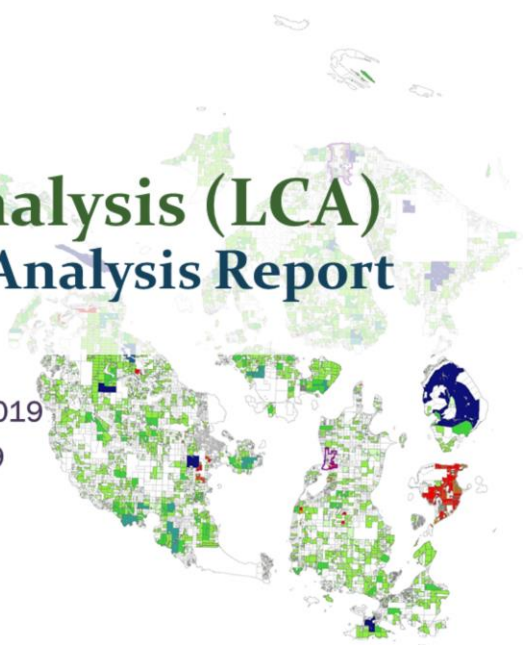




Land Capacity Analysis (LCA)

Draft Land Capacity Analysis Report

San Juan County Council September 16, 2019

Planning Commission September 20, 2019

Department of Community Development

Adam Zack, Planner III

(What) Today I will provide a high-level overview of the Land Capacity Analysis Report and the process used in creating it. The report was included with a September 9 staff report. My presentation today will focus on how the LCA was prepared. DCD is in the process of analyzing the results and plan to discuss the implications of the LCA during the next briefing planned for November. That briefing will eventually lead to a discussion of Land Use Element related issues planned for later that month.

(Who) Land Capacity Analysis was prepared by San Juan County Staff, including Dan Root the County's GIS Program Coordinator

(Why) The GMA requires counties to conduct a LCA for UGAs during the Comprehensive Plan periodic review. The LCA will help us understand where and how much land is available for development as we consider Comp. Plan goals and policies.

(When) The comment period on the draft LCA Report goes through October 25, 2019, unless the Council extends it. The draft report will be updated after the comment period with the next briefings planned for November.

What is the LCA?

- It helps us understand what development is possible in the future given existing development and current regulations.
- A technical report that is part of the Comprehensive Plan update.
- It is used to determine future housing and commercial capacity.
- Important in sizing the UGAs.

Commercial capacity is measured in building square footage.

Residential capacity is measured in possible dwelling units.

Final capacity is shown in tables by land use designation.

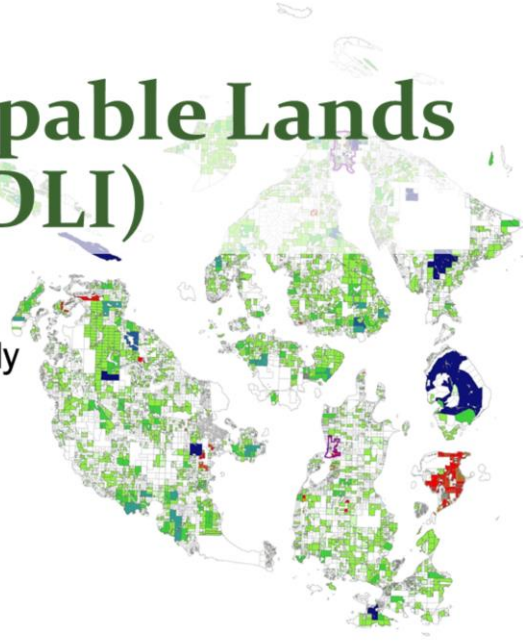
Final capacity tables begin on page 45 of the report.

Six Major LCA Tasks

- 
- A. Gross Developable Lands Inventory (GDLI)
 - B. Net Developable Lands Inventory (NDLI)
 - C. Summarize development trends
 - D. Calculate and map gross capacity
 - E. Calculate and map maximum capacity
 - F. Calculate final capacity

Gross Developable Lands Inventory (GDLI)

Parcels were categorized as fully developed or re-developable based on existing development and current regulations.



