

Draft Zero: base and build-out review

# 2015 Projections

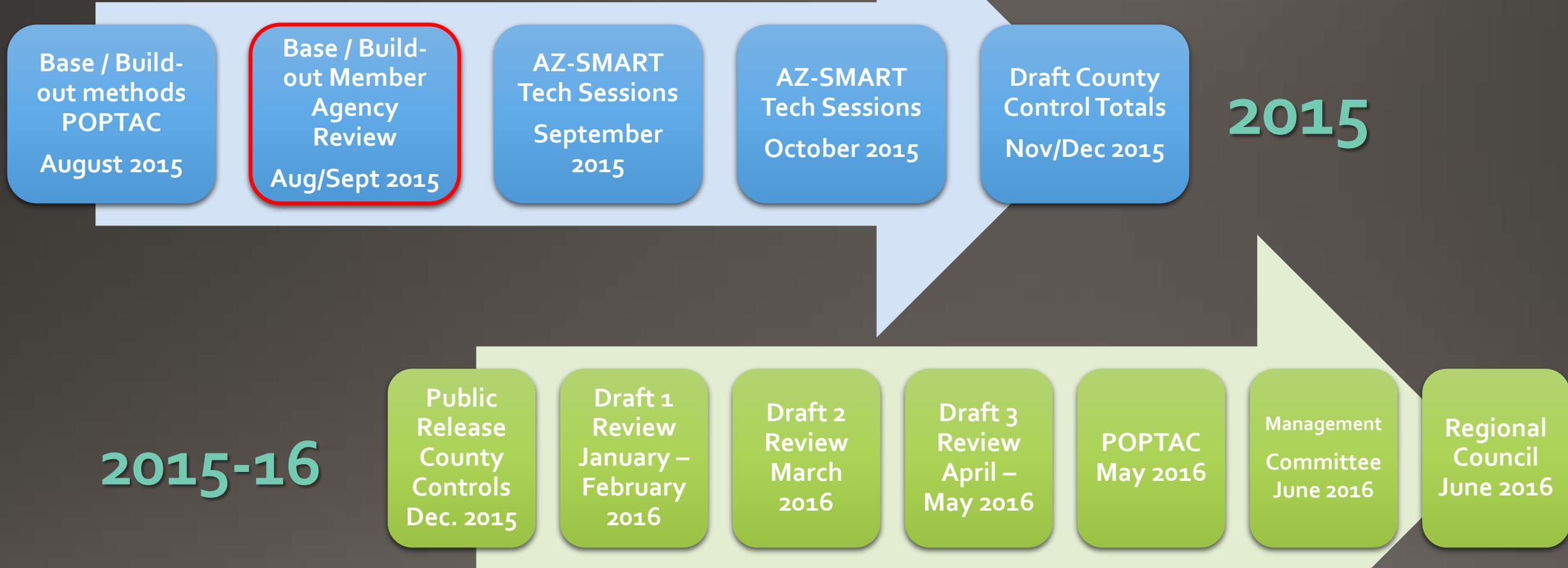
# Overview

- Projections: What's and Why's
- Projections Timing – key dates
  - Control totals
  - Meetings/roadshow/review
  - POPTAC, Management Committee, Regional Council
- Base year database construction
- Build-out methods review
- “Draft Zero”

