Low Residential Study (LRS)

Phase 2: Evaluating Options for Impervious Area Limits

Housing Commission Meeting

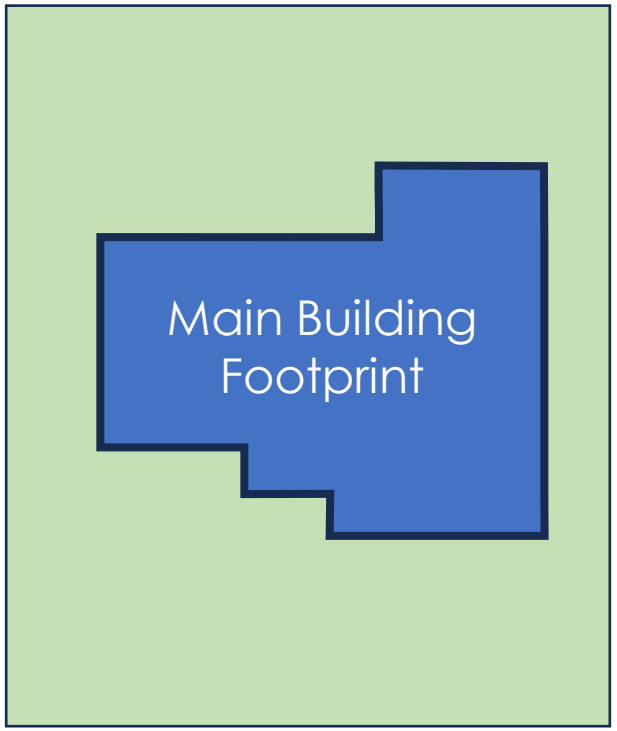
September 10, 2026





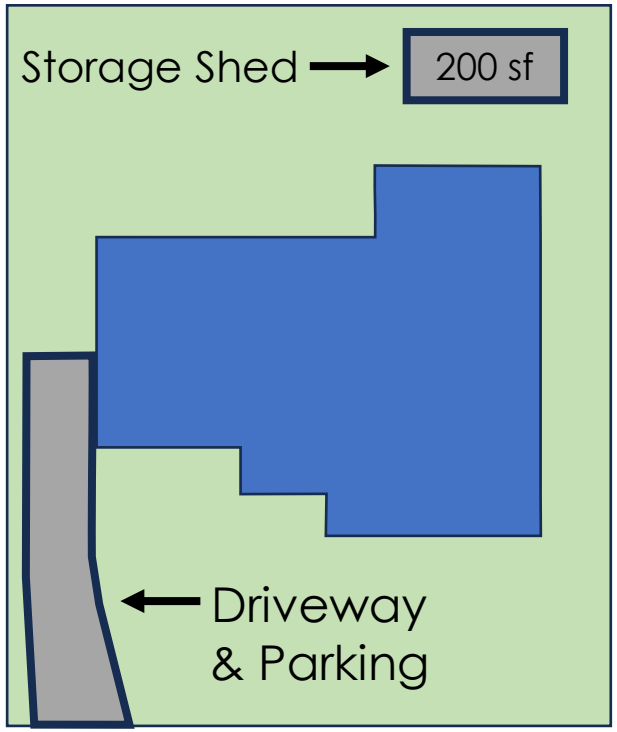


Key Terms



Main Building Footprint (sf)

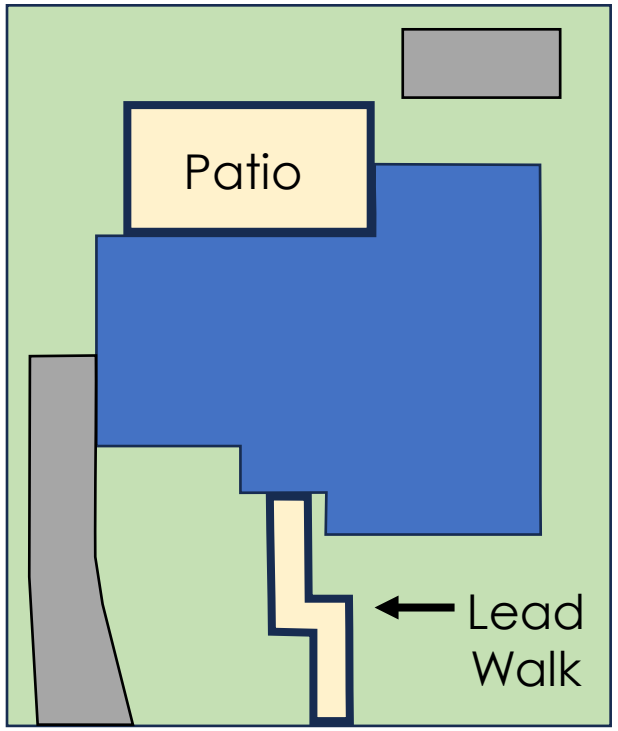
A zoning regulation which limits how much of a lot can be covered by a house or building, including all parts that rest on the ground listed in ACZO §3.1.4.C.



Lot Coverage (%)

A zoning regulation which limits how much of a lot can be covered by these structures and surfaces:

- Main building footprint
- Accessory buildings over 150 sq ft
- Driveways and parking pads
- Other features listed in ACZO §3.1.4.A.



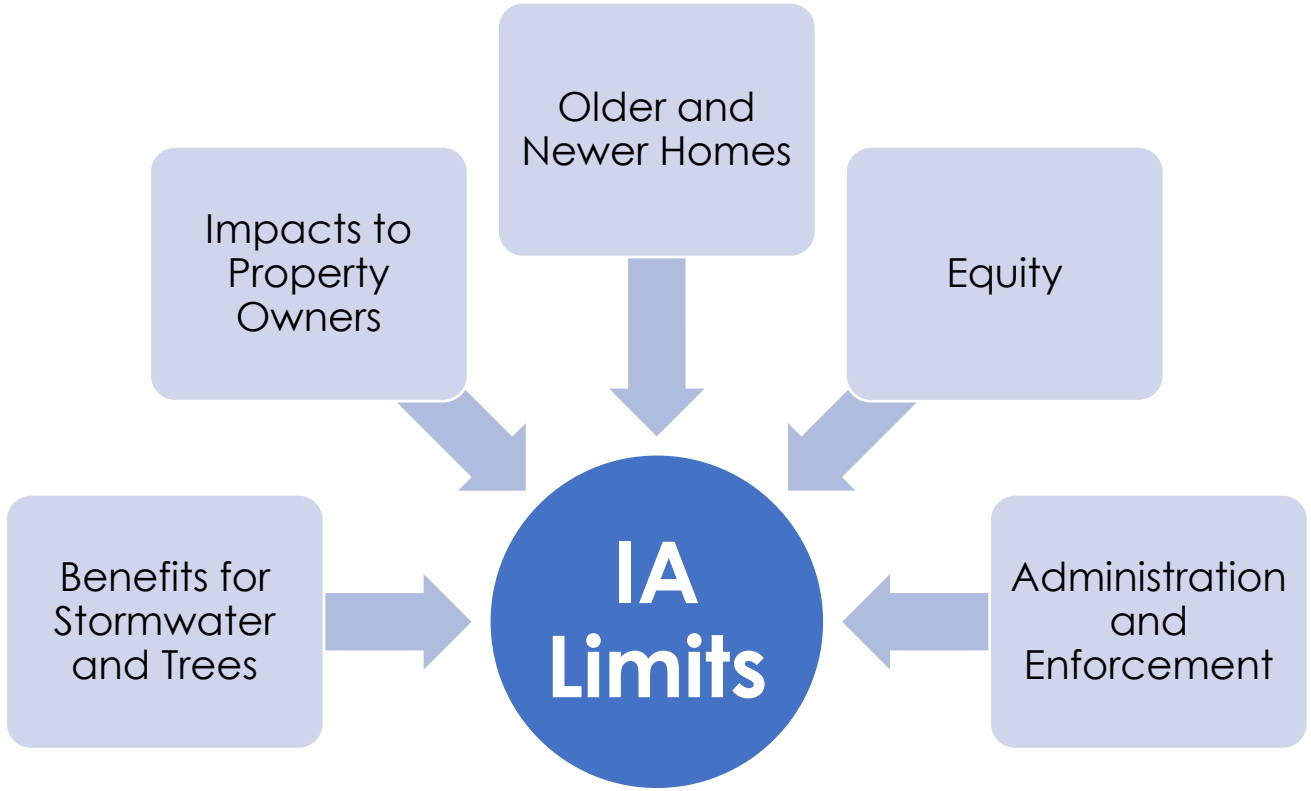
Impervious Area

Any surface material that significantly impedes or prevents the ground from absorbing water.

Low Residential Study
Board Charge - February 25, 2025

Charge/Scope: Recommend limits for maximum impervious area on individual lots

Objective: Support better stormwater and tree canopy outcomes

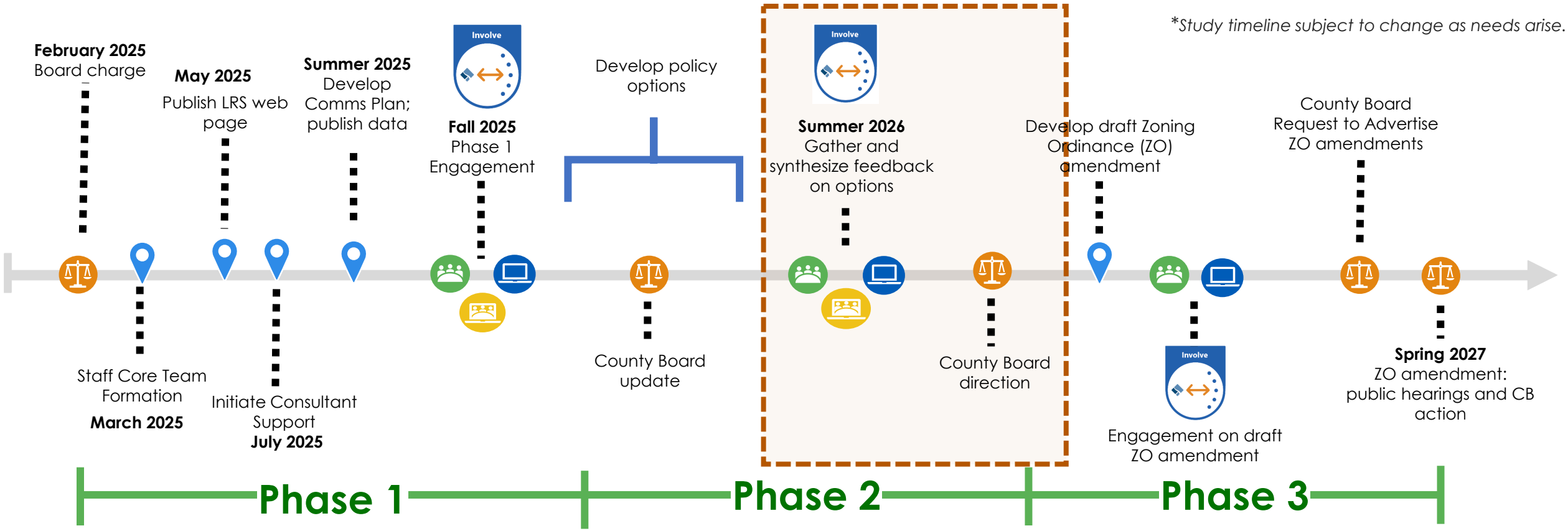


The study shall not:

- Recommend changes to:
  - Maximum main building footprint limits
  - Maximum building height limits
- Set absolute total square footage limits for lot coverage
- Consider any potential changes to the ACZO's definition of lot coverage

Read the LRS Study Charge

Low Residential Study Timeline



ARLINGTON VIRGINIA

Online Feedback (e.g, questionnaire, feedback form, etc.)

In-Person Engagement and Pop-Ups (e.g, community meeting, roundtable, tabling, walking/bus tour, deliberative dialogue, etc.)

