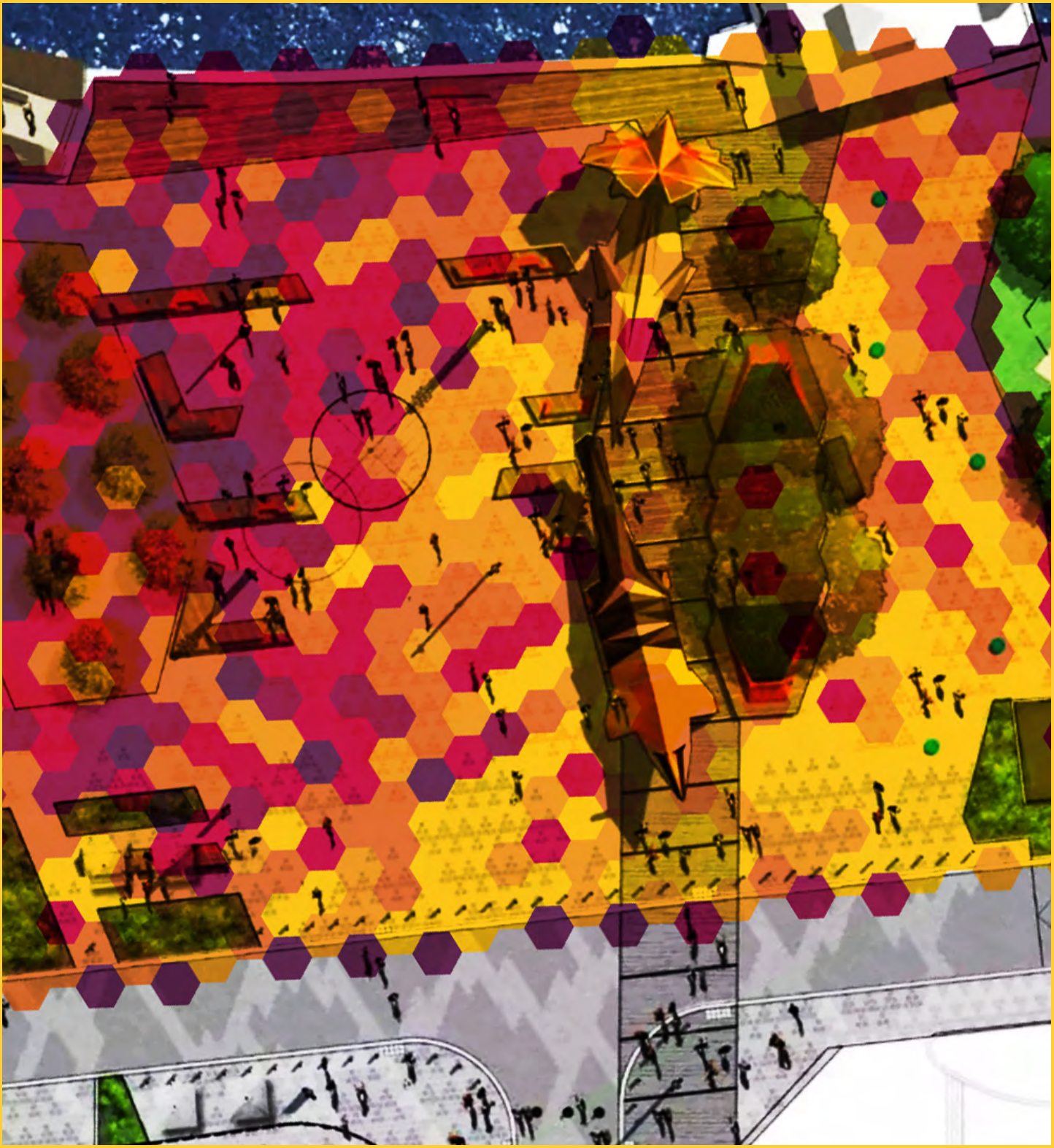

# South Perth Foreshore

## Place Use and Data Analytics Report

Internal Only

**Prepared for Place Laboratory**

Place Intelligence®

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## Document Control

## South Perth Place Audit

## Version: Issue 2 - Final

Approved by: Norion Ubechel

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Cover Image Credit: Place

## Contents

Part 1

# About this project



This report presents the findings from a digital site audit of the South Perth public realm area that describes yearlong patterns of place usage and audience insights.

## Establishing an activity baseline for public spaces.

To ensure a resilient and sustainable future, it is increasingly important to set measurement KPI's and to continuously measure and monitor the use of place and spaces over time.

The understanding of how places function, enables city managers, designers, landscape architects and place strategists to make data driven decisions that have the greatest benefit for all.

This work provides a high level view of patterns of place use for an urban waterfront adjacent to medium density mix use developments and a water based transport terminal.

Place Intelligence specializes in the aggregation and processing of city scale big data - allowing for macro analysis of cities and places- providing baseline analytics studies to underpin design, transport, strategic and place planning strategies.

This study consists of the following core studies:

- Precinct as a whole - highlighting area activity heat maps and statistical insights;
- Design Typology Analysis - identifying activity levels in different design spaces over time and highlighting patterns of spatial activity;
- Audience origin analysis - showing where people come from who use the site;
- Dwell time analysis- showing where people dwell on the site and for how long, linked to design elements.


## Mapping Activity with PI Metro Data

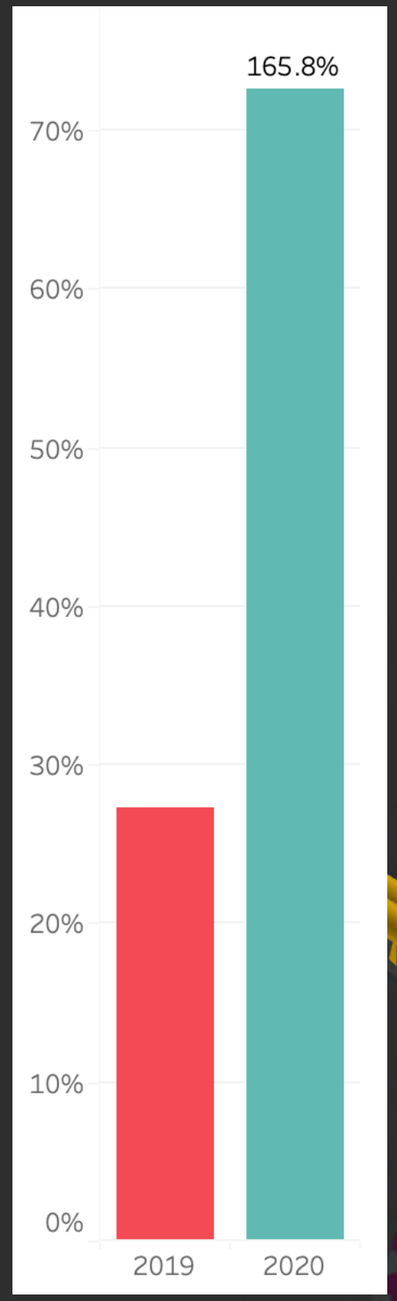
Our model ingested 24 months of PI Metro Data to understand patterns of place use and movement across the site.

