

October 24, 2012

**TO:** Members of the MAG POPTAC Ad Hoc Subcommittee

**FROM:** Patrick Banger, Chair

**SUBJECT:** TRANSMITTAL OF MEETING NOTICE AND TENTATIVE AGENDA

Tuesday, October 30, 2012 – 9:00 a.m.  
MAG Office, Second Floor, Chaparral Room  
302 North 1<sup>st</sup> Avenue, Phoenix

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

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

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 Anubhav Bagley 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 4 people for the MAG POPTAC Ad Hoc Subcommittee. If you are unable to attend the meeting, please make arrangements for a proxy from your jurisdiction to represent you. If you have any questions or need additional information, please contact Anubhav Bagley at (602) 254-6300.

**TENTATIVE AGENDA**  
**MAG Population Technical Advisory Committee Ad Hoc Subcommittee**  
**October 30, 2012**

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 28, 2012.

4. Approval of Draft July 1, 2012 Maricopa County and Municipality Resident Population Updates and Methodology

Arizona Department of Administration (ADOA) is preparing the July 1, 2012 resident population updates for each county in the state. MAG has received a draft 2012 County population update for Maricopa County. MAG staff has developed a draft set of municipality updates based on the draft control total for Maricopa County. The updates, which are used to prepare budgets and set expenditure limitations, were prepared using the 2010 Census as the base and housing unit data supplied and verified by MAG member agencies. These updates are needed by the Economic Estimates Commission. Because there may be changes to the State and county control totals by ADOA, the Ad Hoc

2. For information.

3. For information, discussion and approval of the minutes of August 28, 2012.

4. For information, discussion and possible recommendation to MAG POPTAC to approve the Draft July 1, 2012 Maricopa County and MAG Municipality Resident Population Updates provided the Maricopa County control total is within one percent of the final control total.

Subcommittee is requested to recommend approval of these updates to the MAG Population Technical Advisory Committee provided the Maricopa County control total is within one percent of the final control total. Please see Attachment 1 and 2.

5. Maricopa County Resident Population and Employment Projections

Arizona Department of Administration (ADOA) has prepared a set of draft resident population projections for Maricopa County consistent with the 2010 Census. MAG has also developed draft employment projections which are consistent with the ADOA population projections utilizing an updated methodology. These projections will be used as control totals for the preparation of sub-regional socioeconomic projections by MAG. Because there may be changes to the State and county projections totals by ADOA, the Ad Hoc Subcommittee is requested to recommend approval of the draft ADOA 2010 to 2040 population projections for Maricopa County; and the draft 2010 to 2040 employment projections for Maricopa County based on the revised methodology provided the Maricopa County control total is within three percent of the final control total. See Attachments 3 and 4.

6. 2015 Mid-Decade Census Options

For the last several decades MAG has coordinated a mid-decade Census or Census Survey with the U.S. Census Bureau and MAG Member Agencies. While the Census Bureau will not accept requests for cost estimates until a year prior to the anticipated date of a Special Census or Special Census Survey, staff has prepared preliminary analysis in order to begin a review of available options. Results of this analysis will be presented.

5. For information, discussion and possible recommendation to the MAG POPTAC to approve the Draft ADOA 2010 to 2040 population projections for Maricopa County; and the draft 2010 to 2040 employment projections for Maricopa County based on the revised methodology provided the Maricopa County control total is within three percent of the final control total.

6. For information and discussion.

MINUTES OF THE  
MARICOPA ASSOCIATION OF GOVERNMENTS  
POPULATION TECHNICAL ADVISORY COMMITTEE AD HOC SUBCOMMITTEE

August 28, 2012  
MAG Offices, Chaparral Room  
302 N. 1<sup>st</sup> Ave, Phoenix

MEMBERS IN ATTENDANCE

Patrick Banger, Gilbert, Chair  
\*Wahid Alam, Mesa  
\*Lisa Collins, Tempe  
\*David de la Torre, Chandler  
\*Adam Yaron, Scottsdale

Thomas Ritz, Glendale  
A-John Verdugo for Matt Holm, Maricopa County  
Max Enterline for Chris DePerro, Phoenix  
Dave Williams, Queen Creek  
A-Brad Steinke for Bryant Powell, Apache Junction

*\*Those members neither present nor represented by proxy.  
A - Participated via audioconference*

OTHERS IN ATTENDANCE

Scott Wilken, MAG  
David Worley, MAG  
Anubhav Bagley, MAG

Jesse Ayers, MAG  
Ratna Korepella, Valley Metro

1. Call to Order

Chair Patrick Banger called the meeting to order at 9:31 a.m.

