

C H A P T E R F O U R

LEVEL OF SERVICE



4.1 - Proximity Analysis

The DRP aims to have quality open space and recreation facilities that can be easily accessed by all Baltimore County residents. The survey is an important step toward this goal, as it helps us to understand community-identified needs. In addition, analyses on facility provision were conducted to evaluate the distribution of these spaces and identify priority areas for land acquisition or park improvements.

To assess the proximity of a variety of facilities, density analyses were performed. Each park is visualized by a point and a radius miles is drawn around each point that contains a certain facility, such as baseball diamonds. Areas within the radius are assigned a higher value than areas outside. Areas near parks with multiple facilities are assigned a higher value than areas near parks with only one of the facility. This analysis yields a heat map, which represents areas with a greater local level of service with a darker color. This analysis was performed using a radius of 1 mile and 3 miles to show varying levels of proximity to facilities. Each map includes a line showing the URDL; areas inside the URDL are considered urban and would be expected to have a higher density of recreation and parks facilities than rural areas.

This analysis was conducted for athletic fields, ball diamonds, multi-purpose courts, tennis courts, indoor recreation facilities, playgrounds, picnic facilities, trails, pickleball, water access, and local parklands and SRCs. To better understand the level of service provided, demographic information was incorporated based on RPD group, showing the total population served by each facility. A lower number indicates a higher level of service because each facility is serving fewer people. This is based on 2020 population estimates and are compared against results from the previous LPPRP. Since population has generally grown faster than new facilities have been built, the figure for population served by each facility generally increases in these comparisons.

The facility counts are for facilities at site types including County parks and leased recreation sites, and at public school recreation centers. Facilities situated at state and federal parks, or on private open spaces and parklands for which there is no associated lease or similar agreement that grants public recreation access, are not included. For the sake of simplicity, facilities within regional and countywide parks are included within the facility counts, though it should be noted that many such facilities serve a wider area than a single RPD Group.

The facility counts provided are simplified and do not take into account a range of factors that may impact the recreational functionality and level of use offered by each facility. For example, the figures for ball diamonds and athletic fields do not take into account their size, surface type, or field lighting systems; the quantities for playgrounds do not reflect the size of the playgrounds or extent of equipment available; the numbers of multi-purpose courts do not reflect how many usable basketball courts are present, or if the courts feature lights; the picnic data does not reflect the widely varying size of picnic pavilions; the miles of trails do not indicate the trail or path surface type; and the numbers for SRCs and community centers do not indicate the nature or quantity of indoor facilities situated with such structures. Still, the information presented below provides a broad illustration of the level of service by facility type.



Athletic Fields



Athletic Fields are used for a wide range of activities including soccer, lacrosse, football, field hockey, rugby, and more. Athletic field sizes vary widely, and many are overlaid with one or more ball diamonds, with most of the field area on the grassy outfield areas of the diamond(s). The manner in which athletic fields are used for organized programs may change based on the activity and the playing age group. For activities such as clinic soccer or soft-stick lacrosse, a single full-sized athletic field could be temporarily sectioned off into multiple fields to accommodate young age groups.

The northern part of the county has a low density of athletic fields. Within the URDL, nearly the entire area has access to an athletic field within three miles, though there are gaps in service when using a one mile radius.

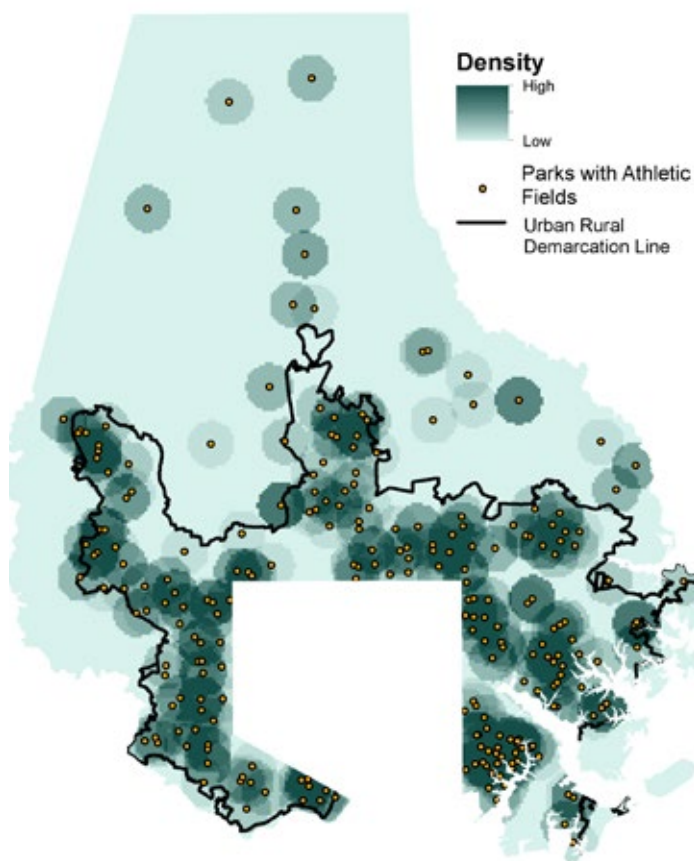


Figure 55. Athletic Fields Proximity: 1 Mile

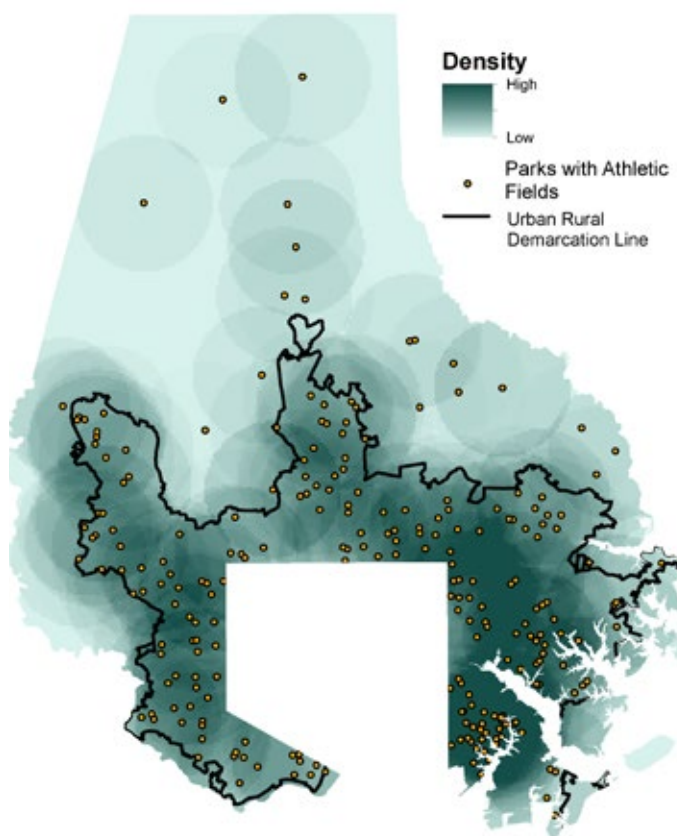


Figure 56. Athletic Fields Proximity: 3 Miles

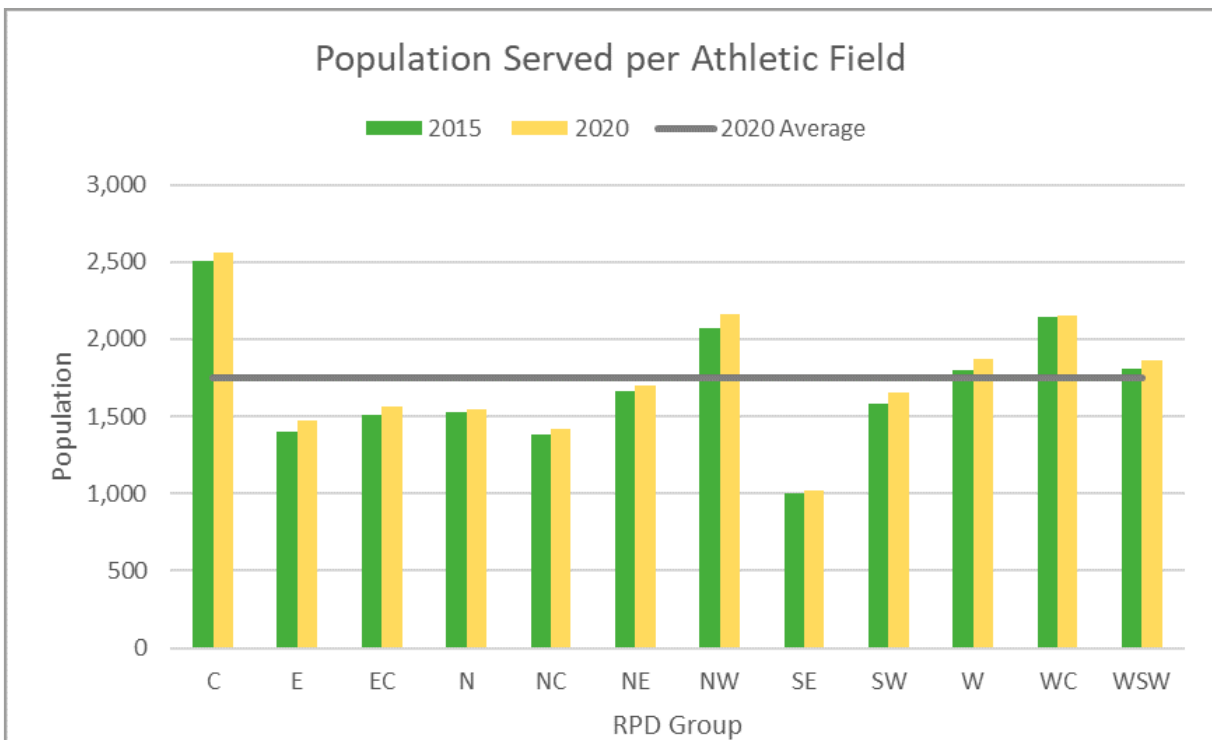


Figure 57. Population Served per Athletic Field in each RPD Group

The Southeast has about one field for every 1,000 residents, which is the highest level of service in Baltimore County. The Central, Northwest, West, West Central, and West Southwest RPD groups perform worse than the average. The Central RPD group has a significantly greater population served per athletic field, meaning that this may be an area where additional fields could be considered to better serve residents.

Ball Diamonds



Ball Diamonds are used for such sports as baseball, softball, tee-ball, and kickball. The size of the diamonds varies, ranging from those with 60' base paths, to 90' diamonds suitable for adult baseball. The demand for the latter has increased over the years, partially as a result of changing standards for certain teen age groups, with certain leagues now requiring longer base paths than in the past.

The density of ball diamonds is similar to that of athletic fields, with the northern part of the county having the lowest density. Within the URDL, nearly the entire area has access to an athletic field within three miles, though there are gaps in service when using a one mile radius.