Place Intelligence Metro Data is derived fully privacy compliant sources including Local Wifi, GSM and IOT data.

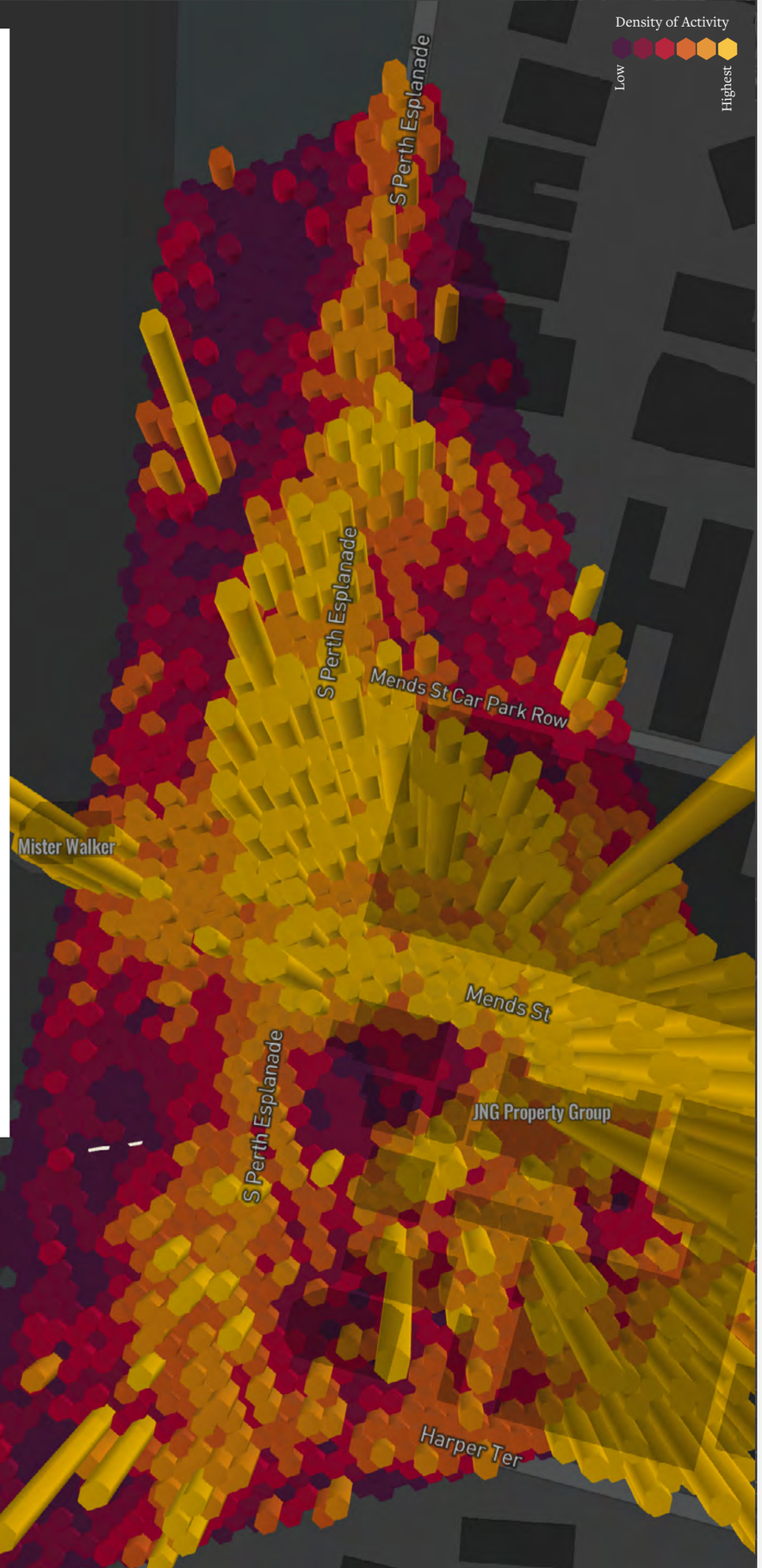


Part 2

# Area Snapshot




Graph: 2019 vs 2020 Total Activity




## How to Read Density Based Heat Maps

### Understanding High and Low Periods - Yearly Analysis

To express activity density (the display of where journeys through space occur), we use a colour graded hexbin heat map.

Cells with the brightest colour (yellow) represent the physical spaces that have the highest amount of footfall over time. Cells with the darkest colour (maroon) have the lowest level of footfall. Cells are colour graded based on the total area of interest, that is, the cells in yellow are being indexed against all other cells. This allows us to quickly identify the relative levels of activity across the site.

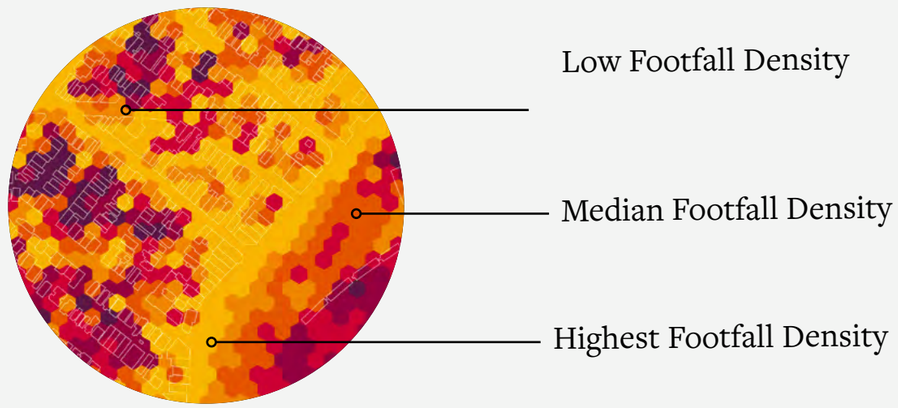




Image: How to read the heat map based on the colour scale.

