

# “Show your work”

ASF investigation reveals grave errors & ongoing secrecy in uncovering how Arlington County’s Missing Middle Plan will harm tree canopy goals



# Summary of ASF's findings

County says **40%-50%** canopy (currently, 41%) is “**achievable**” with Missing Middle, but wouldn't show its work. *ASF's investigation reveals:*

1. County documents forced to be released by FOIA show:
  - **8-in-10** Missing Middle building types **fail** tree goals
  - **failures exist even though County *inflated* sizes by >142%**
2. Missing Middle **cuts in half** the tree replanting standard (from 20% to 10%) for new Missing Middle *and* new single-family homes
  - 59% of County canopy affected
  - 97% of affected land to be at the 10% standard
3. As a result, Missing Middle **harms** the County's stated tree canopy policy

# County Goal: “40% or more overall tree cover”

- Arlington’s Urban Forest Master Plan

## County claims Missing Middle “supports” this goal

May 2, 2022. County says canopy of “50% is achievable” with Missing Middle, even when cutting the replanting standard to “10% or 15%”

### Opportunities and Impacts of Draft Framework: Growth Management

- **Modest housing and population growth**, geographically dispersed, can be **accommodated** with existing infrastructure
  - Net increase in school enrollment estimated to be 9 - 13 students per year
- Given adherence to single household lot coverage and setback standards, **environmental management tradeoffs would be limited**
  - **Stormwater runoff would be comparable** to current impacts from single-detached redevelopment
  - **Tree canopy of 20% to 50% is achievable**; minimum canopy requirements set by state code would be 10% or 15%, compared to 20% minimum for single-detached

Source: Arlington Public Schools, Planning and Evaluation

- Student estimate from new housing based on [Fall 2021 Student Generation Rates, Attachment C](#)
- Student generation rates for Garden-type buildings include a variety of unit mixes; not specific to 3-8 unit buildings

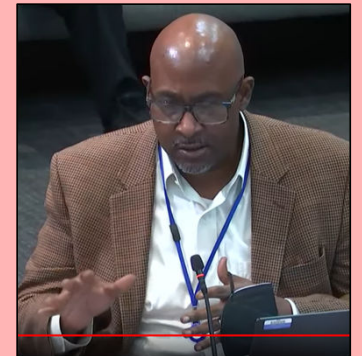
23

### July 12, 2022 Board session

Matt Ladd says Missing Middle “support[s] tree canopy goals” of “40%” tree canopy coverage



Christian Dorsey says “we can actually improve our environmental outcomes” & “we can do it in trees”



Pages 4, 12 of <https://arlingtonva.s3.dualstack.us-east-1.amazonaws.com/wp-content/uploads/sites/31/2014/04/Urban-Forest-Master-Plan.pdf>; page 31 (goal “40% across Arlington”) of <https://www.arlingtonva.us/files/sharedassets/public/housing/documents/missing-middle/mmhs-responses-to-phase-2-questions-updated-07-8-22.pdf>; Ladd: <https://youtu.be/jcYojkudmBY?t=4349>; Dorsey: <https://youtu.be/jcYojkudmBY?t=6163>; May 2: [https://www.arlingtonva.us/files/sharedassets/public/housing/documents/missing-middle/mmhs-phase-2-public-presentation\\_05.02.pdf](https://www.arlingtonva.us/files/sharedassets/public/housing/documents/missing-middle/mmhs-phase-2-public-presentation_05.02.pdf)

# ATAG reveals size of Missing Middle impact

County does not disclose the scope of its proposal

County only says current “20%” canopy rule will be cut to “10% or 15%”

ATAG alerts public to actual impact

97% of rezoned land will be at 10% standard;

Overall, 59% of Arlington tree canopy affected

## Sun Gazette

WPM TIME 87 | NO. 31 | JULY 14-20, 2022

### Will Thousands of County Trees Disappear?

Advocacy Group: Missing Middle Housing Effort 'Treescape Pillaging'

SCOTT McCAFFREY  
Staff Writer

the proposed Missing Middle housing changes go forward. The Arlington Tree Action Group (ATAG) estimates that 59 percent, or 3,713 acres, of Arlington's existing tree canopy will be imperiled if the po-

said in a July 14 session

County Board member Matt de Ferranti, right, who is on the ballot this year, is trying to steer a middle course on housing. See coverage, Page 4.

