

## **Infrastructure Report Card at a Local Level Blueprint for Success - The Georgetown, Texas Experience**

**By John N. Furlong, P.E.<sup>(1)</sup> and Thomas R. Benz, P.E.<sup>(2)</sup>**

In May, 2005 a group of ASCE members from the Texas Section met with staff from the City to begin a four month process of evaluating the local infrastructure. In June, 2005 a meeting was held with the Utility Advisory Board in Georgetown to outline the evaluation process, set a schedule, and decide on categories to evaluate. This paper describes that process.

### **Selected Infrastructure Categories for Fact Sheet Write-ups**

The categories chosen included the following:

- Streets
  - Streets
  - State Highways
- Structures
  - Bridges
  - Buildings
  - Park Buildings
- Energy
- Dams
- Wastewater
  - System
  - Plants
- Water
  - System
  - Plants
  - Quality of Drinking Water
  - Water Resources
  - Fire Safety
- Flood Control/Drainage
  - Drainage System
  - Flood Control
- Transit
- Solid Waste
- Parks and Recreation

Why is ASCE interested in a local communities' infrastructure? I feel the answer lies in the response I read in CENEWS this past month. In answer to a similar question about the Civil Engineer's role in asset management, the response was:

“Aging infrastructure is a major concern to many Americans and certainly to our elected officials. Of course, the costs to maintain, rehabilitate, replace, or even build new infrastructure is no surprise to civil engineers. However, the general public isn't as well informed, so decisions to spend can be unpopular, and this fact can impede progress toward more dependable, efficient, facilities. Truth be told, many elected officials and governing bodies aren't well informed either, typically because of insufficient data, not unawareness. Improving asset management can go a long way in aiding the community impediments that plague towns, cities, and states every day. Thankfully, federal rulings, such as the Governmental Accounting Standards Board's Statement 34 and the U.S Environmental Protection Agency's Capacity, Management, Operations, and Maintenance Regulations, as well as decisions at the local level in some states, are supporting such initiatives. But the true impetus should just be *logic*. Defining priorities and making expenditure decisions based on facts that result from data, analyses, and engineering principles is the only way to go.”

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In closing the article went on to say:

“The benefits of maintaining assets with the big-picture perspective afforded by asset management systems have distinct advantages to utilities, municipalities, or other owners of public infrastructure. Designating assets, quantifying and locating them, and qualifying their status, as well as sharing such information throughout organizations, can bring vast efficiencies and benefits to the public. If infrastructure owners’ goals include extending facilities lifecycles and spending wisely (which I think they all should!) then investing in asset management is a necessity. Sure, asset management costs money, but sometimes you have to spend a little to yield a great return.”

In the Georgetown evaluation, the ASCE committee tried to put these principles to work. By nature civil engineers are not alarmists, but detail oriented and generally very concerned about the environment in which they live. Fact Sheets were prepared for the ten categories listed above. The Fact Sheets were reviewed with City staff for accuracy and content.

The Texas Section ASCE Committee was comprised of the following individuals:

Jack Furlong, P.E. – Chairperson  
Ralph O’Quinn, P.E. – Co-chairperson  
George Prall, P.E.  
Todd Jackson, P.E.  
Bud Beene, P.E.  
Richard Furlong, Ph.D, P.E.  
Don Willhouse, P.E.  
Wayne Cooper, A.S.L.A.  
Cres Guzman, P.E.  
Susan Roth, P.E.

The City of Georgetown staff assisting our committee included Mr. Tom Benz, P.E., Systems Engineering Manager, and Mr. Jim Briggs, Assistant City Manager for Utility Operations.

### **Data Collection for each category**

Data collection for each category involved essentially conducting an Infrastructure Audit of Georgetown. This was a little more in depth audit used to determine whether Georgetown currently meets the needs of that area and if Georgetown will continue to do so in the future. Questions worth considering in an audit included:

- Are the current roads and bridges able to sustain the current population?
- Will the roads and bridges be able to support the community in ten years? Twenty years?
- Where roads should be built within the community in order to sustain the projected population in twenty years?
- Are the community’s schools able to sustain the current student population?
- Will the schools be able to maintain the student population in ten years? Twenty years?
- Do the water and sewage systems meet the current needs of the community?
- Will the water and sewage systems meet the needs of the community in ten years? Twenty years?
- Are other transportation needs, such as local airports or ports, adequate to meet the needs of commerce that the community has or hopes to have?
- Can Georgetown’s energy grid handle any expected population increases?

