Loudoun County RPA Preservation

Extrapolating Costs of Clusters

Prepared by
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LCPCC Zoning Committee Chair

Walsh-Copeland Consulting, LLC   For

GOAL: Evaluate the Cost of Cluster Increased Density on Capital Facilities, Schools and Traffic Volume

Answer a Question
- How can RPA Preservation proposals be evaluated for cost impacts to County Capital & Operating Budgets?

Example Analysis
- Department of Planning & Zoning report: Approved & Active RPA Cluster Subdivisions 2010 to 2020*
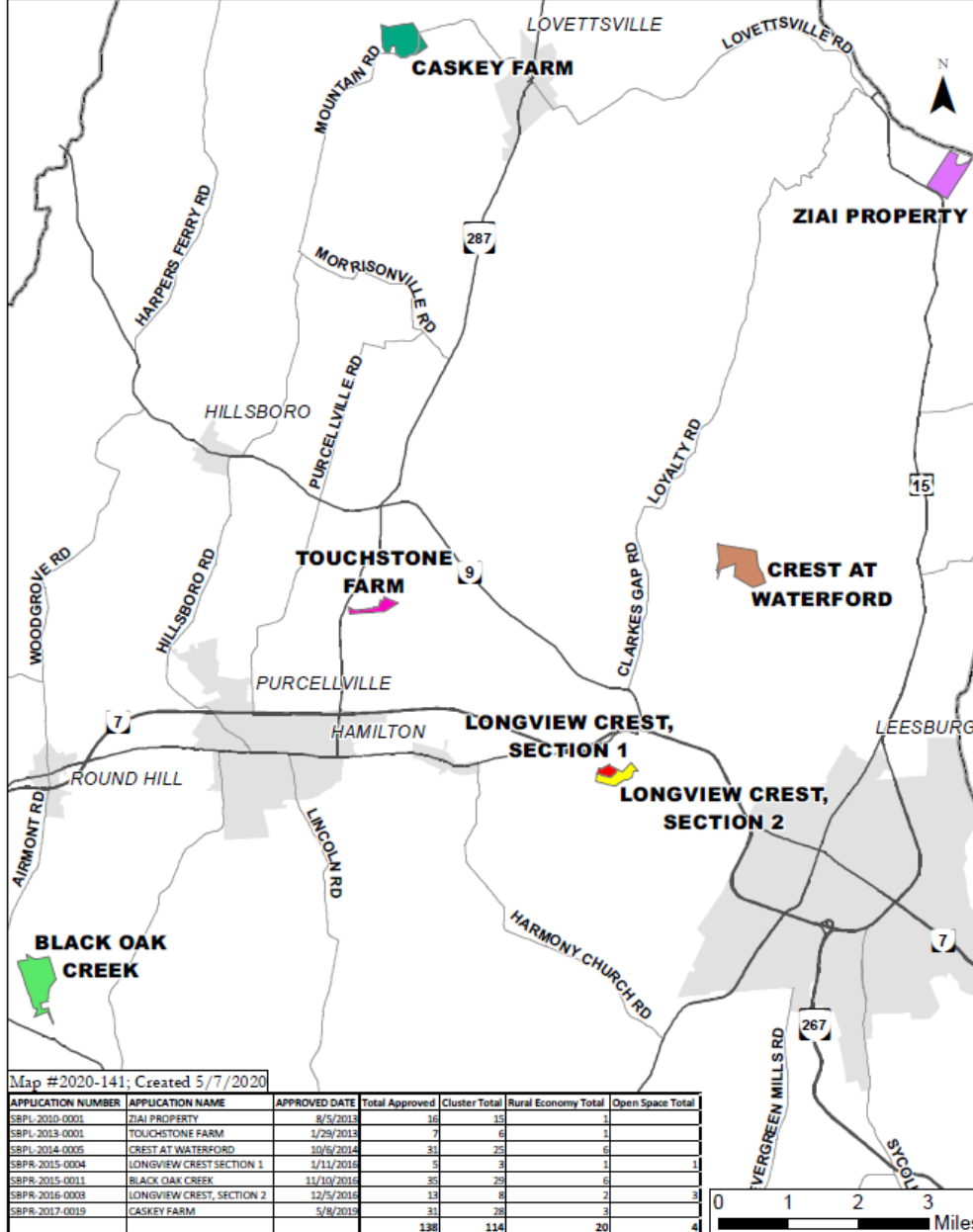
Next Steps
- Extrapolate costs for other RPA Proposals