# Projections – What and why?

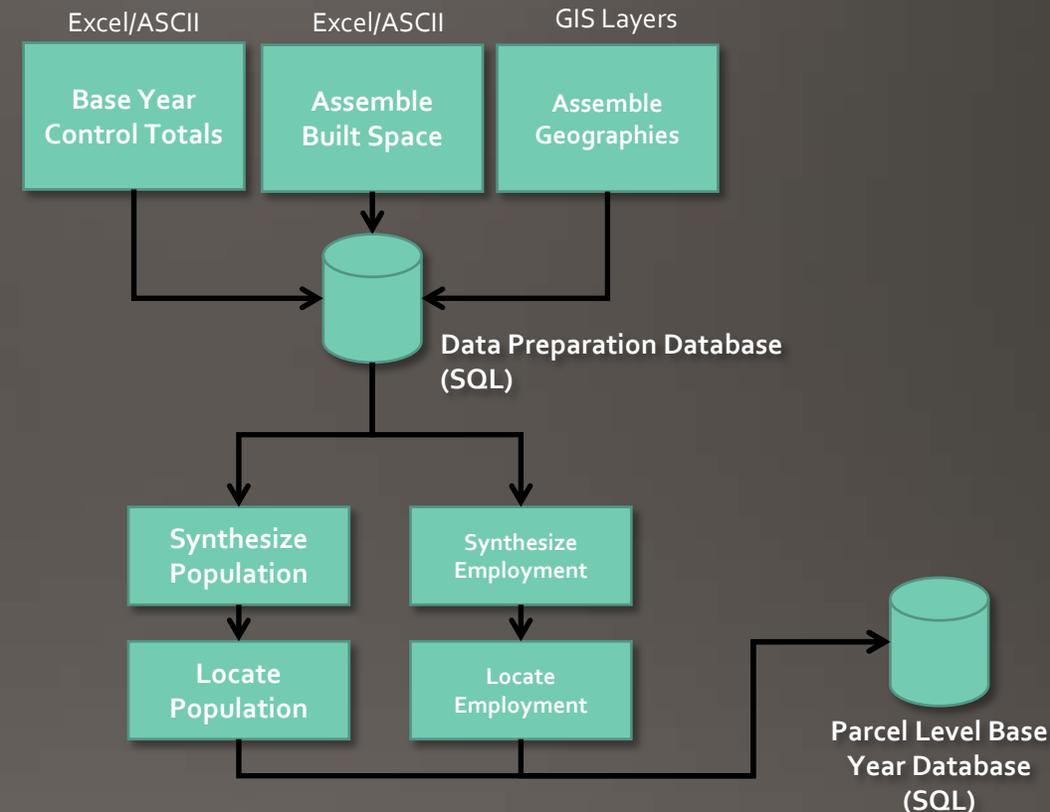
- Why do we do it?
  - Arizona Executive Order 2011-04
  - Transportation and Air Quality Planning and Modeling needs
  - Increasingly complex questions from stakeholders, policy analysis
- What do we do?
  - Latest official projections (adopted by MAG Regional Council mid-2013) from 2010 to 2040
  - Population : Resident, Special (e.g. GQ), Seasonal, Transient
  - Housing by Type (SF, MF)
  - Employment by Industry Sector (2 digit NAICS) and Land Use Type
  - Additional Socioeconomic characteristics: Income, School/Post HS Enrollment

