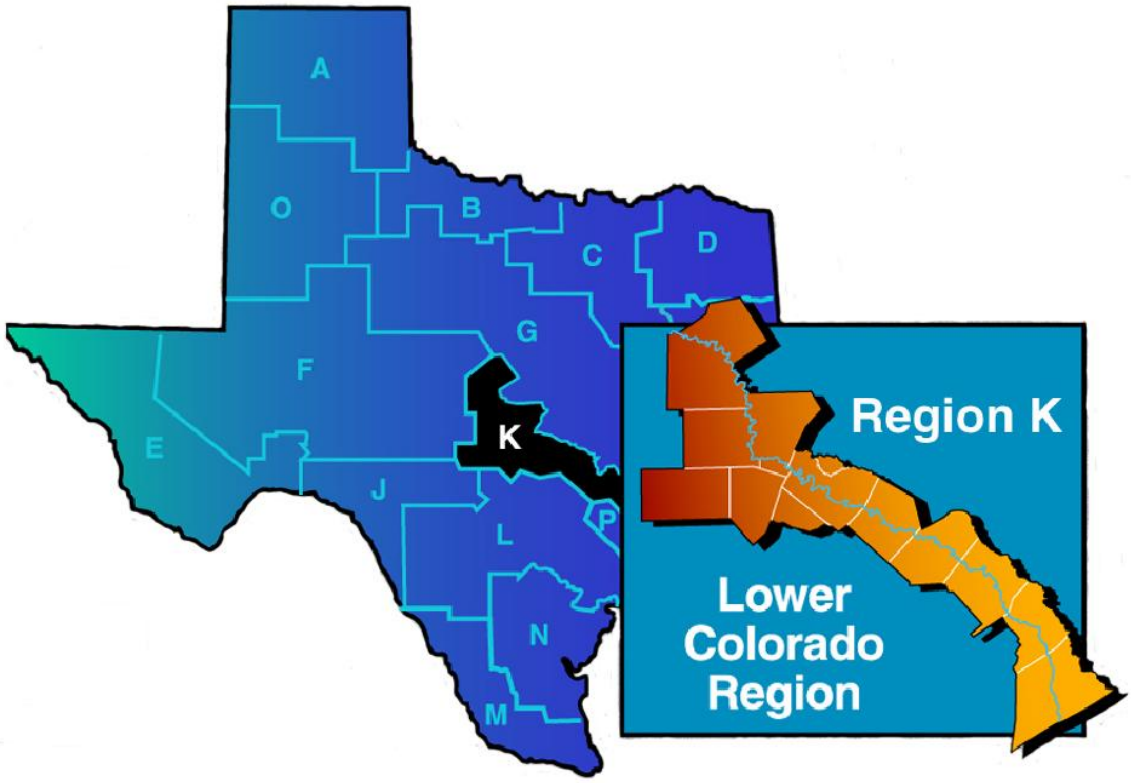
LCRWPG 2011 WATER PLAN

FIRST BIENNIUM STUDIES

EVALUATION OF HIGH GROWTH AREAS STUDY

for the

Lower Colorado Regional Water Planning Group



prepared by

Lower Colorado Regional Water Planning Group

with funding assistance from the Texas Water Development Board

prepared for

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with assistance from

AECOM USA Group, Inc.

TBPE Reg. No. F-3082

APRIL 2009

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Evaluation of High Growth Areas Study

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Lower Colorado Regional Water Planning Group

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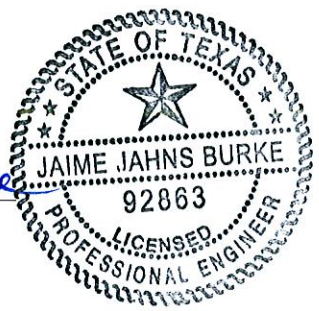

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EXECUTIVE SUMMARY

Purpose of Study

Certain areas within Region K continue to have high growth. These areas center around the City of Austin and include Travis County, Hays County, Bastrop County, and Williamson County. In addition to the high growth, many of the water user groups (WUG), especially in Hays County, currently have water supply shortages as well as reduced water availability, according to updated data.

The construction of State Highway 130 (SH 130) is another cause of growth in the area. The Lower Colorado Regional Water Planning Group (LCRWPG) had concerns during the last round of planning that perhaps the population and demand numbers did not accurately reflect the growth that would occur due to the SH 130 Corridor, especially in the County-Other areas.

