



PARKING BAY – MELBOURNE CITY, AUSTRALIA

GAURAV SINGH

2957104

ADA ASSIGNMENT

MSc. BIG DATA MANAGEMENT &
ANALYTICS

GRIFFITH COLLEGE DUBLIN

INTRODUCTION OF DATASET

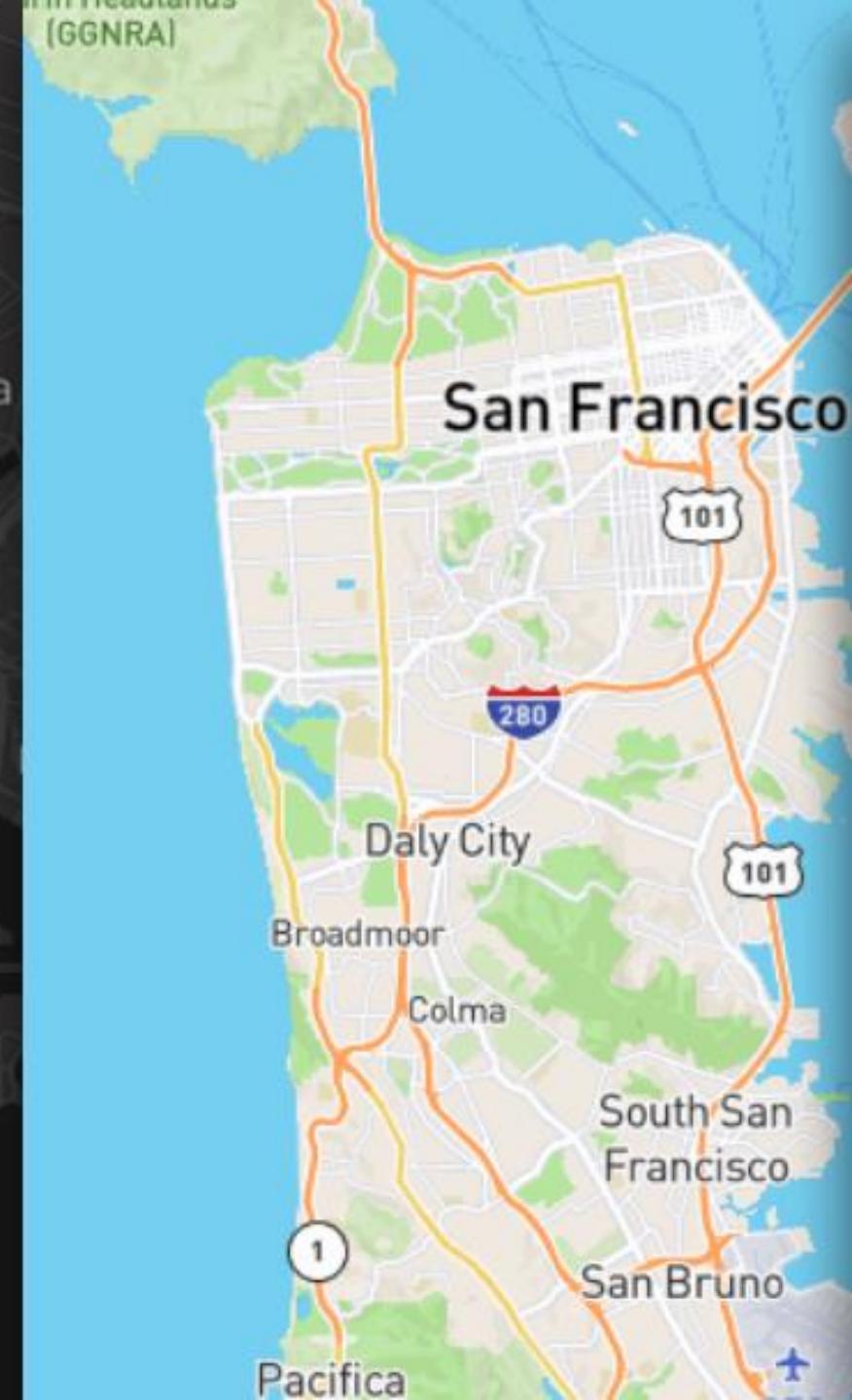
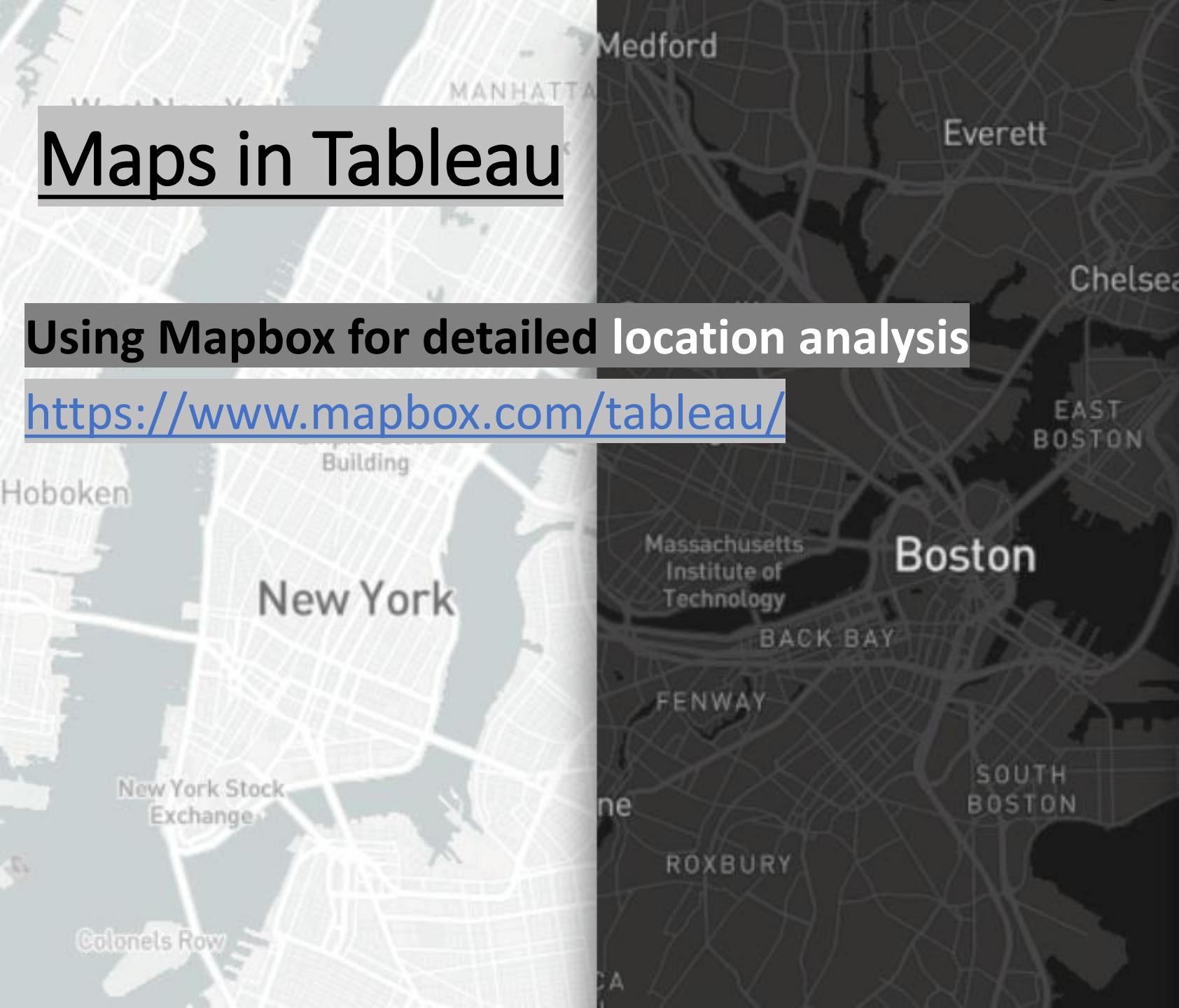
- DeviceID: Devices used for collecting data for parking in particular area
- ArrivalTime: Vehicle arrival time to parking bay
- DepartureTime: Vehicle departure time from parking bay
- DurationSeconds: Time vehicle parked into the parking lot
- StreetMarker: Streets markers in area
- Sign: Number of hours allowed, Ticket/Meter, Mon-Sun/Mon-Fri
- Area: Areas in the city

- Latitude: coordinates of the areas into the city
- Longitude: coordinates of the areas into the city
- DisabledParking: Number of disabled parking in parking bay
- StreetId: Street ID of the main streets
- StreetName: Main Street names
- BetweenStreet1: Nearby streets 1 near main street
- BetweenStreet2: Nearby streets 2 near main street
- Side Of Street: Number of street parking
- In Violations: Number of violations in parking bay
- Parking Hours: maximum parking hours allowed
- Hours: Number of hours parked

Maps in Tableau

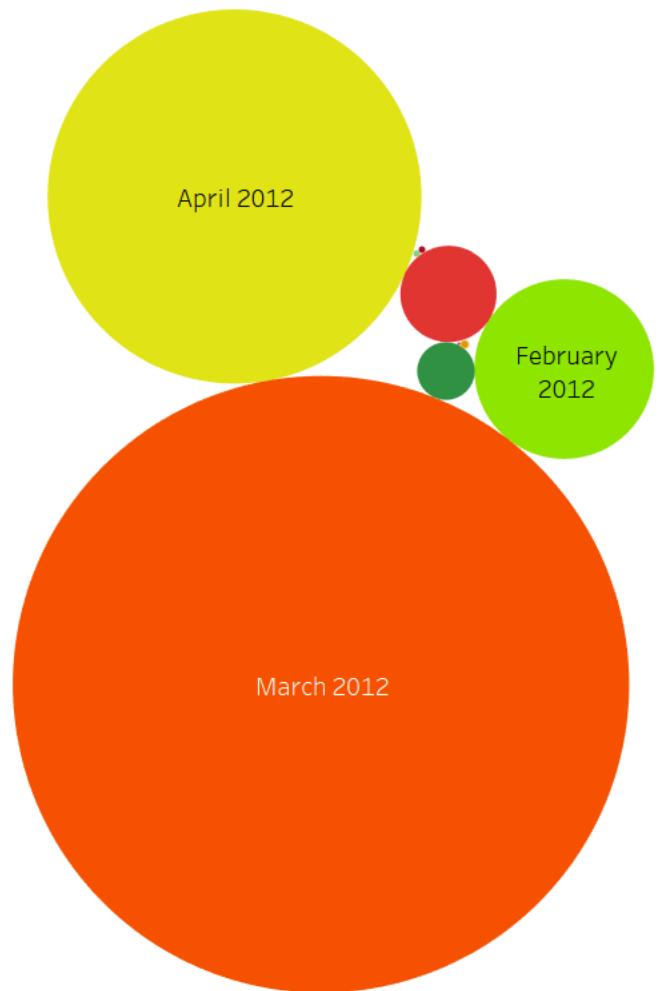
Using Mapbox for detailed location analysis

