

## **DOCUMENTATION**

### **3 WEB TOOLS FOR IDENTIFYING OPPORTUNITIES TO CREATE AND PRESERVE AFFORDABLE HOUSING**

1. Public Lands Potential For Housing
2. MSP Project-Based Rental Assistance Preservation
3. Naturally Occurring Affordable Housing Preservation

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## Background:

Family Housing Fund (FHFund) is a nonprofit intermediary organization, focused on helping the affordable housing network adapt to the needs of families in complex and constantly changing conditions. Among these dynamic conditions in the Minneapolis-St. Paul metro area, are lack of supply and very low vacancy in the market overall, and imminent threats both to rent-restricted housing and “naturally occurring affordable housing” or NOAH. Consistent with its mission and leadership role, Family Housing Fund asked us to produce housing market analysis and visualization tools to accelerate and articulate regional needs in site-specific terms. By using these products internally and externally, the objective of FHFund is to increase production and preservation of affordable housing in the Twin Cities metro area.

Visible City created three decision-making tools, described in detail on the following pages.



# PUBLIC LANDS POTENTIAL FOR HOUSING

## Summary

FHFund has commissioned research on best practices for converting publicly owned parcels to active developments of affordable housing. In addition, FHFund is in the process of generating related legal guidance about how to accelerate disposition of public land for housing, while accounting for transparency and encumbrances that are often in play with publicly owned parcels.

FHFund identified as a top priority the creation of a map that will overlay numerous layers, in order to prioritize jurisdictions (as locations of parcels, and as owners of parcels) for advocacy.

Visible City built a web map tool that enables users to filter and export a list of candidate public parcels using Minnesota Housing’s Qualified Allocation Plan (QAP) geographic scoring criterion, as well as additional criterion determined a priority by Family Housing Fund.

**PUBLIC LANDS POTENTIAL FOR HOUSING**

SELECT GEOGRAPHY | FILTER | HIGHLIGHT OWNERS | LAYERS | EXPORT

PARCELS	QAP	OTHER
Acres: 672	Econ Int Tier 1: Off	Opportunity Zone: Off
Utilization Percent: 100	Job Ctr/Growth Community: Off	1/8 Mile: Off
Building EMV: 4530000	1/2 Mile Transit: Off	1/4 Mile: Off
Land EMV: 1230000	Within QCT: Off	1/2 Mile: Off
Walk Score: 100		1/8 Mile: Off
Bike Score: 100		1/4 Mile: Off
Permit Activity: Residential: 100		1/2 Mile: Off
Permit Activity: Commercial: 100		
Median Household Income: 195000		
Percent Own Home: 100		
Percent Non White: 100		
Zillow Average Rent: 2300		

Buttons: Clear Filters, Apply Filters

## Data Sources

We incorporated the following data sources into the analysis and web map. See the Data Dictionary (FHF\_PublicParcel\_Data\_Dictionary.xlsx) for detailed information and URLs for data sources.

- HUD – Qualified Census Tracts, LIHTC Database, Public Housing Buildings
- Metro Parks Collaborative
- Metro Trails and Bikeways Collaborative
- Metropolitan Council: Public Parcels, Planned Transitways, Commercial Permits, Residential Permits, Regional Planned Land Use
- MN Department of Education School Locations
- MN Employment and Economic Development – Opportunity Zones
- MN Housing Qualified Allocation Plan: Access to high performing schools, LRT, BRT & Rail within 1/2 mile, High Service Stop or High Frequency Network within 1/4 mile, Workforce Housing, Economic Integration
- MN Legislature: Senate, Congress and House Districts
- Star Tribune – Property Damage resulting from recent unrest
- US Census Bureau – Median household income, Percent non-white population, Percent owner-occupied. Sourced from the American Community Survey 5-year estimates.
- Walkscore – Parcel walkscore, Parcel bikescore
- Zillow Home Value Index: Average rent

## Methodology

To build a tool that allows one to identify parcels situated in ideal locations for affordable housing developments, we combined the data layers listed above with the Public Parcels Database. We joined attributes from data sources by spatial location. We used geographic buffers to identify parcels within specified distances (1/8 mi, 1/4 mi, 1/2 mi) of valuable amenities (parks, trails, early learning centers, etc). We included the geographic scoring criterion from the Minnesota Housing Qualified Allocation Plan in the parcel filter options. Thus, one can quickly spot all parcels that meet criteria for Low Income Housing Tax Credits. In addition, we included HUD Qualified Census Tracts and Difficult Development Areas, as well as MN Opportunity Zones.

There are a few fields used for parcel filtering that we calculated as follows:

- Percent Non White = US Census ACS estimates of non-white population/total population of the census tract
- Percent Own Home= US Census ACS estimates of number of owner occupied units/total number of units in the census tract
- Building Permit Activity: We divided the number of permits within a quarter mile buffer of a parcel, by the 1/4 mile buffer that has the highest total number of permits and multiplied by 100 to get a percent range. We then did the same thing with the total \$ value of all permits within a quarter mile buffer. The final score is the average of those two percentage values. Data Source is Metropolitan Council Permit Data.
  - Residential Permit Activity – Only includes residential permits in the calculations
  - Commercial Permit Activity: Only includes commercial permits in the calculations
  - Total Permit Activity: Sums values for commercial and residential permits.
- Utilization Percent = Building Estimated Market Value/ Total Estimated Market Value Land + Building

We joined the new attributes to the Public Parcel Database using desktop GIS software, then loaded the data into a PostGIS database.



## Tool Usage Instructions:

### 1. Select Geography:

Begin a search for public lands suitable for housing by restricting the search to your area of interest. To do so, click on **Select Geography**. Choose one of the options. The map will zoom to and highlight your selected geography, and only display parcels within the selected area.

