SCATS

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# SCATS SNUG Update

September 2025

NSW GOVERNMENT

# SCATS update – September 2025

- SCATS recap
- SCATS Commercial release - User Interface November 2025
- SCATS Data Insights – Historical
- Advanced sensor integration
- Roadmap – upcoming commercial releases, updates

# Sydney Coordinated Adaptive Traffic System (SCATS)

- World-leading innovation in ITS solutions
- Government owned, made, and operated in New South Wales, Australia.
- SCATS has been helping cities optimise their traffic network and keep people safe for 50 years.
- SCATS business continues to grow and is currently installed at more than 60,000 intersections, across 216 cities, in 33 countries worldwide.
- Keeps cities moving 24 hours a day, 7 days a week globally.

**Trusted expertise**

**Scalable systems**

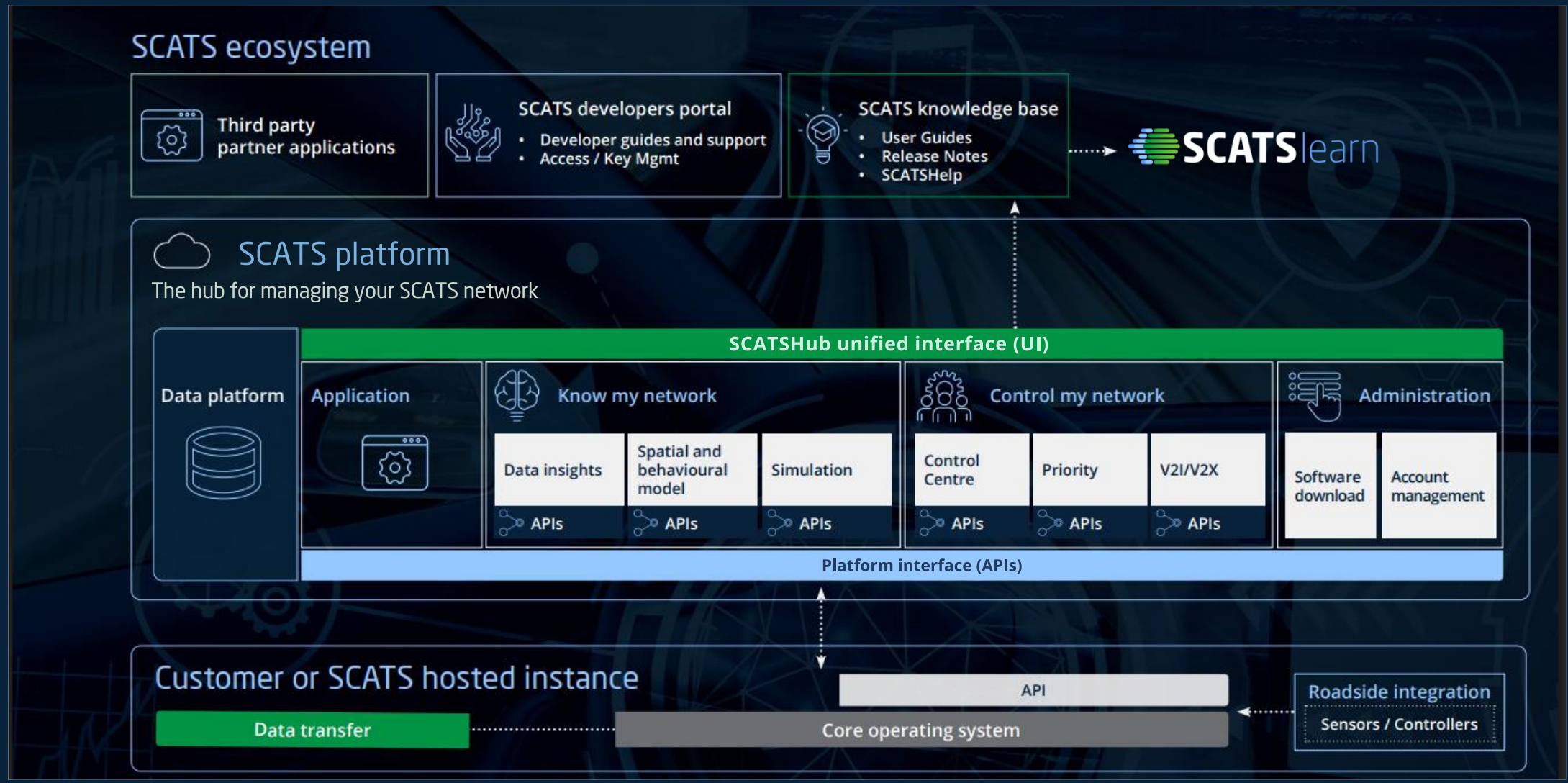
**Connected communities**

**Lower emissions**

**Safer journeys**

**Continuous innovation**

# SCATS platform



# 01

SCATS User Interface

Commercial release – November 2025

# Benefits of the new User Interface

**Intuitive navigation:** reduces the learning curve and enhances user engagement, regardless of your experience in the field.

**Easy to understand visuals:** provides map and graphical visuals to give you a holistic and detailed view to manage your network easily.