<https://www.mapbox.com/tableau/>

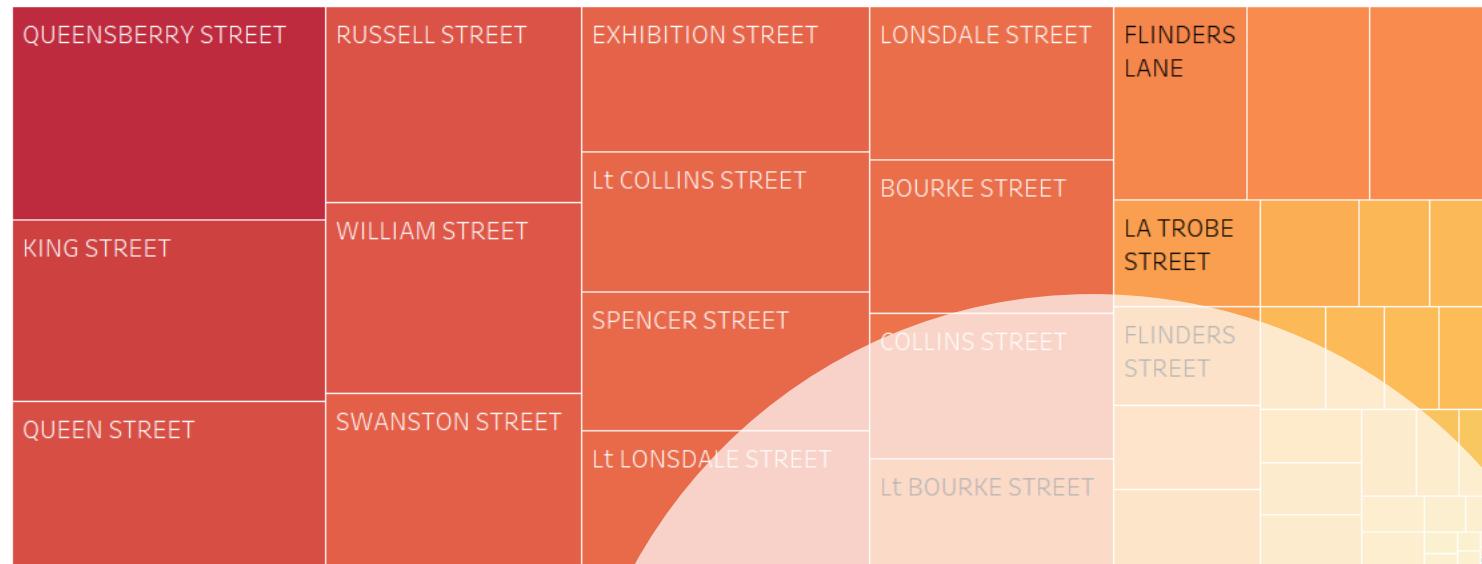


CrowdedAreas

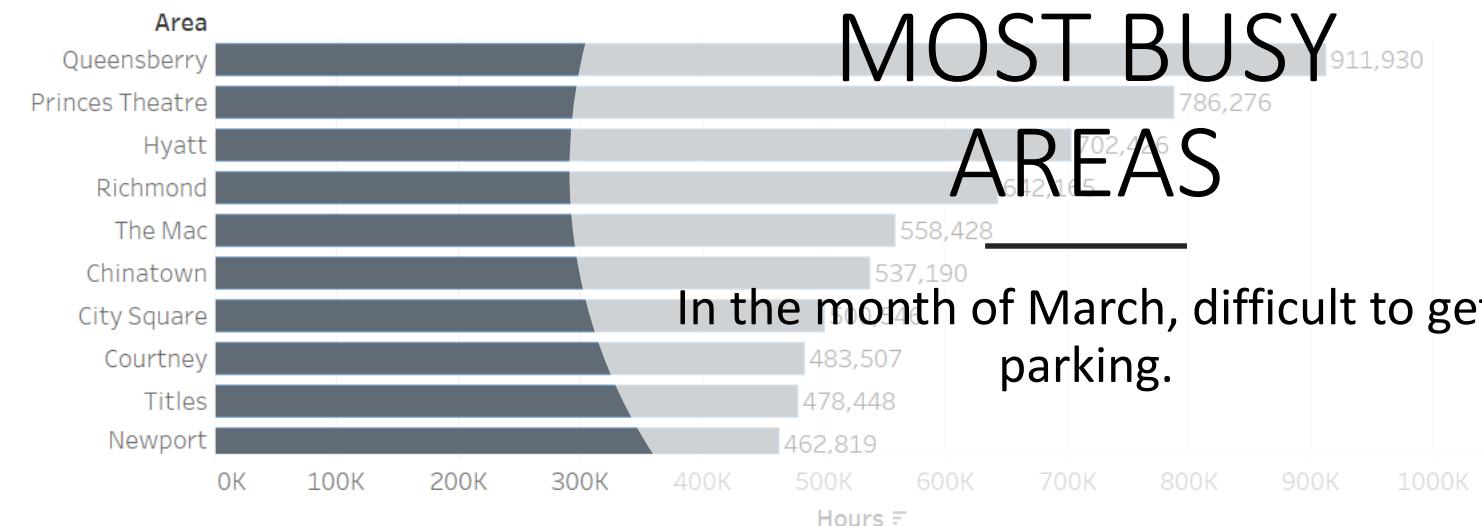
BusybyMonth



TopBusyStreets



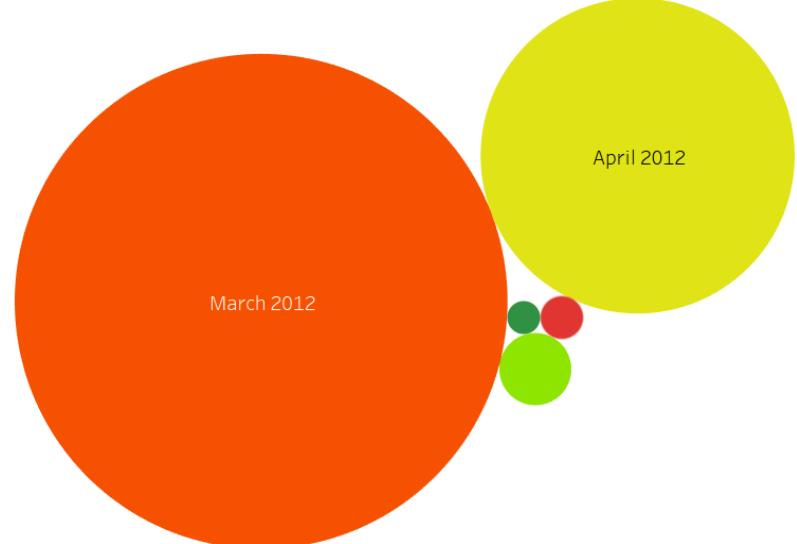
Areas



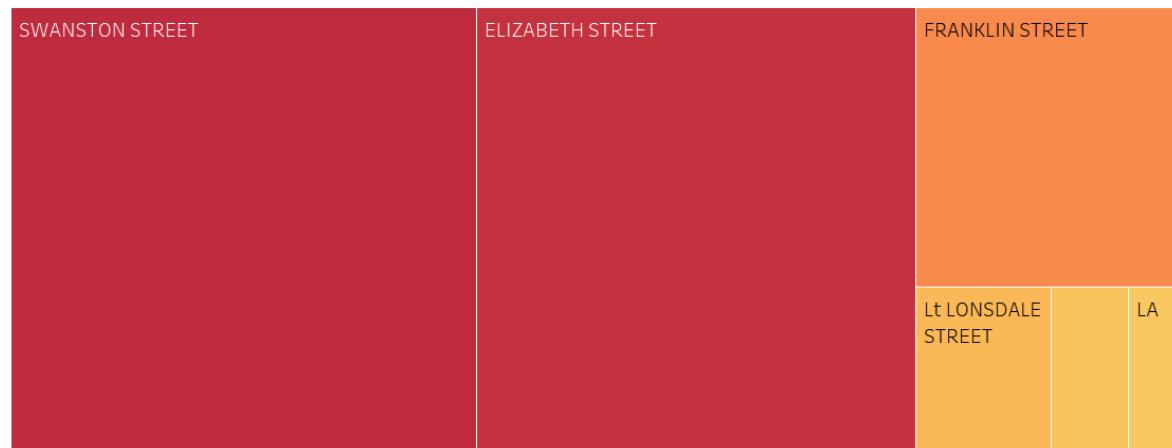
In Area The Mac, parking is busy in the month of March and April in Swanston and Elizabeth street

CrowdedAreas

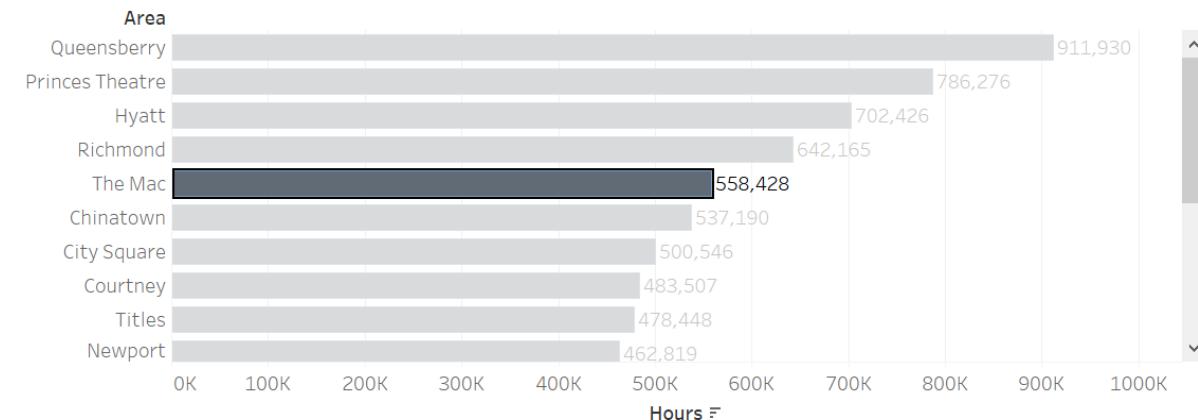
BusybyMonth



TopBusyStreets



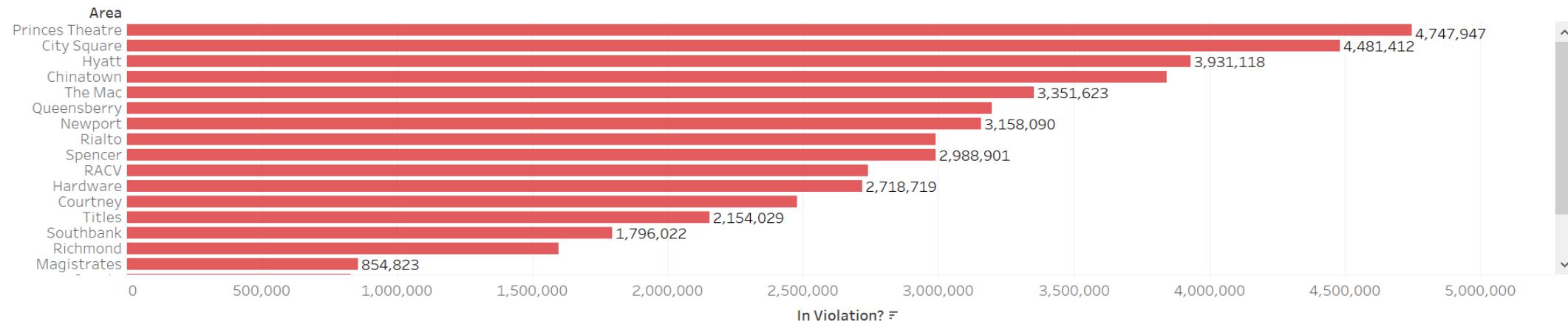
Areas



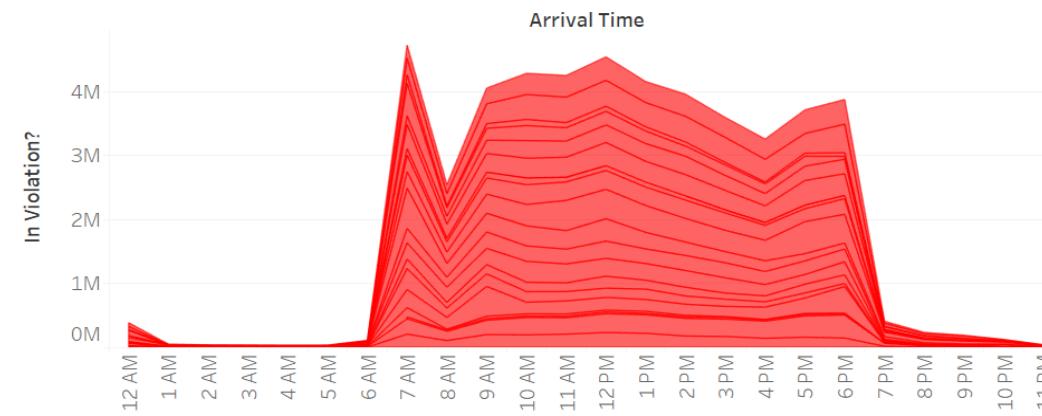
Violations in City

ViolationsDashboard

ViolationsinArea



ViolationsTime



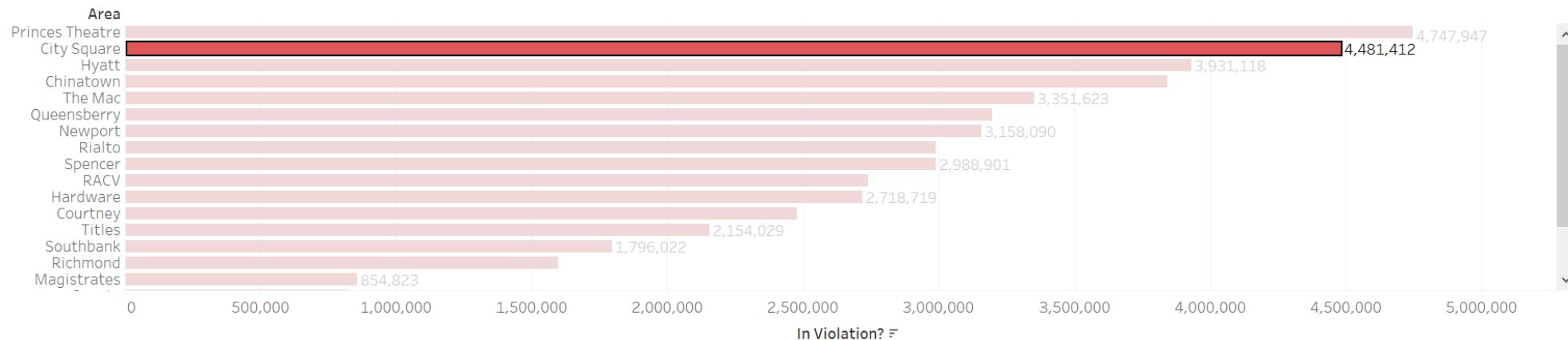
ViolationsbyMonth



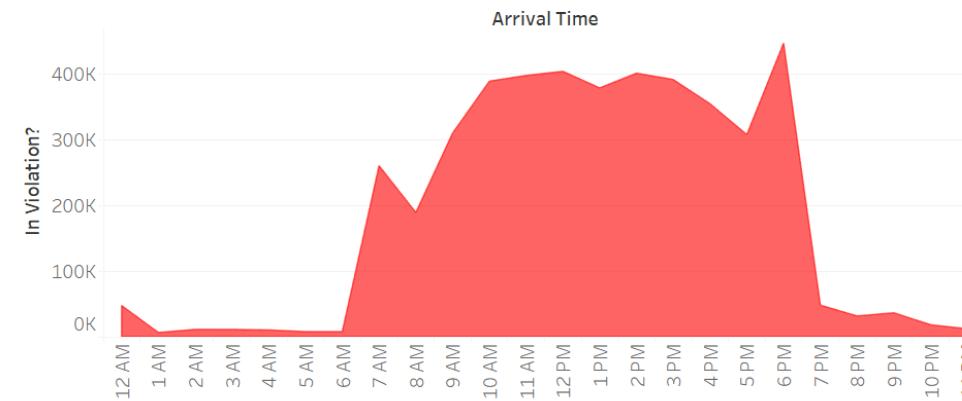
In City Square, at evening most breaches arise

