Data Axle - Businesses in Sharswood

URBS 4000: Urban Studies Thesis

Jed Chew

2025-10-20

Table of contents

Project	Title: Mixed by Design	1
A	Case Study of the Philadelphia Housing Authority's (PHA) Choice Neighbor-	
	hoods Redevelopment of Sharswood	1
Part 1:	Raw Data from Data Axle	2
$R\epsilon$	ecord Types	3
Part 2:	Comprehensive Visualization and Analysis	19

Project Title: Mixed by Design

A Case Study of the Philadelphia Housing Authority's (PHA) Choice Neighborhoods Redevelopment of Sharswood

For my Urban Studies thesis, I am researching the PHA's Choice Neighborhoods redevelopment of the Sharswood neighborhood in North Philadelphia. I have two main research questions about the process and outcome of this redevelopment:

- (1) the **process** by which the PHA aligned the politics, finance, and design for the redevelopment of Sharswood; and
- (2) the early redevelopment **outcomes** relative to the Choice Neighborhoods Initiative (CNI) vision of mixed-partners, mixed-use, and mixed-income

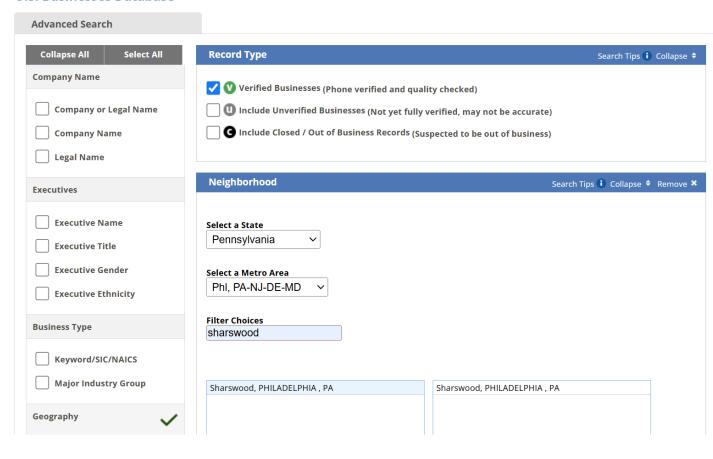
Part 1: Raw Data from Data Axle

Data Axle Reference Solutions (formerly Reference USA and Infogroup) is a big data, analytics, and marketing services provider that delivers best in class data-driven, customercentric technology solutions. It offers two main types of data:

- Residential Historic Data: Analyze community growth and general population differences.
- **Historic Business Data:** Analyze market trends, economic growth, or specific industries. Access categories including Company Name, Geocodes, SIC/NAICS codes, Census Tracts.

I retrieved my raw data files from Data Axle through Penn Libraries and Wharton Research and Data Services (WRDS) on October 15, 2025. The interface of Data Axle is shown below.

U.S. Businesses Database



Record Types

- Verified Records: have been verified by DataAxle staff through various compilation processes including phone validation
- Unverified Records: separate database from verified records because of one of the following three reasons:
 - records appear within data sources but have yet to be fully verified
 - partial information is contained in the record, but not all data elements are present to be considered 'verified' at the point of data retrieval
 - addresses are unverified (e.g. a business may have moved)

Step 1: Load Raw Data as csv files

- DataAxle's U.S. Businesses Data Dictionary
- Verified Businesses in Sharswood Neighborhood
- Unverified Businesses in Sharswood Neighborhood
- Philadelphia census tracts and neighborhood boundaries

```
# Load Data Axle Data
datadict <- read_csv("data/Data_Dict.csv")
head(datadict)</pre>
```

```
# A tibble: 6 x 2
```