*Source: Loudoun County Dept. of Planning & Zoning, Maps # 2020-140 and 2020-141, Created 5/7/2020
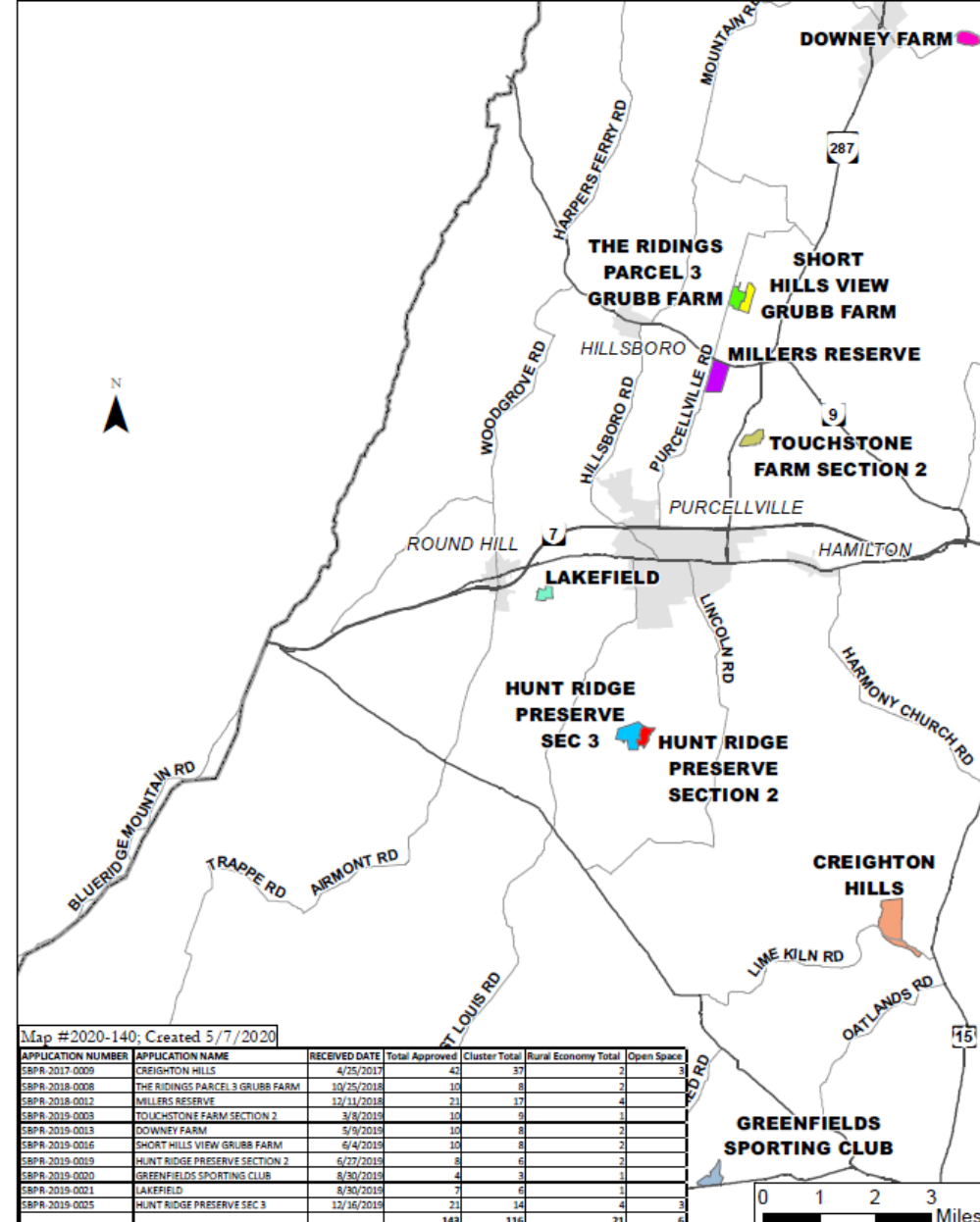
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ACTIVE/ APPROVED RPA Cluster Subdivisions: 2010 to 2020*

For Example Use Only: County DPZ Report does not include clusters approved prior to 2010 and is therefore not all inclusive.