Standard	Percentage	Acres
10% Standard	97%	7,570
15% Standard	3%	-

Page 23 of [https://www.arlingtonva.us/files/sharedassets/public/housing/documents/missing-middle/mmhs-phase-2-public-presentation\\_05.02.pdf](https://www.arlingtonva.us/files/sharedassets/public/housing/documents/missing-middle/mmhs-phase-2-public-presentation_05.02.pdf); pages 8-9 of [https://www.asf-virginia.org/\\_files/ugd/a48bae\\_8ef3594722b14114a85e25b7eb8ee149.pdf](https://www.asf-virginia.org/_files/ugd/a48bae_8ef3594722b14114a85e25b7eb8ee149.pdf); Sun Gazette 7/14/2022.

# ASF demands County: “show your math”

## ASF, others ask County: ‘show your math’

How is 50% canopy “achievable” if replanting rule cut to 10%?

**5. Preservation of the Tree Canopy** - There is nothing other than the goal - *how do you propose to preserve the tree canopy? Will there be a 'take down one, plant*

**19. Trees.** Page 23 of the Phase II presentation states “Tree canopy of 20% to 50% is achievable.” What is the basis for that claim? Assuming it is physically possible to achieve that goal, how likely is it, and upon what basis does Staff determine the likelihood of it occurring?

## County keeps its math secret

In response, County merely says “analysis” shows a “50%” tree canopy is “achievable”

investigate all tools, from regulation to incentives, to realize the tree canopy goals of 40% across Arlington. The capacity of missing middle housing to provide the potential tree canopy of 50% retains the ability to continue to meet that canopy target through conservation of existing trees and planting beyond the regulatory requirements.

missing middle housing types would likely be 10% or 15%. However, the missing middle housing type building design analysis demonstrates that tree canopy of 20% to 50% is achievable.

# ASF fights the County for the Tree Truth

1. With County refusing to show its work, ASF & others submit Freedom of Information Act (FOIA) requests

2. County demands \$531 to show its work & papers

RE: County Records Request of June 30, 2022, Reference # C000876-063022.

Dear [REDACTED],

Your estimate of costs is ready. Please see attached or login to the [Arlington County FOIA Center](#) to view details.

Pursuant to Code of Virginia § 2.2-3704(F), the County is permitted to make reasonable charges to cover the County's actual cost incurred in accessing, duplicating, supplying, or searching for any potential responsive records.

Per your request to receive advance cost for the request, the cost is estimated as follows:

Fees Charged:  
Labor Charged: \$431.25  
**Estimated Total: \$431.25**

2100 Clarendon Blvd., Suite 403 Arlington, VA 22201  
(C) 703.843.0687 (T) 703.228.3100

**Estimated Total: \$431.25**

**Estimated Total: \$100.00**

2100 Clarendon Blvd., Suite 403 Arlington, VA 22201  
(C) 703.843.0687 (T) 703.228.3100

3. County finally compelled to release documents at lower cost... *but deems some tree facts too secret to share; Staff-to-Staff emails redacted*

From: Matthew Ladd <mladd@arlingtonva.us>  
Sent: Thursday, March 17, 2022 3:15 PM  
To: Vincent Verweij <VVerweij@arlingtonva.us>; Jason Papacoma <jpapacoma@arlingtonva.us>  
Subject: RE: MMHS: Prelim. Recommendations for Staff Review

[REDACTED]

From: Vincent Verweij <VVerweij@arlingtonva.us>  
Sent: Thursday, March 17, 2022 3:10 PM  
To: Matthew Ladd <mladd@arlingtonva.us>; Jason Papacoma <jpapacoma@arlingtonva.us>  
Subject: Re: MMHS: Prelim. Recommendations for Staff Review

Mail.

In practice, we've been using the zoning code for density, though, as it's a consistent measure, not the amount of residences being built. If you look at the code, it's clear:

"Twenty percent (20%) tree canopy for a residential sized ten (10) units or less per acre."

So if we're rezoning these areas, that makes this work, but if we're not, that might run into a conflict with this:

[REDACTED]

Vincent Verweij (he/him/his)  
Urban Forest Manager  
554 Certified Arborist (ISA, ISA/PA)  
Office: 703-228-1893 (messages checked regularly)  
Cell: 571-436-0333 (for emergency issues)

We are updating our Forestry and Natural Resources Plan! Provide your input here:  
<https://projects.arlingtonva.us/tree>

From: Matthew Ladd <mladd@arlingtonva.us>  
Sent: Thursday, March 17, 2022 1:30 PM  
To: Jason Papacoma <jpapacoma@arlingtonva.us>; Vincent Verweij <VVerweij@arlingtonva.us>  
Subject: RE: MMHS: Prelim. Recommendations for Staff Review

Vincent—thanks for the comments and quick turnaround. We will include all of them.

