

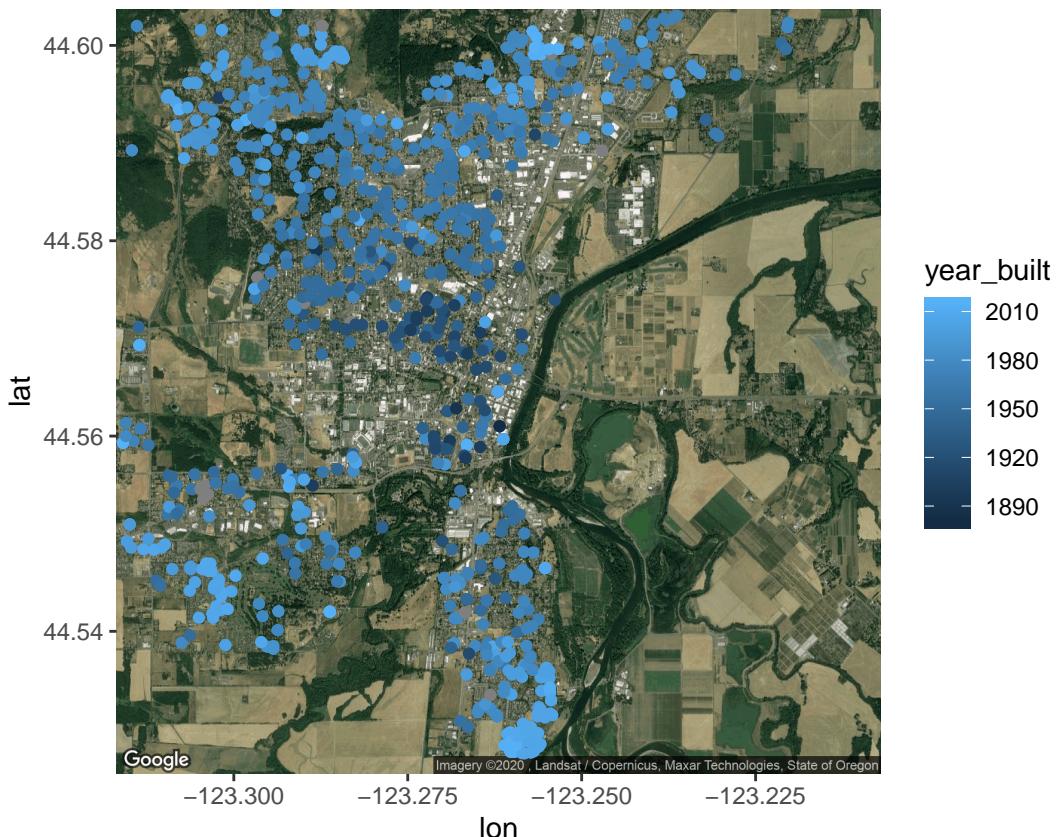
# Basic mapping with ggplot2 and ggmap

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2/18/2020

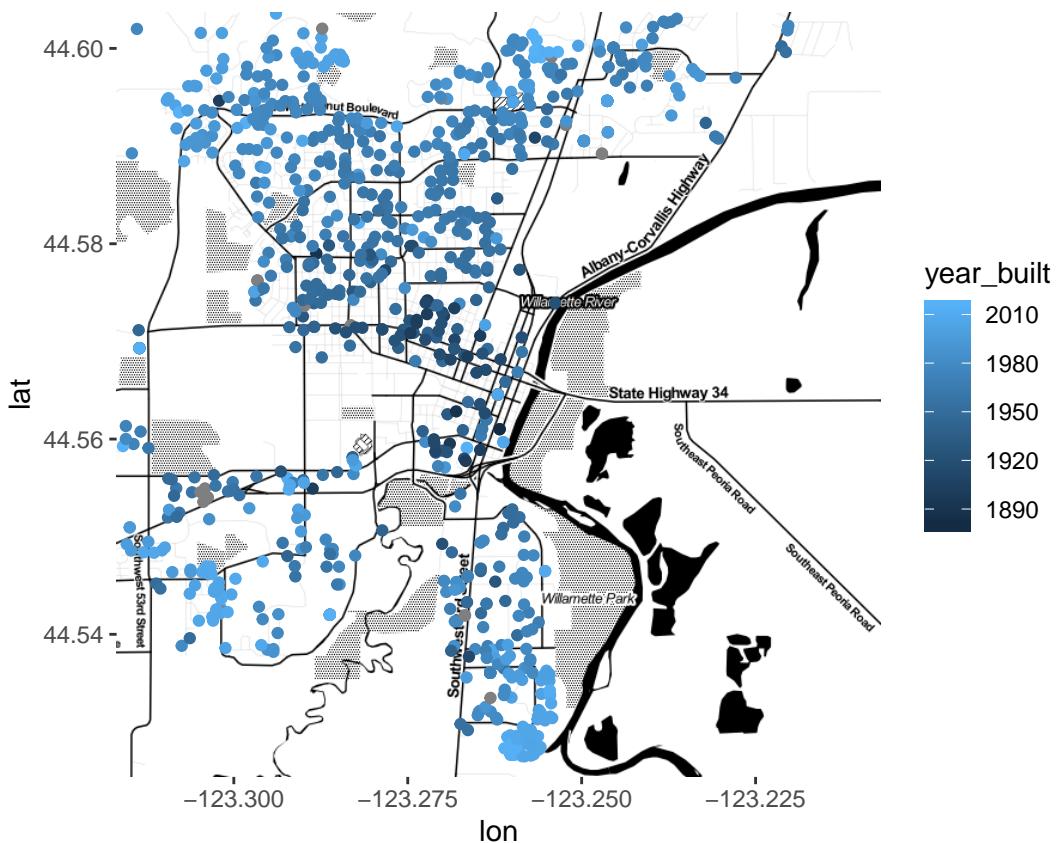
```
library(ggmap)
library(tidyverse)
library(knitr)
corvallis <- c(lon = -123.2620, lat = 44.5646)