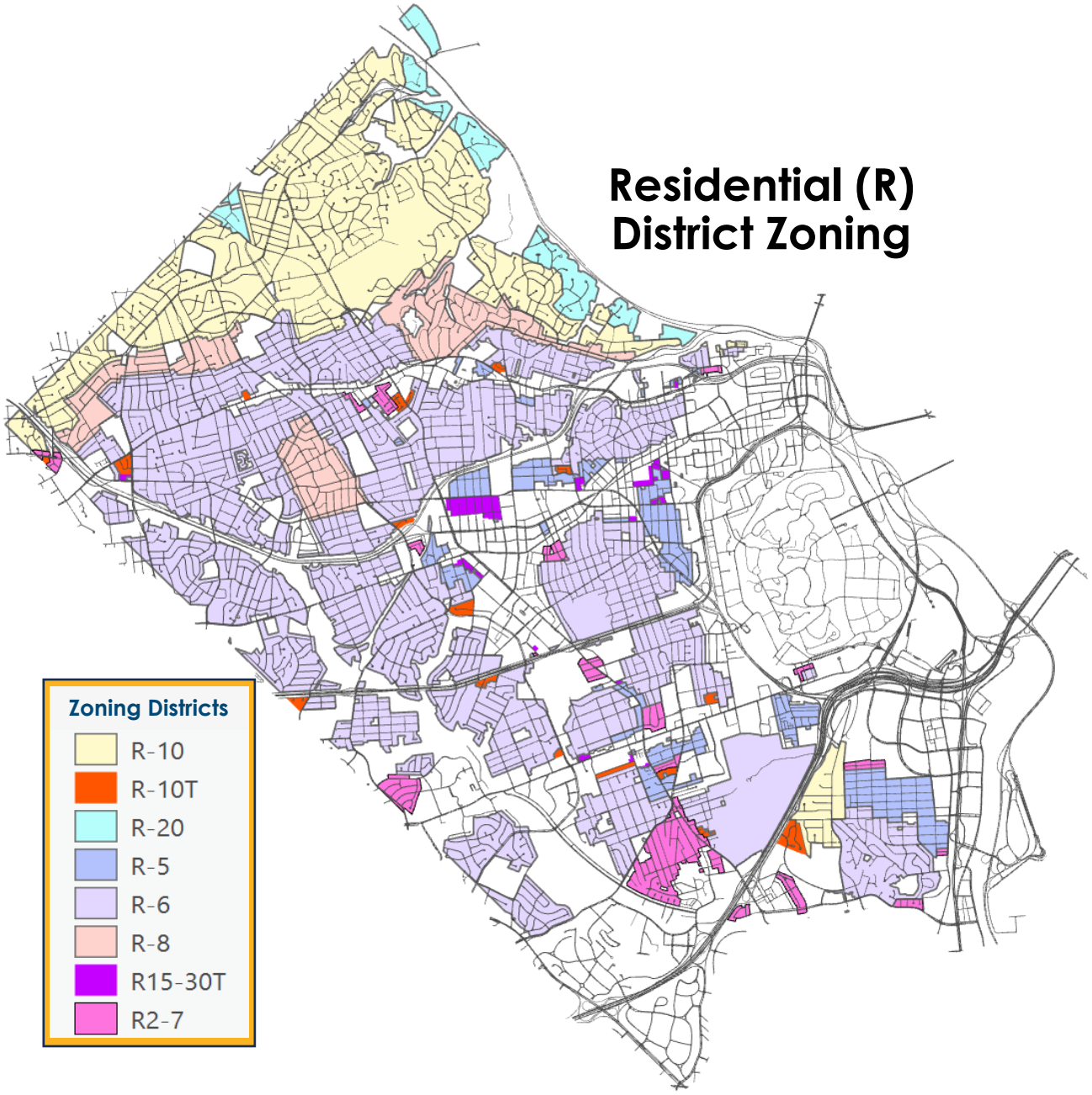
Virtual Meeting (e.g., TEAMS, TEAMS live, Zoom, etc.)

County Board Engagement (e.g, public hearing, Board work session, open door Monday, commission meeting etc.)

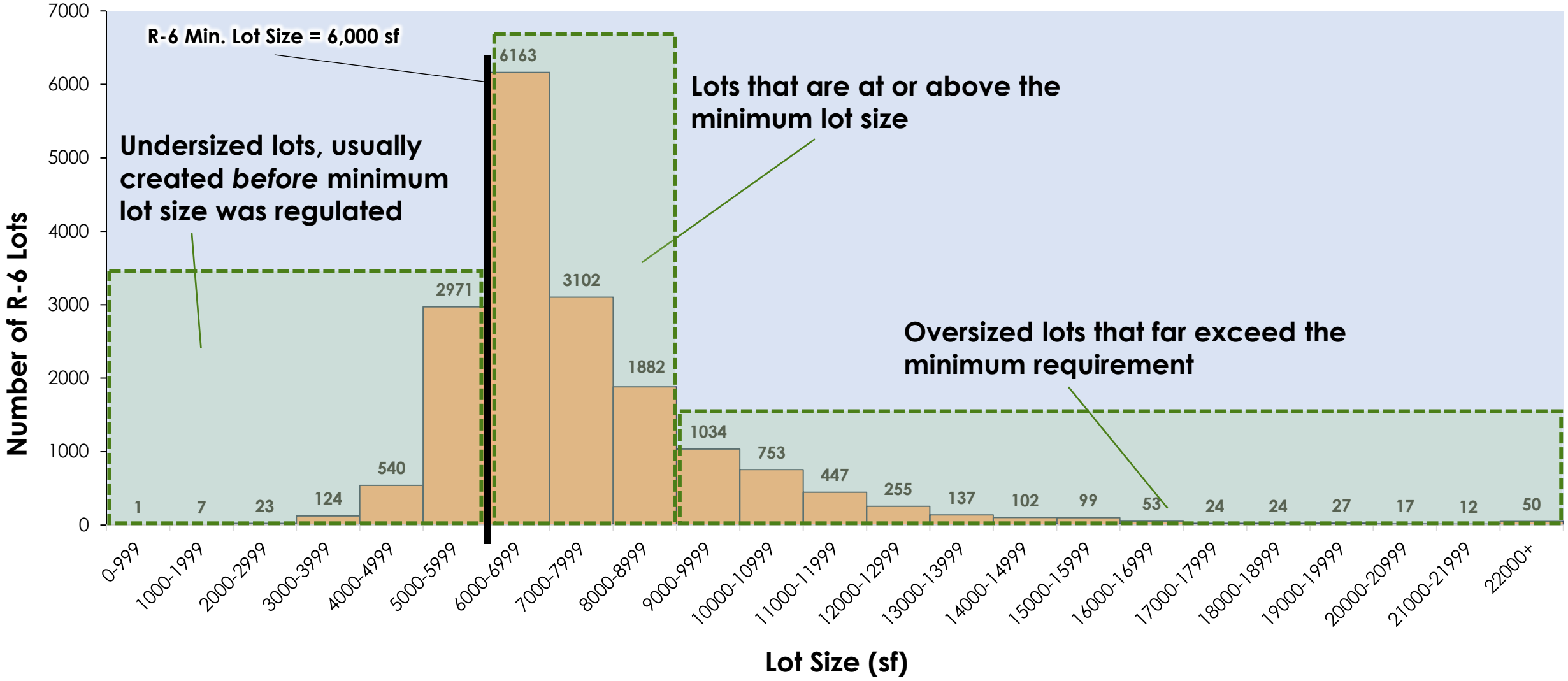
Key Milestone

Why is the County doing the Low Residential Study?

1. Implement the 2023 Forestry and Natural Resources Plan (FNRP)
2. Existing regulations do not effectively limit new impervious area
3. Lot owners have experienced stormwater damage and tree canopy loss
4. Impervious area increasing <u>mostly</u> in low density residential areas areas
   - **10%** increase (160 ac) from 2009-2025



Same Zoning, Different Size
Lots with One-Family Dwellings (R-6 District)



Percentage *and* Area account for lot size differences



Undersized Lots

*Set an impervious area allowance (**sf**)*

- Treat undersized lots as if they have the min. req. lot size
- Same solution used for main building footprint



Standard-sized Lots

Set a maximum impervious percent (%)

- Apply to lots at or above the min. req. lot size
- Include the majority of lots within the zoning district



Oversized Lots

*Set a maximum impervious area (**sf**) cap*

- Curb excessive impervious area
- Allows space for trees
- Provides more area for water to infiltrate the ground

Impervious Area Options
Lots with One-Family Detached Dwellings

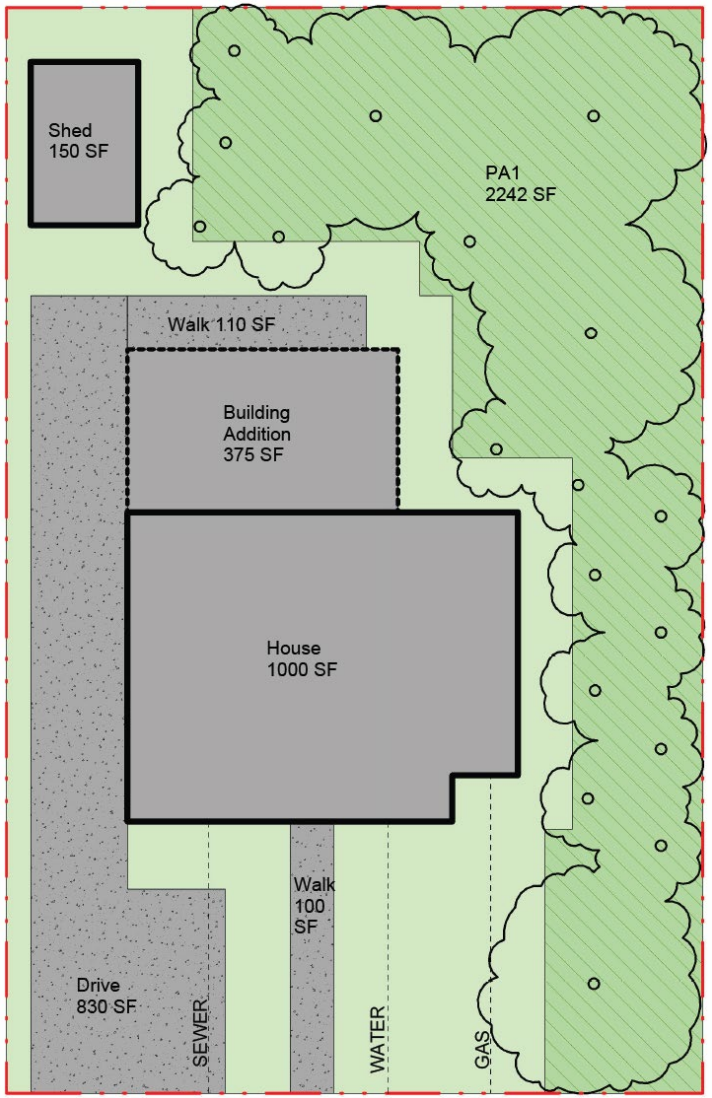
Options for Standard-Sized Lots						
Options	**R-20**	**R-10 R-10T**	**R-8**	**R-6**	**R-5 R15-30T**	**R2-7**
Lower	**25%**	**30%**	**35%**	**40%**	**45%**	**45%**
Middle	**30%**	**35%**	**40%**	**45%**	**50%**	**50%**
Upper	**35%**	**40%**	**45%**	**50%**	**55%**	**55%**
Minimum req. lot size	20,000 sf	10,000 sf	8,000 sf	6,000 sf	5,000 sf	5,000 sf
Existing lot coverage maximums (§3.2.5)	25-33%	32-40%	35-43%	40-48%	45-53%	40-48%
Median IA* (%)	24%	33%	33%	35%	41%	43%

- Standard-sized lots would have a percentage (**%**) limit
- Under/oversized lots would have a square footage (**sf**) limit