`Field Name` `Field Description`

<chr> <chr>

1 Company Name Name of Company or Professional Name

2 Executive First Name First Name of Contact 3 Executive Last Name Last Name of Contact

4 Address Location address of the company
5 City Location city address of the company
6 State Location state address of the company

```
verified <- read_csv("data/Sharswood_Verified_Biz.csv")
verified</pre>
```

```
# A tibble: 35 x 18
   `Company Name`
                            `Legal Name` Address Latitude Longitude Neighborhood
   <chr>
                                          <chr>
                                                  <chr>
                                                               <dbl> <chr>
                            <chr>
 1 ATM
                            <NA>
                                         2101 S~ 039.972~
                                                               -75.2 Sharswood
2 ATM
                            <NA>
                                         2438 W~ 039.975~
                                                               -75.2 Sharswood
3 Big Picture Philadelphia <NA>
                                         2300 W~ 039.976~
                                                               -75.2 Sharswood
4 Brothers Corner
                            BROTHER GRO~ 2012 R~ 039.975~
                                                               -75.2 Sharswood
5 Citizens For Kenneth Wa~ <NA>
                                         2101 S~ 039.972~
                                                               -75.2 Sharswood
                                                               -75.2 Sharswood
6 College Girard
                            <NA>
                                         2101 N~ 039.975~
7 El Tlaloc
                            <NA>
                                         2108 R~ 039.978~
                                                               -75.2 Sharswood
8 Georgiegs Truck
                            <NA>
                                         1261 N~ 039.974~
                                                               -75.2 Sharswood
9 Girard College Devmnt F~ <NA>
                                         2101 S~ 039.973~
                                                               -75.2 Sharswood
10 Girard College Foundati~ GIRARD COLL~ 2101 S~ 039.973~
                                                               -75.2 Sharswood
# i 25 more rows
# i 12 more variables: `Census Block Group` <dbl>, `ZIP Code` <dbl>,
    `Company Description` <chr>, `Primary SIC Code` <chr>,
    `Primary SIC Description` <chr>, `Primary NAICS` <dbl>,
    `Primary NAICS Description` <chr>, `Years In Database` <dbl>,
#
    `Location Type` <chr>, `Location Employee Size Range` <chr>,
    `Square Footage` <chr>, `Record Type` <chr>
```

unverified1 <- read_csv("data/Sharswood_Unverified_Biz_Pg1to10.csv") unverified1</pre>

```
# A tibble: 250 x 18
                      Address `ZIP Code` `Legal Name` `Record Type` Neighborhood
   `Company Name`
   <chr>
                      <chr>
                                   <dbl> <chr>
                                                       <chr>
                                                                     <chr>
 1 100 Black Men Of ~ 2300 W~
                                   19121 <NA>
                                                       Unverified
                                                                     Sharswood
2 1220 Lindley Aven~ 2101 N~
                                   19121 1220 LINDLE~ Unverified
                                                                     Sharswood
3 1496 Bushwick LLC 2101 N~
                                   19121 1496 BUSHWI~ Unverified
                                                                     Sharswood
4 1518 Loudon LLC
                      2026 R~
                                   19121 1518 LOUDON~ Unverified
                                                                     Sharswood
5 1530 Ridge LLC
                      2026 R~
                                   19121 1530 RIDGE ~ Unverified
                                                                     Sharswood
6 16th Associates L~ 2101 N~
                                   19121 16TH ASSOCI~ Unverified
                                                                     Sharswood
7 1985 LLC
                      2026 R~
                                   19121 1985 LLC
                                                       Unverified
                                                                     Sharswood
8 2048 St Inc
                      2048 R~
                                   19121 2048 ST INC Unverified
                                                                     Sharswood
9 2111 Seybert LLC
                      2111 W~
                                   19121 2111 SEYBER~ Unverified
                                                                     Sharswood
10 2245 W Thompson S~ 2245 W~
                                   19121 2245 W THOM~ Unverified
                                                                     Sharswood
# i 240 more rows
# i 12 more variables: `Census Block Group` <dbl>, `Company Description` <lgl>,
    `Primary SIC Code` <chr>, `Primary SIC Description` <chr>,
    `Primary NAICS` <dbl>, `Primary NAICS Description` <chr>,
    `Location Employee Size Range` <chr>, `Location Type` <chr>,
```

```
# 'Years In Database' <dbl>, 'Square Footage' <chr>, Latitude <chr>,
```

<chr>

Longitude <dbl>

A tibble: 171 x 18 `Company Name`

<chr>

```
unverified2 <- read_csv("data/Sharswood_Unverified_Biz_Pg11to17.csv")
unverified2</pre>
```