2. Call to the Audience

There were no requests from the audience to address the MAG POPTAC Ad Hoc Subcommittee.

3. Approval of Minutes of June 26, 2012

Thomas Ritz made a motion to approve the June 26, 2012 minutes as written. Max Enterline seconded the motion, and the motion passed unanimously.

4. Assumptions for MAG Socioeconomic Projections

Jesse Ayers presented the methods and assumptions used in Arizona's Socioeconomic Modeling, Analysis, and Reporting Toolbox (AZ-SMART) to prepare the 2012 MAG

Socioeconomic Projections. He said that this is the second presentation on factors and methods for the AZ-SMART model system, this one focusing on special populations: airport originations, school enrollment, group quarters, transient population, and seasonal population.

Jesse Ayers said that the MAG travel model requires average daily airport originations. He said that Sky Harbor and Phoenix-Mesa Gateway airports are the two airports involved with this population. He said the airport master plans were used for base year data and projections. He said that Sky Harbor provided daily enplanements, which were converted to daily originations by using a factor of 0.6, while Phoenix-Mesa Gateway used annual originations, converted to daily originations by using 1/365. Max Enterline asked what an origination is. Anubhav Bagley said that this is for every person on a commercial flight. He said that the travel model is concerned with how many trips are generated because people are going to the airports, and what kind of congestion results. He said that the enplanements count includes people who fly into Sky Harbor and change planes to fly somewhere else, which accounts for about 40% of enplanements, meaning about 60% of enplanements at Sky Harbor are associated with people coming to the airport from somewhere in the metro area. He said that Phoenix-Mesa Gateway currently does not have any connecting flights, so 100% of their flights are originations. Thomas Ritz asked how smaller airports, like Glendale, Deer Valley, or Goodyear are modeled. Anubhav Bagley said those kinds of airports are modeled by number of employment, and then a number of factors are rated off of that. He said that enplanements are not factored into those airports because they do not have commercial service. He said that having number of employment by NAICS and by land use helps the travel model understand the total number of trips generated by a site.

Jesse Ayers said that school enrollment is anyone who is enrolled in school and their primary activity is being a student. He said for the base year data and projections, the model will use participation rates by age cohort. He said the number of school enrollment then get allocated to the nearest school site. Max Enterline asked if enrollment data from schools is included in these calculations, or if it's purely the participate rate by cohort. Anubhav Bagley said that the base year data includes enrollment and capacities for all schools, as well as sites for future schools. He said that for the projections the model uses participation rates by cohort, using different rates for different levels and types of schools.

Jesse Ayers said that Group Quarters population means permanent population not living in households, including military barracks, prisons, jails, college dormitories, and nursing homes. He said base year data comes from the 2010 census, and projections are calculated as a percentage of particular age cohorts of the total population, except for military population which is held constant at 927. He said that after those numbers are calculated, the population is allocated to the respective group quarters location based on size. Patrick Banger asked if prison population is counted for revenue share. Anubhav Bagley said that it is included. Max Enterline asked why the prison age cohort is age 20 to 44. Anubhav Bagley said that it is based on an analysis done to find the largest cohort in prison population.

Jesse Ayers said that Transient population includes residents of the region for less than 2 weeks, and the travel model is interested in average daily overnight visitors. He said that