ViolationsDashboard

ViolationsinArea



ViolationsTime

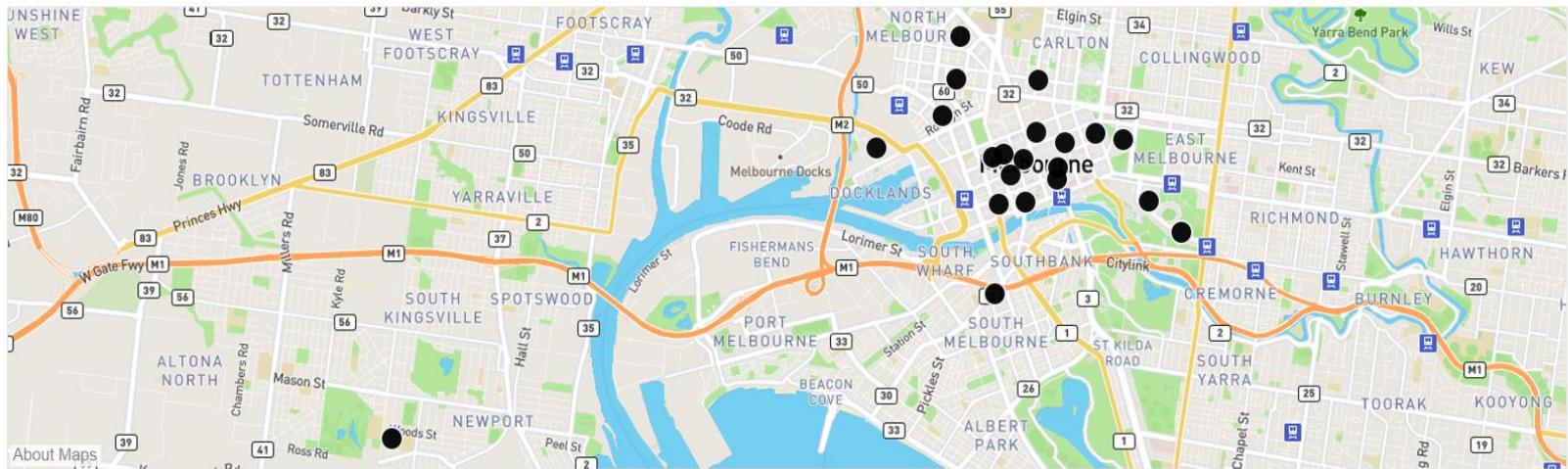


ViolationsbyMonth



Number of Side Parking on Streets in city

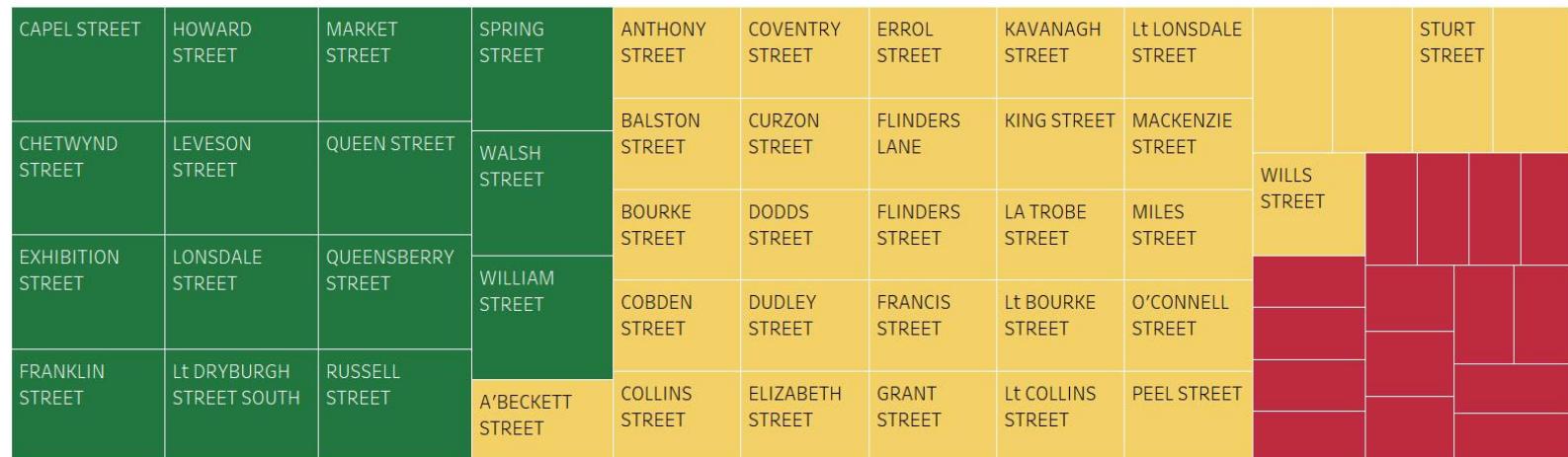
AreaMap



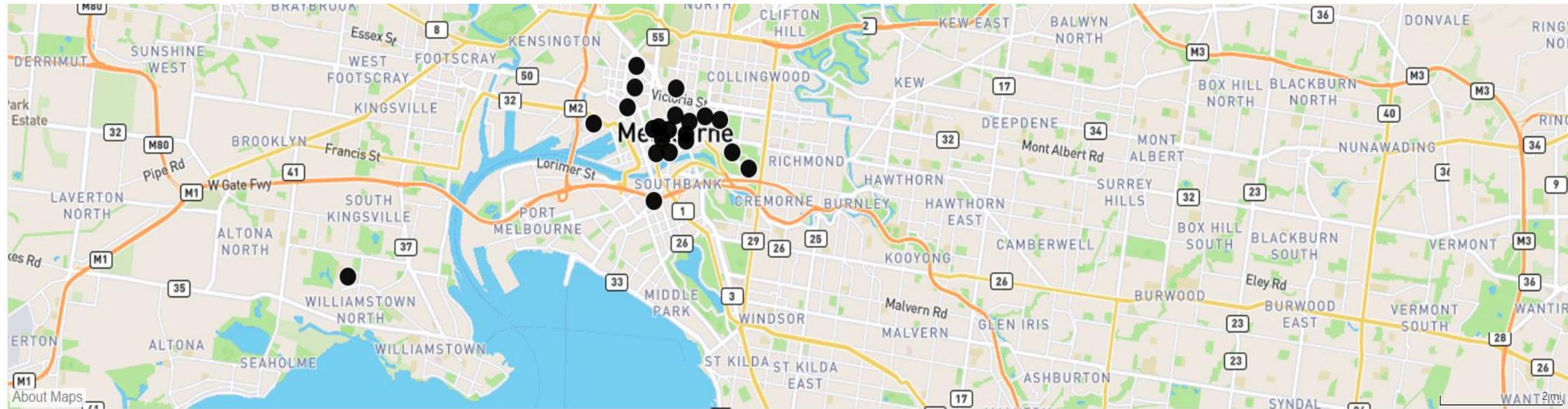
Area List

Area	
Docklands	1
Jolimont	1
Tavistock	2
Supreme	3
Courtney	4
Magistrates	4
Rialto	4
Southbank	4
Spencer	4
Chinatown	5
City Square	5
County	5
Hardware	5
Hyatt	5
Newport	5
Princes Theatre	5
Queensberry	5
RACV	5
Richmond	5
The Mac	5
Titles	5