<dbl> <chr>

Address `ZIP Code` `Legal Name` `Record Type` Neighborhood

<chr>

<chr>

```
1 Miller Rothlein
                                               2101 S~
                                                                            19121 <NA>
                                                                                                                     Unverified
                                                                                                                                                    Sharswood
  2 Milley Meals LLC
                                                                            19121 MILLEY MEAL~ Unverified
                                               2405 W~
                                                                                                                                                    Sharswood
  3 Miracle Revival D~ 2072 R~
                                                                           19121 <NA>
                                                                                                                     Unverified
                                                                                                                                                   Sharswood
  4 Miro Dance Theatre 2101 S~
                                                                           19121 <NA>
                                                                                                                     Unverified
                                                                                                                                                   Sharswood
  5 Modern Konvention~ 2111 W~
                                                                           19121 MODERN KONV~ Unverified
                                                                                                                                                   Sharswood
  6 Molly's World LLC 2105 W~
                                                                           19121 MOLLY'S WOR~ Unverified
                                                                                                                                                   Sharswood
  7 Moore Treats 4 U ~ 2300 W~
                                                                          19121 MOORE TREAT~ Unverified
                                                                                                                                                   Sharswood
  8 Motef Co
                                                2216 W~
                                                                          19121 MOTEF CO
                                                                                                                     Unverified
                                                                                                                                                   Sharswood
  9 MPL Corp
                                               2101 S~
                                                                            19121 MPL CORP
                                                                                                                     Unverified
                                                                                                                                                    Sharswood
10 Mt Calvary Aposto~ 2450 W~
                                                                            19121 <NA>
                                                                                                                     Unverified
                                                                                                                                                    Sharswood
# i 161 more rows
# i 12 more variables: `Census Block Group` <dbl>, `Company Description` <chr>,
         `Primary SIC Code` <chr>, `Primary SIC Description` <chr>,
         `Primary NAICS` <dbl>, `Primary NAICS Description` <chr>,
         `Location Employee Size Range` <chr>, `Location Type` <chr>,
         `Years In Database` <dbl>, `Square Footage` <chr>, Latitude <chr>,
        Longitude <dbl>
unverified_combined <- bind_rows(unverified1, unverified2)</pre>
write_csv(unverified_combined, "data/Sharswood_Unverified_Biz_Combined.csv")
# rename column headings
verified <- verified |> clean_names()
unverified_combined <- unverified_combined |> clean_names()
# filter out small businesses with irrelevant SIC Codes
drop_SIC <- c("Atm-Automated Teller Machines", "Schools", "Churches", "Nonclassified Establia
verified_clean <- verified |>
    filter(!primary_sic_description %in% drop_SIC) |>
    select(company_name, address, latitude, longitude, census_block_group, primary_sic_code, primary_sic_c
                   years_in_database, location_type, location_employee_size_range, square_footage, rec
verified_clean
```

A tibble: 19 x 14 company_name address latitude longitude census_block_group primary_sic_code <chr> <dbl> <dbl> <chr> <chr>> <chr>> 1 Brothers Corn~ 2012 R~ 039.975~ -75.2 2 541105 2 El Tlaloc 2108 R~ 039.978~ -75.22 581212 3 Girard Colleg~ 2101 S~ 039.973~ -75.23 839998 4 Girard Colleg~ 2101 S~ 039.973~ -75.23 873303 5 Girard Colleg~ 2101 S~ 039.973~ -75.23 823109 6 Greater Dane 2305 W~ 039.975~ 2 421304 -75.27 Johnsons Conc~ 2229 W~ 039.975~ -75.22 869912 8 Lev Baruch Fo~ 2207 W~ 039.974~ -75.2 2 873303 9 Lorenzo's 1301 N~ 039.975~ -75.22 724101 10 Mighty Writers 2300 W~ 039.976~ -75.22 821108 11 Miller Memori~ 1518 N~ 039.978~ -75.21 839998 12 Moss-Gail, De~ 2300 W~ 039.976~ -75.22 804907 13 Pham, Amber -75.2 2245 W~ 039.975~ 2 832282 14 Philly Homes ~ 2445 H~ 039.977~ -75.21 653118 15 Real Roots Fo~ 2245 W~ 039.975~ -75.22 018198 16 RMST Delivery~ 2429 S~ 039.977~ -75.2 1 421212 17 Vincen Bevera~ 2048 R~ 039.976~ -75.22 518101 18 Woods Carpent~ 2026 R~ 039.976~ -75.22 175102 -75.2 19 Young Men Bec~ 1450 N~ 039.977~ 2 839998 # i 8 more variables: primary_sic_description <chr>, primary_naics <dbl>, primary_naics_description <chr>, years_in_database <dbl>, # location_type <chr>, location_employee_size_range <chr>, square_footage <chr>, record_type <chr> filter(!primary_sic_description %in% drop_SIC) |>

```
unverified_clean <- unverified_combined |>
  filter(!primary_sic_description %in% drop_SIC) |>
  select(company_name, address, latitude, longitude, census_block_group, primary_sic_code, primary_in_database, location_type, location_employee_size_range, square_footage, reconverified_clean
```

