PlanIt

Webinar Series for
Comprehensive Plan Updates

Population Estimates

Presented by Matt Schroeder
April 20, 2017

METROPOLITAN
COUNCIL

Today's topics

- Background
- The estimates model: three steps
  - Housing units
  - Households
  - Population
- Timeline and process for commenting
- Looking ahead to the 2020 Census

Background: What estimates are (and are not)

Forecasts look ahead to 2040

Estimates look back in time to the previous year

PlanIt

METROPOLITAN
C O U N C I L

Background: What estimates are (and are not)

Decennial Census	• Complete count of people • Every 10 years • Limited characteristics
American Community Survey (ACS)	• Sample of people • Every year • Detailed characteristics
Population Estimates	• Best approximation of population • Every year • No characteristics

PlanIt

METROPOLITAN COUNCIL

Background

- Each year, the Metropolitan Council estimates population for April 1 of the ***previous*** year
  - Most recent set: Estimates for April 1, 2015, calculated in 2016
  - In progress: Estimates for April 1, 2016, to be released in 2017
- Performed since the formation of the Council
- Governed by *Minnesota Statutes* 473.24

Background: Roles

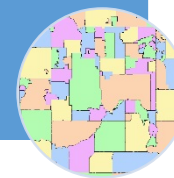- Population estimates for seven-county region

Metropolitan Council

- Population estimates for Greater Minnesota (outside 7-county region)

State Demographic Center

- Review preliminary population estimates
- Comment if desired

Local governments

PlanIt

Background: Why the Council estimates population

Official estimates for state government purposes

- Local Government Aid
- Local street aid

Local purposes

- Determining the number of liquor licenses
- Ordering road signs

PlanIt

METROPOLITAN
C O U N C I L

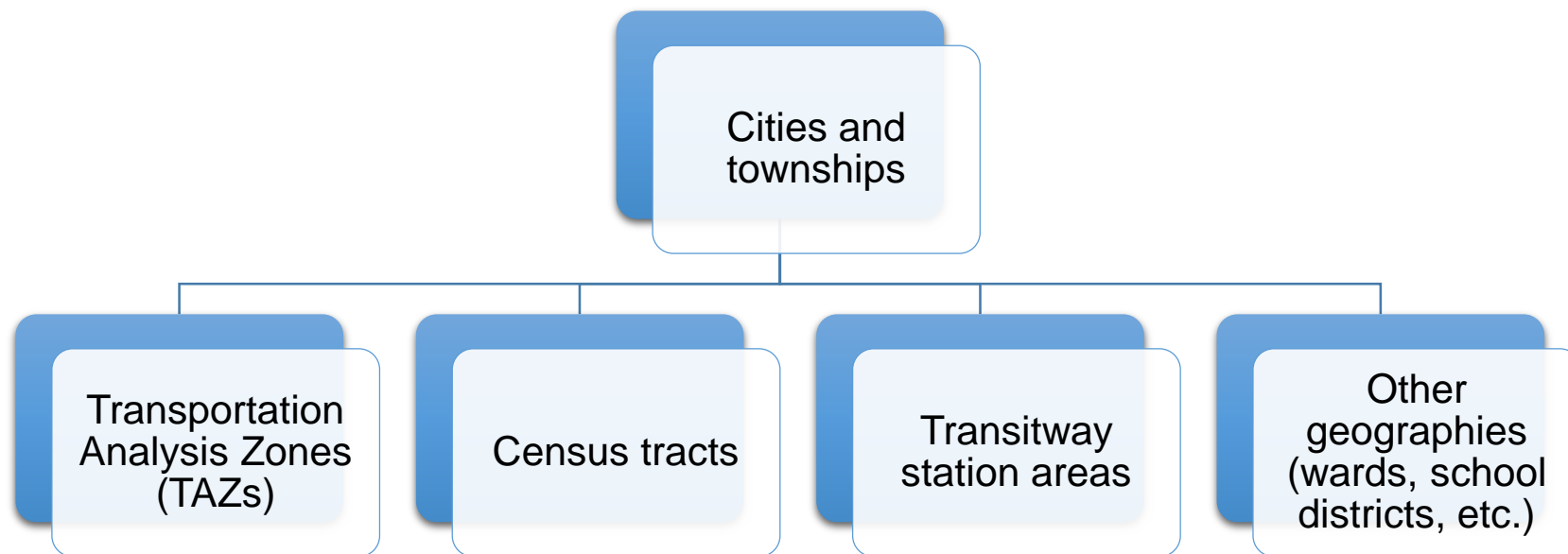# Background: Why the Council estimates population

Council purposes

- Intuitively understandable way to think about growth and development

- Where might more regional investments be needed?