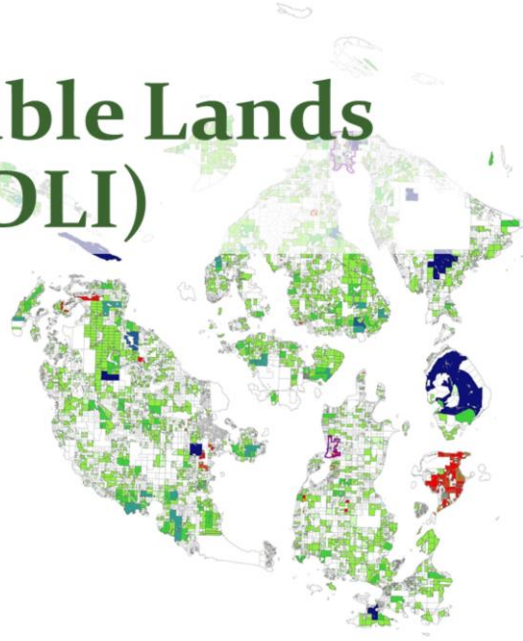
GDLI

- First draft released June 6, 2019.
- The first draft was refined based on public comments.
- The updated GDLI maps begin on LCA Report page 7.



Net Developable Lands Inventory (NDLI)

Areas with limited development potential were removed from the GDLI.



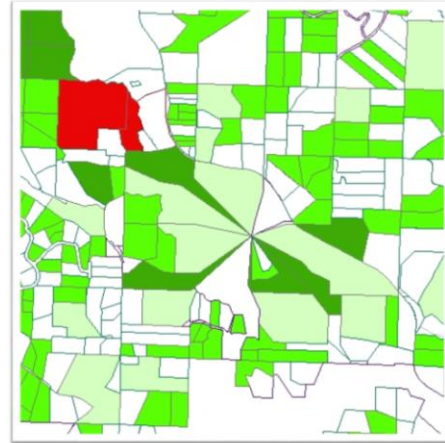
Critical areas were removed from all developable lands

Critical area buffers removed from commercial, industrial and mixed-use lands

A description of this step, including how buffers were applied, begins on page 13

GDLI to NDLI Example

This is the GDLI map with no critical area deductions.



San Juan Island GDLI, page 7

GDLI to NDLI Example

Critical areas like wetlands, streams and steep slopes were clipped out of the GDLI to arrive at the NDLI.

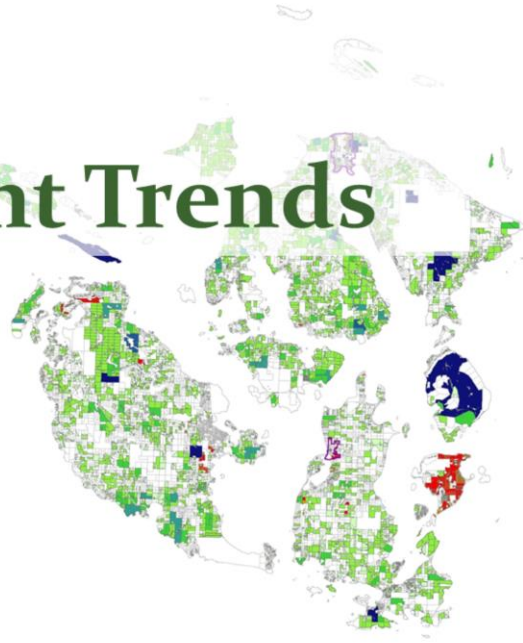


San Juan Island NDLI, page 15

Fully developed parcels are removed at the end of this task and reserved for analysis in the next LCA task

Summarize Development Trends

Recent permit history will be analyzed in the next draft to show how development has occurred in the recent past.



Summarize Development Trends

Fully developed parcels were analyzed to determine achieved floor area ratio (FAR) by land use designation.

Calculated pending commercial development from permit records.



Achieved FAR (Table 6, pg. 22) and pending com. development are used in calculating gross capacity

Summarize Development Trends

- The recent development summary on page 22 will be completed for the next draft of the LCA report.
- This section does not influence the gross and final capacity calculations.
- It will provide information on how much development has recently occurred.

Changes to Draft LCA Methodology

The method for determining pending dwelling units has changed

- Pending dwelling units are now based on the number of assigned residential addresses on a parcel.
- The addressing data set includes almost all pending dwellings from the permit records.
- The explanation of how pending dwellings were determined was modified and relocated to Section E of the LCA Methodology.