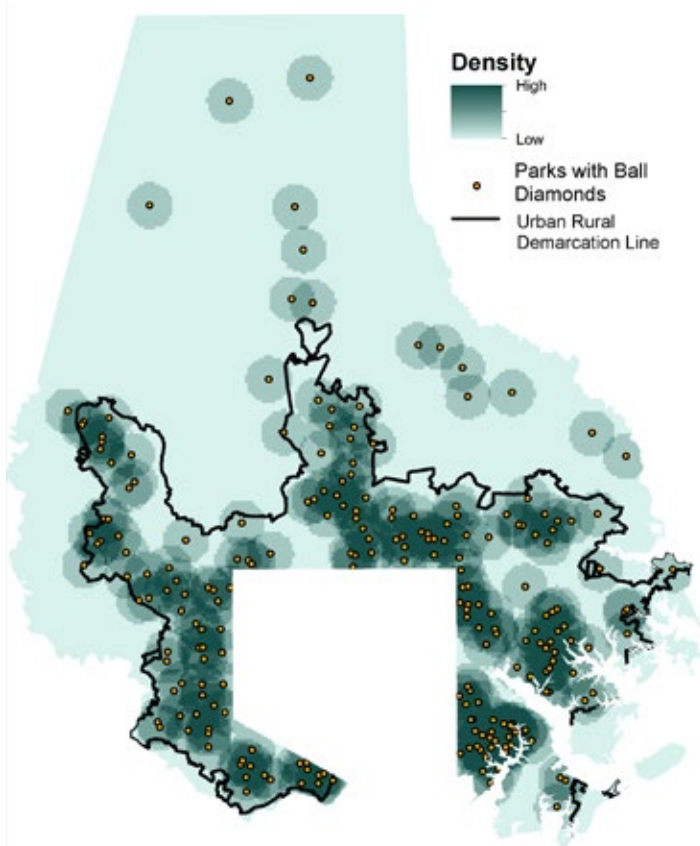


Figure 59. Ball Diamonds Proximity: 1 Mile

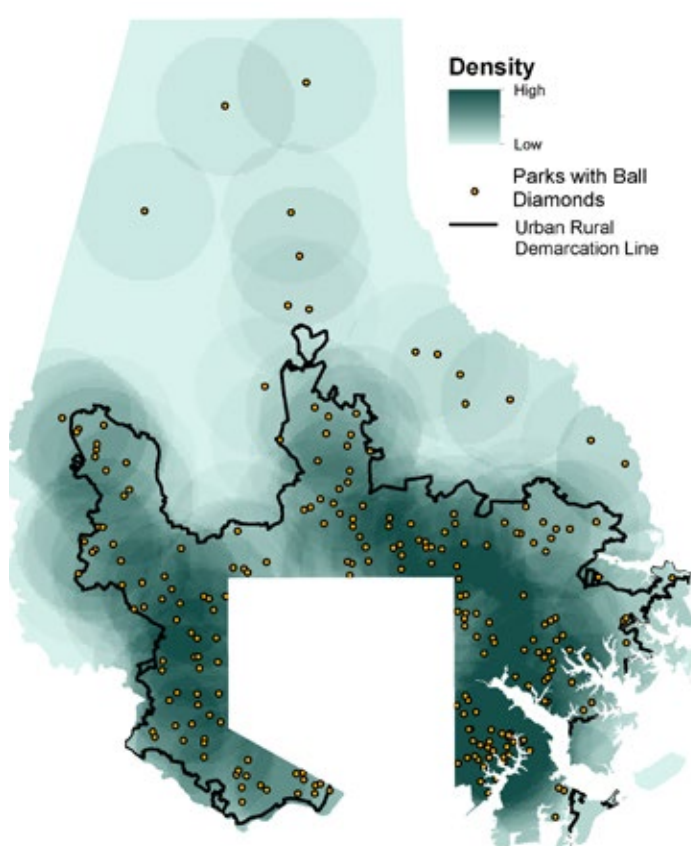


Figure 58. Ball Diamonds Proximity: 3 Miles

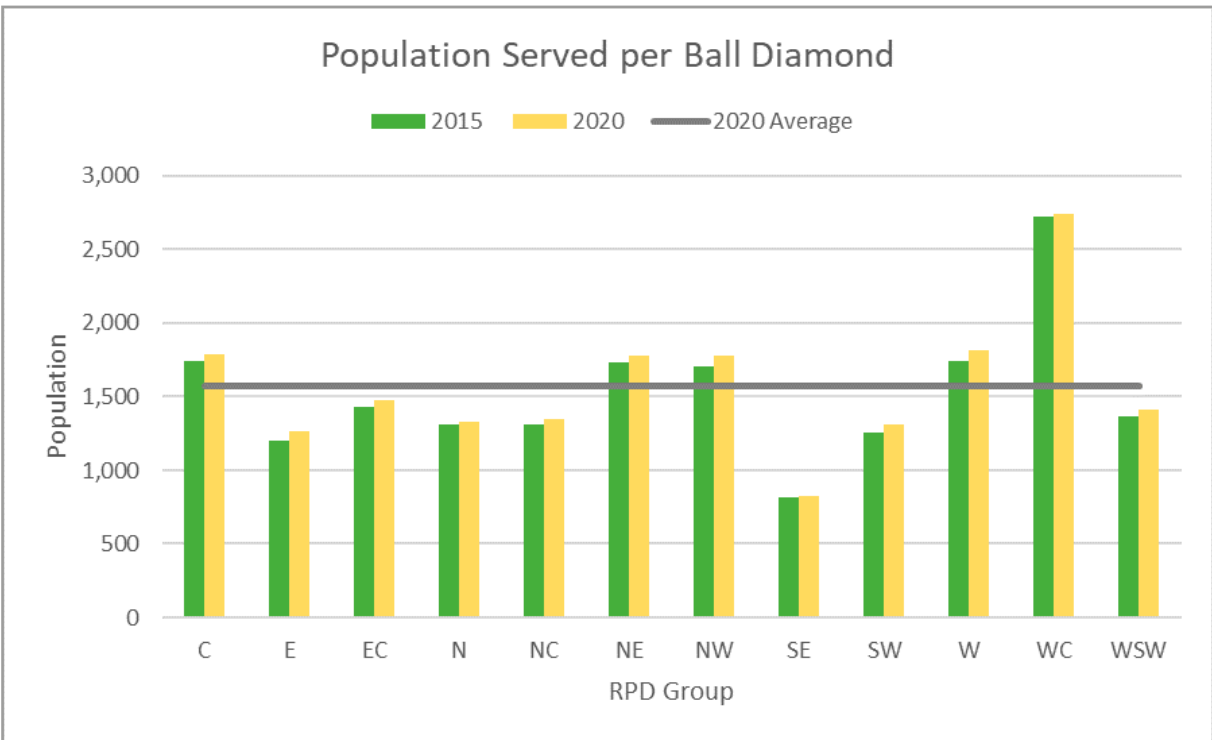


Figure 60. Population Served per Ball Diamond in each RPD Group

Similar to athletic fields, the Southeast has the greatest provision of ball diamonds. The Central, Northeast, Northwest, West, and West Central are all performing worse than the average of about 1,500 people served per ball diamond. The West Central has the has a significantly greater population served per athletic field, meaning that this may be an area where additional fields could be considered to better serve residents.

Multi-Purpose Courts



Multi-Purpose Courts include outdoor basketball courts, and other courts used for a wide variety of recreational purposes. Some have lines for four square or pickleball. In a few cases, the courts have been converted to special uses such as outdoor soccer fields. The court quantities are estimations of the approximate number of basketball courts that could be situated within the court areas of the parks and SRCs.

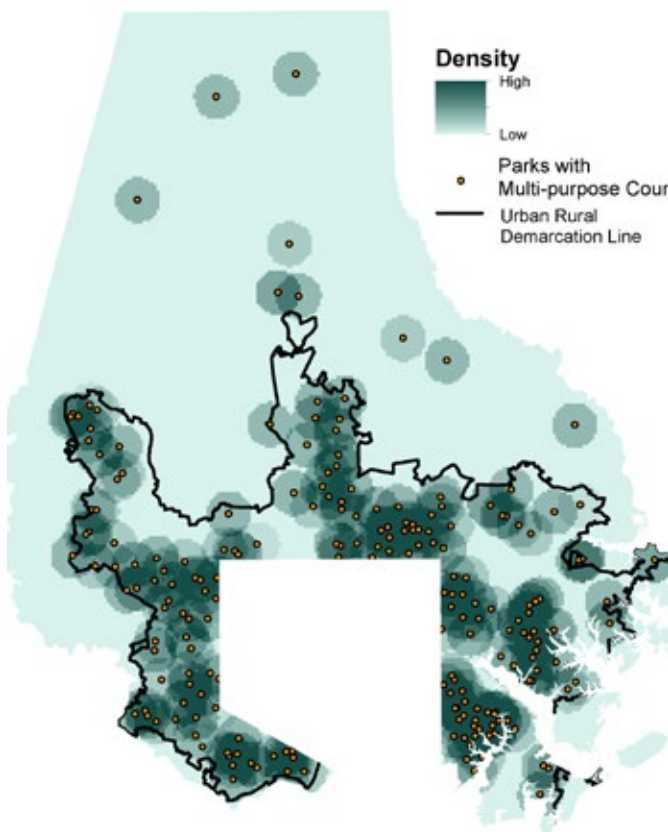


Figure 61. Multi-Purpose Court Proximity: 1 Mile

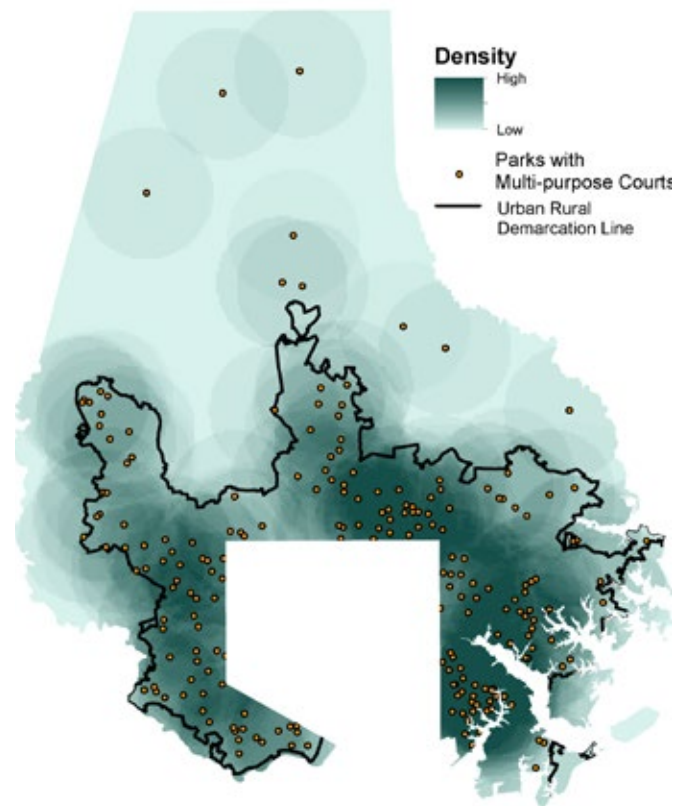


Figure 62. Multi-Purpose Court Proximity: 3 Miles

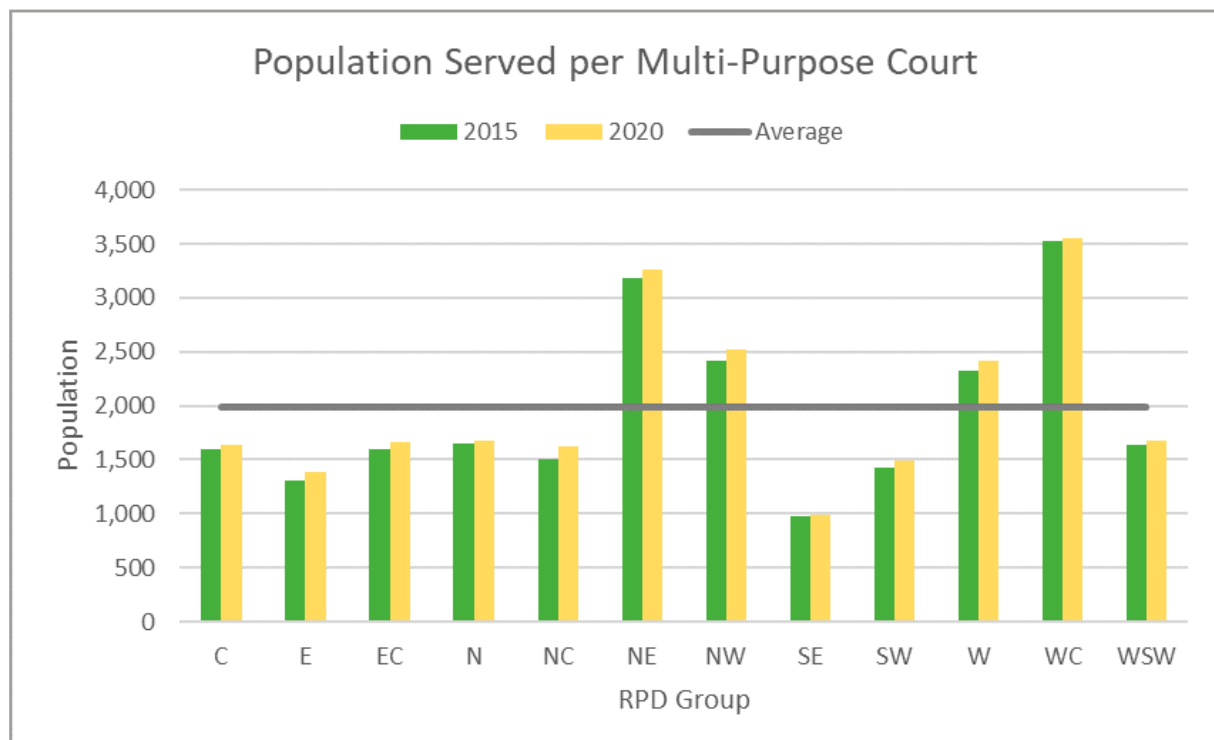


Figure 63. Population Served per Multi-Purpose Court in each RPD Group

The Southeast RPD group has the greatest provision of multi-purpose courts for its population. The Northeast, Northwest, West, and West Central perform worse than the countywide average. The Northeast and West Central RPD groups have the lowest level of service and might be areas to consider for additional multi-purpose courts.