71%[11]

OF VISITORS RETURN TWO OR MORE TIMES.

Density of Activity

Low Highest

## Area Heat Map Yearly Average Footfall Distribution

Understanding High and Low Periods - Yearly Analysis

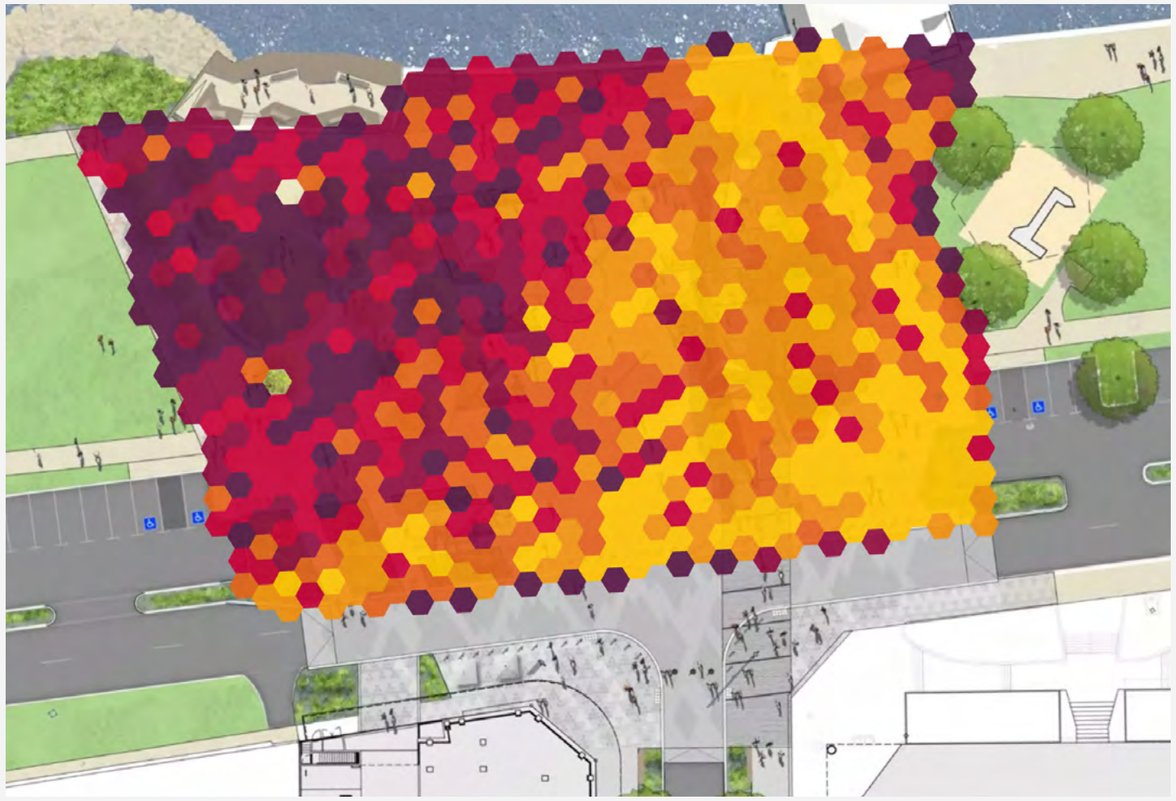


Image: Site Yearly Activity Profile

The visualization of footfall can be expressed by generating a heat map of the area, derived from PI Metro Data.

The heat map above shows the average activity profile of the area in 2020, over the entire year, for all hours of the day. The model classifies signal density into fine grain hexbins that are 1 square meter, to compute where the greatest areas of activity are (shown in yellow).

**How to Use this Data**- Use information to understand where to focus physical upgrades based on activity intensity. Areas with low use should also be considered as opportunity sites for improvement.

Density of Activity

Low Highest

## Area Activity Profile

Activity Heat map

Image: Average Activity Profile 2020

Footfall data are show on top of the landscape design to reveal where areas of high usage occur in yellow and areas of low usage in purple/red. Colours are multiplied to reveal the layers below.

**17%**

OF ACTIVITY OCCURS ON SUNDAY, THE BUSIEST DAY OF WEEK FOR THE PRECINCT.



