Land Use Assumptions Plan 2011-2020

June 30, 2010

Lance Freeman
Senior Planner
Infrastructure Planning
Overview

• Background information

• Demographics

• Projections process

• LUAP
SAWS Sewersheds

Land Use Assumptions Plan 2011 - 2020
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

June 30, 2010

Land Use Assumptions Plan 2011 - 2020
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

June 30, 2010
Land Use Assumptions Plan 2011 - 2020
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 network

Development variables:
- USAs, MDPs, MTP

Growth data by GIS
SAWS, CPS-Energy, ISDs

Transportation/ Land Use Modeling

Population & Employment Projections by TAZ

June 30, 2010

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 Meters</th>
<th>EDU/Meter Size</th>
<th>EDU</th>
<th>(4 * 5)</th>
<th>Apartment Units</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>303,799</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/4</td>
<td>21,918</td>
<td>161</td>
<td>21,757</td>
<td>1.5</td>
<td>32,636</td>
<td></td>
<td></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></td>
<td></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></td>
<td></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></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>834</td>
<td>195</td>
<td>639</td>
<td>30</td>
<td>19,170</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>635</td>
<td>178</td>
<td>457</td>
<td>50</td>
<td>22,850</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>346</td>
<td>162</td>
<td>184</td>
<td>105</td>
<td>19,320</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>108</td>
<td>40</td>
<td>68</td>
<td>135</td>
<td>9,180</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>25</td>
<td>7</td>
<td>18</td>
<td>190</td>
<td>3,420</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>504,370</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 2008 population | 1,311,764 |

**Population/ EDU = 2.29**

**EDU to population factor: 2.29**

June 30, 2010

Land Use Assumptions Plan 2011 - 2020
### LUAP EDU Calculation

**Wastewater**

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>Active Meter Count</th>
<th>Apartment Master Meters</th>
<th>4 (Totals (2 - 3))</th>
<th>5 Edus/Meter Size</th>
<th>6 (5 * 6)</th>
<th>7 (5 * 6)</th>
<th>8 Apartment Units</th>
<th>9 (7 + 8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8</td>
<td>87.98%</td>
<td>344,395</td>
<td></td>
<td>1</td>
<td>344,395</td>
<td></td>
<td>149,692</td>
<td></td>
</tr>
<tr>
<td>3/4</td>
<td>6.30%</td>
<td>24,664</td>
<td>1.5</td>
<td>36,996</td>
<td></td>
<td></td>
<td>11,760</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.76%</td>
<td>10,815</td>
<td>2</td>
<td>21,630</td>
<td></td>
<td></td>
<td>161,452</td>
<td></td>
</tr>
<tr>
<td>1 1/2</td>
<td>1.57%</td>
<td>6,130</td>
<td>5</td>
<td>30,648</td>
<td></td>
<td></td>
<td>143,807</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.99%</td>
<td>3,877</td>
<td>14</td>
<td>54,278</td>
<td></td>
<td></td>
<td>145,307</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.19%</td>
<td>724</td>
<td>30</td>
<td>21,732</td>
<td></td>
<td></td>
<td>8,000</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.13%</td>
<td>518</td>
<td>50</td>
<td>25,903</td>
<td></td>
<td></td>
<td>145,307</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0.05%</td>
<td>209</td>
<td>105</td>
<td>21,902</td>
<td></td>
<td></td>
<td>145,307</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0.02%</td>
<td>77</td>
<td>135</td>
<td>10,407</td>
<td></td>
<td></td>
<td>145,307</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0.01%</td>
<td>20</td>
<td>190</td>
<td>3,877</td>
<td></td>
<td></td>
<td>145,307</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>395,227</strong></td>
<td><strong>3,798</strong></td>
<td></td>
<td><strong>391,429</strong></td>
<td><strong>571,767</strong></td>
<td></td>
<td><strong>644,420</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Percent sizes of sewer services assumed to equal percent for water services.

2008 population 1,505,859

**Population/ EDU = 2.34**

**EDU to population factor: 2.34**

June 30, 2010

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

June 30, 2010

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

June 30, 2010

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

June 30, 2010

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>669,816</td>
<td>759,656</td>
<td>89,841</td>
</tr>
<tr>
<td>Medio</td>
<td>33,501</td>
<td>50,735</td>
<td>17,234</td>
</tr>
<tr>
<td>Total</td>
<td>703,317</td>
<td>810,391</td>
<td>107,075</td>
</tr>
</tbody>
</table>

June 30, 2010

Land Use Assumptions Plan 2011 - 2020
Collection Service Areas

Existing

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

CoSA ETJ
- Camp Bullis
- Major Parks

June 30, 2010

Land Use Assumptions Plan 2011 - 2020
<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>
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>

June 30, 2010

Land Use Assumptions Plan 2011 - 2020
Past Population & EDU Change

San Antonio population & SAWS EDUs from 2004 to 2009. The San Antonio population has seen a slight decrease from 2004 to 2009, while SAWS EDUs have shown a consistent decrease from 2004 to 2007, followed by a slight increase in 2008 and then a decrease in 2009.
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
Land Use Assumptions Plan
2011-2020

June 30, 2010

Lance Freeman
Senior Planner
Infrastructure Planning