A tibble: 170 x 14 address latitude longitude census_block_group primary_sic_code company_name <dbl> <chr> <chr> <chr> <chr>> <dbl> 1 1518 Loudon L~ 2026 R~ 039.976~ -75.2 2 653118 2 2048 St Inc 2048 R~ 039.976~ -75.22 653118 3 4545 Uber LLC 2026 R~ 039.976~ -75.22 653118 4 4th Quarter C~ 2438 W~ 039.975~ -75.22 152144 5 Adam Analysis~ 2111 W~ 039.976~ -75.22 865101

-75.2

2 013901

6 Agricultural ~ 2130 W~ 039.975~

```
8 All Team Staf~ 2203 W~ 039.977~
                                       -75.2
                                                              1 736103
 9 American Acad~ 2019 W~ 039.977~
                                       -75.2
                                                              2 801101
10 Armstrong & M~ 2317 W~ 039.975~
                                       -75.2
                                                              2 873204
# i 160 more rows
# i 8 more variables: primary_sic_description <chr>, primary_naics <dbl>,
   primary_naics_description <chr>, years_in_database <dbl>,
   location_type <chr>, location_employee_size_range <chr>,
   square_footage <chr>, record_type <chr>
# Load spatial data
census_tracts <- tracts(state = "PA", county = "Philadelphia", year = 2020, class = "sf", cb</pre>
block_grps <- block_groups(state = "PA", county = "Philadelphia", year = 2020, class = "sf",
# Standardize CRS
# Check that all data loaded correctly
ggplot(census_tracts) +
  geom_sf() +
 labs(title = "Philadelphia Census Tracts") +
 theme_void()
```

-75.2

2 621111

Philadelphia Census Tracts

7 Ah Cornerston~ 2331 N~ 039.974~



```
ggplot(block_grps) +
geom_sf() +
labs(title = "Philadelphia Block Groups") +
theme_void()
```

Philadelphia Block Groups



Step 2: Get Philadelphia Demographic Data using tidycensus

```
# Load all available variables for ACS 5-year 2022
acs_vars_2022 <- load_variables(2022, "acs5", cache = TRUE)</pre>
```

```
"B01001_047", "B01001_048", "B01001_049")
# Get tract-level demographic data from 2022 ACS 5-Yr Estimates for Philadelphia
phl_tract_data <- get_acs(</pre>
  geography = "tract",
  variables = c(
   total_pop = "B01003_001",
   child_pop = child_pop,
   elderly_pop = elderly_pop,
   median_income = "B19013_001",
   poverty = "B17001_001",
            = "B03002_003",
   White
   Black = "B03002_004",
   Hispanic = "B03002_012"
  ),
  state = "PA",
  county = "Philadelphia",
 year = 2022,
  survey = "acs5",
  output = "wide",
  geometry = TRUE
# Clean the county names to remove state name and "County"
phl_tract_clean <- phl_tract_data |>
 separate(
   NAME,
   into = c("tract_name", "county_name", "state_name"),
    sep = "; "
  ) |>
 mutate(
   tract_name = str_remove(tract_name, "Census Tract "),
   county_name = str_remove(county_name, " County")
  )
phl_tract_summary <- phl_tract_clean |>
 mutate(
    elderly_popE = rowSums(across(matches("^elderly_pop\\d+E$")), na.rm = TRUE),
    # for MOE, ACS guidance is to combine by quadrature
    elderly_popM = sqrt(rowSums(across(matches("^elderly_pop\\d+M$"))^2, na.rm =
                                  TRUE)),
   pct_elderly = round((elderly_popE / total_popE) *100, 2),
```