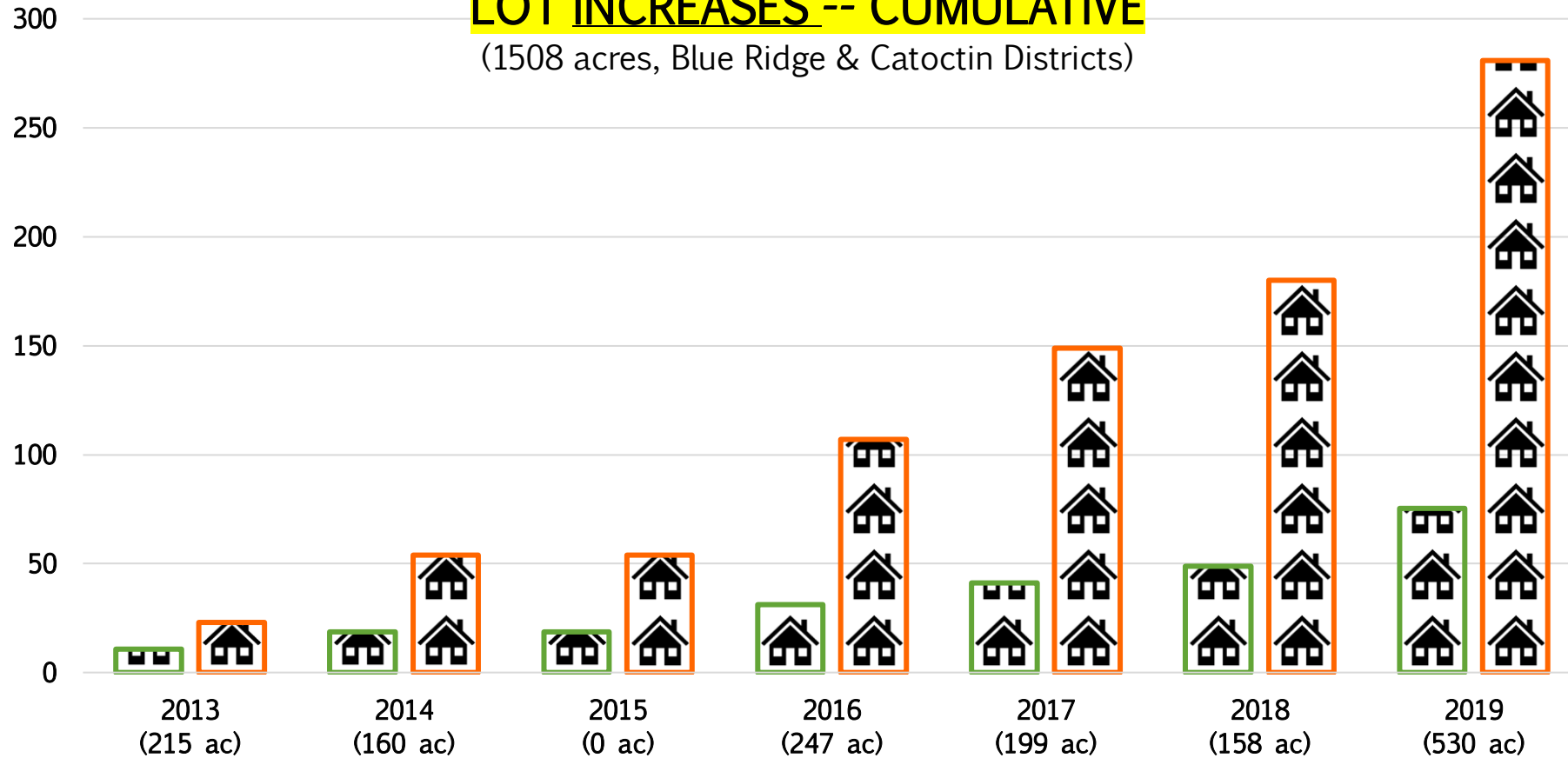Approved RPA Cluster Subdivisions: January 1, 2010 to January 1, 2020

Map #2020-141; Created 5/7/2020

APPLICATION NUMBER	APPLICATION NAME	APPROVED DATE	Total Approved	Cluster Total	Rural Economy Total	Open Space Total
SBPL-2010-0001	ZIAI PROPERTY	8/5/2013	16	15		
SBPL-2013-0001	TOUCHSTONE FARM	1/29/2013	7	6		1
SBPL-2014-0005	CREST AT WATERFORD	10/6/2014	31	25	6	
SBPR-2015-0004	LONGVIEW CREST SECTION 1	1/11/2016	5	3	1	1
SBPR-2015-0011	BLACK OAK CREEK	11/10/2016	35	29	6	
SBPR-2016-0008	LONGVIEW CREST, SECTION 2	12/5/2016	13	8	2	3
SBPR-2017-0019	CASKEY FARM	5/8/2019	31	28	3	
			138	114	20	4