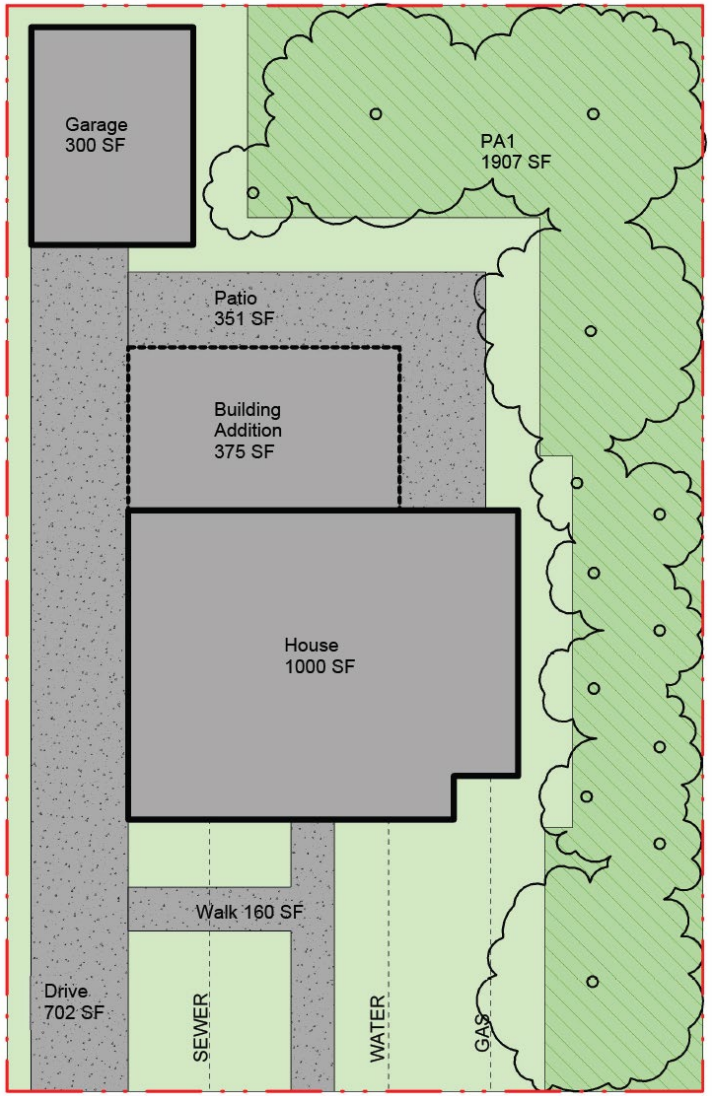
* *Source*: August 2025 Stormwater Utility GIS Data - LRS Study Area lots with one-family dwellings

Visualizing Lower/Middle/Upper Options

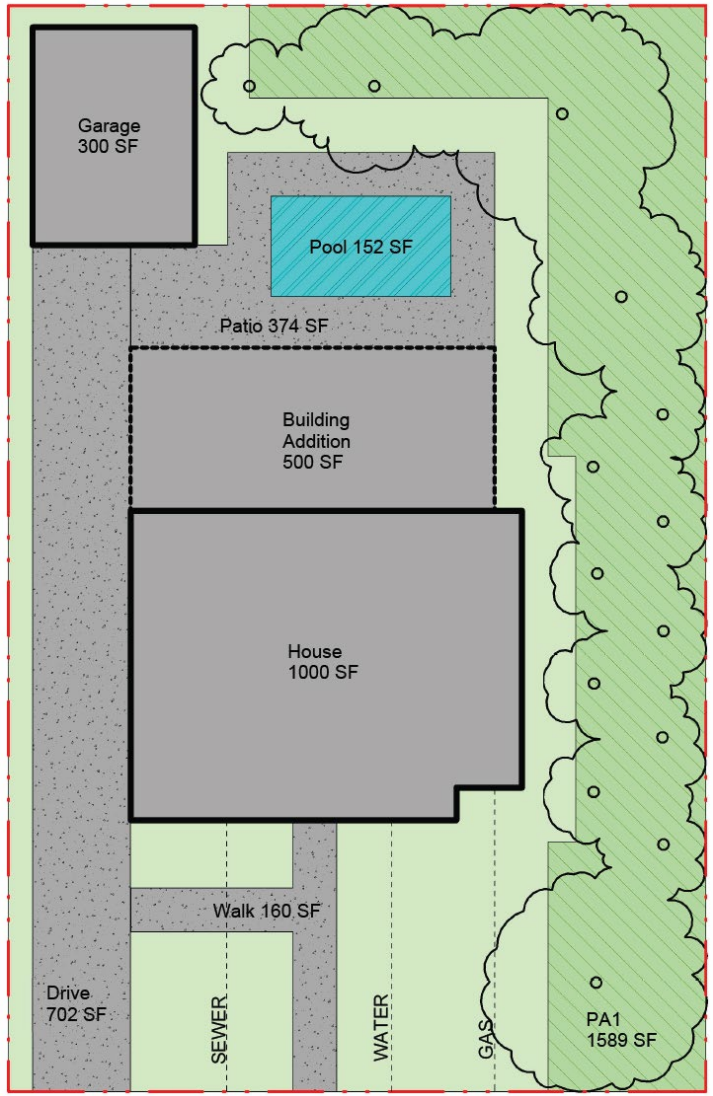
Illustrative Lot Diagrams (R-6 District)



40%



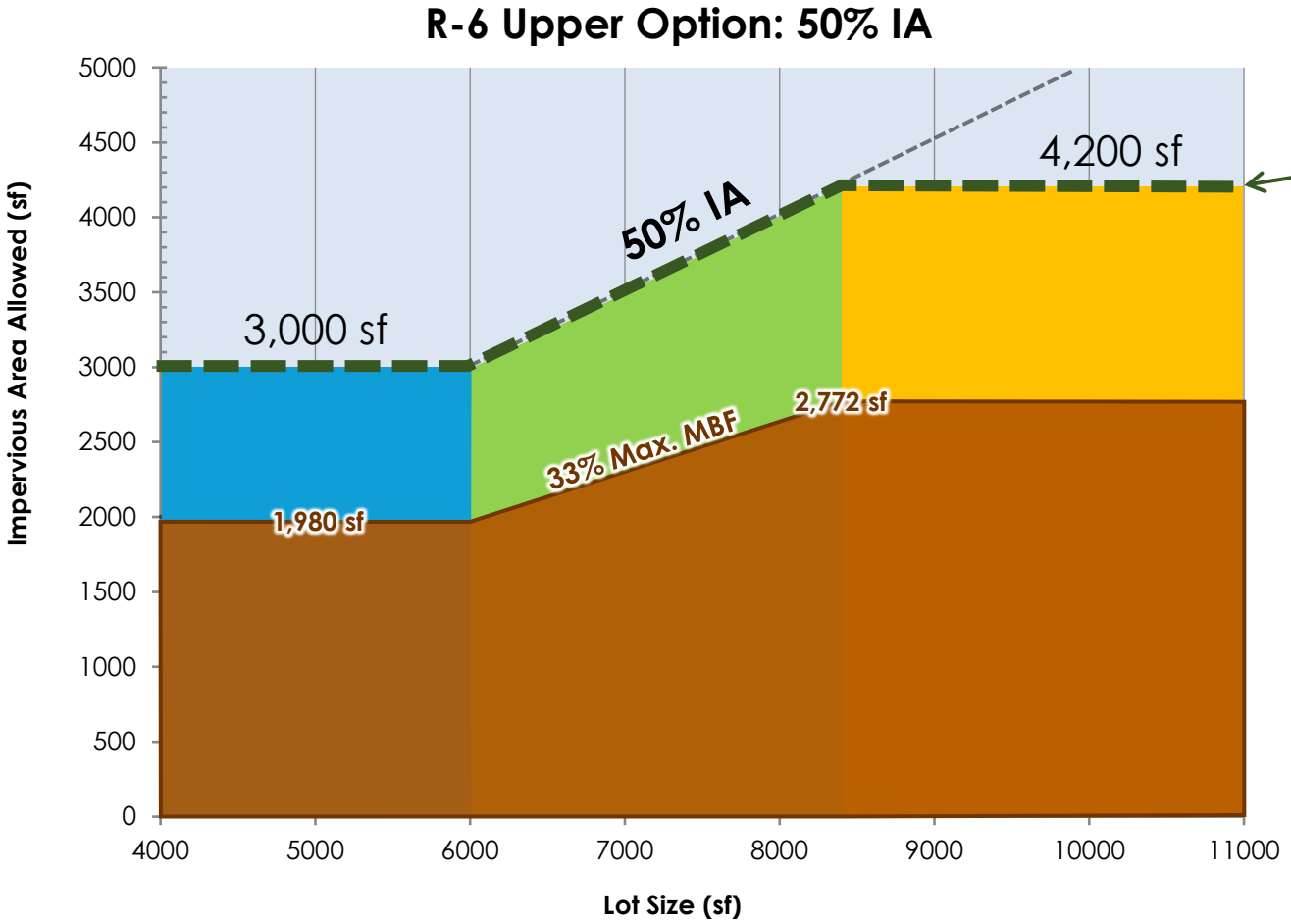
45%



50%

Proposed Impervious Area Options

How Limits Can Work for Undersized Lots



Impervious Area Cap

No impervious area allowed above the green line

Undersized Lot Allowance

Minimum req. lot size **X** IA limit **=** Allowable IA

Example: R-6 Upper Option

6,000 sf **X** 50% **=** 3,000 sf

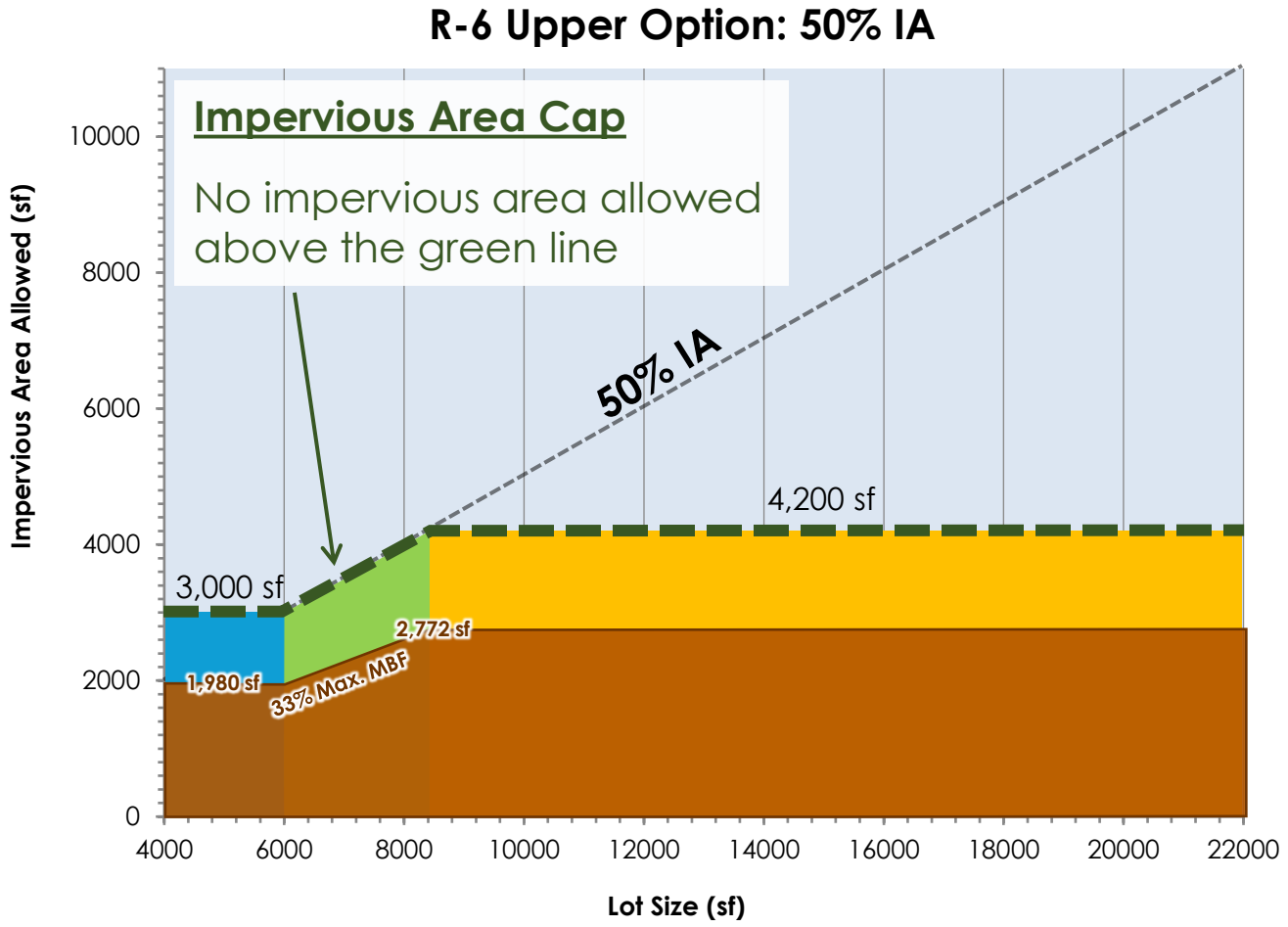
Legend

- Undersized Lots
- Standard-sized Lots
- Oversized Lots
- Max. Main Building Footprint Allowed

