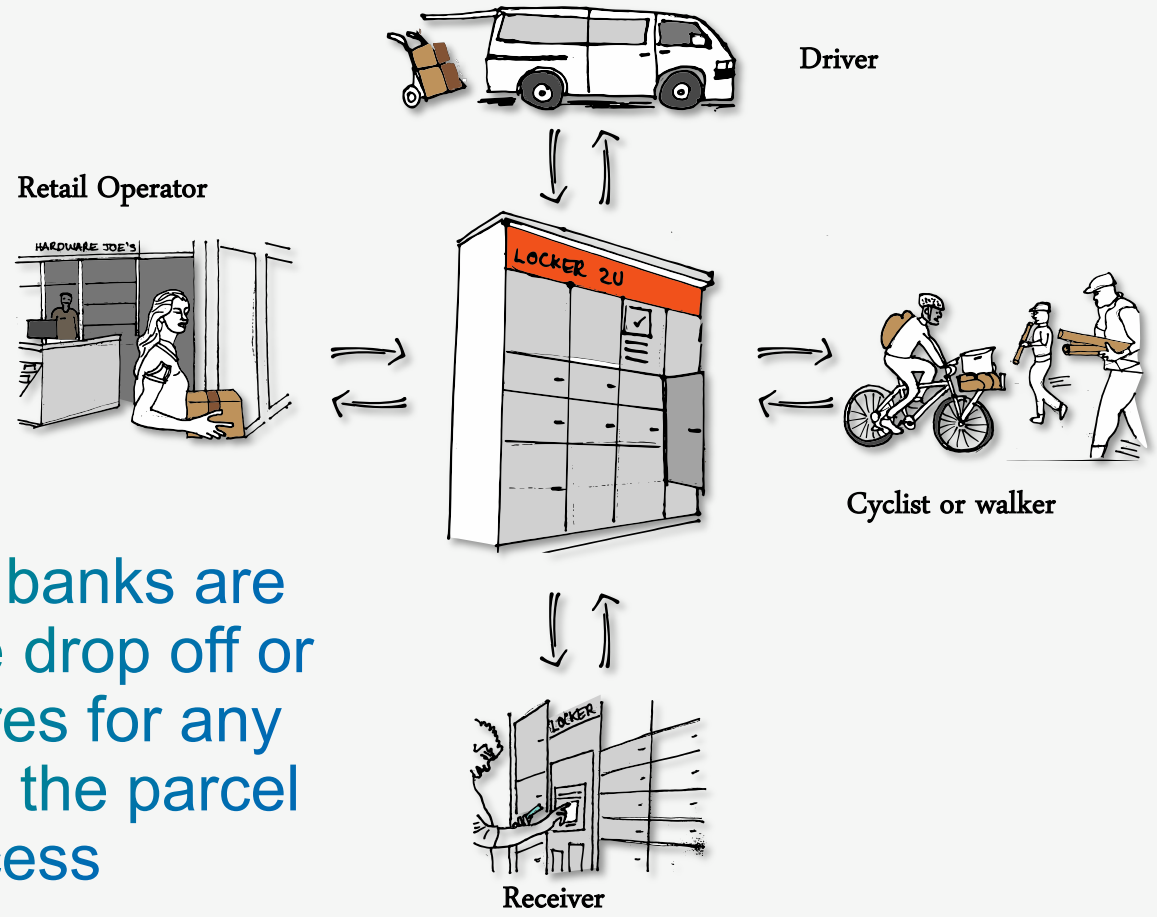

The delivery banks are multipurpose drop off or pick up centres for any participant in the parcel delivery process

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Open Shared Delivery Platform

Outcomes

- Positive change in behaviours
- Reduced km’s driven
- Positive change in the delivery experience
- Everyone playing their part

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Thanks!

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Michael Stokoe

Associate Director Freight & Servicing, Sydney Coordination Office

Transport for NSW

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Problem Space…

Managing the CBD freight challenges

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Sydney is growing!