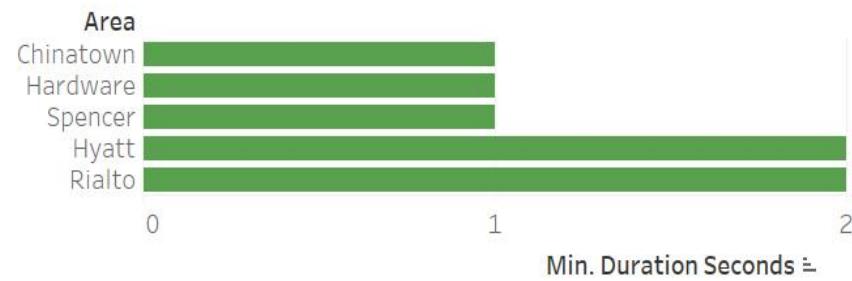
SideofStreetParking



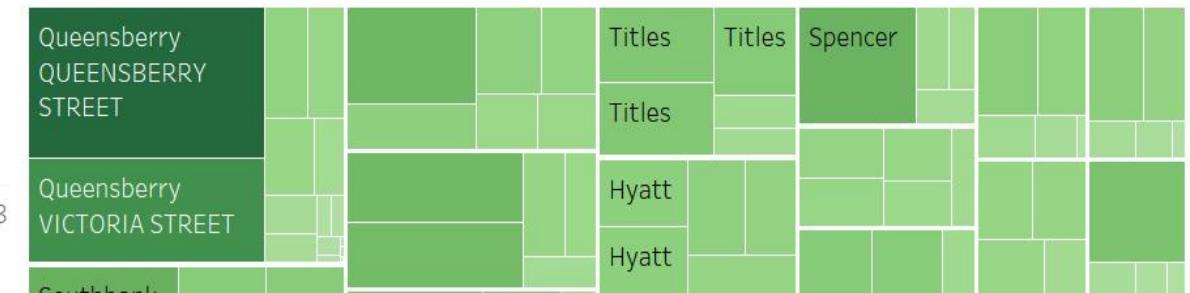
TOP 5 LEAST BUSY AREAS

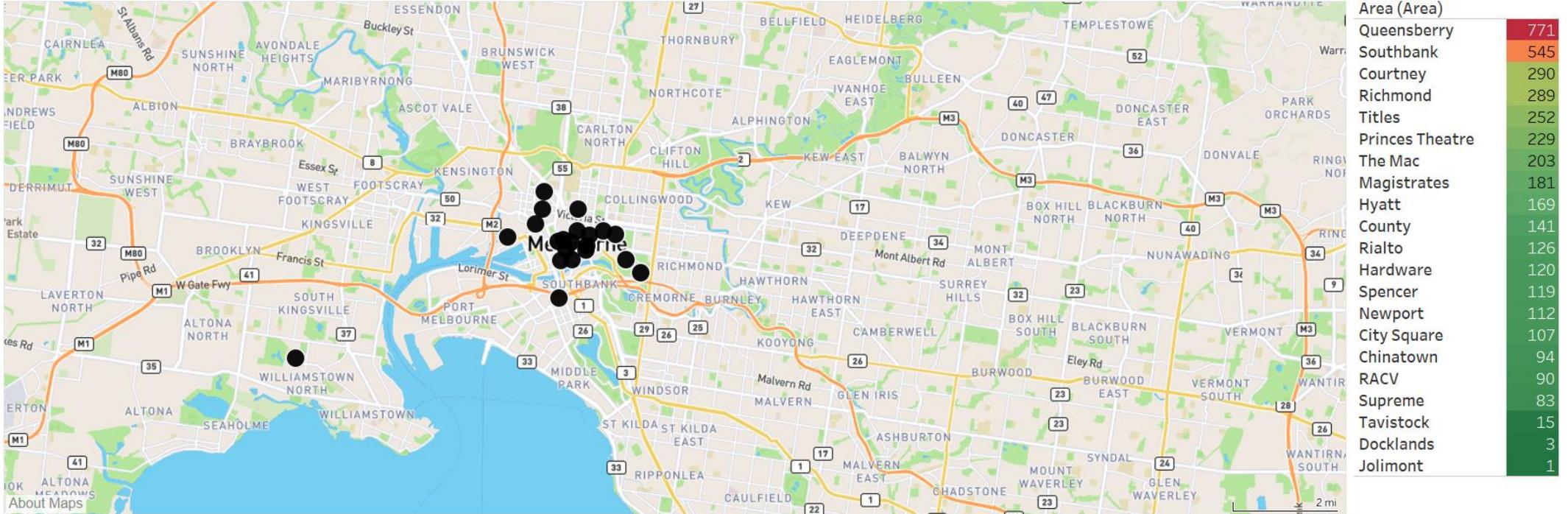


5LeastBusyAreas

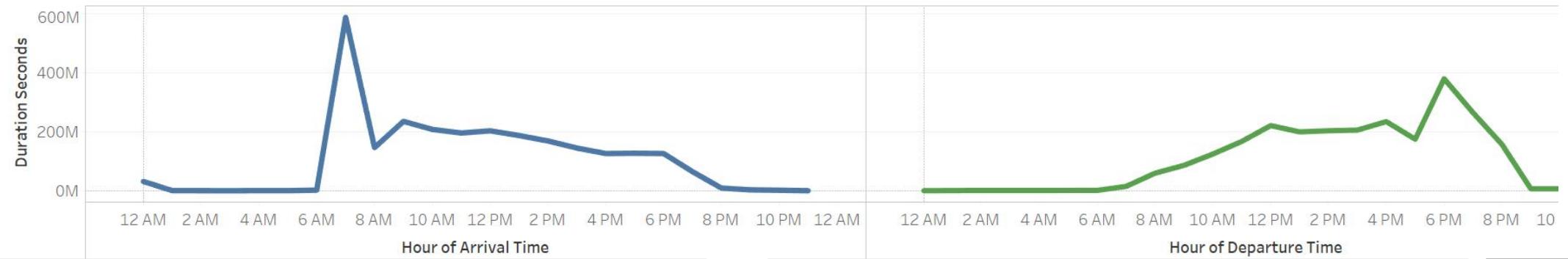


Local Streets





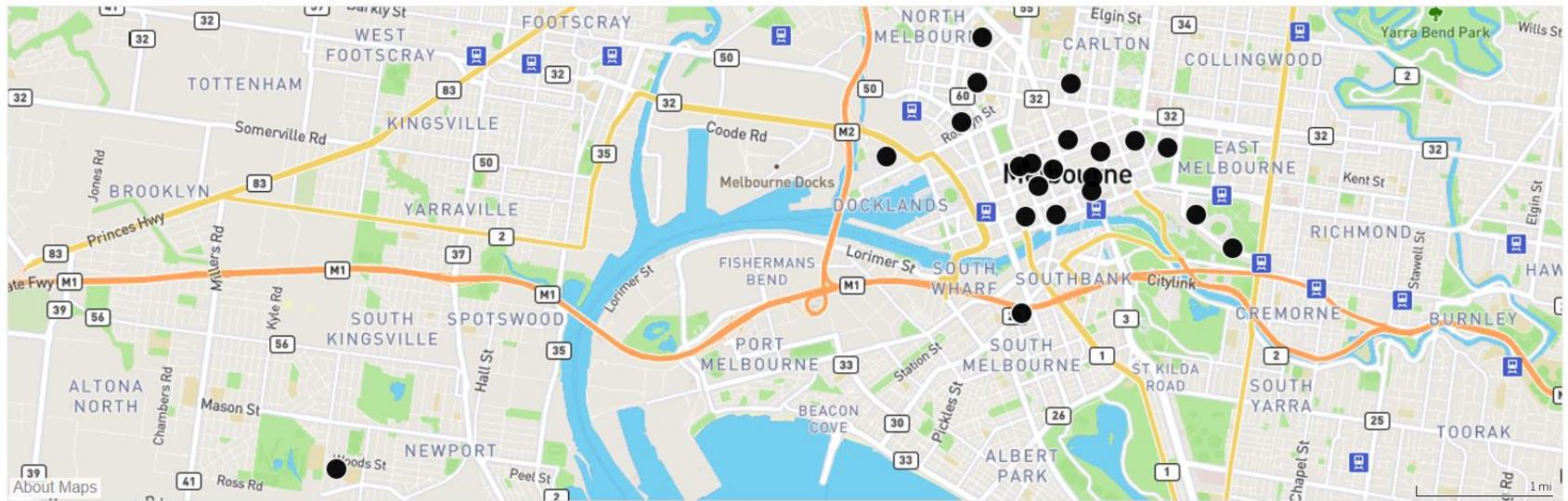
ArrivalDeparture



ARRIVAL/DEPARTURE INTO THE PARKING BAY

PARKING BAY WITH WEEKDAY

AreaMap



AreasList

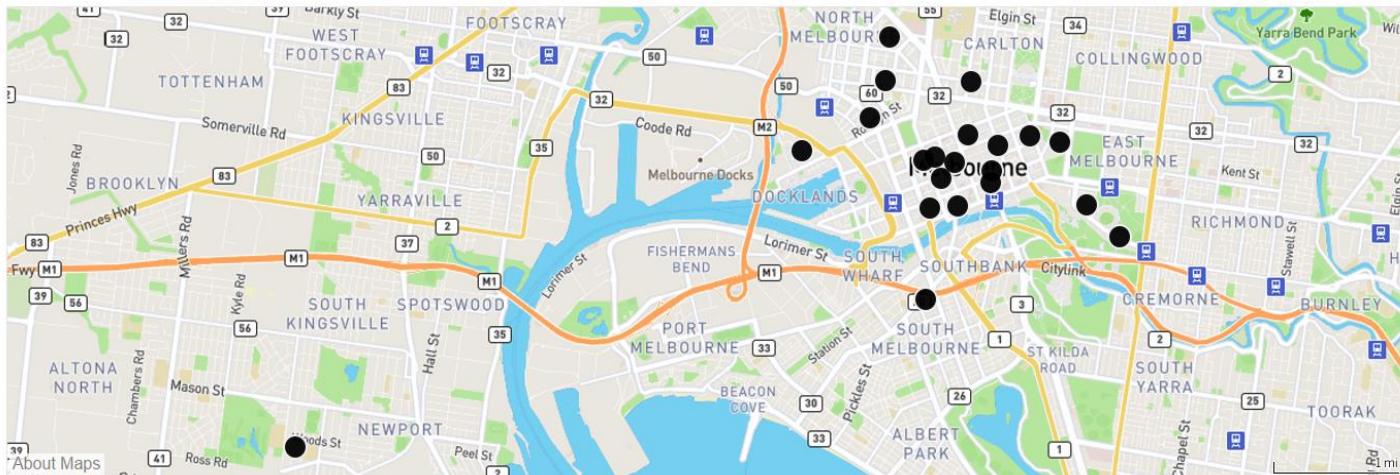
Area (Area)	
Queensberry	714
Southbank	494
Richmond	283
Courtney	278
Titles	247
Princes Theatre	227
The Mac	201
Magistrates	180
Hyatt	168
County	139
Rialto	126
Spencer	116
Hardware	114
Newport	109
City Square	106
Chinatown	94
RACV	89
Supreme	83
Tavistock	13
Docklands	3
Jolimont	1

WeekdayArrival



DETECTING MOST VIOLATIONS USING SENSORS

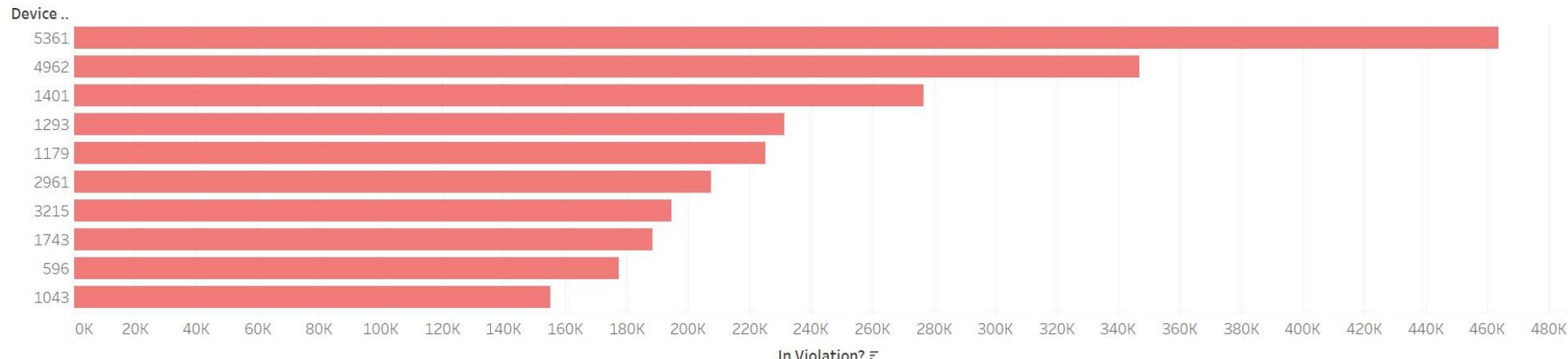
AreaMap



AreasList

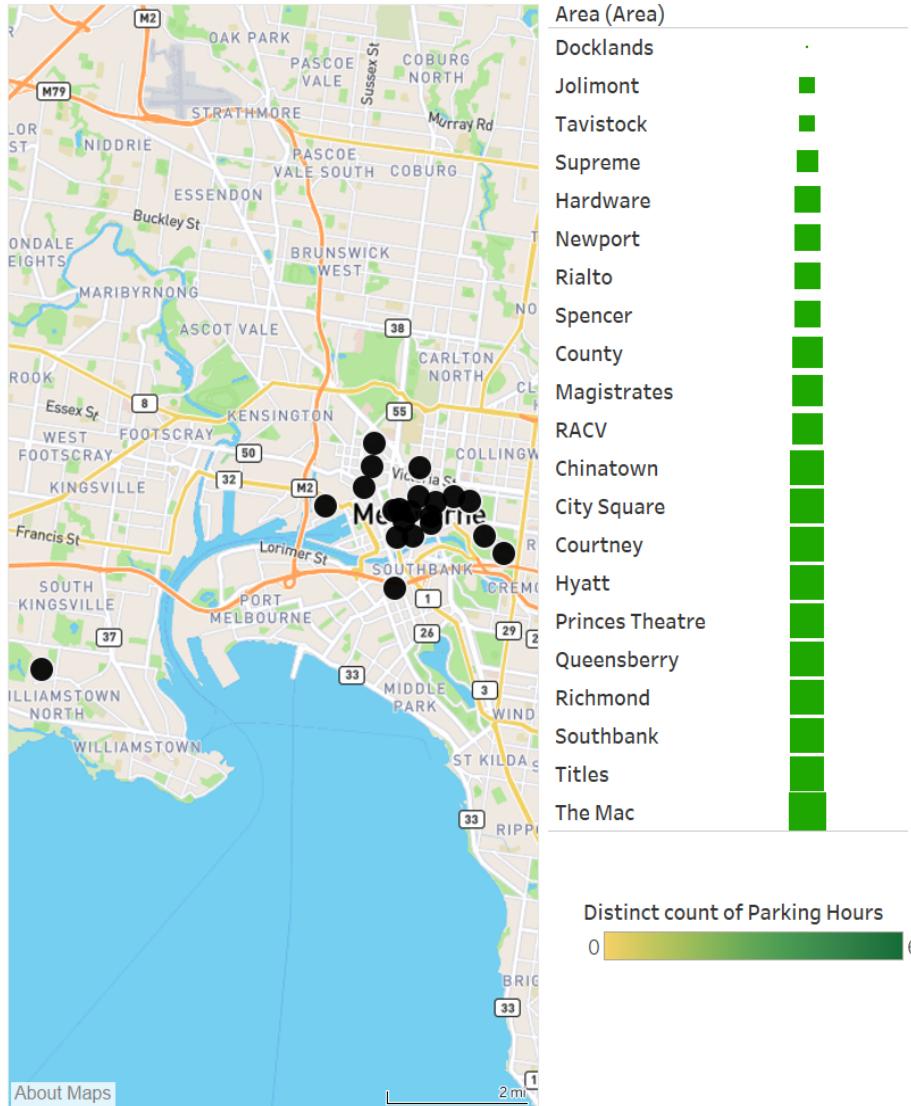
Area (Area)	Count
Queensberry	714
Southbank	494
Richmond	283
Courtney	278
Titles	247
Princes Theatre	227
The Mac	201
Magistrates	180
Hyatt	168
County	139
Rialto	126
Spencer	116
Hardware	114
Newport	109
City Square	106
Chinatown	94
RACV	89

