

# SAWS Land Use Assumptions Plan

**Mark T. Schnur, PMP**

Planner IV

June 27, 2013

CIAC Workshop



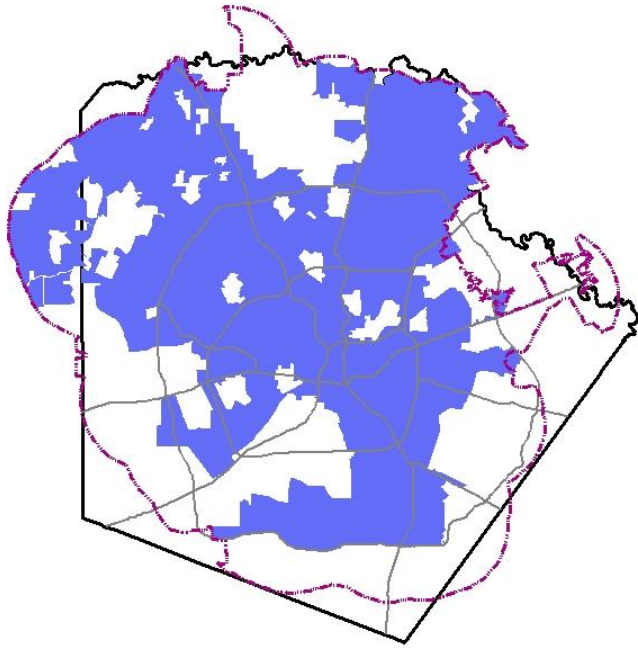
# Land Use Assumptions Plan

- Service Area Changes Since 2010
- Land Use Area Change
- Red Oak Validation of LUAP
- 2011 update compared to current population and EDUs