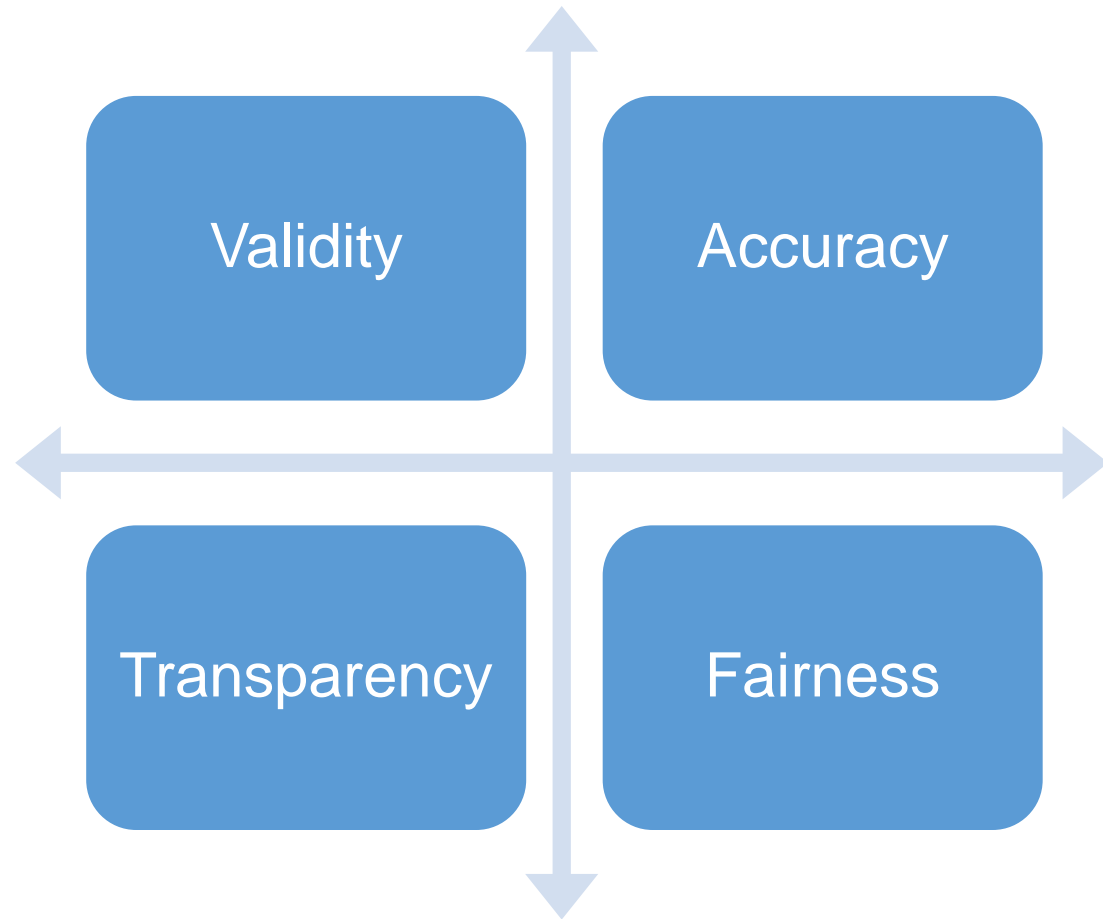- "Reality check" on demographic forecasts

PlanIt

METROPOLITAN
COUNCIL

Background: Small areas


```
                    ┌──────────────┐
                    │  Cities and  │
                    │  townships   │
                    └──────────────┘
        ┌───────────────┬──────┴──────┬───────────────┐
  ┌──────────┐    ┌──────────┐  ┌──────────┐    ┌──────────┐
  │Transporta-│   │  Census  │  │Transitway│    │  Other   │
  │tion       │   │  tracts  │  │ station  │    │geographies│
  │Analysis   │   │          │  │  areas   │    │(wards,   │
  │Zones      │   │          │  │          │    │school    │
  │(TAZs)     │   │          │  │          │    │districts,│
  │           │   │          │  │          │    │etc.)     │
  └──────────┘    └──────────┘  └──────────┘    └──────────┘
```

PlanIt

METROPOLITAN COUNCIL

The estimates model

Balancing four priorities:

Validity

Accuracy

Transparency

Fairness

The estimates model: Key terms

- **Housing unit**: a unit where one or more people can live
  - Can be occupied or vacant

- **Household**: A person or a group of people living in a housing unit
  - Household = occupied housing unit

PlanIt

METROPOLITAN COUNCIL

The estimates model: Key terms

- **Population**: Two components
  - In households
  - In group quarters

Total population	=	Population in households	+	Population in group quarters

PlanIt

METROPOLITAN COUNCIL

The estimates model: Key questions

1. How many *housing units* does each community have?

2. How many *households* live in these housing units? (= How many housing units are occupied?)

3. How many *people* live in these households?

PlanIt

METROPOLITAN
COUNCIL

The estimates model: Overview of calculations

How many **housing units**? → How many **households**? → How many **people**?

| Housing units in 2010 + Changes to housing stock since 2010 | × | Occupancy rate | × | Average household size (Persons per household) |

PlanIt

METROPOLITAN COUNCIL

The estimates model: Overview of calculations

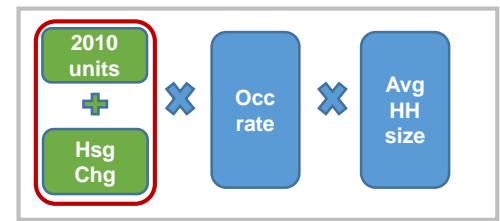Single-family detached

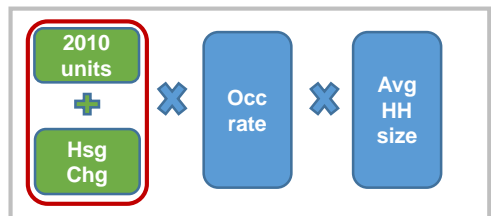Townhomes

Duplex/3-plex/4-plex

Multifamily

Manufactured homes

Other

PlanIt

METROPOLITAN COUNCIL
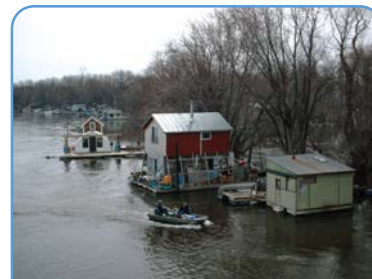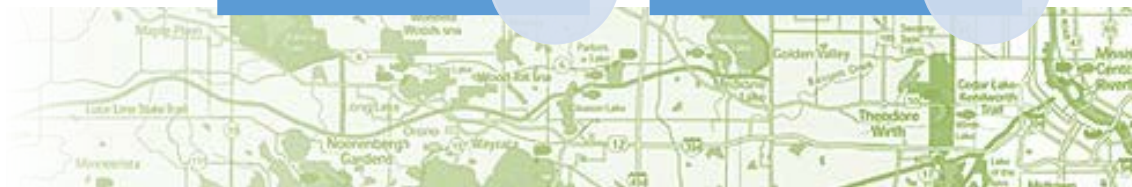
Model: Housing units

