

TurnerCollie & Braden Inc.

Mr. Craig Pedersen

February 28, 2001

ES-1

Water and Wastewater Needs of Non-EDAP Eligible Areas

EXECUTIVE SUMMARY

During the 76th Legislative Session, the Texas Water Development Board (TWDB) received several requests for information from elected officials regarding communities that lacked adequate water and wastewater facilities and were economically challenged. TWDB's existing assistance program (Economically Distressed Areas Program, EDAP) is available only to entities residing in counties where the entire county meets the EDAP definition. Where economically distressed communities are located within counties that overall are more affluent, the individual communities with need are currently not qualified for EDAP funding assistance. In an effort to be responsive to the needs of the state, a new project was developed with the expectation of evaluating those communities with water and wastewater needs statewide for estimated costs to provide adequate facilities and to determine if there were any impediments to providing such service. The methodology chosen was a series of questionnaires to state, county, and local officials/entities that had knowledge of water and wastewater conditions in the communities within each of the Non-EDAP counties in Texas. The questionnaire requested the names, locations, and populations of communities that lacked adequate water and wastewater services, a brief description of the identified needs, and any available identified project cost estimates.

The initial Phase I questionnaire was sent to 650 entities in Non-EDAP counties, with a request that they make copies of the questionnaire and distribute as appropriate. A total of 1,152 questionnaires from 158 counties were generated and submitted to the TWDB through this effort. These data were compiled and the subsequent analyses determined that the questionnaire response data included substantial information about needs and populations, but there was insufficient data to complete an accurate cost analysis. The TWDB then provided ten years of water and wastewater project data for the entire state, which contained project costs and populations for a wide variety of projects. This data was analyzed and a cost curve developed to relate costs to population served for both water and wastewater facilities. A Phase II effort was requested to provide further definition of the populations with needs.

Phase II included additional surveys and analyses following up on the previous survey to expand the basis of need from areas where previously there had been no response or incomplete responses. In particular, Phase II targeted counties where there had been no response in Phase I, but where needs had been reported to the TWDB in the past. Estimates of total cost for water and wastewater services throughout the State of Texas were prepared based on the improved population information and cost curve generated in Phase I. **Total needs (statewide) based on the additional county-level research have been estimated at approximately \$1.82 billion for water improvements, and \$1.95 billion for wastewater improvements using the TWDB Loan Files dataset trendline.** These bottom-line cost estimates represent the total needs of the counties in the state that were classified as non-EDAP counties as of June 2000. Where there was no questionnaire data reported by a county, a comparison of "like counties" was used to project a dollar amount, based on county(s) of similar size, geographic location, and population. These

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extrapolations were requested by the TWDB to help estimate the potential need for counties that did not respond to the questionnaire. The questionnaire-identified community-level financial need estimates represent approximately 55 percent of the estimated total statewide wastewater financial need and 68 percent of the estimated total statewide water financial need. *Figure 1* shows the locations of those counties responding with needs statewide.

