



October 26, 2017

TO: Members of the MAG Population Technical Advisory Committee

FROM: Kevin Burke, Paradise Valley, Chair

SUBJECT: TRANSMITTAL OF MEETING NOTICE AND TENTATIVE AGENDA

Tuesday, October 31, 2017 – **9:30 a.m.**
MAG Office, Second Floor, **Chaparral Room**
302 North 1st Avenue, Phoenix

A meeting of the MAG Population Technical Advisory Committee (POPTAC) will be held at the time and place noted above.

Members of the POPTAC may attend either in person or by telephone conference. If you are attending via audio conference please contact Merry Holmgren at (602) 254-6300 at least one day prior to the meeting.

If you drive to the meeting, please park in the garage under the building and bring your ticket to the meeting; parking will be validated. For those using transit, the Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admissions to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Scott Wilken at the MAG office. Requests should be made as early as possible to allow time to arrange the accommodation.

Please be advised that under procedures approved by the MAG Regional Council on June 26, 1996, all MAG committees need to have a quorum to conduct business. A quorum is a simple majority of the membership or 14 people for the MAG POPTAC. If you are unable to attend the meeting, please make arrangements for a proxy from your jurisdiction with Merry Holmgren at (602) 254-6300.

TENTATIVE AGENDA
MAG Population Technical Advisory Committee
October 31, 2017

1. Call to Order

2. Call to the Audience

An opportunity will be provided to members of the public to address the MAG POPTAC on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but not for action. Members of the public will be requested to limit their comments to three minutes. A total of 15 minutes will be provided for this agenda item, unless the Chair of the POPTAC provides for an exception to this limit. Those wishing to comment on action agenda items will be given an opportunity at the time the item is heard.

3. Approval of Meeting Minutes of August 22, 2017.

4. Draft July 1, 2017 Municipality Resident Population Updates and Methodology

MAG staff has prepared draft July 1, 2017 Municipality Resident Population Updates for MAG Member Agencies. MAG staff worked with staff from Central Arizona Governments (CAG) to create sub-county updates for Pinal County communities. The Updates, which are used to prepare budgets and set expenditure limitations, were prepared using the 2010 Census and 2015 special censuses as the base and updated with housing unit data supplied and verified by MAG member agencies. Since there may be changes to the Maricopa County and Pinal County control totals by the Arizona Office of Economic Opportunity, the MAG POPTAC is requested to recommend approval of these updates to the MAG Management Committee provided the County control totals are within one percent of the final control total. The Pinal County control total and subcounty figures will be presented to the CAG Regional Council. See **Attachment One**.

2. For information.

3. For information, discussion, and approval of the minutes of August 22, 2017.

4. For information, discussion, and possible recommendation to the MAG Management Committee to approve the Draft July 1, 2017 Municipality Resident Population Updates for MAG Member Agencies provided that the Maricopa County and Pinal County control totals are within one percent of the final control total.

5. 2010-2017 Population Series

MAG staff has recently completed an enhancement of the housing completions data, which, when combined with changes in methodology to incorporate the results of the 2015 special censuses and an updated 2016 county control total from the State Demographer, created inconsistencies in the population estimate series since 2010. MAG has received multiple requests for a consistent population estimate series for research and analysis purposes only. Staff will discuss the methodology to create the new estimates series.

6. Census 2020 LUCA Update

MAG staff will provide a brief update the Local Update of Census Addresses (LUCA) program.

7. Next Meeting of MAG POPTAC

The next meeting is scheduled for Tuesday, November 28, 2017 at 10:00 a.m.