Standard-sized Lot IA Limit = **50%**

Proposed Impervious Area Options

How Limits Can Work for Oversized Lots



Standard-sized Lot IA Limit = **50%**

Oversized Lot Cap

6,000 sf	X	140%	=	8,400 sf
8,400 sf	X	50%	=	4,200 sf

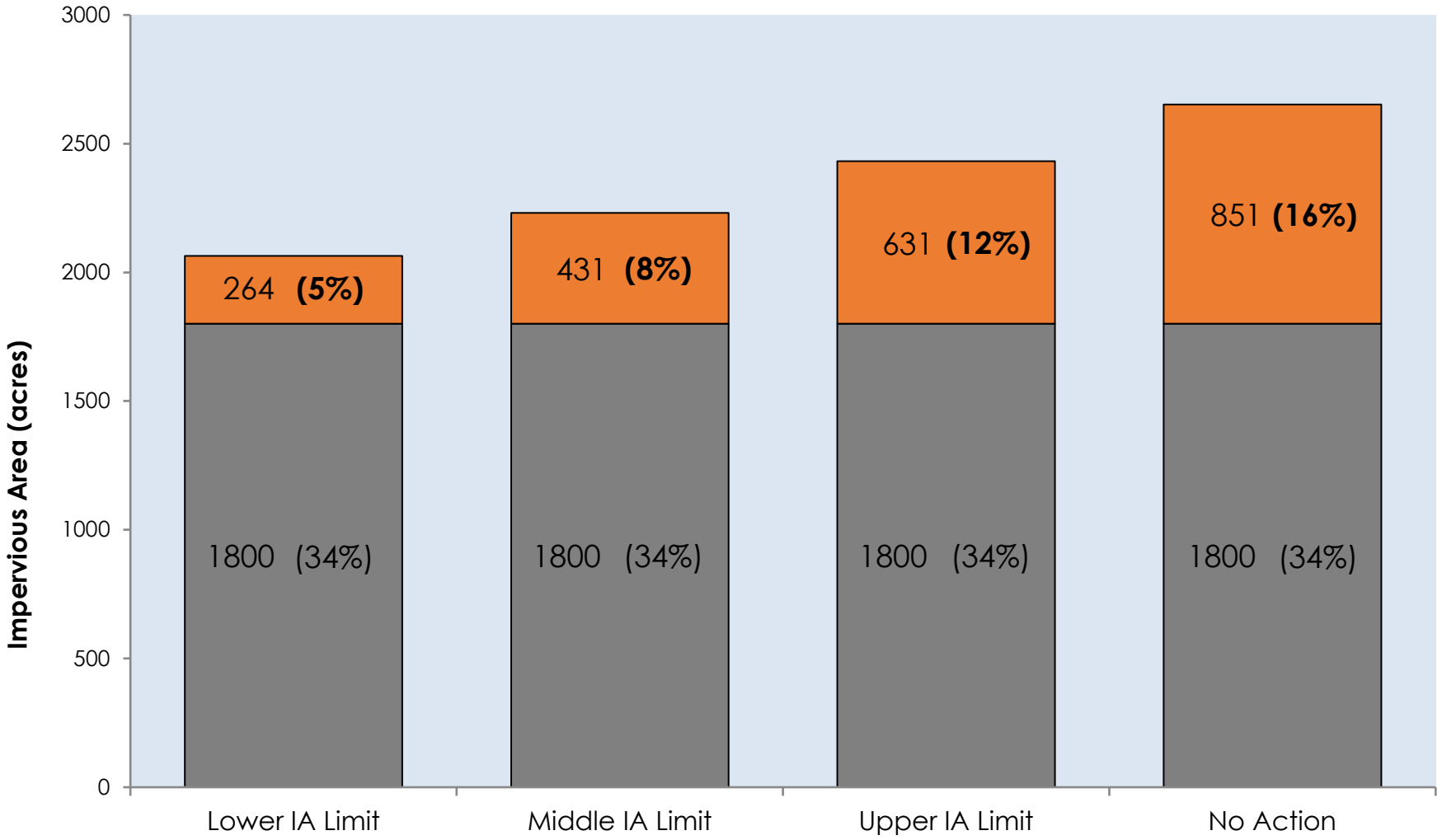
Example: R-6 Upper Option

Minimum req. lot size	X	140%	=	Oversized lot size
Oversized lot size	X	IA limit	=	Allowable IA

Legend

- Undersized Lots
- Standard-sized Lots
- Oversized Lots
- Max. Main Building Footprint Allowed

Proposed Impervious Area Options
Anticipated Outcomes



More acres for trees and other plants

More open areas for absorption of rainwater

Protected acreage estimates:

- Upper: 220 ac.
- Middle: 420 ac.
- Lower: 587 ac.

Maximum potential IA

Existing IA in LRS Study Area

Next Steps

- Conduct engagement through Sept/Oct
- Summarize feedback
- Prepare staff recommendation
- Obtain feedback from LRPC
- County Board provides staff direction for Phase 3

Phase 2
- **Scheduled to conclude in Fall 2026**

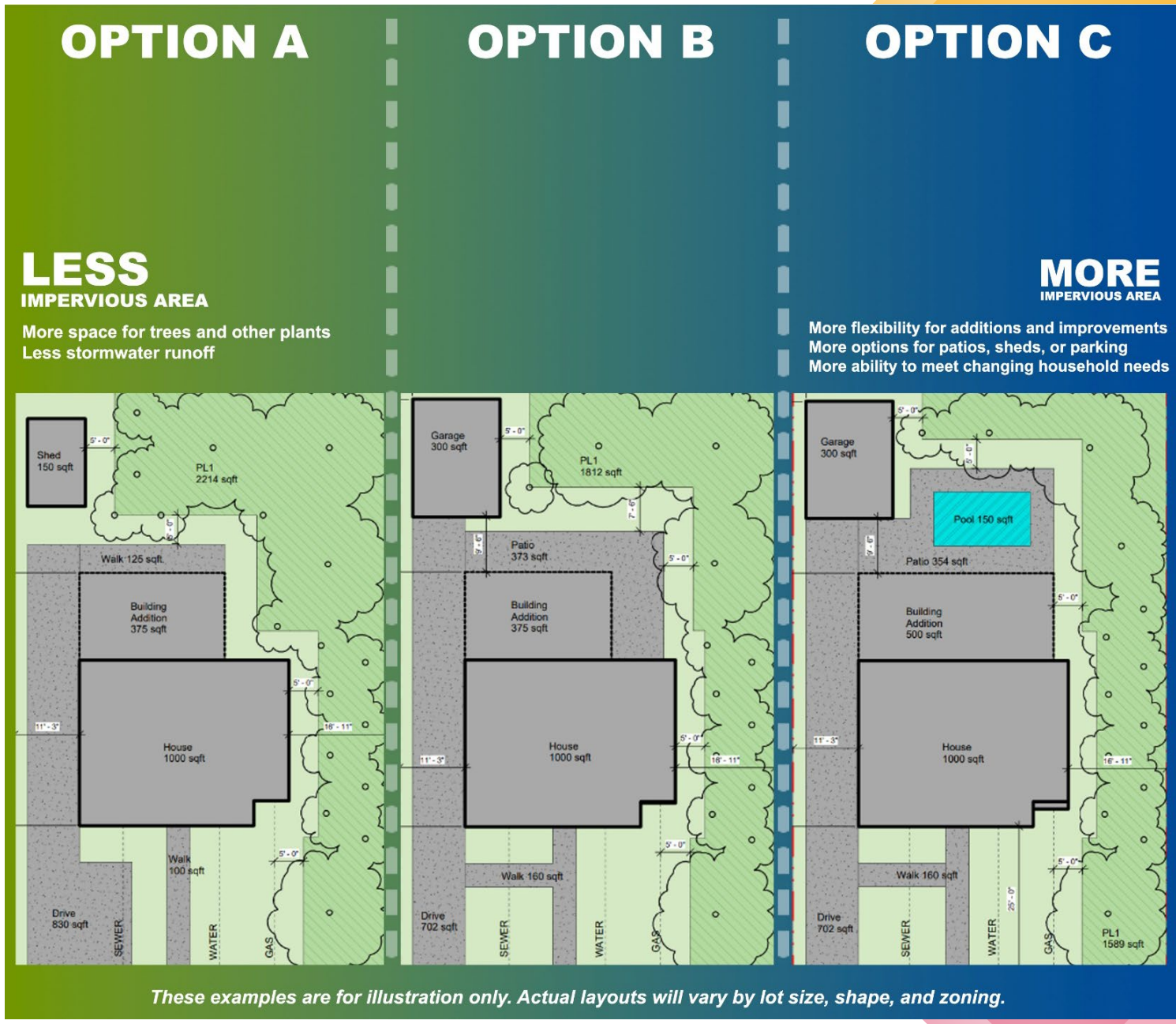
- Draft zoning text
- Address administrative/permitting process needs
- ZOCO
- RTA
- County Board considers adoption

Phase 3
- **Winter 2026 - Spring 2027**

Do you have any feedback on the options?

- Lower (Option A)
- Middle (Option B)
- Upper (Option C)

[Share your feedback](#)
by September 27



Low Residential Study (LRS)

Additional Reference Slides

Housing Commission Meeting

September 10, 2026







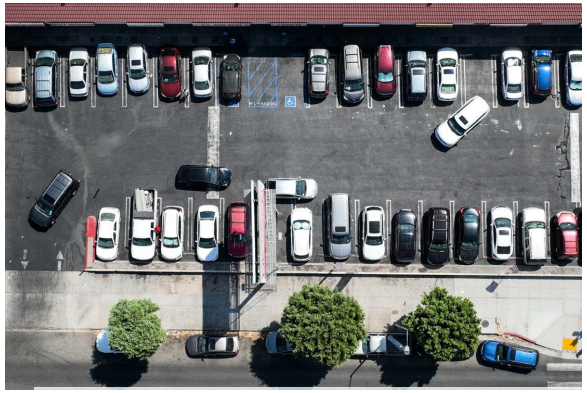


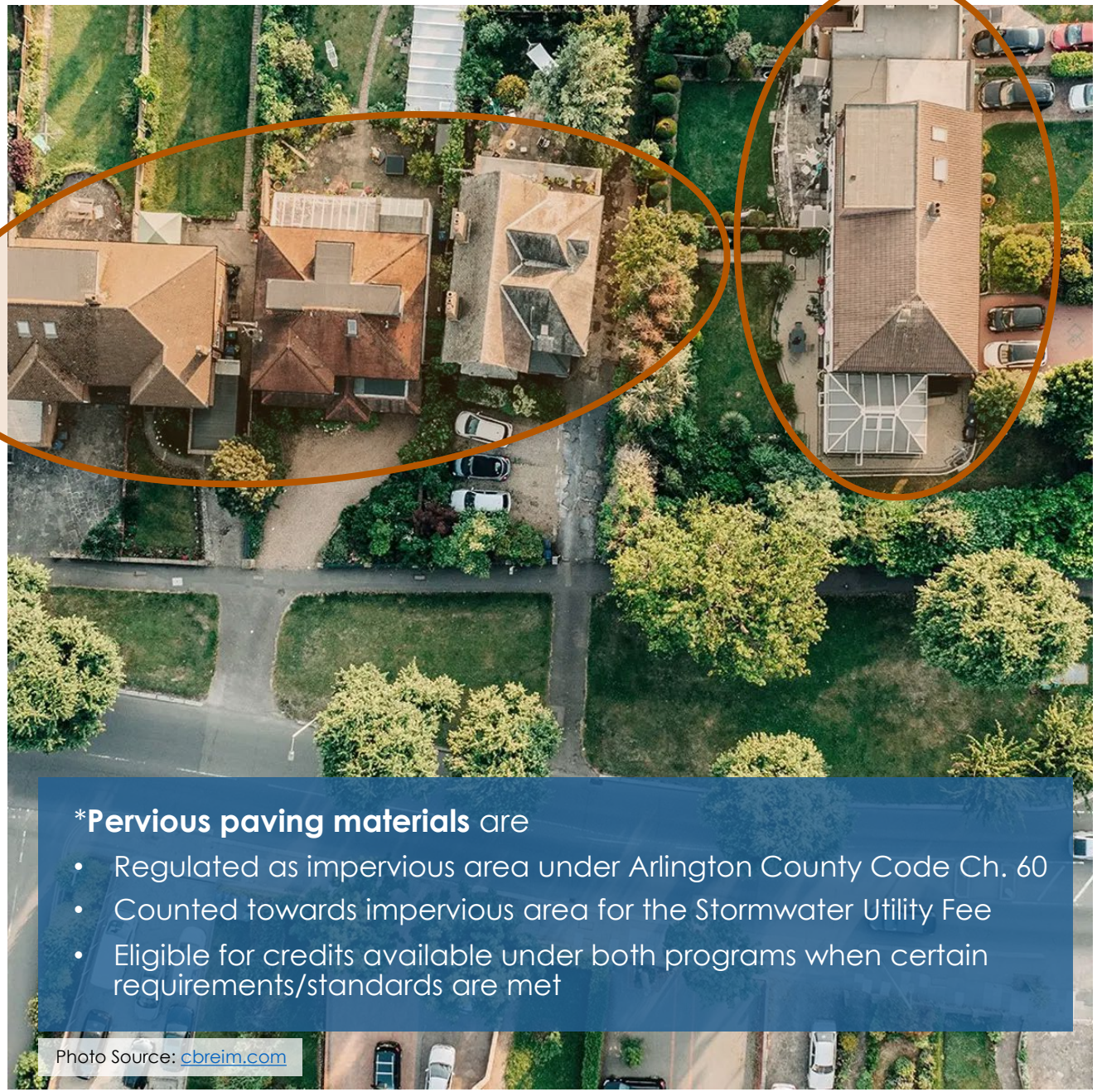
Photo Source: Qian Weizhong/VCG/Getty Images



Photo Source: Southwest Boulder & Stone

What is impervious surface/area?

