In [1]:
```
library(tidyverse)
library(leaflet)
library(leaflet.extras)
library(mapview)
```

```
── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──
✔ dplyr     1.1.2     ✔ readr     2.1.4
✔ forcats   1.0.0     ✔ stringr   1.5.0
✔ ggplot2   3.4.2     ✔ tibble    3.2.1
✔ lubridate 1.9.2     ✔ tidyr     1.3.0
✔ purrr     1.0.1
── Conflicts ────────────────────────────────────────── tidyverse_conflicts() ──
✖ dplyr::filter() masks stats::filter()
✖ dplyr::lag()    masks stats::lag()
ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

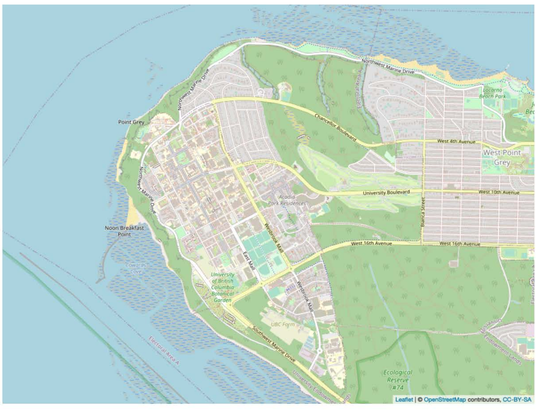
In [2]:
```
# load the data frame
incident_location <- read_csv("data/Incidents Coordinates.csv")
head(incident_location)
```

```
Rows: 10 Columns: 4
── Column specification ────────────────────────────────────────────────────────
Delimiter: ","
chr (2): Incident, Location
dbl (2): Latitude, Longitude

ℹ Use `spec()` to retrieve the full column specification for this data.
ℹ Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

Incident	Location	Latitude	Longitude
<chr>	<chr>	<dbl>	<dbl>
A tibble: 6 × 4			
Assult 1-2021	University Village	49.26647	-123.2438
Assult 2-2021	Wesbrook Village	49.25530	-123.2370
Assult 3-2021	University Boulevard by Scotiabank at the Diesel Bus Loop area	49.26612	-123.2463
Assult 4-2021	Basketball court area beside the Thunderbird parkade	49.26096	-123.2441
Assult 5-2021	Wesbrook Mall & University Boulevard	49.26623	-123.2456
Assult 6-2021	West Mall & Agronomy Road	49.25972	-123.2516

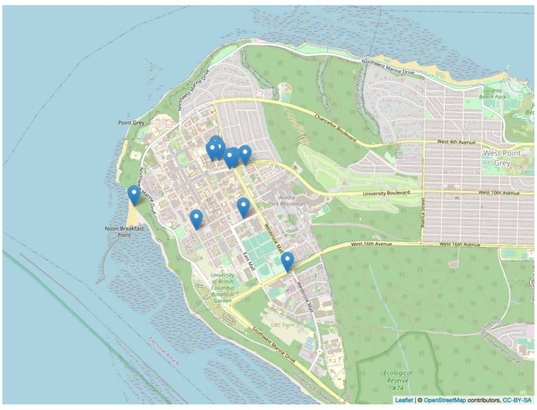
In [3]:
```
# create the base map
base_map <- leaflet() %>%
    addTiles() %>%
    fitBounds(-123.20,49.255,-123.28,49.27)

#base_map
```

In [4]:
```
mapshot(base_map, file = "Map Image Save/base_map_incident.png")
```



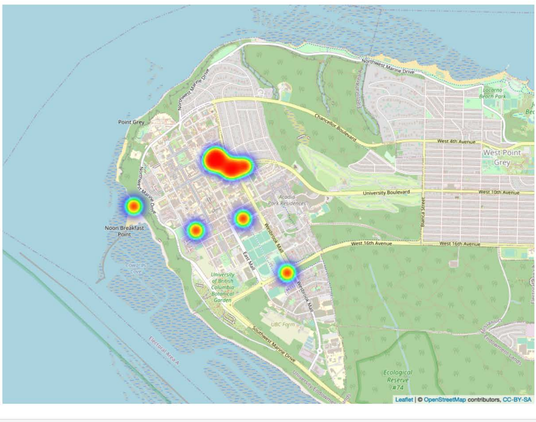
In [5]:
```
#plot the incident location
incident_location_map <- leaflet(data = incident_location) %>%
    addTiles() %>%
    fitBounds(-123.20,49.255,-123.28,49.27) %>%
    addMarkers(lng = ~Longitude,
               lat = ~Latitude,
               popup = ~Incident, label = ~Location)

#incident_location_map
```

In [6]:
```
mapshot(incident_location_map, file = "Map Image Save/incident_location_map.png")
```



In [7]:
```
# incident heatmap
incident_heatmap <- addHeatmap(base_map, lng = ~Longitude, lat = ~Latitude,  intensity = 0.1,
    layerId = NULL, group = NULL, minOpacity = 0.05, max = 0.05,
    radius = 20, blur = 25, gradient = NULL, cellSize = 10,
    data = incident_location)

#incident_heatmap
```

In [8]:
```
mapshot(incident_heatmap, file = "Map Image Save/incident_heatmap.png")
```



In [ ]: