Land Use Assumptions Plan 2011-2020

June 9, 2010

Lance Freeman
Senior Planner
Infrastructure Planning
Overview

• Background information

• Demographics

• Projections process

• LUAP
Area Water Purveyors
Acronyms

• LUAP- Land Use Assumptions Plan
• EDU- Equivalent Dwelling Unit
• GPCD- Gallons per Capita per Day
• TAZ- Transportation Analysis Zone
• GIS- Geographic Information System
• WRC- Water Recycling Center
• USA – Utility Service Agreement
• Complete list with handout
Demographics

• Databases developed & analyzed by SAWS
  – Population & persons per household
  – Connections (size and type)
  – Consumption & flush
  – Land use (existing & future)
  – Septic tanks & private wells
  – Employees & apartment units

• Demographic support to following departments:
  – Water Resources, Finance, Engineering
  – Customer Service, Contracts, Conservation
  – Public Affairs, Legal, Education
Demographics
Project & Plans

- Water & Wastewater Master Plans (inputs to modeling)
- SAWS 50 Year Water Management Plan
- CCN applications, loan applications, surveys
- Gallons per capita per day
- Small area demand analyses for infrastructure analysis
- Budget forecasts & rate change analyses
- Lost revenue analyses
- Resource for AACOG, CoSA, SDC, TWDB, universities
- Land Use Assumptions Plan (LUAP)
Projections Process

• County Estimates
  – Based on annual updates to 2000 Census
  – Source is State Data Center

• County Projections
  – Based on migration scenario
Projections Process
Allocations within County

- Transportation/Land Use model
  - by AACOG
  - 900 analysis zones
  - Review & approval by Metropolitan Planning Organization

- Coordination with local sources
  - USAs, MDPs
  - CoSA, County, MPO, CPS-Energy, TxDot
Projection Process

900 TAZes in MPO Study Area
Projections Process
Parcel based land use in GIS

Land Use - Classification
Projections Process

Parcel variables:
- Land use,
- Land use mix
- Vacant land

27 Census variables
- Some are Household size
- Birthrate, Income groups,
- mortality, age distribution,
- Population & Employment

County Population Projection

Employment Forecast

Transportation/ Land Use Modeling

Transportation network

Population & Employment Projections by TAZ

Development variables:
- USAs, MDPs,
- MTP

Growth data by GIS
- SAWS, CPS-Energy, ISDs

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Land Use Assumptions Plan 2011 - 2020
LUAP Basics

- Demand is indicated by converting population to EDUs.
- LUAP shows the area intended for utility service.
- Shows the change in demand for that area for a 10 year period.
- EDU represents equivalent average use from a house.
- EDU calculation includes meters, sizes & apartment units.
**LUAP EDU Calculation**

**EDU estimate**

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>Active Meter Count</th>
<th>Apartment Master Meters</th>
<th>(2 - 3) Non-apartments</th>
<th>(4 * 5) EDU</th>
<th>Apartment Units</th>
<th>(6 + 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8</td>
<td>305,229</td>
<td>1,430</td>
<td>303,799</td>
<td>1</td>
<td>149,692</td>
<td>571,731</td>
</tr>
<tr>
<td>3/4</td>
<td>21,918</td>
<td>161</td>
<td>21,757</td>
<td>1.5</td>
<td>90% occupancy</td>
<td>134,723</td>
</tr>
<tr>
<td>1</td>
<td>10,052</td>
<td>512</td>
<td>9,540</td>
<td>2</td>
<td>19,080</td>
<td>90% occupan</td>
</tr>
<tr>
<td>1 1/2</td>
<td>5,775</td>
<td>368</td>
<td>5,407</td>
<td>5</td>
<td>27,035</td>
<td>90% occupan</td>
</tr>
<tr>
<td>2</td>
<td>3,938</td>
<td>518</td>
<td>3,420</td>
<td>14</td>
<td>47,880</td>
<td>90% occupan</td>
</tr>
<tr>
<td>3</td>
<td>834</td>
<td>195</td>
<td>639</td>
<td>30</td>
<td>19,170</td>
<td>90% occupan</td>
</tr>
<tr>
<td>4</td>
<td>635</td>
<td>178</td>
<td>457</td>
<td>50</td>
<td>22,850</td>
<td>90% occupan</td>
</tr>
<tr>
<td>6</td>
<td>346</td>
<td>162</td>
<td>184</td>
<td>105</td>
<td>19,320</td>
<td>90% occupan</td>
</tr>
<tr>
<td>8</td>
<td>108</td>
<td>40</td>
<td>68</td>
<td>135</td>
<td>9,180</td>
<td>90% occupan</td>
</tr>
<tr>
<td>10</td>
<td>25</td>
<td>7</td>
<td>18</td>
<td>190</td>
<td>3,420</td>
<td>90% occupan</td>
</tr>
</tbody>
</table>