With this growth our CBD roads are stretching at the seams…

- Population set to reach 2.1m within the next 20 years
- City trips to increase by 25% by 2031

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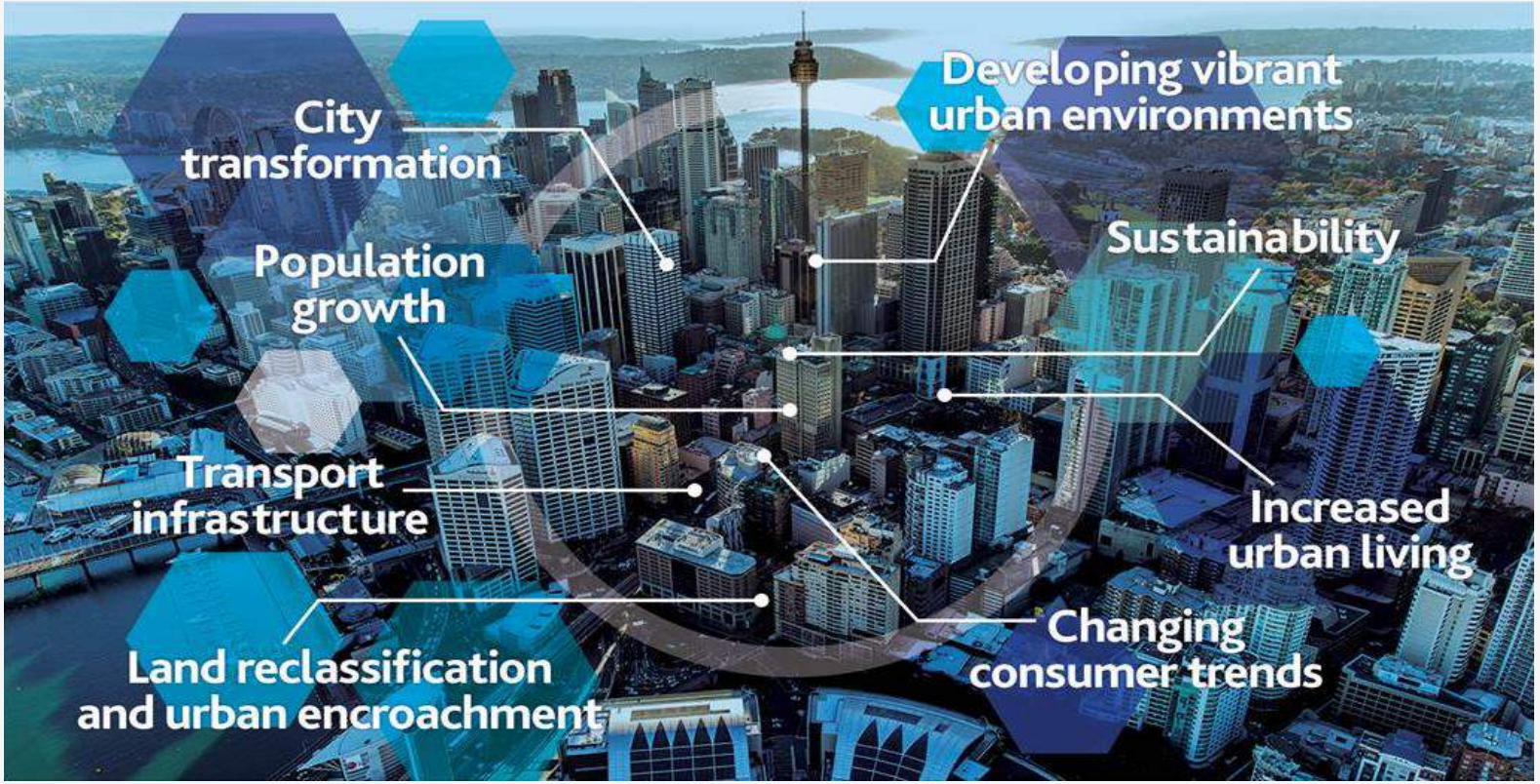
Developing Challenges of a Global City