**Aggregated data:** eliminates guesswork and provides the insights you need to make the right decisions that drive results.

**Accessible:** progressively meeting AA accessibility standards, helping all users to engage with the tool without barriers.

**Role-based:** allows an admin to assign roles and decide what users can see and do.

The new user interface will form the hub of your organisations traffic management, adding features and functionality to enable interventions, enhance management and set free your data to provide greater insights

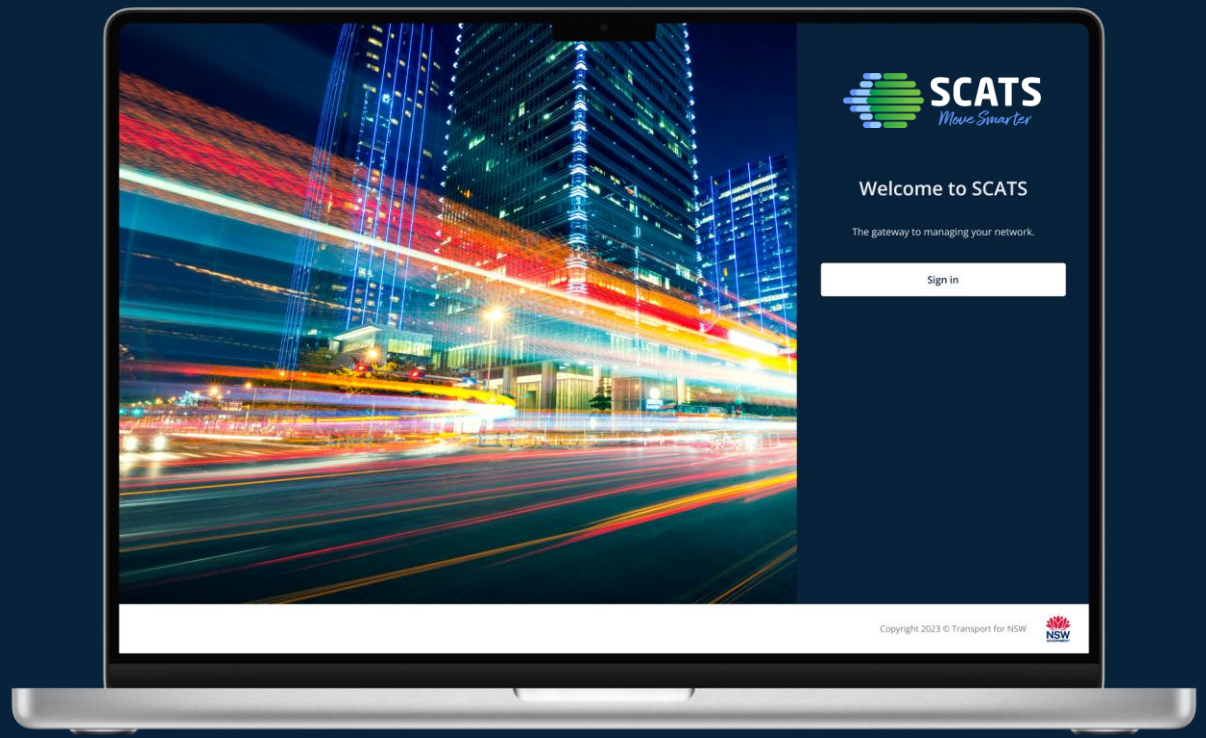
# Transport for NSW deployment

SCATS is progressively updating the user interface to phase out SCATS Access.

Customers will be able to purchase user-packages based around the roles performed within the current Access product.

The first commercial bundle will be for **Viewer** access and provide the same functionality as currently in SCATS Access for Viewers PLUS additional situational awareness presented within the map-based interface.

This enhancement allows Operators to quickly interpret the meaning and significance of the data and take any needed action to improve traffic flow.