# Add a maptype argument to get a satellite map
corvallis_map_sat <- get_map(corvallis, zoom = 13, maptype = "satellite")
```

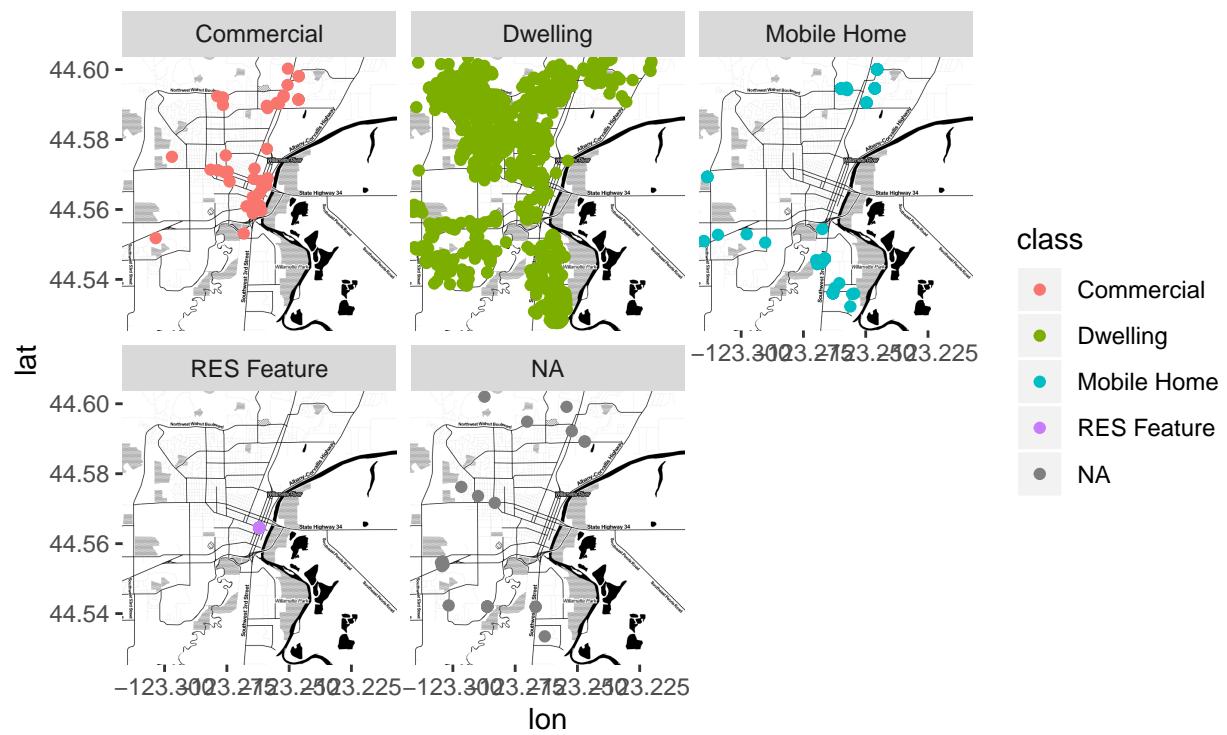


```
# Add source and maptype to get toner map from Stamen Maps
corvallis_map_bw <- get_map(corvallis, zoom = 13,
                           maptype = "toner", source ="stamen")
```

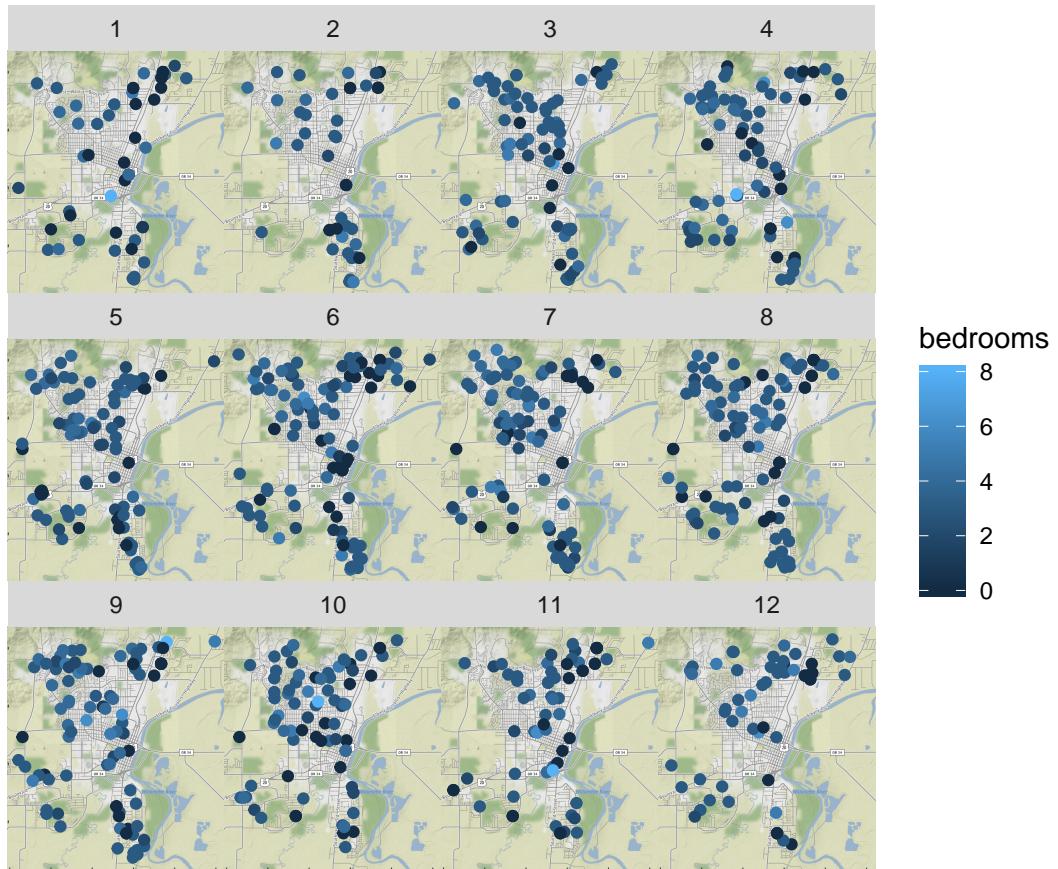