Active RPA Cluster Subdivisions: January 1, 2010 to January 1, 2020

Map #2020-140; Created 5/7/2020

APPLICATION NUMBER	APPLICATION NAME	RECEIVED DATE	Total Approved	Cluster Total	Rural Economy Total	Open Space
SBPR-2017-0009	CREIGHTON HILLS	4/25/2017	42	37	2	3
SBPR-2018-0008	THE RIDINGS PARCEL 3 GRUBB FARM	10/25/2018	10	8	2	
SBPR-2018-0012	MILLERS RESERVE	12/11/2018	21	17	4	
SBPR-2019-0003	TOUCHSTONE FARM SECTION 2	3/8/2019	10	9	1	
SBPR-2019-0013	DOWNEY FARM	5/9/2019	10	8	2	
SBPR-2019-0016	SHORT HILLS VIEW GRUBB FARM	6/4/2019	10	8	2	
SBPR-2019-0019	HUNT RIDGE PRESERVE SECTION 2	6/27/2019	8	6	2	
SBPR-2019-0020	GREENFIELDS SPORTING CLUB	8/30/2019	4	3	1	
SBPR-2019-0021	LAKEFIELD	8/30/2019	7	6	1	
SBPR-2019-0025	HUNT RIDGE PRESERVE SEC 3	12/16/2019	21	14	4	3
			143	116	21	6

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*SOURCE: Department of Planning & Zoning

ACTIVE/APPROVED RPA Cluster Subdivisions: January 1, 2010 to January 1, 2020*

LOT INCREASES -- CUMULATIVE
(1508 acres, Blue Ridge & Catoctin Districts)

Legend:
- Lots @ Density (Cumulative)
- Total Lots w/ Cluster (Cumulative)

X-axis:
- 2013 (215 ac)
- 2014 (160 ac)
- 2015 (0 ac)
- 2016 (247 ac)
- 2017 (199 ac)
- 2018 (158 ac)
- 2019 (530 ac)

Blue Ridge: 2015-2019
8 Clusters
614 acres
= 30 lots @ density
= 116 lots w/cluster
= 378% increase

Catoctin: 2010-2019
9 Clusters
894 acres
= 45 lots @ density
= 165 lots w/cluster
= 369% increase

TOTAL: 2010-2019
17 Clusters
1508 acres
= 75 lots @ density
= 281 lots w/cluster
= 373% increase

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*SOURCE: Department of Planning & Zoning

RPA Cluster Subdivisions: 2010 to 2020 EXTRAPOLATIONS:** Population and Children

Capital Intensity Factor: Western CIF*

Population per Household	3.39
Children per Household	.92

Cluster: INCREASED Population & Students
(Over standard AR1 Density)