## Day of the Week Index

Total Activity

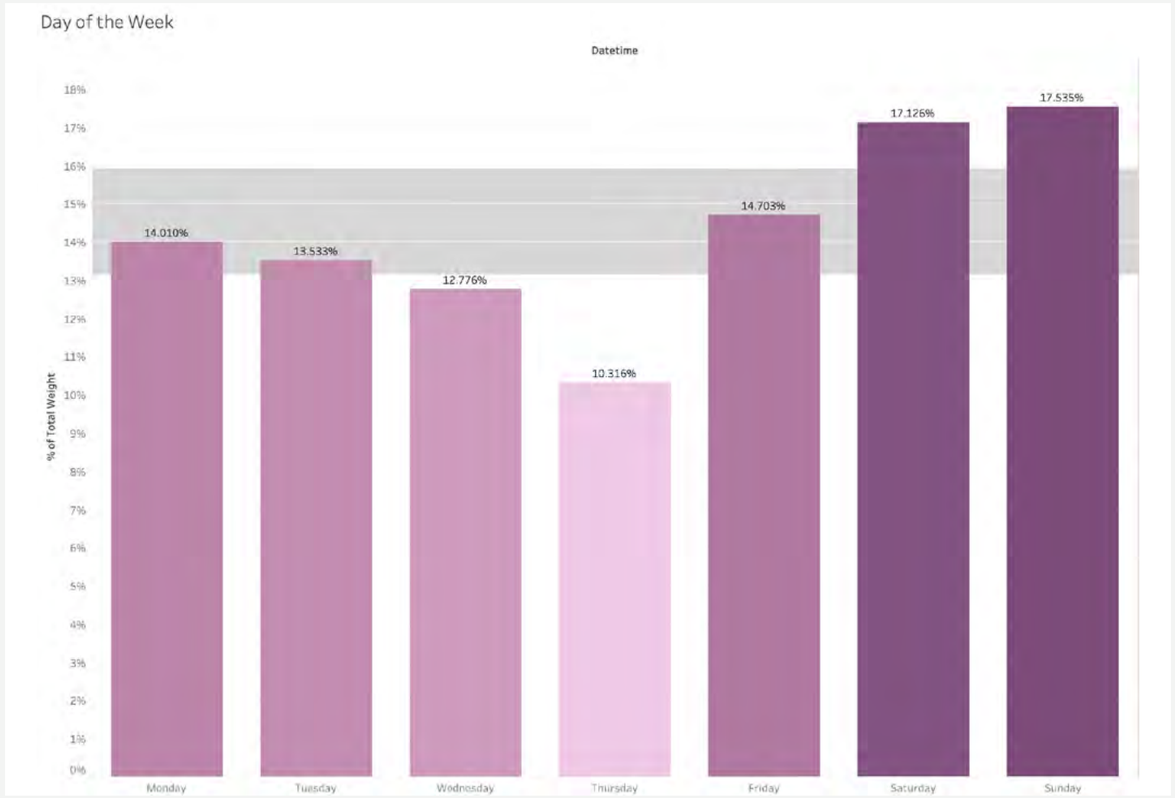



Image: Day of the Week Demand Profile

Discovered time of day profiles for area over the 2020 baseline year.

## Weekday Demand Profile

Footfall Patterns

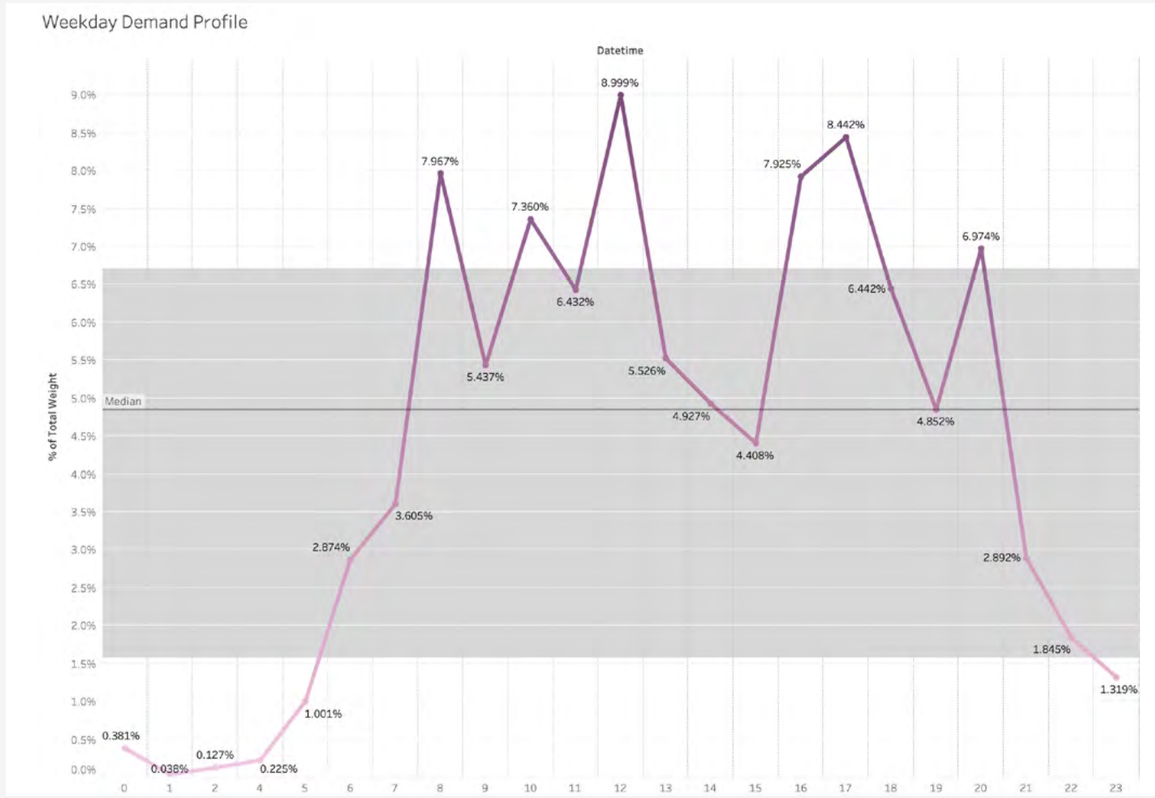



Image: Average Activity Profile 2020 for Weekdays

Footfall data are displayed by hour for weekdays over the baseline year. Observe the AM, Lunchtime, PM commuter and Evening Peaks.