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Freight Innovation and Adaptation

Less capacity – growing demand

Key messages for freight and servicing are:

Shifting freight and servicing activities to outside peak times gives opportunities for greater efficiency

Avoid the CBD for through traffic where feasible. Be aware of alternatives that can improve your efficiency

Use efficient modes for distribution in the CBD where feasible

Consolidate, improve utilisation, reduce trip numbers, sustainable procurement, building delivery service plans

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Global Consumer Trends: Choice = Freight

In one short section of a Sydney CBD street we found there was a consumer choice of **230** different types of bread for sale.

Bread by numbers:

- **1** side of the street in a 220 metre CBD block
- **21** shops and cafes selling bread
- **35** bread suppliers
- **80** deliveries each day

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Key Urban Constraints for Freight and Servicing

- Freight already has a high priority in The City's kerbside hierarchy
- Freight and servicing demands impact on the transport network:
  - Limited and finite kerbside space
  - Loading dock provision and usage preferences
  - Non-discretionary, time sensitive service orientated transport tasks competing for space
- In a city undergoing large scale transformation and growth there is:
  - Extra construction traffic
  - Space taken up by work zones

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Why use loading zones rather than a dock?

- Your customer doesn't have a dock
- Your truck doesn't fit (height, length)
- Your customer (the tenant) doesn't manage access to the dock, the property manager does
- You have deliveries to make to 151 and 155 xyz street. Both have docks. Parking in the street means you can access both customers easily
- Getting to the dock requires going into a one way street system
- You need to create a booking. You don't like admin/it doesn't suit your operating method
- The dock hours are restrictive
- The dock space is congested and takes too long

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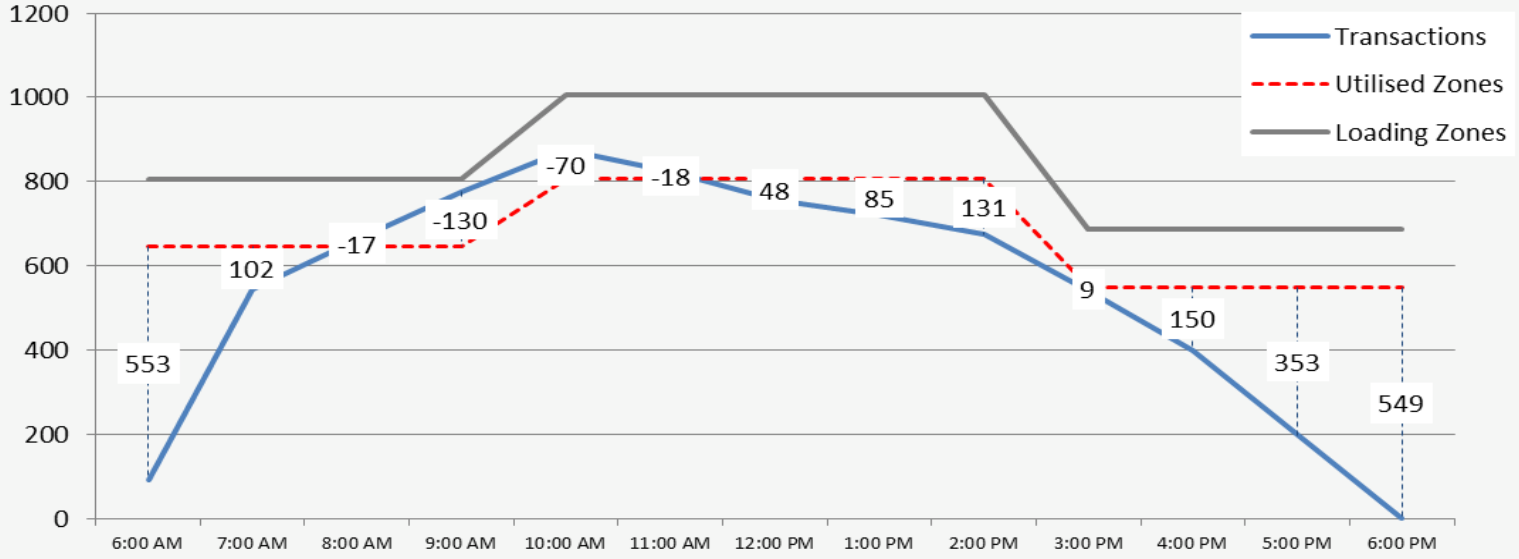
On-street loading zone utilisation