- *Any* surface material that significantly **impedes or prevents** the ground from absorbing water*
- Examples:
  - roofs
  - buildings
  - streets
  - parking areas
  - concrete
  - asphalt
  - compacted gravel
  - compacted dirt



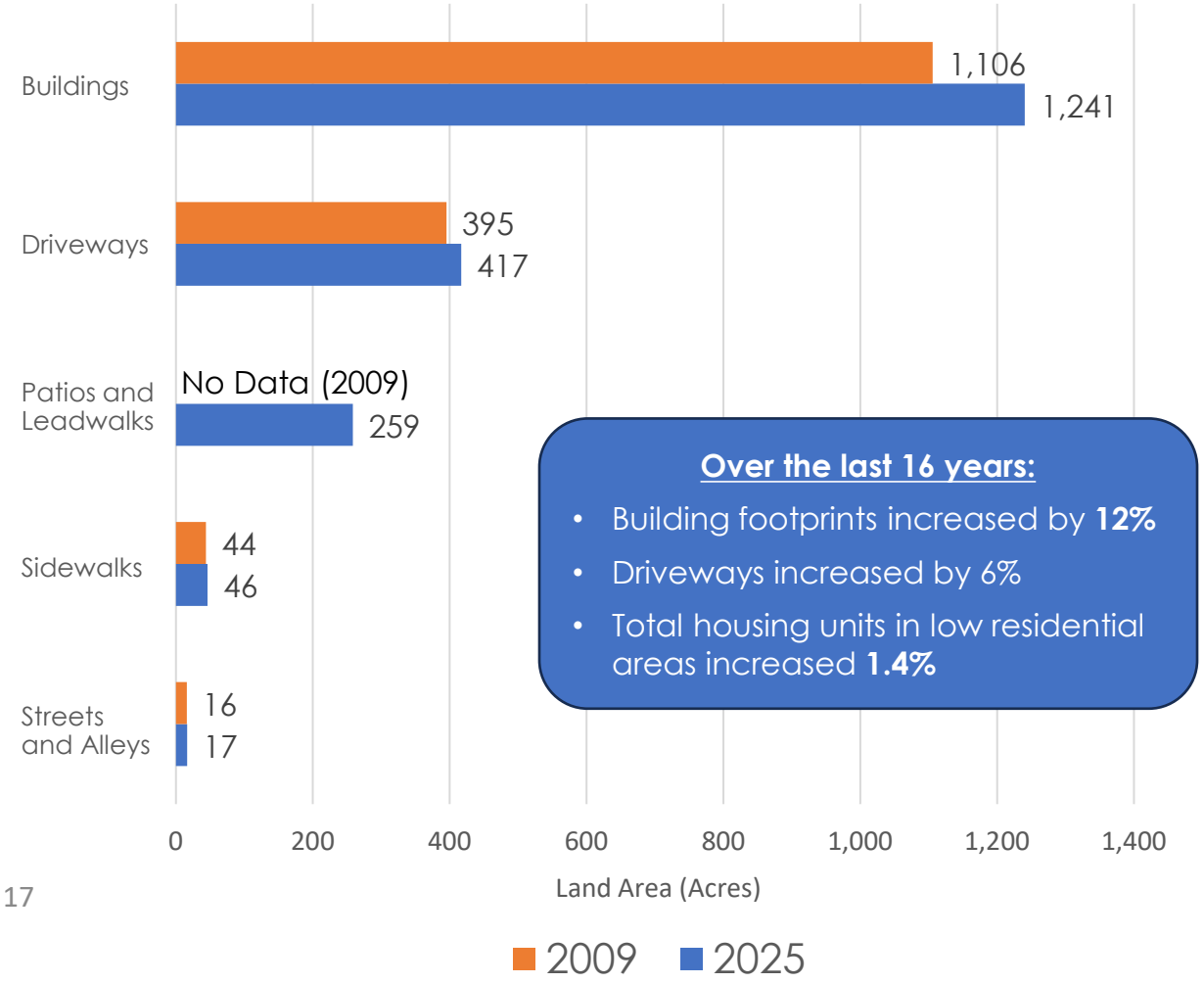
*__Pervious paving materials__ are
- Regulated as impervious area under Arlington County Code Ch. 60
- Counted towards impervious area for the Stormwater Utility Fee
- Eligible for credits available under both programs when certain requirements/standards are met

Photo Source: cbreim.com

Trends in Impervious Area for Arlington's Low Density Residential Neighborhoods

*Excludes **right-of-way** and non-residential uses (e.g. places of worship, golf courses)

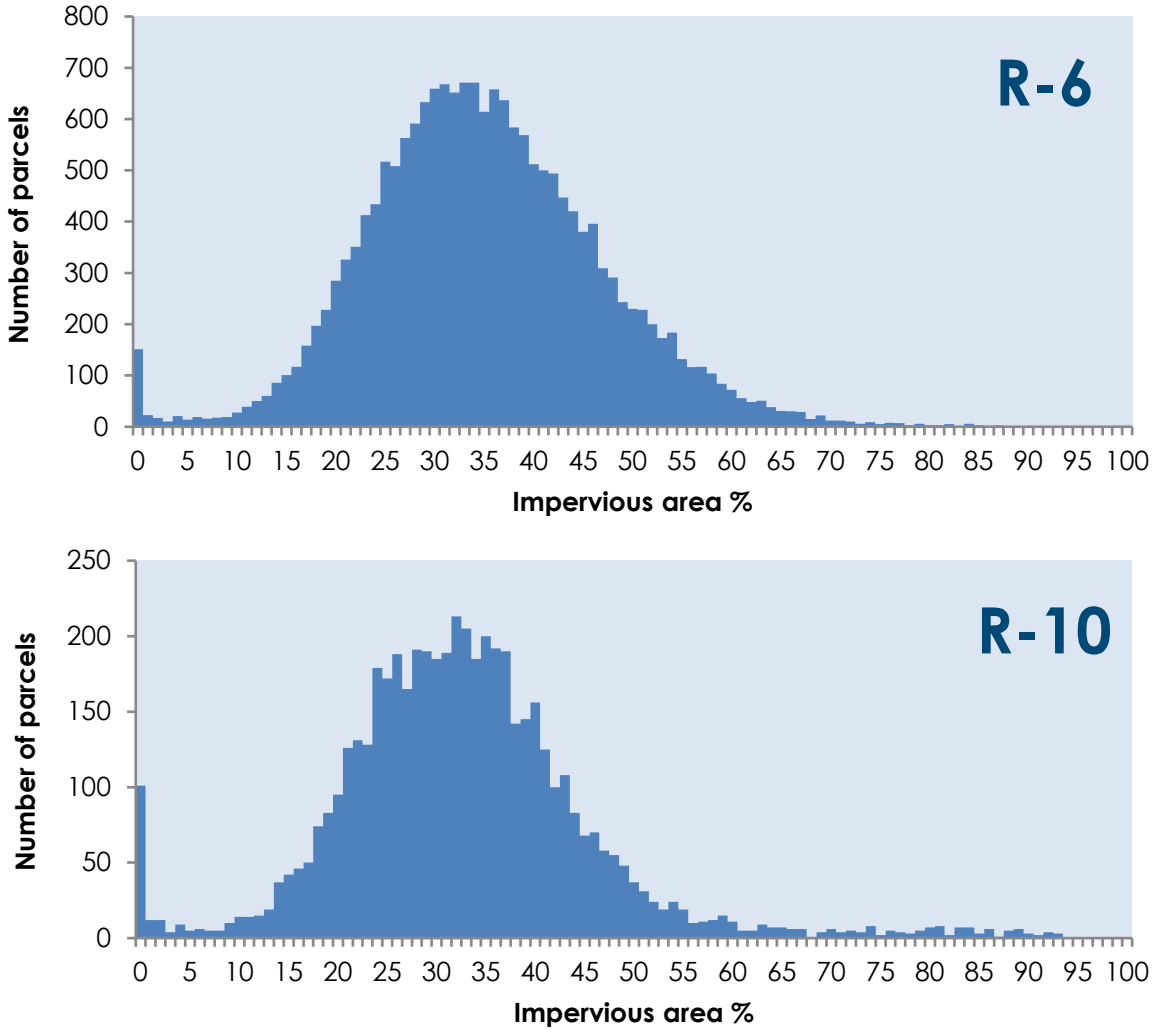
Impervious Area Change* (2009-2025)



Over the last 16 years:

- Building footprints increased by **12%**
- Driveways increased by 6%
- Total housing units in low residential areas increased **1.4%**

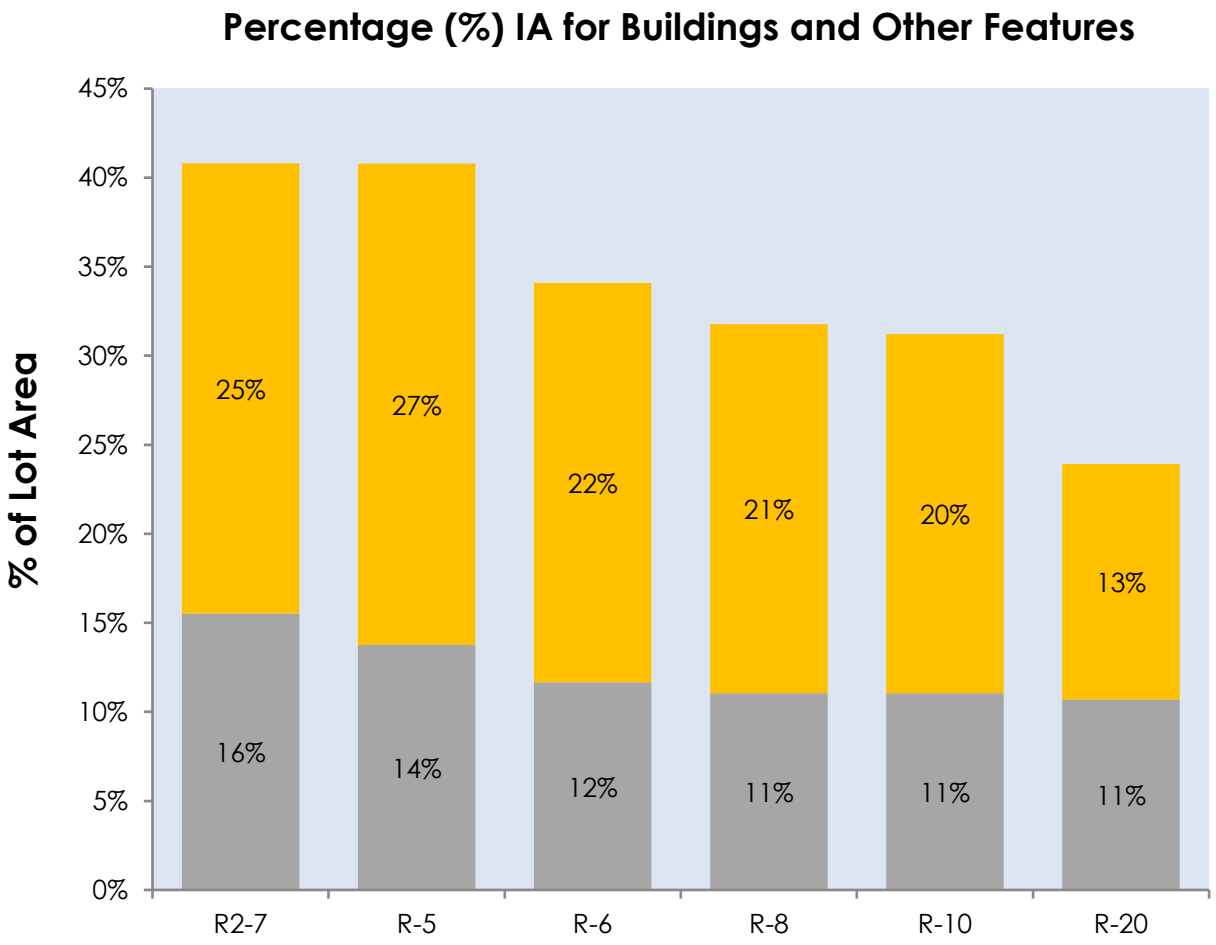
Impervious Area* in Selected Zoning Districts (2025)