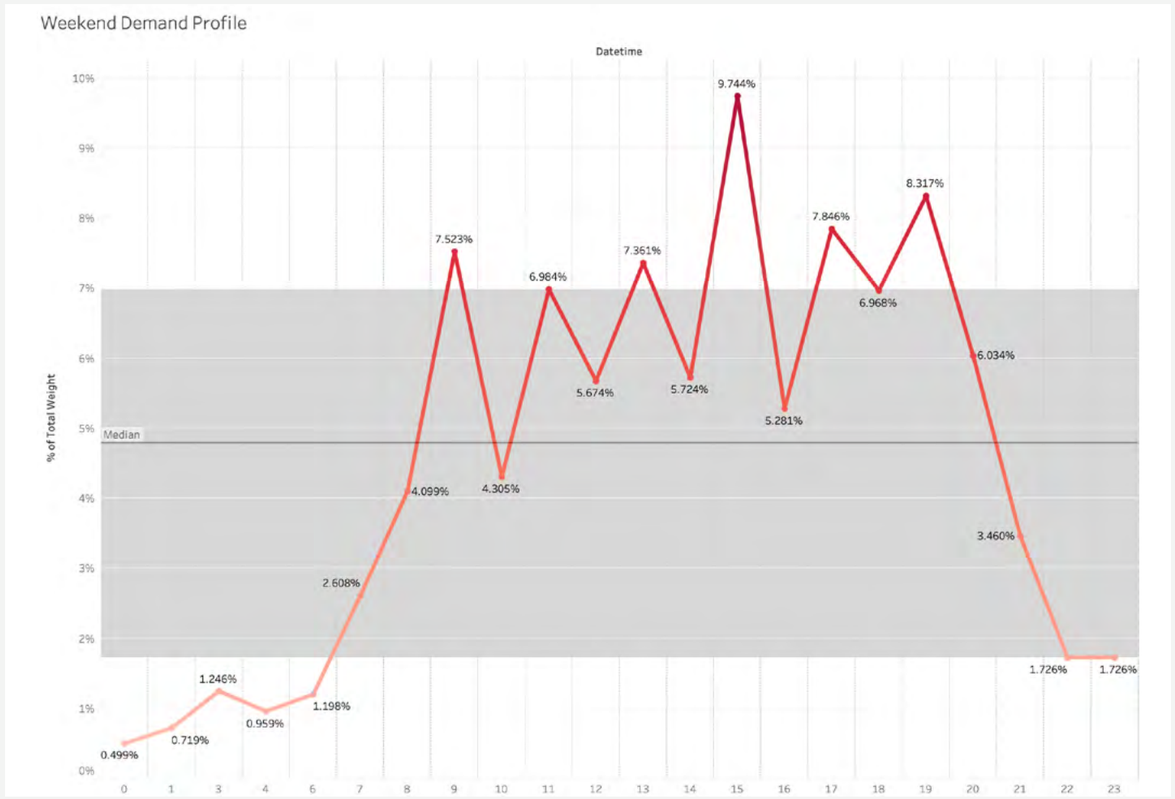
# 7pm

ON WEEKENDS IS A PEAK
EVENING TIME IN THE AREA

Demand Profiles



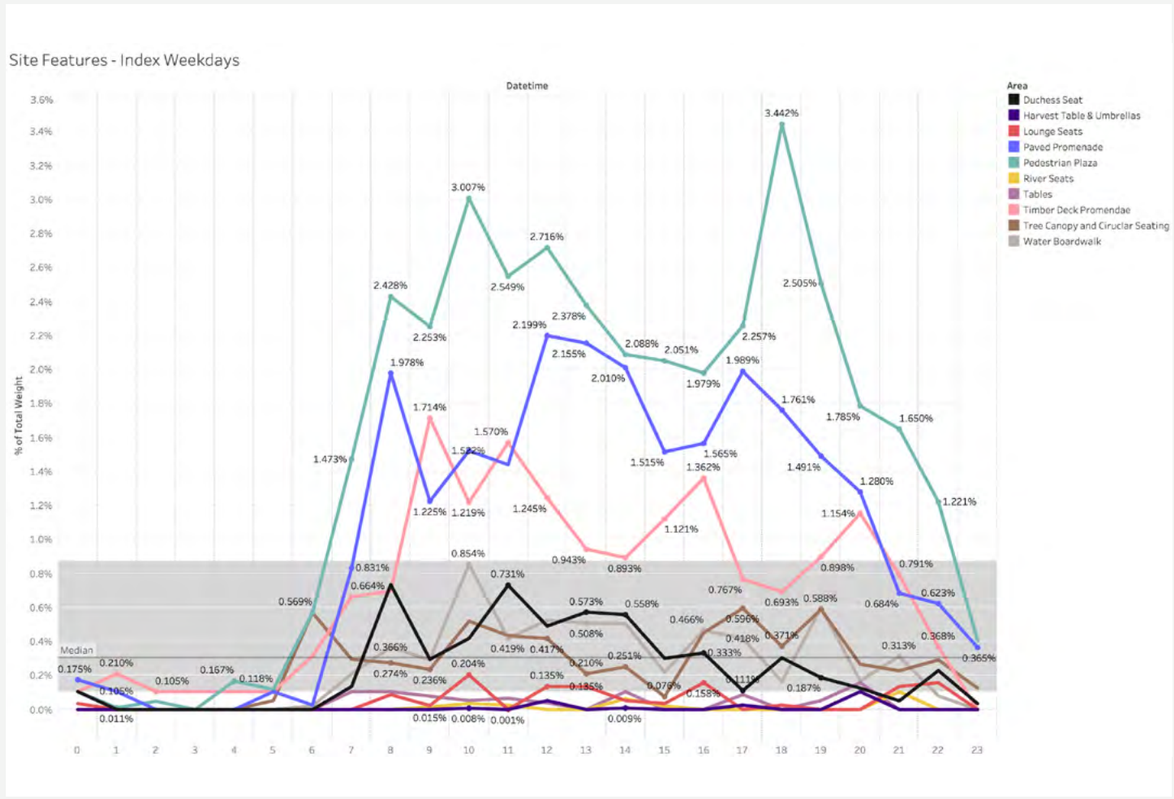
## Weekend Demand Profile
Footfall Patterns




### Image: Average Activity Profile 2020 for Weekends

Footfall data are displayed by hour for weekends over the baseline year.

## Weekday Demand Profile by Feature
Footfall Patterns




### Image: Average Activity Profile 2020 for Weekdays

Footfall data are displayed by hour for weekdays over the baseline year.