- Start with 2010 housing units

- Incorporate changes since 2010
    - Residential construction permit data submitted by communities
        - New construction
        - Conversions
        - Demolitions
    - Annexations
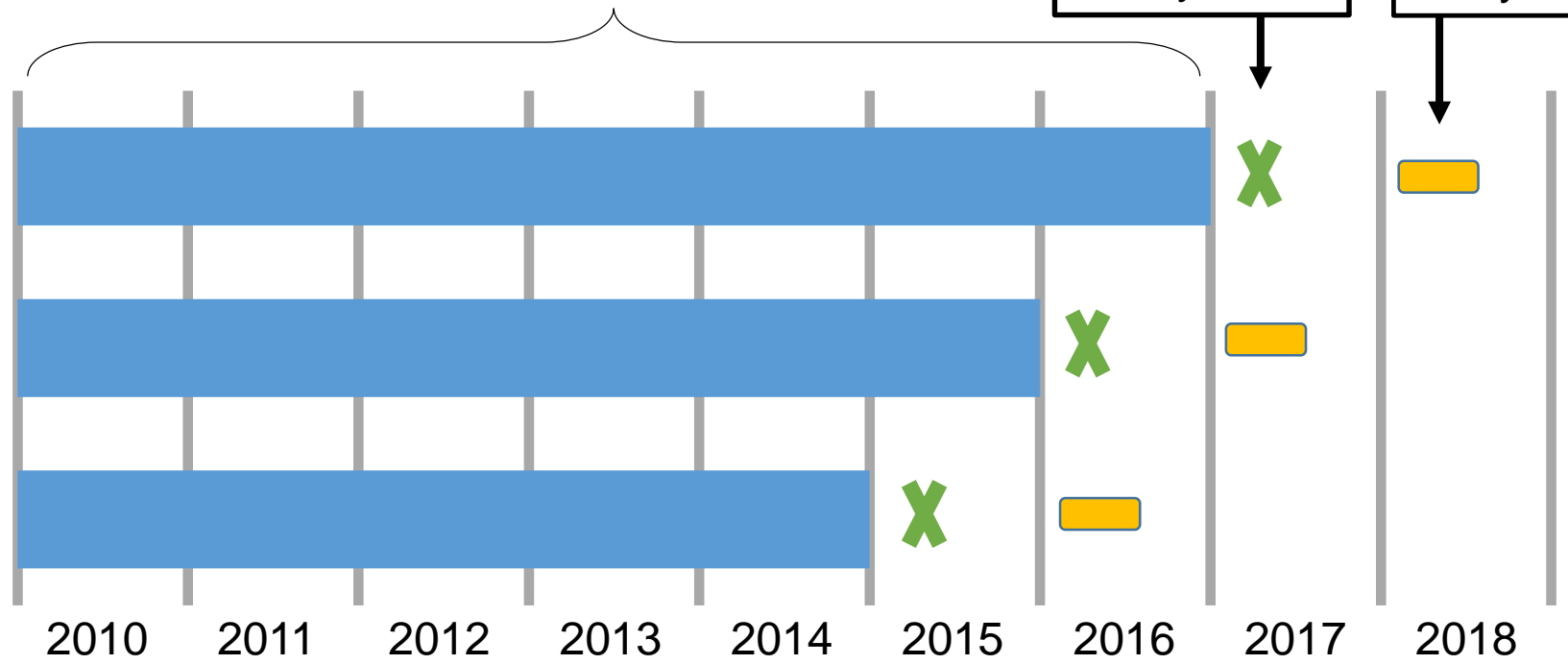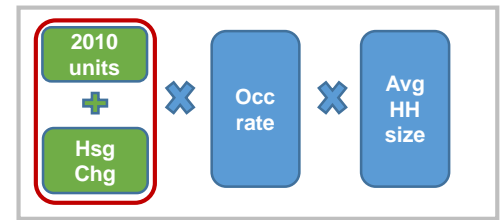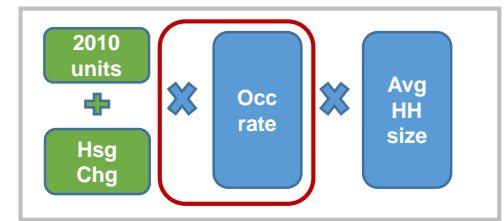   - Council's annual manufactured housing parks survey

Model: Housing units

|	(A) Census, 2010	(B) Permitted and built, 2010-2015	(C) Other changes, 2010-2015	(D) Estimate, 4/1/2016 (A+B+C)
Single-family detached	2,700	350	-50	3,000
Single-family attached	475	25	0	500
Duplex/triplex/quadplex	200	0	0	200
Multifamily	500	500	0	1,000
Manufactured homes	325		-25	300
Other units	0			0
Total	**4,200**			**5,000**

PlanIt

METROPOLITAN COUNCIL

Model: Households

- Households = Housing units ✖ Occupancy rates

- Occupancy rates come from two sources
  - Council's annual manufactured housing park survey (manufactured homes)
  - American Community Survey (all other housing types)
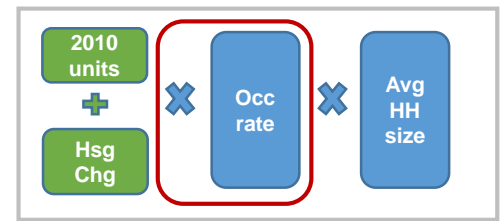
Model: Households

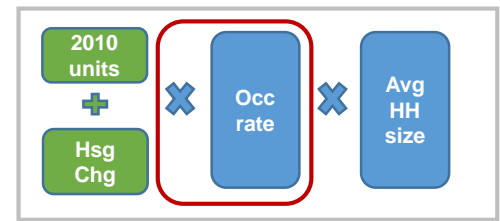**Problem:**
ACS represents a five-year period

Solution:
Economic cycle adjustments to make sure occupancy rates reflect current market conditions

Problem:
ACS is a sample and subject to error

Solution:
Adjustments to reconcile occupancy rates with 2010 Census and U.S. Postal Service data