On the 10-20% issue, a duplex on a lot larger than 6,712 sq ft would be lower than 10 DU/AC and would trigger the 20% requirement. A triplex or stick of 3 townhouses would require a lot size larger than 13,066. It's possible we could see that, but I think it's more likely that development would fall into the 10% or 15% categories. And we want to be transparent about that.

Mail Ladd, ACP | Principal Planner  
Department of Community Planning, Housing & Development  
2100 Clarendon Blvd., Suite 700 Arlington, VA 22201  
202-228-7021 | mladd@arlingtonva.us | [mladd@arlingtonva.us](mailto:mladd@arlingtonva.us)

From: Vincent Verweij <VVerweij@arlingtonva.us>  
Sent: Tuesday, April 26, 2022 11:54 AM  
To: Matthew Ladd <mladd@arlingtonva.us>  
Subject: Re: Missing Middle Housing Study - Virtual Q&A

Mail.

Do you need forestry present to answer questions? It might be tough to fit this into my schedule.

[Get Outlook for Android](#)

# ASF's efforts uncover Missing Middle failures

Finally, compelled by State law to show its work, the County's "math" shows:

## 8-in-10

Missing Middle buildings types **FAIL** to meet the County's 40% tree canopy goals.

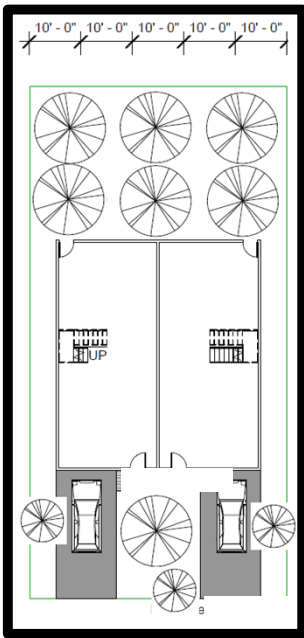
(Nowhere near a 50% overall canopy level)

	A	B	C	D	E	F	G	H
	Type	Square Ft	Large trees	Small trees	Canopy potential	Canopy Perc	Meets min 20%	Meets County target 40%?
2	Duplex 1	5,000	7	3	3,169	63.4%	Yes	Yes
3	Duplex 2	6,000	6	1	2,500	41.7%	Yes	Yes
4	Duplex 3	6,000	6	4	2,913	48.5%	Yes	Yes
5	Duplex stacked 1	5,000	4	3	1,988	39.8%	Yes	No
6	Duplex stacked 2	5,000	4	10	2,950	59.0%	Yes	Yes
7	Duplex stacked 3	6,000	5	1	2,106	35.1%	Yes	No
8	Fourplex 1	10,000	7	4	3,306	33.1%	Yes	No
9	Fourplex 2	10,000	9	0	3,544	35.4%	Yes	No
10	Fourplex 3	8,125	7	0	2,756	33.9%	Yes	No
11	Townhome 1	6,000	5	2	2,244	37.4%	Yes	No
12	Townhome 2	10,000	7	3	3,169	31.7%	Yes	No
13	Townhome 3	10,000	5	8	3,069	30.7%	Yes	No
14	Triplex 1	6,000	5	3	2,381	39.7%	Yes	No
15	Triplex 2	10,000	5	3	2,381	23.8%	Yes	No
16	Triplex 3	6,000	4	5	2,263	37.7%	Yes	No
17	Multiplex 1	10,000	7	2	3,031	30.3%	Yes	No
18	Multiplex 2	10,000	8	1	3,288	32.9%	Yes	No
19	Multiplex 3	6,000	3	2	1,456	24.3%	Yes	No
20	SFD 1	3,500	2	2	1,063	30.4%	Yes	No
21	SFD 2	3,500	3	2	1,456	41.6%	Yes	Yes
22	SFD 3	3,500	2	1	925	26.4%	Yes	No
23	Townhome Stacked 1	10,000	7	3	3,169	31.7%	Yes	No
24	Townhome Stacked 2	12,000	8	7	4,113	34.3%	Yes	No
25	Townhome Stacked 3	15,000	12	0	4,725	31.5%	Yes	No

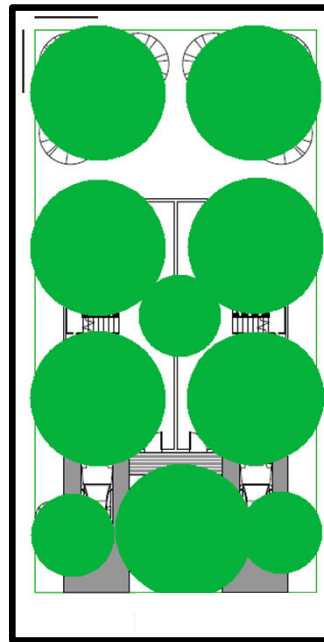
County analysis **as released via FOIA**; colored cells **as shaded by County**; (math error on Triplex 1 corrected; percentages changed to show tenths)