# Projections Activities 2015-16



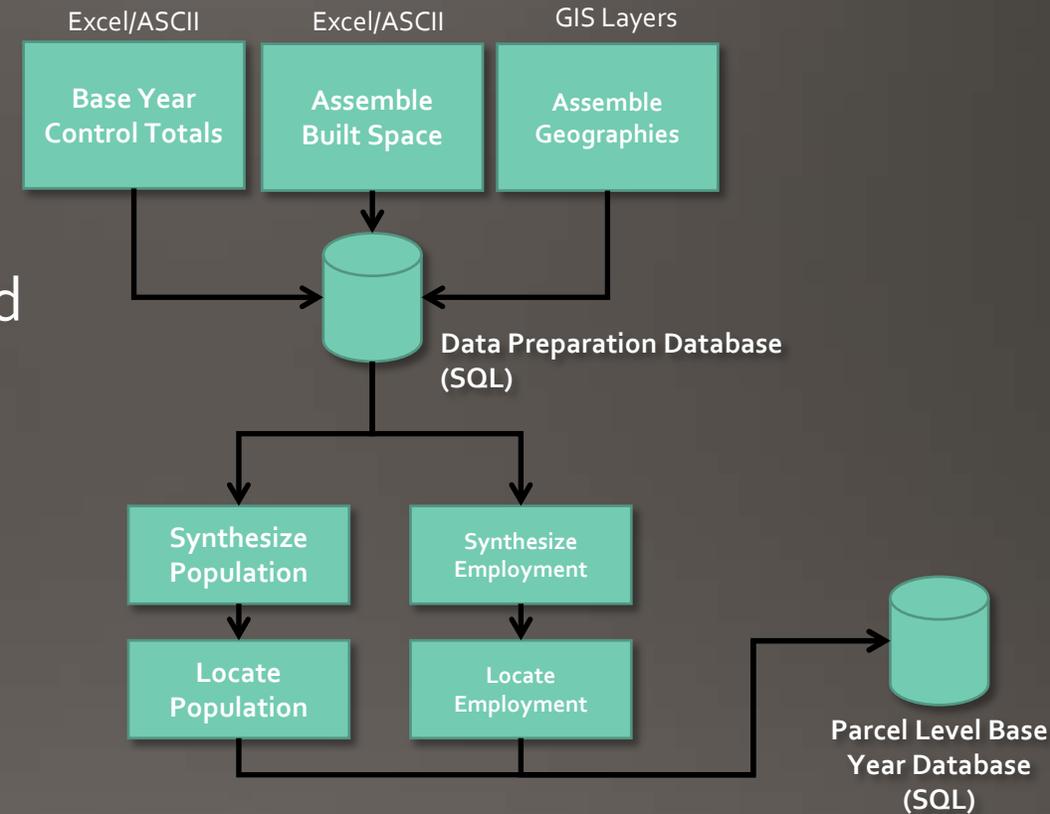
# Base Data, Assumptions, and Factors

- Database of observed data representing the region
- Database serves as the basis for forecasting, build-out
- Base year is 2014
  - Note: 2015 will be a forecast year due to data availability, will be controlled to 2015 population estimate. All available 2015 data will be used.
- Population control totals
  - 2014 population estimates by jurisdiction
- Employment control totals
  - 2014 totals based on 2014 Q1 and Q2 QCEW
  - New 2014 totals will be used for projections based on full 2014 QCEW data



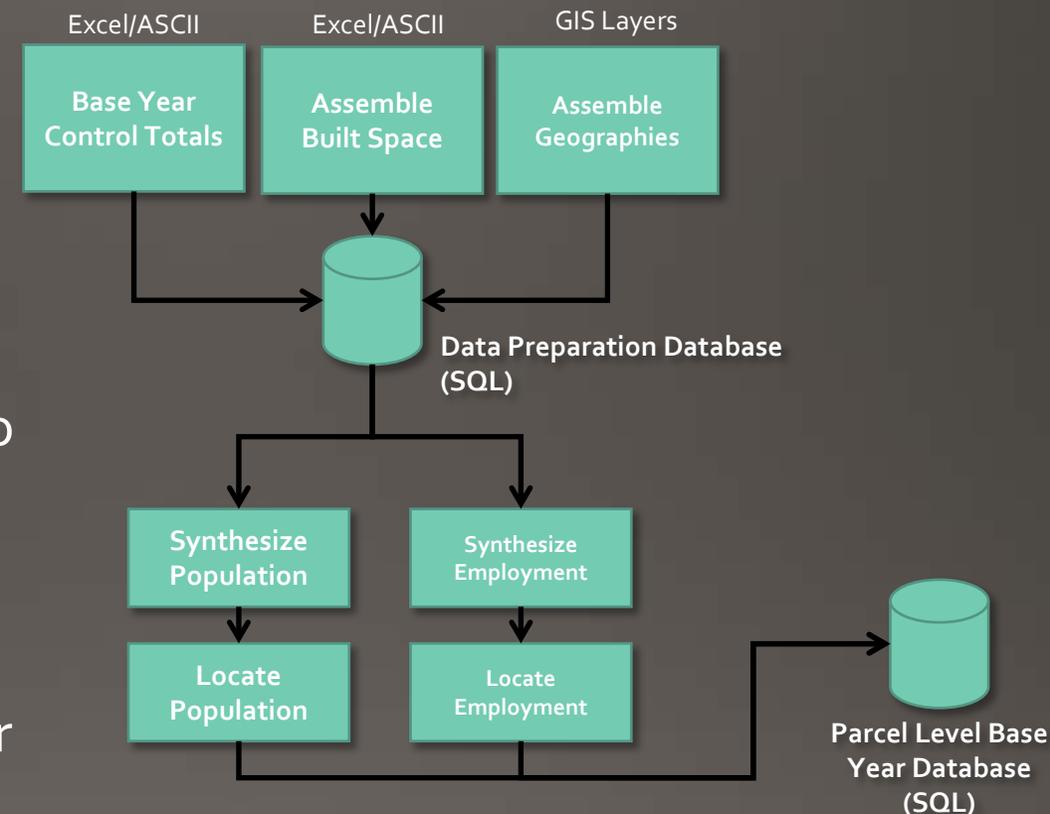
# Base Data, Assumptions, and Factors (cont'd.)