5. For information and discussion.

6. For information and discussion.

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
POPULATION TECHNICAL ADVISORY COMMITTEE

August 22, 2017
MAG Offices, Saguaro Room
302 N. 1st Ave, Phoenix

MEMBERS IN ATTENDANCE

Kevin Burke, Paradise Valley, Chair
#Tracy Clark, ADOT
Larry Kirch, Apache Junction
Rick Williams, Avondale
#Andrea Marquez, Buckeye
Stacey Bridge-Denzak, Carefree
*Luke Kautzman, Cave Creek
Sam Andrea, Chandler
Jose Macias, El Mirage
#Michelle Orton, Florence
Marissa Moore, Fountain Hills
VACANT, Gila Bend
#Linda Edwards, Gilbert
Thomas Ritz, Glendale
Joe Schmitz, Goodyear
VACANT, Guadalupe

Mary Dickson for Sonny Culbreth, Litchfield Park
Rodolfo Lopez for Kazi Haque, Maricopa
#Rachel Applegate for Matt Holm, Maricopa County
Wahid Alam, Mesa
*Jason Cleghorn, Peoria
Adam Miller, Phoenix
Andy Smith, Pinal County
Keith Newman, Queen Creek
*Bryan Meyers, Salt River Pima-Maricopa Indian
Community
Taylor Reynolds, Scottsdale
Lloyd Abrams, Surprise
Suparna Dasgupta, Tempe
Cory Whittaker, Valley Metro
VACANT, Wickenburg
Gregory Arrington, Youngtown

**Not in attendance*

#Participated via audio conference

OTHERS IN ATTENDANCE

Scott Wilken, MAG
Merry Holmgren, MAG
Peter Burnett, MAG
Anubhav Bagley, MAG
Scott Bridwell, MAG
Jesse Ayers, MAG
Elizabeth Brant, MAG
Debbie Brown, MAG
Jami Dennis, MAG

#Jim Change, AOEO
#Thara Salamone, AOEO
Doug Frost, Phoenix
Angela Gotto, CAG
Byron Easton, Avondale
Adam Yaron, Scottsdale
Robbie Aaron, Tempe
David de la Torre, Chandler
Brendan Brady, MCDOT
Liliana Nava, Gilbert

1. Call to Order

The meeting was called to order at 10:07 a.m. by Chair Kevin Burke. Voting members Tracy Clark, Andrea Marquez, Michelle Orton, Linda Edwards, and Rachel Applegate attended via audioconference. Audience members Jim Chang and Thara Salamone also attended via audioconference.

All members and guests introduced themselves.

2. Call to the Audience

There were no comments from the audience.

3. Approval of the Meeting Minutes of May 23, 2017

Thomas Ritz noted a typographical error in the minutes, “Count Assessor” instead of “County Assessor.” Rodolfo Lopez noted that his name should be included in the Call or Order section as having attended via audioconference. Larry Kirch made a motion to approve the minutes of May 23, 2017 as amended. Thomas Ritz seconded the motion, and the motion carried unanimously.

4. Census 2020 Update

Scott Wilken gave an update on activities related to Census 2020. He discussed the Local Update of Census Addresses (LUCA) program, Participant Statistical Area Program (PSAP), Boundary and Annexation Survey (BAS) and Boundary Validation Program (BVP), and the cut-off date for when the Census Bureau will no longer consider new annexations as part of the Census 2020 data. He discussed the full upcoming timeline of Census 2020 activities over the next few years.

5. MAG Residential Completions Analysis

Peter Burnett discussed the recent update of the MAG Residential Completions database. He described how the data is used, and how MAG staff identified a number of potentially missing completions from the dataset. He discussed the process that MAG and member agencies will use to find missing data and fill in any gaps in the database.

6. Vacancy Rate Study

Scott Bridwell discussed the vacancy rate study that MAG has recently concluded. He described how vacancy data is used in population estimates and projections. He said that without an updated vacancy rate, staff normally defers to the rate from the most recent decennial census. He described the methodology used by Applied Economics to find a current vacancy rate.

Rodolfo Lopez asked if this data includes Pinal County. Scott Bridwell said that it does. David de la Torre asked what the vacancy rate method will be moving forward. Scott Bridwell said that it is still being evaluated. Wahid Alam asked how seasonal residents affect the vacancy rate and enumerating the population of the region. Anubhav Bagley said that state shared revenue is based on resident population only, without taking seasonal residents into account. He said that this study will not help get more information about season population. Thomas Ritz asked how the non-response and undercount rates will impact the vacancy rate. Anubhav Bagley said that this has not been looked at yet, but the Census Bureau is concerned with non-response and undercount in Census 2020 and they are changing their methodology to address these concerns.

7. Commute Shed Infographics

Scott Wilken gave an update on the 2017 commute shed infographics. He said that those infographics are complete and are available for distribution. He also said that the infographics will be included in the Employment Viewer.

8. POPTAC Members Roundtable

Kevin Burke introduced the roundtable as an opportunity for members to learn more about their fellow committee members and to be able to put a face with a name. Going around the table, each member introduced themselves, said how long they had been a member of POPTAC, how long they had been with their agency, and generally what they do for that agency and how it relates to POPTAC. Members attending via audioconference did the same. MAG staff briefly introduced themselves, as well.

9. Data Collection and Review

Scott Wilken gave an update on data collection and review activities.

10. POPTAC Vice Chair Recruitment

Scott Wilken said that MAG is accepting letters of interest in becoming the new Vice Chair of POPTAC.

11. Regional Updates

Rodolfo Lopez said that the City of Maricopa completed a housing needs assessment. He said that they do need more multi-family housing to supplement existing housing. He said that the city is planning to conduct an overhaul of its subdivision code.

12. Next Meeting of MAG POPTAC

Chair Kevin Burke said that the next meeting is scheduled for Tuesday, September 26, 2017 at 10:00 am. The meeting adjourned at 11:47 am.

Population Update Census 2010 and July 1, 2017

	April 1, 2010	July 1, 2017	Change
Maricopa County	3,817,117	4,221,684	404,567
Pinal County	375,770	427,603	51,833
In MAG MPA	238,159	273,064	34,905
Yavapai County	211,033	225,362	14,329
In MAG MPA	7	346	339
MAG MPA total	4,055,283	4,495,094	439,811

Sources: U.S. Census Bureau,
 Arizona State Demographer's Office,
 Maricopa Association of Governments,
 Central Arizona Governments