```
# Edit to display toner map
ggmap(corvallis_map_bw) +
  geom_point(aes(lon, lat, color = year_built), data = sales)
```



```
# Use base_layer argument to ggmap() to specify data and x, y mappings
ggmap(corvallis_map_bw,
      base_layer = ggplot(data = sales, aes(lon, lat )))+  
  geom_point(aes(color = class))+ facet_wrap(~class)
```



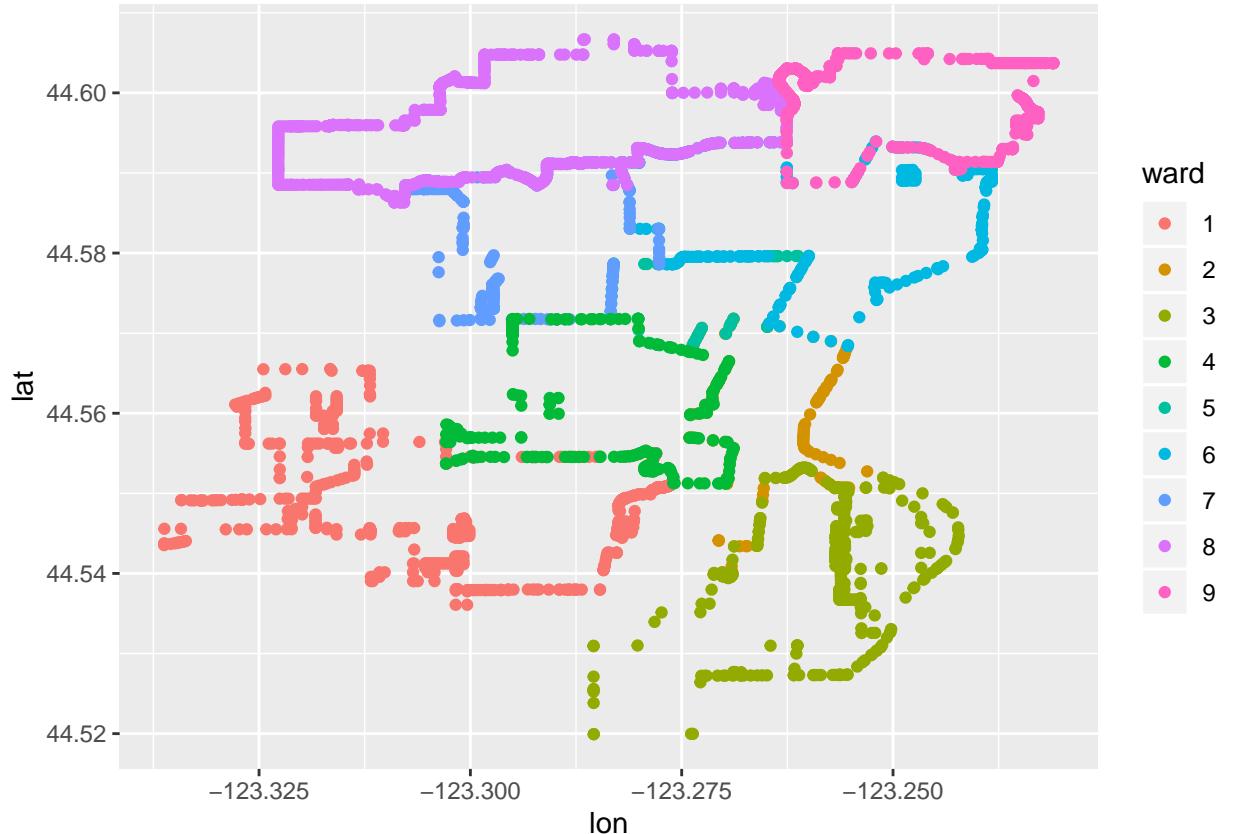
```
qmpplot(lon, lat, data = sales,
        geom = "point", color = bedrooms) +
  facet_wrap(~ month)
```



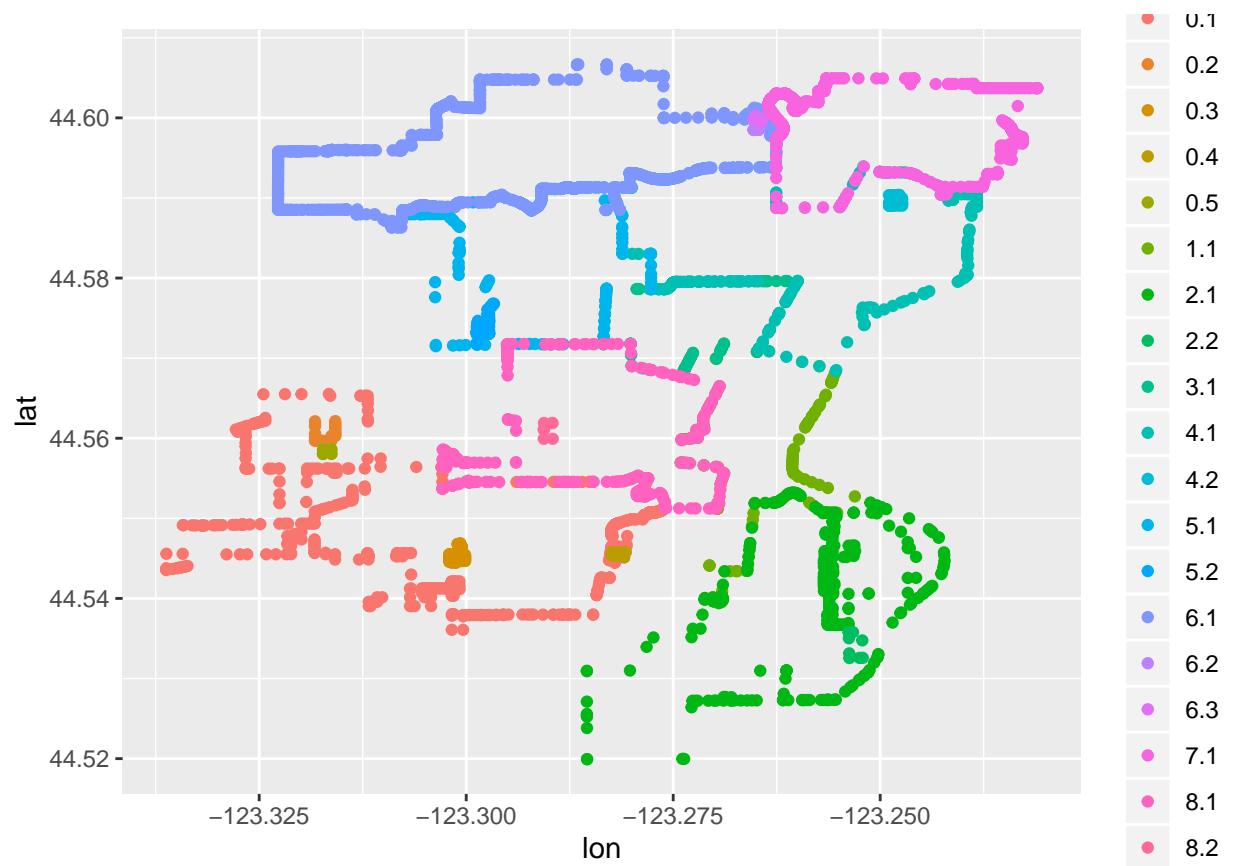
```
ward_sales <- readRDS("01_corr_wards.rds")
head(ward_sales) %>% kable()
```