The screenshot displays the 'PUBLIC LANDS POTENTIAL FOR HOUSING' web application. The interface includes a top navigation bar with the Family Housing Fund logo and the text 'FAMILY HOUSING FUND'. Below this is a secondary navigation bar with 'Select Geography', 'Filter', 'Layers', and 'Export' options. The main area features a map of the Minneapolis and Saint Paul region, with various city and township names labeled. A sidebar on the left is titled 'Select Geography' and contains a search input field with the letter 'B'. Below the search field is a list of city and township names, including Bayport, Baytown Twp., Belle Plaine, Belle Plaine Twp., Benton Twp., Bethel, Birchwood Village, Blaine, Blakeley Twp., Bloomington, Brooklyn Center, and Brooklyn Park. At the bottom of the sidebar, there are sections for 'CONGRESSIONAL DISTRICT', 'SENATE DISTRICT', and 'HOUSE DISTRICT', each with a plus sign icon. The map shows a grid of parcels, with a yellow vertical bar on the right side labeled 'VISIBLE CITY'. In the bottom right corner of the map area, it says '# Selected Parcels: 40083'. The map also includes a 'mapbox' logo in the bottom left corner and a '© 2020' copyright notice.



FAMILY HOUSING  
FUND

To clear the geographic selection, click on the Clear Selection button that appears after a selection is made:

**PUBLIC LANDS POTENTIAL FOR HOUSING**

FAMILY HOUSING FUND

Select Geography Filter Highlight Owners Layers Export

+ COUNTY  
- CITY  
Blooming  
Bloomington  
+ CONGRESSIONAL DISTRICT  
+ SENATE DISTRICT  
+ HOUSE DISTRICT  
Clear Selection

mapbox # Selected Parcels: 738



## 2. Filter

To filter public parcels for candidate housing locations, click on the **Filter** link. To specify minimum and maximum values for the sliders, drag either end of the sliders or type values in the boxes. Click the On/Off toggles to turn filter options on or off. Click on Apply Filters to submit the filter query. Click on Clear Filters to reset your selections and start over. After applying filters, click on the Filter link to hide the filter options and view the filter results. The **# Selected Parcels** display in the lower right corner of the screen tells how many parcels were found that meet the filter criteria.

**PUBLIC LANDS POTENTIAL FOR HOUSING**  **FAMILY HOUSING FUND**

Select Geography    Filter    Highlight Owners    Layers    Export

PARCELS		QAP					
0	Acres	672	Econ Int Tier 1	<input type="checkbox"/> Off	Econ Int Tier 2	<input type="checkbox"/> Off	
0	Utilization Percent	100	Job Ctr/Growth Community	<input type="checkbox"/> Off	Long Commute Community	<input type="checkbox"/> Off	
0	Building EMV	453000000	1/2 Mile Transit	<input type="checkbox"/> Off	1/4 Mile Hi-Freq Transit	<input type="checkbox"/> Off	
0	Land EMV	123000000	Within QCT	<input type="checkbox"/> Off	Access to HP Schools	<input type="checkbox"/> Off	
0	Walk Score	100	<b>OTHER</b>				
0	Bike Score	100	Difficult Dev Area	<input type="checkbox"/> Off	Opportunity Zone	<input type="checkbox"/> Off	
0	Permit Activity: Residential	100	Early Learning Facilities	<input type="checkbox"/> Off	1/8 Mile	1/4 Mile	1/2 Mile
0	Permit Activity: Commercial	100	Park Proximity	<input type="checkbox"/> Off	<input type="checkbox"/> Off	<input type="checkbox"/> Off	
0	Median Household Income	195000	Bikeway Proximity	<input type="checkbox"/> Off	<input type="checkbox"/> Off	<input type="checkbox"/> Off	
0	Percent Own Home	100	Adjacent Prop Damage Only Developable	<input type="checkbox"/> Off	Existing Bldg on Site	<input type="checkbox"/> Off	
0	Percent Non White	100					
0	Zillow Average Rent	2300					

Clear Filters    Apply Filters

mapbox    Glendale    # Selected Parcels: 738



#### 4. Highlight Owners

When a smaller geography (city, senate, house) is selected, a Highlight Owners menu appears, containing a list of the top 20 owners, sorted in descending order of highest number of parcels owned. Click on a check box next to an owner name to highlight the associated parcels on the map. Clicking on the check box repeatedly will cycle through random colors.

**PUBLIC LANDS POTENTIAL FOR HOUSING**

FAMILY HOUSING FUND

Select Geography Filter Highlight Owners Layers Export

- Bloomington City of
- Metropolitan Airport Commission
- Bloomington R A
- Bloomington Housing and Redev Auth
- Village of Bloomington
- Independent School Dist 271
- State of Minnesota
- Hennepin Forfeited Land
- Hennepin County
- Metropolitan Council
- Port Auth Bloomington
- United States America
- Independent School Dist 271
- Minnesota Education Trust
- Bloomington Hra City of
- Bloomington R City of
- Port Auth City of Blmgtm
- South Loop Investments Llc