# Impact Fee Formula

*Maximum Impact Fees* ————— - *Rate Credit*

# 2010-2012 Water Service Area Change



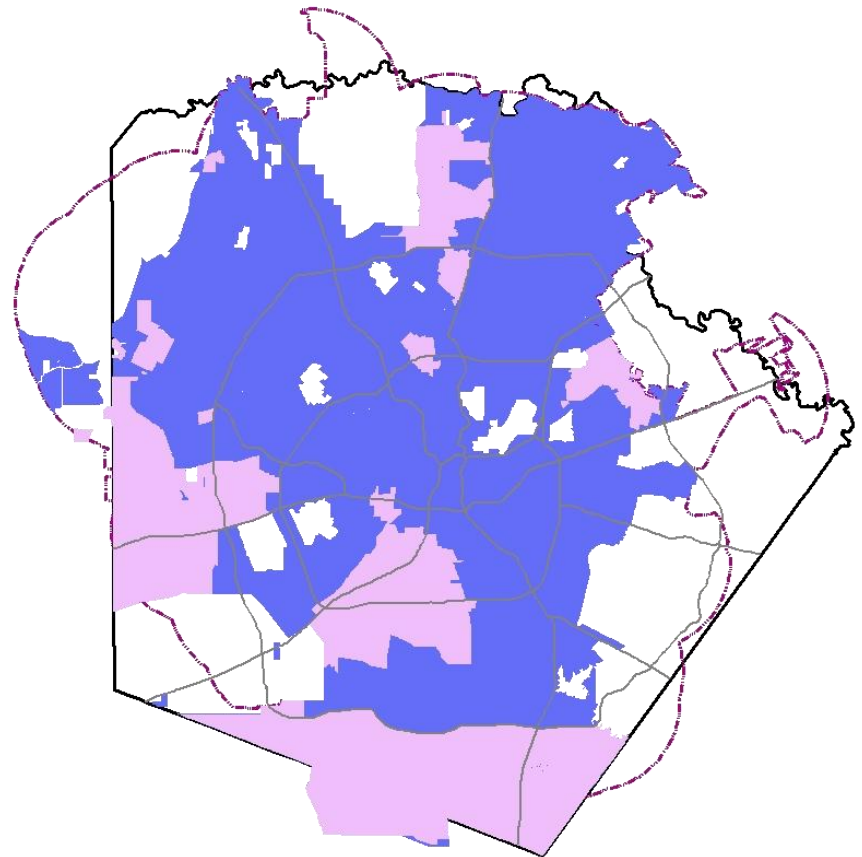
**2010**

DSP: 174,000 acres added

Northwest: 35,951 acres withdrawn

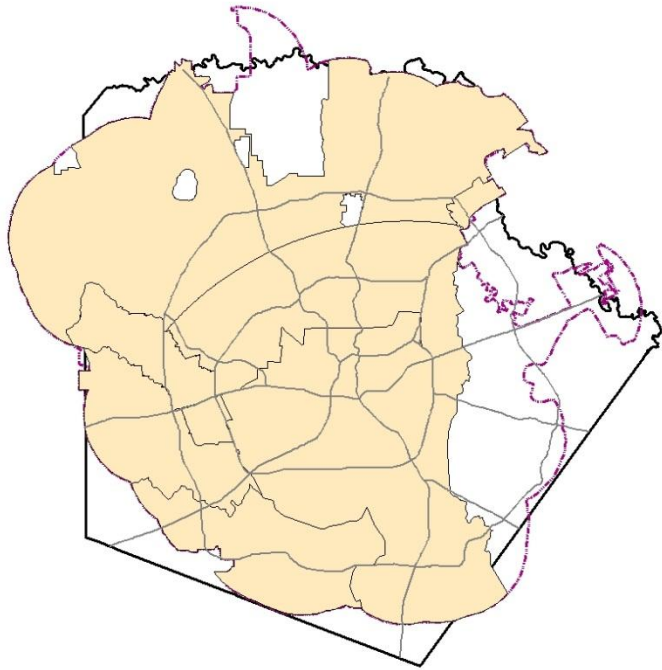
Northeast: 8,500 acres added

Total: 146,549 acres added



**2012**

# 2010-2012 Sewer Service Area Change



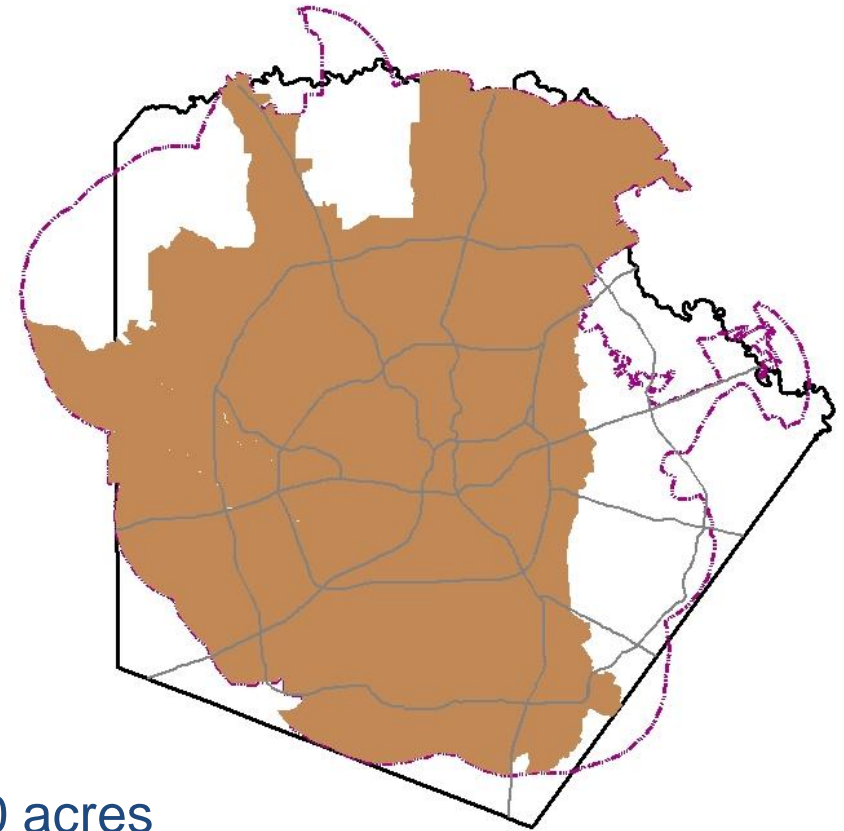
## 2010

Northwest:  $62,000 - 24,000 = 38,000$  acres

Northwest:  $50,000 - 9,000 = 41,000$  acres

Southeast:  $30,000 - 22,000 = 8,000$  acres

Total: 87,000 acres withdrawn



## 2012

# 2010-2012 Land Use Area Change

*Presented May 1 and May 27, 2013*

Land Use Classifi	2010 Land Use				2012 Land Use			
	Water		Sewer		Water		Sewer	
	Acres	%	Acres	%	Acres	%	Acres	%
Commercial	46,887	13%	55,990	10%	118,043	20%	116,605	21%
Industrial	4,777	1%	4,907	1%	5,675	1%	5,675	1%
Residential	129,634	34%	160,187	29%	124,447	21%	122,866	23%
Undevelopable	39,281	10%	69,579	13%	76,875	13%	67,865	12%
Vacant	158,598	42%	253,669	47%	261,106	45%	230,217	42%
	379,177		544,332		586,147		543,228	

*Land use numbers not in impact fee calculation*

# LUAP EDU Calculation 2014 - Water

1	2	3	4	5	6	7	8
<u>Meter Size</u>	<u>Active Meter Count</u>	<u>Apartment Master Meters</u>	<u>( 2 - 3 ) Meters</u>	<u>Non-apartments EDU/Meter Size</u>	<u>( 4 * 5 ) EDU</u>	<u>Apartment Units</u>	<u>( 6 + 7 )</u>
5/8	394,855	1,456	393,399	1	393,399	183,463	
3/4	37,219	182	37,037	1.5	55,556		
1	12,669	583	12,086	2	24,172	93% occupancy	
1 1/2	7,022	344	6,678	5	33,390	170,621	
2	4,554	619	3,935	14	55,090		
3	853	210	643	30	19,290		
4	562	222	340	50	17,000		
6	210	197	13	105	1,365		
8	81	40	41	135	5,535		
10	18	7	11	190	2,090	1/2 units	
<b>Total</b>	<b>458,043</b>	<b>3,860</b>	<b>454,183</b>		<b>606,887</b>	<b>85,310</b>	<b>692,197</b>