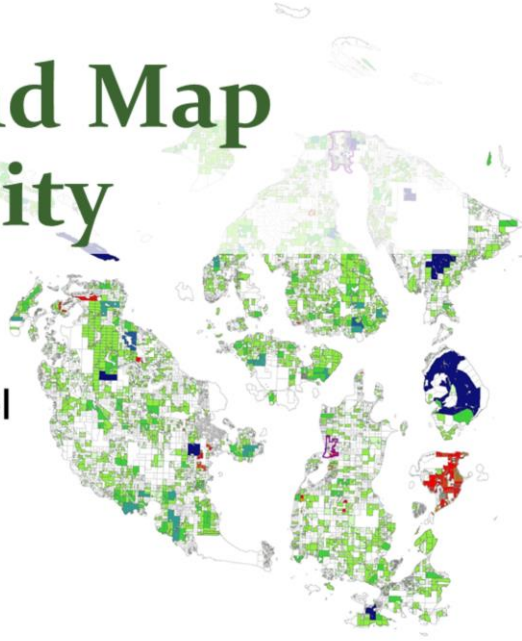
It was more simple to use addressing for pending and existing because addresses are typically assigned before the building is completed (April's Grove is a good example)

Before, pending dwellings were determined using permit data. Staff felt that the addressing data was more reliable for determining pending and existing

Commercial addresses were removed before calculating existing/pending dwellings

Calculate and Map Gross Capacity

Density and Achieved FAR
were applied to NDLI parcel
areas to determine gross
capacity.



Calculate Gross Commercial/Industrial Capacity

- The achieved FAR was applied to NDLI parcel area to determine possible building square footage.
 - Achieved FAR is determined by dividing the building floor area on fully developed parcels by those parcels' NDLI area.
 - The achieved FAR is averaged for each land use designation.

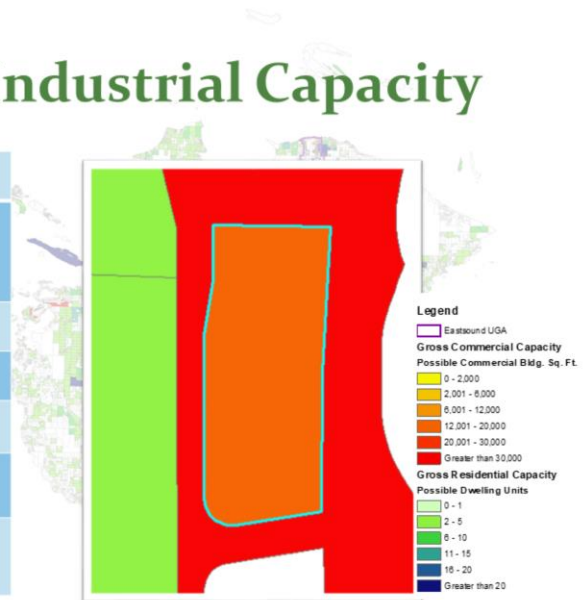
Gross Commercial Capacity =

(NDLI parcel area x achieved FAR) – (existing + pending development)

Gross Commercial/Industrial Capacity

TPN	271131007000
Land Use Designation	Service and Light Industrial (SLI)
Avg. Achvd. FAR	0.466
NDLI Area	41,825 Square Feet
FAR X NDLI Area	19,490 Square Feet
Existing Building Area	417 Square Feet
Gross Capacity (subtract existing)	19,073 Square Feet

Note: Values shown are rounded up



Eastsound Gross Capacity Map, page 33

Calculate Gross Residential Capacity

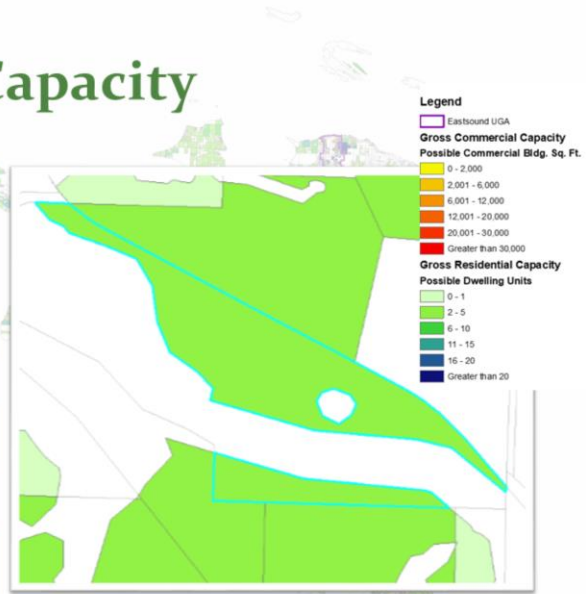
- The Comp. Plan assigned maximum density was applied to NDLI parcel area to determine possible dwelling units.
 - Maximum density is shown on the Comp. Plan Official Maps.