Draft, last updated 10.24.2017

Pinal County jurisdiction estimates were created in collaboration with CAG staff

See attached document for methodology

Jurisdiction Population Update
Census 2010 and July 1, 2017

Jurisdiction	Total population			Change April 1, 2010 to July 1, 2017			Change since July 1, 2015	
	April 1, 2010 (Census 2010)	July 1, 2015	July 1, 2017	Change	Overall percent change	Annual percent change	Change	Percent change
Apache Junction	35,840	38,583	40,030	4,190	11.69%	1.02%	1,447	3.75%
<i>Maricopa County Portion</i>	294	305	311	17	5.78%	0.51%	6	1.97%
<i>Pinal County Portion</i>	35,546	38,278	39,719	4,173	11.74%	1.03%	1,441	3.76%
Avondale	76,238	79,476	81,621	5,383	7.06%	0.58%	2,145	2.70%
Buckeye	50,876	62,541	69,947	19,071	37.49%	2.89%	7,406	11.84%
Carefree	3,363	3,566	3,669	306	9.10%	0.81%	103	2.89%
Cave Creek	5,015	5,543	5,676	661	13.18%	1.39%	133	2.40%
Chandler	236,326	245,168	257,948	21,622	9.15%	0.51%	12,780	5.21%
El Mirage	31,797	33,655	34,174	2,377	7.48%	0.79%	519	1.54%
Florence	25,536	26,422	25,866	330	1.29%	0.47%	-556	-2.10%
Fort McDowell	971	1,006	1,016	45	4.63%	0.49%	10	0.99%
Fountain Hills	22,489	23,508	23,862	1,373	6.11%	0.61%	354	1.51%
Gila Bend	1,922	1,991	2,010	88	4.58%	0.49%	19	0.95%
Gila River	11,712	11,902	11,966	254	2.17%	0.22%	64	0.54%
<i>Maricopa County Portion</i>	2,994	3,104	3,136	142	4.74%	0.50%	32	1.03%
<i>Pinal County Portion</i>	8,718	8,798	8,830	112	1.28%	0.13%	32	0.36%
Gilbert	208,352	233,881	246,423	38,071	18.27%	1.61%	12,542	5.36%
Glendale	226,721	236,222	239,858	13,137	5.79%	0.57%	3,636	1.54%
Goodyear	65,275	75,550	81,447	16,172	24.78%	2.04%	5,897	7.81%
Guadalupe	5,523	6,093	6,332	809	14.65%	1.36%	239	3.92%
Litchfield Park	5,476	6,152	6,452	976	17.82%	1.62%	300	4.88%
Maricopa city	43,482	46,409	49,550	6,068	13.96%	0.90%	3,141	6.77%
Mesa	439,041	466,450	481,275	42,234	9.62%	0.84%	14,825	3.18%
Paradise Valley	12,820	13,735	13,913	1,093	8.53%	0.96%	178	1.30%
Peoria	154,065	162,055	171,580	17,515	11.37%	0.70%	9,525	5.88%
<i>Maricopa County Portion</i>	154,058	162,055	171,580	17,522	11.37%	0.70%	9,525	5.88%
<i>Yavapai County Portion</i>	7	0	0	-7			0	
Phoenix	1,447,128	1,536,015	1,579,253	132,125	9.13%	0.83%	43,238	2.81%
Queen Creek	26,361	33,417	40,208	13,847	52.53%	3.33%	6,791	20.32%
<i>Maricopa County Portion</i>	25,912	32,959	39,714	13,802	53.26%	3.37%	6,755	20.50%
<i>Pinal County Portion</i>	449	458	494	45	10.02%	0.27%	36	7.86%
Salt River	6,289	6,671	6,780	491	7.81%	0.82%	109	1.63%
Scottsdale	217,385	233,524	242,540	25,155	11.57%	0.99%	9,016	3.86%
Surprise	117,517	126,343	130,129	12,612	10.73%	1.00%	3,786	3.00%
Tempe	161,719	173,868	179,794	18,075	11.18%	1.00%	5,926	3.41%
Tolleson	6,545	6,895	6,992	447	6.83%	0.72%	97	1.41%
Wickenburg	6,363	6,731	7,249	886	13.92%	0.78%	518	7.70%
<i>Maricopa County Portion</i>	6,363	6,681	6,903	540	8.49%	0.67%	222	3.32%
<i>Yavapai County Portion</i>	0	50	346	346			296	592.00%
Youngtown	6,156	6,510	6,575	419	6.81%	0.77%	65	1.00%
Unincorporated Maricopa County	272,552	286,972	292,354	19,802	7.27%	0.71%	5,382	1.88%
Unincorporated Pinal County*	178,799	196,848	210,196	31,397	17.56%	1.34%	13,348	6.78%
Portions in MAG MPA	124,428	138,016	148,605	24,177	19.43%	1.44%	10,589	7.67%
MAG planning area	4,055,283	4,334,870	4,495,094	439,811	10.85%	0.92%	160,224	3.70%

Note: Totals may not add due to rounding

Sources: U.S. Census Bureau, Arizona State Demographer's Office, Maricopa Association of Governments (MAG), Central Arizona Governments (CAG)

Draft, last updated 10.24.2017

Pinal County jurisdiction estimates were created in collaboration with CAG staff

Counts for 2015 modified from previous release to reflect Special Census updates and residential completions updates