Tennis Courts



Tennis Courts are available in many parks and school recreation centers. They may have other lines overlaid, such as those for pickleball. The demand for tennis varies widely throughout the County, with some communities having sufficient demand for leagues to operate, while in others the courts are used for other activities as much as for tennis.

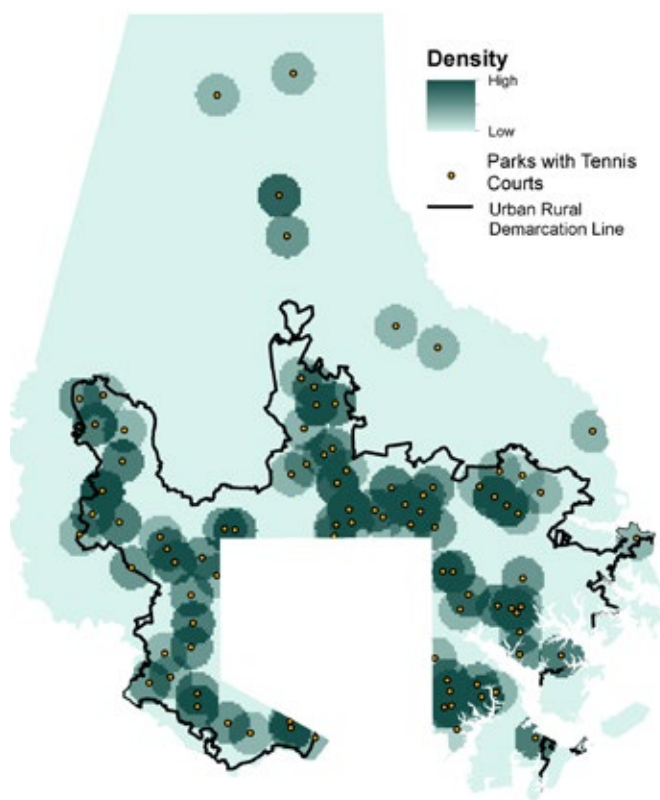


Figure 64. Tennis Court Proximity: 1 Mile

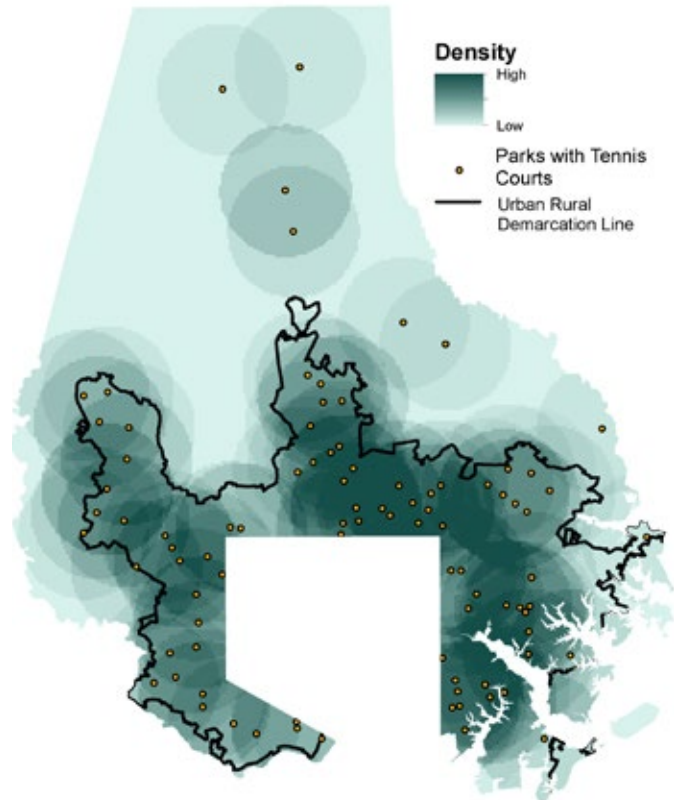


Figure 65. Tennis Court Proximity: 3 Miles

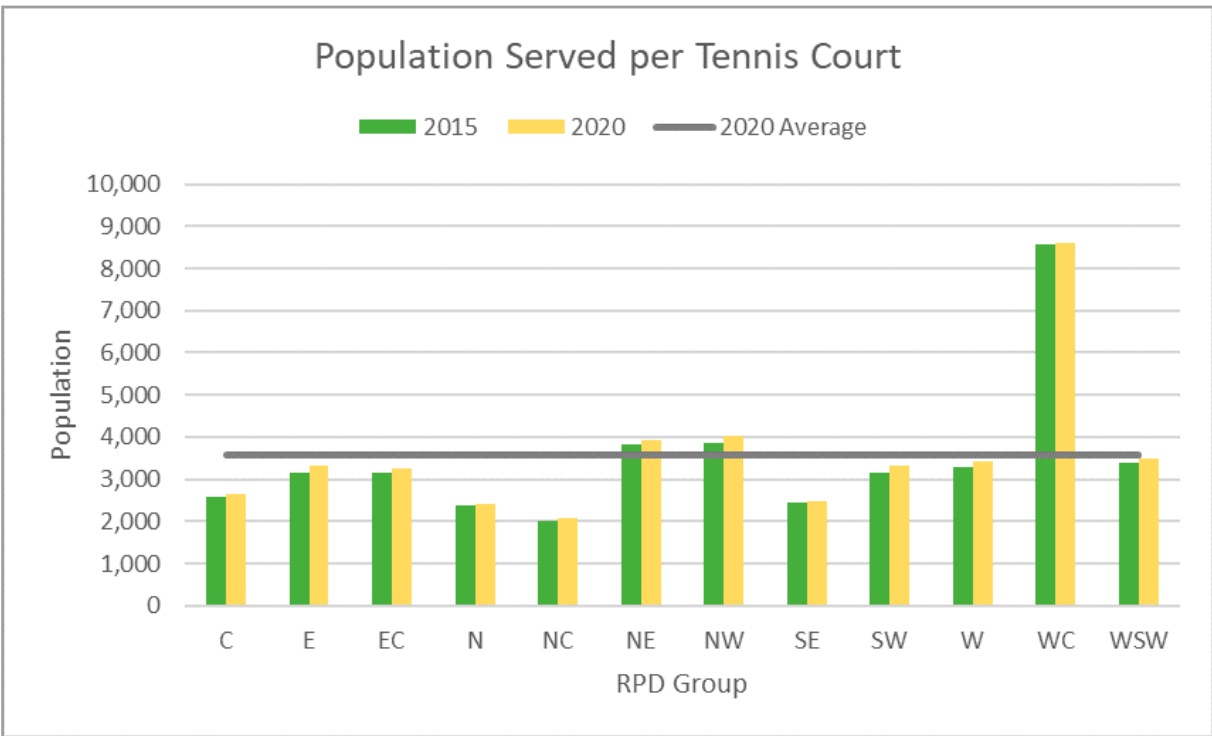


Figure 66. Population Served per Tennis Court in each RPD Group

The North Central RPD group has the best provision of tennis courts for the population. The West Central performs far worse than the average for the county.

Indoor Recreation Facilities



Indoor Recreation Facilities are essential for providing year-round public recreation. The quantity, nature, and availability of indoor recreation facilities at community centers, recreation centers, PAL centers, and school recreation centers vary widely. Some community/recreation centers are small and may only offer one activity rooms. Others include large gymnasiums and multiple activity rooms. Some elementary SRCs feature smaller gyms, while others were constructed with expanded middle SRC-sized gyms that support expanded recreational uses. In many cases the indoor recreation facilities at high SRCs provide less overall public indoor recreation opportunities than middle SRCs because of scholastic sports programs. The analysis was conducted based on an enumeration of PAL centers, community centers and SRCs.

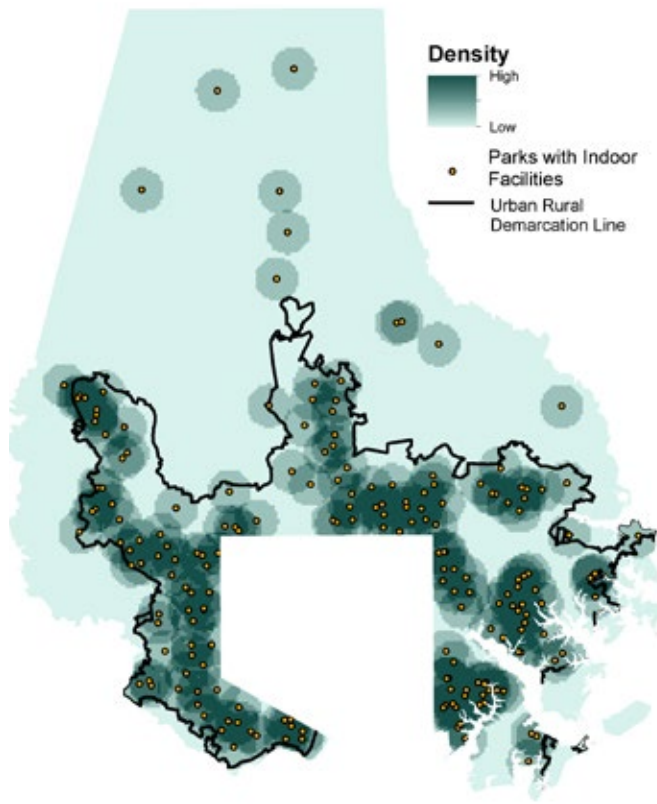


Figure 67. Indoor Recreation Facility Proximity: 1 Mile

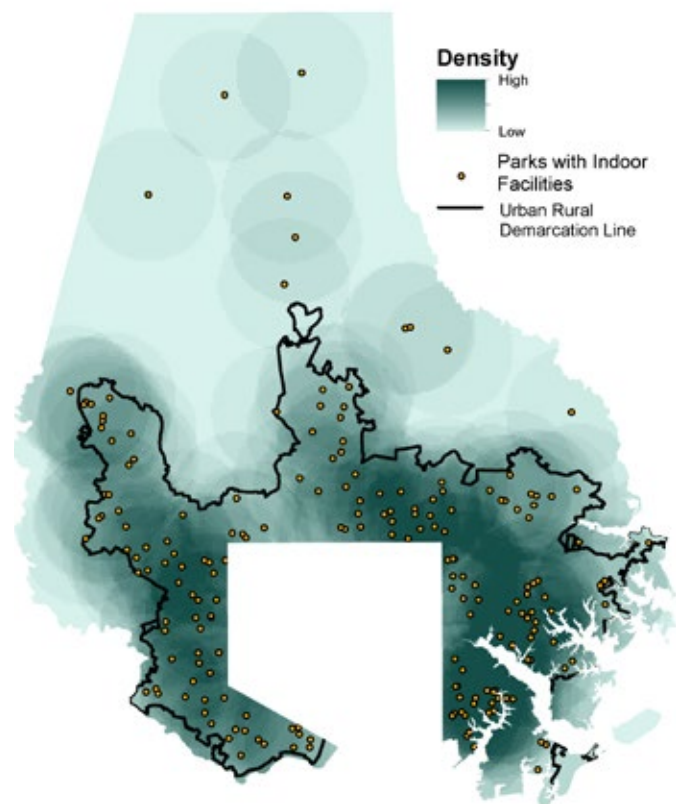


Figure 68. Indoor Recreation Facility Proximity: 3 Miles

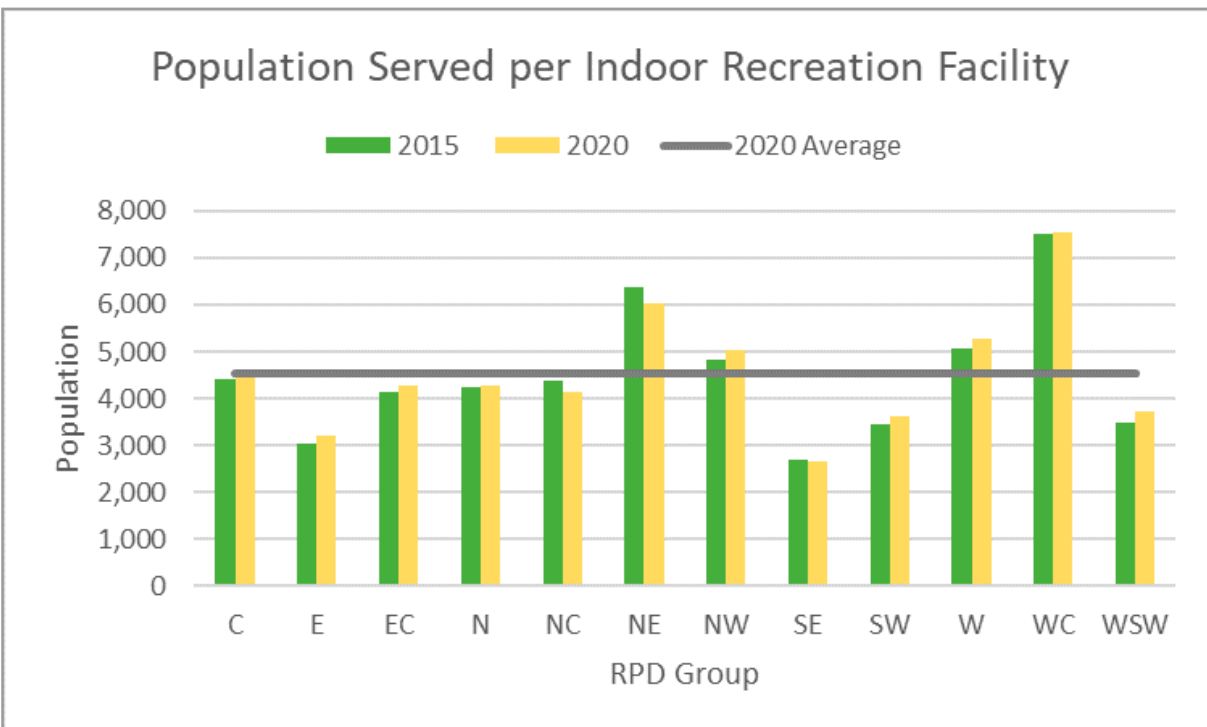


Figure 69. Population Served per Indoor Recreation Facility in each RPD Group

The Southeast RPD group has the best provision of indoor recreation facilities for the population. The West Central and Northeast RPD groups perform worse than the countywide average.

