GROWTH MANAGEMENT
And Land Use Appendix

Methodology for Determining Residential Development Capacity

To estimate the potential residential dwelling unit yield by land use category, a geospatial data analysis was completed. Parcel polygon data with tax assessment data was enhanced with both current adopted land use and proposed land use data. Government owned lands or those permanently protected were excluded from this analysis at creation of the data to be analyzed. This parcel-based data was then analyzed to determine if parcels were vacant or underutilized.

For urban settings, parcels with an agricultural or residential land use assessment with improvements greater than or equal to $20,000 with an acreage greater than or equal to 2 acres were considered underdeveloped. Properties which additionally had a legal description in assessment data of "Lot, Lt, TH", indicating previous subdivision activity, were considered developed by previous plat. Parcels with any indication of residential land use or agricultural assessment with less than $20,000 in improvements (no acreage minimum) were considered undeveloped. This undeveloped land was further reduced by multiplier of 25% which factors in that the local realized land development infrastructure needs such as roads and stormwater that occur with new development at a rate of 25%.

Rural areas were assessed using similar methods for determining the vacant and underutilized land. Parcels with an agricultural or residential land use assessment with improvements greater than or equal to $20,000 with an acreage greater than or equal to 10 were considered underdeveloped (again removing any previous subdivision activity as in the urban area). Parcels with agricultural or residential land use assessment with less than $20,000 in improvements and a minimum acreage of 1 were considered undeveloped. There was also the reduction of vacant land using the assumed 25% toward infrastructure. Additionally, parcels which had development potential remaining were counted to determine estimated exemption lot impact. For Agriculture Rural, if a parcel had potential for development and was greater than 4 acres it was counted, for Environmental Conservation and Preservation (adopted land use only), those greater than 12 acres were counted. The count for each category was then multiplied by 3 to get an estimated exemption lot impact. This was added into the total yield for the respective land use categories.

Table A3-1: Adopted Land Use Multipliers Indiciating Density Units/Acre

Urban Categories	
Low Density Residential	3
Medium High Density Residential	5
Rural Categories	
Agricultural Rural	5
Environmental Conservation	20
Preservation	30
Rural Village	.46
Special Economic District (SED)	yield based on existing concept plan data only

Table A3-2: Proposed Land Use Multipliers Indicating Density Units/Acre

Urban Categories	
Low Density Residential	5
Medium High Density Residential	7
High Density Residential	10
Rural Categories	
Agricultural Rural	10
Environmental Conservation	20
Rural Village	.46
Special Economic District (SED)	yield based on existing concept plan data only

Methodology for Determining Non-Residential Developable Acreage

To estimate the potential non-residential developable acreage by land use category, a geospatial data analysis was completed. Parcel polygon data with tax assessment data was enhanced with both current adopted land use and proposed land use data. Government owned lands or those permanently protected were excluded from this analysis at creation of the data to be analyzed. This parcel-based data was then analyzed to determine if parcels were vacant or underutilized.

For any parcel with proposed non-residential land use, if the improvements were less than $20,000 it was considered vacant. For any parcel with improvements greater than or equal to $20,000 and an assessment land use of Agricultural or Residential, it was considered underdeveloped.

Methodology for Designating the Environmental Conservation Layer

As stated in the text of the Growth Management and Land Use chapter, analysis and delineation of the Environmental Conservation policy area was completed through use of our GIS database. It is anticipated that a similar methodology may be used to create other environmental/scenic inventories mentioned in this, and other chapters.

As shown in the Map A3-1, the Environmental Conservation layer was created through a method of weighted scoring. Using seven (7) different feature classes, each feature was given the score of 1, and they were combined into one feature class. The feature classes that were used in this weighted scoring are Streams, Wetlands, Floodplain, Wellhead Protection Areas, Wildlife Management Areas, Special Planning Areas, and Tree Canopy. To determine the weighted score, wherever there was an overlap of features, a new score was calculated. As shown on the map, the dark green areas are where multiple feature classes overlap, therefore giving it a higher score. Areas with the highest scores were designated as Environmental Conversation.