2010-2020 = Est. increase

697 people, 189 children*

Inc. Pop/unit   Inc. Child/unit

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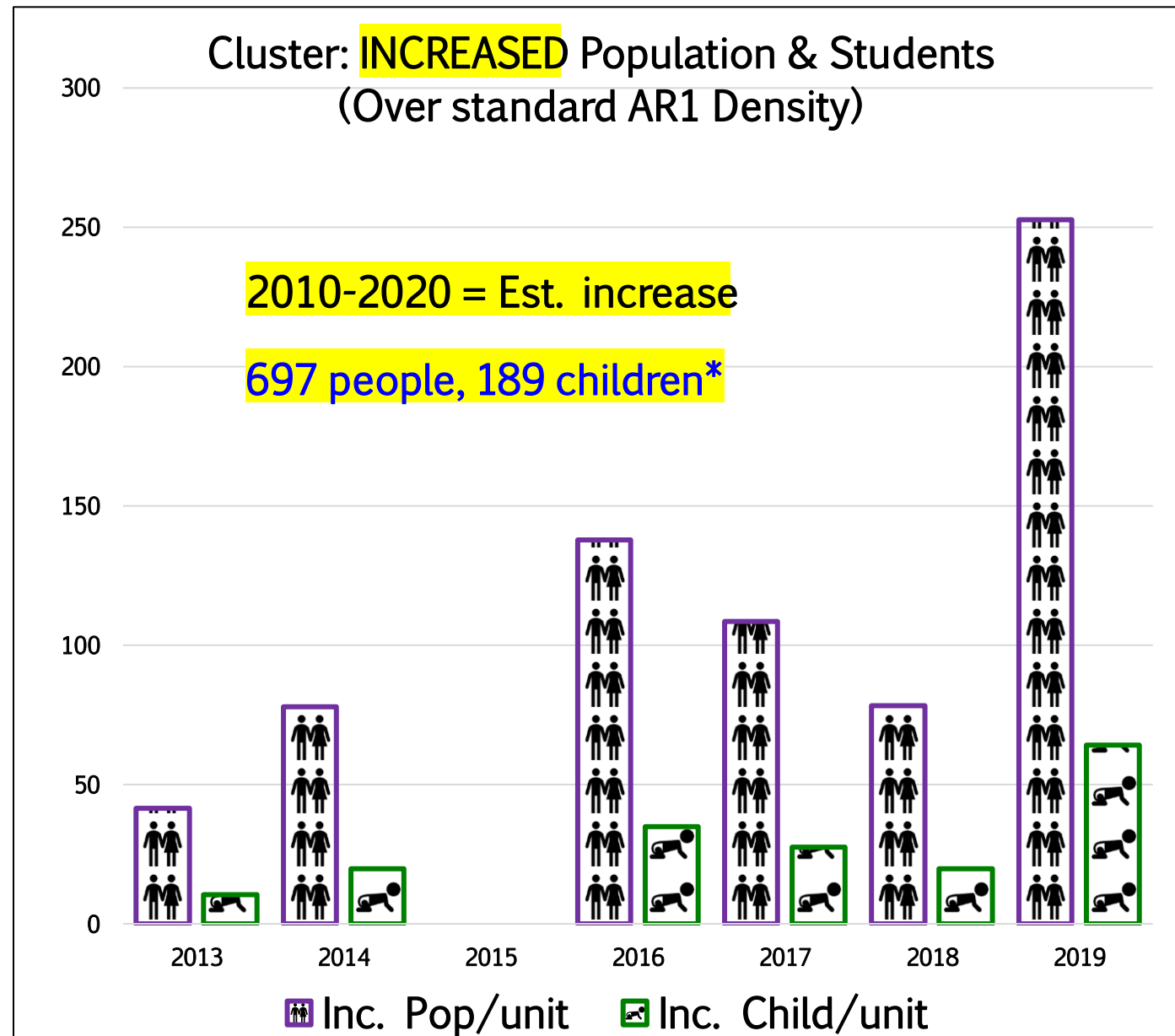
RPA Cluster Subdivisions: 2010 to 2020
EXTRAPOLATIONS:** Capital Facilities & CIF Equivalents
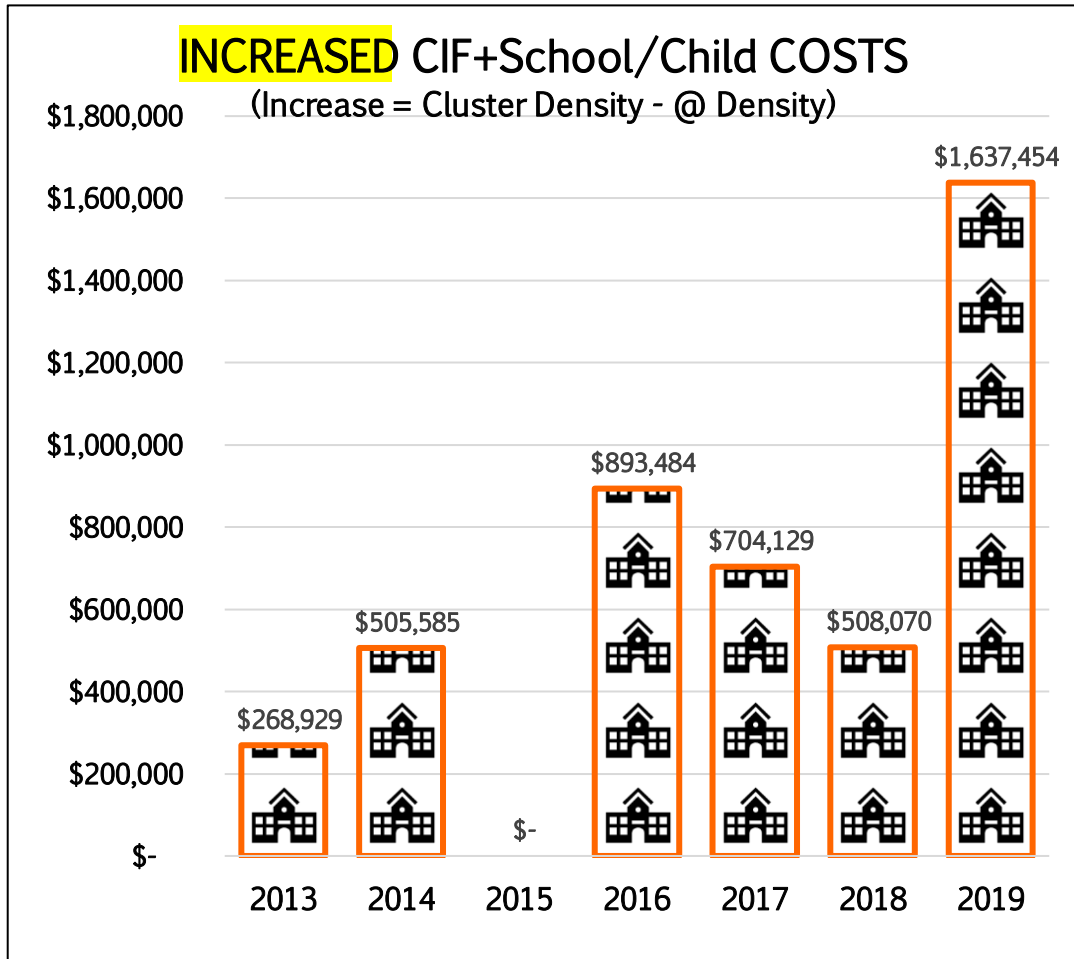
Capital Intensity Factor: Western CIF*