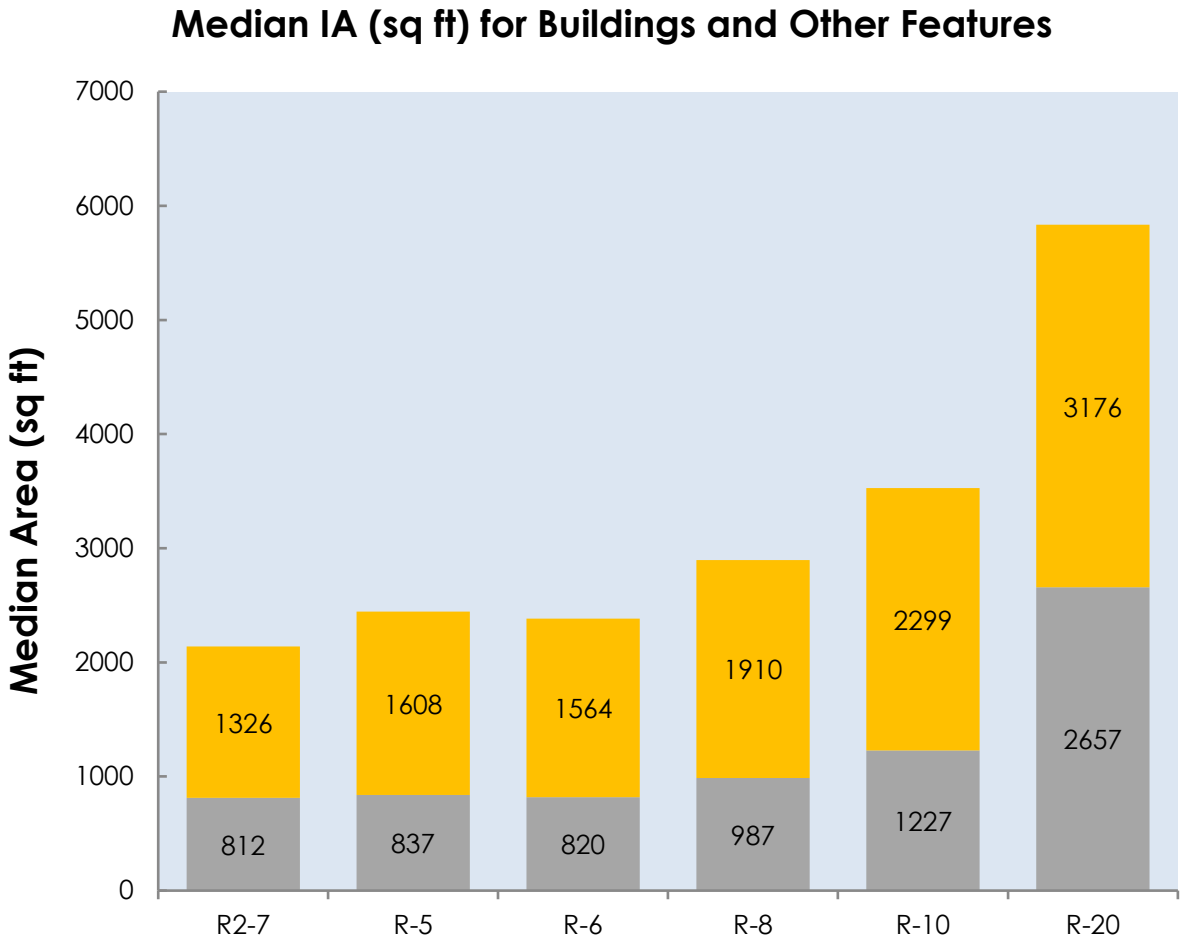


Phase 2 Data Analysis
Impervious Area Breakdown

Buildings include:
- Main buildings
- Accessory structures

Other features include:
- Driveways
- Patios & Lead Walkways
- Sidewalks
- Swimming Pools





Source: August 2025 Stormwater Utility GIS Data

Selecting the IA Limits
Lower Option Under/Oversized

- *Where did the percentages come from?*
  - Statistical analysis of Stormwater Utility and GIS data
  - Benchmarking info
  - Current lot coverage limits
  - Main building footprint

Maximum impervious area - **Lower** option

Applies to lots that are...	Unit of Meas.	R-20	R-10	R-8	R-6	R-5	R2-7
Undersized • i.e. Lots with less area than required by their zoning district	Square feet (sf) • Min. lot size **X** IA% for standard sized lot	5000	3000	2800	2400	2250	2250
Standard sized • i.e. Lots between 100-140% of the min. req. lot area	Percent of lot area (%)	25%	30%	35%	40%	45%	45%
Oversized • i.e. Lots larger than 140% of their zoning's min. lot area	Square feet (sf) • Min. lot size **X** 140%	7000	4200	3920	3360	3150	3150
Existing lot coverage maximums (§3.2.5)	Percent of lot area (%)	25-33%	32-40%	35-43%	40-48%	45-53%	40-48%
Minimum lot size	Square feet (sf)	20,000	10,000	8,000	6,000	5,000	5,000

Selecting the IA Limits
Middle Option Under/Oversized

- *Where did the percentages come from?*
  - Statistical analysis of Stormwater Utility and GIS data
  - Benchmarking info
  - Current lot coverage limits
  - Main building footprint

Maximum impervious area - **Middle** option

Applies to lots that are...	Unit of Meas.	R-20	R-10	R-8	R-6	R-5	R2-7
Undersized • i.e. Lots with less area than required by their zoning district	Square feet (sf) • Min. lot size **X** IA% for standard sized lot	6000	3500	3200	2700	2500	2500
Standard sized • i.e. Lots between 100-140% of the min. req. lot area	Percent of lot area (%)	30%	35%	40%	45%	50%	50%
Oversized • i.e. Lots larger than 140% of their zoning's min. lot area	Square feet (sf) • Min. lot size **X** 140%	8400	4900	4480	3780	3500	3500
Existing lot coverage maximums (§3.2.5)	Percent of lot area (%)	25-33%	32-40%	35-43%	40-48%	45-53%	40-48%
Minimum lot size	Square feet (sf)	20,000	10,000	8,000	6,000	5,000	5,000

Selecting the IA Limits
Upper Option Under/Oversized

- *Where did the percentages come from?*
  - Statistical analysis of Stormwater Utility and GIS data
  - Benchmarking info
  - Current lot coverage limits
  - Main building footprint

Maximum impervious area - **Upper** option

Applies to lots that are...	Unit of Meas.	R-20	R-10	R-8	R-6	R-5	R2-7
Undersized • i.e. Lots with less area than required by their zoning district	Square feet (sf) • Min. lot size **X** IA% for standard sized lot	7000	4000	3600	3000	2750	2750
Standard sized • i.e. Lots between 100-140% of the min. req. lot area	Percent of lot area (%)	35%	40%	45%	50%	55%	55%
Oversized • i.e. Lots larger than 140% of their zoning's min. lot area	Square feet (sf) • Min. lot size **X** 140%	9800	5600	5040	4200	3850	3850
Existing lot coverage maximums (§3.2.5)	Percent of lot area (%)	25-33%	32-40%	35-43%	40-48%	45-53%	40-48%
Minimum lot size	Square feet (sf)	20,000	10,000	8,000	6,000	5,000	5,000

Phase 2 Data Analysis
Lots with Two-Family Dwellings

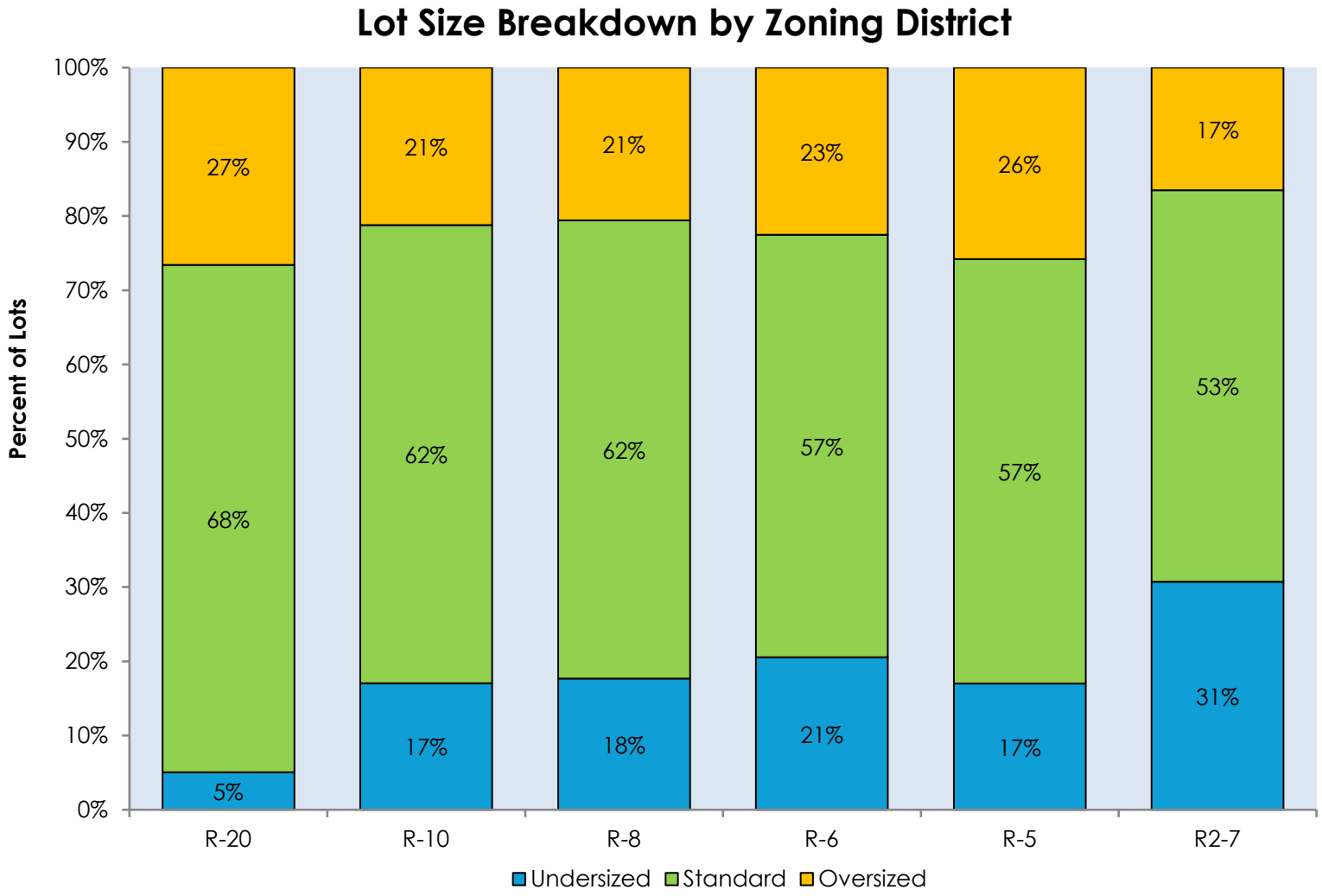
Proposed limits:
- Lower: **50%**
- Middle: **55%**
- Upper: **60%**

Two-family dwellings....
- Are permitted by-right in R2-7
- Are permitted by site plan in R15-30T
- Are only permitted in very limited locations in R-5/R-6

Two-Family Dwelling Types	Data	R-10T	R-6	R-5	R15-30T	R2-7
 Semidetached dwellings	Number of Lots in LRS Study Area	8	34	41	2	1472
	Median Lot Size (sf)	3300	3722	3047	3000	2971
	Median Imp. Area (sf)	910	1322	1264	1451	1297
	Median Imp. Area (%)	24%	36%	40%	48%	44%
 Duplexes	Number of Lots in LRS Study Area	0	59	171	3	8
	Median Lot Size (sf)	N/A	6092	6000	5717	4925
	Median Imp. Area (sf)	N/A	2486	2570	3887	2050
	Median Imp. Area (%)	N/A	41%	43%	52%	43%
Existing Zoning Ordinance Standards	Min. Req. Lot Size (Semidetached)	4300-5000	4350	4350	4350	3500
	Min. Req. Lot Size (Duplex)	4300-5000	8700	8700	8700	7000
	Lot coverage maximum (%)	56%	56%	56%	56%	56%