PlanIt

METROPOLITAN COUNCIL

Model: Households

	(D) Housing units, 4/1/2016	(E) Estimated Occupancy Rates	(F) Households, 4/1/2016 (D × E)
Single-family detached	3,000	98.0%	2,940
Single-family attached	500	97.0%	485
Duplex/triplex/quadplex	200	96.0%	192
Multifamily	1,000	95.0%	950
Manufactured homes	300	94.3%	283
Other units	0		0
Total	**5,000**		**4,850**

4,850 ÷ 5,000 = 97.0% overall occupancy
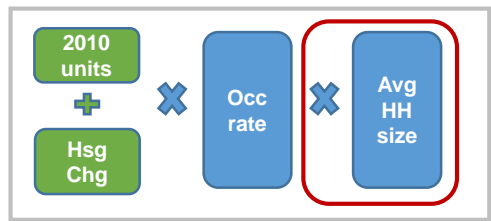
PlanIt

METROPOLITAN COUNCIL

Model: People in households
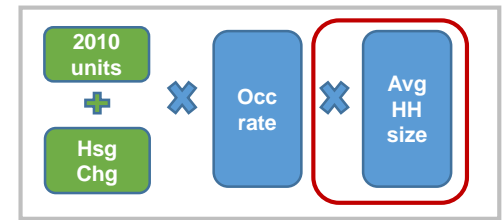
- Population in households = Households ✕ Average household size

- Two sources for average household sizes:
  - Council's annual manufactured housing park survey (manufactured homes only)
  - American Community Survey (all other housing types)

PlanIt

METROPOLITAN COUNCIL

Model: People in households

Problem:
ACS is a sample and subject to error

Solution:
Adjustments to reconcile average household sizes with 2010 Census

Problem:
Housing stock-based estimates do not incorporate other data on births/deaths/migration

Solution:
Adjustments to reconcile resulting population estimates with Census Bureau's county-level estimates

2010 units
+
Hsg Chg
× Occ rate
× Avg HH size

PlanIt

METROPOLITAN COUNCIL

Model: People in households
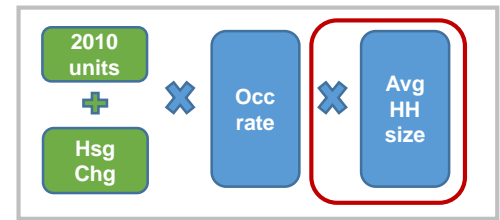
	(F) Households, 4/1/2016	(G) Estimated Average HH Size	(H) People in HHs, 4/1/16 (F × G)
Single-family detached	2,940	3.00	8,820
Single-family attached	485	3.00	1,455
Duplex/triplex/quadplex	192	2.50	480
Multifamily	950	2.00	1,900
Manufactured homes	283	3.00	849
Other units	0		0
Total	**4,850**		**13,504**

13,504 ÷ 4,850 = 2.78 overall average HH size

PlanIt

METROPOLITAN COUNCIL

The estimates model: Overview of calculations

How many **housing units**? → How many **households**? → How many **people**?

Housing units in 2010

+

Changes to housing stock since 2010

✕

Occupancy rate

✕

Average household size

(Persons per household)

PlanIt

METROPOLITAN COUNCIL

The estimates model: Key terms

2010 units + **Hsg changes** × **Occ. rate** × **Avg HH size**

Total population = **Population in households** + **Population in group quarters**

PlanIt

METROPOLITAN COUNCIL
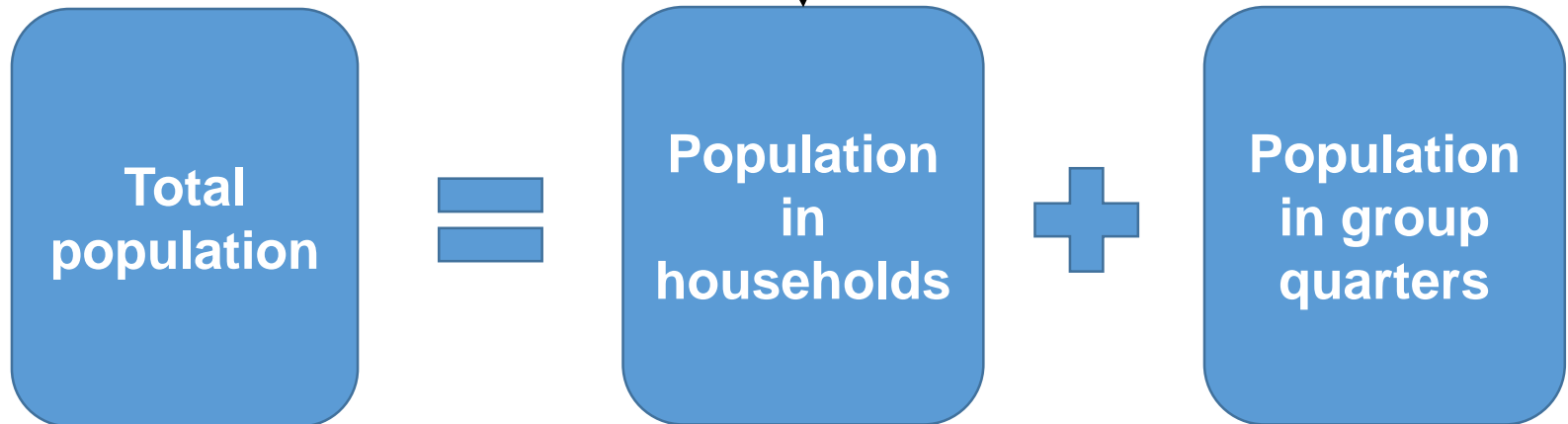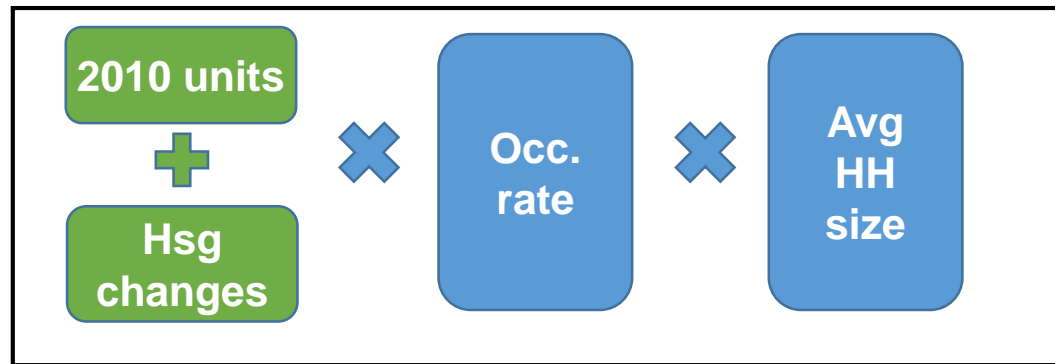
Model: Group quarters population