Pickleball Courts



Pickleball has risen in popularity in recent years and there has been a growing demand in Baltimore County for facilities. Lines for pickleball may be overlaid on tennis courts or on standalone courts. In instances of shared use, players typically need to bring their own nets. As the maps below show, there are limited pickleball courts in Baltimore County, with the majority of the county lacking convenient access. The DRP is currently gauging community interest in additional courts.

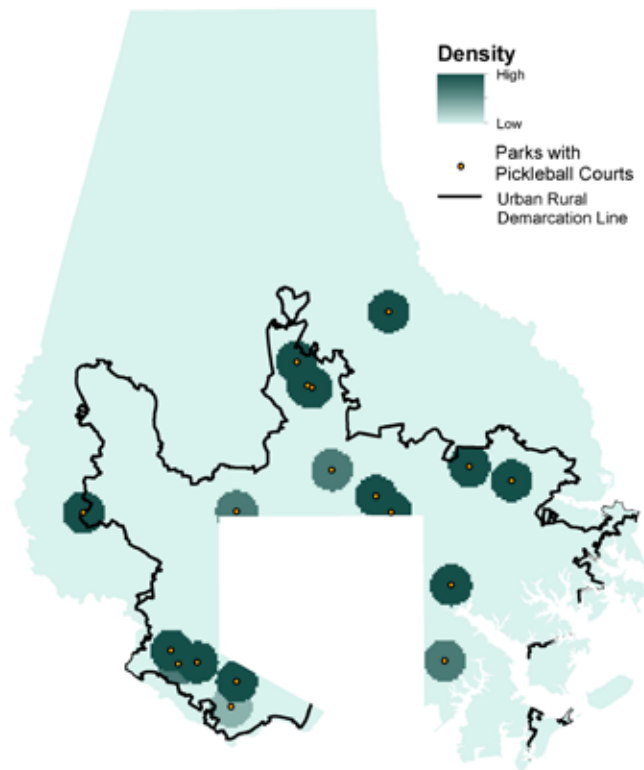


Figure 70. Pickleball Court Proximity: 1 Mile

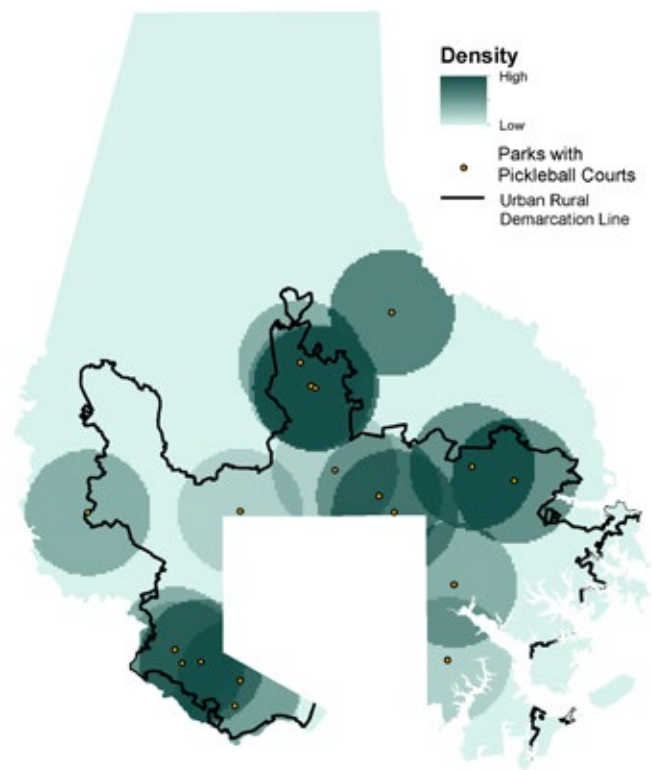


Figure 71. Pickleball Court Proximity: 3 Miles

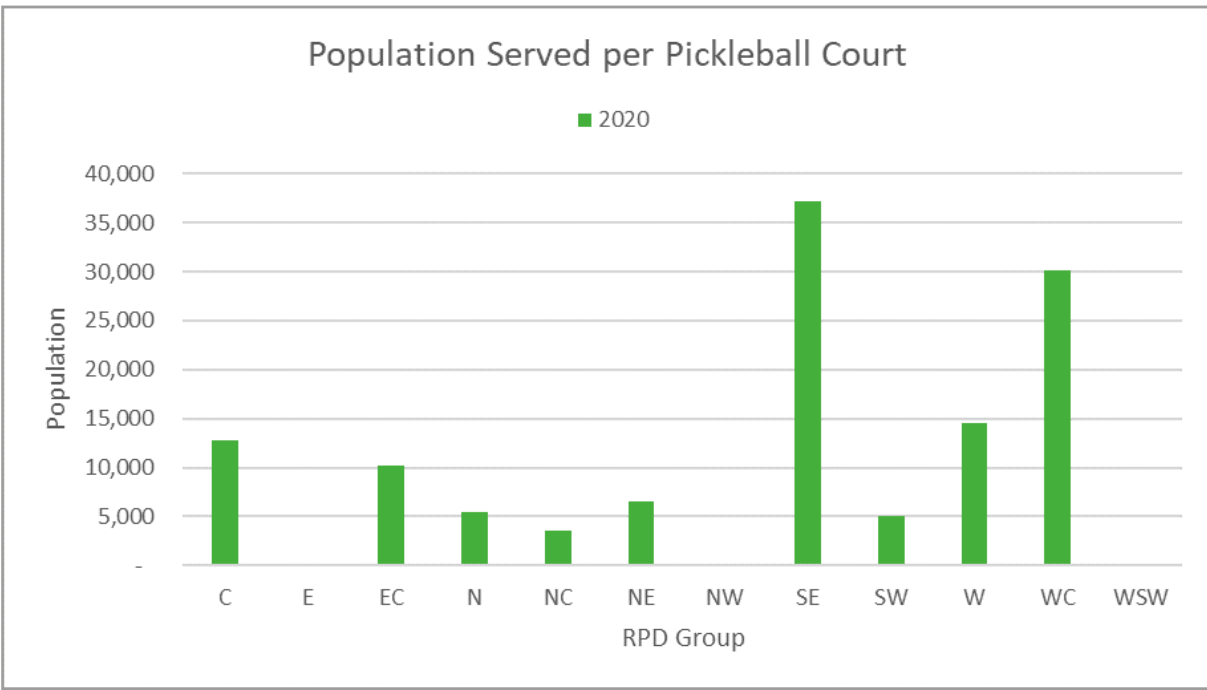


Figure 72. Population Served per Pickleball Court in each RPD Group

The East, Northwest, and West Southwest RPD groups lack any pickleball courts, therefore no average was calculated. The North, North Central, Northeast and Southwest have the best level of service for pickleball, though there are still limited facilities for the populations. Since the availability of pickleball facilities varies so widely through the County, with several RPD groups having no courts, no average was calculated.

Playgrounds



Playgrounds are counted based on the number of distinct clusters of playgrounds at the local sites. A cluster would be a grouping of equipment, whether in a single area, or in multiple “boxes.” Some sites such as Oregon Ridge Park and Double Rock Park have playgrounds in two distinct clusters or locations.

