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Site Suitability and Unit Yield Analysis | Documentation

Rockville Housing Needs Assessment

HR&A Advisors

HR&A conducted an analysis of real estate parcels in Rockville, Maryland, and the areas covered under the City's Maximum Expansion Limits (MEL), to identify sites suitable for multifamily residential development. These suitable sites were then scored—based on their proximity to amenities and inclusion within state and federal priority development areas—to identify sites with the highest development potential and greatest level of opportunity for potential future residents. Finally, HR&A assessed the potential residential dwelling unit yield on suitable sites, in keeping with the City's planned land uses per the Rockville 2040 Comprehensive Plan, providing an upper theoretical bound on development capacity within the City and its MEL.

To display the results HR&A created an interactive map tool, highlighting parcels that may be ideal candidates for multifamily development and inclusion in the Moderately Priced Dwelling Unit (MPDU) Rental Housing Program. The unit yield and site scoring analysis provide additional context to help the City assess the sites.

Site Suitability Analysis

The following matrix outlines the screening criteria used to identify sites that are best suited for multifamily residential development. Parcels were screened for physical readiness, development potential, and the suitability of existing and planned land uses.

Category	Criteria	Detail
Physical Readiness	Sufficient lot area	At least 1.0 acres in land area, outside the FEMA Special Flood Hazard (SHFA) A/AE floodplain (100-year floodplain)
	Sufficient developable lot width	At least 75 feet in lot width
Development Potential	Existing structures have low value relative to land	Improvement value less than land value
	Parcel not in development or recently developed	Parcel has not had development activity since 2018 and is not currently under development, according to CoStar records
	No condos; Only one parcel per lot	Excluded lots with condo parcels
Suitable Land Use	Planned land use suitable for multifamily development	Excluded parcels designated for RD (Residential Detached), P (Park), OSP (Open Space Private), SI (Service Industrial), and CI (Civic Institutional)
		Excluded cemetery parcels
		Excluded parcels with existing affordable housing properties

In total, HR&A has identified 88 sites across the City and MEL that pass suitability screening—63 sites are parcels that meet the criteria on their own, 13 include a parcel that passes on its own plus one or more parcels that can be assembled with the passing parcel into a larger suitable site, and 12 sites that would be made entirely of smaller sites that would fail on their own but pass when assembled. A summary of the total parcels that pass each criterion is provided below, along with the count of parcels that pass after cumulative application of each suitability filter.

Criterion	Passing Sites (Total for Each)	Passing Sites (Filtered Cumulatively)
At least 1.0 acres in land area, outside the FEMA Special Flood Hazard (SHFA) A/AE floodplain (100-year floodplain)	6,362	6,362
At least 75 feet in lot width	14,656	6,362
Improvement value less than land value	8,662	589
Parcel has not had development activity since 2018 and is not currently under development, according to CoStar records, Rockville active development projects, and Montgomery County planning records	23,072	478
Not a condo parcel	19,613	462
Not designated for RD (Residential Detached), P (Park), OSP (Open Space Private), SI (Service Industrial), or CI (Civic Institutional)	14,777	87
Not a cemetery parcel	27,970	83
Does not have an existing affordable housing property	25,808	81
Passes final quality check for recent development activity and valid current land uses (11 sites removed)		76 passing sites
Does not pass on its own but would pass in an assemblage of adjacent parcels		+ 12 additional sites requiring assembly

The 88 suitable sites are primarily located in areas of the City and MEL with a planned land use designated for Office/Commercial/Residential Mix (56 sites; 249.9 acres) or Office (15 parcels; 84.1 acres).

Planned Land Use	Suitable Sites	Acreage
Office Commercial Residential Mix	56	249.9
Office	15	84.1
Service Industrial Residential Mix	4	43.9
Residential Flexible	2	21.1
Private Institution	4	10.5
Residential Multiple Unit	1	5.4
Residential Attached	3	3.6
Commercial Residential Mix	2	2.5
Residential or Office	1	1.1

Parcel Scoring Analysis

The following matrix outlines the criteria used to score suitable parcels. Scoring is based on a parcel's proximity to Metro stations and community amenities; its location within an Opportunity Zone (OZ) or New Markets Tax Credit (NMTC) eligible census tract; and its existing utilization (percentage of the parcel that already has building area present). Sites within a defined radius of an amenity, within an OZ or NMTC tract, and with low utilization ($\leq 60\%$ of parcel area) receive a score of one point for each criterion met, up to a total of 9 points.

Site Characteristics		
Access to Community Amenities	Metro Station	Within 1/4 Mile
	Grocery Store	Within 1/2 Mile
	Public School	Within 1/2 Mile
	Park	Within 1/2 Mile
	Library	Within 1 Mile
	Hospital, Clinic, or Pharmacy	Within 1 Mile
Market Context / Incentives	OZ	Located within
	NMTC	Located within
Site Utilization	Percentage of lot area with existing building footprint area	Less than or equal to 60% of lot area currently has building area present

After scoring sites based on the above criteria, the analysis shows that nearly all sites suitable for multifamily development benefit from good proximity to parks and healthcare facilities—and that most good development sites also have low existing site utilization. More decisive factors in boosting a site's score include proximity to Metro stations (of which only 14 sites were located within $\frac{1}{4}$ mile) and being in an Opportunity Zone (of which Rockville only has one designated census tract with 4 suitable sites).