- Total population also includes people in **group quarters**
  - Correctional facilities
  - Nursing homes
  - Group homes
  - College dormitories
- Data sources
  - Annual surveys of facilities with 10+ residents
  - Department of Human Services lists of licensed facilities

Model: Group quarters population
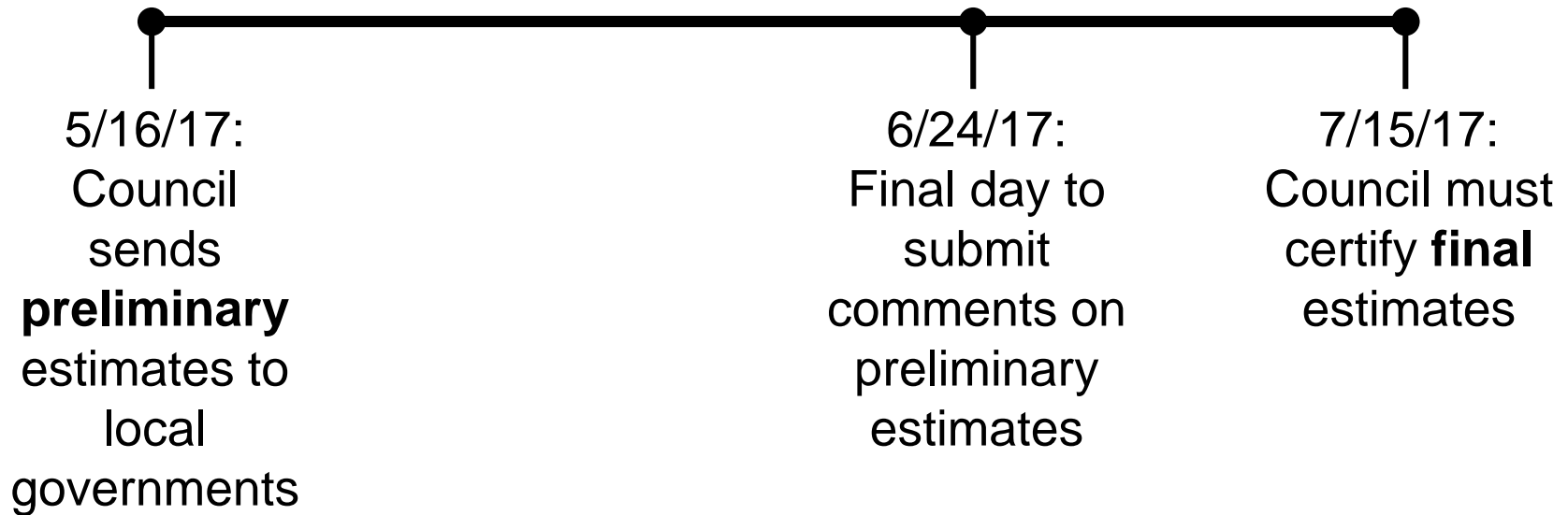
Type of facility	Group quarters or housing unit?
Nursing home	Group quarters
Memory care	Group quarters
Independent living	Housing unit (multifamily)
Assisted living	Housing unit (multifamily)

Timeline and process

Estimates for April 1, 2016:

5/16/17:
Council sends **preliminary** estimates to local governments

6/24/17:
Final day to submit comments on preliminary estimates

7/15/17:
Council must certify **final** estimates

Considerations for review

- Each year, we refine the data and methods used to calculate our estimates
  - Estimates from two different years not comparable
  - Final estimates not comparable to preliminary estimates

- In the past year:
  - Overhaul of group quarters data
  - Additions to post-2010 building permit data
  - Addition of more units permitted before 2010 <u>and</u> not included in 2010 Census count

PlanIt

METROPOLITAN COUNCIL

How to write helpful comments

Do our estimates accurately reflect the building permits and housing stock changes you know about?

PlanIt

METROPOLITAN
COUNCIL
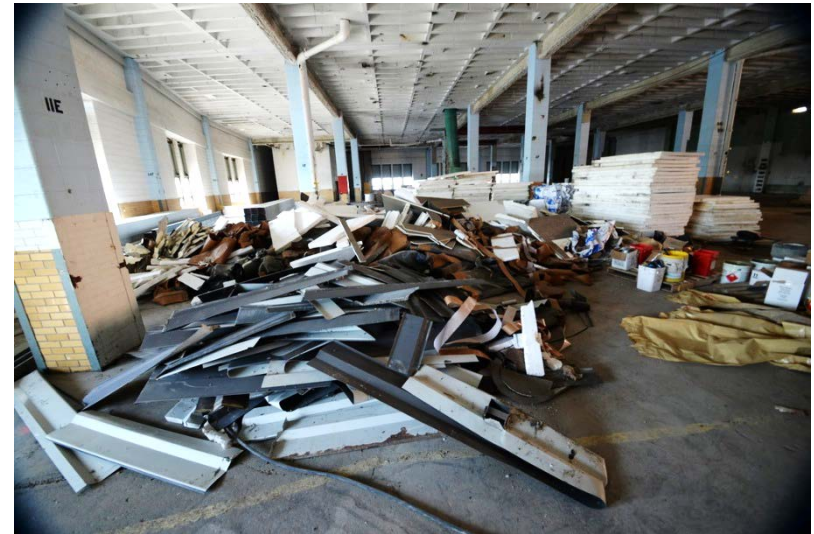
How to write helpful comments

Do you have utilities data that can be a proxy for occupancy?