Map A3-1: Environmental Conservation
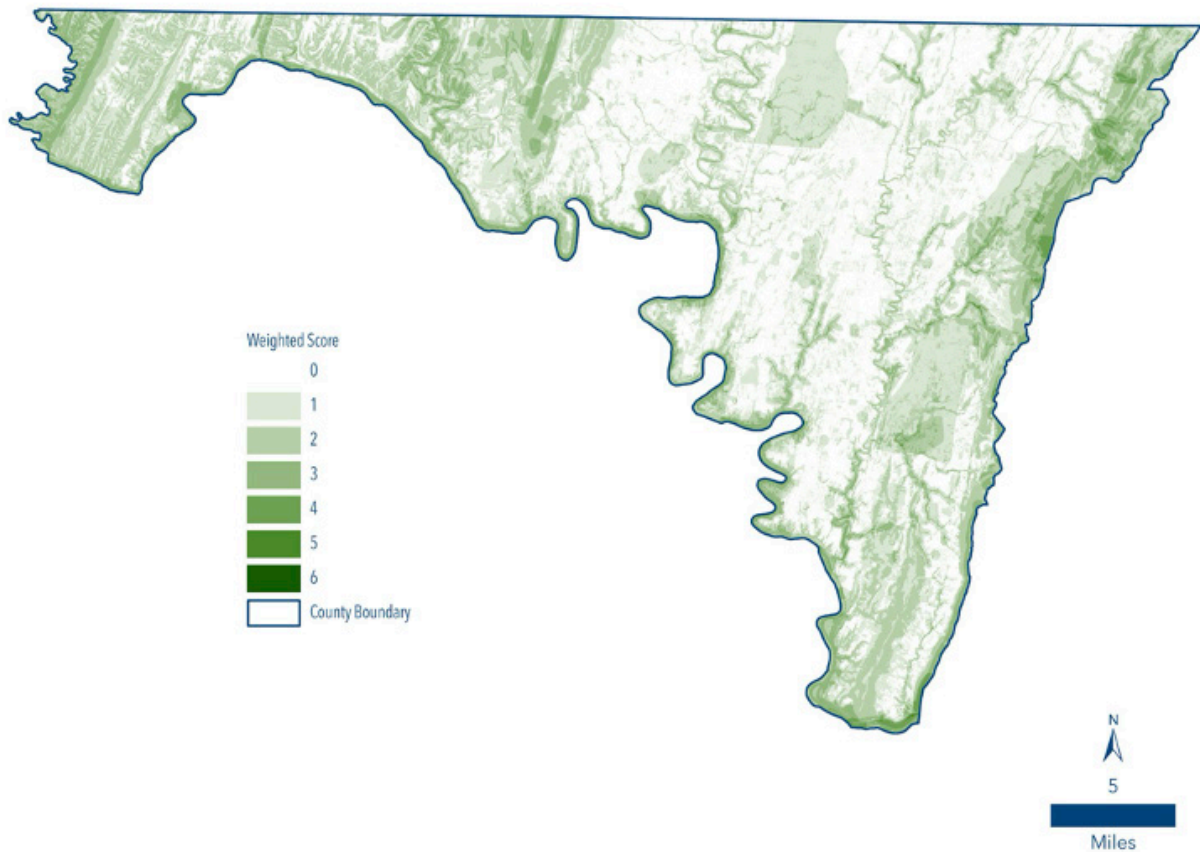
Methodology for Projecting Population Increase Under the Trend Scenario

The first step in estimating population projections was to review information pertaining to past population projections compiled internally and by Maryland Department of Planning (MDP) and information compiled by the US Census Bureau. An in-depth analysis was done on the 70 years of historical data (1940 – 2010) associated with population numbers. Trends and historical averages were identified. An additional analysis was conducted utilizing 2010-2019 data due to the distinct socio-economic impacts that occurred during this time period.

Natality and Mortality rates for Washington County were obtained from MD DHMH. These numbers were analyzed in order to identify trends, averages and spikes or dips in these particular cycles. When reviewing the birth and death rates for the most recent 10-year period (from 2010-2019), the net increase in population from these factors is +177 persons/year. This number is substantially less (366-177 = 189) or approximately half of the average net increase per year depicted during the previous 18-year time period from 1995-2012. Additionally, recent socio-economic indicators are predicting a sustained 15% decrease in birth rates in the near term. As a result of this additional analysis, it has been concluded that the sort-term population projections be reduced to include only a 1% population increase over the next 10-year period (or 0.10% annually) and then revert back to more historically trends of 0.25% per year in the 2030-2040 time frame.

The next step in breaking down population numbers was to determine the net rate of migration for Washington County. In June 2020, the Maryland Department of Planning published migration data for the first time since 2014. This newer data suggests that Total Migration rates for Washington County have fallen to approximately + 200 person/year from 2010 to 2019. This is a significant decrease from the + 1306 person/year that was projected back in 2014. Socio-economic factors such as the Great Recession and Covid-19 can be attributed to this decline, however our local housing market is starting to see a major up-tick in activity which would suggest that these numbers are rebounding. In addition, the 0.6% annual trend from 2000-2014 seems to be more in line with what is currently occurring in Washington County. Therefore, for the revised projections, I am estimating that net migration rate for 2020-2030 timeframe be reduced to 0.6% and that the rate return to the historical trend in the data of 0.89% annually from 2030-2040.

Also reviewed as part of the projection analysis was the historical numbers for the Group Quarters segment of the population. Adjustments had to be made to either factor in or discount the reallocation of a portion of the MD State prison population housed at the facilities south of Hagerstown due to the adjustment in the Census Bureau's data about where inmates are counted. Based on historical comparisons (with the 2000 Group Quarter number thrown out due to difference in the manner in which records were kept), the average rate of Group Quarter Growth in Washington County is approximately + 114 persons/year. This translates into an approximate population increase of 0.1% over a 10-year period (or 0.01% annually.) When these three factors are added together, (0.1+0.6+0.01) the annual growth rate could be assumed to be 0.71% over a 10-year census period. When compared to Washington County's growth over the past 70 years of data, the historical trend calculated to 1.15% annually. The growth rate of 1.15% per year will resume as part of the calculations for the years from 2030 – 2040.