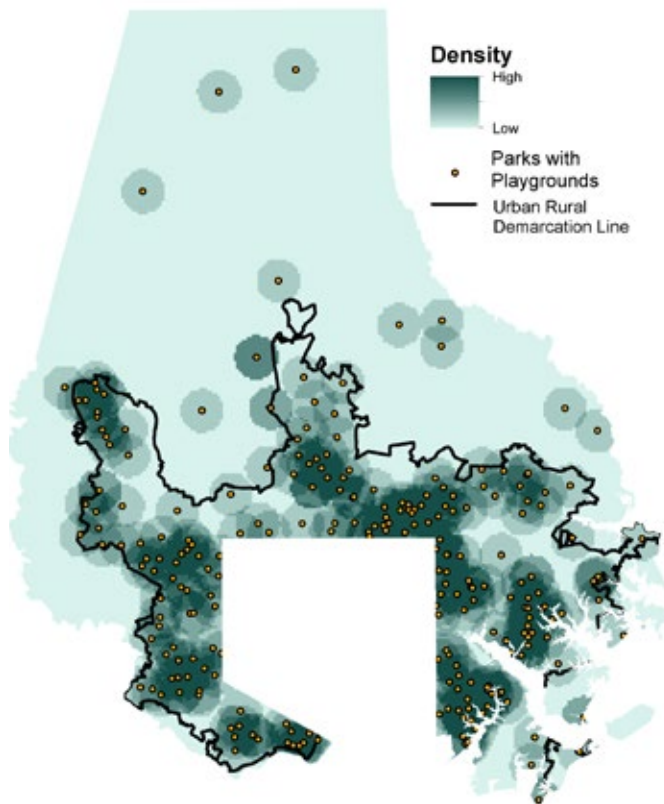


Figure 73. Playground Proximity: 1 Mile

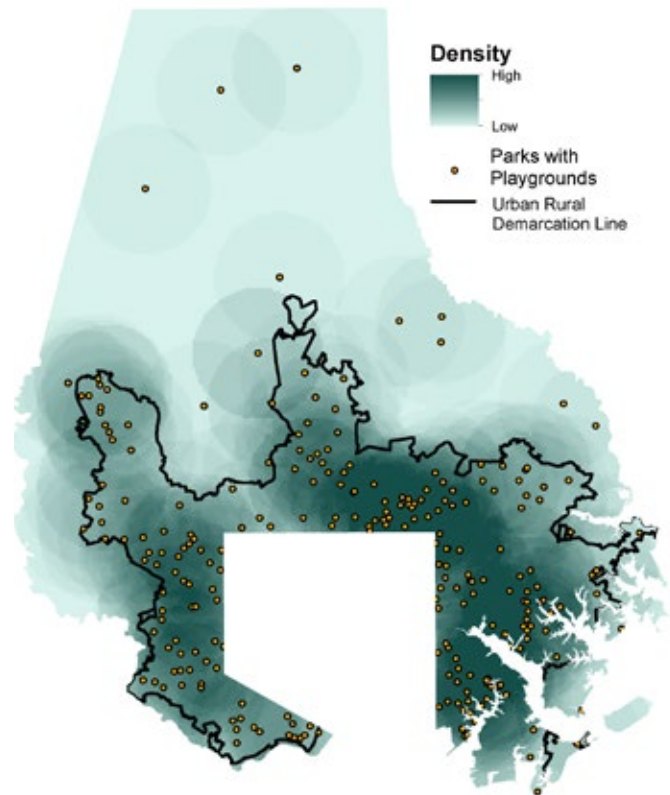


Figure 74. Playground Proximity: 3 Miles

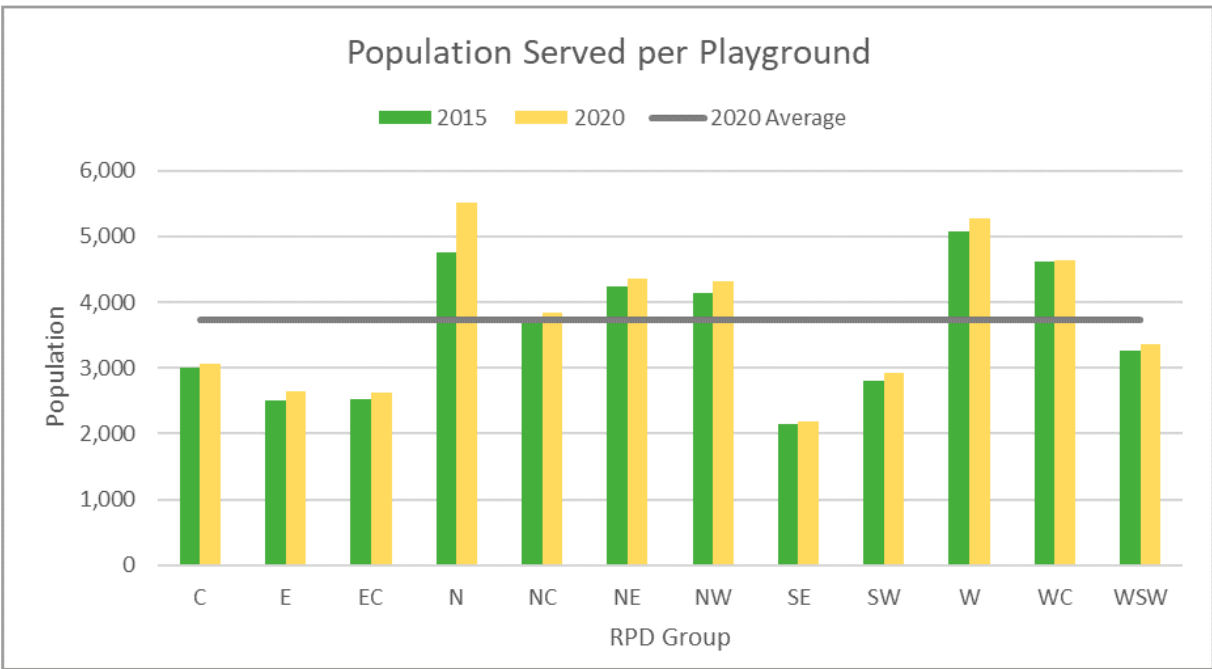


Figure 75. Population Served per Playground in each RPD Group

The Southeast RPD group has the greatest provision of playgrounds, with about one playground for every 2,000 residents. The North, Northeast, Northwest, West, and West Central RPD groups all perform worse than the countywide average.

Picnic Facilities



Picnic Facilities include pavilions and any areas with stationary charcoal grills. There are many picnic tables or open fields suitable to picnicking located within the county, but these are hard to define. Picnic tables not located in pavilions are often transient, moved between parks for special events and festivals. State parks also have picnic facilities that are not represented in this analysis. Many people may choose to picnic in our parks on benches or fields, though those casual uses are not accounted for here.

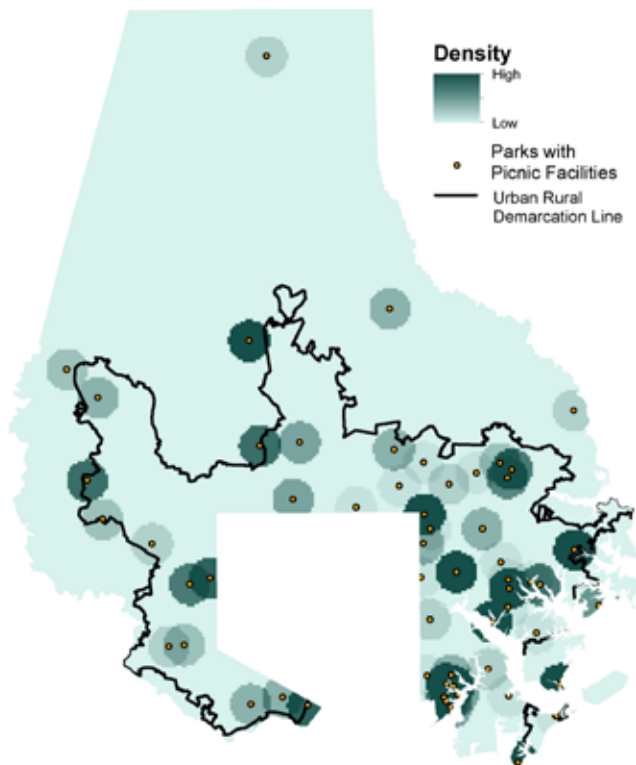


Figure 76. Picnic Facilities Proximity: 1 Mile

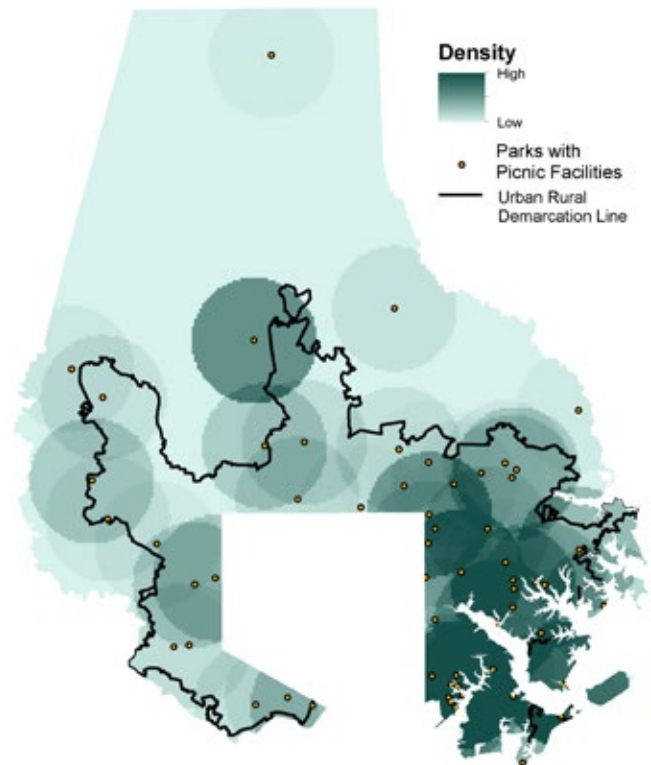


Figure 77. Picnic Facilities Proximity: 3 Miles

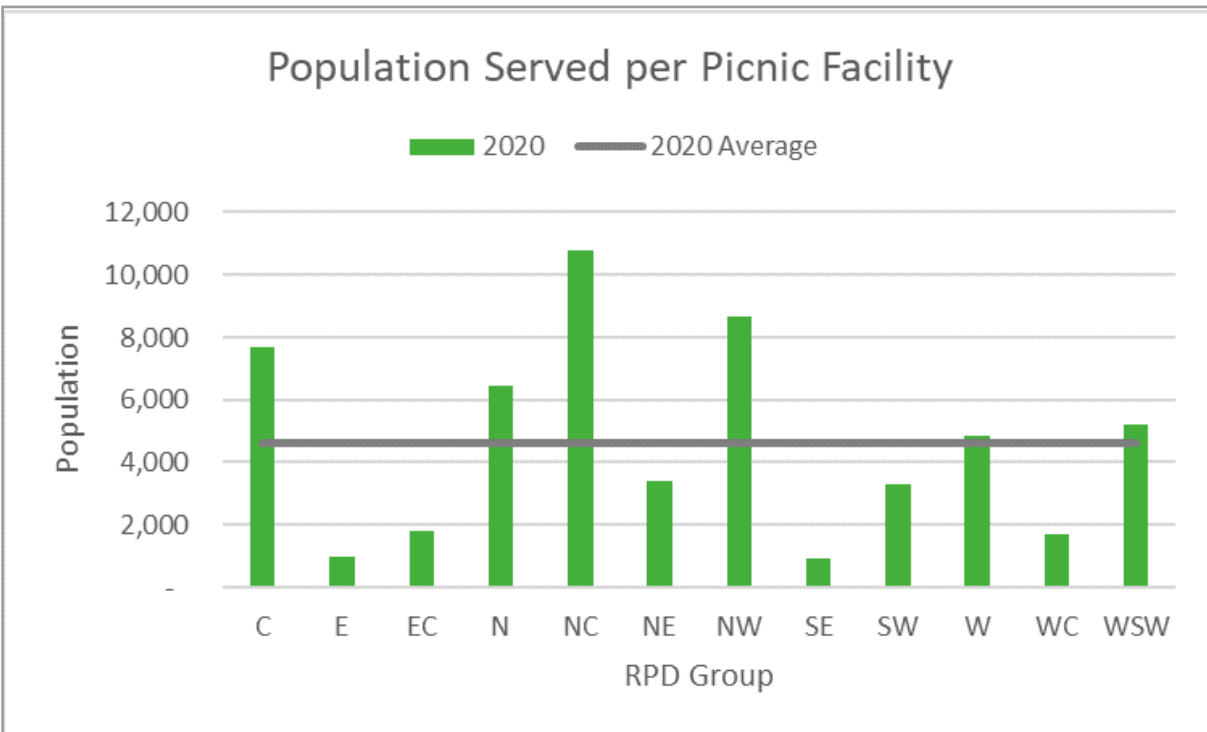


Figure 78. Population Served per Picnic Facilities in each RPD Group

The East and Southeast RPD groups have the greatest provision of picnic facilities, with about one for every 1,000 residents. Both of these areas have waterfront parks, which are particularly popular for picnics and therefore have a good provision of pavilions. The Central, North, North Central, and Northwest RPD groups all perform worse than the countywide average.

Trails



Trails include paved and natural paths located in county parks. The proximity analysis does not include state park or reservoir property trails, which are extensive. State trails are represented with lines on this map to demonstrate that there are additional trails available to Baltimore County residents, though many of the State Parks are only accessible with an admission/parking fee. Trails in Baltimore City are also represented in the maps below, as many County residents inside the URDL may use City trails for recreation.

The regional parks Oregon Ridge, Lake Roland, and Cromwell Valley have a strong influence on this map, as they have the most extensive trail networks in the county's park system. These parks are a draw for people from around the county and therefore provide an even greater level of service than is represented. There is a light rail stop near Lake Roland, making its trails accessible to a greater number of people from both within and outside the county without using a vehicle.