DeviceDetectingV



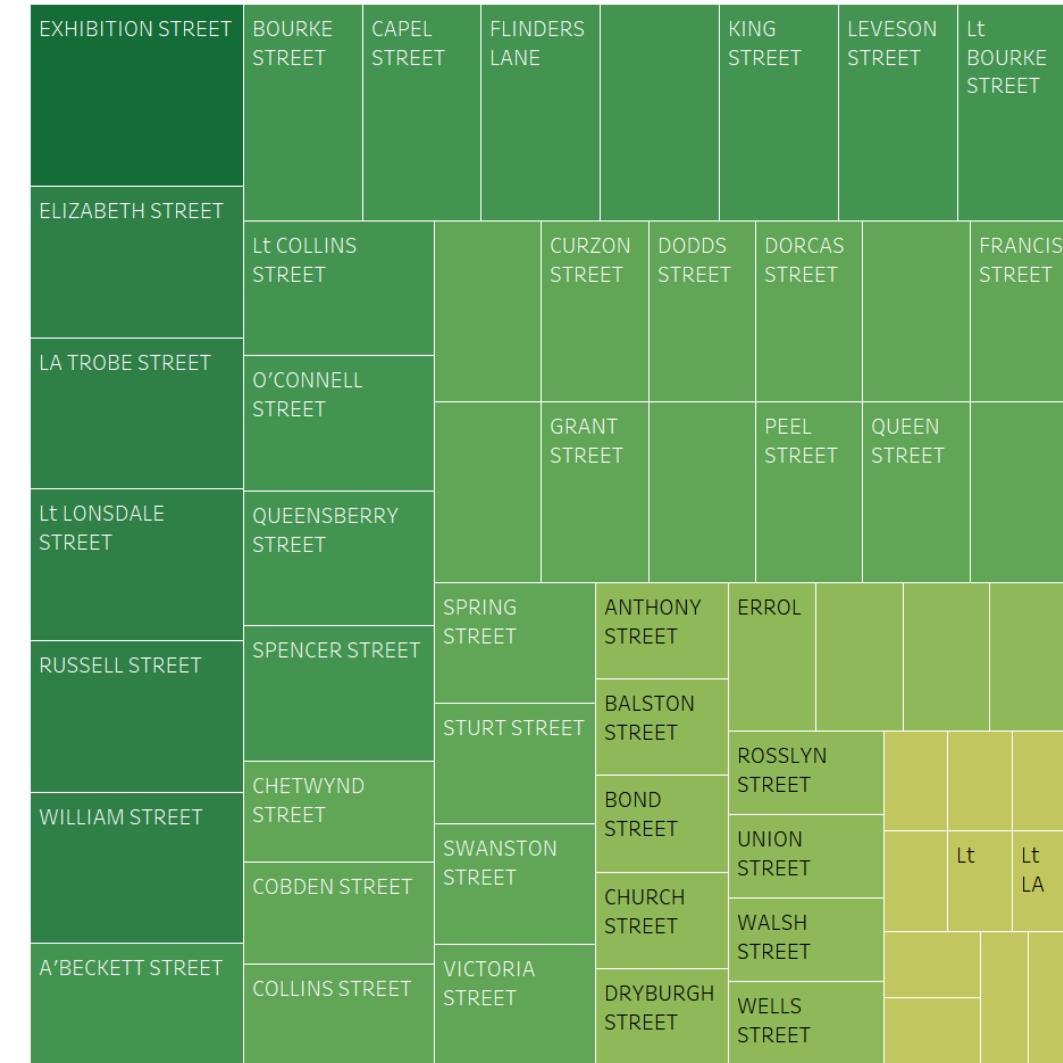
PARKING ALLOWED FOR MAX HOURS

AreaMap



Max Parking Hours

ParkingHoursAllowedinStreet

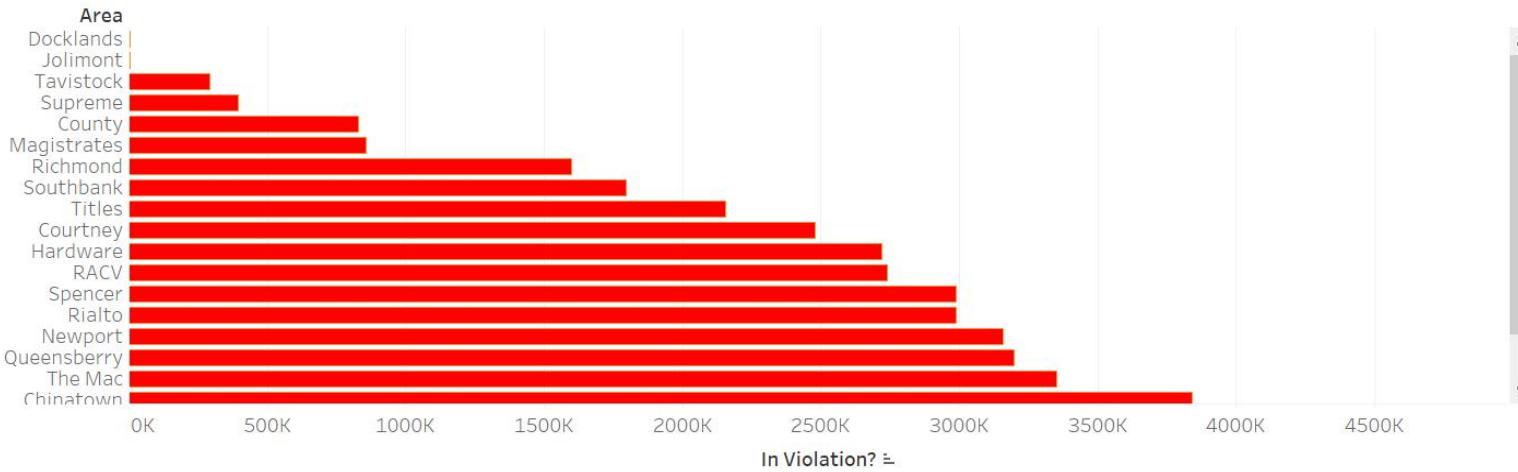


VIOLATIONS DURING PARKING HOUR

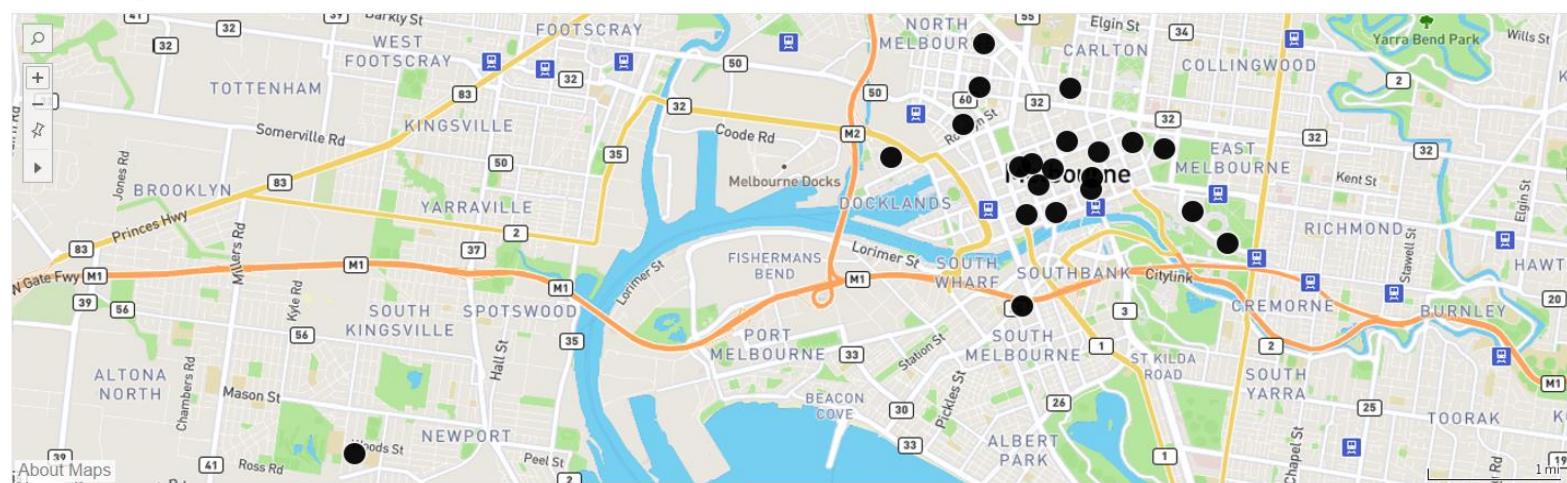
Area With Parking Hours

Area	Hours
Chinatown	5
City Square	5
County	4
Courtney	5
Docklands	0
Hardware	3
Hyatt	5
Jolimont	1
Magistrates	4
Newport	3
Princes Theatre	5
Queensberry	5
RACV	4
Rialto	3
Richmond	5
Southbank	5
Spencer	3
Supreme	2
Tavistock	1
The Mac	6
Titles	5