most transient population stays in hotels, motels, and resorts, while some stays in single and multi-family housing. He said that the base included an estimate of 14 million average annual visitors from the Arizona Office of Tourism (AOT). He said the big change for this set of projections is that transient population will be tied to growth in employment in the food services, leisure, and hospitality sectors. Thomas Ritz asked why the methodology will increase the average party size in 2015 from 1.2 to 2.6. Jesse Ayers said that the consultant identified that increase, and the travel model is interested in the number of trips generated by transient population. Thomas Ritz said that this method would imply that a part of 1.2 people today will use twice as many cars as a party of 2.6 starting in 2015, and asked if that means the traffic generated by transient population will be cut in half by then. Anubhav Bagley said that in 2007 the model used an average party size of 1.2, but the consultant is now saying that this number was too low. He said that the actual average party size in 2009 was 2.6, so the consultant is suggesting increasing to that more realistic number. He suggested that the number could be changed to 2.6 throughout the projections, which would tie it to the most recent AOT data set. Max Enterline asked how the 2.6 average party size was calculated. Anubhav Bagley said that the AOT gets much of their data from surveys of hotels, as well as surveys at airports and border crossings.

Jesse Ayers said that Seasonal population is defined as residents of the region for 2 weeks to 6 months of the year. He said that this population lives in single and multi-family housing, mobile home parks, and recreational vehicle parks. He said that the vast majority of the base data comes from the census, and the model relies on the seasonal vacancy rates by place type. He said the projections are made using the projected data for those seasonal vacancy rates.

Jesse Ayers gave an example of how the county-level special populations are distributed to the sub-county level. He said, for example, that nursing home populations are distributed to the nursing homes around the county based on the size and capacity of the nursing home.

Thomas Ritz said that the only special population that is not distributed on the basis of future growth is the school enrollment, because the model has information on new schools but not new hotels, for example. Anubhav Bagley said the model does use information on new hotels and nursing homes when available. He said that there are new housing units being built in the model that are being turned into seasonal or transient units. He said that most of this is dynamic and is happening over time. He said the only thing that isn't dynamic is the number of airports, which are being held constant at two, and military group quarters.

Thomas Ritz made a motion to recommend approval of the methodology with the change in transient population to 2.6 per party. Max Enterline seconded the motion and the motion passed unanimously.

The meeting adjourned at 10:02 am.