$$\text{Gross Residential Capacity} = (\text{NDLI parcel area} \times \text{Density}) - (\text{existing} + \text{pending dwellings})$$

Gross Residential Capacity

TPN	363343001000
Land Use Designation	Rural Farm Forest (RFF)
Max. Density	0.2 dwellings per acre
NDLI Area	14.93 Acres
Density X NDLI Acres	2.98
Existing Dwellings	1
Gross Capacity (subtract existing)	1.98 dwellings

Note: Values shown are rounded to two digits after the decimal



San Juan Island Gross Capacity Map, page 29

NOTE: As discussed in the County Council video from September 16, 2019, the gross residential capacity was calculated to represent a middle ground estimate. Please see the video discussion from September 16, 2019, at <https://www.sanjuanco.com/903/Council-Agendas-and-Video>

Calculate Gross Mixed-Use Capacity

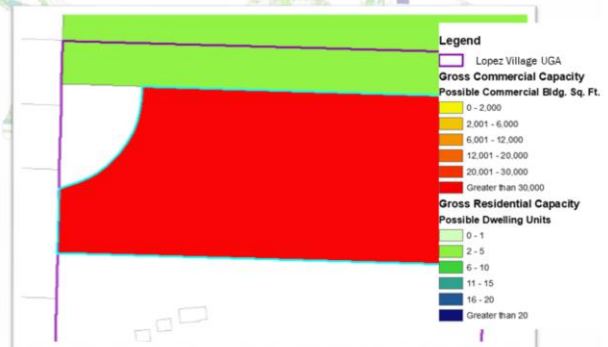
- Mixed-use can be a combination of residential and commercial development.
- **Capacity is presented in three scenarios:**
 - Scenario A – 100 percent commercial;
 - Scenario B – 50/50 split of residential and commercial; and
 - Scenario C – 100 percent residential.

See LCA Report, pg. 27

Gross Mixed-Use Capacity

TPN	251514001000
Land Use Designation	Lopez Village Urban Growth Area (LUGA)
Max. Density	4 dwellings per acre
NDLI Acres	3.65
100% Commercial Capacity	145,205.36 Sq. Ft.
Split, 50% Commercial Capacity	72,602.68 Sq. Ft.
Existing Dwellings	0
Residential Capacity	14.59 dwelling units

Note: Values shown are rounded up

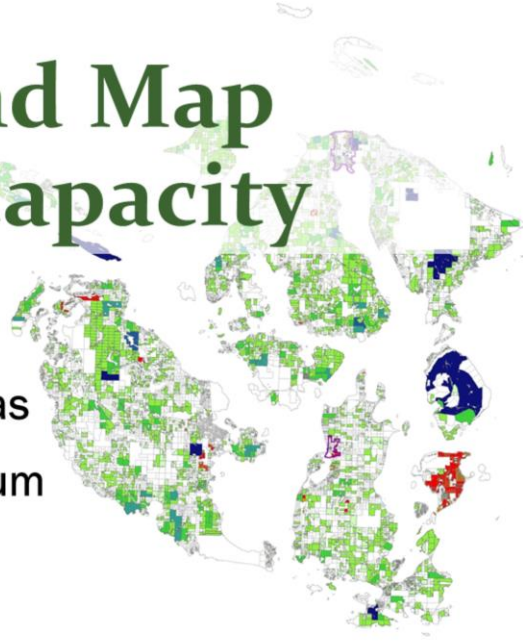


Lopez Island Gross Capacity Map, page 30

In scenario B the residential capacity is capped at the maximum density per acre, 4 units per acre in LUGA.

Calculate and Map Maximum Capacity

Maximum allowed FAR
applied to NDLI parcel areas
to determine gross maximum
capacity.



Calculate Maximum Capacity

- Based on the maximum of what is allowed under the development code.
- San Juan County Code (SJCC) standards were adapted into a maximum FAR.
- Maximum FAR equations are provided in Section E of the LCA Methodology.

Maximum Capacity Example

- Service and Light Industrial (SLI) Designation allows:

- Max. 60% lot coverage, and
- 35 foot max. height (three stories).