See attached document for methodology

Municipality Population and Housing Unit Update

April 1, 2010 and July 1, 2017
Maricopa Association of Governments

Jurisdiction	Census 2010 (April 1, 2010)				July 1, 2015					July 1, 2015 - June 30, 2017				July 1, 2017 Update				Jurisdiction
	Population			Housing Units	Population			Housing Units	Household population per housing unit	Net Residential Completions	Annexed Housing Units	Annexed Household Population	Change in Group Quarters	Population			Housing Units	
	Total	Household	Group Quarter		Total	Household	Group Quarter							Total	Household	Group Quarter		
Apache Junction	35,840	35,557	283	22,564	38,583	38,278	305	23,475	1.63	294	0	0	14	40,030	39,711	319	23,769	Apache Junction
<i>Maricopa County Portion</i>	294	294	0	293	305	305	0	293	1.04	3	0	0	0	311	311	0	296	<i>Maricopa County Portion</i>
<i>Pinal County Portion</i>	35,546	35,263	283	22,271	38,278	37,973	305	23,182	1.64	291	0	0	14	39,719	39,400	319	23,473	<i>Pinal County Portion</i>
Avondale	76,238	76,078	160	27,001	79,476	79,336	140	27,185	2.92	453	0	0	-13	81,621	81,494	127	27,638	Avondale
Buckeye	50,876	45,782	5,094	18,207	62,541	56,862	5,679	21,444	2.65	2,548	4	8	-8	69,947	64,276	5,671	23,996	Buckeye
Carefree	3,363	3,316	47	2,251	3,566	3,519	47	2,306	1.53	43	0	0	0	3,669	3,622	47	2,349	Carefree
Cave Creek	5,015	5,015	0	2,579	5,543	5,543	0	2,753	2.01	37	0	0	0	5,676	5,676	0	2,790	Cave Creek
Chandler	236,326	235,780	546	94,472	245,168	244,703	465	99,562	2.46	4,130	3	2	-8	257,948	257,491	457	103,695	Chandler
El Mirage	31,797	31,784	13	11,326	33,655	33,642	13	11,574	2.91	58	0	0	0	34,174	34,161	13	11,632	El Mirage
Florence	25,536	7,836	17,700	5,224	26,422	9,321	17,101	6,007	1.55	350	0	0	-1,343	25,866	10,108	15,758	6,357	Florence
Fort McDowell	971	971	0	308	1,006	1,006	0	308	3.27	0	0	0	0	1,016	1,016	0	308	Fort McDowell
Fountain Hills	22,489	22,307	182	13,167	23,508	23,326	182	13,293	1.75	63	0	0	0	23,862	23,680	182	13,356	Fountain Hills
Gila Bend	1,922	1,922	0	943	1,991	1,991	0	943	2.11	-1	0	0	0	2,010	2,010	0	942	Gila Bend
Gila River	11,712	11,473	239	3,238	11,902	11,663	239	3,282	3.55	0	0	0	0	11,966	11,727	239	3,282	Gila River
<i>Maricopa County Portion</i>	2,994	2,984	10	835	3,104	3,094	10	836	3.70	0	0	0	0	3,136	3,126	10	836	<i>Maricopa County Portion</i>
<i>Pinal County Portion</i>	8,718	8,489	229	2,403	8,798	8,569	229	2,446	3.50	0	0	0	0	8,830	8,601	229	2,446	<i>Pinal County Portion</i>
Gilbert	208,352	208,048	304	74,870	233,881	233,130	751	83,172	2.80	3,575	0	0	0	246,423	245,672	751	86,747	Gilbert
Glendale	226,721	223,464	3,257	90,505	236,222	233,162	3,060	91,172	2.56	605	6	18	-348	239,858	237,146	2,712	91,783	Glendale
Goodyear	65,275	61,447	3,828	25,027	71,129	71,129	4,421	29,044	2.45	2,070	0	0	37	81,447	76,989	4,458	31,114	Goodyear
Guadalupe	5,523	5,508	15	1,376	6,093	6,078	15	1,466	4.15	42	0	0	0	6,332	6,317	15	1,508	Guadalupe
Litchfield Park	5,476	5,439	37	2,716	6,152	6,115	37	2,948	2.07	113	0	0	0	6,452	6,415	37	3,061	Litchfield Park
Maricopa city	43,482	43,482	0	17,240	46,409	46,409	0	18,483	2.51	761	0	0	35	49,550	49,515	35	19,244	Maricopa city
Mesa	439,041	435,503	3,538	201,173	466,450	462,476	3,974	206,399	2.24	4,580	0	0	-340	481,275	477,641	3,634	210,979	Mesa
Paradise Valley	12,820	12,789	31	5,643	13,735	13,704	31	5,838	2.35	15	0	0	0	13,913	13,882	31	5,853	Paradise Valley
Peoria	154,065	152,838	1,227	64,818	162,055	159,661	2,394	66,932	2.39	3,265	0	0	0	171,580	169,186	2,394	70,197	Peoria
<i>Maricopa County Portion</i>	154,058	152,831	1,227	64,814	162,055	159,661	2,394	66,931	2.39	3,265	0	0	0	171,580	169,186	2,394	70,196	<i>Maricopa County Portion</i>
<i>Yavapai County Portion</i>	7	7	0	4	0	0	0	1	0.00	0	0	0	0	0	0	0	1	<i>Yavapai County Portion</i>
Phoenix	1,447,128	1,425,390	21,738	590,612	1,536,015	1,508,176	27,839	603,333	2.50	10,122	8	24	2,029	1,579,253	1,549,385	29,868	613,463	Phoenix
Queen Creek	26,361	26,345	16	8,557	33,417	33,040	377	10,353	3.19	1,994	3	9	0	40,208	39,831	377	12,350	Queen Creek
<i>Maricopa County Portion</i>	25,912	25,896	16	8,394	32,959	32,582	377	10,182	3.20	1,985	3	9	0	39,714	39,337	377	12,170	<i>Maricopa County Portion</i>
<i>Pinal County Portion</i>	449	449	0	163	458	458	0	171	2.68	9	0	0	0	494	494	0	180	<i>Pinal County Portion</i>
Salt River	6,289	6,284	5	2,607	6,671	6,666	5	2,670	2.50	16	0	0	0	6,780	6,775	5	2,686	Salt River
Scottsdale	217,385	216,226	1,159	124,001	233,524	232,387	1,137	128,667	1.81	3,629	0	0	-16	242,540	241,419	1,121	132,296	Scottsdale
Surprise	117,517	117,243	274	52,586	126,343	126,069	274	54,592	2.31	1,063	1	1	0	130,129	129,855	274	55,656	Surprise
Tempe	161,719	151,531	10,188	73,462	173,868	162,642	11,226	76,126	2.14	3,043	0	0	-2,329	179,794	170,897	8,897	79,169	Tempe
Tolleson	6,545	6,545	0	2,169	6,895	6,895	0	2,206	3.13	8	0	0	0	6,992	6,992	0	2,214	Tolleson
Wickenburg	6,363	6,174	189	3,619	6,731	6,542	189	3,698	1.77	168	74	250	0	7,249	7,060	189	3,940	Wickenburg
<i>Maricopa County Portion</i>	6,363	6,174	189	3,617	6,681	6,492	189	3,669	1.77	27	50	194	0	6,903	6,714	189	3,746	<i>Maricopa County Portion</i>
<i>Yavapai County Portion</i>	0	0	0	2	50	50	0	29	1.72	141	24	56	0	346	346	0	194	<i>Yavapai County Portion</i>
Youngtown	6,156	5,953	203	2,831	6,510	6,307	203	2,896	2.18	0	0	0	0	6,575	6,372	203	2,896	Youngtown
Unincorporated Maricopa County	272,552	271,436	1,116	141,494	286,972	285,856	1,116	143,762	1.99	1,257	-75	-256	0	292,354	291,238	1,116	144,944	Unincorporated Maricopa County
Unincorporated Pinal County*	178,799	178,347	452	78,056	196,848	196,331	517	82,853	2.37	3,274	0	0	254	210,196	209,425	771	86,127	Unincorporated Pinal County*