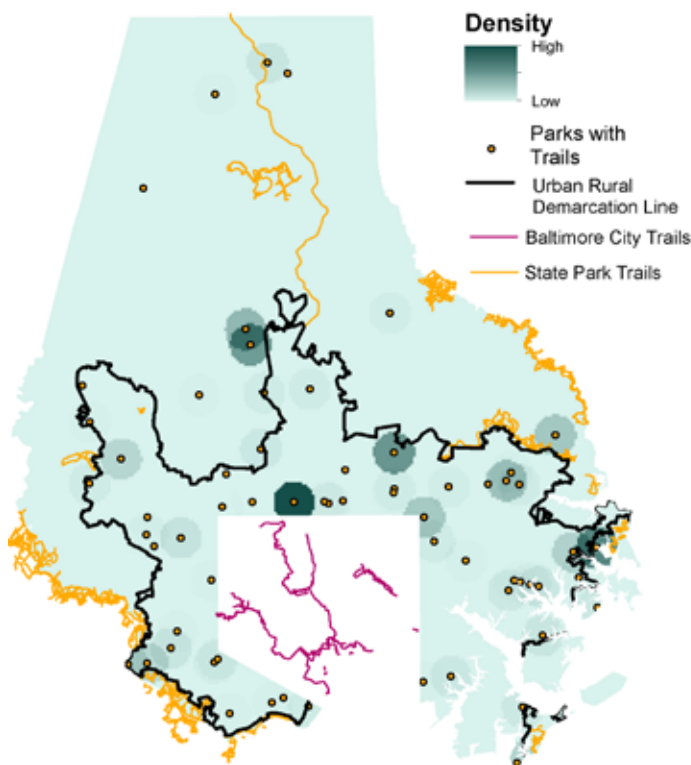


Figure 79. Trail Proximity: 1 Mile

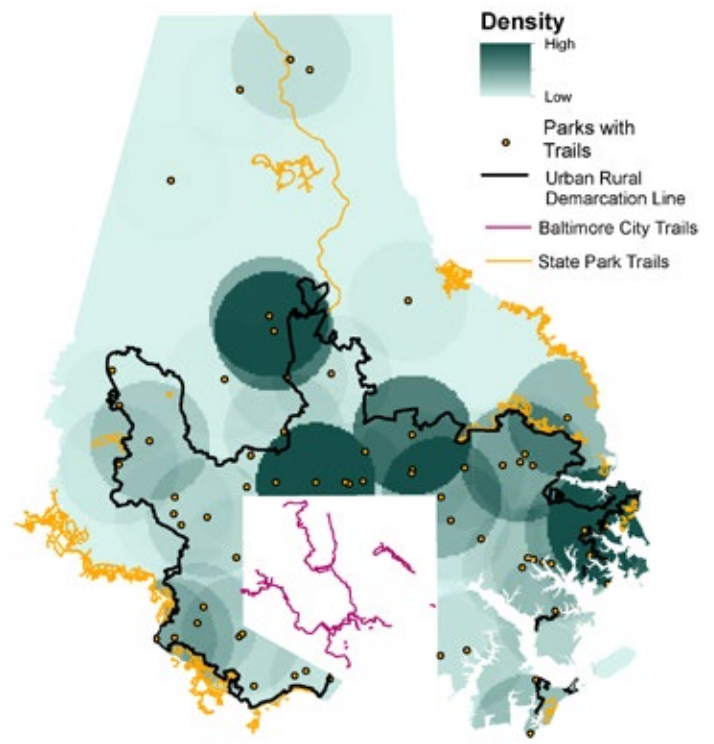


Figure 80. Trail Proximity: 3 Miles

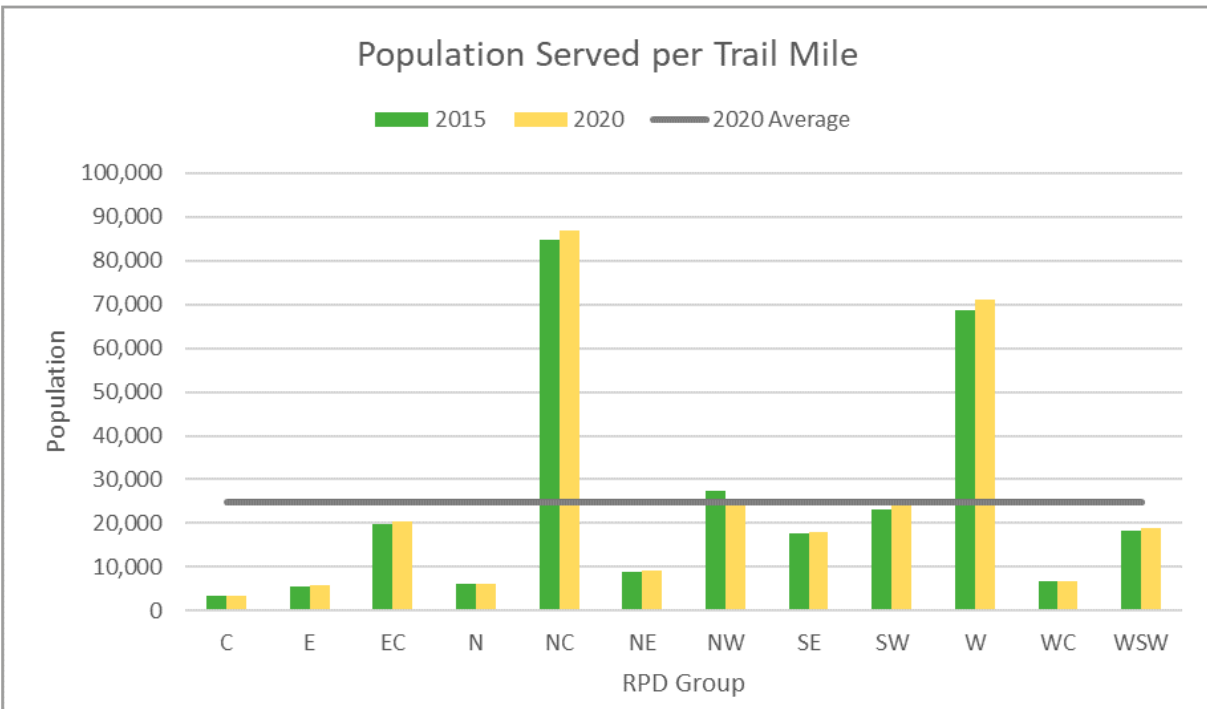


Figure 81. Population Served per Trail Mile in each RPD Group

For County-owned trails, the North Central and West RPD groups are the least well served. However, the West RPD group includes portions of Patapsco Valley State Park and the North Central borders the State-owned Torrey C. Brown Trail.

Water Access



Water Access is provided by ramps and piers. The maps below show where one of these facilities is present in a county-owned park. Some State Parks include water access, but are not included here. Due to the geography of the county, some regions do not have these facilities. However, facilities like the Loch Raven Fishing Center draw residents from other regions in the county.

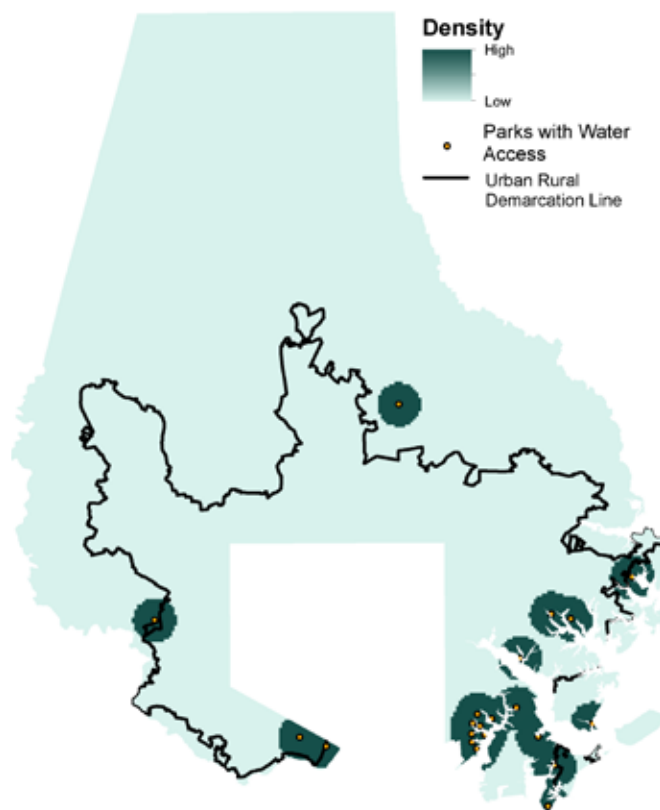


Figure 82. Water Access Proximity: 1 Mile

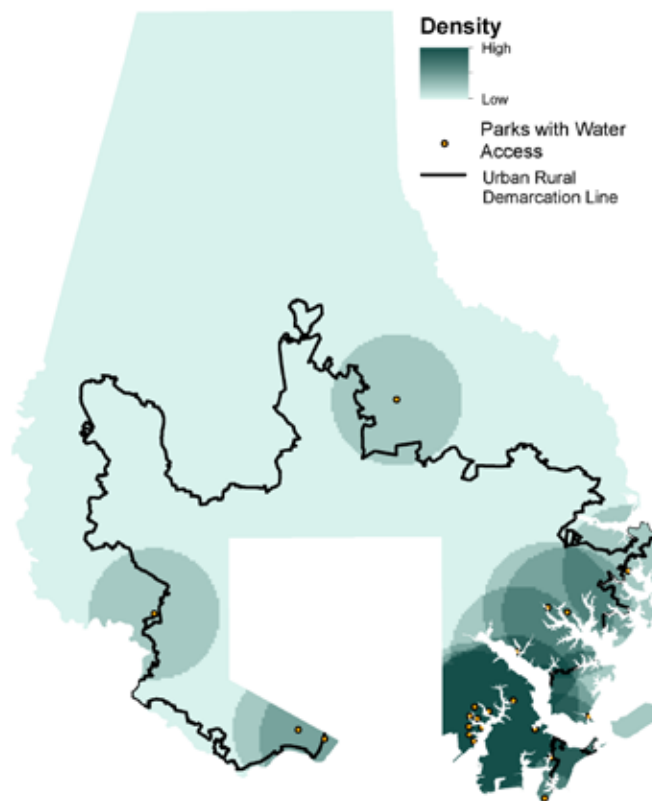


Figure 83. Water Access Proximity: 3 Miles

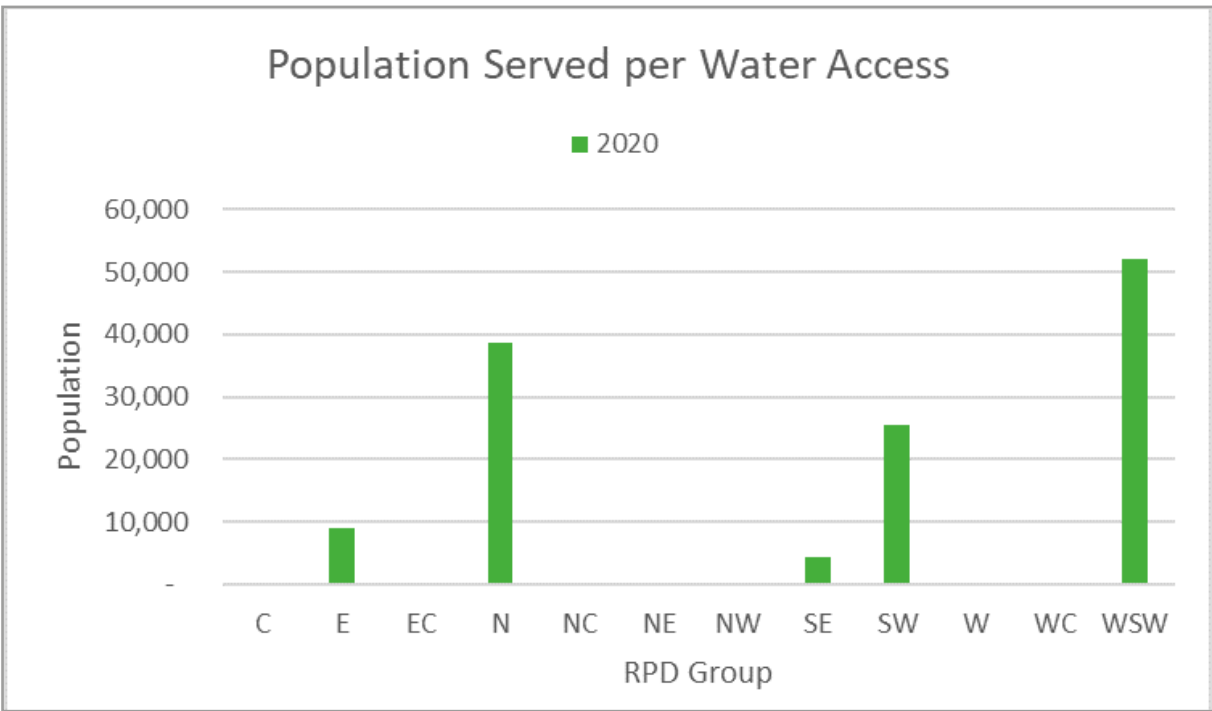


Figure 84. Population Served per Water Access point in each RPD Group

Due to the geography of the County, there are several RPD groups where no ramps or piers exist, therefore no average was calculated. Ramps and piers typically serve a high number of residents and usually serve residents from other regions of the County, who travel in order to use the facilities.