2012 population

1,659,593

Population/EDU =

2.40

**Population to EDU ratio: 2.40**

**2011: Population 1,311,764**

**EDUs: 571,731**

**Pop/EDU: 2.29**



# LUAP EDU Calculation 2014 - Sewer

1	2	3	4	5	6	7	8	9
			(2 (total) - 3(total))* 4 percentages			(5 * 6)		(7 + 8)
Meter Size	Active Meter Count	Apartment Master Meters	Non-apartments			EDUs	Apartment Units	
			Percent by Size*	Meters	EDU/Meter Size		182,223	
5/8			87.98%	384,606	1	384,606		
3/4			6.30%	34,571	1.5	51,857		
1			2.76%	9,374	2	18,748		
1 1/2			1.57%	5,132	5	25,660		
2			0.99%	3,336	14	46,704		
3			0.19%	758	30	22,740		
4			0.13%	511	50	25,550	93% occupancy	
6			0.05%	196	105	20,580	169,467	
8			0.02%	71	135	9,585		
10			0.01%	29	190	5,510		
Adjustment for SARA and Leon Springs						(20,047)	1/2 units	
<b>Total</b>	<b>395,227</b>	<b>3,798</b>		<b>438,584</b>		<b>591,493</b>	<b>84,734</b>	<b>676,226</b>
2012 population		1,552,024		Population/EDU =		2.30		

**Population to EDU ratio: 2.30**

**2011: Population 1,505,859**

**EDUs: 644,420**

**Pop/EDU: 2.34**





# Datasets Red Oak Used for Validation

## GIS Feature Classes:

- 2007 TAZ
- Water and Wastewater Service Area Polygons
- Water and Wastewater Impact Fee Polygons

## Tabular Data:

- EDU Calculations and Projections
- AACOG TAZ Allocation Summary
- Population Projections from Water Management Plan

# Validation Steps

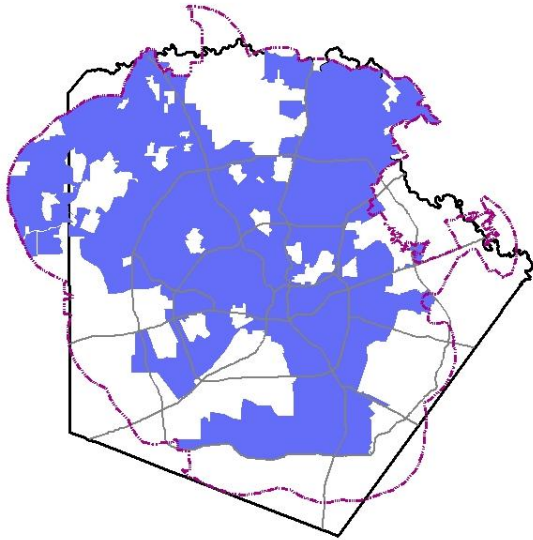
- Extract Individual Service Areas from SAWS 2014 Water and Sewer Feature Classes
- Select by Location TAZ Water and Wastewater Features that have their Centroid within Individual Service Areas
- Run Statistics on Population 2015 and 2025
- Divide Population by Total Population to Derive Distribution Percentage
- Multiply Individual Percentages by 2013 and 2023 Population Projections from Water Management Plan to Calculate 2014 and 2023 Base Populations
- Confirm 2014 and 2023 EDU Calculations
- **NUMBERS MATCH**

# Validation Findings

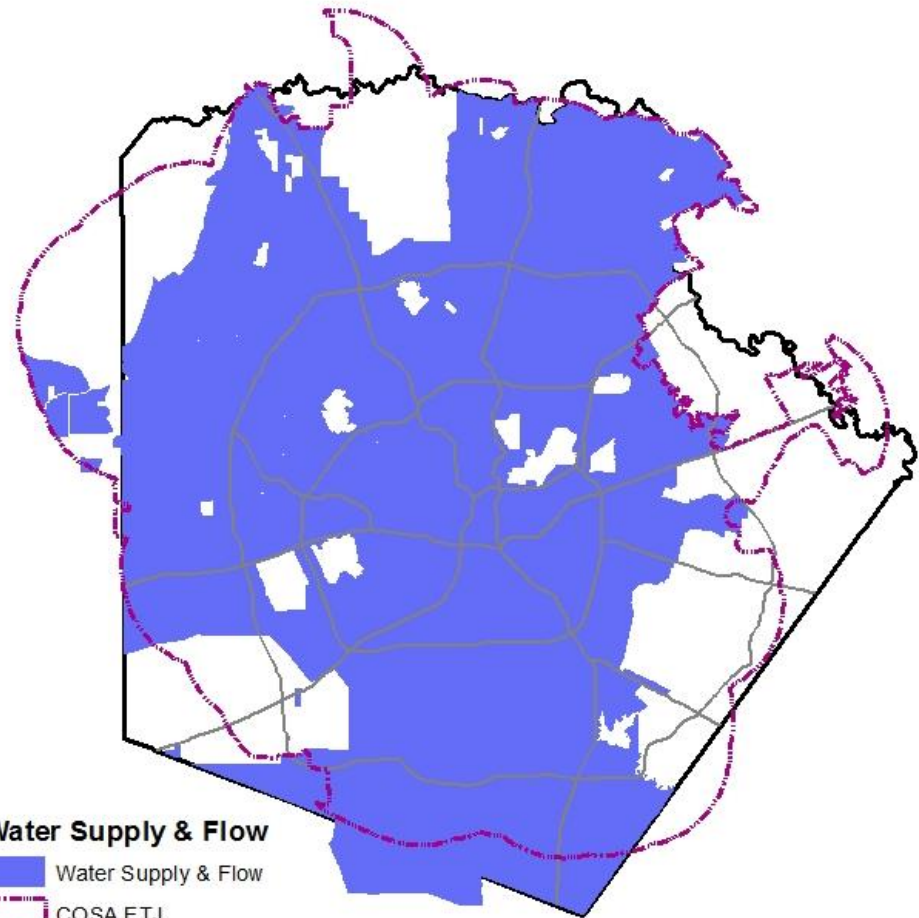
- Both 2011 and 2014 Updates Used 2007 TAZ Dataset from AACOG.
- No Change in Middle and Lower Collection Service Area Boundaries.
- Reasons for Anomalies
  - 2011-2020 Interval Relied upon TAZ Estimates Only- No Independent Population Source (such as Water Management Plan).
  - TAZ 2007 based on 2000 Census Data.
- Much Higher Confidence in Method Used for 2014-2023 LUAP because Water Management Plan Population Estimates based on 2010 Census Data.