PlanIt

METROPOLITAN
COUNCIL

How to write helpful comments

Do the occupancy rates and average household sizes look reasonable for each housing type?

PlanIt

METROPOLITAN COUNCIL

What happens next

- If you submit a comment, we commit to…
    - Answering all of your questions
    - Explaining our reasoning
    - Consulting other available data sources
    - Applying the same standard for all communities

- We cannot commit to…
    - Making any certain adjustments
    - Incorporating adjustments from past estimates cycles

PlanIt

METROPOLITAN
C O U N C I L

What happens next

- If no agreement, your community can contract with the Census Bureau for a special census
  - For details, see *Minnesota Statutes*, 473.24
  - Process described on the Census Bureau's website: https://www.census.gov/programs-surveys/specialcensus.html

- This year, the Census Bureau must receive your request by June 15, 2017
  - After that, superseded by 2020 Census preparation

PlanIt

METROPOLITAN
C O U N C I L

Why our estimates vary from Census Bureau estimates

	Metropolitan Council	Census Bureau
Estimate date	April 1	July 1
Post-2010 housing stock changes	Comprehensive list of changes to housing stock	Conversions not captured; many other permitted units missing
Occupancy rate and average household size multipliers	Differentiated by housing type; reflects most recent data	Not differentiated by housing type; from 2010 Census
Group quarters population	Surveyed every year	Trended from 2010 with a small list of facilities

PlanIt

METROPOLITAN
C O U N C I L

Looking ahead to the 2020 Census

- The foundation of 2011-2019 estimates is the 2010 housing unit count

- Accurate 2020 count → More accurate 2021-2029 estimates

- Other benefits:
  - Influences federal and state funding
  - Influences congressional apportionment and legislative redistricting

Looking ahead to the 2020 Census

- Local Update of Census Addresses (LUCA)
  - Ensure that Census Bureau's address list includes all housing units

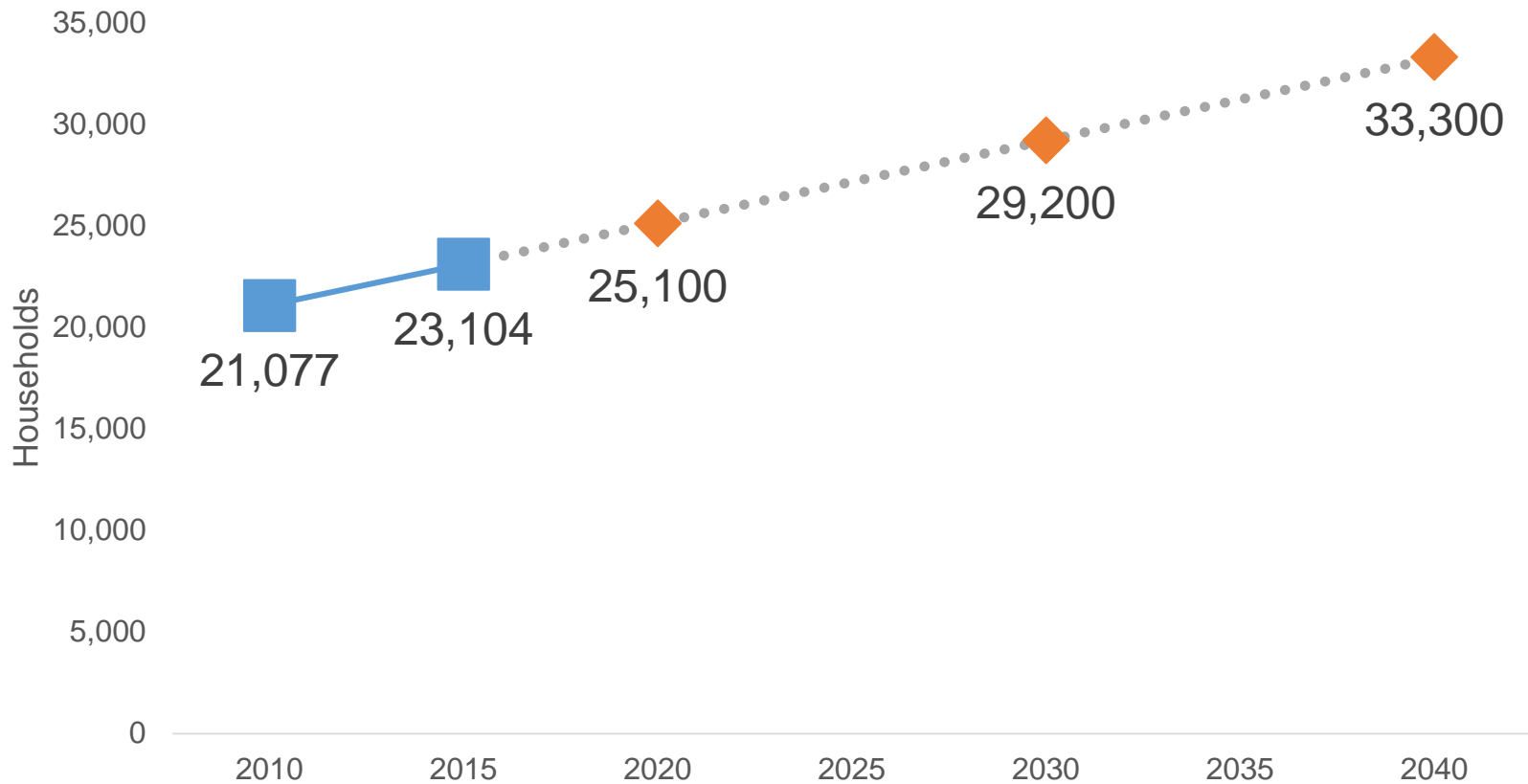| May 2017: Census Bureau informational webinars | July 2017: Invitation to participate | Fall 2017: Census Bureau training workshops | Winter/spring 2018: Review and update Census Bureau address file |