# County *inflated* tree canopy sizes to claim Missing Middle “achieves” tree goals

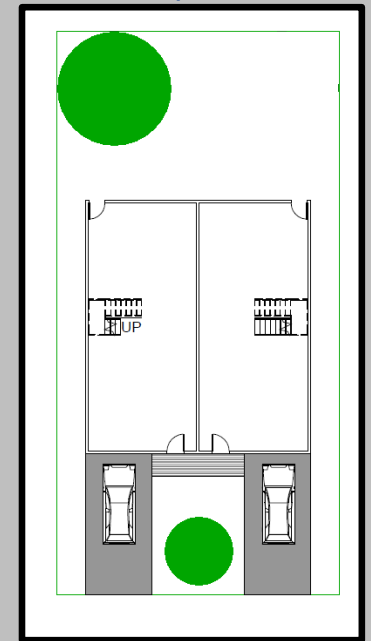
1. County says this Missing Middle lot achieves 63% canopy; in fact, it shows 26%



2. Drawn *correctly* to scale, to reach 63% canopy you'd be planting trees in the living room & on the driveway



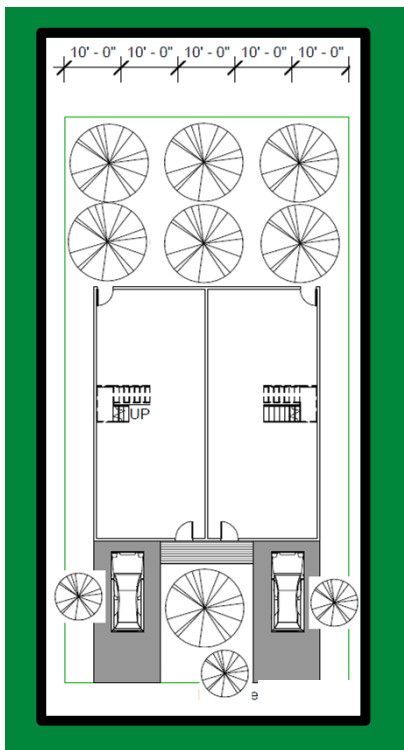
3. In reality, Missing Middle means 10%, as shown below (after 20 years)





# Appendix

# Appendix



## Example: Missing Middle “Duplex 1,” 5,000 sqft lot.

County says this lot fits 7 “large” & 3 “small” trees (image, left). The County used canopies of 393.75 sqft and 137.5 sqft to say total Missing Middle canopy will be 3,168.75 sqft, or 63% of the lot (table, below).

		A	B	C	D	E	F	G	H
E2						=(C2*393.75)+(D2*137.5)			
1	Type	Square Ft	Large trees	Small trees	Canopy potential	Canopy Perc	Meets minimum 20%	Meets County target 40%?	
2	Duplex 1	5000	7	3	3168.75	63	Yes	Yes	

Area =  $\pi \times r^2$ , which means the diameters of the canopies in the County’s visual should be 22.4 ft & 12.2 ft across, respectively.

**But:** The “large” canopies in the County’s visual are only 13.8 ft in diameter (151 sqft canopy), not 22.4 ft (394 sqft canopy). Overall, the County **inflated Missing Middle tree canopy by 142%**

# County also inflated canopy projection by using “phantom canopy,” not actual sizes

County relied on its “Coverage Worksheet” for its Missing Middle tree canopy analysis

20-Yr Tree Canopy Coverage Worksheet							
For determining compliance with Section 61-10.C of the Chesapeake Bay Preservation Ordinance							
Tree Species	Common Name	Planting size Height (ft.) caliper (in.)	Spread at Planting (ft.)	Canopy Size	20 year coverage (sq. ft.)	Native to Region	Coverage bonus* (sq. ft.)
<b>Deciduous Trees</b>							
<i>A. rubrum</i>	red maple	2-2 1/2 in	5-7	Large	315	X	393.75
<i>Amelanchier arborea</i>	downy serviceberry	6-7 ft	4-6	Small-Medium	110	X	137.5

**Actual tree canopy size for large & small-med. trees**

**“Bonus” canopy used for Missing Middle ... 25% larger than actual tree. Credit given on paper for native species, but no actual canopy.**