# *Service Areas, Population, and EDUs*




# Water Supply Service Area



**Existing**



**Water Supply & Flow**

-  Water Supply & Flow
-  COSA ETJ
-  Bexar County

# Water Supply EDU Change

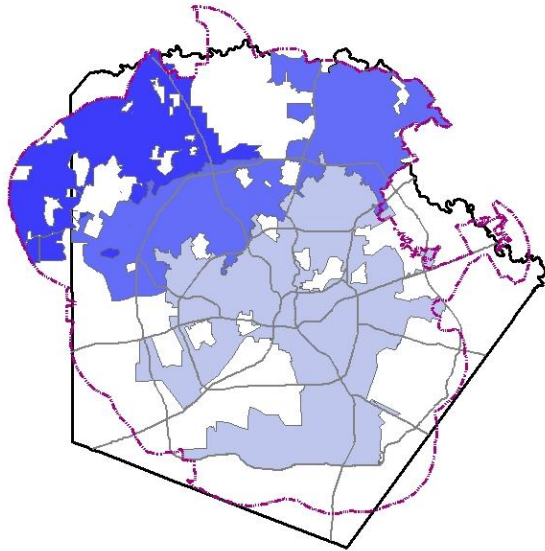
Population	2011	2020	Change
	1,346,965	1,531,302	184,337

EDUs	2011	2020	Change
	587,073	667,416	<b>80,343</b>

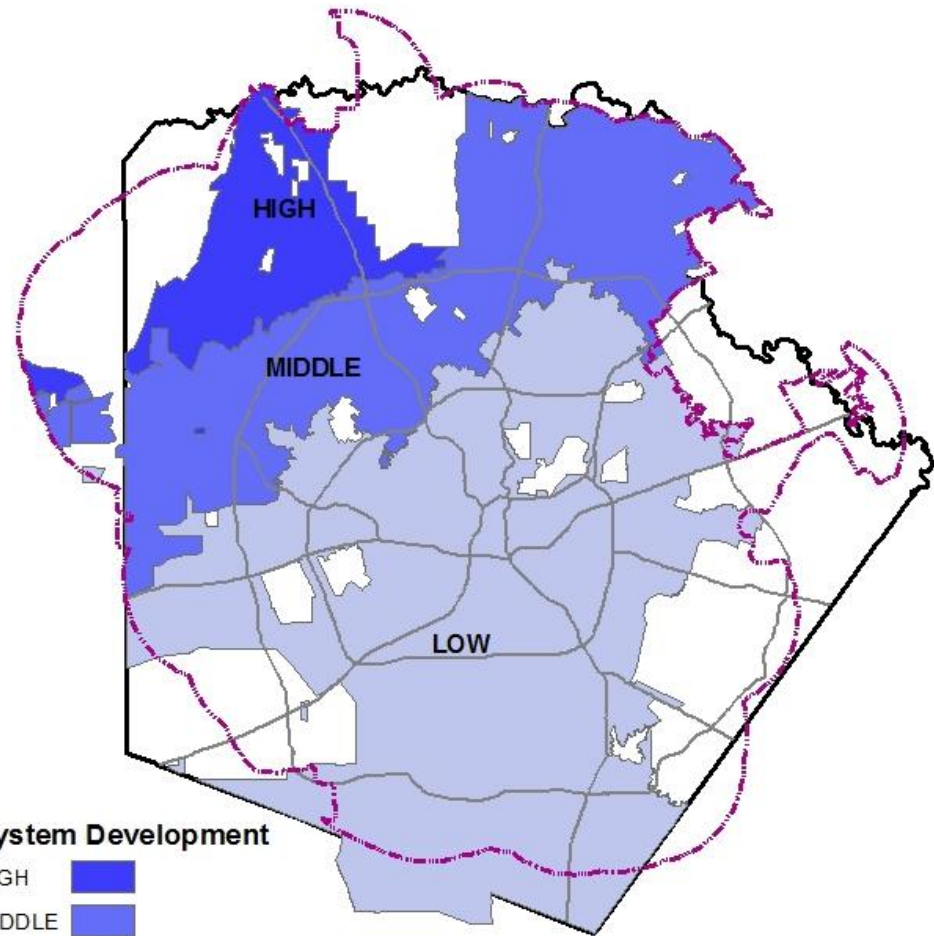
Population	2014	2023	Change
	1,674,505	1,904,466	<b>229,961</b>