DRAFT Municipality Population and Housing Unit Update

April 1, 2010 and July 1, 2012  
Maricopa Association of Governments

Jurisdiction	Census 2010 (April 1, 2010)**							April 1, 2010 - June 30, 2012					July 1, 2011 Update		July 1, 2012 Update			Jurisdiction	
	Population			Housing Units		Occupancy Rate	Persons per Occupied Units	Residential Completions	Residential Demolitions	Annexed Housing Units	Annexed Household Population	Change in Group Quarters	Housing Units	Population	Total Housing Units	Population			
	Total	Household	Group Quarter	Total	Occupied											Household	Group Quarter		Total
Apache Junction*	294	294	0	293	210	71.67%	1.40000	0	0	0	0	0	293	294	293	296	0	296	Apache Junction*
Avondale	76,238	76,078	160	27,001	23,386	86.61%	3.25314	81	7	0	0	-29	27,041	76,392	27,075	76,722	131	76,853	Avondale
Buckeye	50,876	45,782	5,094	18,207	14,424	79.22%	3.17402	965	0	5	9	102	18,669	52,334	19,177	48,895	5,196	54,091	Buckeye
Carefree	3,363	3,316	47	2,251	1,654	73.48%	2.00484	4	0	0	0	0	2,253	3,367	2,255	3,340	47	3,387	Carefree
Cave Creek	5,015	5,015	0	2,579	2,150	83.37%	2.33256	30	1	1	0	0	2,594	5,055	2,609	5,108	0	5,108	Cave Creek
Chandler	236,326	235,780	546	94,472	86,924	92.01%	2.71248	1,305	24	2	7	-10	95,134	238,381	95,755	240,624	536	241,160	Chandler
El Mirage	31,797	31,784	13	11,326	9,416	83.14%	3.37553	30	1	0	0	0	11,343	31,862	11,355	32,047	13	32,060	El Mirage
Fort McDowell	971	971	0	308	283	91.88%	3.43110	0	0	0	0	0	308	971	308	976	0	976	Fort McDowell
Fountain Hills	22,489	22,307	182	13,167	10,339	78.52%	2.15756	40	0	0	0	0	13,195	22,554	13,207	22,508	182	22,690	Fountain Hills
Gila Bend	1,922	1,922	0	943	664	70.41%	2.89458	0	0	0	0	0	943	1,922	943	1,932	0	1,932	Gila Bend
Gila River*	2,994	2,984	10	835	748	89.58%	3.98930	0	0	0	0	0	835	2,994	835	2,999	10	3,009	Gila River*
Gilbert	208,352	208,048	304	74,870	69,372	92.66%	2.99902	3,129	7	0	0	0	76,203	213,519	77,992	219,313	304	219,617	Gilbert
Glendale	226,721	223,464	3,257	90,505	79,114	87.41%	2.82458	277	18	0	0	327	90,629	227,446	90,764	225,374	3,584	228,958	Glendale
Goodyear	65,275	61,447	3,828	25,027	21,491	85.87%	2.85920	1,173	2	0	0	-35	25,640	67,337	26,198	65,210	3,793	69,003	Goodyear
Guadalupe	5,523	5,508	15	1,376	1,292	93.90%	4.26316	72	0	0	0	0	1,444	5,895	1,448	5,926	15	5,941	Guadalupe
Litchfield Park	5,476	5,439	37	2,716	2,263	83.32%	2.40345	51	0	0	0	0	2,733	5,523	2,767	5,583	37	5,620	Litchfield Park
Mesa	439,041	435,503	3,538	201,173	165,374	82.20%	2.63344	1,227	9	191	244	0	201,967	441,160	202,582	441,220	3,538	444,758	Mesa
Paradise Valley	12,820	12,789	31	5,643	4,860	86.12%	2.63148	77	0	0	0	0	5,692	12,972	5,720	13,072	31	13,103	Paradise Valley
Peoria*	154,058	152,831	1,227	64,814	57,454	88.64%	2.66006	980	4	0	0	0	65,340	155,754	65,790	156,391	1,227	157,618	Peoria*
Phoenix	1,445,632	1,423,894	21,738	590,149	514,806	87.23%	2.76588	3,889	312	1	3	979	592,127	1,451,966	593,727	1,441,688	22,717	1,464,405	Phoenix
Queen Creek*	25,912	25,896	16	8,394	7,569	90.17%	3.42132	312	0	0	0	0	8,596	26,764	8,706	27,227	16	27,243	Queen Creek*
Salt River	6,289	6,284	5	2,607	2,198	84.31%	2.85896	41	0	0	0	0	2,623	6,342	2,648	6,430	5	6,435	Salt River
Scottsdale	217,385	216,226	1,159	124,001	101,273	81.67%	2.13508	576	32	0	0	52	124,244	217,965	124,545	218,453	1,211	219,664	Scottsdale
Surprise	117,517	117,243	274	52,586	43,272	82.29%	2.70944	538	22	0	0	0	52,859	118,349	53,102	119,229	274	119,503	Surprise
Tempe	161,719	151,531	10,188	73,462	66,000	89.84%	2.29592	935	13	0	0	0	73,740	162,503	74,384	154,437	10,188	164,625	Tempe
Tolleson	6,545	6,545	0	2,169	1,959	90.32%	3.34099	1	1	0	0	0	2,168	6,541	2,169	6,578	0	6,578	Tolleson
Wickenburg	6,363	6,174	189	3,617	2,909	80.43%	2.12238	13	0	19	35	0	3,624	6,379	3,649	6,267	189	6,456	Wickenburg
Youngtown	6,156	5,953	203	2,831	2,470	87.25%	2.41012	0	0	0	0	0	2,831	6,156	2,831	5,984	203	6,187	Youngtown
Balance of County	274,048	272,932	1,116	141,957	117,709	82.92%	2.31870	608	2	-219	-298	0	142,093	274,673	142,344	275,457	1,116	276,573	Balance of County
<b>Total</b>	<b>3,817,117</b>	<b>3,763,940</b>	<b>53,177</b>	<b>1,639,279</b>	<b>1,411,583</b>	<b>86.11%</b>	<b>2.66647</b>	<b>16,354</b>	<b>455</b>	<b>0</b>	<b>0</b>	<b>1,386</b>	<b>1,647,161</b>	<b>3,843,370</b>	<b>1,655,178</b>	<b>3,829,286</b>	<b>54,563</b>	<b>3,883,849</b>	<b>Total</b>

Note: These figures are preliminary and subject to change. Totals may not add due to rounding