Public Facilities Costs:	
= (Household Size X Facility cost/capita) = (3.39 X $1,944.12)	= $ 6,590.56
School Costs/Student:	
= (Students/household X School costs/Student) = (.92 X $23,884.62)	= $21,973.85
TOTAL CIF/Household*	= $28,564.41
* *By-Right : No Proffers*	

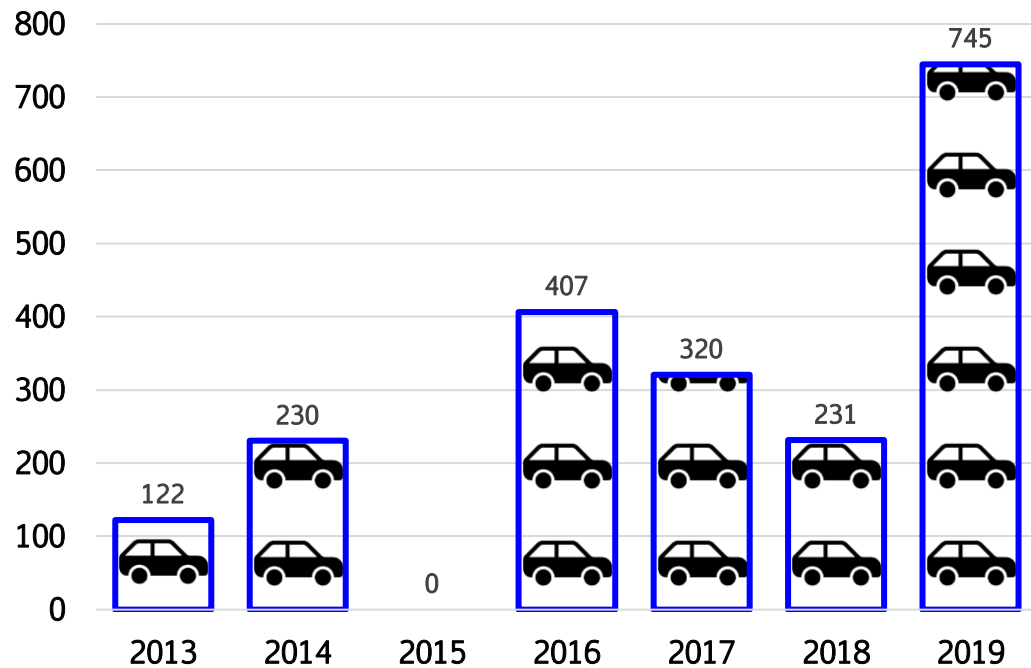|				3.39	0.92	$ 6,590.56	$21,973.85	$28,564.41
Approved	Lots @ Density	Total Lots w/ Cluster	Difference (Cluster-@Density Lots)	INCREASED Pop/unit	INCREASED Child/unit	INCREASED Public Facilities Costs/Unit	INCREASED CIF+School/Child COSTS	INCREASED Total CIF/Unit
2013	11	23	12	41	11	$ 80,659	$ 268,929	$ 349,588
2014	8	31	23	78	21	$ 151,639	$ 505,585	$ 657,224
2015			0	0	0	$ -	$ -	$ -
2016	12	53	41	138	37	$ 267,980	$ 893,484	$ 1,161,464
2017	10	42	32	109	29	$ 211,188	$ 704,129	$ 915,317
2018	8	31	23	78	21	$ 152,384	$ 508,070	$ 660,454
2019	26	101	75	253	69	$ 491,117	$ 1,637,454	$ 2,128,571
	75	281	206	697	189	$ 1,354,967	$ 4,517,651	$ 5,872,618