Standards in SJCC 18.30.500

SLI Max. FAR = 0.60 lot coverage X 3 stories = 1.8 Max. FAR

Calculate Maximum Capacity

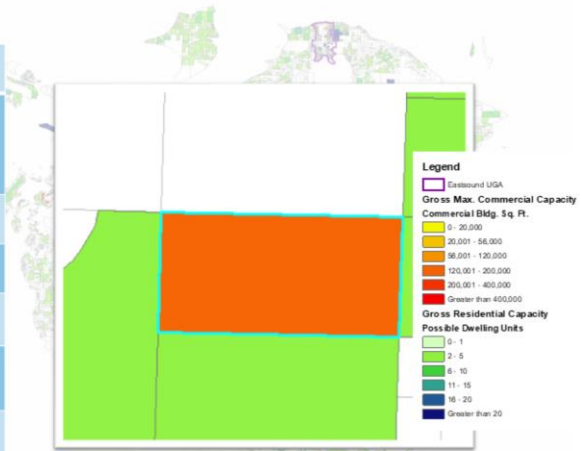
- Maximum capacity is only applied to commercial, industrial and mixed-use parcels.
- Residential capacity uses the max. density allowed, it is already the maximum.
- Maximum mixed-use capacity is presented in the same three scenarios as gross capacity.

$$\text{Gross maximum capacity} = (\text{Max. FAR} \times \text{NDLI Area}) - (\text{pending} + \text{existing development})$$

Gross Max. Commercial/Industrial Capacity

TPN	271350005000
Land Use Designation	Service Park (SP)
Max. FAR	0.6
NDLI Area	216,376.43 Square Feet
FAR X NDLI Area	129,825.86 Square Feet
Existing Building Area	728 Square Feet
Gross Capacity (subtract existing)	129,097.86 Square Feet

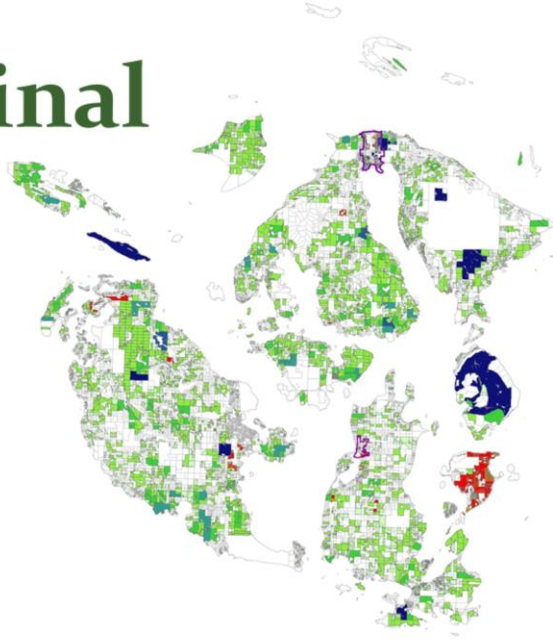
Note: Values shown are rounded up



Eastsound Max Capacity Map, page 42

Calculate Final Capacity

Market, public use, and seasonal home factors deducted from gross and maximum capacity.



Calculate Final Capacity

There are three capacity deductions:

Public Use Factor, 5% - accounts for lands that may be used for public purposes, i.e. road rights-of-way.

Market Factor, 25% - accounts for lands that will not be available for development for reasons such as speculative holdings and personal use.

Seasonal/Recreational Home Factor, 35% residential only - accounts for the amount of second homes and those that are only occupied for part of the year.

Capacity										2036 County Population		19,423
There are no mixed-use land use designation in the Rural areas										April 1, 2016 Population		16,314
Gross		Market Factor Reductions					Net			Additional Population 2016-2036		3,109
Land Use Designation	Gross Residential Capacity (Dwelling Units)	Gross Non-Residential Capacity (Building square feet)	Public Use Factor (5%)	Market Factor (25%)	Res. Seasonal/Recreational Home Factor (35%)	Subtotal Market Factor Capacity Reductions	Additional Residential Capacity (Dwelling Units)	Additional Non-Residential Capacity (Building square feet)	Population Capacity (2.04 persons per household)	Additional Households at 2.04 people per household		1,524
RFF	3,232.19	0	161.61	808.05	1,131.27	2,100.93	1,131.27	0	2,307.79			
RR	430.08	0	21.50	107.52	150.53	279.56	150.53	0	307.08			
RC	0	0	0	0	0	0	0	0	0			
RI	0.00	38,688.46	1,934.42	9,672.11	0	11,606.54	0	27,081.92	0			
C	137.93	0	6.90	34.48	48.28	89.66	48.28	0	98.48			
N	0	0	0	0	0	0	0	0	0			
LGRA	2.36	0	0.12	0.59	0.82	1.53	0.82	0	1.68			
FO	384.89	0	19.24	96.22	134.71	250.18	134.71	0	274.81			
AG	355.97	0	17.80	88.99	124.59	231.38	124.59	0	254.16			
RGU	0	5,890,146.34	294,507.32	1,472,536.59	0	1,767,043.90	0	4,123,102.44	0			
Total	4,543.43	5,928,834.80	296,668.91	1,483,344.56	1,590.20	1,781,603.67	1,590	4,150,184	3,244			