E-mail Matt.Schroeder@metc.state.mn.us for webinar schedule

PlanIt

METROPOLITAN COUNCIL

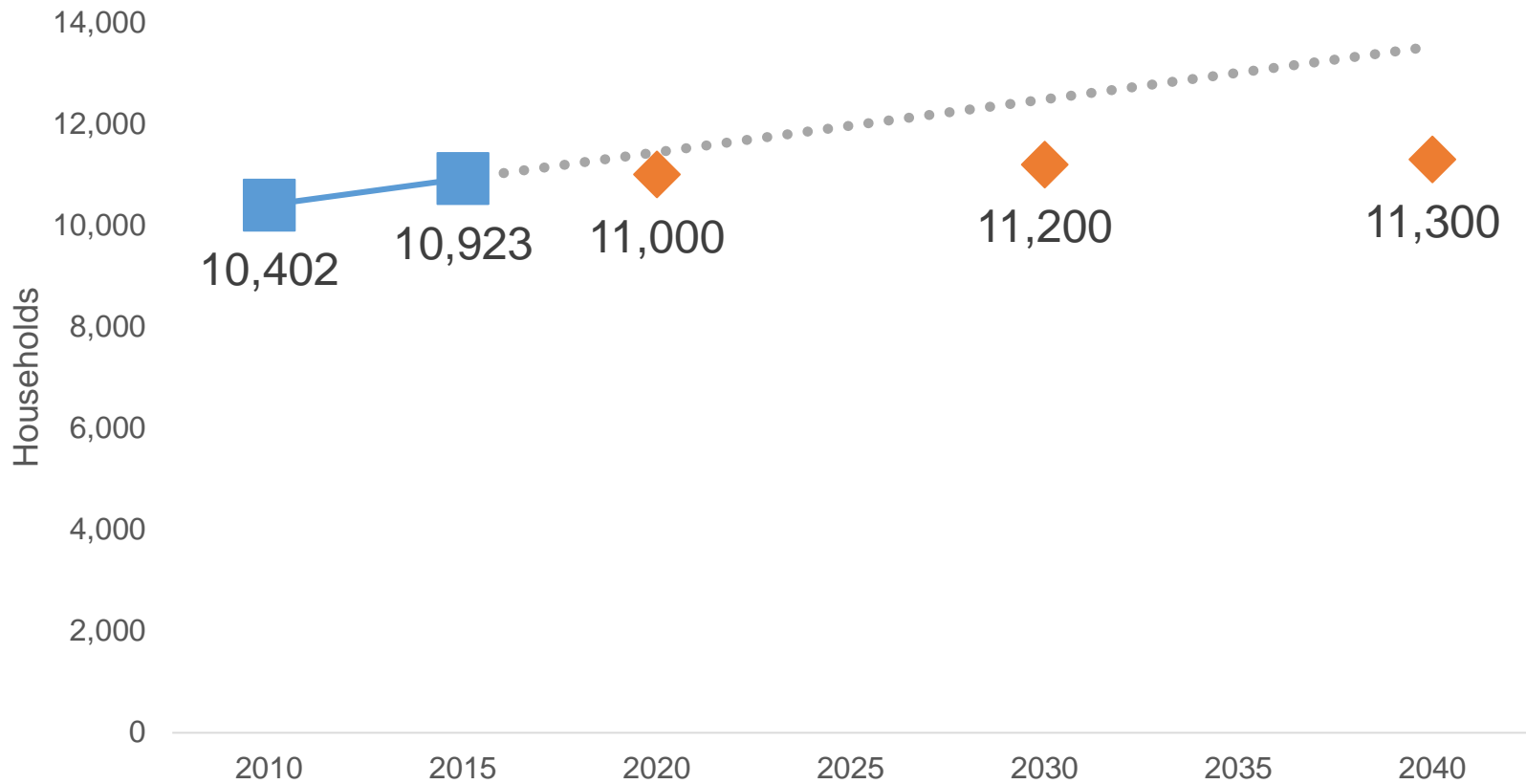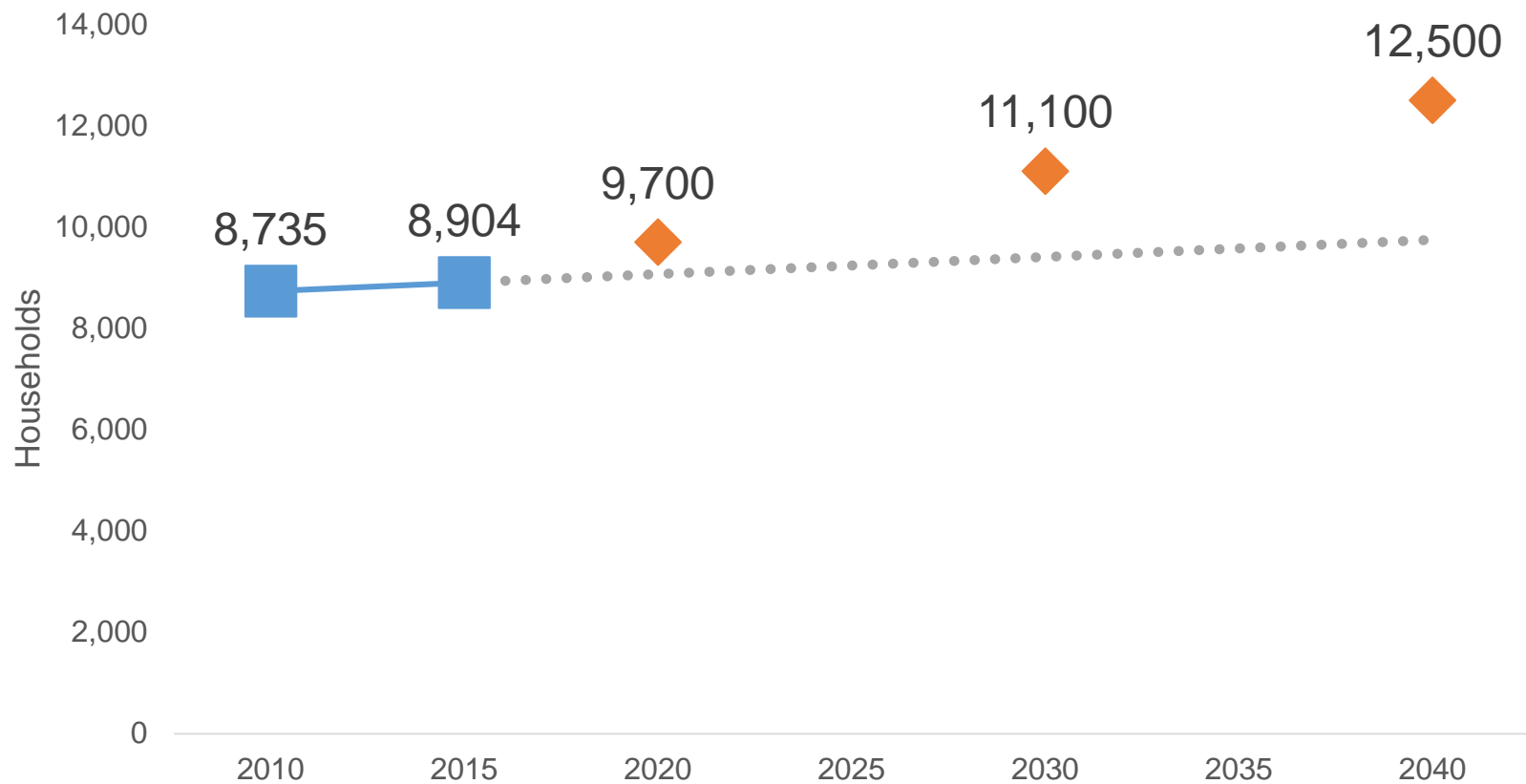# Using estimates to inform comprehensive plan forecasts