Sources: August 2025 Stormwater Utility GIS Data - LRS Study Area lots with two-family dwellings

Establishing standard lot size ranges



A majority of lots in each zoning district would be considered "standard-sized"

Standard-sized lot sizes (sq ft):

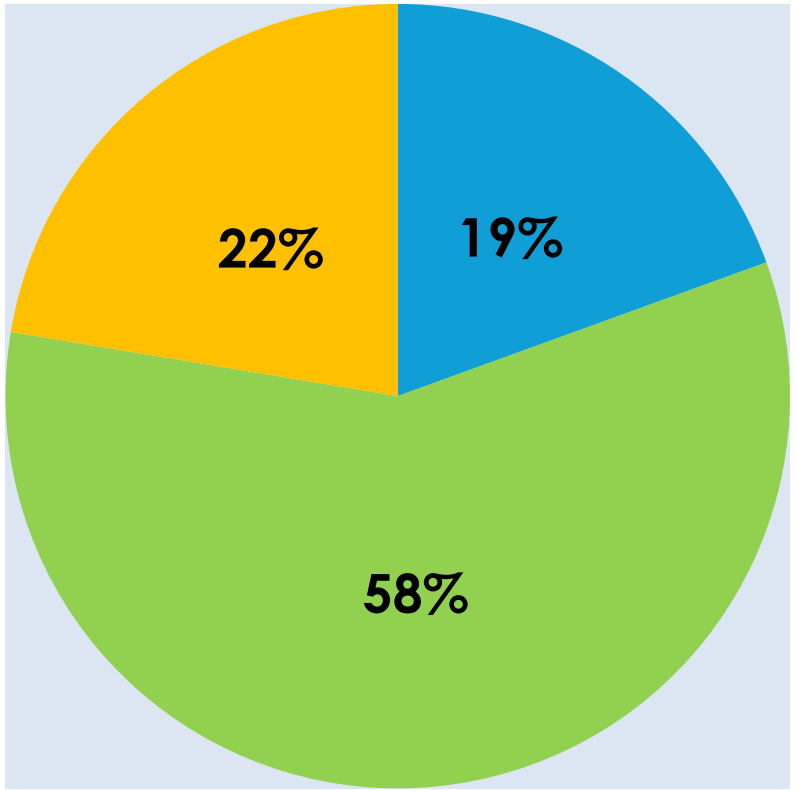
- R-20: 20,000 - 28,000
- R-10: 10,000 -14,000
- R-8: 8,000 - 11,200
- R-6: 6,000 - 8,400
- R-5: 5,000 - 7,000
- R2-7: 5,000 - 7,000

Standard = 100-140% Minimum Lot Size

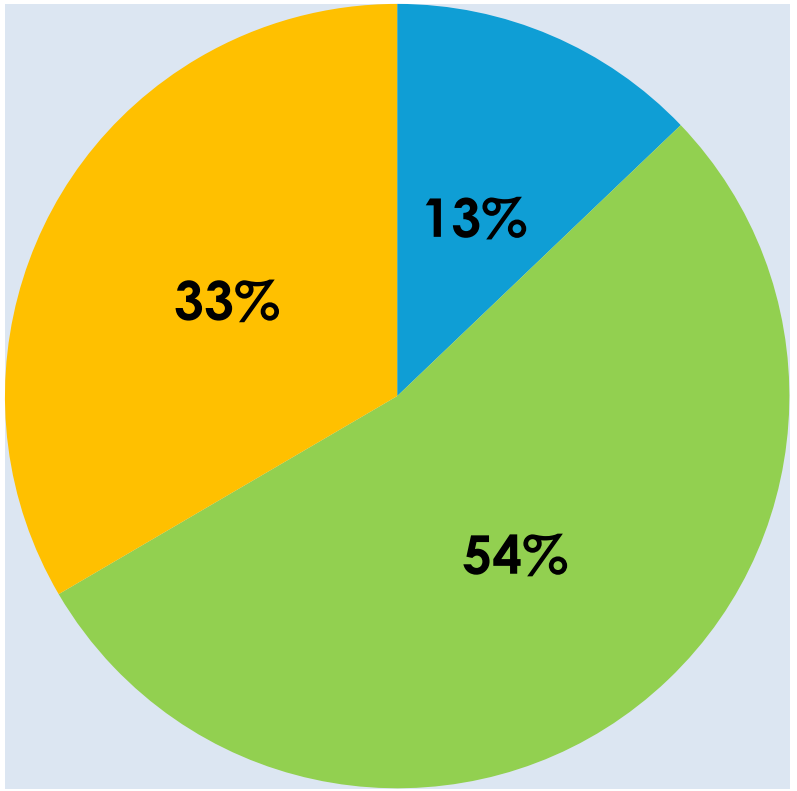
Lot Size Category Breakdown

How many lots? How much acreage?

% of LRS Lots



% of LRS Study Area

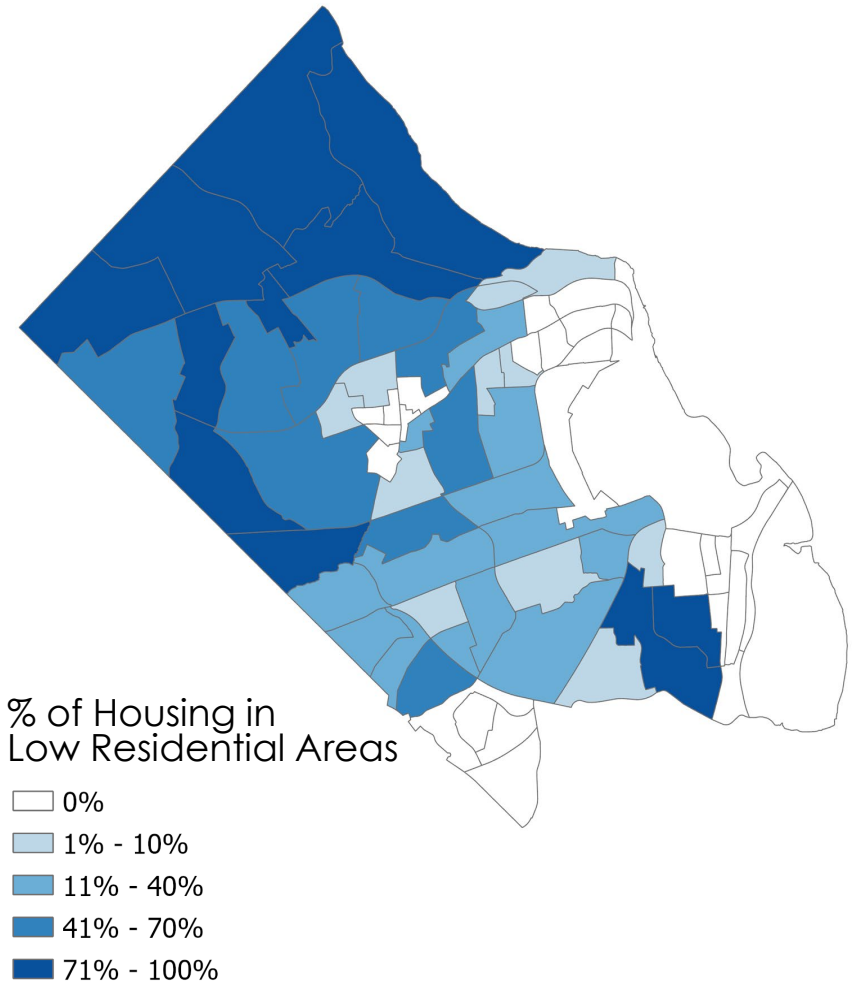


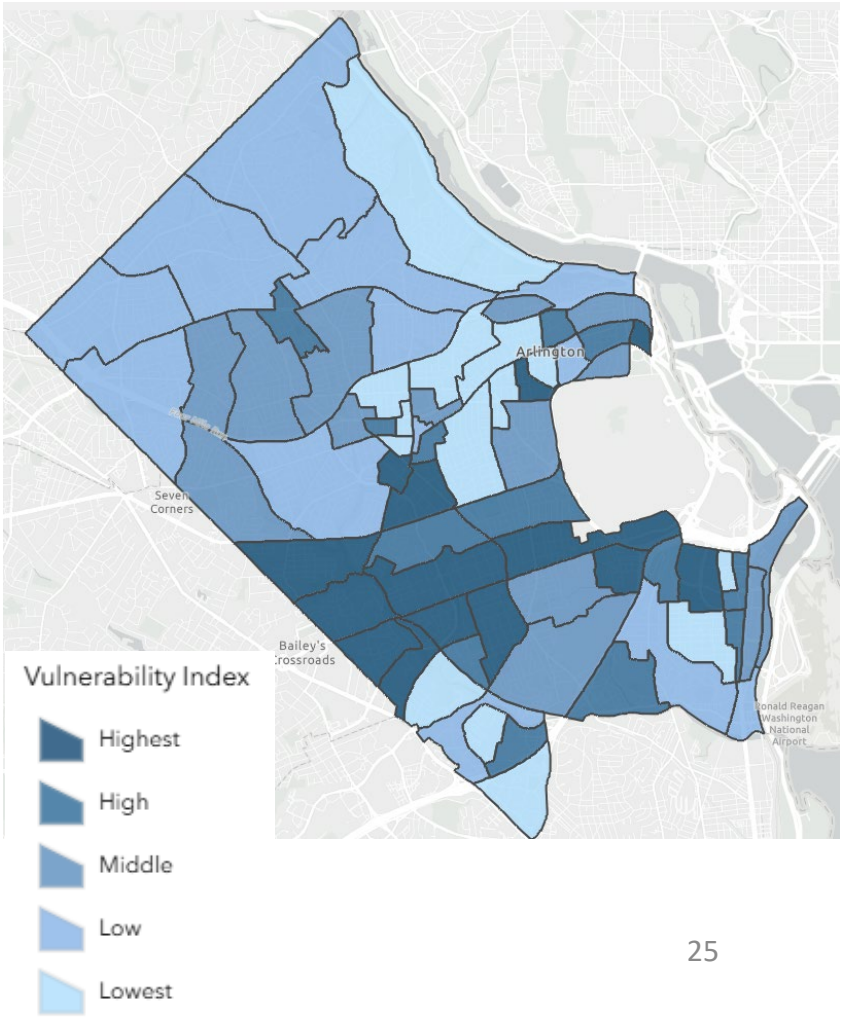
Equity Considerations
Community Vulnerability Index Map (CVIM)

Census tracts with higher amounts of Low Residential housing typically have lower concentrations of vulnerable populations.