Final Rural Capacity Sheet, pg. 53

The same process was used to calculate Final Capacity based on achieved FAR and Maximum Capacity. This resulted in two sets of capacity tables.

Eastsound UGA Final Capacity Results

Eastsound Final Capacity Summary	Residential Capacity	Commercial Capacity	Population Capacity (2.04 people per household)
Mixed-Use Develops 100% Commercial	245	594,362	501
Mixed-Use Develops 50/50 Commercial and Residential	339	320,413	692
Mixed-Use Develops 100% Residential	474	258,912	967

Our population forecast projects the Orcas population will be 6,423 people by 2036. This is an increase of 1,028 people.

There is a goal in our Comprehensive Plan to plan for 50% of the per-island population growth to be in the UGAs. This would mean planning for 514 new households in Eastsound by 2036. In the scenario where mixed-use areas develop with 100% commercial development, there would be a shortfall of housing by 13. The other scenarios show enough population capacity but the residential capacity numbers are based on the maximum allowed density.

This table shows the capacity by achieved FAR

Max density: 40 units per acre in VC and 14 units per acre in VR.

Lopez Village UGA Final Capacity Results

Eastsound Final Capacity Summary	Residential Capacity	Commercial Capacity	Population Capacity (2.04 people per household)
Mixed-Use Develops 100% Commercial	-26	1,617,220	-53
Mixed-Use Develops 50/50 Commercial and Residential	76	808,450	155
Mixed-Use Develops 100% Residential	76	0	155

Our population forecast projects the Lopez population will be 2,936 people by 2036. This is an increase of 470 people.

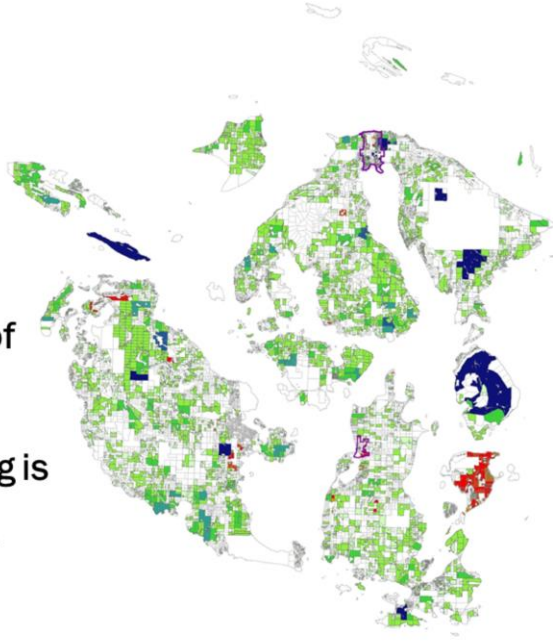
There is a goal in our Comprehensive Plan to plan for 50% of the per-island population growth to be in the UGAs. This would mean planning for 115 new households in Lopez Village by 2036. In the scenario where mixed-use areas develop with 100% commercial development, there would be a shortfall of housing by 168. This would be because SFR are re-developed and replaced by commercial development in the Village. The other scenarios show enough population capacity but the residential capacity numbers are based on the maximum allowed density.

This table shows the capacity by achieved FAR. Note: between the subarea plan LCA and these results, the process was further refined; including a better clip of critical areas in the NDLI step.

Max density: 4 units per acre in LUGA.

Next Steps

Refine the draft LCA Report after the public comment period. Finish the summary of development trends and conclusions. The next briefing is expected in November, 2019.



I plan to go to EPRC on October 3rd. I will provide them with this overview and answer their questions about the process. Dan and I plan to put another web map together between now and then to make review of the maps more accessible to the public.

Public Comments

Comment deadline on the current draft LCA
Report is October 25, 2019.

Send public comments to:

compplancomments@sanjuanco.com



Questions?

Comprehensive Plan

Project Website

<https://www.sanjuanco.com/1306/Comprehensive-Plan-Elements>