- Land: Assessor parcels, filled in w/land use dataset
- Built space: Assessor improvements, city and other public data
  - Building types: 22 types of built space, aggregated from Assessor "model types" in improvements data
  - Residential Completions current to 2014Q2
- Building Occupants:
  - Households
  - Employment
    - Building SQFT / Job, by building type
    - Employment by industrial sectors: NAICS 2 Digit
    - Work at home employment



# Base Database Methodologies

- Household and population synthesis:
  - Based on latest Census ACS 5 year sample and ACS PUMS (2009-2013) released in Dec. 2014
  - Synthesized to “pseudo-block groups,” controlled population to 2014 Population Estimates from ADOA
  - Located households to dwelling units
- Employment synthesis:
  - 2014 MAG employer database, parcel level
  - Allocated employees to building records proportional to the built space
  - Scaled employment up to match 2014 county control total (by NAICS)
- Special populations:
  - Seasonal households, allocated to vacant units “held for seasonal use” by Census
  - Non-site based (NSB) employment, allocated to buildings proportionally by NSB type and building occupants
  - Construction employment, allocated to developing land use codes



# Data Model – Key Tables and Relationships

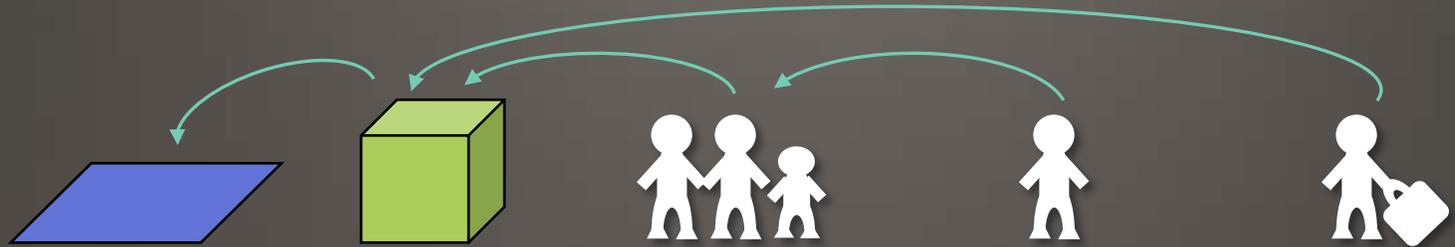


Table	Parcels	Buildings	Households	Persons	Jobs
Primary Key	zone_id	building_id	household_id	person_id	job_id
Foreign Key	taz_id, mpa_id, tract_id, etc.	zone_id	building_id	household_id	building_id
# Records	~1.42 million	~1.25 million	~1.55 million	~4.08 million	~1.85 million

# Base Database – Known Issues

- Public employment
  - Schools
  - others
- NAICS sectors 54-56
  - 54: Professional, Technical, and Scientific Services
  - 55: Management of Companies and Enterprises
  - 56: Administrative and Support and Waste Management and Remediation Services

# Build-out Introduction

- What is “build-out” anyway?
  - A theoretical scenario
- Goals: to provide Member Agency staff a useful planning tool, MAG modeling staff a useful “upper bound” on development
- It is not a forecast of what will happen, it is an analysis of what could happen under certain assumptions.
- Capacity of infrastructure (roads, water, etc.) is not taken into account
- No time-horizon or absorption rate implied

# Build-out Data and Factors

- 2014 Base year database
- Known Developments and General Plan
  - 2014 reviewed developments and General Plan
- Employment:
  - Building types and densities
  - Building SQFT / Job
  - Jobs by land use
- Population:
  - Dwelling unit types and densities
  - Persons per household (hierarchical geographies)
- Refinement layer

# Build-out Methodology

1. Base 2014 database
2. Compute additional units in known developments
3. Compute additional units in General Plan areas
4. Compute occupants based on PPH and SQFT/Job (100% occupancy)
5. Possible gross-net reductions
6. Review and Refine

# Base and Build-Out Workshops

- General Questions for you:
  - Are the developments complete and accurate?
  - Are the assumptions reasonable for your town/city?
  - What are the recent development trends in your area? Areas of redevelopment or intensification not identified in the GP?
  - Revisit Projections 2013 – what has changed?
  - Discuss major economic development and infrastructure projects that impact long term projections.
  - Have we missed anything?

# Questions?

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