PlanIt

METROPOLITAN COUNCIL

Using estimates to inform comprehensive plan forecasts

Using estimates to inform comprehensive plan forecasts
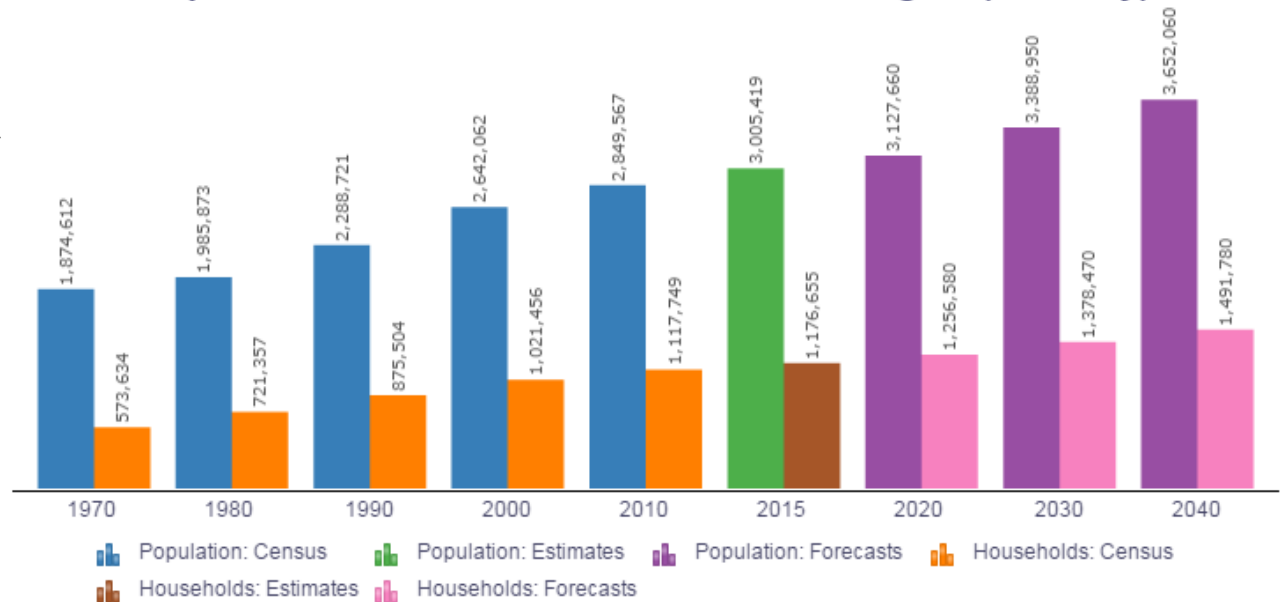
Using estimates to inform comprehensive plan forecasts

1. Go to metrocouncil.org/data
2. Click "Community Profiles"
3. Select your community
4. Go to the "People" tab

Population and Households in Twin Cities Region (7-county)

Year	Population	Households
1970	1,874,612	573,634
1980	1,985,873	721,357
1990	2,288,721	875,504
2000	2,642,062	1,021,456
2010	2,849,567	1,117,749
2015	3,005,419	1,176,655
2020	3,127,660	1,256,580
2030	3,388,950	1,378,470
2040	3,652,060	1,491,780

Population: Census   Population: Estimates   Population: Forecasts   Households: Census
Households: Estimates   Households: Forecasts

Click a population column for the mix of population in households and population in group quarters (not available for forecast years).

Sources: U.S. Census Bureau Decennial Census, Metropolitan Council Annual Estimates, and Metropolitan Council Forecasts.

PlanIt

METROPOLITAN COUNCIL

Resources

https://www.metrocouncil.org/PlanIt

https://metrocouncil.org/populationestimates

https://www.census.gov/geo/partnerships/luca.html

Questions?

Matt Schroeder, Senior Researcher
Matt.Schroeder@metc.state.mn.us

Upcoming Events

Workshop: Interactive Community Engagement
Presented by James Rojas
Tuesday, April 25, 2017

Workshop: Redevelopment
Thursday, June 22, 2017

Webinar: Integrating Economic Development Strategies into Everyday Planning
Presented by Corrin Wendell
Thursday, July 13, 2017

*Look for the 2017 PlanIt Schedule of Events on the website

METROPOLITAN
C O U N C I L