Violations on Area

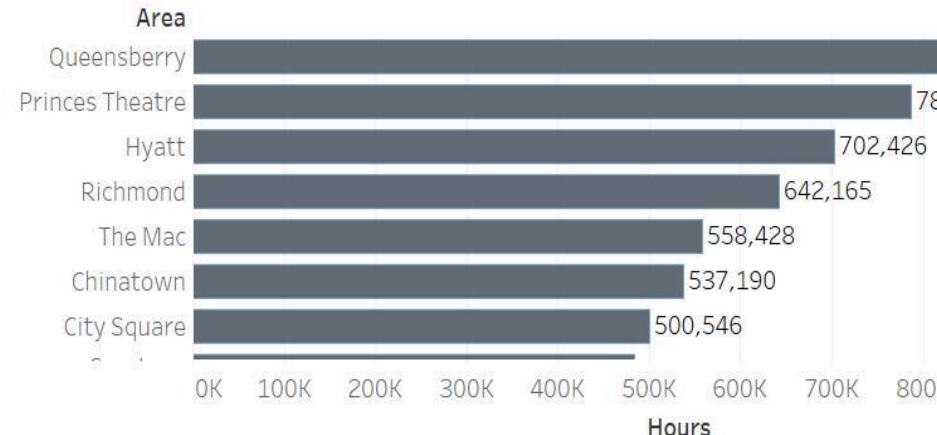


AreaMap

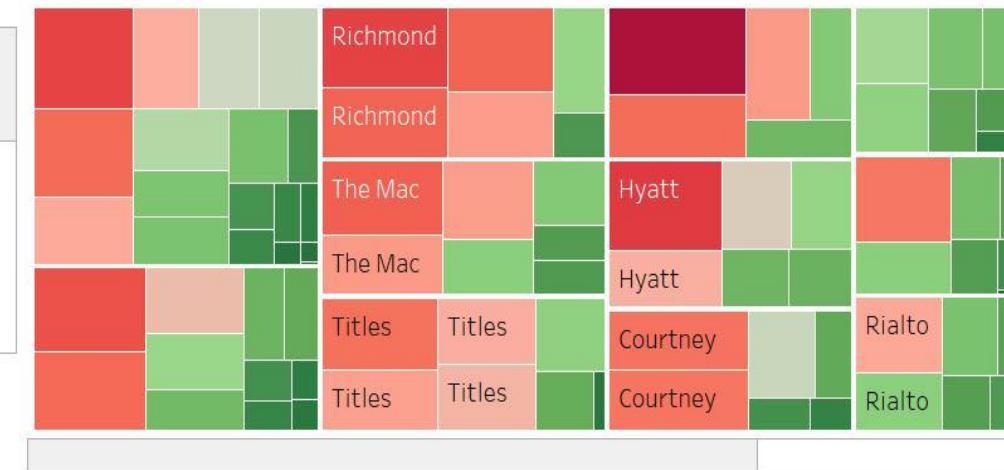


LOCATION

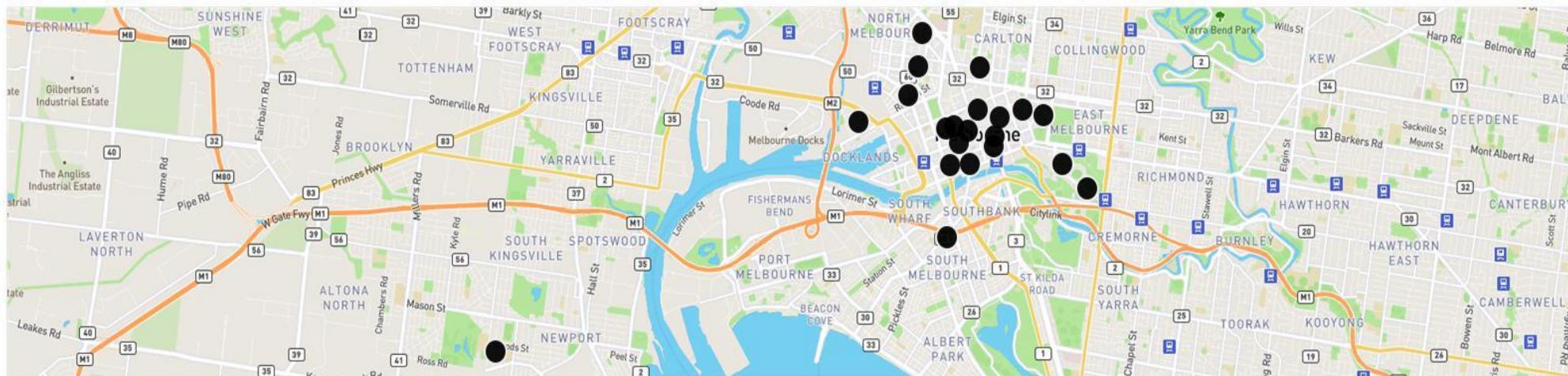
Areas



Streets in Area



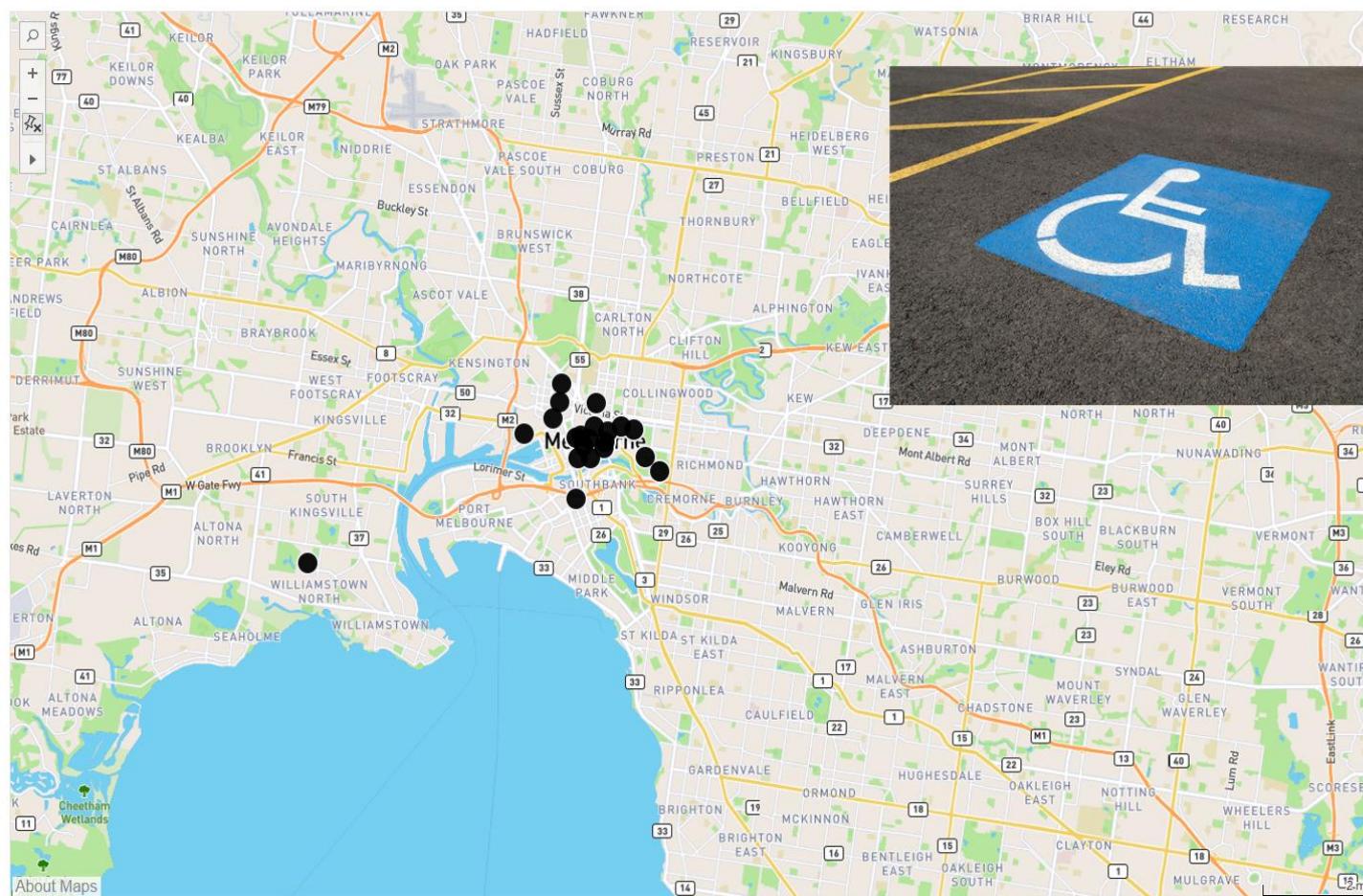
Area Map



NUMBER OF DISABLED PARKING IN AREAS

Disabled Parking

AreaMap

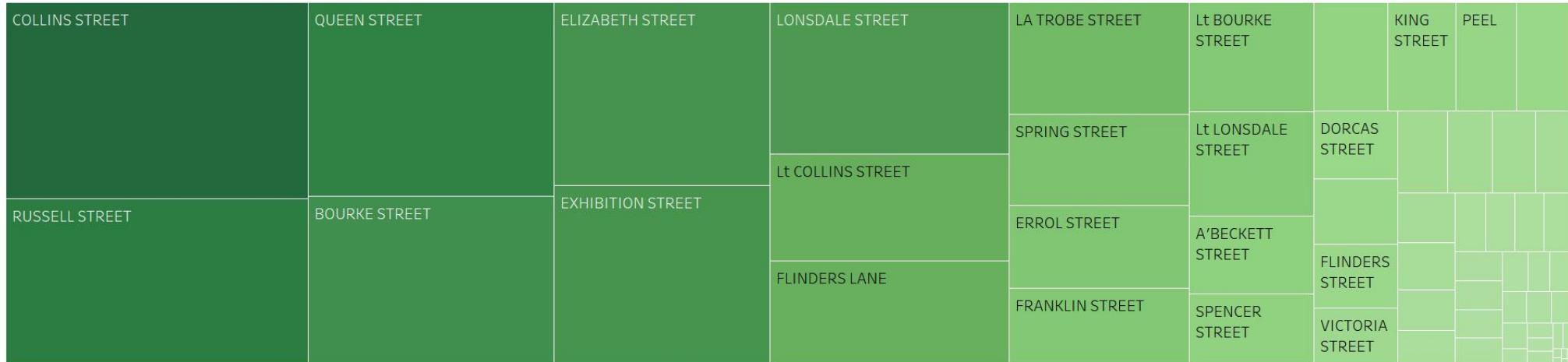


Disabled Parking List

Area (Area)	
Chinatown	2
City Square	2
County	2
Courtney	1
Docklands	0
Hardware	2
Hyatt	3
Jolimont	1
Magistrates	2
Newport	1
Princes Theatre	1
Queensberry	3
RACV	2
Rialto	1
Richmond	1
Southbank	1
Spencer	1
Supreme	1
Tavistock	2
The Mac	3
Titles	1

MOST SECURE STREETS

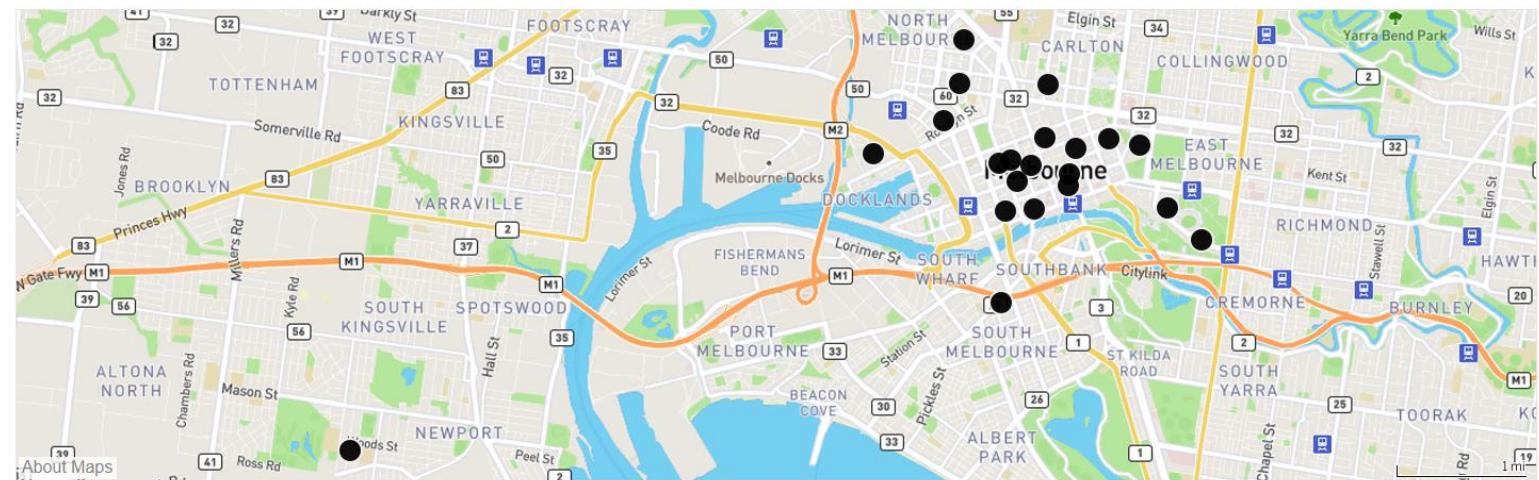
MostSecureStreets



AreasList

Area	
Docklands	6
Jolimont	3,392
Tavistock	290,266
Supreme	394,572
County	827,414

AreaMap

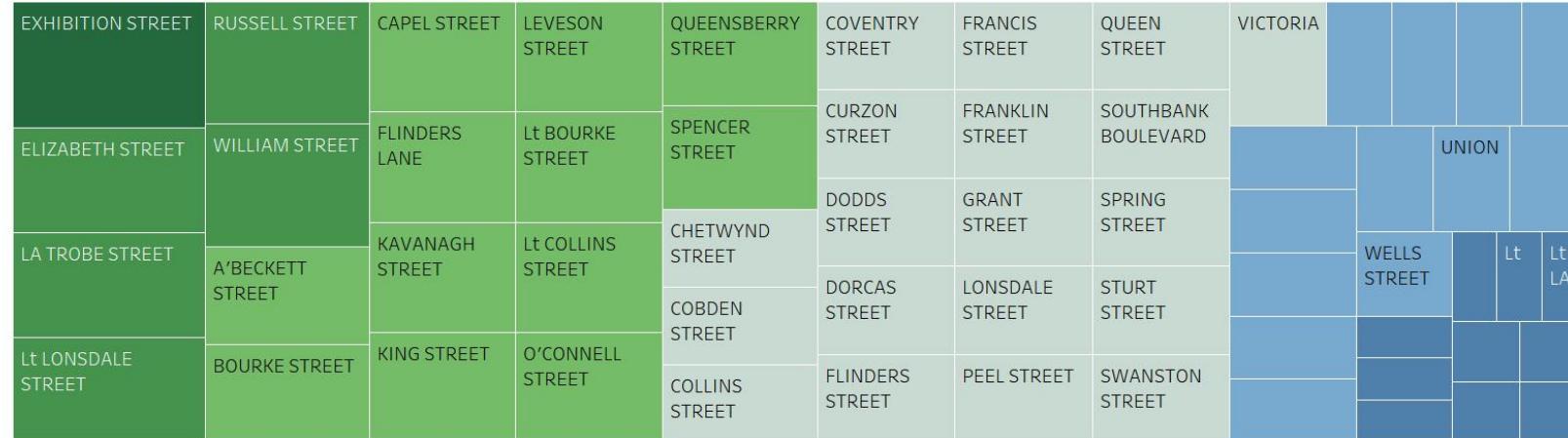


RELATIONSHIP BETWEEN DISABLED PARKING AND PARKING HOURS

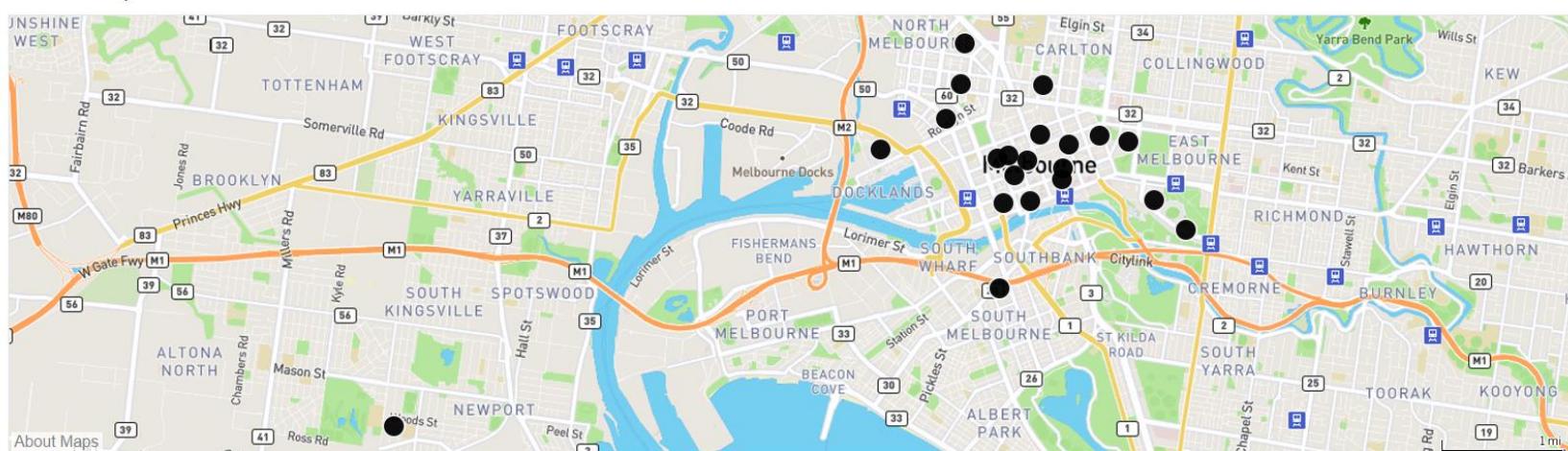
Disabled
Parking
Relationship
with Parking
Hours