Note: Totals may not add due to rounding

* Unincorporated Pinal County includes portions outside the MAG Planning Area

Sources: U.S. Census Bureau, Arizona State Demographer's Office, Maricopa Association of Governments (MAG), Central Arizona Governments (CAG)

Draft, last updated 10.24.2017

Pinal County jurisdiction estimates were created in collaboration with CAG staff

Counts for 2015 modified from previous release to reflect Special Census updates and revised housing completions

See attached document for methodology

County-level estimates

County level estimates are produced by the State Demographer’s Office in the Office of Economic Opportuning (OEO) and serve as control totals for estimating household population at the jurisdiction-level. Estimates are generated using the *Composite Method*, wherein administrative data is tracked and applied to age-specific cohorts. The Composite Method methods relies on the following data sources:

Population cohort	Data sources
Age 0 – 4	Births in last 5 years Deaths among 0-4 year olds in last 5 years
Age 5 – 17	October 1 school enrollment counts from Arizona Department of Education (ADE)
Age 18-64	Active drivers licenses and ID cards from MVD
Age 65+	Social security enrollment Medicare enrollment

Jurisdiction-level estimates

The following describes the methodology applied to allocate county-level estimates to jurisdictions. This includes steps needed to account for special censuses conducted by Buckeye, Chandler, Queen Creek, Gilbert, Goodyear, Maricopa (city) and Peoria.