# Selected Parcels: 304

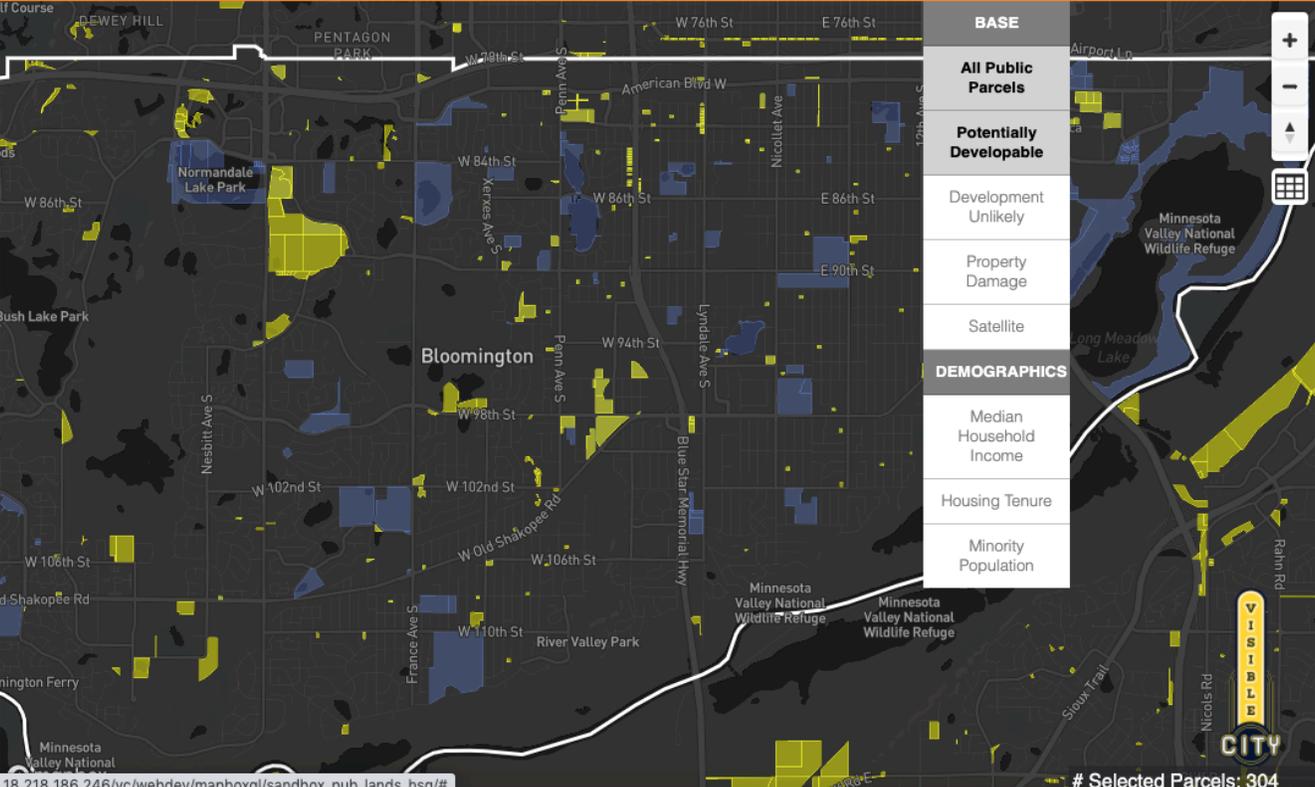


## 5. Layers

Click on the Layers menu for options to toggle the following layers:

**PUBLIC LANDS POTENTIAL FOR HOUSING**  **FAMILY HOUSING FUND**

Select Geography Filter Highlight Owners Layers Export



The map displays various layers including 'All Public Parcels', 'Potentially Developable', 'Development Unlikely', 'Property Damage', and 'Satellite'. It also includes demographic layers like 'Median Household Income', 'Housing Tenure', and 'Minority Population'. The map shows the city of Bloomington and surrounding areas, including parks like Normandale Lake Park and Bush Lake Park, and wildlife refuges like Minnesota Valley National Wildlife Refuge. A legend on the right side of the map lists the layers and their corresponding colors. The map is titled 'PUBLIC LANDS POTENTIAL FOR HOUSING' and includes the Family Housing Fund logo. The map interface includes a 'Layers' menu with options for 'BASE', 'All Public Parcels', 'Potentially Developable', 'Development Unlikely', 'Property Damage', 'Satellite', 'DEMOGRAPHICS', 'Median Household Income', 'Housing Tenure', and 'Minority Population'. The map also shows a 'Visible City' button and a '# Selected Parcels: 304' indicator.

18.218.186.246/vc/webdev/mapboxgl/sandbox\_pub\_lands\_hsg/# # Selected Parcels: 304



## 6. Export

Click on Export to export a spreadsheet of selected parcels.

### PUBLIC LANDS POTENTIAL FOR HOUSING





### 7. Table View

Click on the Table Icon below the map zoom options to open a table view of selected parcels. Click the table headings to sort the records. Click on the address to zoom to the parcel boundaries.

## PUBLIC LANDS POTENTIAL FOR HOUSING



Select Geography Filter

Highlight Owners

Layers

Export



Show 10 entries

Search:

Address	Owner Name	Acres	EMV Land	EMV Building	Use	Special Use	Sale Date
<a href="#">7851 Normandale Boulevard</a>	Bloomington Housing and Redev Auth	4.02351712926716	2802300	432700	Commercial		2018-09-01
<a href="#">9100 Irving Avenue South</a>	State of Minnesota	0.341749081383731	7200	0	Vacant Land - Residential		
<a href="#">8031 Newton Avenue South</a>	Bloomington Housing and Redev Auth	0.0826999989512187	100	0	Vacant Land - Commercial		
<a href="#">8030 Morgan Circle</a>	Bloomington Housing and Redev Auth	0.131272038134028	100	0	Vacant Land - Commercial		
<a href="#">8040 Morgan Circle</a>	Bloomington Housing and Redev Auth	0.543333802101007	100	0	Vacant Land - Commercial		
<a href="#">8049 Penn Avenue South</a>	Bloomington Housing and Redev Auth	0.569268199496346	100	0	Vacant Land - Commercial		
<a href="#">9740 Girard Avenue South</a>	Bloomington City of	0.114435470259219	0	0	Vacant Land - Industrial	HIGHWAY RIGHT-OF-WAY	
<a href="#">5201 82nd Street West</a>	Bloomington City of	0.046085039430531	0	0	Vacant Land - Residential	MUNICIPAL PROPERTY	

## MSP Project-Based Rental Assistance Preservation

### Summary

In order to accelerate and focus efforts to preserve units with federal rental assistance in the region, FHFund seeks to identify projects with expiring use restrictions. With these projects identified, FHFund intends to lead efforts with other housing funders in the region, to secure extension of use restrictions.

### Data sources

We incorporated the following data sources into the analysis and web map. See the Data Dictionary (FHF\_NOAH\_NHPD\_Data\_Dictionary.xlsx) for detailed information and URLs for data sources.

- National Housing Preservation Database
- Minnesota Housing Qualified Allocation Plan Geographic Scoring for Transit Access
- Star Tribune – Property Damage resulting from recent unrest
- US Census Bureau – Median household income, Percent non-white population, Percent owner-occupied. Sourced from the American Community Survey 5-year estimates.