Entire Recreation and Parks System



The entire recreation and parks system in Baltimore County includes County Parks, State Parks, Baltimore City Reservoirs, a National Park, School Recreation Centers, and Public Golf Courses. There are a total of 585 sites in these categories, covering a total of about 50,000 acres. There is a much greater density of recreation and parks sites in the urban sections of the County, though some of the sites in the rural areas, such as Liberty Reservoir,

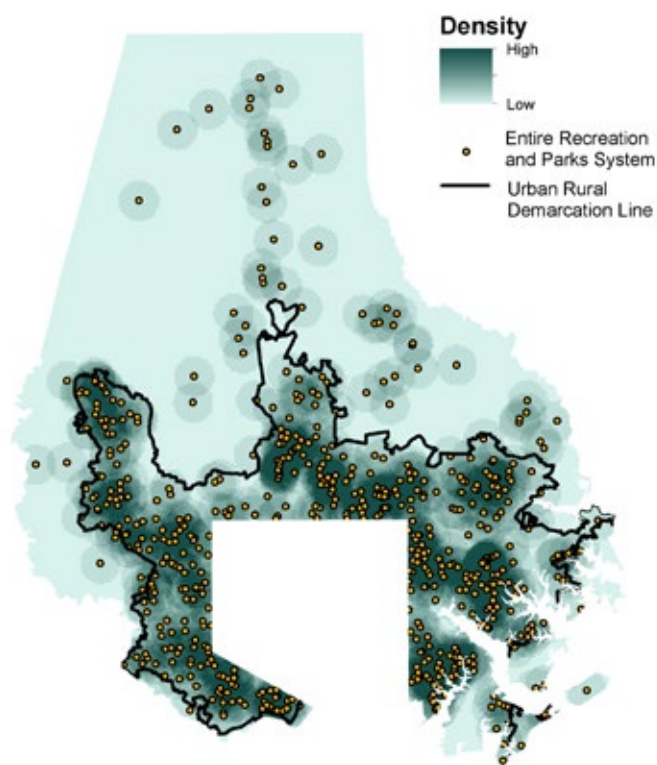


Figure 85. Entire System Proximity: 1 Mile

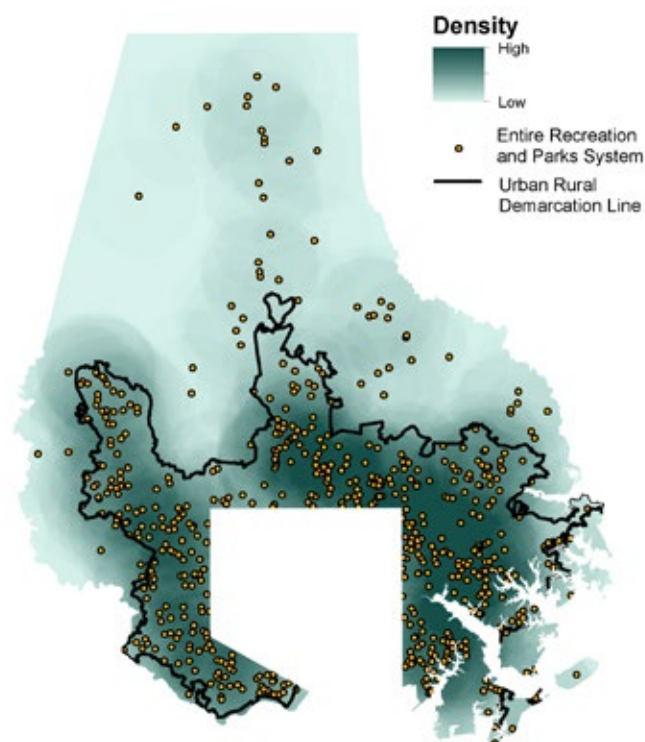


Figure 86. Entire System Proximity: 3 Miles

Local Park and School Recreation Centers

While residents enjoy recreational benefits from the entire system of recreation and parks sites in Baltimore County, neighborhood parks, community parks, and school recreation centers provide the most localized benefits and thus require the greatest analysis by RPD group. In addition, acquisitions of land for small parks are often most feasible and so it is most important to understand where these facilities may be needed. Local facilities are particularly valued by residents for daily use and make Baltimore County a great place to live.

The table below summarizes the number and acreage of neighborhood parks, community parks, and school recreation centers per RPD group. Notably, the West Central has only two local parks and eight SRCs. While there is good access to Oregon Ridge Park, there is a need for more local sites in this urbanized part of the County. On the other end of the spectrum, the Southeast has a combined 51 local sites.



Table 7. Local park acreage summary for local parks and SRCs

RPD Group	Neighborhood Parks	Neighborhood Park Acreage	Community Parks	Community Park Acreage	School Rec Centers	School Rec Center Acreage	Total Local Sites	Total Local Site Acreage
Central	15	43.7	4	44.4	13	290.4	32	378.5
East	14	254.5	7	133.8	22	446.5	43	834.8
East Central	15	85.5	8	222.6	15	331.3	38	639.4
North	2	5.7	3	179.2	8	298.8	13	483.7
North Central	2	32.4	8	164.2	11	228.6	21	425.2
Northeast	4	7.3	11	350.4	10	228.9	25	586.6
Northwest	5	4.2	1	63.0	10	213.1	16	280.3
Southeast	13	99.8	18	351.2	20	372.2	51	823.2
Southwest	11	43.6	11	376.6	17	333.6	39	753.8
West	3	23.6	1	7.0	10	296.4	14	327
West Central	2	4.5	0	0.0	8	177.6	10	182.1
West Southwest	14	117.3	8	140.9	22	503.3	44	761.5

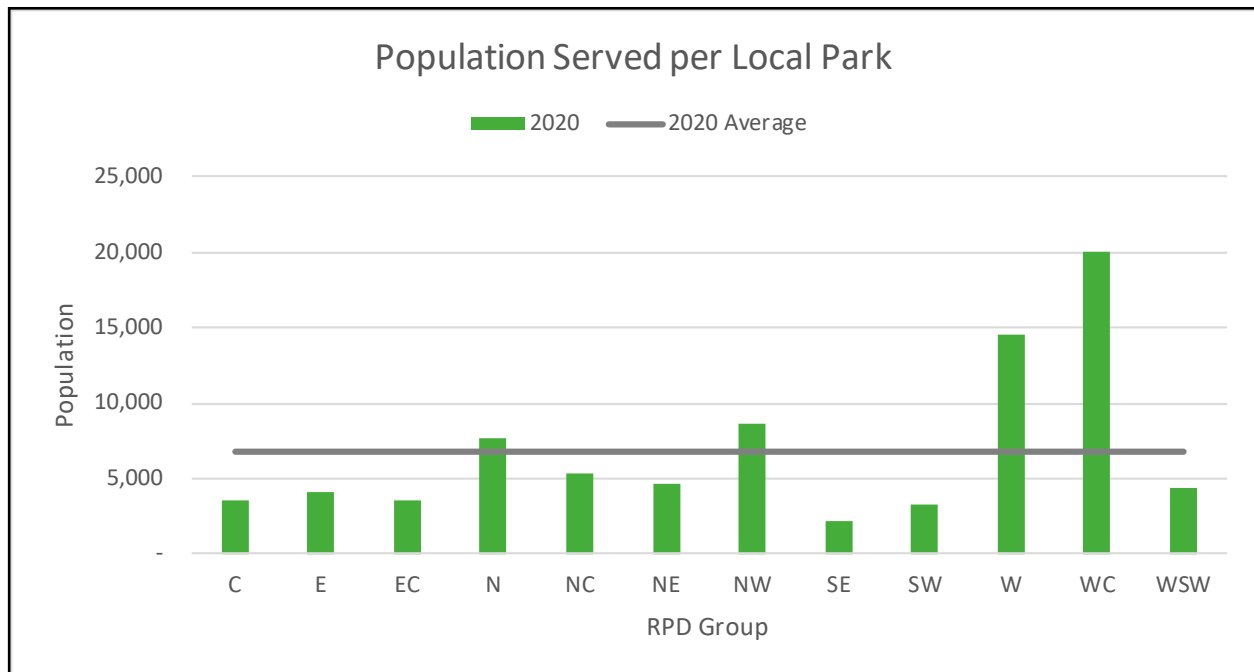


Figure 87. Population Served Acre of Local Parkland in each RPD Group

The West and West Central RPD groups have a significantly worse level of service than the county average in terms of local park sites, with about 15,000 and 20,000 people served per park, respectively. The Southeast has the best level of service, with about 2,100 people per acre of local parkland. The Northeast, which generally had the highest satisfaction in survey responses, performs better than the average.

When you include SRCs, the West Central and RPD groups continue to perform worse than the countywide average. Including SRCs, the Southeast RPD group continues to be the best served, with about 1,350 people served per local site. SRCs do not provide the same level of service as parkland because they are often busy with school-related programming, but they do provide some general open space and opportunities for recreation. For both local parks and local sites, including SRCs, the North and Northwest perform slightly worse than the county average in terms of people served per site.

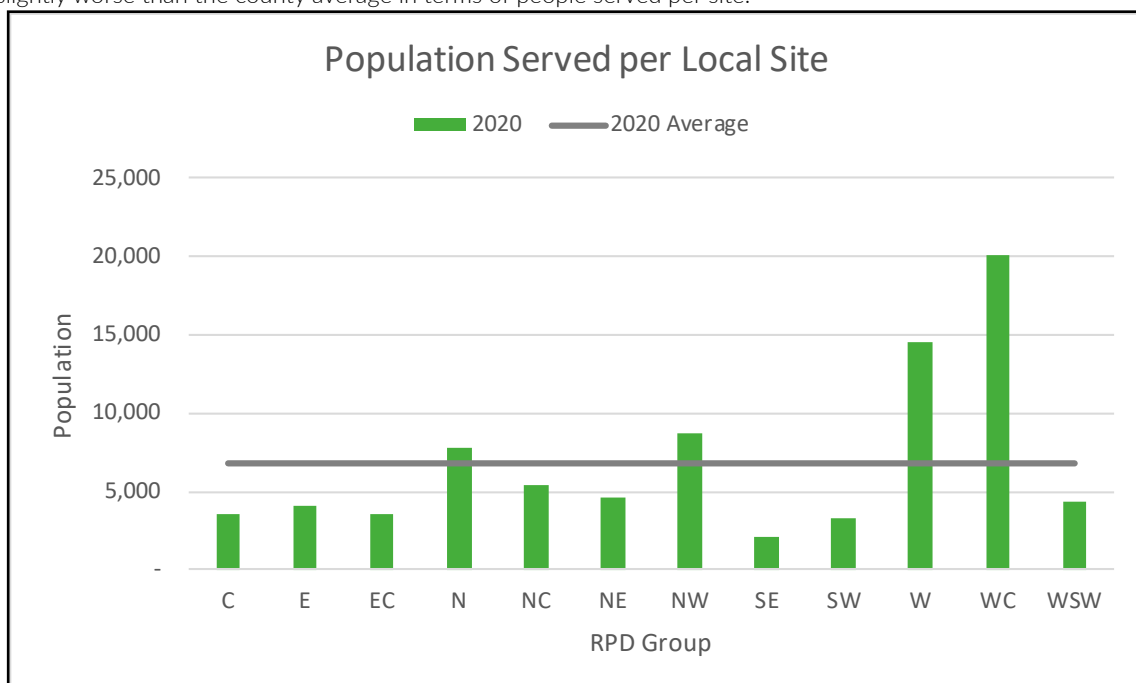


Figure 88. Population Served per Acre of Local Sites in each RPD Group

Additional Amenities

The following types of recreational facilities are not mapped, and are not included in the facility needs analyses that take place later in this chapter. Some are relatively scarce facility types, others are dependent upon the presence of a preexisting feature (e.g., a historical structure), and some are types of facilities most frequently provided by some entity other than the County.

Swimming Pools: DRP does not provide outdoors swimming pools, though two County-owned indoor swimming pools run by the YMCA are available at the Dundalk Community Center and at Randallstown Community Center. Public swimming programs are offered by a few recreation councils, and hosted at the County's community colleges. Other opportunities for pool swimming are provided by YMCA's and private swim clubs and marinas, and many citizens have constructed pools on their own property.

Golf Courses: Five public golf courses are provided for County citizens by Baltimore County Golf, functioning as part of the quasi-public Baltimore County Revenue Authority. One of the courses, Fox Hollow, also features a golf training facility. The Baltimore City-owned Pine Ridge Golf Course at Loch Raven Reservoir is likewise a public course. These public courses supplement the golfing opportunities provided by private courses and driving ranges, which are the primary providers of golf within the County.

Other Facilities: A variety of other facilities that provide recreational opportunities are provided within Baltimore County recreation sites and parks, including:

- Amphitheaters
- Community Gardens
- Disc Golf Courses
- Dog Parks
- Horseshoe Pits
- Historical and Interpretive Areas
- Model Aircraft/Car Facilities
- Fishing Ponds
- Jogging Tracks
- Sand Volleyball Courts
- Indoor Fitness Facilities

In addition to recreational facilities, a wide range of support amenities are provided at parks and recreation sites, including: access roads and parking lots, park benches, bleachers and other types of seating, comfort stations, concessions and storage buildings, drinking and ornamental fountains, fencing, security lighting, trash receptacles, and landscaped areas.

4.2 Park Equity Analysis

Baltimore County is home to a diverse population, whom the Department of Recreation and Parks aims to serve equitably, providing park space and recreational activities to communities suitable for their needs. The survey and level of service analyses provide two ways to approach this goal by providing an assessment of stated priorities and existing facilities. While the level of service analysis incorporates the total population, it does not distinguish between areas where park needs may be higher, such as among communities with low car ownership or wealth, factors that make it harder to access regional facilities. Therefore, an additional level of consideration is needed.