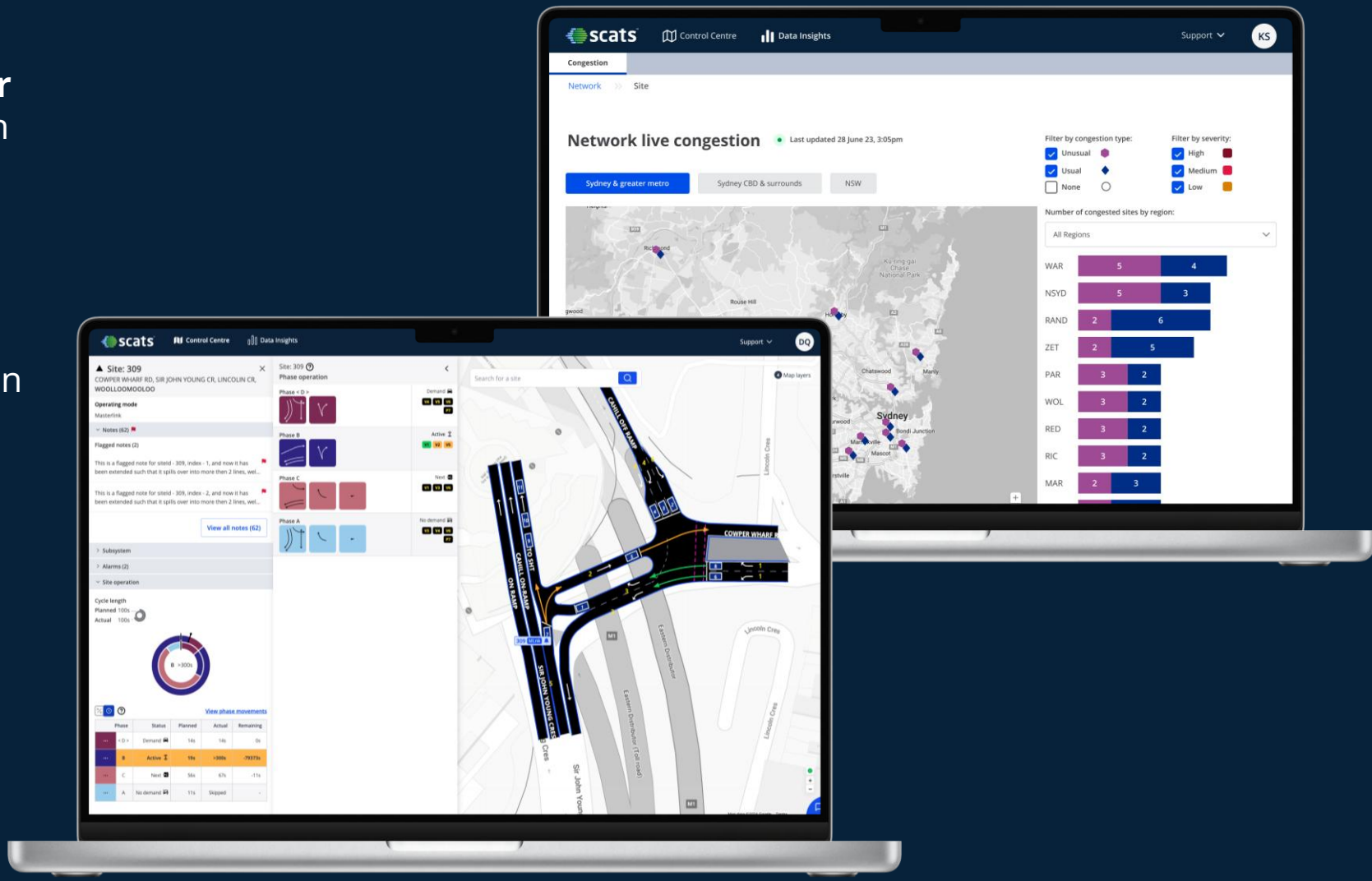
# What can you buy?

The first commercial release of the new SCATS user interface includes the **Viewer** bundle, available as subscription base on the number of users.

Additionally, until Intervention and Operational features are added to the new interface, Access will be embedded for ease of use in the event of need for an intervention or change.

**What's next?**

**Data Insights** - Historical
**Data Insights** – Real time
**Operator bundles**
**Practitioner bundles**



# What’s in the Viewer bundle?

**November 2025**

SCATS UI
Viewer bundles

**Pre-requisites**

Core v 6.11 or greater
Cornerstone v 1.6.1 or greater
AWS*
Google maps*

- View sites on map
- Filter map and isolate sites
- View subsystems and links
- View site graphics (cornerstone)
- Search/filter for sites by ID, Street
- View active operating mode
- View site operations (pie chart etc.)
- View camera ID
- View signal groups
- Multi-site table view
- Launch SCATS Access
- View system status (CM and Region)
- View all site locks/trims/dwells
- View site notes
- View site messages
- View all alarms
- View alarm information