### Methodology

We used desktop GIS software to create a spatial join between Minnesota Housing QAP Transit Access scoring locations and the National Housing Preservation Database. We calculated two new fields, Date First Subsidy Ends and Date Last Subsidy Ends.

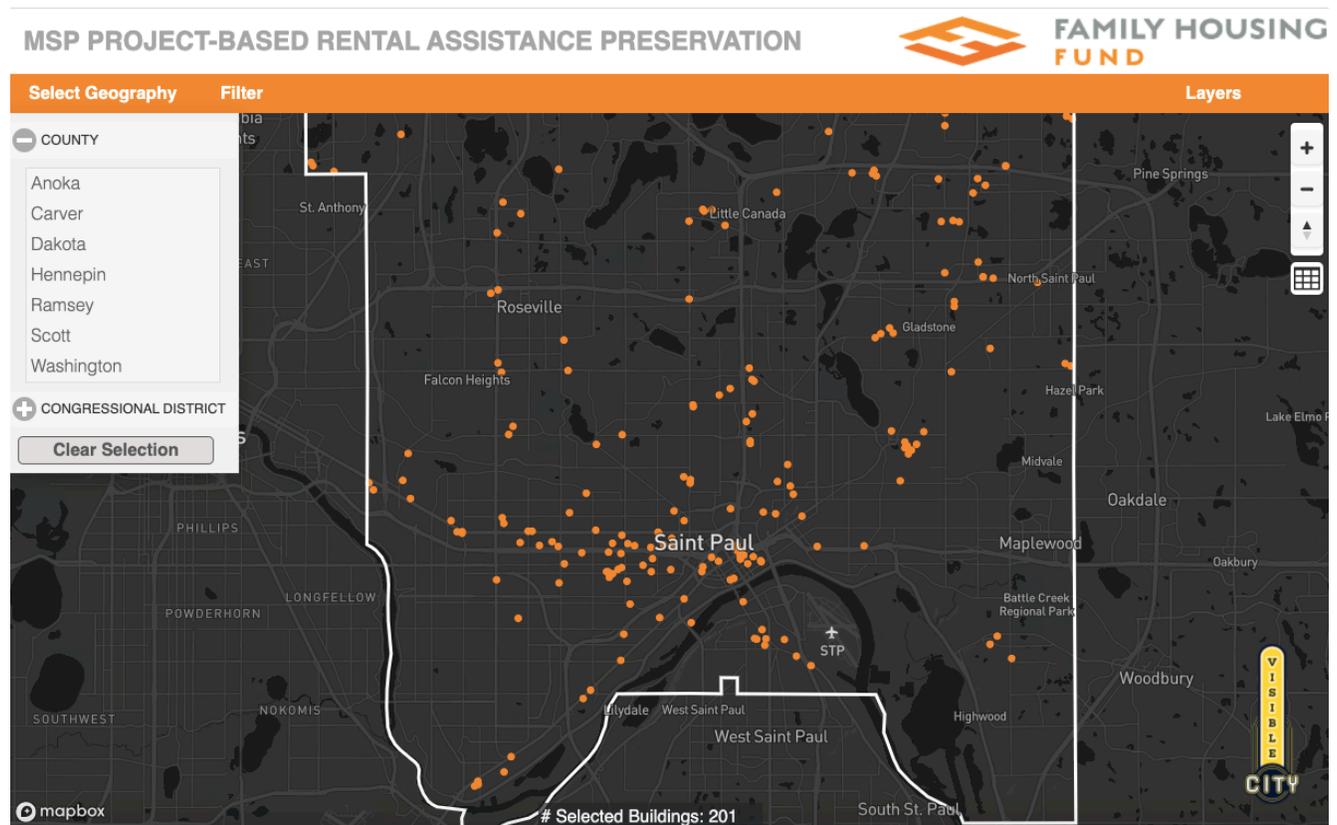
We imported the shapefile into the PostGIS database to be used for the web-based map and filtering tool.



## Tool Usage Instructions:

### 1. Select Geography:

To identify at risk rental assistance properties within a selected county or congressional district, begin by clicking on Select Geography. Select a geography. The map will zoom to and highlight the selected geography, and only display parcels within the selected area.