2010 TO 2020 Cluster Increase:

=$1.4 million Public Facilities Cost equivalents
=$5.8 million CIF/unit cost equivalents

EXTRAPOLATIONS:** RPA Cluster Subdivisions: 2010 to 2020 Projected Student Costs
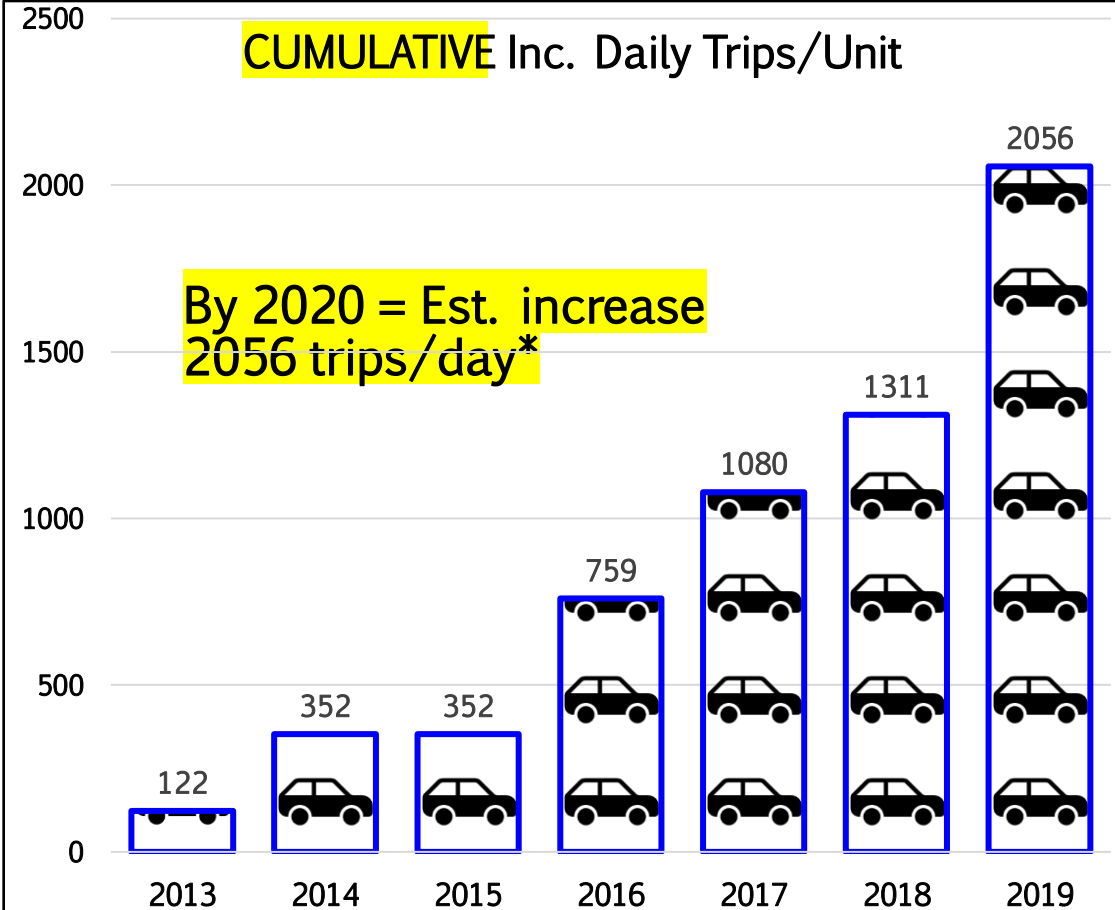
INCREASED CIF+School/Child COSTS
(Increase = Cluster Density - @ Density)