- Approximately 3.0 million loading zone “button push” transactions per year
- Peak period 9-11am exceeds operational capacity



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Dwell Times

Average dwell times by vehicle type (minutes)

	2016	2018	% Change
Passenger/Private	19	12	-37%
Delivery	29	31	+7%
Service	60	51	-15%

- Greater pickup and drop off for passenger vehicle turnover, particularly late in the day
- Delivery drivers (couriers in particular) are delivering more. It is no surprise that dwell times have increased as they “hub” to complete more deliveries from one parking location
- Enforcement and construction workplace practice could be working for service vehicles.

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Micro Distribution Strategies DPD, London
All electric last mile delivery depot

- 2,000 parcel p/d capacity site in Westminster
- Paying market rent for 500m^2 to service SW1
- Big investment in electric vehicle charging capability
- Electric vehicles to Feed depot and also outbound
- Searching for Micro depot sites in Bayswater, Covent Garden, South Kensington, Marylebone, Barbican and Bank

https://motortransport.co.uk/blog/2018/10/17/dpd-opens-its-first-all-electric-last-mile-delivery-site/

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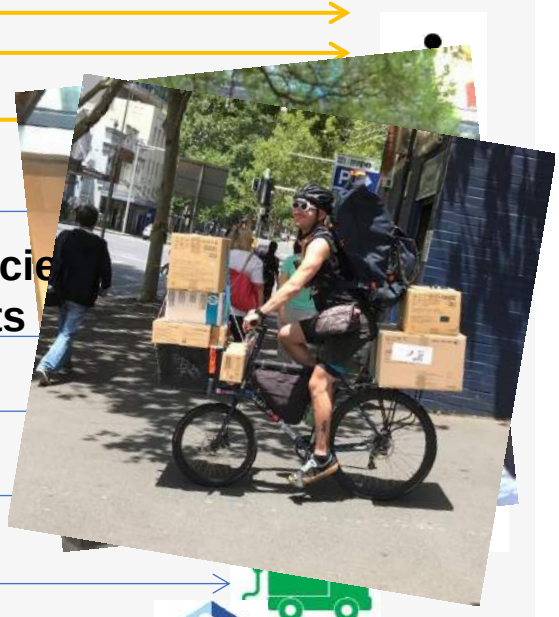
Rethinking How to Service the Customers Needs

Current status quo:

Daytime Activity



Future Scenario:
Key use of urban logistics spaces efficient activity

Efficient Metropolitan Movements

Urban Logistics and Servicing space

Road network Movements

Space Efficie Movements

Precinct fine grain networks/ urban networks

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Last Mile Freight Innovation – why is it needed

- A market need
- Pressure and conditions to encourage change
- Consideration of what the future looks like
- Adopting an innovative perspective – “we want a better outcome”
- Equipment that can do the job
- Processes and Systems that can make it happen efficiently
- Building partnerships between relevant stakeholders and players