Step 3: Make Data Axle dataset Spatial

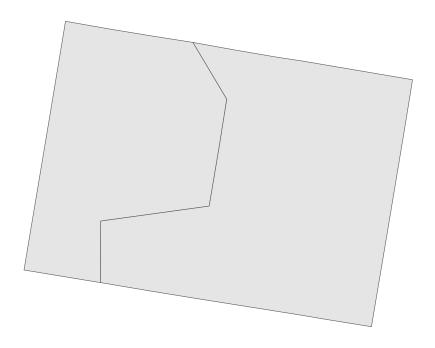
```
# Convert Data Axle dataset to sf object
verified.sf <- verified_clean |>
    st_as_sf(coords = c("longitude", "latitude"), crs = 4326) |> # WGS 84
    st_transform(2272) # PA State Plane (in US Survey Feet)

unverified.sf <- unverified_clean |>
    st_as_sf(coords = c("longitude", "latitude"), crs = 4326) |>
    st_transform(2272)
```

Join Data Axle Shapefiles to Philadelphia Census Tracts and Block Groups

```
# Filter Census Tracts for Sharswood
sharswood_tract_sf <- phl_tract_summary |>
   filter(tract_name == c("138", "139"))

ggplot(sharswood_tract_sf) +
   geom_sf() +
   theme_void()
```

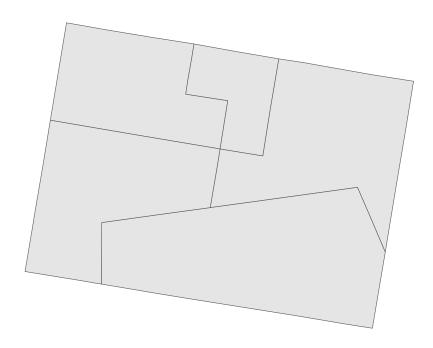


```
sharswood_tract <- sharswood_tract_sf |>
  st_drop_geometry()
sharswood_tract
```

```
GEOID tract_name county_name total_popE median_incomeE elderly_popE
                    138 Philadelphia
1 42101013800
                                          2077
                                                        68864
                                                                       126
2 42101013900
                    139 Philadelphia
                                          2585
                                                        41042
                                                                       391
 elderly_popM pct_elderly child_popE child_popM pct_child
     78.56208
                   6.07
                               255 127.1102
                                                   12.28
1
    142.44999
                    15.13
                                421
                                      255.5876
2
                                                   16.29
```

```
# Create CSV File
write_csv(sharswood_tract, "data/Sharswood_Tracts.csv")
```

```
geom_sf() +
theme_void()
```



```
sharswood_bg <- sharswood_bg_sf |>
  st_drop_geometry()
sharswood_bg
```

	STATEFP (COUNTYFF	TRACTCE	BLKGRPCE	AFFGEOID	GEOID	NAME	
1	42	101	013900	2	1500000US421010139002	421010139002	2	
2	42	101	013800	1	1500000US421010138001	421010138001	1	
3	42	101	013900	3	1500000US421010139003	421010139003	3	
4	42	101	013900	1	1500000US421010139001	421010139001	1	
5	42	101	013800	2	1500000US421010138002	421010138002	2	
NAMELSAD LSAD ALAND AWATER								
1	Block Gro	oup 2	BG 209077	7 0				
2	Block Gro	oup 1	BG 151595	5 0				
3	Block Gro	oup 3	BG 288073	3 0				
4	Block Gro	oup 1	BG 65787	7 0				
5	Block Gro	oup 2	BG 189662	2 0				

```
# Create CSV File
write_csv(sharswood_bg, "data/Sharswood_Block_Grps.csv")

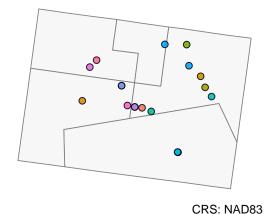
# Join Shapefiles and Plot Map
sharswood_bg_sf <- st_transform(sharswood_bg_sf, st_crs(verified.sf))

ggplot() +
    geom_sf(data = sharswood_bg_sf, fill = "gray97", color = "gray50", linewidth = 0.3) +
    geom_sf(data = verified.sf, aes(fill = primary_sic_description), shape = 21, size = 2, alpi
labs(
    title = "Verified Businesses in Sharswood - Data Axle",
    subtitle = "PA South State Plane (ftUS)",
    caption = pasteO("CRS: ", st_crs(block_grps)$input %||% st_crs(block_grps)$epsg)
) +
    theme_void()

Automobile Clubs

Rathers</pre>
```

