site_demo_map

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Import dataset and add two new columns

Add two new columns named Latitude and Longitude to later use for ggmap function.

Add Latitude and Longitude values of each city.

```
n.counties <- dim(site_data)[1]
within.gmaps.quota <- (geocodeQueryCheck() > 0)
```

```
## 2500 geocoding queries remaining.
```

```
# Datascience toolkit site source="dsk" more robust for multiple free queries
get_latlon <- function(i, sites) {
  county.state <- paste0(sites$County[i], " ", sites$State[i])
  latlon <- ggmap::geocode(county.state, output="latlon",
                           source="dsk", messaging = FALSE)
  if (!is.null(latlon)) {
    return(latlon)
  } else {
    cat(paste0("Lat/Lon not returned for .", city.county.state))
    return(NULL)
  }
}

if (n.counties > 0) {
  lat.lons <- lapply(1:n.counties, get_latlon, site_data)
  lat.lons.df <- Reduce(function (x,y) merge(x,y, all=TRUE), lat.lons)
}
```

```
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=los%20angeles%20CA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=merced%20CA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=orange%20CA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=riverside%20CA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=san%20mateo%20CA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=santa%20clara%20CA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=santa%20cruz%20CA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=yolo%20CA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=district%20of%20columbia%20
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=miami-dade%20FL
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=clarke%20GA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=oconee%20GA
```

```
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=cook%20IL
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=monroe%20IN
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=tippecanoe%20IN
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=orleans%20LA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=suffolk%20MA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=montgomery%20MD
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=clinton%20MI
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=ingham%20MI
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=camden%20NJ
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=essex%20NJ
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=gloucester%20NJ
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=mercer%20NJ
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=new%20york%20NY
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=richmond%20NY
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=tompkins%20NY
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=franklin%20OH
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=lane%20OR
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=allegheny%20PA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=bucks%20PA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=centre%20PA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=chester%20PA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=delaware%20PA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=montgomery%20PA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=philadelphia%20PA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=davidson%20TN
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=williamson%20TN
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=harris%20TX
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=travis%20TX
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=arlington%20VA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=chesterfield%20VA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=henrico%20VA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=james%20city%20VA
## Source : http://www.datasciencetoolkit.org/maps/api/geocode/json?address=richmond%20VA
site_latlons <- cbind(site_data, lat.lons.df)
```

Create a ggmap for the site demographics

```
## Source : https://maps.googleapis.com/maps/api/staticmap?center=united+states&zoom=4&size=640x640&scal
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=united%20states
```