The [Park Equity Mapper](#) was developed by the Maryland Department of Natural Resources (MD DNR), the National Oceanic & Atmospheric Administration (NOAA), University of Maryland Center for Geospatial Information Science (CGIS), the National Center for Smart Growth (NCSG) and University of Maryland School of Public Health Community Engagement, Environmental Justice & Health (CEEJH) lab. This model combines information on park access with data on population density, wealth, youth, and older adults, public transportation, walkability, linguistic isolation and proportion of the population that is non-white. The Park Equity Mapper is still being refined to add all parks data and create weights that most effectively assess equity.

The figure to the right shows the results of the Park Equity Mapper, where darker colors indicate a lower degree of equity. Within Baltimore County, there are significant areas rated as high equity. The areas of greatest concern are the areas that border Baltimore City, particularly to the West and Northwest, approaching Owings Mills. This area aligns well with the areas designated as Urban and as Community Conservation Areas and is primarily contained by the RPD group West Southwest, with additional portions in West, West Central, and Northwest. These are areas to consider carefully when reviewing the results of the proximity analysis.

The West Southwest RPD group performed about average or slightly better in the level of service analysis, based on number of people served per facility. The West Central performed worse than other areas in provision of ball

Table 8. Park Equity Mapper Weights

CATEGORY	WEIGHT (%)
PARK DISTANCE	18.2
% NON-WHITE	18.2
POPULATION DENSITY	9.1
INCOME	9.1
% CHILDREN <18	9.1
% ADULTS >65	9.1
LINGUISTIC ISOLATION	9.1
WALKABILITY	9.1
DISTANCE TO TRANSIT	9.1

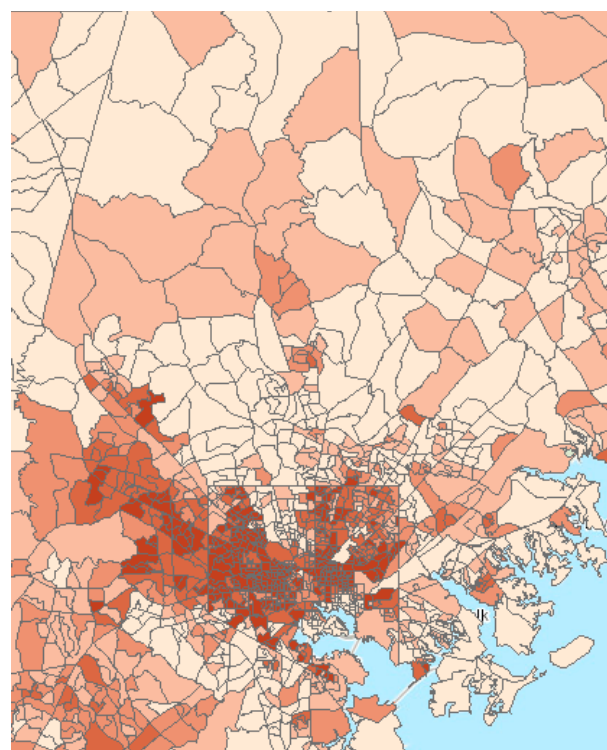
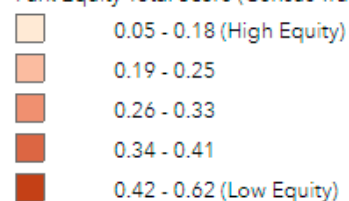


Figure 89. Park Equity Mapper Results by Census Tract

Park Equity Score

Park Equity Total Score (Census Tract)



diamonds, multipurpose courts, tennis courts, and indoor recreation facilities. The West RPD group has a poor provision of trails and playgrounds compared to other areas and the Northwest RPD group had poor provision of picnic facilities. These facilities may be particularly important to provide in greater numbers due to social factors captured by the Park Equity mapper. Some areas identified as having low park equity - the West and West Central - also have low local park and open space provision. While the West Southwest was not seen as very deficient in local site acreage, the fact that it was identified as having low park equity may still justify additional investments to better serve the area. These areas may be explored for future parks and recreation facilities.

Using equal weights for all factors, Baltimore County had an overall Park Equity score of 0.23, compared with 0.26 for Maryland. Using the default weights, Baltimore County had a score of 0.19, compared with a statewide average of 0.26. This means that Baltimore County's park system is ranked as less equitable than Maryland overall.

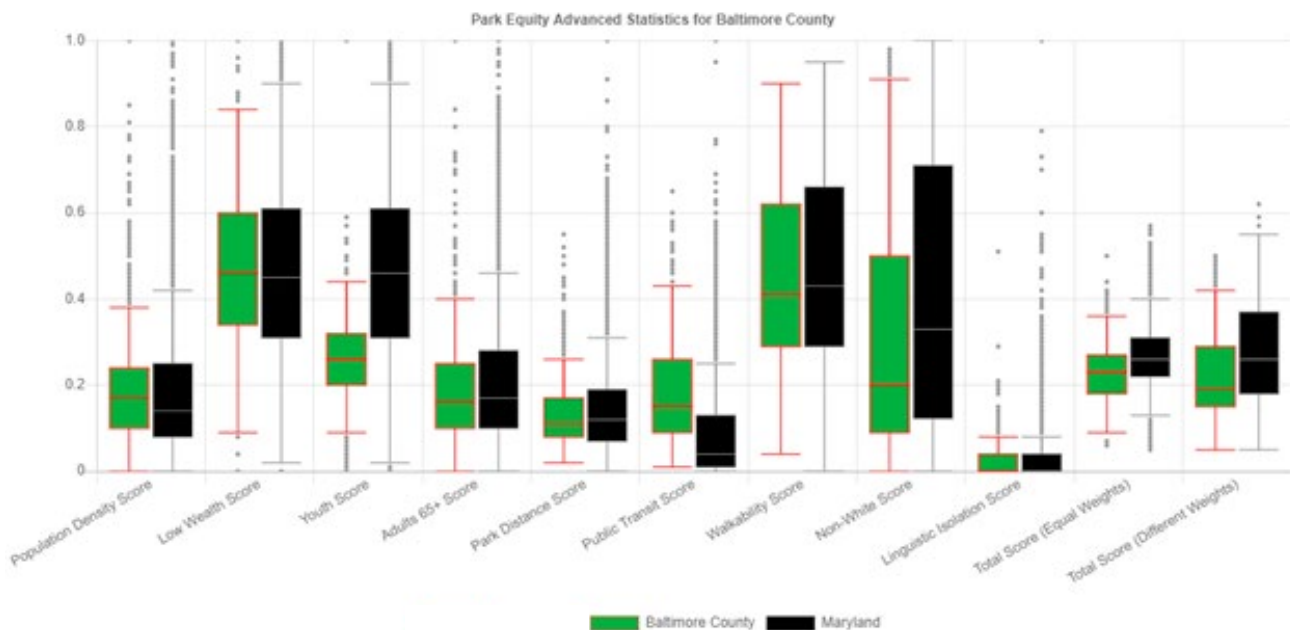


Figure 90. Park Equity of Baltimore County compared to State of Maryland

The park distance in Baltimore County was about the same as in Maryland as a whole, though there is a great degree of variation at the state level. There were several notable differences in the averages between Baltimore County and Maryland averages for factors in the model. Baltimore County has fewer youth and a smaller non-white population and has greater access to public transportation than the statewide average.

While the Park Equity Mapper deals specifically with park access, there are additional models that can be used to assess where communities may need additional resources in order to achieve equitable outcomes. The Center for Disease Control (CDC) produces a Social Vulnerability Index (SVI), which is often used in emergency management to understand what communities will require the greatest resources. It incorporates social factors including poverty, lack of vehicle access, and crowded housing. Census tracts receive vulnerability ratings based on housing and transportation, minority status, household composition, and socioeconomic factors. The complete methodology is detailed on the [CDC website](https://www.cdc.gov/svi/). While not typically applied to park equity, this index can be helpful in identifying areas that may need additional attention and outreach.

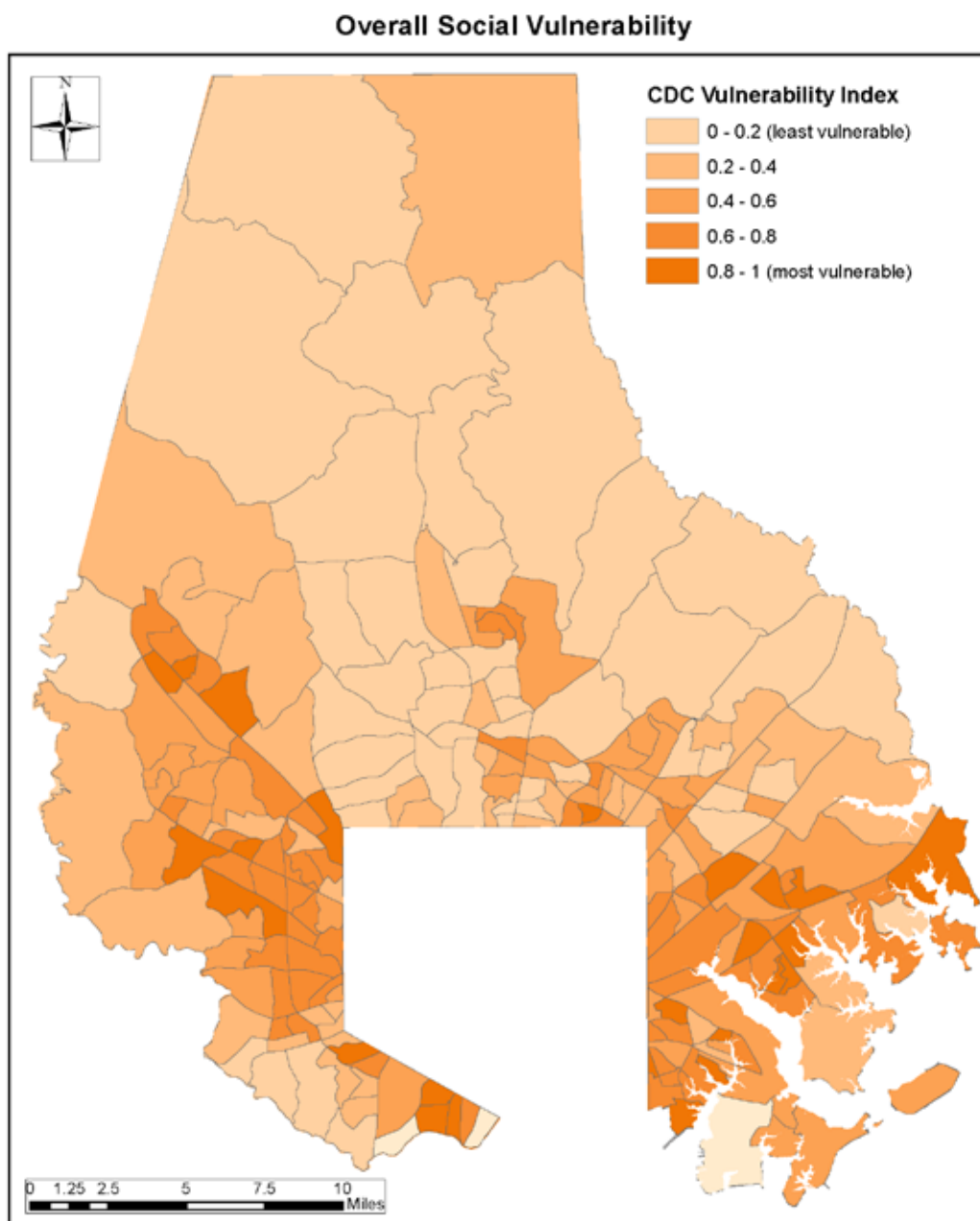


Figure 91. Overall Social Vulnerability

The geographic pattern of social vulnerability using the SVI is similar to that of the Park Equity mapper, with the areas to the east and west of Baltimore City showing the highest level of vulnerability. The two models use similar factors to determine social vulnerability, but the CDC map does not incorporate park proximity, which contributes to slightly different patterns. The area to the east of the city is relatively well served with local parks and SRCs, compared to the area to the west, and thus has better park equity, despite having factors that create higher vulnerability. These regions received relatively low survey responses, compared to the regions of the county with the lowest SVI scores.

Equity in the parks and open spaces of Baltimore County is a high priority and the LPPRP is an important part of evaluating our progress toward that goal. Measures of level of service, park equity, and social vulnerability as assessed by the CDC highlight that the areas to the west of Baltimore City, including the West Southwest and West, and parts of West Central and Northwest RPD groups. These are relatively urban areas, where it can be challenging to acquire land, but these regions could be a high priority moving forward to better provide for residents and create greater equity across the County.