ward	lon	lat	group	order	num_sales	avg_price	avg_finished	squarefeet
1	-123.3128	44.56531	0.1	1	159	311626.9		1609.226
1	-123.3122	44.56531	0.1	2	159	311626.9		1609.226
1	-123.3121	44.56531	0.1	3	159	311626.9		1609.226
1	-123.3119	44.56531	0.1	4	159	311626.9		1609.226
1	-123.3119	44.56485	0.1	5	159	311626.9		1609.226
1	-123.3119	44.56430	0.1	6	159	311626.9		1609.226

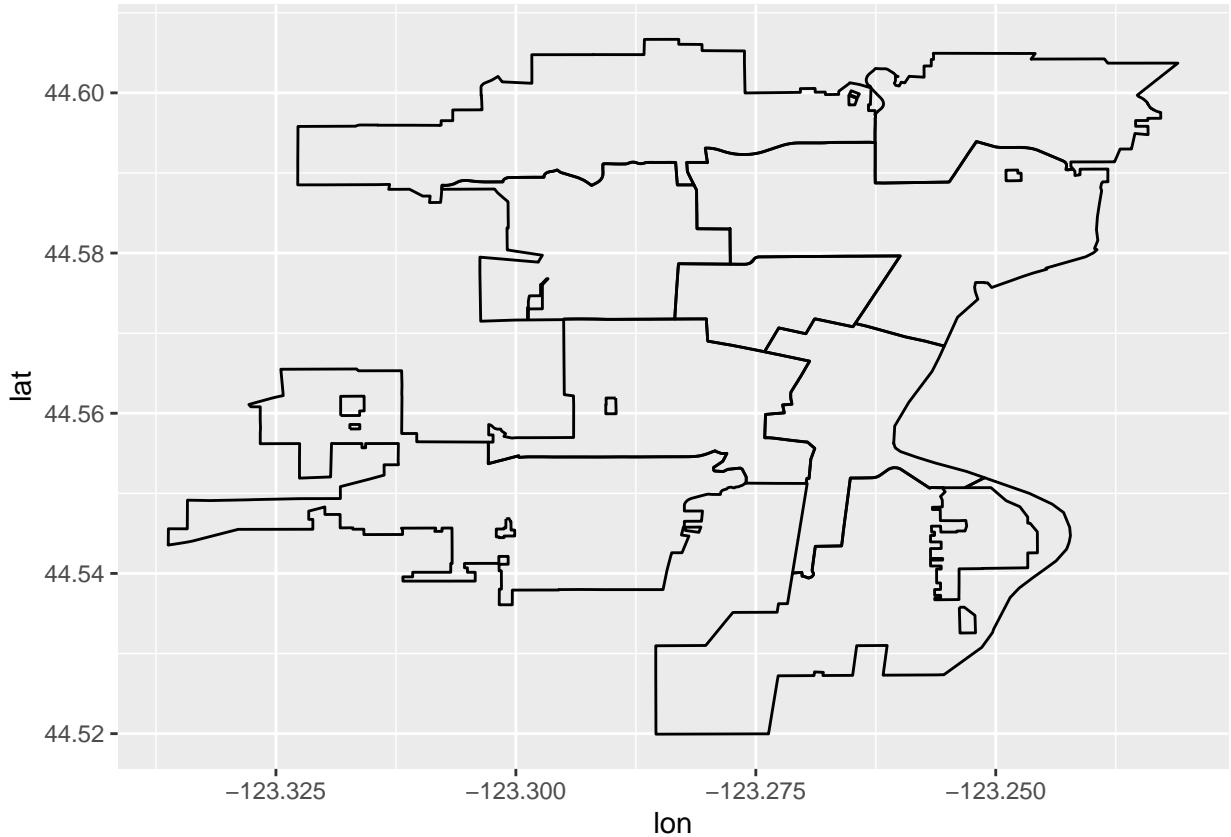
```
ggplot(ward_sales, aes(lon, lat)) +
  geom_point(aes(color = ward))
```



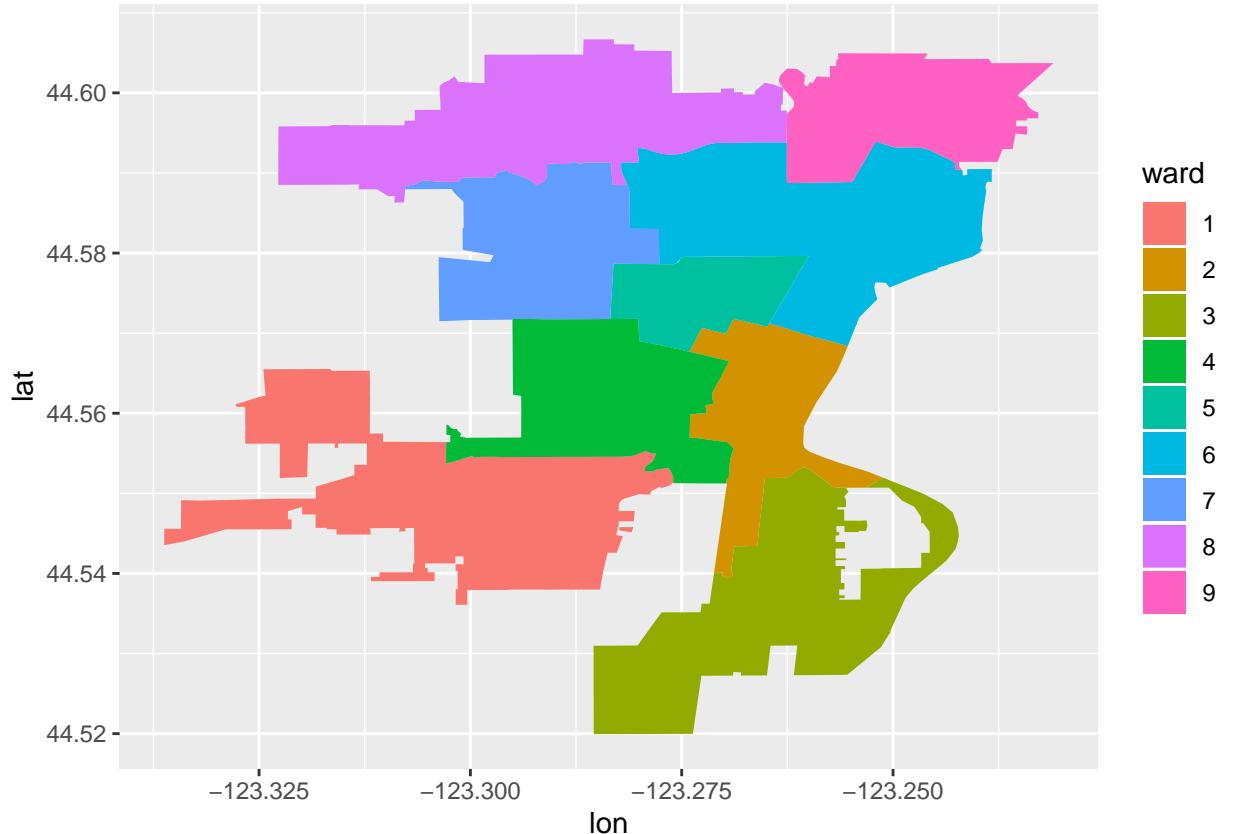
```
# Add a point layer with color mapped to group
ggplot(ward_sales, aes(lon, lat)) +
  geom_point(aes(color = group))
```



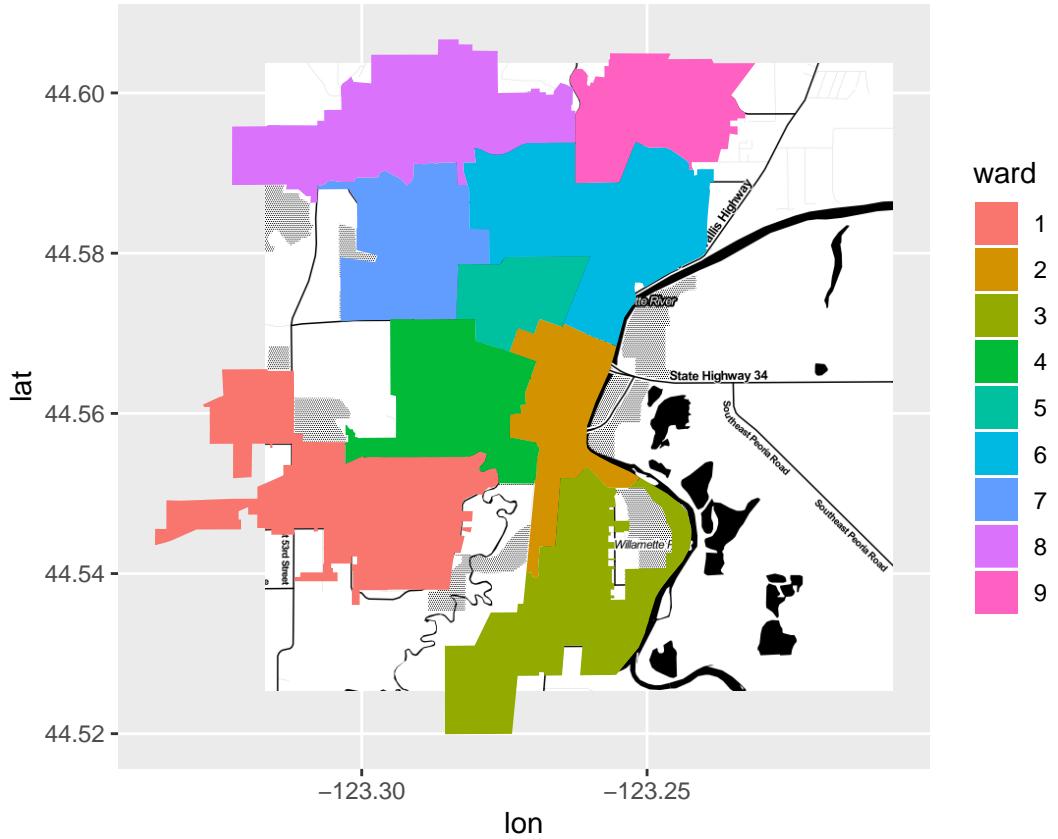
```
ggplot(ward_sales, aes(lon, lat)) +  
  geom_path(aes(group = group))
```



```
# Add a polygon layer with fill mapped to ward, and group to group
ggplot(ward_sales, aes(lon, lat)) +
  geom_polygon(aes(fill = ward, group = group))
```



```
# Fix the polygon cropping
ggmap(corvallis_map_bw, extent = "normal", maprange = FALSE,
      base_layer = ggplot(ward_sales, aes(lon, lat))) +
  geom_polygon(aes(group = group, fill = ward))
```



```
# Repeat, but map fill to num_sales
ggmap(corvallis_map_bw,
  base_layer = ggplot(ward_sales, aes(lon, lat)),
  extent = "normal", maprange = FALSE) +
  geom_polygon(aes(group = group, fill = num_sales))
```