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Thank you

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Micah Starkis

Director, Open Data, Apps and Customer Feedback Systems

Transport for NSW

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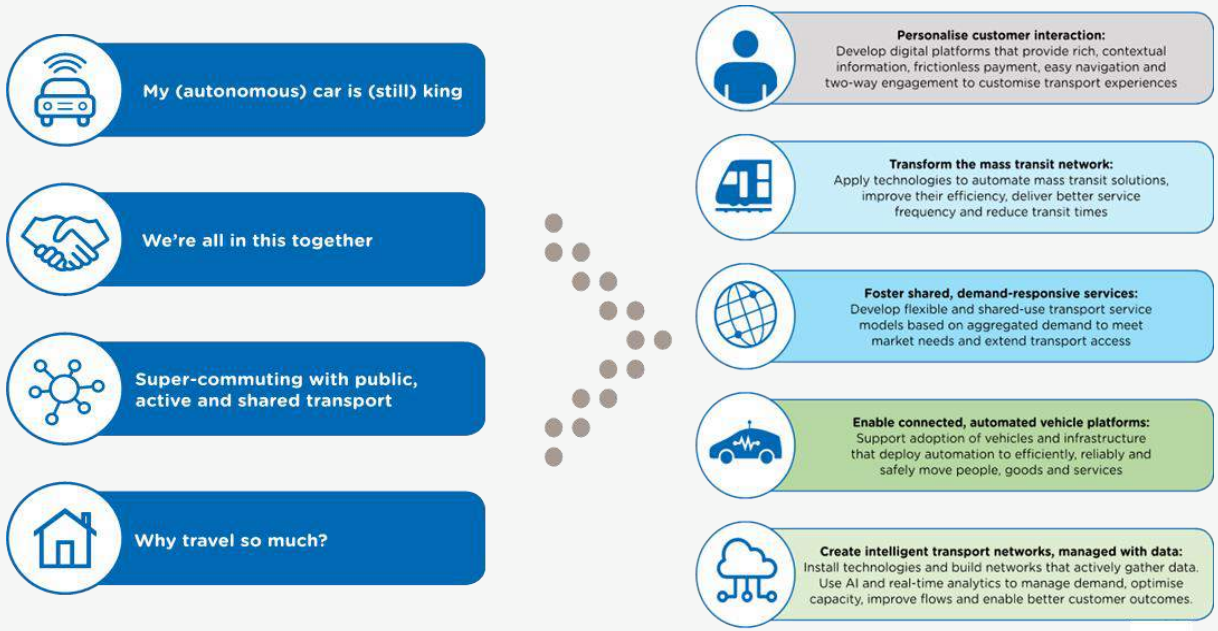
Future Transport Technology Roadmap



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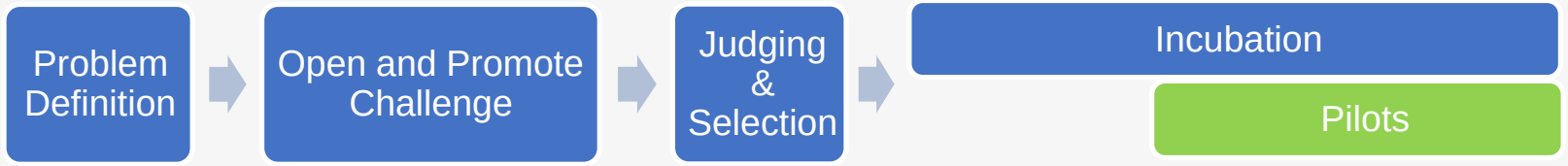
High Level Approach



- Procurement Strategy
- Website build
- Marketing assets

- Launch website
- Information Session
- Open applications
- Facilitate collaboration