Verified Businesses in Sharswood PA South State Plane (ftUS)



Barbers Axle

Beer & Ale–Wholesale

Carpenters

Caterers

Counselors

Educational Programs

Foundation–Educ Philanthropic Research

Grocers–Retail

Libraries-Institutional

Non-Profit Organizations

Nurses-Practitioners

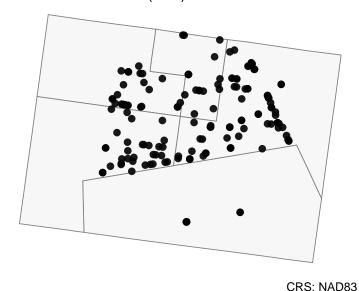
Ornamental Floriculture & Nursery Products

Real Estate

```
ggplot() +
  geom_sf(data = sharswood_bg_sf, fill = "gray97", color = "gray50", linewidth = 0.3) +
  geom_sf(data = unverified.sf, shape = 21, size = 2, fill = "black", alpha = 0.9) +
  labs(
   title = "Unverified Businesses in Sharswood - Data Axle",
   subtitle = "PA South State Plane (ftUS)",
```

```
caption = paste0("CRS: ", st_crs(block_grps)$input %||% st_crs(block_grps)$epsg)
) +
theme_void()
```

Unverified Businesses in Sharswood — Data Axle PA South State Plane (ftUS)



Step 4: Map Businesses to Property Parcels and Affordable Housing Projects

- Data Source: Department of Records Property Parcels
- Date Downloaded: Oct 19, 2025
- Link: https://opendataphilly.org/datasets/department-of-records-property-parcels/

```
# Code to Filter out Sharswood Parcels from Philadelphia Records
# Code not Executed because Philadelphia Records File exceeds 100 MB
prop_parcels <- st_read("data/DOR_Parcel.geojson") |>
    st_transform(st_crs(sharswood_bg_sf))
sharswood_prop_parcels <- st_filter(prop_parcels, sharswood_bg_sf, .predicate = st_intersects</pre>
```

sharswood_parcels <- st_read("data/sharswood_parcels.geojson")</pre>

Reading layer `sharswood_parcels' from data source

```
`C:\Users\chewj\Documents\MUSA\Github\portfolio-setup-jedchewjm\side-
hustles\data\sharswood_parcels.geojson'
    using driver `GeoJSON'
Simple feature collection with 3709 features and 40 fields
Geometry type: GEOMETRY
Dimension: XY
Bounding box: xmin: -75.18063 ymin: 39.97128 xmax: -75.16626 ymax: 39.97991
Geodetic CRS: WGS 84

ggplot() +
    geom_sf(data = sharswood_bg_sf, fill = "gray97", color = "gray50", linewidth = 0.3) +
    geom_sf(data = sharswood_parcels, fill = NA, color = "gray50", linewidth = 0.6) +
    labs(title = "Property Parcels in Sharswood") +
    theme_void()
```

Property Parcels in Sharswood



- Data Source: Division of Housing and Community Development (DHCD)
- Date Downloaded: Oct 19, 2025
- Link: https://opendataphilly.org/datasets/affordable-housing-production/

```
Reading layer `Affordable_Housing' from data source
  `C:\Users\chewj\Documents\MUSA\Github\portfolio-setup-jedchewjm\side-
hustles\data\Affordable_Housing.geojson'
  using driver `GeoJSON'
replacing null geometries with empty geometries
Simple feature collection with 484 features and 12 fields (with 22 geometries empty)
Geometry type: POINT
Dimension:
Bounding box:
               xmin: -75.2489 ymin: 39.90183 xmax: -74.9829 ymax: 40.12171
Geodetic CRS:
               WGS 84
sharswood_affordable <- st_filter(affordable_housing_parcels, sharswood_bg_sf,</pre>
                                   .predicate = st_within)
sharswood_affordable |>
  st_drop_geometry()
  objectid fiscal_year_complete
                                                  project_name
                              NA Harlan and Sharswood Pres Dev
1
        22
2
       121
                            2011
                                           Cecil B Moore III-3
3
       172
                            2007
                                           Cecil B Moore III-1
4
       216
                            2004
                                                     Homestart
5
                                           Sharswood Phase III
       345
                              NA
                                             Sharswood Phase 2
       358
                            2024
6
7
       361
                            2023
                                             Sharswood Phase I
8
       367
                            2022
                                          HELP Philadelphia VI
9
       419
                            2007
                                                  Sharswood II
               developer_name
                                            address
                                                         project_type total_units
        Michaels Organization
                                  2100 SHARSWOOD ST
                                                               Rental
1
                                                                               113
2
                     HERB CDC
                                     1900 HARLAN ST
                                                        Homeownership
                                                                               33
3
                     HERB CDC
                                     1501 N UBER ST
                                                        Homeownership
                                                                                64
4
                          PHDC
                                    2618 SEYBERT ST
                                                        Homeownership
                                                                                4
            Pennrose PHL, LLC
                                  2000-22 RIDGE AVE Rental; Mixed Use
                                                                               59
6 Hunt Development Group, LLC
                                 2401-55 STEWART ST
                                                               Rental
                                                                               59
```