Area	6
The Mac Chinatown	5
City Square	5
Courtney	5
Hyatt	5
Princes Theatre	5
Queensberry	5
Richmond	5
Southbank	5
Titles	5
County	4
Magistrates	4
RACV	4
Hardware	3
Newport	3
Rialto	3
Spencer	3
Supreme	2
Jolimont	1
Tavistock	1
Docklands	0

Paarking Streets



AreaMap

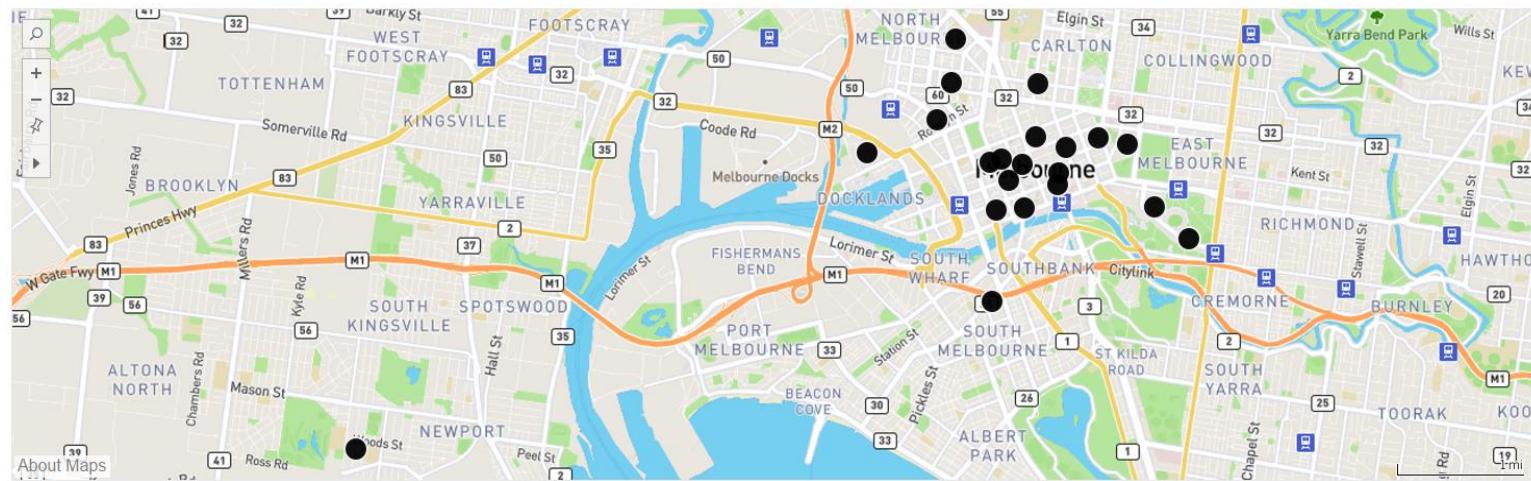


ARRIVAL/DEPARTURE DURING MAX PARKING HOUR ALLOWED

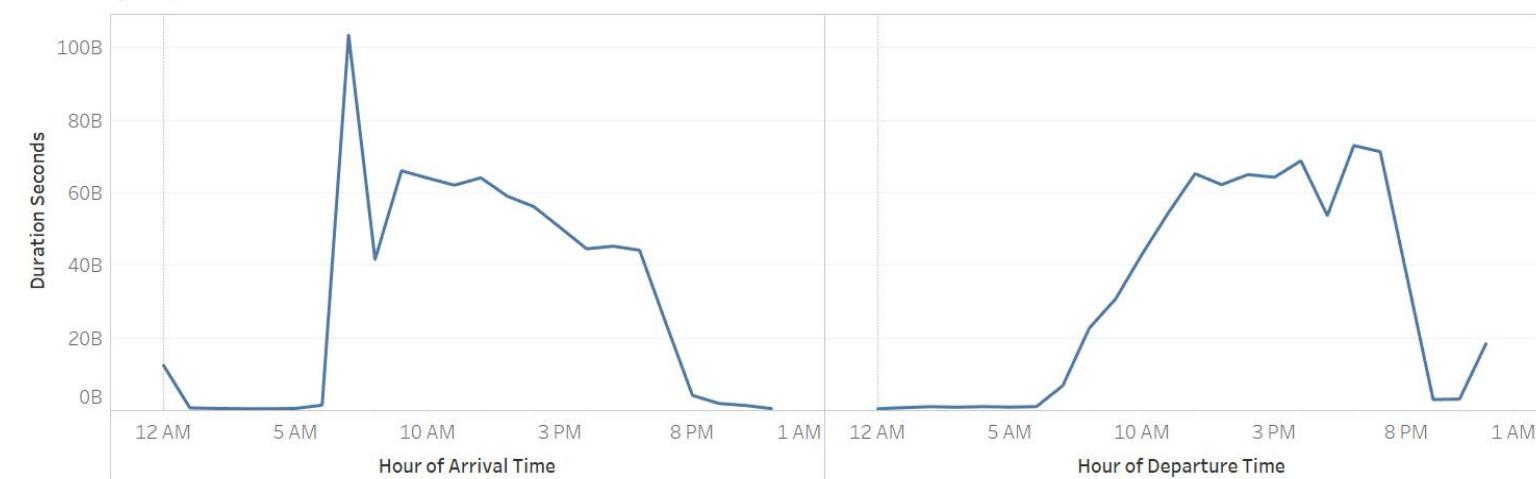
Area With
Parking
Hours

Area	
Chinatown	5
City Square	5
County	4
Courtney	5
Docklands	0
Hardware	3
Hyatt	5
Jolimont	1
Magistrates	4
Newport	3
Princes Theatre	5
Queensberry	5
RACV	4
Rialto	3
Richmond	5
Southbank	5
Spencer	3
Supreme	2
Tavistock	1
The Mac	6
Titles	5