Chart values by year:
- 2013: $268,929
- 2014: $505,585
- 2015: $-
- 2016: $893,484
- 2017: $704,129
- 2018: $508,070
- 2019: $1,637,454

Y-axis: $-, $200,000, $400,000, $600,000, $800,000, $1,000,000, $1,200,000, $1,400,000, $1,600,000, $1,800,000

CUMULATIVE CIF+ School=CIF/Child COSTS
(Increase = Cluster Density - @ Density)

2020 & After = Est. increase $4,517,651*

Chart values by year:
- 2013: $268,929
- 2014: $774,514
- 2015: $774,514
- 2016: $1,667,998
- 2017: $2,372,127
- 2018: $2,880,197
- 2019: $4,517,651

Y-axis: $-, $500,000, $1,000,000, $1,500,000, $2,000,000, $2,500,000, $3,000,000, $3,500,000, $4,000,000, $4,500,000, $5,000,000

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*Fiscal Impact Committee Capital Intensity Factors
** Increase = Cluster Density - @ Density. Only reflects 2010 to 2020 increases from reported clusters. Actual would be higher if all clusters are included.

EXTRAPOLATIONS: RPA Cluster Subdivisions: 2010 to 2020 Projected Car Trips

INCREASED Avg. Daily Trips/Unit

CUMULATIVE Inc. Daily Trips/Unit

By 2020 = Est. increase 2056 trips/day*

*Fiscal Impact Committee Capital Intensity Factors
** Increase = Cluster Density - @ Density. Only reflects 2010 to 2020 increases from reported clusters. Actual would be higher if all clusters are included.

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NEXT STEPS

1. Review Zoning Options/Changes/Proposals during BMI (Cluster/Prime Soils ZOAM) investigation;

2. Further Extrapolation Analysis to assist Mapping Dept. & County ZOR Staff for proposal evaluation.
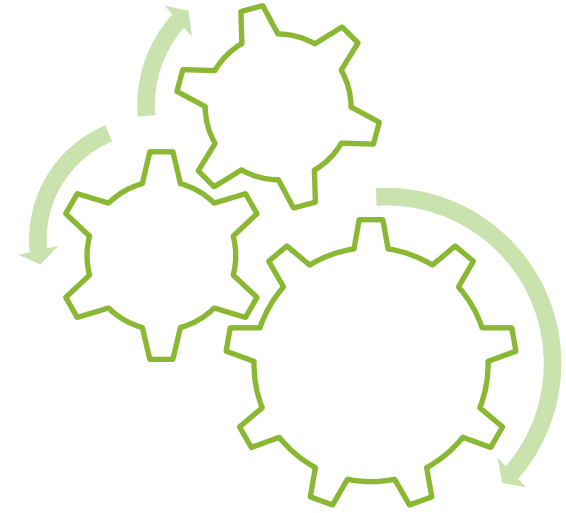
Loudoun County DATA – Liability Disclaimer*

DATA SOURCE: Loudoun County Open Source data files.

CAVEATS
-- Data files maintained by different County Departments;
-- Files have different "as of" dates, resulting in some records mismatch.

DISCLAIMER: Loudoun County Data Liability Disclaimer applies to all Reports herein.

Analysis/reports for general requirements review only.

▪ The land use data for structures, parcels, projects, and build-out scenarios are developed and maintained by the Department of Planning and Zoning. This data is used for land use, capital facilities, and transportation planning purposes. In addition, it is used for fiscal, demographic, and market analysis.

▪ This data is not used for tax assessment purposes. For tax assessment land use data please reference Loudoun County's tax assessment database.

▪ Every reasonable effort has been made to ensure the accuracy of these data, however accuracy is not guaranteed.

▪ Loudoun County does not assume any liability arising from the use of these data or for any errors or omissions on this site. These data are provided without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular service.

▪ The Existing and Future Land use Tool (EFL), including the build-out and residential pipeline data contained within it, has been developed based on certain assumptions and scenarios approved by the Board of Supervisors for research and analysis purposes only. It is not intended to give, or deny, any right to landowners and it is not intended to substitute or change in any form the land use process as prescribed in the ordinances and other norms of the County.

▪ Reliance on these data are at the risk of the user.

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