affordable_housing_parcels <- st_read("data/Affordable_housing.geojson") |>

st_transform(st_crs(sharswood_bg_sf))

Rental

Rental

Special Needs

60

55

60

Hunt Development Group 2000-2026 SEYBERT ST

accessible_units sensory_units visitable_units

HELP Development Corp 2300-52 JEFFERSON ST

Michaels Development 2100-42 JEFFERSON ST

7

8

9

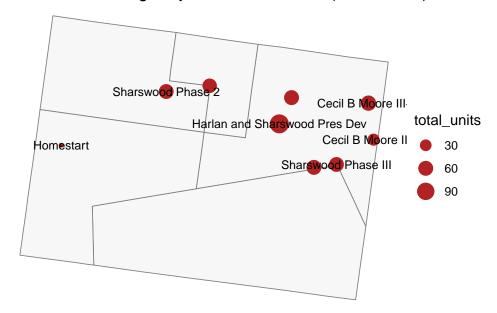
```
1
                12
                                3
                                                31
2
                 0
                                0
                                                 0
3
                                0
                                                 0
                 0
4
                 0
                                0
                                                 0
                                5
5
                 6
                                                31
                                2
6
                 6
                                                59
7
                                2
                 6
                                                60
                                2
8
                 6
                                                55
9
                 0
                                0
                                                 0
                           development_type
                                                         status
1 Preservation (occupied); New Construction Under Construction
2
                           data unavailable
                                                       Complete
3
                           data unavailable
                                                       Complete
4
                           data unavailable
                                                       Complete
                           New Construction Under Construction
5
6
                           New Construction
                                                       Complete
7
                           New Construction
                                                       Complete
              Rehab (unoccupied or vacant)
                                                       Complete
8
9
                           data unavailable
                                                       Complete
ggplot() +
  geom_sf(data = sharswood_bg_sf, fill = "gray97", color = "gray50", linewidth = 0.3) +
  geom_sf(data = sharswood_affordable, aes(size = total_units),
          fill = NA, color = "firebrick", linewidth = 0.6) +
  geom_sf_text(data = sharswood_affordable, aes(label = project_name),
```

size = 3, check_overlap = TRUE) +

theme_void()

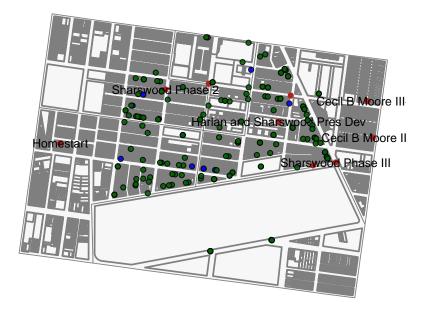
labs(title = "Affordable Housing Projects in Sharswood (1994-2024)") +

Affordable Housing Projects in Sharswood (1994–2024)



Putting it All Together

Businesses and Affordable Housing Projects in Sharswood



Other Datasets

- School Parcels: https://opendataphilly.org/datasets/schools-parcels/ parcel location of schools in the City of Philadelphia with attribute information for address, grade level, type, and status
- Schools: https://opendataphilly.org/datasets/schools/ points identifying public schools, charter schools, many private schools, school annexes, and athletic fields and facilities

Part 2: Comprehensive Visualization and Analysis