An equity lens will be applied to the recommended limits using:

- CVIM: identifies concentrations of Arlington's vulnerable populations
- American Forests' Tree Equity Score Analyzer





Equity Considerations
Benefits and Burdens

Benefits	Burdens
More space for trees	Properties with existing impervious area above the limits may become nonconforming, if not already
More space for stormwater runoff	Less flexibility for property owners to add impervious area
Less heat retained during hotter months	New regulations and potentially new permitting process
Reduced flood risk	
Less stress on public facilities that manage stormwater	



- Limiting impervious area could result in benefits and burdens
  - Different scales – lot, neighborhood, Countywide
  - Comparisons between neighborhoods

Comparisons with Other Jurisdictions
Benchmarking Summary

Locality	Min. Lot Size (sq. ft.)	Impervious Area (% of lot area)	Lot Coverage (% of lot area)	Building Footprint (% of lot area)
Fairfax City	6,500 - 20,000	40-50%	--	25-35%
Fairfax County	5,000 - 15,000	--	--	--
Falls Church	7,500 - 11,250	35%	--	25%
Hampton	4,000 - 22,000	--	--	--
Herndon	10,000 - 15,000	50%	--	25%
Norfolk	4,000 - 25,000	50-65%	--	--
Roanoke City	5,500 - 8,000	50-70%	--	--
Suffolk	6,000 - 10,000	30-50%	--	--
Vienna	10,000 - 16,000	--	25%, *plus* 5% deck & outdoor living coverage	--
Virginia Beach	5,000 - 20,000	60% (1 district only)	--	25-40%
New Haven	4,000 - 7,500	50-70%	--	30-50%
Philadelphia	5,000 - 10,000	--	--	30-35%
Arlington	3,500 - 20,000	--	25-53%	16-37%*

*Arlington only regulates the **maximum main building footprint coverage**; other jurisdictions' building footprint regulations include all of the buildings and structures on site

- **5** jurisdictions regulate *both* impervious area and building footprint
- **3** jurisdictions only regulate **impervious area** (includes buildings)
- **1** jurisdiction (Philadelphia) only regulates **building footprint**
  - Impervious area maximum regulated in defined, env. sensitive areas
- **1** jurisdiction regulates lot coverage like Arlington
  - Vienna lists the features that count in their RESIDENTIAL LOT COVERAGE definition
- **2** jurisdictions *do not regulate* IA/lot coverage or building footprint
  - Fairfax County regulates coverage, but only for accessory structures/uses within a required rear yard

Source: January 2026 LRS Benchmarking Report

Comparisons with Other Jurisdictions
R-6 Zoning District

Locality	Zoning District	Min. Lot Size (sq. ft.)	Max. Building Footprint (% of lot area)	Max. Lot Coverage (% of lot area)	Max. Impervious Area (% of lot area)
Fairfax Co.	R-5	5,000	--	30% (rear yard only)	--
Fairfax City	RH	6,000	35%	--	50%
Norfolk	SF-10	5,000	--	--	60%
Roanoke City	R-7	5,500	--	--	50%
Suffolk	RC	6,000	--	--	50%
Virginia Beach	R-5D	5,000	40%	--	--
	R-5R	5,000	35%	--	60%
	R-5S	5,000	40%	--	--
Arlington	R-6	6,000	30-33%*	40-48%	**40/45/50% (Phase 2 options)**

*Arlington regulates the **maximum main building footprint coverage**; Fairfax City and Virginia Beach include all buildings and structures on site

Fairfax County only limits lot coverage to 30% of the required rear yard

Virginia Beach regulates impervious area for 1 zoning district, but not others

Source: January 2026 LRS Benchmarking Report

100% Tree Canopy Lots Are Not Impossible



R-6
Lot Size: 6,500 sf
%IA: 25%
%TC: 100%



R-10
Lot Size: 10,000 sf
%IA: 23%
%TC: 100%



R-20
Lot Size: 24,237 sf
%IA: 19%
%TC: 100%

Estimated Percentage of One-Family Dwelling Lots Exceeding Potential IA Limits

Estimated Percentage of One-Family Dwelling Lots Exceeding Potential IA Limits						
IA Limit	**R-20**	**R-10**	**R-8**	**R-6**	**R-5**	**R2-7**
25%	53%					
30%	30%	59%				
35%	17%	39%	39%			
40%		21%	23%	34%		
45%			12%	20%	41%	36%
50%				11%	27%	25%
55%					17%	15%

Source: August 2025 Stormwater Utility GIS Data

Phase 2 Imp. Area Options	Lower
	Middle
	Upper

Less impervious area allowed

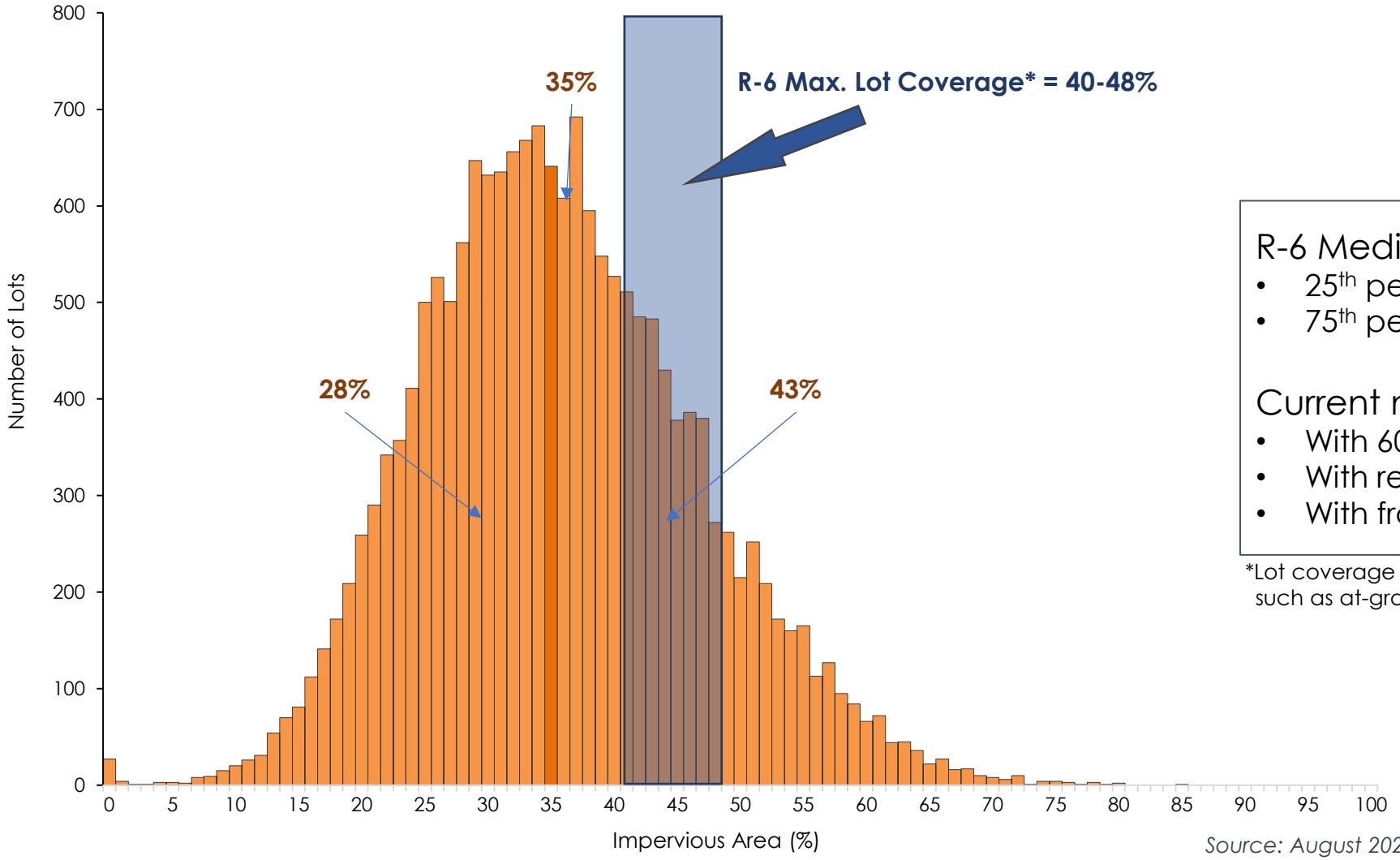
Better for stormwater, tree canopy, and adjacent properties

More flexible for property owners and individual uses

More impervious area allowed

Phase 2 Data Analysis

Number of One-Family Dwelling Lots by Impervious Area, R-6 Zoning District



R-6 Median Impervious Area: **35%**

- 25th percentile: 28%
- 75th percentile: 43%

Current max. lot coverage limits for R-6: **40%**

- With 60 sq. ft. front porch: **43%**
- With rear yard detached garage: **45%**
- With front porch and detached garage: **48%**

*Lot coverage **does not** account for all types of impervious features, such as at-grade patios and leadwalks

Source: August 2025 Stormwater Utility GIS Data

Phase 2 Data Analysis
Median Impervious Area (IA); Median Tree Canopy (TC)

LRS Study Area: Median Impervious Area and Tree Canopy for One-Family Dwellings							
Zoning District	**# of Lots**	**Median Lot Size (sf)**	**Median IA (sf)**	**Median IA (%)**	**ACZO Max. Lot Coverage**	**Median TC (sf)**	**Median TC (%)**
R-20	297	22,211	5,679	24%	25-33%	15,756	67%
R-10	4,888	10,875	3,644	33%	32-40%	5,457	49%
R-8	1,696	8,965	2,939	33%	35-43%	4,501	50%
R-6	17,847	6,750	2,415	35%	40-48%	2,893	42%
R-5	2,120	6,000	2,482	41%	45-53%	1,916	32%
R2-7	436	5,250	2,133	43%	40-48%	1,420	26%
Total	27,284	7,383	2,625	35%	--	3,212	43%

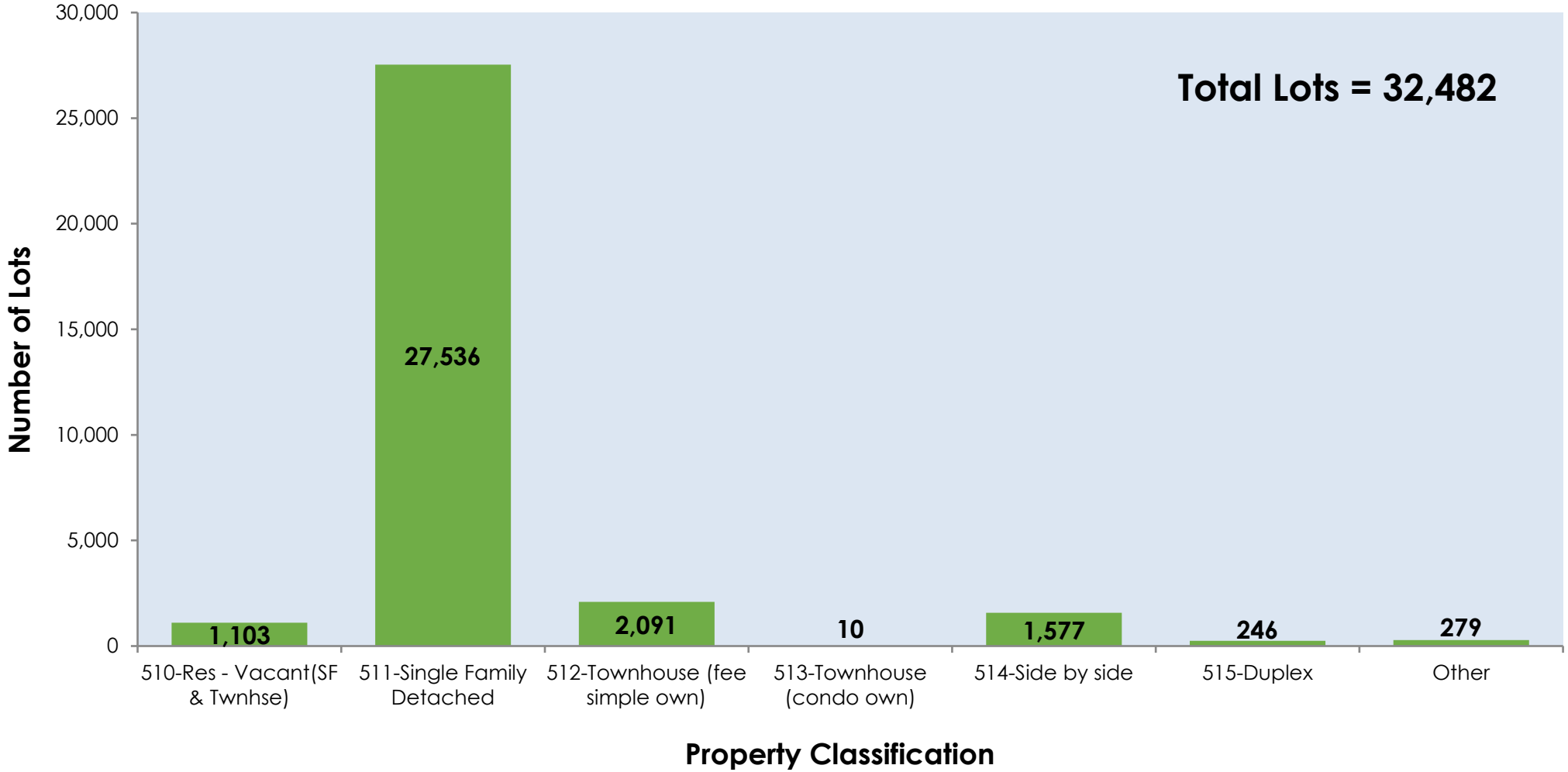
Larger lots (R-8, R-10, R-20):
- Higher % of tree canopy

Smaller lots (R2-7, R-5, R-6):
- Higher % of impervious area

Sources: August 2025 Stormwater Utility GIS Data - LRS Study Area lots with one-family dwellings, 2023 Tree Canopy Data

Housing Types in Low Density Residential Areas

Lots by Real Estate Property Classification



Source: Department of Real Estate Assessments