- Evaluation
- Request for proposals
- Developer agreements finalised

- Integration with TfNSW systems
- Testing and validation

- Marketing / Comms
- Customer facing trials begin

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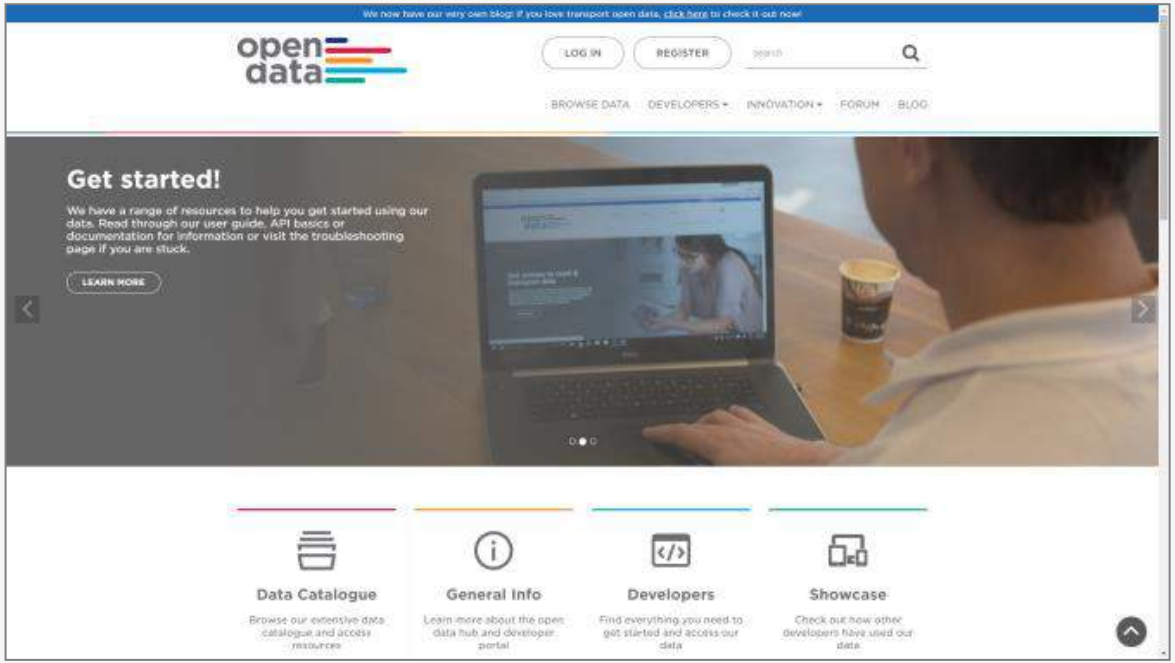
Innovation, Information and Data Sharing

3 billion data requests (API Hits)

15,700 users

3,357 applications

7 million customers accessing real-time data



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Organisational Strategic Alignment

Show us how……

- There is an organisational strategic alignment or
- Demonstrated commitment to reducing congestion in the CBD related to last mile freight deliveries.

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Delivers an improved Last Mile Freight customer experience and Innovation

Show us how……

- The product or solution improve efficiency and/or achieve a clear customer value proposition
- or deliver other benefits to customer or Government.
- The product is unique, innovative and differentiated from other products.

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Technology and Resources are available and data sharing is enabled

Show us how……

- The proponent has the resources, capability and/or technology to deliver the proposed solution.
- The technology to deliver the solution is available and accessible.
- There is a focus on enabling the sharing of data to be used within the transport ecosystem to improve customer information and assist the effective management of the transport network.

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Timeframe and approach that will achieve the milestones

Show us how……

- There is feasible approach that will be taken to design, build and deliver the solution to be ready for a customer pilot to the timeframe
- The roles and responsibilities of TfNSW are defined and the required actions and activities required from TFNSW are known.

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Indicative Investment Required

Show us how……

- If seed funding is required to deliver the product, service or solution, it is identified and is the best value for money for government.
- A model to commercialise and make the product, solution or service sustainable in its own right is known.
- The RFP evaluation will consider the request for seed funding as a total value and as a proportion of the total project value/budget.