Included features

# 02

## Advanced sensors and pedestrian management

## Manly Ferry Wharf and Esplanade intersection

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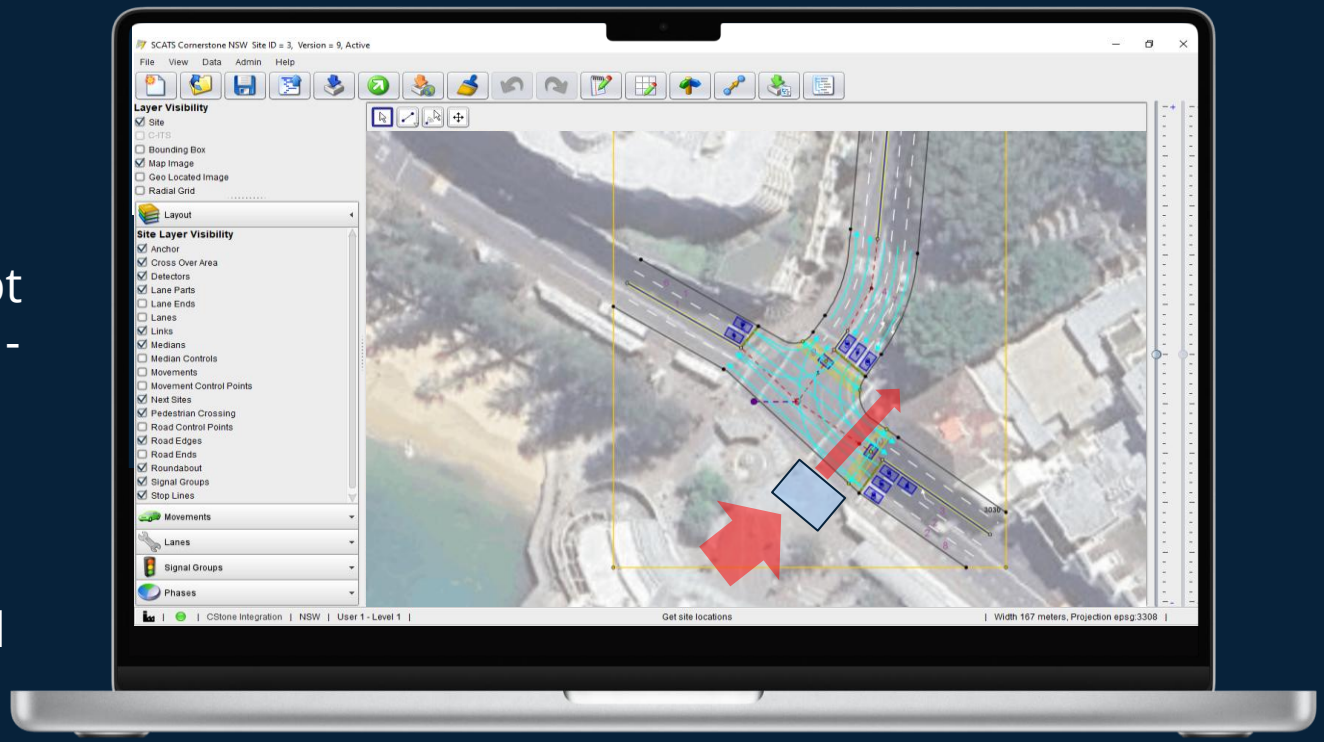
# Background & challenge

Manly Wharf is a busy transport hub **where ferry arrivals** cause unpredictable surges in pedestrians waiting to cross at the intersection – from 1 or 2 to over a thousand in minutes.

The existing traffic signal set up struggled to adapt to these fluctuations, leading to **safety concerns** - particularly with pedestrians crossing during **the flashing red phase**.

Recognising this challenge, the SCATS R&D team identified Manly Wharf as an ideal location to trial adaptive pedestrian sensing technology, leveraging Artificial Intelligence (AI) to improve both safety and traffic flow.

Launched in August 2024, the trial uses **FLIR TrafiOne camera sensors** and scalable data architecture integrated into SCATS.



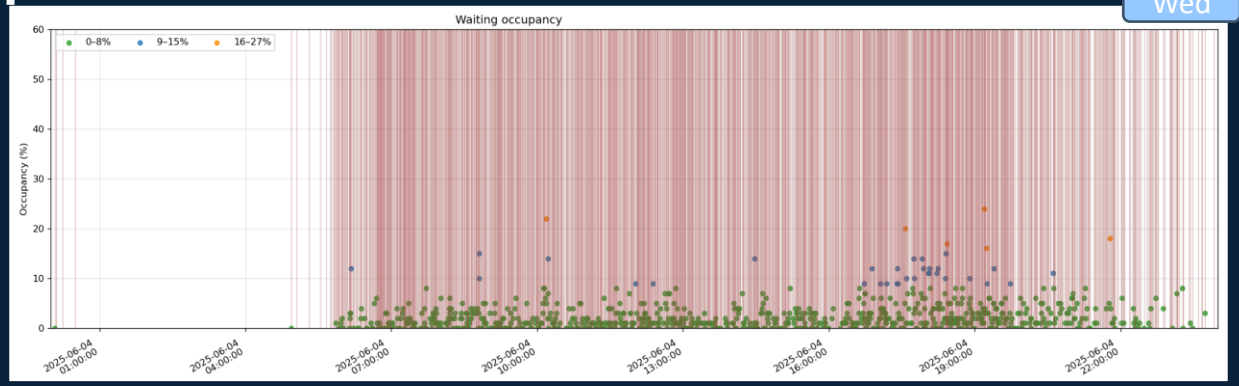

Manly Wharf spatial model in Cornerstone

# Preliminary results & insights

Visualisations generated from occupancy data captured by cameras show higher pedestrian occupancy on weekends, indicated by the red points.