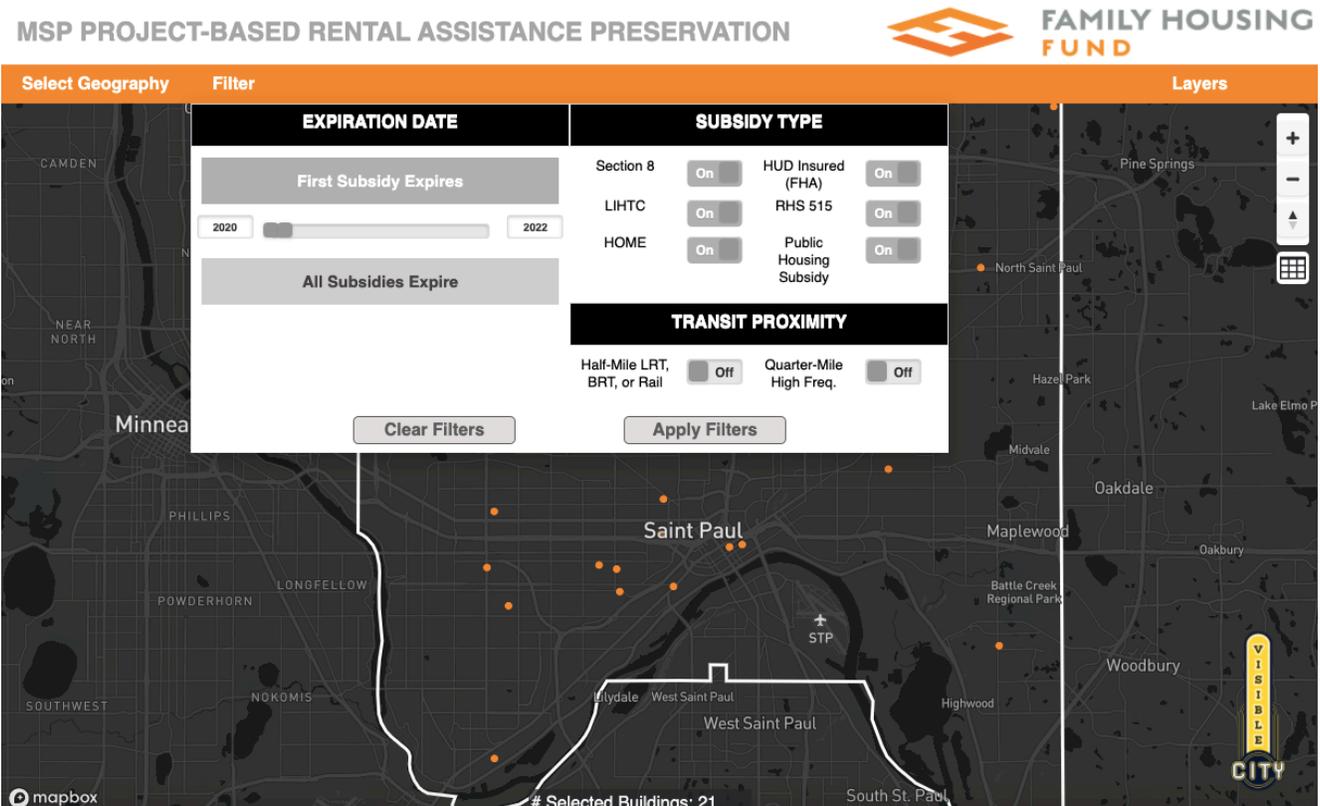


## 2. Filter:

Click on Filter. Select options to identify properties with upcoming subsidy expiration dates. Some properties have multiple subsidies with varying expiration dates. Click the First Subsidy Expires button to find properties by first subsidy expiration date. Click on All Subsidies Expire to find properties where all subsidies will expire by a selected date.

To narrow search results by subsidy type, click the buttons to toggle options on or off.

The Transit Proximity filter options are based on the current MN Housing QAP geographic scoring criteria for transit access. Click Apply Filters to display matching properties on the map. Click Clear Filters to reset the search options.



**MSP PROJECT-BASED RENTAL ASSISTANCE PRESERVATION**  **FAMILY HOUSING FUND**

Select Geography Filter Layers

**EXPIRATION DATE**

First Subsidy Expires

2020  2022

All Subsidies Expire

**SUBSIDY TYPE**

Section 8  On

LIHTC  On

HOME  On

HUD Insured (FHA)  On

RHS 515  On

Public Housing Subsidy  On

**TRANSIT PROXIMITY**

Half-Mile LRT, BRT, or Rail  Off

Quarter-Mile High Freq.  Off

Clear Filters Apply Filters

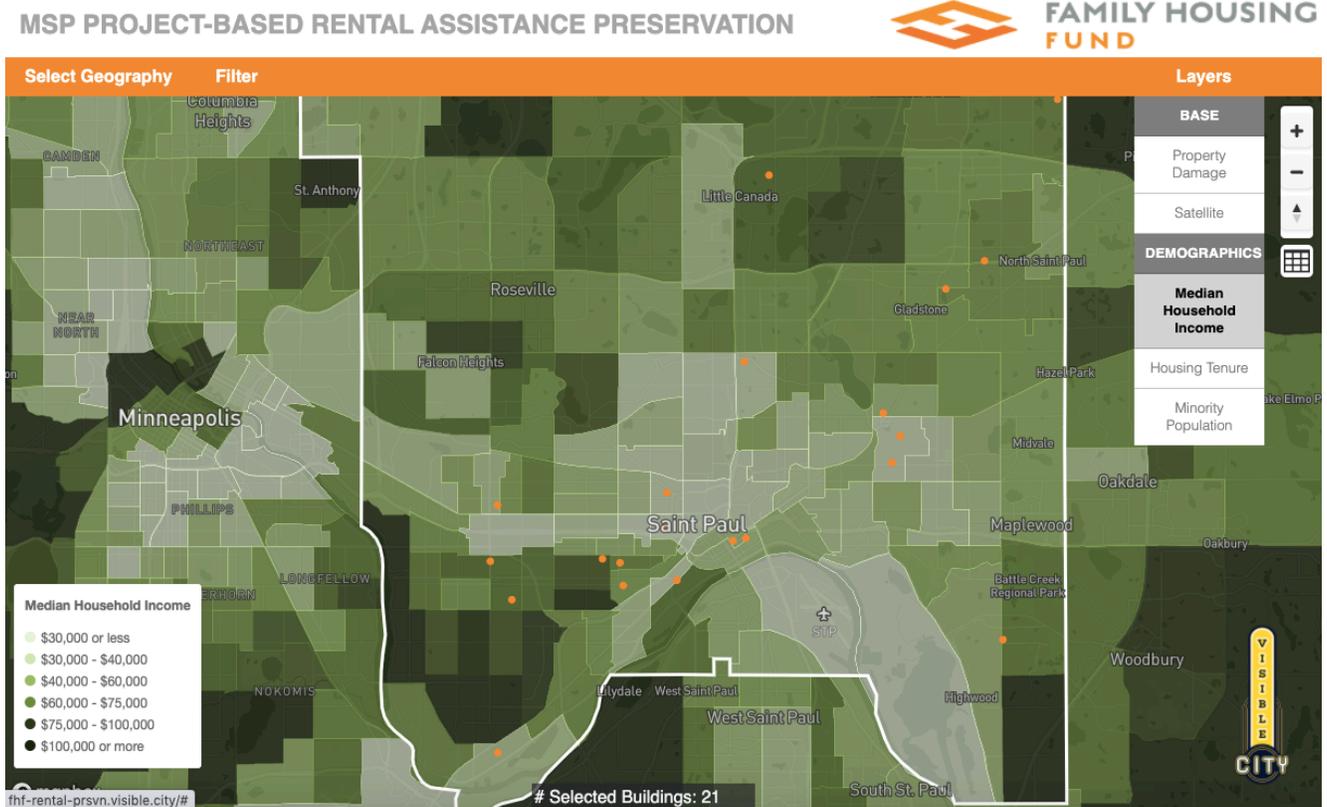
mapbox # Selected Buildings: 21

VISIBLE CITY



### 3. Layers:

Click on the Layers menu for options to toggle the following layers:

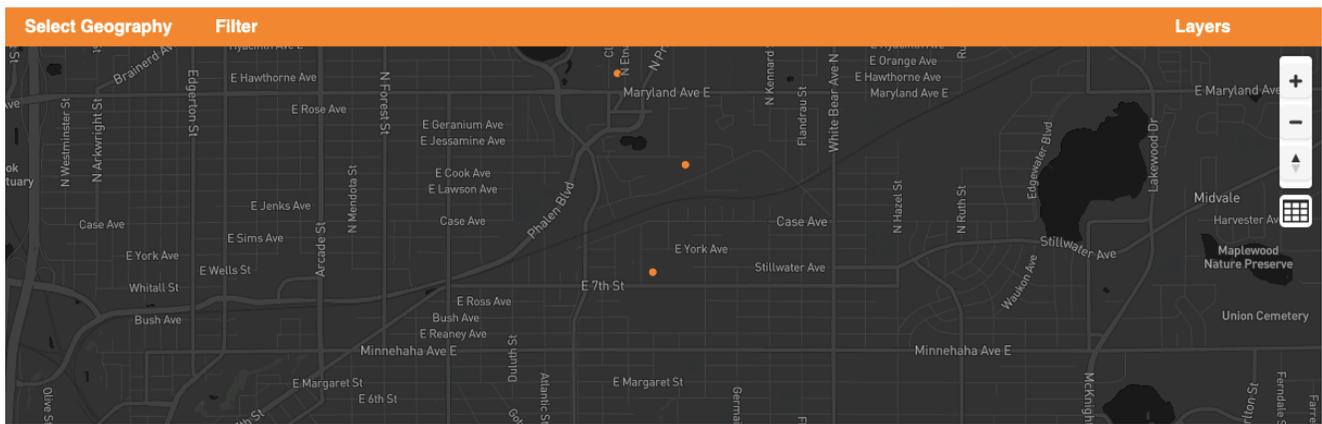




### 4. Table View:

Click on the Table Icon below the map zoom options to open a table view of selected parcels. Click the table headings to sort the records. Click on the address to zoom to the property boundaries.

#### MSP PROJECT-BASED RENTAL ASSISTANCE PRESERVATION



Show 10 entries

Search:

Location	Property Name	Owner Name	Owner Type	Total Units	First Subsidy Expires	All Subsidies Expire
<a href="#">Saint Paul, 55106-3552</a>	BIRMINGHAM	888 BIRMINGHAM LLC	Profit Motivated	21	2020	2020
<a href="#">Saint Paul, 55101-1942</a>	MEARS PARK PLACE	Bigos-Mears Park Place LLC	Profit Motivated	298	2021	2048
<a href="#">Saint Paul, 55103-2393</a>	CAPITOL PLAZA SOUTH	CAPITOL PLAZA LLC	Profit Motivated	72	2021	2021
<a href="#">Saint Paul, 55106-2000</a>	ETNA WOODS	ETNA WOODS APTS A MN LP	Profit Motivated	20	2021	2021
<a href="#">Maplewood, 55119-6909</a>	MAPLEWOOD GARDENS	MAPLEWOOD GARDENS LLLP	Profit Motivated	29	2020	2020
<a href="#">White Bear Lake, 55110-5694</a>	CENTURY HILL TOWNHOUSES	RENOVA PARTNERS LIMITED PARTNERSHIP	Profit Motivated	55	2021	2021
<a href="#">Saint Paul, 55104-2422</a>	HAMLIN PARK	COMMUNITY HOUSING DEVELOPMENT CORPORATION	Non-Profit	54	2020	2036
<a href="#">Saint Paul, 55101-2056</a>	CRANE ORDWAY	CRANE ORDWAY LIMITED PARTNERSHIP	Non-Profit	70	2022	2036
<a href="#">Saint Paul, 55106-2894</a>	ELDERS LODGE	elders lodge corporation	Non-Profit	43	2021	2037
<a href="#">Saint Paul, 55102-2009</a>	WILKINS TOWNHOMES	SELBY WILKINS LLLP	Non-Profit	23	2020	2032

## Naturally Occurring Affordable Housing Preservation

### Summary

FHFund seeks to pursue in analysis and visualization, is an inventory and ranked watchlist of specific multifamily properties that are privately owned and not government subsidized. In particular, FHFund wishes to focus on those areas of the region that are most transit accessible, including existing and planned transitways (light rail and bus rapid transit), high frequency bus routes, and local bus routes.

### Data sources

We incorporated the following data sources into the analysis and web map. See the Data Dictionary (FHF\_NOAH\_NHPD\_Data\_Dictionary.xlsx) for detailed information and URLs for data sources.

- Metro Regional Parcel Dataset
- Star Tribune – Property Damage resulting from recent unrest
- US Census Bureau – Median household income, Percent non-white population, Percent owner-occupied, Median Rent, Rental Units. Sourced from the American Community Survey 5-year estimates.
- Minnesota Housing Qualified Allocation Plan Geographic Scoring for Transit Access

### Methodology

#### Identifying rental properties:

Because there is no centralized database of all rental properties across the 7-county metro area, we applied a set of domain restrictions to the Metro Regional Parcels Dataset. First, we queried out every property parcel that was not coded as a residential type (single family, duplex, apartment, etc.). We then queried out all parcels in this subset that claimed a homestead tax exemption. We assumed that remaining properties are likely to be rentals. There is still a fair amount of noise in this data as there are multiple reasons a given parcel might not be homesteaded but also not a rental, but it was the best approximation we were able to come up with given the limitations of the data.