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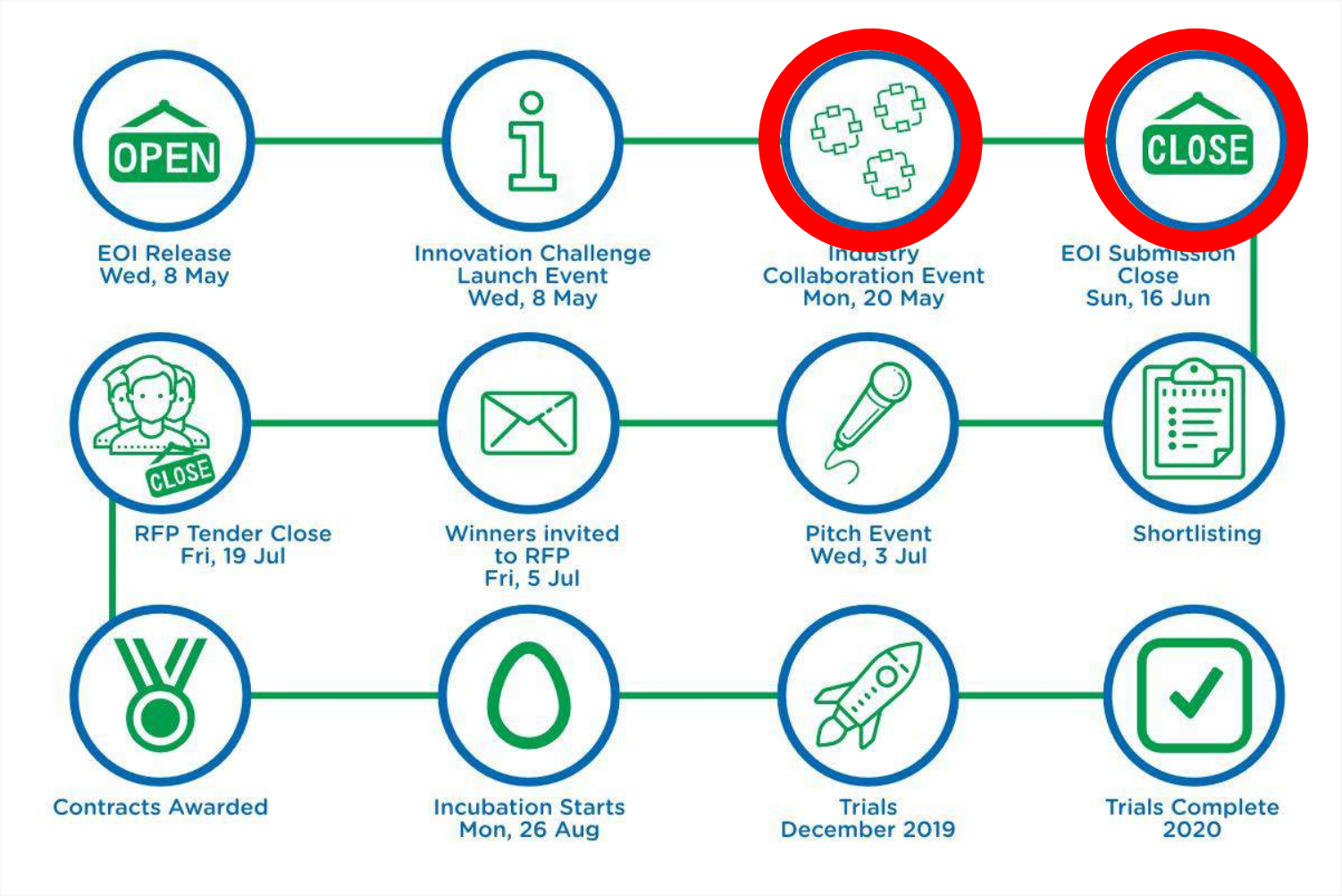
Timeline



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Key Next Step 1: Innovation Challenge Submissions

- Opens today!
- **Closes 16 June 2019**
- Criteria to be addressed
- Invited to pitch to an external judging panel
- Refer to website

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Next Step 2: Industry Collaboration Event

- The industry networking session
- Facilitated by TFNSW
- Optional presentations
- Opportunity to meet, engage or partner with other organisations or teams
- Potential to improve your submission