2008 population 1,311,764

Population/ EDU = 2.29

**EDU to population factor: 2.29**

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**Land Use Assumptions Plan 2011 - 2020**
LUAP

• Five Impact Fees & Different Areas
• Water
  – Supply
  – System Development (production, transmission)
  – Flow (distribution)
• Wastewater
  – Treatment (WRC related)
  – Collection
Water Supply Service Area

Existing

- Service Area
- San Antonio ETJ
- Military Bases
- Major Parks

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Land Use Assumptions Plan 2011 - 2020
## Water Supply EDU Change

<table>
<thead>
<tr>
<th>Population</th>
<th>2011</th>
<th>2020</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,346,965</td>
<td>1,531,302</td>
<td>184,337</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EDU</th>
<th>2011</th>
<th>2020</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>587,073</td>
<td>667,416</td>
<td>80,343</td>
</tr>
</tbody>
</table>
## System Development EDU Change

<table>
<thead>
<tr>
<th>Service Area</th>
<th>2011</th>
<th>2020</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>17,872</td>
<td>36,690</td>
<td>18,819</td>
</tr>
<tr>
<td>Middle</td>
<td>218,003</td>
<td>259,504</td>
<td>41,501</td>
</tr>
<tr>
<td>Low</td>
<td>351,198</td>
<td>371,222</td>
<td>20,023</td>
</tr>
</tbody>
</table>
Flow Service Areas

Existing

- Major Parks
- Military Bases
- San Antonio ETJ
- Inner Service Area
- Outer Service Area

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Land Use Assumptions Plan 2011 - 2020
## Water Flow EDU Change

<table>
<thead>
<tr>
<th>Service Area</th>
<th>2011</th>
<th>2020</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inner</td>
<td>245,344</td>
<td>251,767</td>
<td>6,423</td>
</tr>
<tr>
<td>Outer</td>
<td>341,729</td>
<td>415,649</td>
<td>73,920</td>
</tr>
</tbody>
</table>
Wastewater Treatment Service Areas

Existing

- Dos Rios/Leon
- Medio
- CoSA ETJ
- Camp Bullis
- Major Parks

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Land Use Assumptions Plan 2011 - 2020
## Wastewater Treatment EDU Change

<table>
<thead>
<tr>
<th>Population</th>
<th>2011</th>
<th>2020</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dos Rios/Leon</td>
<td>1,567,369</td>
<td>1,777,596</td>
<td>210,227</td>
</tr>
<tr>
<td>Medio</td>
<td>78,393</td>
<td>118,720</td>
<td>40,328</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EDU</th>
<th>2011</th>
<th>2020</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dos Rios/Leon</td>
<td>670,743</td>
<td>760,708</td>
<td>89,965</td>
</tr>
<tr>
<td>Medio</td>
<td>33,547</td>
<td>50,805</td>
<td>17,258</td>
</tr>
<tr>
<td>Total</td>
<td>704,291</td>
<td>811,513</td>
<td>107,222</td>
</tr>
</tbody>
</table>
Collection Service Areas

Existing

- Upper
- Lower
- Medio
- Upper Medina
- Lower Medina

CoSA ETJ
Camp Bullis
Major Parks

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## Wastewater Collection EDU Change

<table>
<thead>
<tr>
<th>Service Area</th>
<th>2011</th>
<th>2020</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper</td>
<td>149,279</td>
<td>200,006</td>
<td>50,726</td>
</tr>
<tr>
<td>Lower</td>
<td>505,505</td>
<td>528,678</td>
<td>23,173</td>
</tr>
<tr>
<td>Medio</td>
<td>33,501</td>
<td>50,735</td>
<td>17,234</td>
</tr>
<tr>
<td>Upper Medina</td>
<td>12,436</td>
<td>26,660</td>
<td>14,224</td>
</tr>
<tr>
<td>Lower Medina</td>
<td>2,596</td>
<td>4,317</td>
<td>1,721</td>
</tr>
</tbody>
</table>

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Land Use Assumptions Plan 2011 - 2020
Historical EDU Change

2006 LUAP  Projection 10,000/yr  Actual 10,500/yr

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>17,204</td>
</tr>
<tr>
<td>2007</td>
<td>12,684</td>
</tr>
<tr>
<td>2008</td>
<td>7,652</td>
</tr>
<tr>
<td>2009</td>
<td>5,289</td>
</tr>
</tbody>
</table>
LUAP
Hearing & Briefing Process

• CIAC concurs with SAWS staff recommendations

• SAWS Board of Trustees recommends LUAP, CIAC and impact fees

• San Antonio City Council approves LUAP, CIAC and impact fees
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