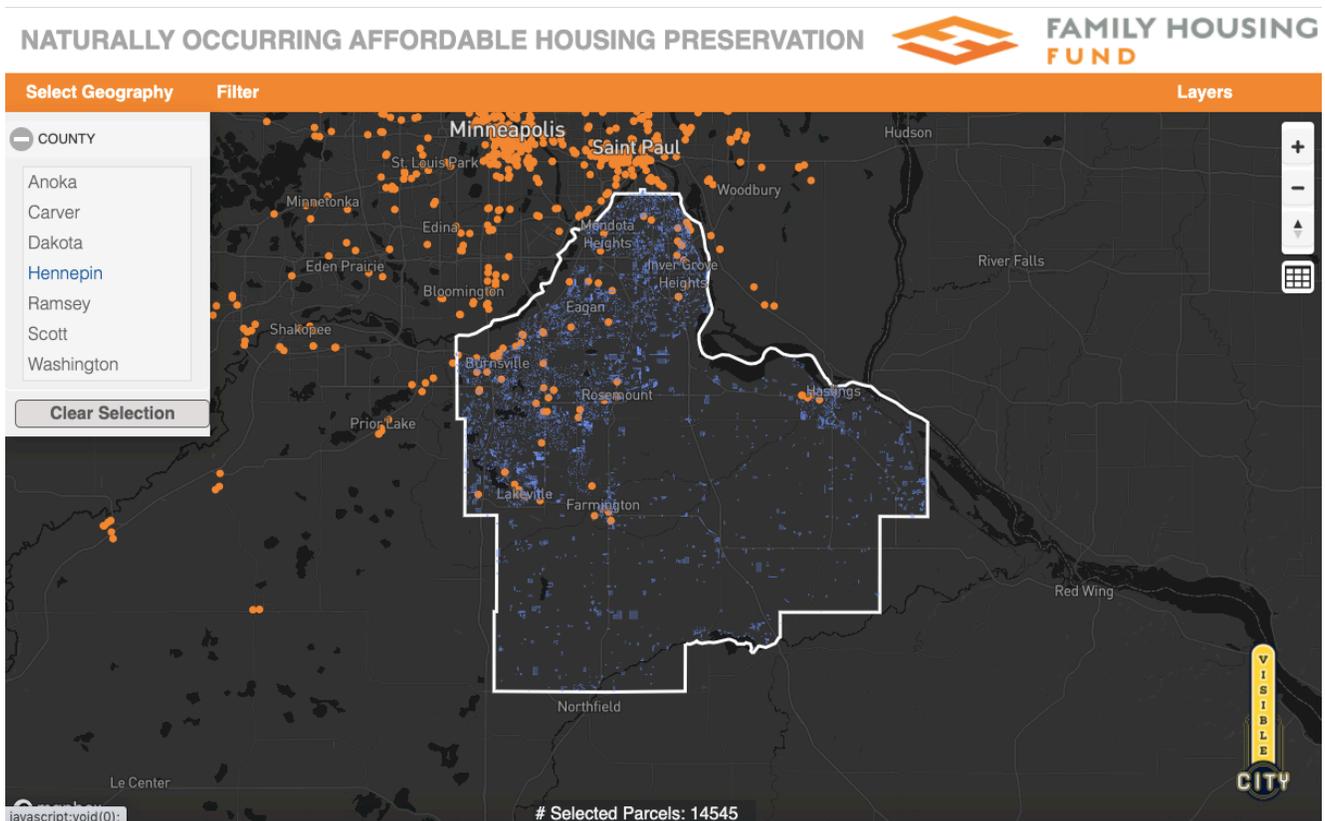
## Calculating Rental Burden:

After we set all these queries, we joined each parcel to its census tract, using the most recent ACS data. This gave us two important variables for each parcel: what the median rent is for the tract that parcel is in and what the median income is for the tract that parcel is in. We used these variables to determine what percentage of the median monthly income for a given tract would be spent on the median rent for that same tract. This is what the rent burden slider shows. As "affordable" in our map is defined in relation to neighborhood-level median income, this method allows for more fine-grained analysis of rental pressure than relying on a regional AMI to calculate the rental burden.

## Tool Usage Instructions:

### 1. Select Geography:

To identify affordable housing at risk that is located within a selected county, begin by clicking on Select Geography. Select a county. The map will zoom to and highlight the selected county, and only display parcels within the selected area.



## 2. Filter:

To identify NOAH properties, drag the filter for the neighborhood rent burden, or type rent burden levels in the boxes next to the slider.

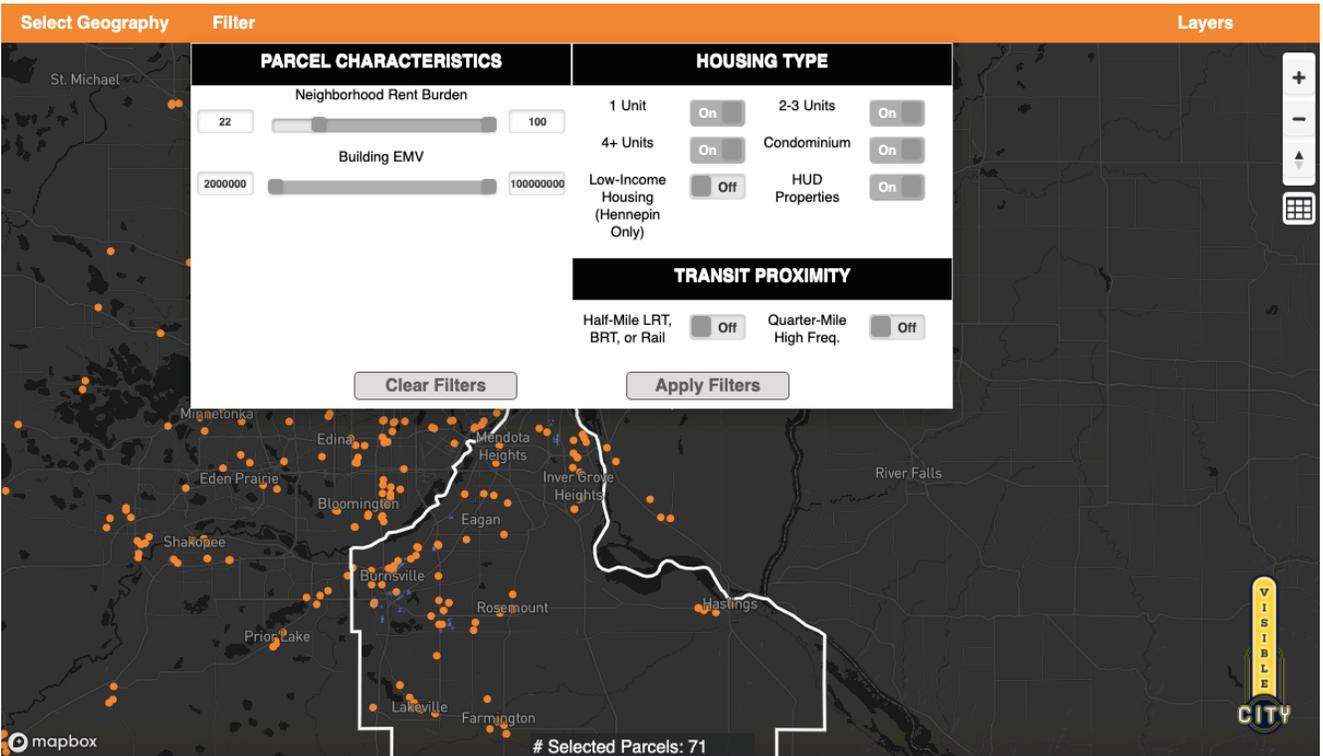
Because the Metro Regional Parcels Database does not reliably enable us to identify large apartment buildings, we've added a Building EMV slider that can be used to find NOAH properties that are likely buildings with higher numbers of units. Higher Building Estimate Market Values imply larger buildings with more units.