## Fact Sheet Creation and Grading Criteria

Fact Sheet criteria by which each category was evaluated included:

- Infrastructure condition
- Performance
- Funding
- Capacity vs. Need

Fact sheets generally about 2-4 pages long for each category were compiled checked and used to make an evaluation for that particular category. Figure 1 shows an example Fact Sheet used for the Georgetown Report Card.

The ASCE committee then reconvened in September, 2005 to “grade” the fact sheets and categories and arrive at a single grade for each category. Grades were based on the following scale:

A=90-100%

B=80-89%

C=70-79%

D=41-69%

F=40% or lower

Fact Sheets for 10 categories were put together and presented to the ASCE committee. These fact sheets formed the basis for grading. The spirit and character of the City Administration is embodied in their Mission Statement:

***“To preserve and enhance the quality of life, and unique character of Georgetown by preserving the rich heritage and natural resources; promoting well-planned development, cost-effective professional management, and competent friendly services and; protecting its citizens, the environment, and all other assets.”***

A little history about the City of Georgetown is described below and taken from their Century Plan report.

### Overview

Founded July 4, 1848, Georgetown was originally the agricultural trade center for the county and surrounding area. After the Civil War, reconstruction brought prosperity to Georgetown through the main industries -- cattle, cotton, the university and the railroad. Georgetown has enjoyed consistent growth and development through the years. In recent years the City has become more industrialized and commercially oriented. Along with the commercial growth, Georgetown has successfully promoted tourism. Tourism has become a significant economic benefit to the community. The City of Georgetown’s estimated 2004 population was 36,359 within the city limits, with an estimated population of 55,000 including the extraterritorial jurisdiction. Georgetown is a Home Rule Charter City and operates under the Council-Manager form of government. A mayor and seven council members are elected from single-member districts. Elections are held the first Saturday in May.



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# Renewing Texas Infrastructure

## 2005 City of Georgetown Infrastructure Report Card

### Texas Section – American Society of Civil Engineers

#### Water Fact Sheet

### Key Infrastructure Facts: Existing Condition and Performance

- The current City of Georgetown water sources come from the following locations: surface water from Lake Georgetown and groundwater from the Edwards Aquifer.
- The current water treatment facilities are adequate until the year 2010 if the population projections are consistent with the actual growth.
- The remaining available water supply for the Georgetown service area will be adequate until approximately 2026.
- The City of Georgetown water utilities are regulated by the US Environmental Protection Agency (EPA), The Texas Commission on Environmental Quality (TCEQ), and Texas Commission on Fire Control.
- The Edwards Aquifer Recharge Zone Projection Plan is currently being put in place by the TCEQ in order to protect the Edwards Aquifer.
- In 2003 there were nearly 500 water quality tests completed and all of the EPA standards were met.
- In the year 2000, the amount of unaccounted-for-water in the Georgetown Utility System (GUS) was approximately 15.9%. CDM, Inc. recommended in its Master Plan, January 2005, that GUS performs a water audit to determine if water loss reduction measures should be taken.

### Anticipated Growth and Other Future Needs

- The City of Georgetown's population is expected to nearly triple over the next 20 years from approximately 40,000 (39,591) to 110,000 (111,096).
- Periodic system updates and re-evaluations must be completed in accordance with The City of Georgetown Water Distribution Master Plan through the year 2025.
- Additional ground storage capacity, elevated storage capacity, pump stations, and connections must be added to the water system in order to keep up with the future system needs.

### Adequacy of Current Funding and Need for Expanded Funding

- The utility serves 19,639 Service Unit equivalents in 2005.
- The table below shows the existing service demand and capacity with projections to 2015.

**Figure 1 – Example of Fact Sheet used for Georgetown 2005 Report Card**

## **Historic Georgetown**

Since the 1980's Georgetown has been synonymous with Main Street, a downtown economic development effort administered through the Texas Historical Commission and the National Main Street Center. Over \$30 million has been reinvested in our economy through the revitalization efforts of the downtown area. Private and public entities joined in partnership to restore and renovate downtown commercial structures, public buildings as well as building new structures to help anchor the commercial district. This unprecedented success has made our community the shining star of the Texas Main Street program and an example for small cities nationwide to follow. It has been the building block for Georgetown's recent economic development gains. The restoration of Georgetown's "living room", one of a few remaining Victorian era downtown squares in the country, has revitalized the heart of Georgetown into a thriving district with shops and restaurants. In 1997, Georgetown gained recognition for the successful effort of its citizens to preserve the historic character and charm of the city when it won the Great American Main Street Award. The Georgetown Square is considered by many to be the finest example in the state of a Victorian town square. The historic square is certainly the magnet that draws people to Georgetown. However, once they're here, people soon realize there's much more to our community. It's a town with a strong identity and people who care about it... people that make sure we never stop trying to enhance both Georgetown's appeal and the lives of those who choose to live here.