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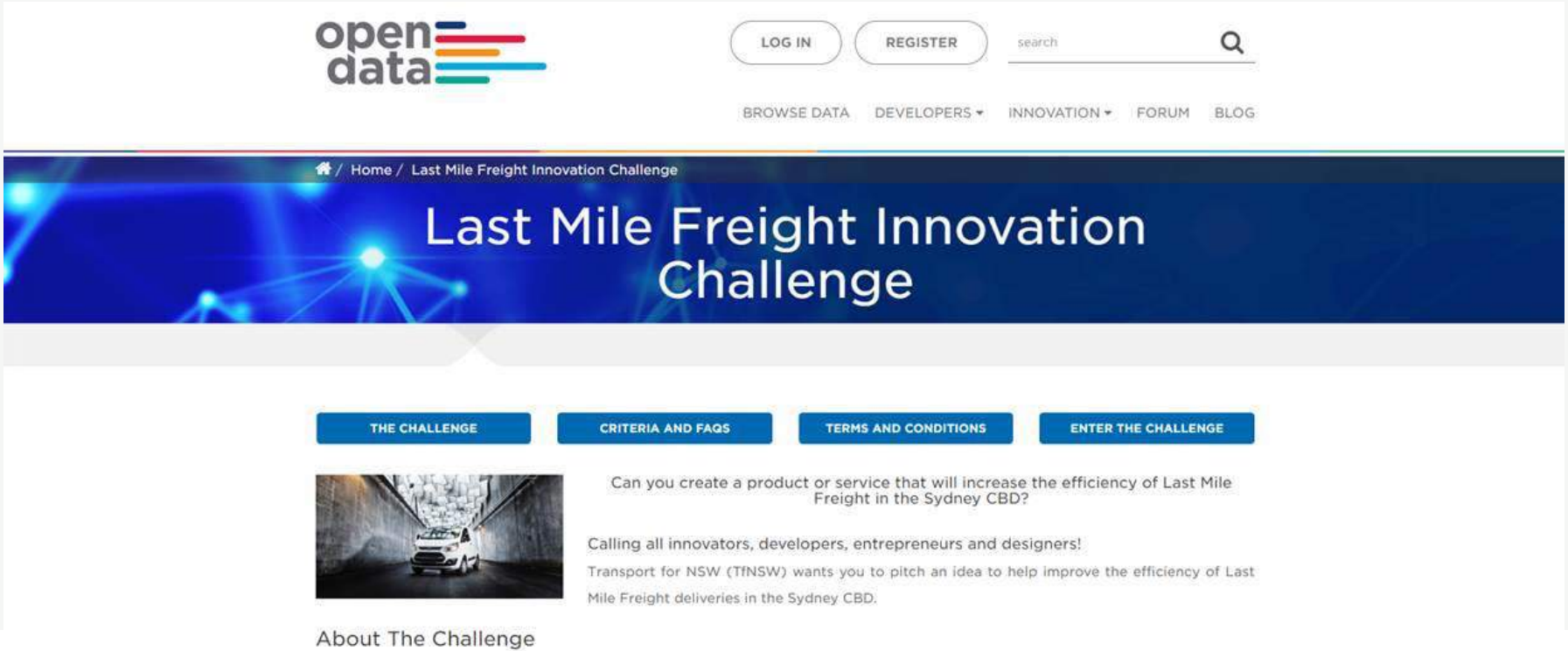
https://opendata.transport.nsw.gov.au/last-mile-freight-innovation-challenge



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Thanks!

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Q&A Panel

- **Melissa Liu**, Service Designer, Transport Digital Accelerator, **Transport for NSW**
- **Micah Starkis,** Director, Open Data, Apps and Customer Feedback Systems, **Transport for NSW**
- **Michael Stokoe,** Associate Director Freight & Servicing, Sydney Coordination Office, **Transport for NSW**

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Resources

- Website
  https://opendata.transport.nsw.gov.au/last-mile-freight-innovation-challenge
- Register for Industry Collaboration Event - 20 May, 2019
  https://www.eventbrite.com/e/industry-collaboration-event-last-mile-freight-innovation-challenge-tickets-61477569064
- Video recording of the launch event - 8 May, 2019
  https://youtu.be/nU1zqT3TCXM
- Follow us on twitter for announcements @DataTfNSW
  https://twitter.com/DataTfNSW