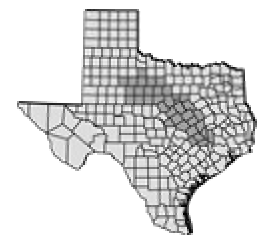

Agenda Item 7.2 ***Presentation of Conservation Case*** ***Study***

September 15, 2004



Conservation in 2001 Plan

- **Conservation included in demands**
 - **Plumbing fixtures**
 - **“Expected level”**
- **Additional conservation evaluated for municipal and manufacturing demands**
 - **5% reduction of the demand**
 - **Recommended for Baird and Stamford**
 - **Cost estimated at \$574 per ac-ft**

Conservation requirements for SB2

- **Expected level of conservation is not included in demands**
- **Must be considered for every water need**
- **Quantify savings**

Conservation Case Study

- **Compare two cities with different levels of conservation activities**
- **Evaluate relationships of water use:**
 - **Climate conditions**
 - **Economic activities**
 - **Funding commitments**
 - **Conservation activities**

Measurements and Definitions

- **Total GPCD = Total pumped/population**
- **Monthly data expressed as total gpcd**
- **Municipal GPCD = (total pumped-wholesale sales-industrial sales) /population**
- **Annual data expressed as municipal gpcd**
- **Used for evaluation of effectiveness of conservation program**
- **Population – service area**

Case Study

- **City of Temple**
 - **Water conservation plan adopted in 2000**
 - **6 major components in plan**
 - **Main emphasis – education and reduce unaccounted for water losses**
- **City of Austin**
 - **Developed program in 1985, latest plan – 1999**
 - **11 major components**
 - **Aggressive program –**
 - **1985 to 1987, included door to door showerhead and faucet replacements**
 - **5-year goal – reduce gpcd by 5%**
 - **50-year goal – reduce demand by 25,000 to 50,000 af/y**

Findings

- **Seasonality of water use**
 - **Total water use related to summer precipitation and temperature**
- **Building activities – inconclusive impact on gpcd**
- **Reductions in unaccounted-for water can have potentially significant water savings**
 - **Inconsistencies in reporting unaccounted-for water**
 - **Inconclusive data from Austin (1993-2003)**
 - **May be real or only paper savings**
- **Increase in per capita income for Austin after 1996**
 - **Water use remained fairly constant**

Findings/ Conclusions

- **It takes time to see results from conservation program**
 - **Temple – program in place only 3 years**
 - **Austin – took about 5 years for quantifiable results**
- **Trend for continued reductions in gpcd is not evident for Austin**
 - **Reductions may be occurring, but is offset by increased water use that is associated with higher income levels**
 - **Maintaining levels of gpcd requires continued conservation efforts**
 - **Under Task Force gpcd definition, Austin exceeds 140 gpcd by 30 gpcd (based on service area population)**
 - **On paper, does not appear to be realizing 1% reductions in gpcd per year**

Findings/Conclusions (cont'd)

- **Efforts to reduce unaccounted-for water – pro-active strategy**
 - **Undertaken by city directly**
 - **Results can possibly be achieved in short time frame**
 - **Requires continued effort to maintain benefits**

Conclusions

- **Aggressive program appears to reduce municipal gpcd by approximately 10 %**
 - **Includes reductions – State plumbing code**
 - **Projected State plumbing code reductions for Austin are 4 to 12 gpcd (7% reduction by 2060)**
- **Brazos G – projected reductions due to State plumbing code range from approx 3 to 15 gpcd**
 - **Range of 5% to 18% of year 2000 gpcd**