EDUs	2014	2023	Change
	697,711	793,528	<b>95,817</b>

# System Development Service Areas



**Existing**




**System Development**

HIGH 

MIDDLE 

LOW 

 COSA ETJ

 Bexar County

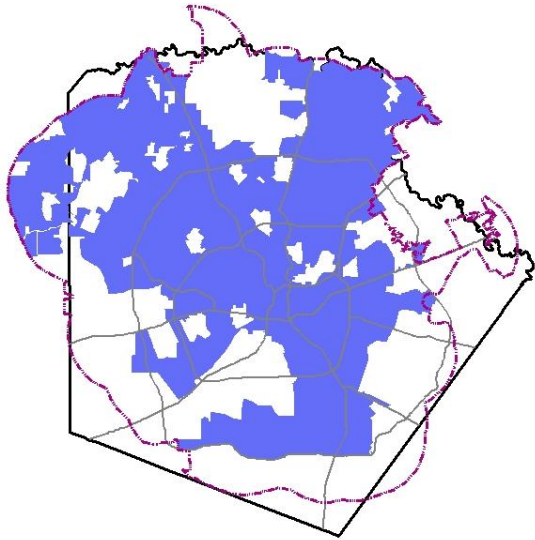
# System Development EDU Change

Service Area	2011	2020	Change
High	17,872	36,690	<b>18,819</b>
Middle	218,003	259,504	<b>41,501</b>
Low	351,198	371,222	<b>20,023</b>

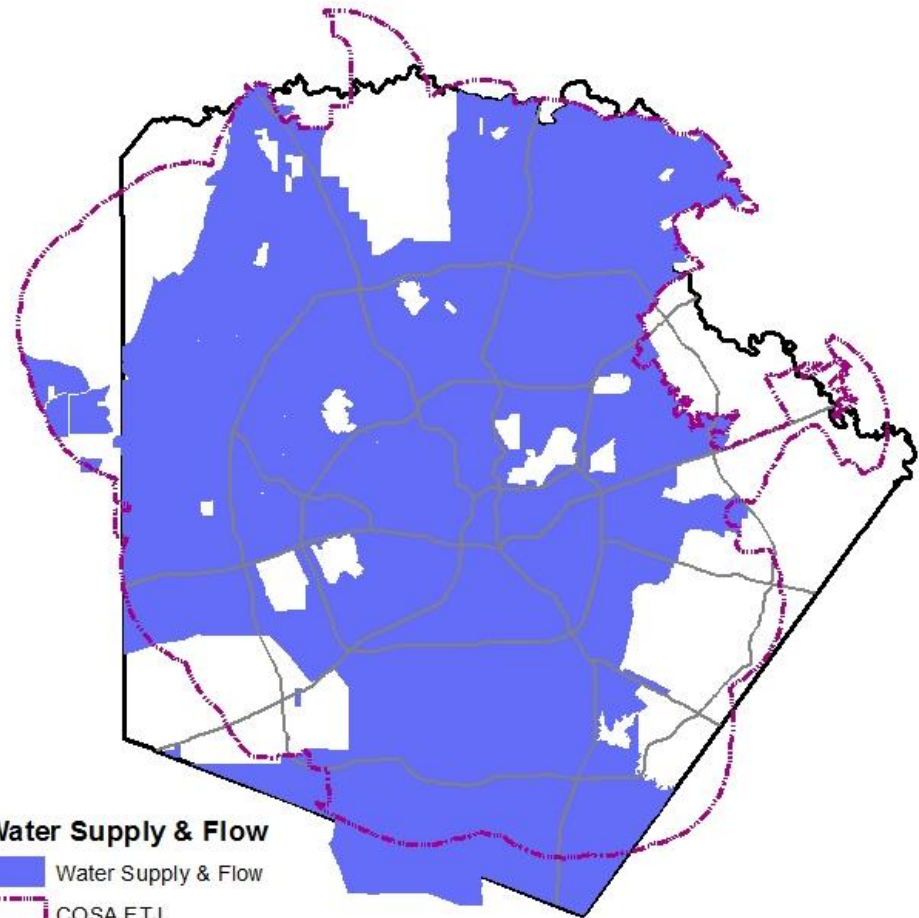
Service Area	2014	2023	Change
High	18,645	27,428	<b>8,783</b>
Middle	224,409	269,674	<b>45,265</b>
Low	454,657	496,426	<b>41,769</b>






# Water Flow Service Area



**Existing**



**Water Supply & Flow**

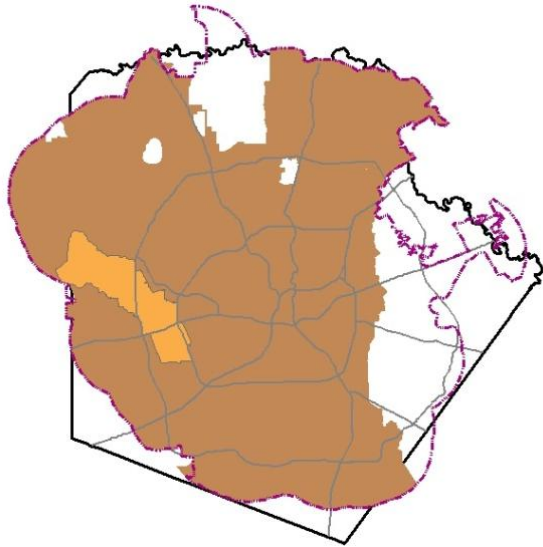
-  Water Supply & Flow
-  COSA ETJ
-  Bexar County