## **Cultural Activities**

Cultural activity thrives in Georgetown. Southwestern University's contribution of quality theater, dance, fine arts and lecture events add a valuable dimension to our cultural life. The Art deco-styled Palace Theatre, located on the downtown square, was renovated and rejuvenated by townspeople. The Palace Theatre showcases events such as singing acts, plays, talent shows and every second Saturday of the month the Theatre hosts the Georgetown Opry. Georgetown always has a full calendar of local events including a fall Antique Show, a Fourth of July celebration with music, food and fireworks and ethnic celebrations. Other major annual events include the Christmas Stroll, Red Poppy Festival, and the Fiddlin' Fair.

## **Recreation**

Georgetown offers a wealth of recreation. In Georgetown there are currently twenty three city parks comprising nearly 380 total acres. The parks range from a half-acre neighborhood park to the one hundred-acre city wide San Gabriel Park. The parks include a wide range of facilities including: softball and baseball fields, soccer fields, playground equipment, individual and group picnic shelters, basketball and tennis courts, disc golf, a hike and bike trail and five swimming pools. The San Gabriel Park also has a community center, sunken garden, gazebo, football stadium, rodeo arena, and a Creative Playscape for children. The Georgetown Recreation Center has a full basketball and volleyball court, two racquetball courts, a game room, weight room, kitchen, conference room and large and small activity rooms. The City purchased and opened the Georgetown Tennis Center in September 1999. The facility includes a full size swimming pool and baby pool, 11 tennis courts and activity center on 7 wooded acres. The City of Georgetown Parks and Recreation Division was presented with an "Outstanding Park Award" from the National Softball Association (NSA) for McMaster Athletic Complex. The complex has won the National Softball Association's award every year since its opening in 2001, and is recognized by the Association as one of the most outstanding softball complexes in the state.

## **Education**

Georgetown Independent School District (GISD) serves a diverse population of Williamson County students from pre-K to 12th grade, having a current enrollment of over 8,800 students. The district serves elementary students in three pre-K-2 campuses, three 3-5 campuses, and three K-5 campuses. Secondary

students attend one of three middle schools and a ninth-grade campus before attending the district's high school. An alternative high school campus serves students who participate in a self-paced general curricular program. There are also three private schools and two parochial schools in the area. The public school system is exceptional in the quality of teachers and programs offered. The district is fully accredited by the Texas Education Agency. During their most recent visit, members of TEA commended the District for individual teacher excellence, including good daily lesson planning, good classroom organization, and above-average student test scores, and recognized the student body as well for good behavior.

Georgetown is the home of Southwestern University, an independent, selective four-year undergraduate college, offering a traditional liberal arts and sciences curriculum. Southwestern was the first institution of higher learning in Texas, chartered by the Republic of Texas in 1840 and has received national recognition for its academic program and cost-effectiveness. The *2004 Princeton Review* identified Southwestern as the nation's #7 "best value" undergraduate institution, underscoring the University's value-added educational experience. Southwestern has a favorable 10:1 student-faculty ratio, with 99 percent of the full-time faculty having doctorates or the highest degrees in their field. The University has a current enrollment of 1,265.

### **Final Evaluation**

Figure 2 shows the Georgetown Report Card will list the category, grade and conditions leading to the selected grade. The overall grade for Georgetown is yet to be determined. This effort was conducted by the Texas Section ASCE at the request of the City of Georgetown. We hope that it is informative and honestly reflects the opinions and concerns of those civil engineers asked to make the grade. Since this is still an ongoing effort a final report card will be published.

The ASCE committee conducting the final evaluation is still a work in progress. There will be at least one or two more meetings to finalize grades for all categories. In the process some of the demographics for Georgetown were examined, as well the city's budget process to get a handle on the income/outgo for financing and paying for public infrastructure. Figure 3 shows the growth in population, appraised value, tax rate and budget growth in the last decade.