\* Maricopa County portion only

\*\* Updated with Count Quest Resolution Results, October 2012

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

See attached document for methodology

**DRAFT**  
**Jurisdiction Population Update**  
**Census 2010 and July 1, 2012**

Jurisdiction	Total Population			Percent Change		Share	
	April 1, 2010 (Census 2010)	July 1, 2012	Change	Overall	Annual	Share of Growth	Share of County
Apache Junction*	294	296	2	0.7%	0.30%	0.0%	0.0%
Avondale	76,238	76,853	615	0.8%	0.36%	0.9%	2.0%
Buckeye	50,876	54,091	3,215	6.3%	2.76%	4.8%	1.4%
Carefree	3,363	3,387	24	0.7%	0.32%	0.0%	0.1%
Cave Creek	5,015	5,108	93	1.9%	0.82%	0.1%	0.1%
Chandler	236,326	241,160	4,834	2.0%	0.90%	7.2%	6.2%
El Mirage	31,797	32,060	263	0.8%	0.37%	0.4%	0.8%
Fort McDowell	971	976	5	0.5%	0.23%	0.0%	0.0%
Fountain Hills	22,489	22,690	201	0.9%	0.40%	0.3%	0.6%
Gila Bend	1,922	1,932	10	0.5%	0.23%	0.0%	0.0%
Gila River*	2,994	3,009	15	0.5%	0.22%	0.0%	0.1%
Gilbert	208,352	219,617	11,265	5.4%	2.37%	16.9%	5.7%
Glendale	226,721	228,958	2,237	1.0%	0.44%	3.4%	5.9%
Goodyear	65,275	69,003	3,728	5.7%	2.50%	5.6%	1.8%
Guadalupe	5,523	5,941	418	7.6%	3.30%	0.6%	0.2%
Litchfield Park	5,476	5,620	144	2.6%	1.16%	0.2%	0.1%
Mesa	439,041	444,758	5,717	1.3%	0.58%	8.6%	11.5%
Paradise Valley	12,820	13,103	283	2.2%	0.98%	0.4%	0.3%
Peoria*	154,058	157,618	3,560	2.3%	1.02%	5.3%	4.1%
Phoenix	1,445,632	1,464,405	18,773	1.3%	0.58%	28.1%	37.7%
Queen Creek*	25,912	27,243	1,331	5.1%	2.25%	2.0%	0.7%
Salt River	6,289	6,435	146	2.3%	1.03%	0.2%	0.2%
Scottsdale	217,385	219,664	2,279	1.0%	0.46%	3.4%	5.7%
Surprise	117,517	119,503	1,986	1.7%	0.75%	3.0%	3.1%
Tempe	161,719	164,625	2,906	1.8%	0.79%	4.4%	4.2%
Tolleson	6,545	6,578	33	0.5%	0.22%	0.0%	0.2%
Wickenburg	6,363	6,456	93	1.5%	0.65%	0.1%	0.2%
Youngtown	6,156	6,187	31	0.5%	0.22%	0.0%	0.2%
Balance of County	274,048	276,573	2,525	0.9%	0.41%	3.8%	7.1%
<b>Total</b>	<b>3,817,117</b>	<b>3,883,849</b>	<b>66,732</b>	<b>1.7%</b>	<b>0.77%</b>	<b>100.0%</b>	<b>100.0%</b>

**Note: These figures are preliminary and subject to change. Totals may not add due to rounding**

\* Maricopa County portion only

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

See attached document for methodology

## **Methodology for Preparing July 1, 2012 Municipality Population Updates**

### **1. Prepare Census Data**

Using the Census 2010 as the Base, determine the April 1, 2010 household population, group quarter population, total housing units, occupied housing units, occupancy rates and population per occupied unit for total units for each jurisdiction.

### **2. Collect New Data**

Obtain the residential housing unit completions and demolitions for the time period from April 1, 2010 through June 30, 2012 from the MAG member agencies.

Obtain annexed and de-annexed housing unit data from member agencies. Determine population change from annexations/de-annexations using persons per household and occupancy rates from the Census 2010 blocks intersecting each annexed/de-annexed area.

Obtain July 1, 2012 group quarters population from survey of MAG member agencies.