# Water Flow EDU Change

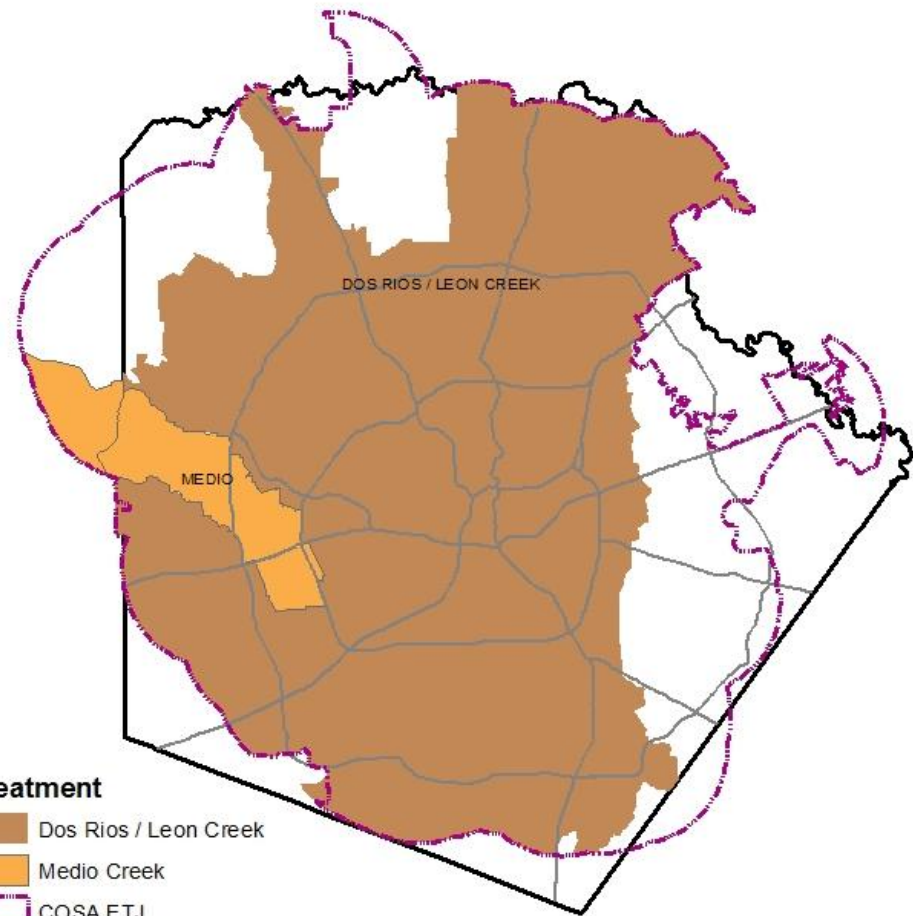
EDUs	2011	2020	Change
	587,073	667,416	<b>80,343</b>

EDUs	2014	2023	Change
	697,710	793,528	<b>95,817</b>

# Wastewater Treatment Service Areas



**Existing**



- Treatment**
-  Dos Rios / Leon Creek
  -  Medio Creek
  -  COSA ETJ
  -  Bexar County

# Wastewater Treatment EDU Change

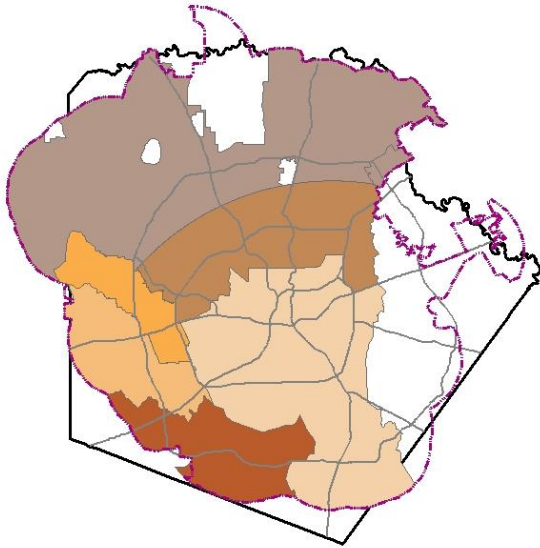
Population	2011	2020	Change
Dos Rios/Leon	1,567,369	1,777,596	<b>210,227</b>
Medio	78,393	118,720	<b>40,328</b>

EDUs	2011	2020	Change
Dos Rios/Leon	669,816	759,656	<b>89,841</b>
Medio	33,501	50,735	<b>17,234</b>
Total	703,317	810,391	<b>107,075</b>