# 7pm

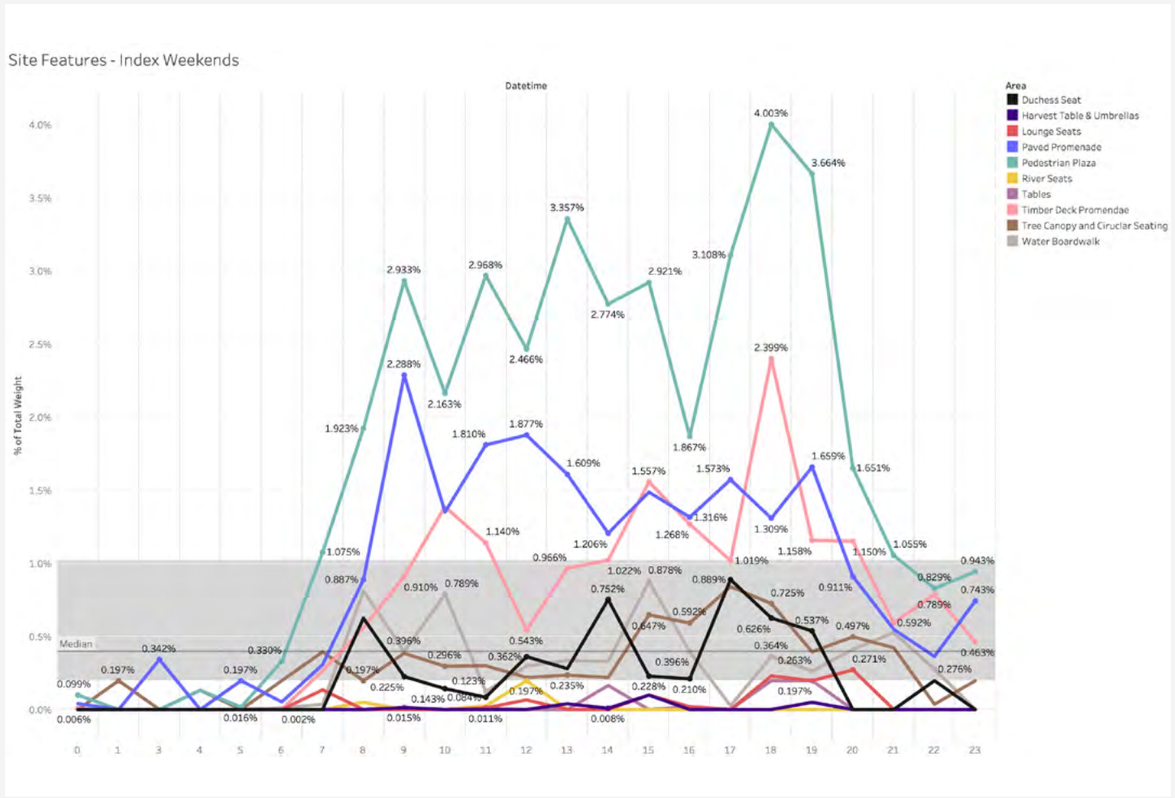
ON WEEKENDS IS A PEAK EVENING TIME IN THE PEDESTRIAN PLAZA

Demand Profiles



## Weekend Demand Profile by Feature

Footfall Patterns

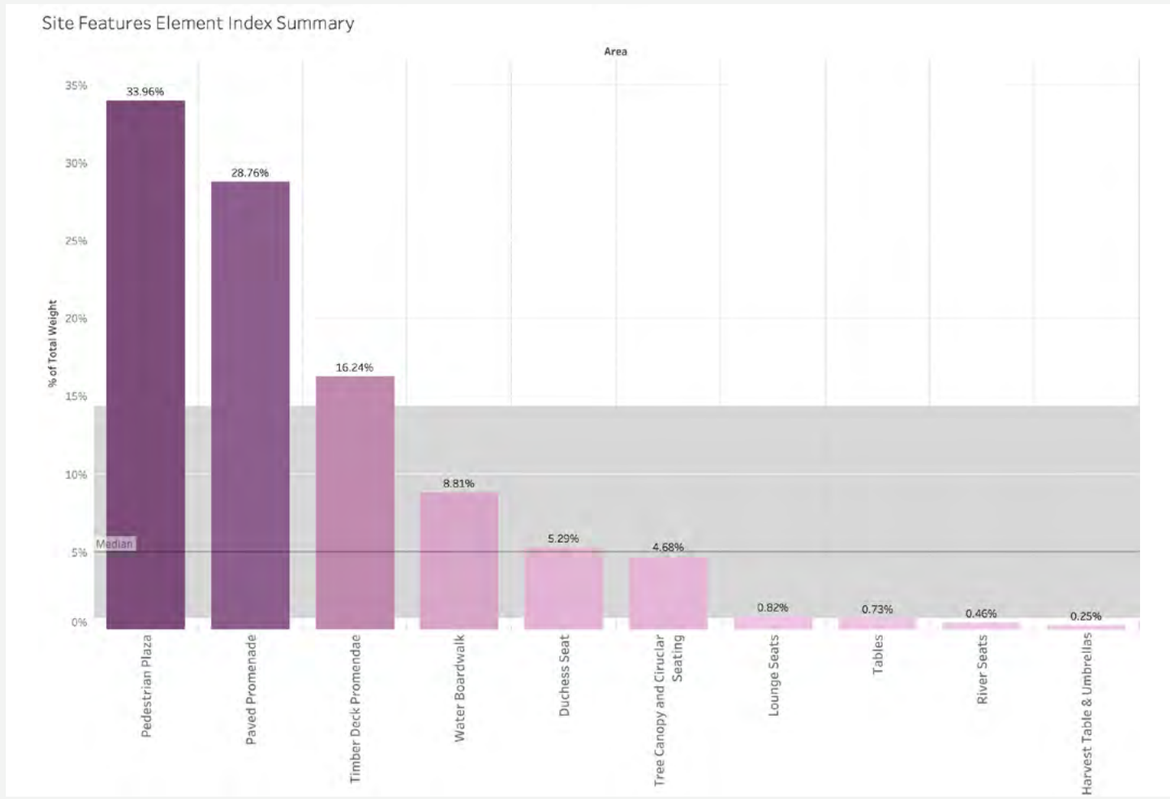



## Image: Average Activity Profile 2020 for Weekends

Footfall data are displayed by hour for weekends over the baseline year.

## Index- Demand Profile by Feature

Percent of Total Activity




## Image: Relative demand across all features

Different site feature areas are presented as the proportion of total averaged activity across the site.