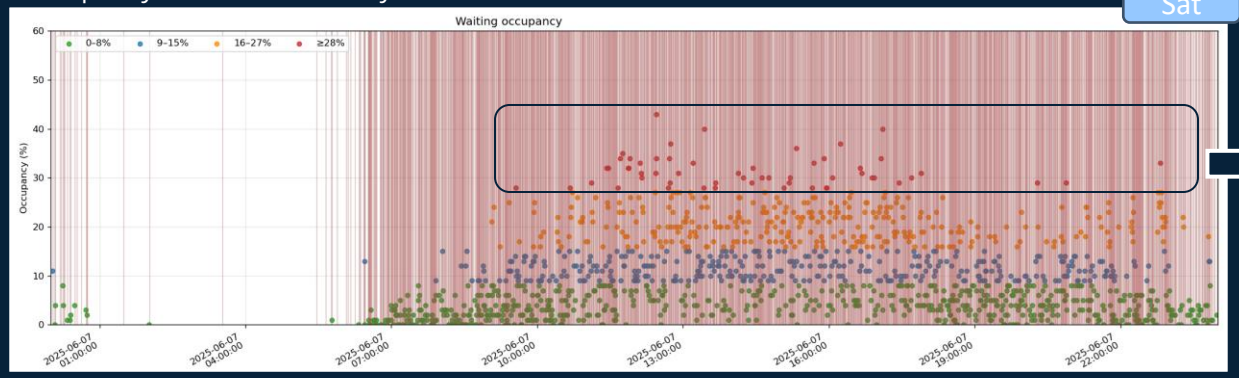
These peaks, especially **during ferry arrivals**, reinforce the need for **dynamic green signal phases**.

Wed




Occupancy data on a weekday

Sat



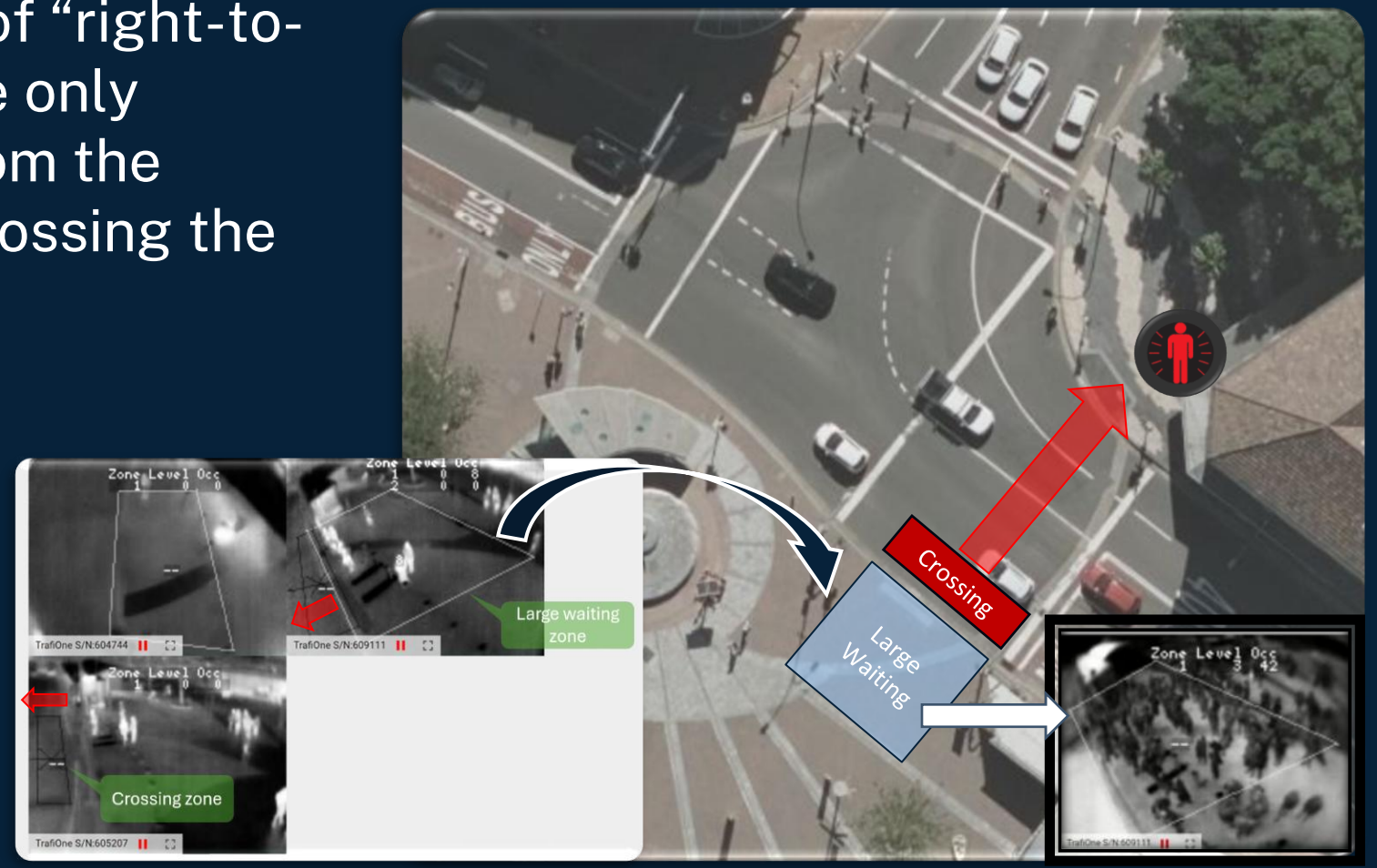

Occupancy data on a weekend

| Point Colour | Pedestrian Pressure | Green Phase duration |
|---|---|---|
| Green | Very Low Level | 6 seconds |
| Blue | Low Level. | 8 seconds |
| Orange | Medium Level. | 10 seconds |
| Red | High Level | 12 seconds |

# Road Safety - Crossing Zone Detection during "Flashing Red" Phase

- One “crossing zone” zone is configured for pedestrian of “right-to-left” detection. It should be only sensitive to pedestrians from the Manly wharf (right side), crossing the road from right to left.