1) Roll-back special census counts from October 1, 2015 to July 1, 2015

This step estimates what the special census counts would be had they been conducted for July 1, 2015 rather than October 1, 2015. The methodology is as follows:

- 1) Calculate persons in households per residential unit from special census results.
- 2) Collect residential completions for July 1, 2015 to September 30, 2015. The completion data reflects MAG’s recent *catchup* efforts to collect missing completion data.
- 3) Estimate household population added from July 1, 2015 to October 1, 2015 by multiplying net completions by the household persons per residential unit factor.
- 4) Subtract the estimated household population growth for July 1 to October 1 from special census household population counts to obtain a July 1, 2015 household population estimate.
- 5) Subtract the net completions for July 1, 2015 to October 1, 2015 from special census residential unit counts to obtain a July 1, 2015 residential unit estimate.
- 6) Special census group quarter counts are not rolled back and used as reported.

2) Obtain base estimates for July 1, 2015

These steps generate the 2015 base used to generate the 2017 update. This is used in lieu of Census 2010 to account for the special census conducted by some jurisdictions. The method employed is as follows:

- 1) Obtain initial housing unit method (HUM) estimates for July 1, 2015:
 - a. Collect residential completions, group quarters facility changes and annexations for April 1, 2010 to June 30, 2015. Residential completions reflect MAG's recent *catchup* effort to collect missing completion data. Update counts for residential units, annexed residential units and annexed population.
 - b. Update the group quarters population by calculating the change in tracked group quarters facilities from April 1, 2010 to July 1, 2015 and adding it to the Census 2010 group quarters count.
 - c. Obtain the un-constrained household population by multiplying the non-annexed housing units by Census 2010 persons per household and occupancy rates and adding this to the annexed population.
 - d. Bench the unconstrained household population to match the July 1, 2015 county-level household population control.
 - e. Obtain total population by adding group quarter populations and household populations.
- 2) For jurisdictions that conducted a special census, replace estimates with the rolled-back special census counts for residential units, group quarters population, household population and total population as obtained through steps in Step 1.
- 3) Calculate a revised county-level group quarters population total. This is obtained by adding the sum of the special census group quarters counts to the sum of the group quarters estimates for cities that did not conduct a special census.
- 4) Calculate a revised county-level household population total. This is obtained by subtracting the revised group quarter population from the total population.
- 5) Adjust household population totals to match the county-level household population total. For cities that conducted a special census, this will be proportional to the rolled backs special census counts derived in Step 1. For cities that did not conduct a special census, this will be proportional to the original estimates derived in Step 2.1.

3) Recalculate HUM factors

Typically, the housing unit method (HUM) is applied by multiplying the housing stock by the occupancy rate and persons per households from the previous census. However, given that the base itself has been adjusted we are proposing using a simpler persons in households per residential unit factor, calculated directly from the revised July 1, 2015 base, derived in Step 2. This is simply the household population for the revised base divided by the residential units in the revised base.

4) Estimate jurisdiction population for July 1, 2017

To obtain OEO/MAG estimates for July 1, 2017:

- 1) Collect residential completions, group quarters facility changes and annexations for July 1, 2015 to June 30, 2017. Update counts for residential units, annexed residential units and annexed population.
- 2) Update the group quarters population by calculating the change in tracked group quarters facilities from July 1, 2015 to July 1, 2017 and adding it to the estimated group quarters population for July 1, 2015.
- 3) Obtain the un-constrained household population by multiplying the non-annexed housing units by the household population per residential unit factor and adding this to the annexed population.
- 4) Bench the unconstrained household population to match the county-level household population control.
- 5) Obtain a final population by adding group quarter populations and household populations.