Scoring Criteria	Suitable Sites
Near a Metro Station	14
Near a Grocery Store	60
Near a Public School	48
Near a Park	86
Near a Library	36
Near a Hospital, Clinic, or Pharmacy	81
In an OZ	4
In an NMTC Tract	20
Low Existing Site Utilization ($\leq 60\%$ of Area)	87

On average, suitable sites have a score of 5.

Total Score	Suitable Sites
9	1
8	7
7	7
6	14
5	21
4	20
3	17
2	1

Unit Yield Analysis

The final step of the analysis was to estimate a total unit yield across suitable sites—assuming all sites developed to their maximum theoretical capacity based on planned land use and recent construction trends. First, HR&A applied a construction typology assumption (e.g., townhome, low/midrise) to each parcel based on its planned land use from the Rockville 2040 Comprehensive Plan. Each construction typology assumption includes a corresponding estimated dwelling units per acre yield. Next, parcels assigned to the highest density typology (High-Rise, at 180 units/acre) were shifted to the Wrap/Podium (100 units/acre) development typology if they were further than ¼ mile from a Metro station, based on recent development trends. Then, for parcels with 5 or more acres of area, HR&A applied a 30% reduction in developable area to account for master planning infrastructure needs on large sites. And finally, parcels that remained at 10 or more effective developable acres and assigned to the Wrap/Podium (100 units/acre) typology were shifted to the Low/Midrise typology (60 units/acre) as a middle ground, recognizing that some portion of large sites often develop as Townhomes (15 units/acre) while other portions develop at higher densities.

Planned Land Use Category		Screening	Primary Typology Assumption	Units/Acre
RD	Residential Detached	Excluded	N/A	N/A
RA	Residential Attached	Included	Townhome	15
RF	Residential Flexible	Included	Low/Midrise	60
RM	Residential Multiple Unit	Included	Wrap/Podium	100
RO	Residential and/or Office	Included	Wrap/Podium	100
O	Office	Included	Wrap/Podium	100
C	Commercial	Included	Wrap/Podium	100
CRM	Commercial and Residential Mix	Included	High-Rise	180
OCRM	Office, Commercial and Residential Mix	Included	High-Rise	180
CI	Civic and Public Institutional	Excluded	N/A	N/A
I	Private Institution	Included	Low/Midrise	60
P	Public Park	Excluded	N/A	N/A
OSP	Open Space Private	Excluded	N/A	N/A
SI	Service Industrial	Excluded	N/A	N/A
SRM	Service Industrial and Residential Mix	Included	High-Rise	180

The results of this analysis reflect an estimated maximum unit yield possible based on recent development trends. Recognizing that not all sites will redevelop, one way to interpret this estimated maximum unit yield is by focusing on sites with higher scores—i.e., higher opportunity development sites—and then by focusing on a subset of the highest-scoring sites. For example, if 50% of suitable sites scoring at least 6 points redevelop over the next 10 years, Rockville could see around 3,690 new residential dwelling units produced. This level would be higher than 2015-2024, during which Rockville permitted 2,300 new units, as well as slightly higher than 2005-2014, when Rockville permitted 3,400 new units.

See below for a summary of estimated unit yield on suitable sites, broken down by parcel score and construction typology.

Estimated Unit Yield on Suitable Sites by Parcel Score and Construction Typology

Parcel Score	Construction Typology	Average Units Per Developable Acre	Parcel Count	Gross Acreage	Estimated Maximum Unit Yield
9	High-Rise	180	1	6.9	875
8	High-Rise	180	3	7.3	973
8	Wrap/Podium	100	2	5.6	562
8	Townhome	15	2	2.1	32
7	High-Rise	180	4	7.7	1384
7	Wrap/Podium	100	3	10.5	1050
6	High-Rise	180	1	2.6	467
6	Wrap/Podium	100	13	20.5	2044
5	High-Rise	180	3	10.2	1844
5	Wrap/Podium	100	13	72	5409
5	Low/Midrise	60	5	63.2	2759
4	Wrap/Podium	100	17	76.5	5640
4	Low/Midrise	60	3	25.5	1171
3	Wrap/Podium	100	15	89.4	6815
3	Low/Midrise	60	1	20.6	867
3	Townhome	15	1	1.5	22

Estimated Unit Yield on Assembly Potential Parcels by Parcel Score and Construction Typology

Parcel Score	Construction Typology	Average Units Per Developable Acre	Parcel Count	Gross Acreage	Estimated Maximum Unit Yield
8	High-Rise	180	5	0.6	101
8	Wrap/Podium	100	2	1	95
8	Townhome	15	9	1.5	24
7	High-Rise	180	4	0.4	70
7	Wrap/Podium	100	13	4.3	426
7	Low/Midrise	60	1	0	0
7	Townhome	15	24	6	89
6	Wrap/Podium	100	22	6.8	682
6	Townhome	15	21	3.5	49
5	Wrap/Podium	100	16	2.4	235
5	Low/Midrise	60	1	0.3	20
5	Townhome	15	21	3.6	56
4	Wrap/Podium	100	13	2	197
3	Wrap/Podium	100	4	0.6	56
3	Low/Midrise	60	2	0	2
2	Wrap/Podium	100	1	0	0