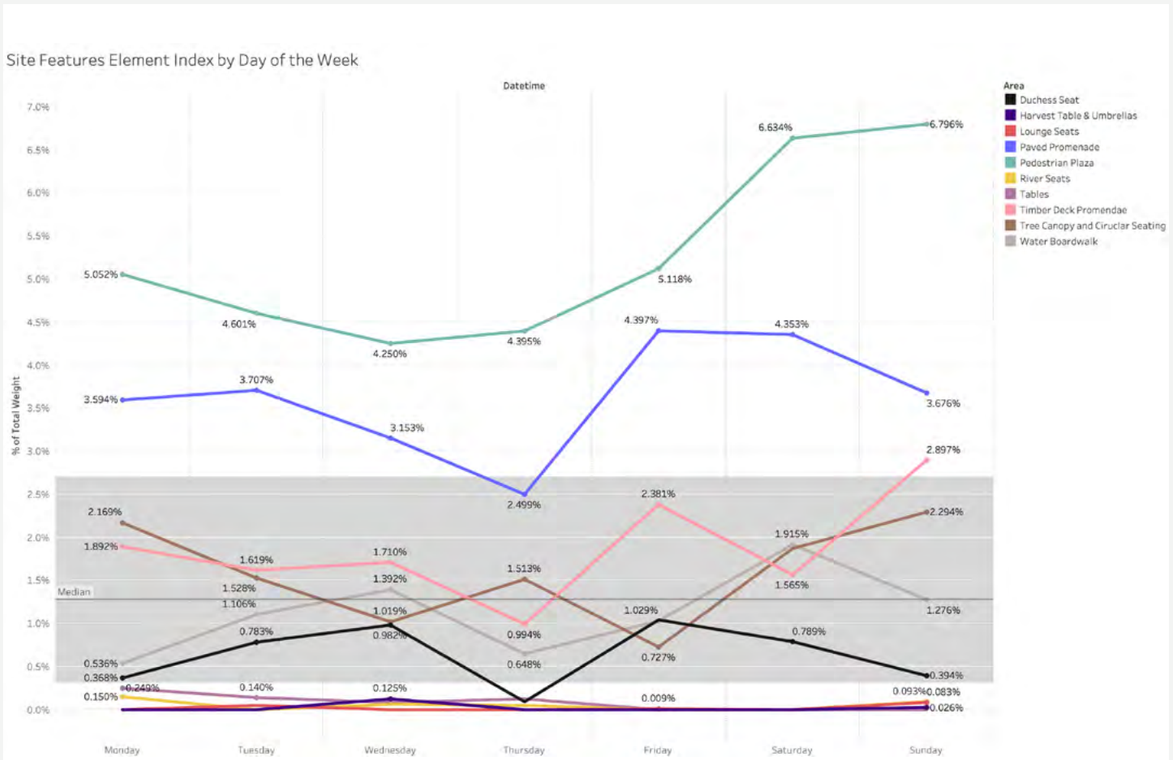
**33%**

OF ALL ACTIVITY OCCURS IN THE PEDESTRIAN PLAZA



## Day of the Week Index by Feature

Percent of Total Activity

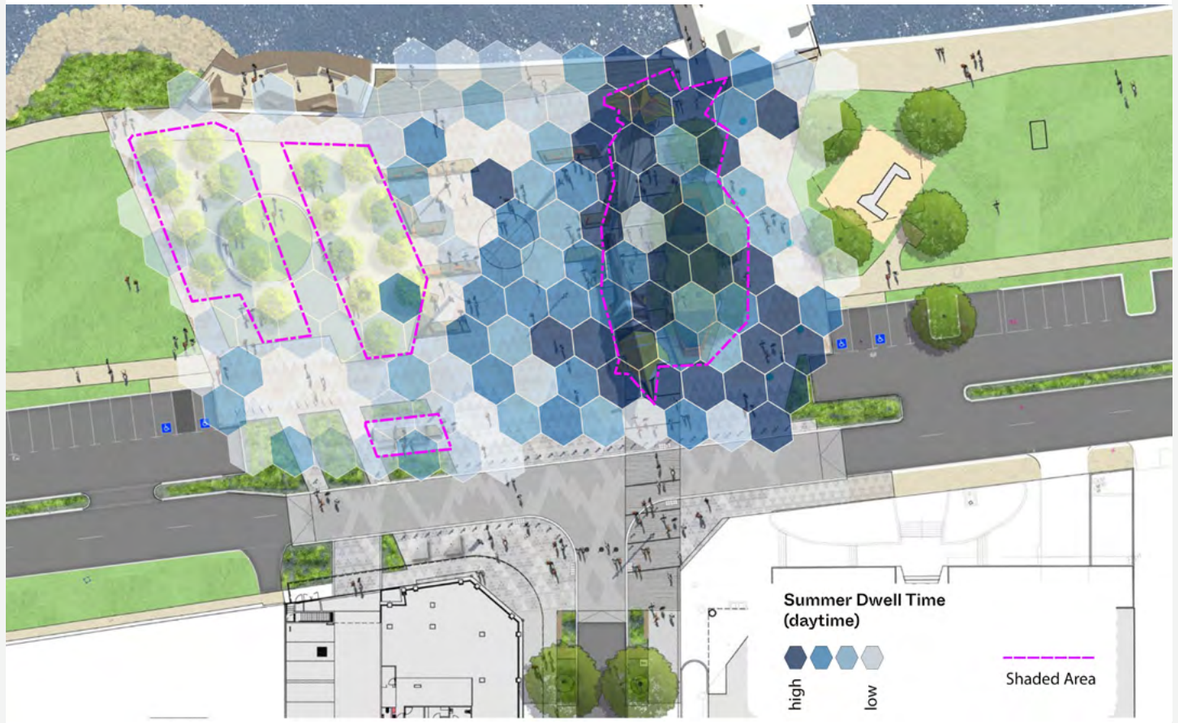



## Image: Average Activity Profile by Day of the Week

Footfall data are displayed by day of the week for each feature over the baseline year.

## Dwell Distribution

Spatial locations of time spent




## Image: Dwell time map 3-10 minutes

Colour graded cells reveal areas of high and low dwell times. In the image above the average dwell times are computed by hexbin. Dark blue areas represent locations with high numbers of people dwelling in each cell. This view shows only dwell times between 3 and 10 minutes.

## Dwell Time

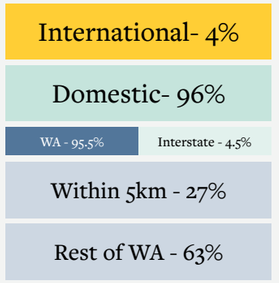
**41%**

OF SITE USERS SPEND 30 MINUTES OR MORE IN THE AREA.