### **3. Calculate July 1, 2012 Housing Units**

Calculate the July 1, 2012 housing stock by municipality by adding the net housing units (completions minus demolitions) and the net housing units annexed from step 2 above to the Census base.

### **4. Calculate July 1, Resident Population**

Calculate changes in the household population using the Housing Unit Method (HUM) by multiplying the new housing stock of non-annexed units from step 3 times the respective occupancy rates and persons per occupied unit by municipality and adding this to the annexed population for each municipality. Calculate the total household population by adding the change in household population to the household population in the previous year.

The occupancy rate and persons per occupied unit by municipality were taken from Census 2010 to calculate the new household population.

Bench the residential population in households to the county control total for population in households from Arizona State Demographer's Office (SDO) to obtain July 1, 2012 population in households. Benching is necessary when the MAG derived total population does not match the control total obtained from SDO. MAG utilizes the July 1, 2011 population estimates by jurisdiction as the base and benches its numbers by municipality by proportionately distributing the difference from 2011 updates.

Calculate the total resident population for July 1, 2012 by adding the July 1, 2012 group quarter population from step 2 to the July 1 2012 household population.

**DRAFT Maricopa County Population and Employment  
For July 1 of Each Projection Year**

Year	Total Resident Population	Total Employment
2010	3,824,000	1,706,000
2015	4,063,000	1,931,000
2020	4,504,000	2,313,000
2025	4,931,000	2,491,000
2030	5,354,000	2,697,000
2035	5,770,000	2,892,000
2040	6,168,000	3,097,000

**Notes:**

Population Projections are from the Arizona Department of Administration Draft Projections, October 2012

Employment projections are based on the revised methodology described in Draft Employment Projections, Control Totals for Maricopa County.

Population and employment numbers have been rounded to the nearest thousand.

## Draft Population and Employment Projections Control Totals for Maricopa County

### A. Population

- The Arizona State Demographer created a cohort-component population projection model to be consistent with the results of the 2010 Census. The cohort-component model was created with input from the Council for Technical Solutions.
- MAG develops its sub-regional resident population projections to be consistent with population control totals for Maricopa County developed by the Arizona State Demographer.

### B. Employment

- The Arizona Department of Administration's Office of Employment and Population Statistics (EPS) does not produce county level long term employment forecasts therefore it is necessary to obtain employment projections from another source.
- MAG staff, along with a consultant (Jeff Tayman from University of California, San Diego) conducted an analysis of commercial long term socioeconomic projections for purchase.
- Based on the analysis and consultant recommendations, it was recommended that MAG purchase population and employment projections from Moody's Economy.com. These are annual projections of employment by NAICS code for Maricopa County. In addition, MAG subscribes to quarterly employment forecasts for the Phoenix metro area (Maricopa and Pinal) produced by Marshall Vest at the University of Arizona, Economic and Business Research Center. The University of Arizona forecasts augment Moody's economy.com socio-economic projections by updating the projection base to the current year (2011) and provide a benchmark for the analysis of Moody's economy.com projections.
- Derive employment growth rates for Maricopa and Pinal from the Moody's employment projections and for Phoenix metro area from Marshall Vest's employment projections and conduct a comparative analysis of the employment growth rates and employment to population ratios. The comparative analysis also included a review of the series against the employment forecasts for 2012 and 2013 released by the Arizona Department of Administration's Office of Employment and Population Statistics and national economic forecasts by the National Association of Business Economists (NABE). Overall, Moody's and Vest's employment growth rates were found to be similar for most periods with the exception of 2012 to 2016 where Marshall Vest's projections seem in line with the current local economic environment.
- Calculate projected employment numbers for three components – covered employment, military, and uncovered employment. Based on the analysis, apply growth rates derived from Marshall Vest's employment projections to the base employment data for Maricopa County for uncovered employment. Apply a 11 year average growth rate to project the uncovered employment. Hold military employment at its 12 year average number for the projections. Employment to population ratios were developed utilizing the ADOA draft population projections and were found to be growing for Maricopa County and stable for the Phoenix metro area.
- Derive County level employment by business sector by year from a combination of the two series (Moody's Economy.com and Marshall Vest at the University of Arizona)