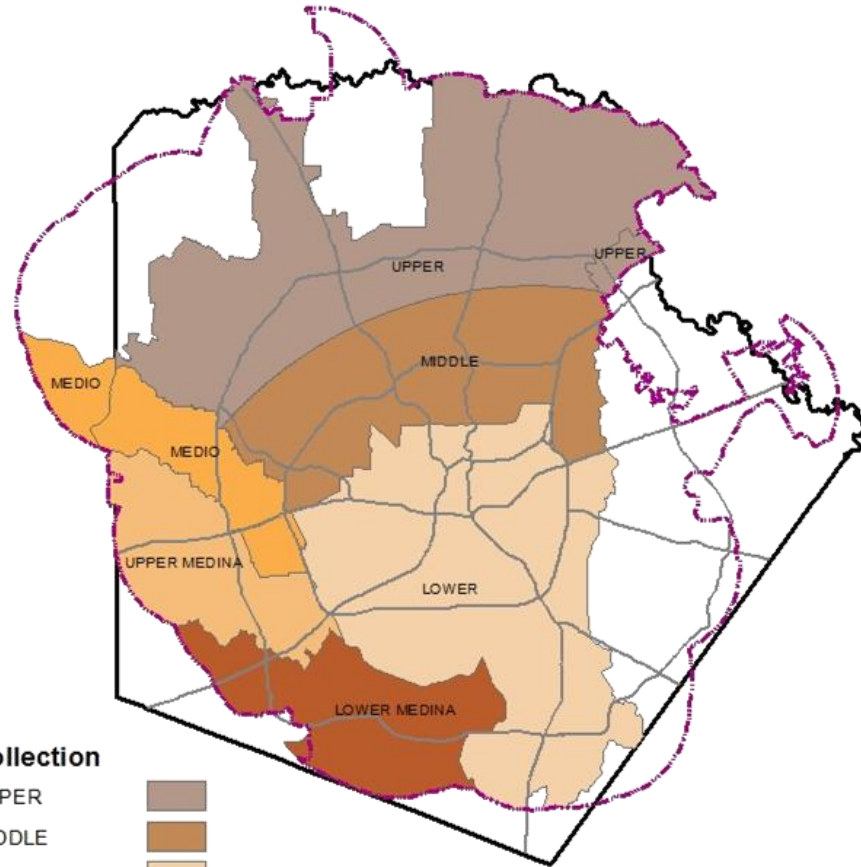
Population	2014	2023	Change
Dos Rios/Leon	1,474,671	1,682,002	<b>207,331</b>
Medio	92,266	113,389	<b>21,123</b>

EDUs	2014	2023	Change
Dos Rios/Leon	641,161	731,307	<b>90,146</b>
Medio	40,116	49,300	<b>9,184</b>
Total	681,277	780,607	<b>99,330</b>

# Collection Service Areas



**Existing**



- Collection**
- UPPER
  - MIDDLE
  - LOWER
  - UPPER MEDINA
  - LOWER MEDINA
  - MEDIO
  - COSA ETJ
  - Bexar County