- It detects pedestrian violations - those who begin crossing during the “Flashing Red” signal.



# Visualisation

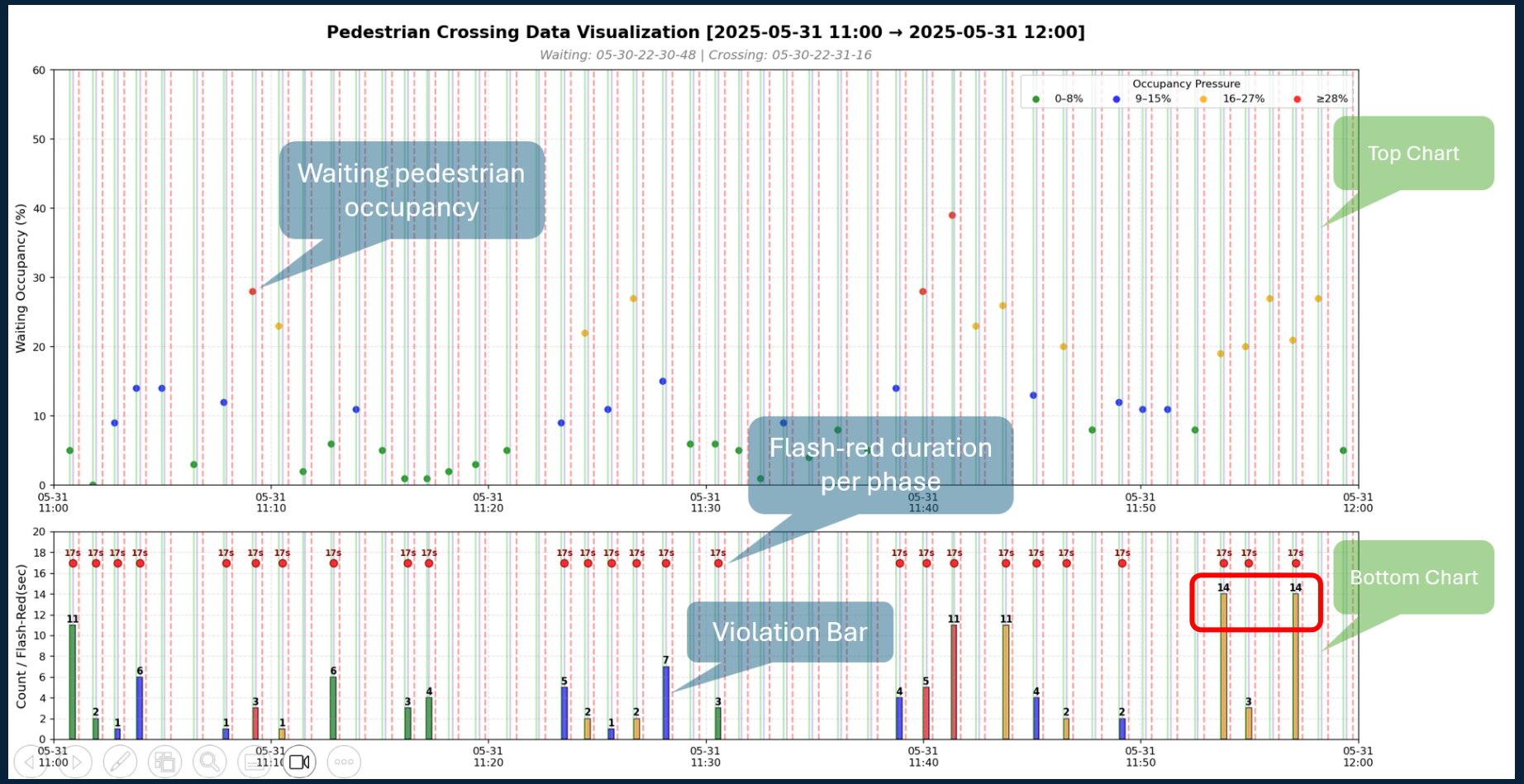
This is visualised by integrating the **Standard SSDM messages** on the cloud with the **SCATS history data file**.