## PLACE MAGNETISM

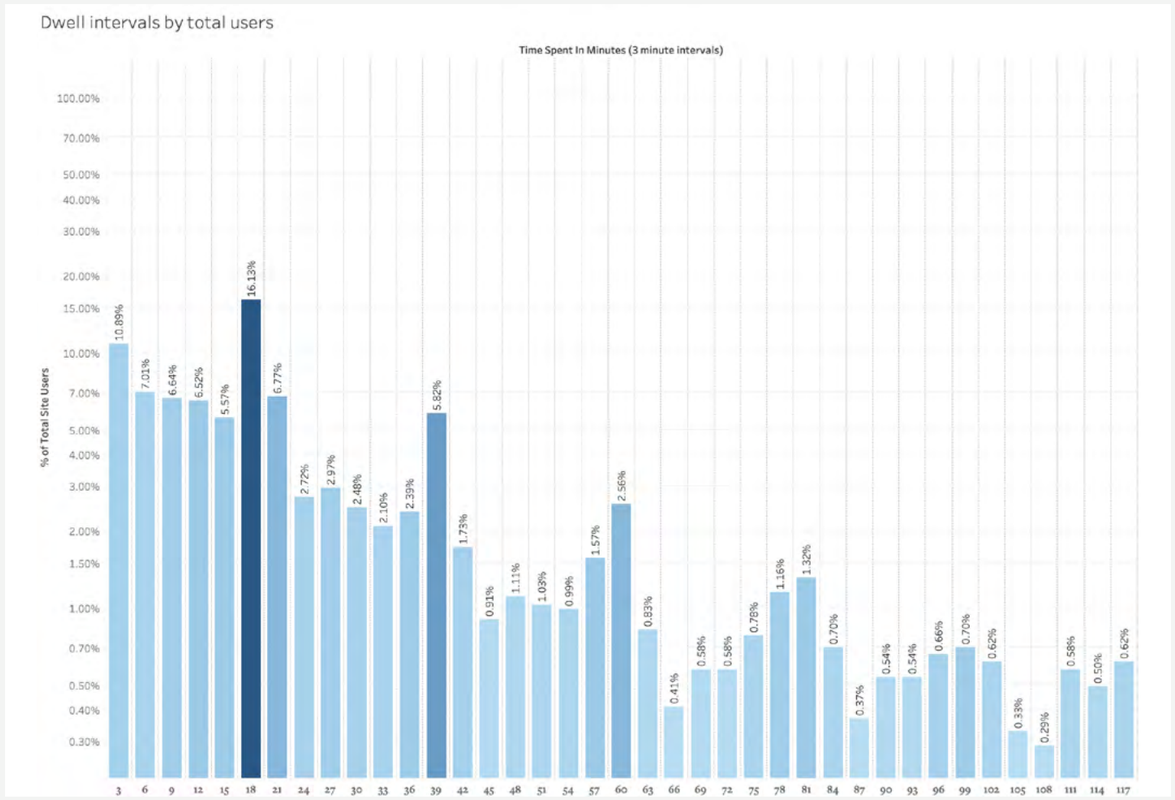
**95 %**

PERCENT OF DOMESTIC USERS ORIGINATE FROM WA.




## Dwell Distribution

Percent of Total Dwell Time




### Image: Distribution of time spent

In the bar chart above the percentage of the total audience is shown based on how long they stay in the site. As an example 16% of the audience spends 18-21 minutes in the site.

## Home Origins Visitors

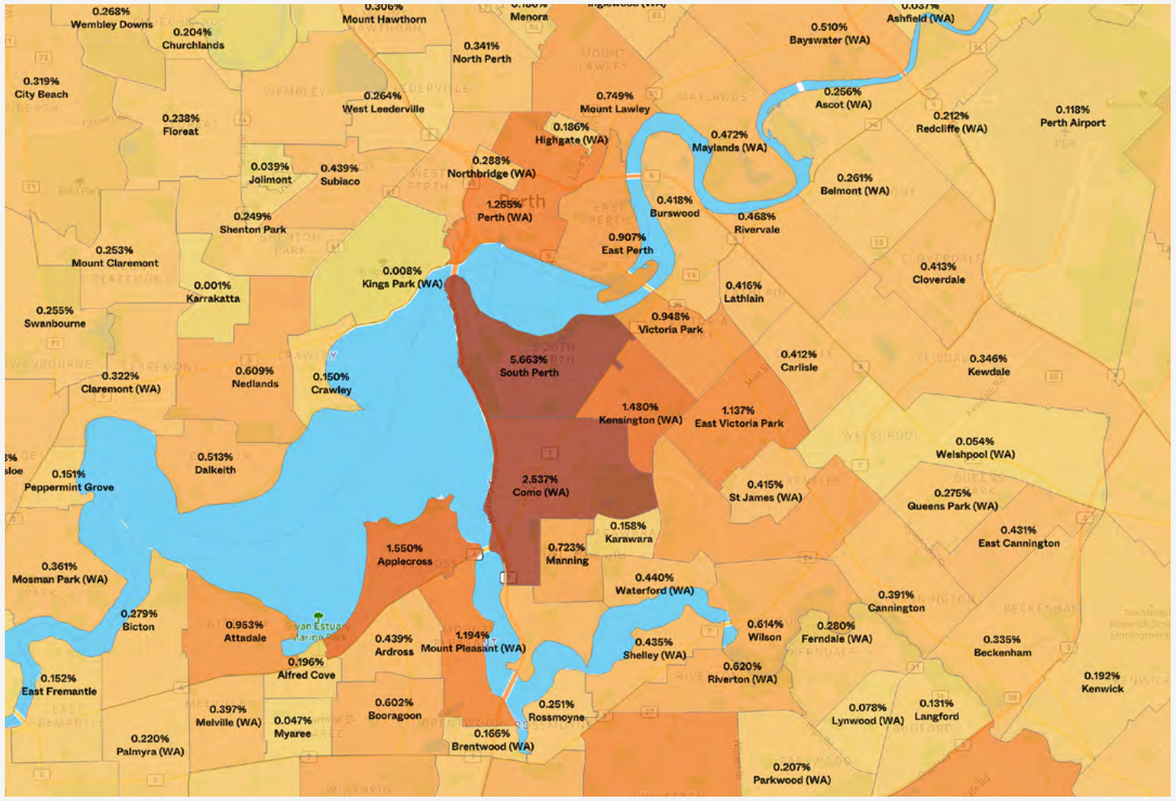
Discovered states of origin


### Where do people come from?

PI Metro Data was used to understand visitor origins. 4% of visitors were not Australian residents and 96% of the total users are from Australia, 95.5% live in WA and 4.5% live in other states.

## Audience Origin Map by SSC Area Detail

Mapping visitor origins




Detailed Inner City Origins Map.

**Analysis Finding**- In the image above we see the distributions of audience origins in detail.



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