MARC Technical Forecast Committee
Meeting Notes
September 6, 2017

Attendees
Mary Hunt, City of Independence  Danielle Murray, City of Mission
Mike Grimm, Unified Government  Leslie Carr, City of Overland Park
Aaron Baumgarden, Johnson County  Erin Ollig, City of Overland Park
Tim Fitzgibbons, City of Overland Park  Beth Dawson, MARC
Brian Jackson, City of Kansas City, MO  Shawn Urbach, MARC
Steve Lebofsky, City of Kansas City, MO  Jay Heermann, MARC
Victoria Nelson, City of Lee’s Summit  Laura Machala, MARC
David Dalecky, City of Lenexa  Frank Lenk, MARC
John Hollis, City of Merriam  Andrea Repinsky, MARC

1. Completion of last forecast update
   a. Frank Lenk, MARC’s Director of Research Services, presented the forecast update completed July 20, 2017. The final forecast incorporated participants’ feedback on missing employment centers. MARC staff will distribute tract and TAZ maps.

2. Beginning the next forecast
   a. Mr. Lenk said that the next forecast will need to be completed by the end of 2018 for use in the next long range transportation plan.
   b. Mr. Lenk shared a test REMI baseline forecast that will be used to create regional control totals for the next forecast. He said that the REMI model looks at how multiple sectors of the regional economy compete with the U.S., which affects regional employment. The age structure of the population is changing, and aging of the population is slowing the rate at which new workers are entering the labor force while speeding up the rate at which current workers are exiting the labor force through retirements. The net result is slower growth in the labor supply nationwide than in times past, and this will constrain employment growth. In general, REMI is using employment growth to determine labor demand, and the region’s projected demographics, plus labor force participation rates by age and gender, to determine naturally occurring labor supply. The missing ingredient is net migration, which REMI estimates as the combination of economic migration, international migration, and special population migration, the latter being composed primarily of college students and military personnel. International migration is estimated by keeping the region’s historic share of U.S. immigration constant. Special population migration is held constant in the future, though it fluctuated considerably in the past. What’s left is economic migration. REMI’s economic migration equation looks at probability of employment and average wage rate here relative to the nation. Looking at REMI’s estimates in history also shows significant fluctuations that mirror, but in the opposite
direction of, the fluctuations in special population migration. Moreover, economic migration is projected to accelerate in the future beyond historical norms even though national labor supply is constrained relative to historical norms. This is causing population to grow significantly faster than employment. Mr. Lenk plans to seek more information on why the model is behaving this way and how best to produce a more reasonable migration forecast.

c. MARC is licensing the cloud-based UrbanSim model to create a block-level forecast. UrbanSim uses similar variables to MARC’s last model to simulate household activity. Mr. Lenk said that he does expect UrbanSim, as any model, to have problems. He said that the cloud-based version is new, but the household and employment location choice models come from a long-term, extensive development process. The model includes race, households by income, employment by sector, age, and other variables. User inputs include known development projects and constraints, adjustments, and zoning—or planned maximum densities of households, people, and jobs.

d. Differences between UrbanSim and Paint the Town, MARC’s previous model
   i. UrbanSim is estimates its principal model parameters based on activity for one point in time, using the combination of the 2010 decennial Census and the 2008-12 ACS to approximate a full data set for 2010 down to the block level. Paint the town estimated its parameters at a near-parcel level an entire decade of land use change, 2000-2010. As a result, UrbanSim’s initial forecast showed relatively uniform growth everywhere rather than the historic patter of most growth in developing suburbs and some decline still occurring in older areas impacted by concentrated poverty.
   ii. UrbanSim simulates agents – households and firms – whose location choices affect land use, while Paint the Town simulates land use change directly.
   iii. UrbanSim models land markets, with demand coming from agents and supply being determined by developers, with supply and demand equilibrated using prices. Paint the Town does not use any kind of market mechanism. This allows UrbanSim to model the impact of pricing strategies, such as incentives, whereas Paint the Town cannot.
   iv. Paint the Town was totally under MARC staff control, since staff developed it. Changes required of UrbanSim must be requested from the developer, which may require entering into an additional contract.

e. Mr. Lenk said that he plans to work with the developer to attempt to make realistic forecasts.

f. Mr. Lenk asked attendees to consider how much they want to be involved in the details of model development in the future.

3. Future land use
   a. MARC staff collected future land use plan updates from throughout the region to create a draft regional future land use map, which was shared in an online map for TFC review: http://arcg.is/1mfr8D0. Additional new data or missed edits is welcome, and can still be incorporated.
b. MARC staff are developing a process to collect and classify parcel land use data, using 2016 data.

c. One of the next steps will be to develop a dataset which retains the density of existing development, at least for current single-family residential parcels, where the parcel size will not likely change, and the parcel size will provide more accurate constraints than the generalized city and county land use plans. Existing land use is coming from 2016 parcel data now.

d. MARC will work on map distribution since the online future land use map is slow to load.

4. Other business
   a. A new co-chair needed for Kansas communities. Mr. Lenk will solicit nominations.