AreaMap

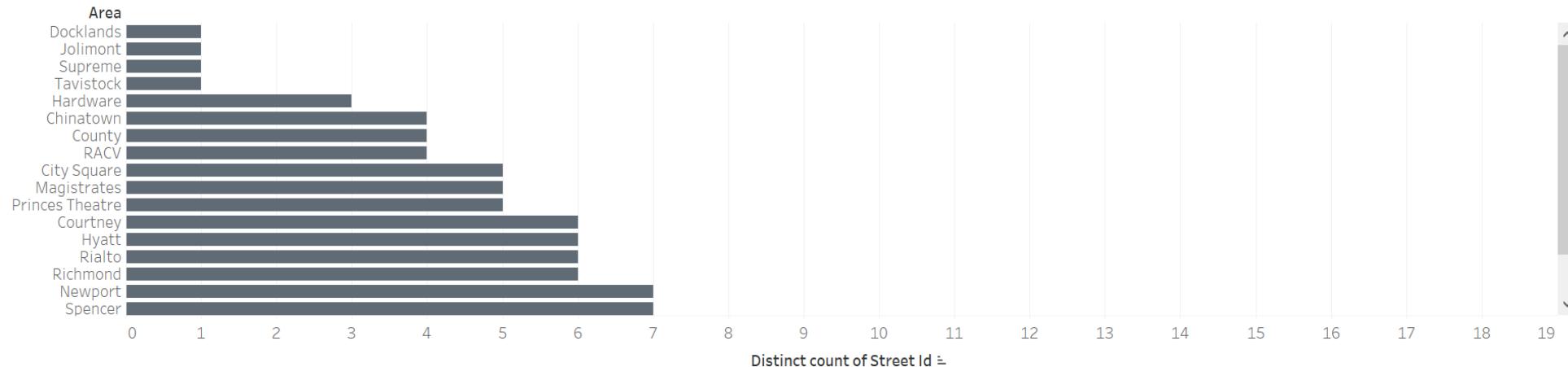


Arrival/Departure

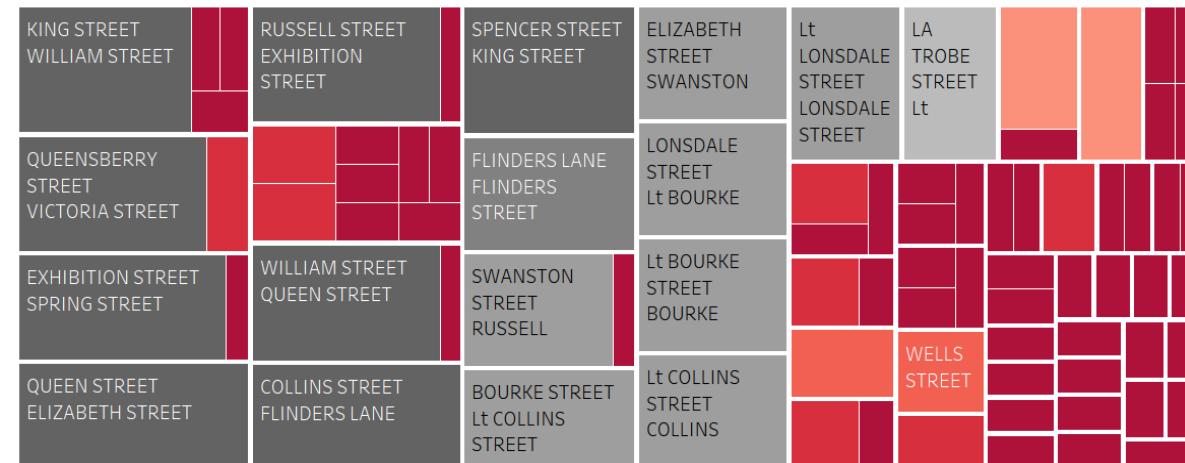


Area with main streets and nearby streets

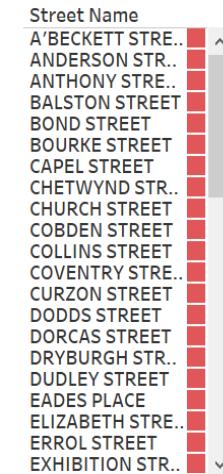
AreawithNumberOfStreets



Nearby Streets



StreetName



PART 2

ADA ASSIGNMENT

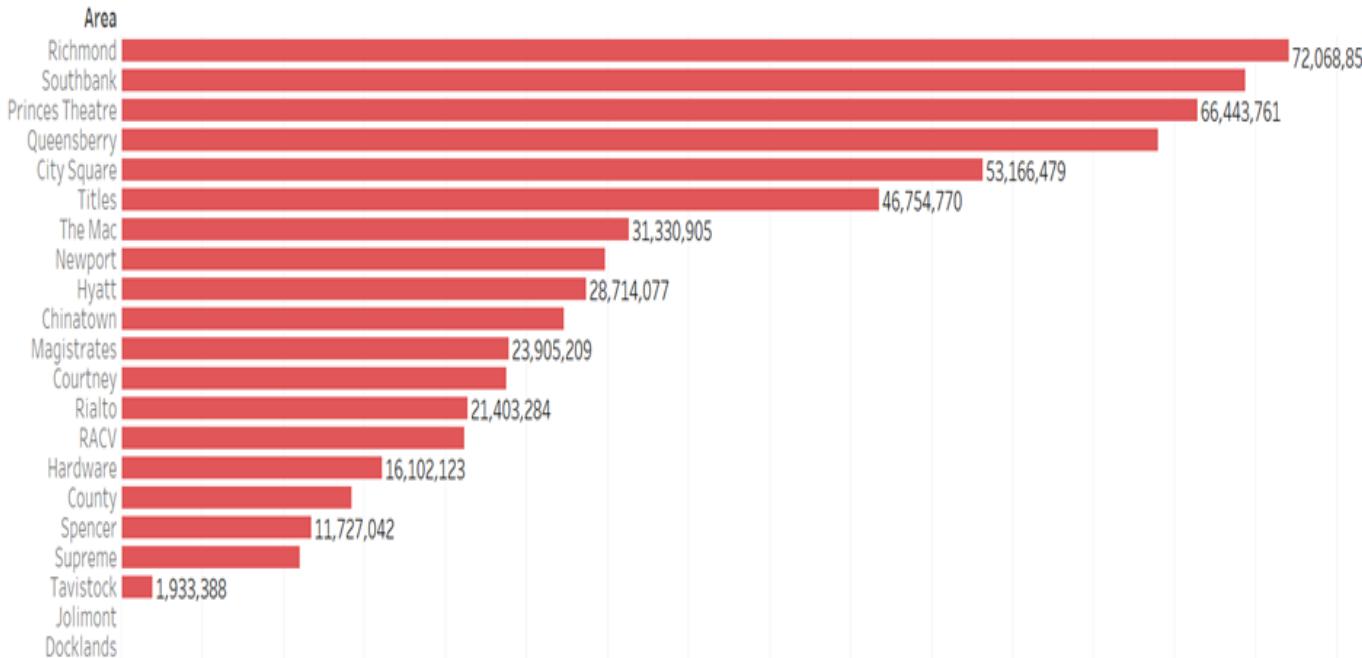
PREDICTIVE

ANALYTICS

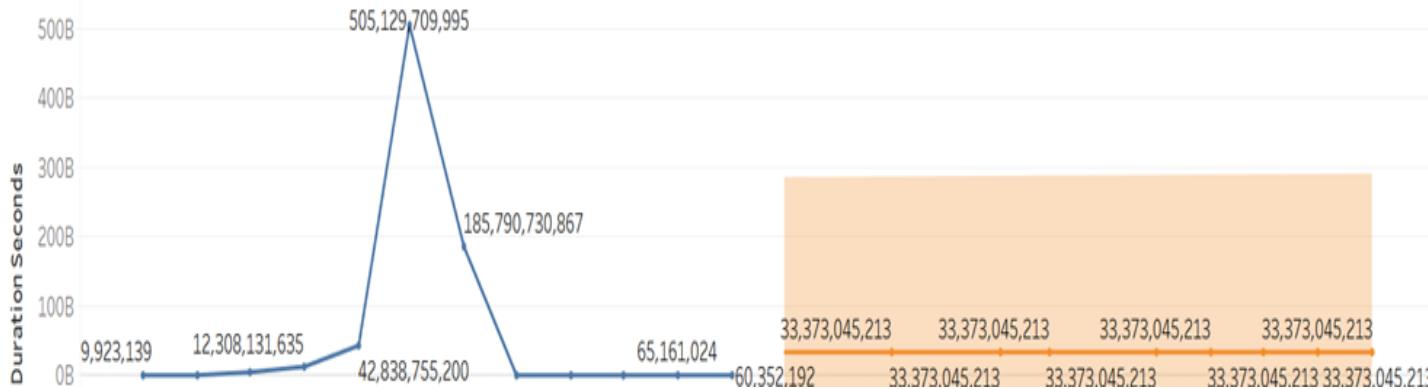


FORECAST: Areas vs durations of time in sec

AreaList Busy Parking



Forecast - Duration of seconds



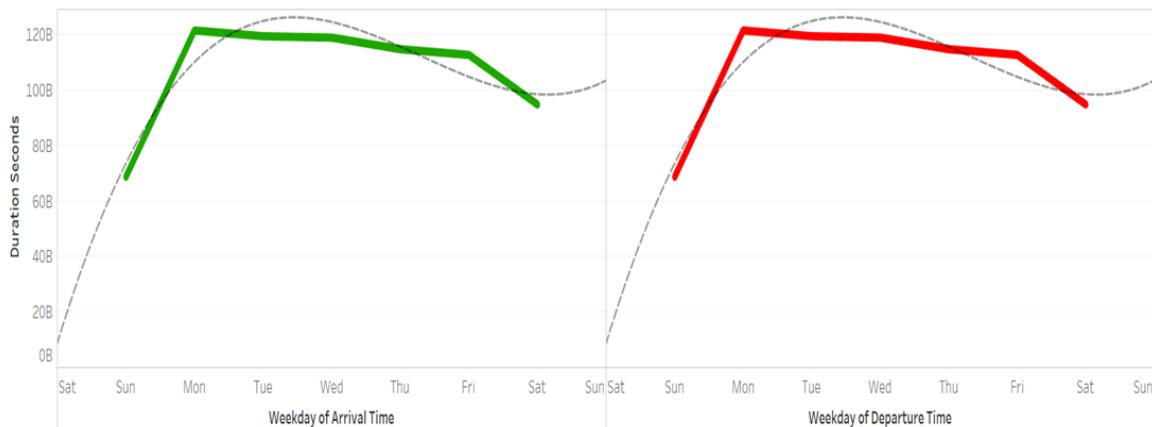
TREND LINES OF ARRIVAL/DEP ARTURE WITH AREA DEVICES

Areas with
Devices

Area	Distinct count of D..
Queensberry	714
Southbank	494
Richmond	283
Courtney	278
Titles	247
Princes Theatre	227
The Mac	201
Magistrates	180
Hyatt	168
County	139
Rialto	126
Spencer	116
Hardware	114
Newport	109
Citi Square	106

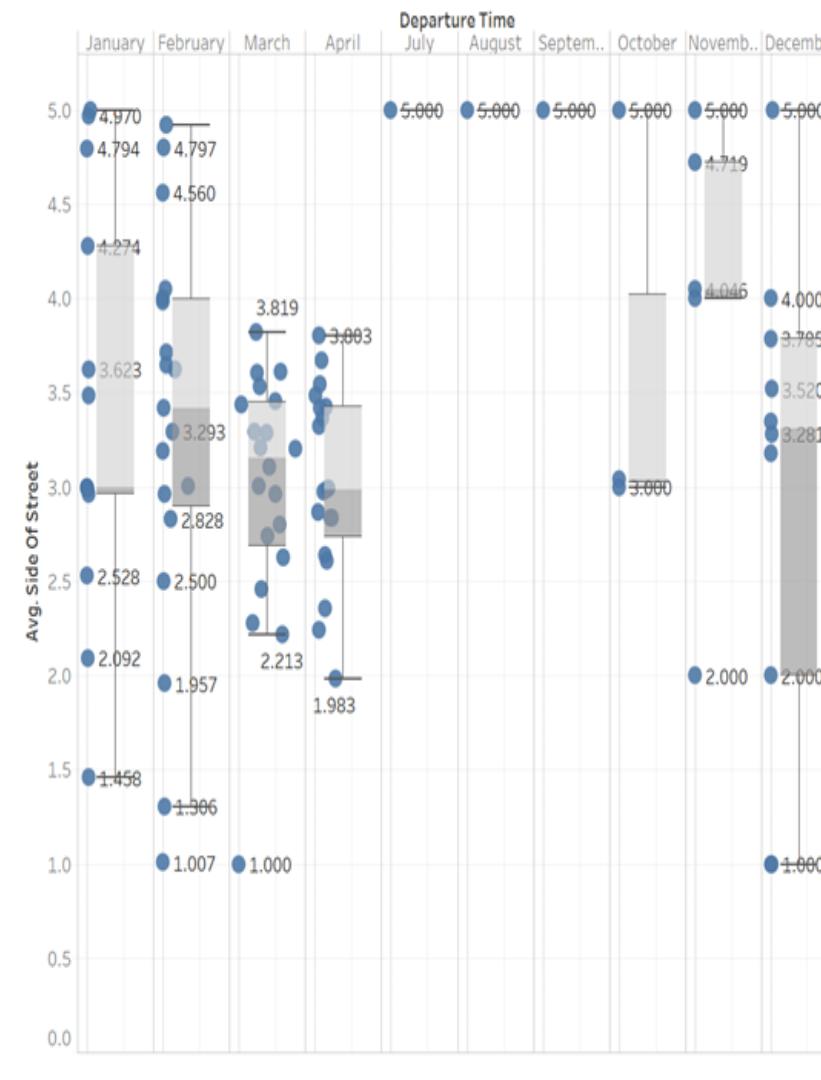
Distinct count of D..
1 714

ARRIVAL/DEPARTURE WITH DAYS

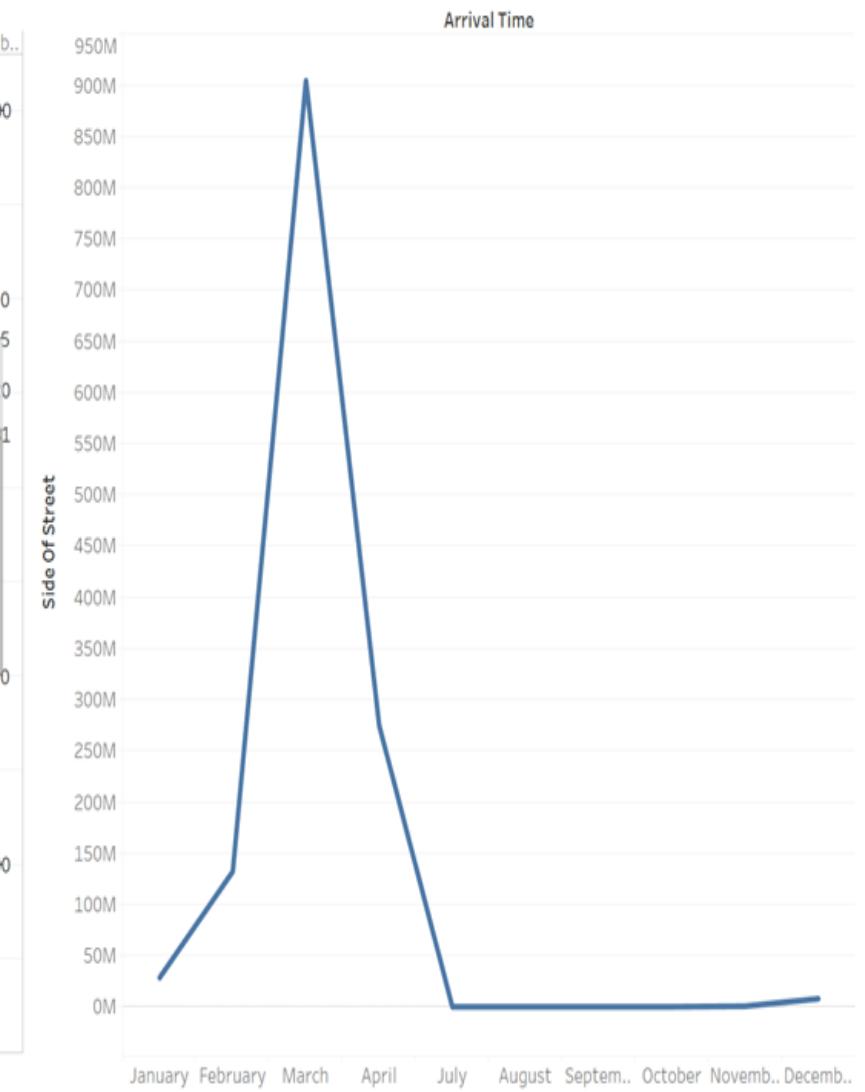


BOXPLOT : PARKING DURATION VS SIDEOFPARKI NG

BoxPlot-ParkingDuration(Sec)



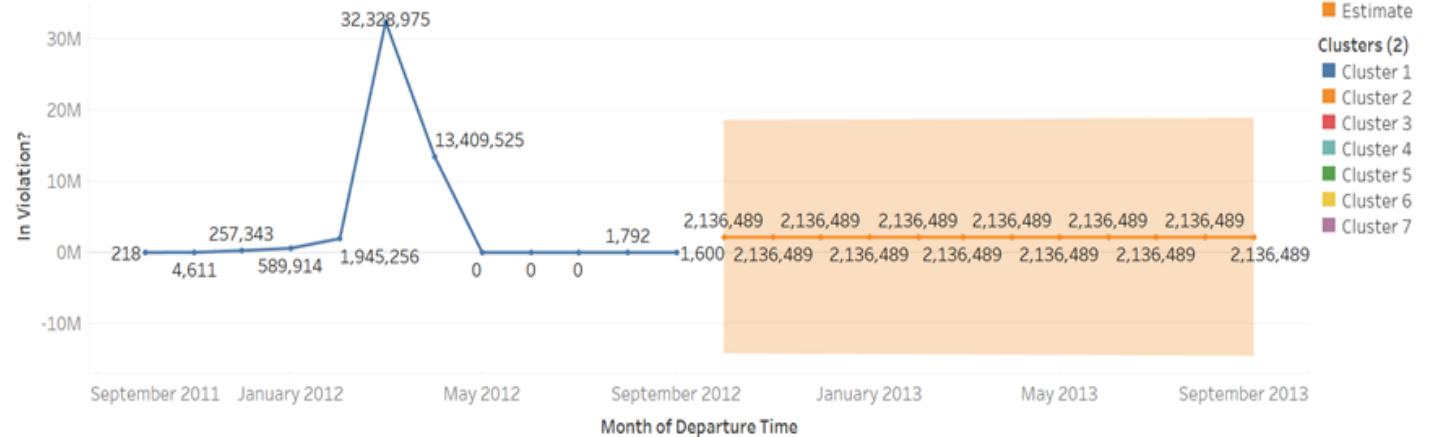
Parking Duration vs Sideof Parking



FORECAST: VIOLATION VS WEEKDAYS

Areas with Devices	
Area	Devices
Queensberry	714
Southbank	494
Richmond	283
Courtney	278
Titles	247
Princes Theatre	227
The Mac Magistrates	201
Hyatt	180
County	168
Rialto	139
Spencer	126
Hardware	116
Newport	114
City Square	109
Chinatown	106
RACV	94
Supreme	89
Tavistock	83
Docklands	13
Jolimont	3
	1

Forecast : Violations in Parking



Weekdays vs Violations

