

How the Land Use Projections were Developed

MORPC developed future population, housing and employment projections to help determine future transportation needs to be identified in the 2016-2040 Metropolitan Transportation Plan. The horizon year for the plan is 2040. In addition, MORPC generated projections for the years 2025 and 2050 to support the Central Ohio Transportation Authority's (COTA) NextGen plan. The projections are available for seven counties in central Ohio including Delaware, Fairfield, Franklin, Licking, Madison, Pickaway and Union.

The base year for this data is 2015. Residential building permits issued after 2010 (the latest year of an official census) were used to update household and population data to 2015. The source for the 2015 employment data is the Quarterly Census of Employment Wages from 2013. That data was updated to 2015 using information that MORPC tracks.

Projections were developed for detailed geographical areas using a land use allocation model. The allocation model is used to distribute future households and jobs. Please note that control totals for households and employment in each county is determined by population projections provided by the Ohio Development Services Agency (ODAS) Office of Research. These [county control totals](#) or population, households and employment were further divided into [community groups](#) to assure distribution of development occurred throughout the model area.

In addition to control totals other inputs include existing and future land uses, environmental sensitivities, and economic development information.

The source for land use information was [local plans](#). Current and future land uses were assigned to parcels by translating information from the plans into standard categories. The standard categories were developed with input from a technical advisory group that participated in the Regional Connections project in 2003 that consisted of land use planners and engineers. The categories include agricultural, retail, office, industrial, public uses, various densities of residential, and mixed uses. Each [land use category](#) has a development capacity (build-out rate) in terms of households and/or jobs per acre.

The model uses a special geography called "gridTAZ". The gridTAZ are intersections between MORPC's Traffic Analysis Zones (2000 structure TAZ), the geography the MORPC Travel Demand Model uses, and a gridded overlay comprised of commonly sized 40 acre grids. Having the model allocating data into the gridTAZ geography allows tabulations to be made at either TAZ or grid levels. Mapping results at the grid provides a more uniform presentation of the data; however the TAZ level is necessary for preparing data for the travel demand model. MORPC's travel demand model does not cover the entire seven county area, and so TAZ coverage includes a smaller area, while the grid geography includes the entire seven county area.

Each gridTAZ was first assigned a "likelihood-of-development"/"attractiveness" score based on weighted criteria directly linked to a variety of factors including expected land use, environmental constraints, access to infrastructure, and economic development incentives. In addition, areas where future development is planned were coded as "hot spots" to assure that new development would be allocated to these areas. [Environmental](#) and [Economic Development](#) factors were identified through GIS analysis. Criteria used are including in this [list](#). Because the attractiveness for residential development differs from the attractiveness for non-residential development, two sets of weights were created, with one set for [household](#) allocation and one for [employment](#). In addition,

areas within community groups that were expected to develop at high densities were given development priority in keeping with a land use scenario associated with insight2050.

New houses and jobs were then allocated to the gridTAZs through the model based on their attractiveness scores until control totals for jobs and households were reached. Basically gridTAZs with higher “attractiveness” are allocated with households and/or jobs (i.e., develop) before gridTAZs with lower “attractiveness”. Also, a “graded” scheme was applied to give a gradually decreasing chance of reaching-its-development-capacity to gridTAZs with lower “attractiveness”.

Results from the model are available on an [interactive map](#). They can also be downloaded as GIS files as either grids or TAZ. Results of the model at the gridTAZ level are not available due to confidentiality requirements. Model results at for Community Groups level are available for downloading as a [spreadsheet](#).