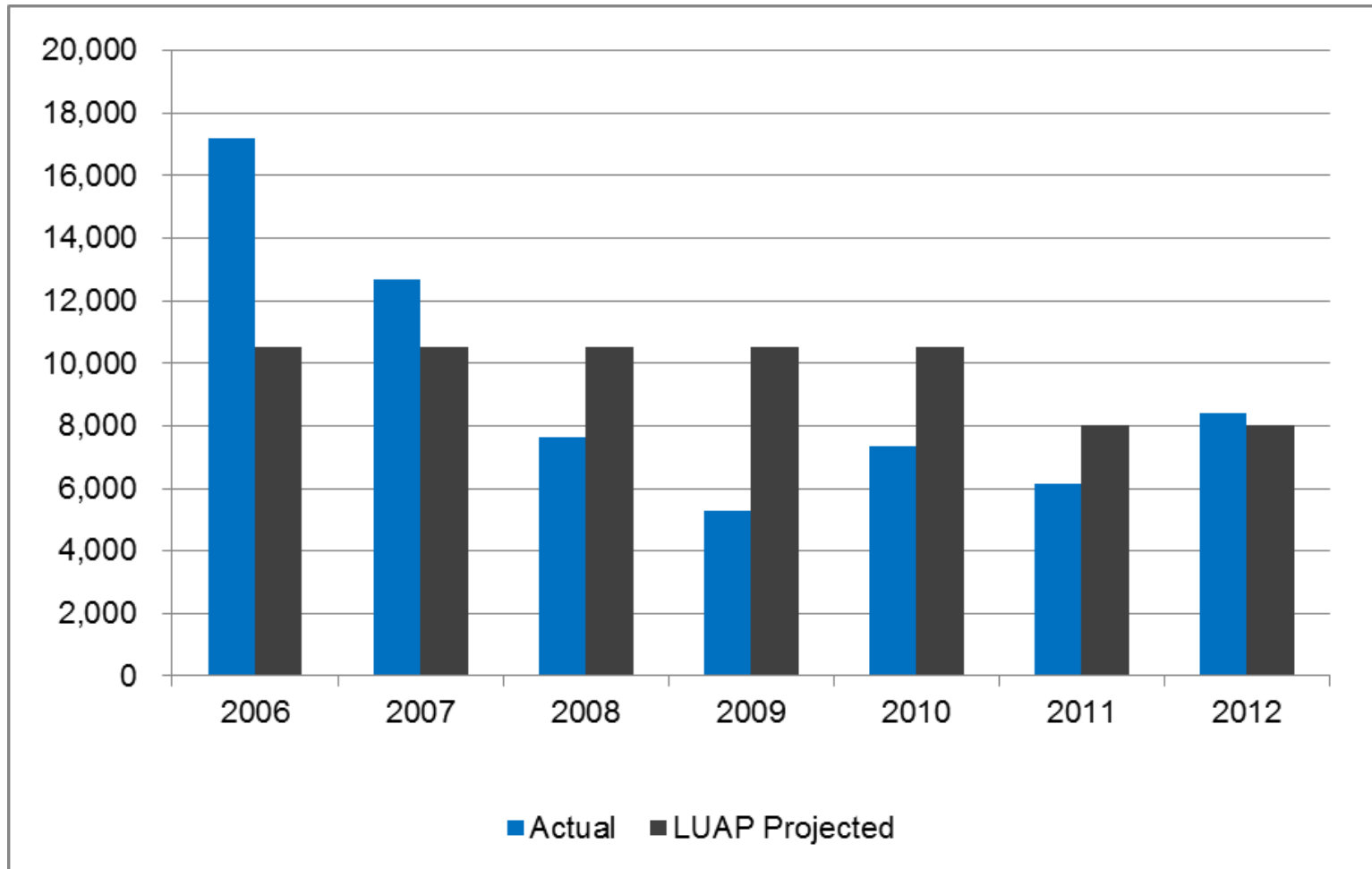


# Wastewater Collection EDU Change

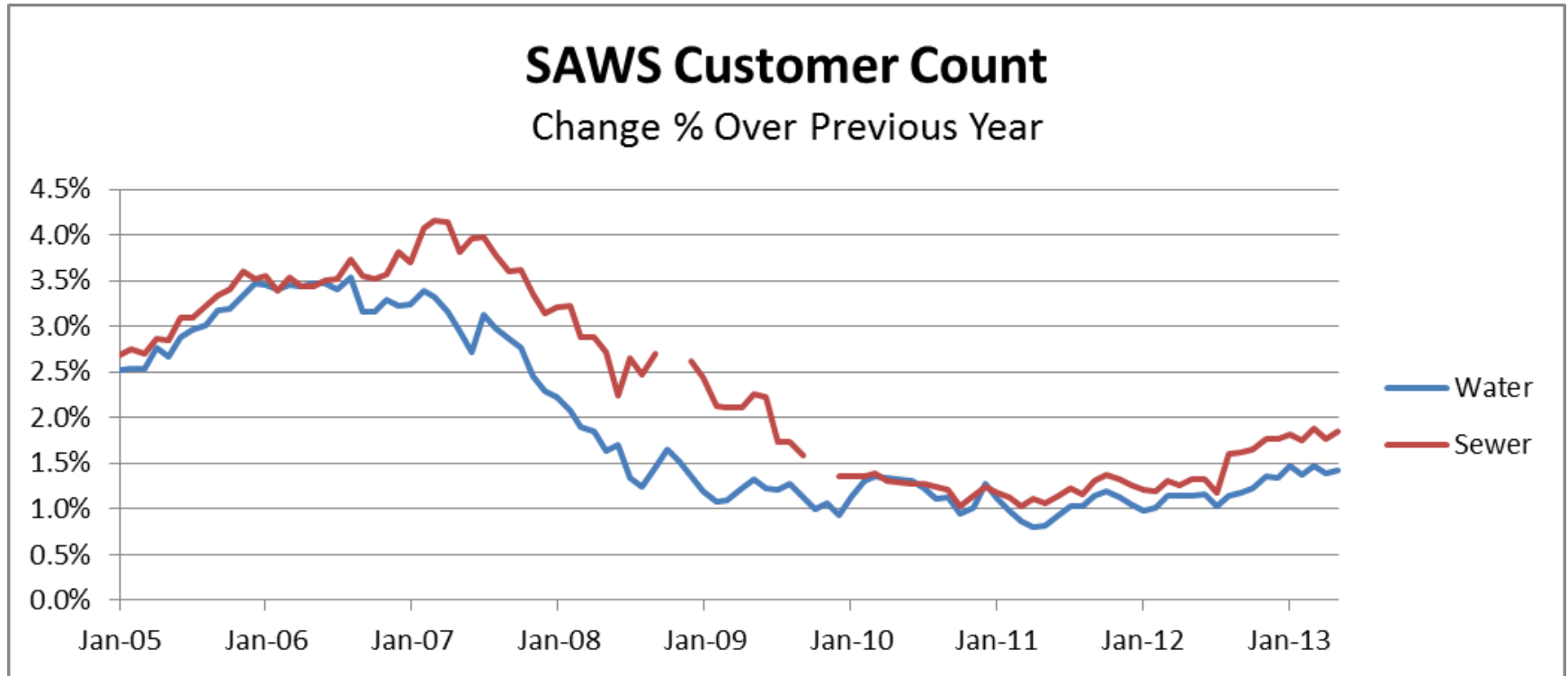
Service Area	2011	2020	Change
Upper	149,279	200,006	<b>50,727</b>
Middle	262,335	269,542	<b>7,207</b>
Lower	243,170	259,132	<b>15,962</b>
Medio	33,501	50,735	<b>17,234</b>
Upper Medina	12,436	26,660	<b>14,224</b>
Lower Medina	2,596	4,317	<b>1,721</b>

Service Area	2014	2023	Change
Upper	153,858	190,943	<b>37,085</b>
Middle	237,604	250,124	<b>12,520</b>
Lower	221,912	239,067	<b>17,155</b>
Medio	40,116	49,300	<b>9,184</b>
Upper Medina	19,184	38,662	<b>19,478</b>
Lower Medina	8,602	12,512	<b>3,910</b>

# Historical Water EDU Change



# SAWS Customer Count



***5 year average (water) = 1.19%***



# LUAP Summary

	2011 – 2020	2014 – 2023
<b>Water</b>		
Pop/EDU ratio	2.29	2.40
Population change	184,337	229,961
EDU change	80,343	95,817
<b>Wastewater</b>		
Pop/EDU ratio	2.34	2.30
Population change	250,555	228,454
EDU change	107,075	99,330

# SAWS Land Use Assumptions Plan

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