- 6 seconds
- 8 seconds
- 10 seconds
- 12 seconds

Start time of ‘green’

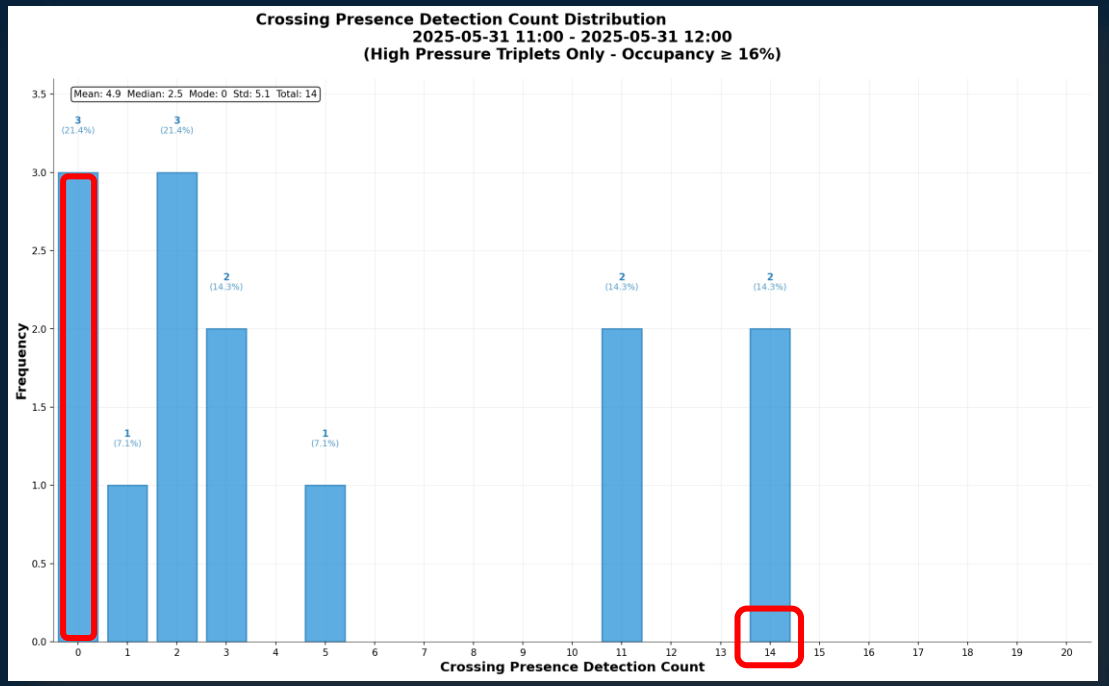
Start time of ‘flash-red’

Start time of ‘red’



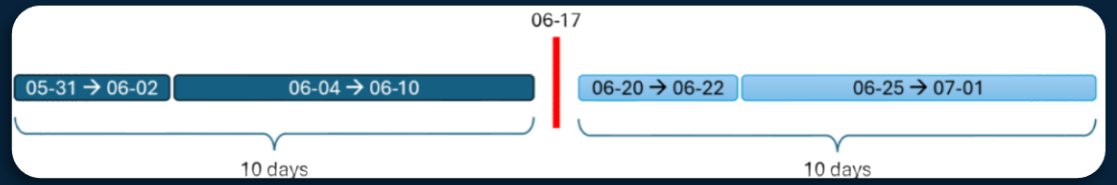
# Violation Bar

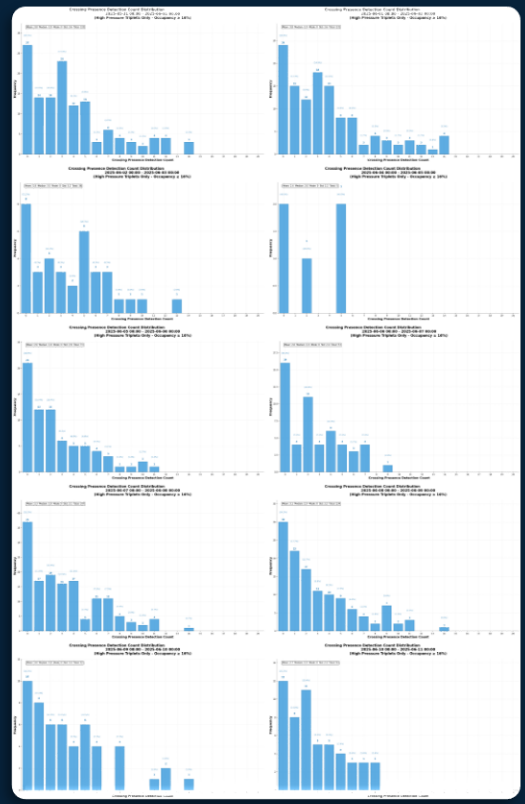
- The horizontal axis goes from left to right, representing crossing violation detection occurrences per phase.
- Our target is to **achieve a more left-skewed distribution:**
  - bars of low-frequency violations (left) increase.
  - bars of high-frequency violations (right) decrease.