County Questionnaire Responses

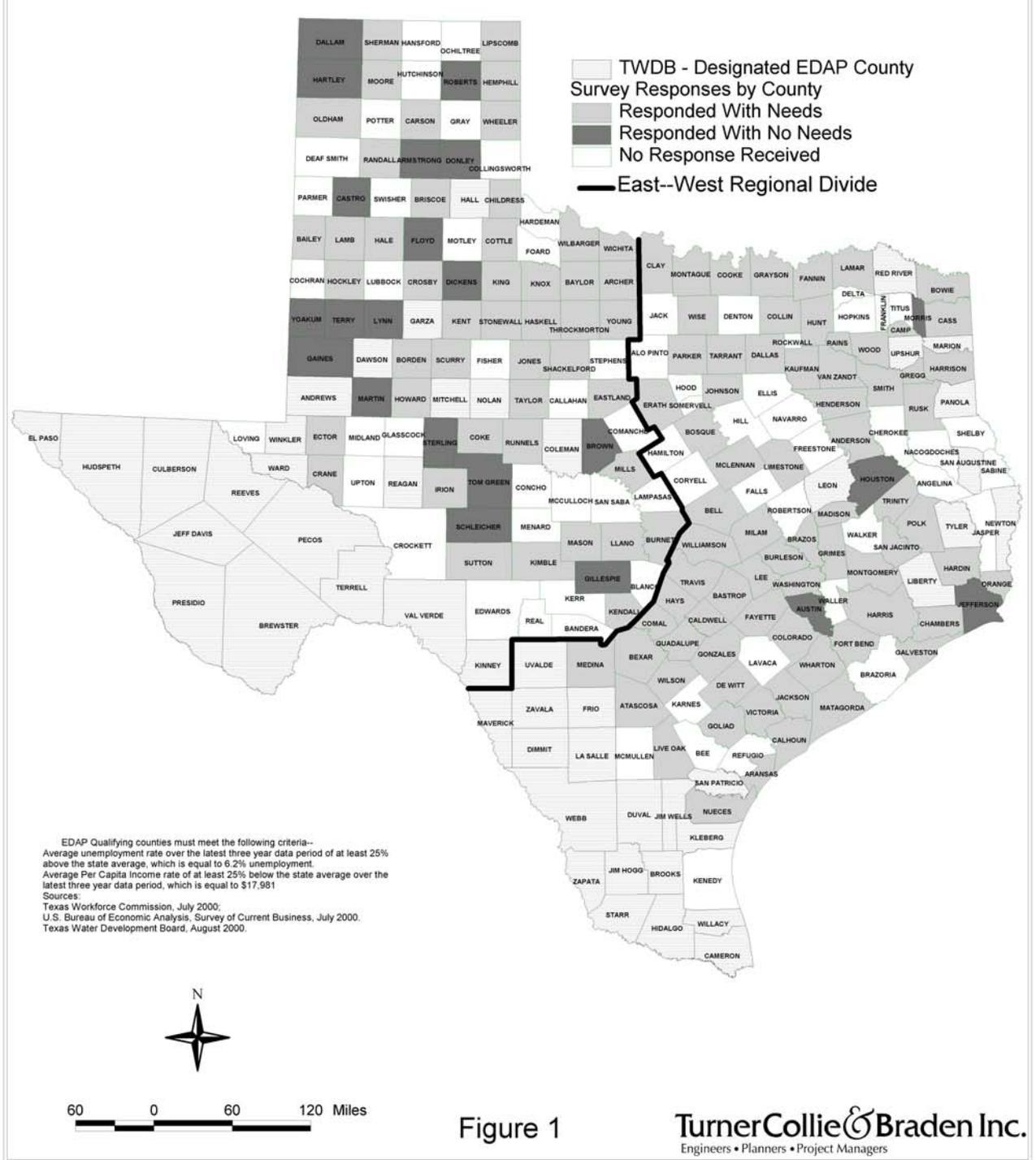


Figure 1

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The next feature of the study was to rank the severity of the financial need using common economic indicators. Data was collected on the average per capita income and percent unemployment in the communities surveyed, and these data were compared to statewide averages. From this comparison, various levels of need were identified in a ranking system that includes the two economic factors noted above. For each economic factor, severity of need was denoted by a ranking of 1 to 7, with “7” being communities with an economic level significantly below the corresponding statewide average, and “1” being communities with an economic level equal to or better than the statewide average, as shown in *Table 1*.

Table 1: Community-Level Financial Need Indicator Ranking System*

% Community Unemployment Rate Above State Unemployment Rate	Rank	% Community Per Capita Income Below State Per Capita Average	Rank
= or below state unemployment rate	1	= or above state income avg.	1
1-15 % above state unemployment rate	2	1-20 % below state income avg.	2
16-30 % above state unemployment rate	3	21-29 % below state income avg.	3
31-50 % above state unemployment rate	4	30-36 % below state income avg.	4
51-80 % above state unemployment rate	5	37-44 % below state income avg.	5
81-125 % above state unemployment rate	6	45-53% below state income avg.	6
126-352 % above state unemployment rate	7	54-100 % below state income avg.	7

* The percentages shown above were selected arbitrarily, but with the intent of ensuring that no one single percentage rank would contain a majority of the need identified.

The two ranking factors added together provide a maximum score of 14, which denotes the most disadvantaged communities, and a minimum score of 2, which represents the least disadvantaged communities in terms of the indicators used.

Table 2 shows the summed population totals and cost totals for the communities assigned to each ranking category. It should be noted that the *Table 2* numbers include only the need represented by the communities for which population data is available. The need that was assigned to the counties that did not respond is shown in the total at the bottom of the table since it was not possible to determine a ranking for those needs. As *Table 2* indicates, approximately 60 percent of the statewide need estimation is represented within the identified communities. This stated percentage is the ratio of the **Total Need Identified** through the questionnaire responses to the **Statewide Need Estimated** total.

The information currently available is not sufficient to determine whether or not there are additional communities with severe economic needs, but the study has identified a significant population and array of needs in those communities that did respond. In the more severely disadvantaged areas, the

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ability to pay even the operations and maintenance costs of a regional system for water and wastewater is limited. Residents are unable to pay for debt service in addition to the operations and maintenance, so without grant assistance, they are unable to secure adequate services for themselves and their families.

Table 2: Financial Need Indicators and Costs for Adequate *Community-Level* Water and/or Wastewater Facilities

Combined Financial Need Ranking	Population With Need ¹	Improvement Cost ² (million \$)
14	23,907	78.45
13	12,949	59.74
12	32,817	94.09
11	23,337	89.58
10	54,713	139.32
9	57,060	145.10
8	120,942	231.01
7	75,354	274.02
6	69,933	235.81
5	96,963	243.96
4	95,433	236.02
3	215,980	204.36
2	127,030	273.23
Total Need Identified	1.01 million	\$ 2,300
Statewide Need Estimated ³ (million \$)		\$ 3,770

¹ Approximately 15 % of communities with identified needs did not provide a population estimate and were recorded as a zero value.

² For communities with identified needs, but without an identified population, the TWDB regression equation (see Appendix D) was applied to determine a minimum cost based on a zero population; cost estimate values have been rounded.

³ Statewide cost results were derived using the TWDB loan data; where there was no data reported by a county, a comparison of "like communities" was used to project a dollar amount for that county, based on county(s) of similar size, geographic location, and population; cost estimate values have been rounded.