We greatly appreciate the voluntary work effort expended by all involved and realize that most of us have day job! Thanks!



# City of Georgetown, Texas Report Card

Subject/Category	Grade	Comments				
Streets	B-	*Pavement Condition Survey completed by Fugro 2005. Some streets in varying levels of resurfacing. Transportation Advisory Committee just implemented. Newer subdivisions pavement is OK. TxDOT area engineer gave area roads a C. Population to double by 2010.				
Structures	C+	*Building Survey of Public Structures completed in fall 2003. Describes needs and of police, fire and library departments for space. Recommends bond issue to raise money for new facilities. Bridges included in Category				
Energy	B+	*Georgetown owns it's electric utility. Trying to hire a full time technician at sub-station. Buys wholesale electric power from LCRA. Electric utility is primary source of city revenue.				
Dams	B-	*Lake Georgetown (USACE) dam is within ETJ area. City has plans to implement a Regional Stormwater Management Plan (RSMP) in three of five watersheds. Drainage fee is \$4.25/residence/month.				
Wastewater	C-	*Wastewater utility includes five WWTP with a combined treatment capacity of 5.74 MGD. Utility serves 16,390 service unit equivalents Population will triple in next 20 years. Three WWTP upgrades are proposed. Utility needs to extend service to newly annexed areas. Agressive annexation occurring.				
Water	B	*Surface water sources are Lake Georgetown and Stillhouse Hollow. Recently completed 48" raw water pipeline and pump station from Stillhouse Hollow to Lake Georgetown. Water Utility serves 19,639 service unit equivalents.				
Flood Control/Drainage	C	*Five major watersheds drain Georgetown. Enrolled in NFIP - regular. Stormwater fee is set at \$4.25/residence/month. Stormwater fee goes to address regional planning. Fee addresses capital drainage projects. RSMP being implemented.				
Transit	D	Georgetown part of the Austin-San Antonio Intermunicipal Commuter Rail Authority. This entity was created to plan and fund commuter rail in this growth corridor. CAP metro does not get to Georgetown. Some taxi service presently.				
Solid Waste	C+	*Georgetown has a collection center. Recycling encouraged. Needs public push to encourage recycling. Trinity Waste Systems is the current provider of waste collection services. Residential rate is \$12.95 in city/month.				
Parks and Recreation	C	*Georgetown has 23 parks covering 380 acres. Lake Georgetown has four USACE parks surrounding the lake within the ETJ area. A trail system connects the lake area with San Gabriel Park. Parks and Recreation needs better access by neighborhoods. Most populaton west of I-35, most parkland east of I-35.				
<table border="1"> <tr> <td data-bbox="224 1528 370 1663"> </td> <td data-bbox="402 1549 876 1648"> <p><b>City of Georgetown, Texas GPA = C+</b></p> <p><i>Renewing Texas Infrastructure</i></p> </td> <td data-bbox="941 1537 1117 1675"> <p>A = Exceptional B = Good C = Fair D = Poor F = Inadequate</p> </td> <td data-bbox="1182 1537 1497 1648"> <p>Each category was evaluated on the basis of condition and performance, capacity vs. need, and funding vs. need.</p> </td> </tr> </table>				<p><b>City of Georgetown, Texas GPA = C+</b></p> <p><i>Renewing Texas Infrastructure</i></p>	<p>A = Exceptional B = Good C = Fair D = Poor F = Inadequate</p>	<p>Each category was evaluated on the basis of condition and performance, capacity vs. need, and funding vs. need.</p>
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Figure 2 – Shows what the final Georgetown 2005 Report Card will look like.

## Georgetown – Then and Now

*This is a comparison of Georgetown today and as it was a decade ago.*

	1994/95	2004/05
Population	18,500	37,450
Customer Growth	5%	5.09%
Building Permits Issued	413	866
Unemployment Rate	2.70%	4.90%
Appraised Values	\$508,403,728	\$2,391,137,407
Average Home Value	\$76,862	\$163,751
Total Budget	\$51,746,134	\$113,846,129
Total Tax Rate	\$0.36	\$0.34626
Maintenance on Streets	\$73,419	\$1,280,000
Debt Service Tax Rate	\$0.16	\$0.11332

- ☉ Population has doubled
- ☉ Growth has been constant
  - ☉ Tax base has quadrupled
  - ☉ Tax rate, including debt portion, is lower

**Figure 3 – Growth of City of Georgetown in last ten years.**