# Comparative Analysis

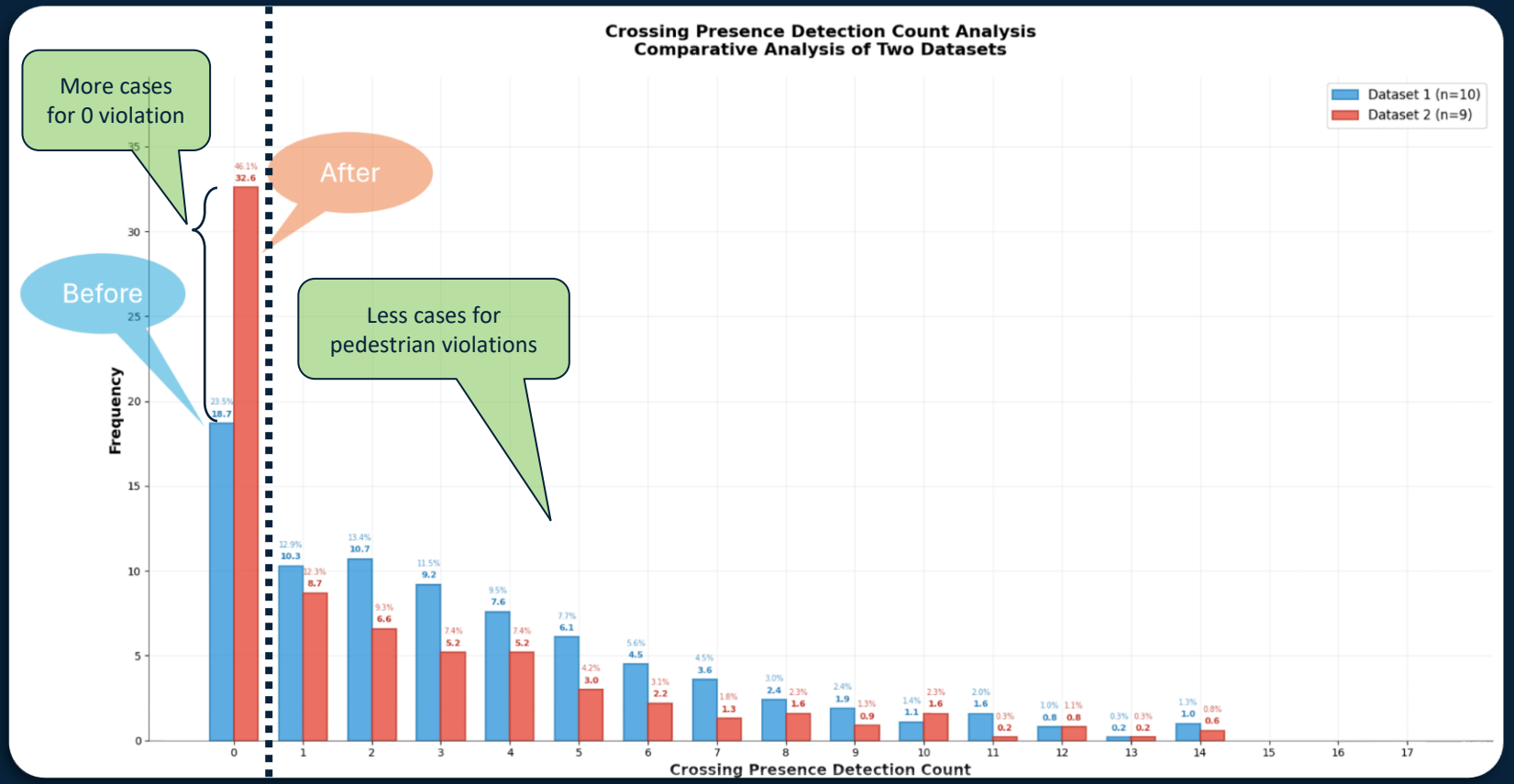
- This is the data collection for the comparative analysis plan, and we can see that the new personality was installed on **June 17**.
- Due to the severe weather - heavy rainfall - on July 1st, there were **no** medium or high pedestrian pressure levels.



# Conclusion

When pedestrians observe the traffic light changing from green to flashing red, fewer individuals choose to continue crossing the road, thereby enhancing road safety.



# 03

## Products – what's next?

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# Product updates

November

- SCATS Priority Engine – release v2.5.0
- SCATS user interface – Viewer bundle
- Core – release v6.13
- 2026
- User interface – Operator bundles
- Data insights – Historical
- Data insights – Real Time

# SCATS user interface – Operator bundles

**2026**

SCATS UI Operator bundles **Maintenance** and **Operator**

**Pre-requisites**

- Core v 6.11 or greater
- Cornerstone v 1.6.1 or greater
- AWS*
- Google maps*

| | |
|---|---|
| Search/filter for sites by area, region | Alternative map provider |
| View multiple site panels | View lamp signals |
| View active plan information | View fallback status |
| View detector actuation | View all alarms |
| View Fixed time operation locks/trims | View alarm information |
| Write site messages | Clear |
| View comms status | Reset |
| Reset comms | View site details (names etc.) |
| View detector status | View basic site/subsystem plan configuration data |
| Reset detectors | View Action lists |
| View Pedestrian demands | View incident plans |
| Pedestrian demands | View active route pre-emptions |

# SCATS Data Insights

Historical data insights – in use at TfNSW today

- Metrics currently displayed via dashboards at TfNSW
  - Live network congestion
  - Live site congestion
  - Historical - 13 months of site and network congestion
  - SCATS congestion metrics are visualised per lane, per intersection, time of day

Real-time data insights

- Development for display on SCATS user interface
- Real-time metrics to enhance network monitoring, incident identification and interventions
- Granularity on intersections, lane by lane and signal status

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