The Housing Type filters enable one to select smaller buildings. To find properties that are near existing affordable housing developments, we included a Low-Income Housing filter for Hennepin County, as well as a toggle option for viewing HUD Properties on the map. HUD Properties are displayed as orange circles.

The Transit Proximity filter options are based on the current QAP geographic scoring criteria for transit access.

**NATURALLY OCCURRING AFFORDABLE HOUSING PRESERVATION**  **FAMILY HOUSING  
FUND**

Select Geography
Filter
Layers



**PARCEL CHARACTERISTICS**

Neighborhood Rent Burden: 22  100

Building EMV: 2000000  100000000

**HOUSING TYPE**

1 Unit  On

2-3 Units  On

4+ Units  On

Condominium  On

Low-Income Housing (Hennepin Only)  Off

HUD Properties  On

**TRANSIT PROXIMITY**

Half-Mile LRT, BRT, or Rail  Off

Quarter-Mile High Freq.  Off

# Selected Parcels: 71



### 3. Explore:

Click on a parcel to view property details.



The screenshot shows a web application interface for exploring affordable housing. At the top, there is an orange navigation bar with 'Select Geography' and 'Filter' on the left, and 'Layers' on the right. The main area is a map of South St. Paul, Minnesota, with several orange dots representing selected parcels. A popup window is open over one of these parcels, displaying the following information:

- Owner Name: Holiday Acres Lmted Ptnshp
- Median Neighborhood Rent: \$972
- Median Neighborhood Income: \$43667
- Rental Burden: 26.71%
- Building EMV: \$7934800

On the right side of the map, there is a 'Layers' menu with the following options:

- BASE
  - Property Damage
  - Satellite
- DEMOGRAPHICS
  - Median Household Income
  - Housing Tenure
  - Minority Population

At the bottom of the map, there is a status bar that reads '# Selected Parcels: 71'. The map is powered by Mapbox, and there is a 'VISIBLE CITY' logo in the bottom right corner.



## 4. Layers

Click on the Layers menu for options to toggle the following layers:



## Web Map Technology

The three maps were built using Mapbox GL Javascript API, Javascript, JQuery Mobile, HTML and CSS on the client side for the mapping application. The server side technology stack includes Ubuntu, Apache, MapServer, MapCache, PostgreSQL, PostGIS and PHP. We use MapServer to render vector tiles containing parcel geometry as well as the attributes needed for data filtering. MapCache stores all of the MapServer-generated vector tiles in this folder on the server: /tmp/public\_parcels\_fhf\_mvt. This enables quick display on the web mapping application.

## Data Update Strategy

To update the Public Parcels Database, National Housing Preservation Database and Metro Regional Parcels Data used in the web mapping applications, the process will be as follows:

1. Make a copy of the current databases.
2. Download updated datasets.
3. Compare geometry and attributes of old and new datasets to check for any records that have been added, modified or deleted from the dataset. We will use the QGIS “Detect Dataset Changes” tool. This tool creates three files: Added Features, Deleted Features, and Unchanged Features. For attribute changes, we will load a temporary table of new attributes into the database copy and run update queries on the master table, joining on the primary key fields. For records that have been deleted, we will export a list of IDs for deleted records from the resulting “Deleted Features” file. Next, we will run a delete query for those records. Finally, for any records that are added to the database, we will append the additional attributes needed for the filter tool and add them to the PostGIS database using an append tool.
4. Once the PostGIS database has been updated, the contents of the cached vector tiles folders (public\_parcels\_fhf\_mvt, nhpd\_fhf\_mvt, NOAH\_fhf\_tileset) will be deleted. When the cache is cleared out, new tiles with updated attributes will be generated and stored.

Timeline of updates:

When new data releases become available, we will email FHF a proposal with a timeline and estimate for the data update. Most updates will take 3-4 hours, but MN Housing QAP and US Census updates may take longer due to the additional spatial processing steps.

- Public Parcel Database: last updated 3/16/2020.
- Regional Metro Parcels Dataset: updated quarterly and released on October 1st, January 1st, April 1st, and July 1st.
- National Housing Preservation Database: 3-4 updates per year. Data update information as well as an analysis of changes in the refresh is located here:
- <https://preservationdatabase.org/documentation/data-notes/>
- MN Housing geographic scoring shapefiles are released along with the approval of upcoming HTC Qualified Allocation Plans.  
<http://www.mnhousing.gov/sites/np/profiles>
- US Census 2020: To be released in March 2021.