Based on these two changed conditions, it is necessary to evaluate the impacts of the revised availability numbers in Hays County and Travis County as well as to determine the effects of the construction of the SH 130 Corridor on the surrounding WUGs in Travis and Bastrop Counties.

Methodology

At the very end of the last round of planning, Barton Springs/Edwards Aquifer Conservation District (BS/EACD) reported revisions to their water availability. At that point, it was too late in the planning cycle to include it in the 2006 Region K Plan. As part of this study for this phase of the third round of planning, one of the first task items was to request the revised availability numbers (if any) from both BS/EACD and the Hays-Trinity Groundwater Conservation District (Hays-Trinity GCD).

Hays-Trinity GCD had no updated availability numbers to provide, but will most likely have updated numbers in time for the next phase of this round of planning. BS/EACD provided their updated permittee list for Hays County and Travis County within Region K. The total availability was calculated for each county and for specific WUGs. Once the revised availabilities were determined, a revised shortage analysis was performed to determine the impacts on the WUGs within the BS/EACD service area.

One water management strategy of particular concern that was presented in the 2006 Region K Plan as a strategy for Hays County-Other is the Onion Creek Recharge Structure. This strategy involved the construction of two channel dams across Onion Creek to temporarily retain runoff. In the 2006 Region K Plan, it was determined based on a study performed by the BS/EACD that the recharge dams constructed on Onion Creek may not perform as well as previously expected, due to the strong connection between Onion Creek recharge and Barton Springs. In this phase of study, the updated opinions of both BS/EACD and the City of Austin Watershed Protection department are presented and discussed to further analyze the viability of the strategy.

A third issue in this study is the question of whether the current County-Other population projections for 2010 through 2060 in the 2006 Region K Plan are sufficient for handling the growth due to SH 130 as well as the population of County-Other elsewhere in Travis County. Two methods of determining the population projections within the County-Other portion of the SH 130 Corridor were used. The first used population density, which was provided by the SH 130 report written by the Greater Austin Chamber of Commerce. The second method used mid-census data provided by the State as well as growth estimates for several WUGs within the Corridor area that were provided in a study done by the Capital Area Metropolitan Planning Organization (CAMPO), entitled *Revised Draft CAMPO 2035 Regional Growth Concept*.

Results

The results from the revised availability calculation for BS/EACD showed a revised availability of 2,576 ac-ft for Hays County and a revised availability of 1,673 ac-ft for Travis County. The 2006 Region K Plan showed BS/EACD availabilities of 5,140 ac-ft for Hays County and 2,100 ac-ft for Travis County. This is a reduction of 2,564 ac-ft for Hays County and 427 ac-ft for Travis County. The overall availability of the Edwards Aquifer (BFZ) is reduced to 5,384 ac-ft in this study from 8,375 ac-ft in the 2006 Region K Water Plan. As a result, there are some changes in the shortage/surplus analysis for the affected WUGs in Hays County and Travis County.

In Travis County, only Creedmoor-Maha WSC and Goforth WSC have larger shortages based on the revised availabilities. In Hays County, the City of Buda, Cimarron Park Water Supply, Mountain City, and Manufacturing have larger shortages based on the revised availabilities. Mountain City did not have a shortage in the 2006 Region K Water Plan. County-Other continues to have a shortage, but it is a smaller shortage than it had in the 2006 Plan. These results do not reflect revised population and demand numbers, which will be looked at during the next phase of planning.

In this phase of study, the updated opinions of both BS/EACD and the City of Austin Watershed Protection department were presented and discussed to further analyze the viability of the Onion Creek Recharge Structure strategy. Letters of opinion were written by both entities. In general, it is the opinion of the BS/EACD that the Onion Creek recharge structure strategy is not feasible and would not be effective. The basis for this is three different viewpoints consisting of infrastructure and land-use compatibility, use of water resources, and relative recharge effectiveness. The District has some suggestions for alternative recharge enhancement strategies to consider. These include a number of smaller-scale recharge enhancement structures and facilities on Onion Creek and adjacent recharge streams. The City of Austin also believes that the proposed in-channel reservoirs are ineffective and cause additional concerns, and offers discussion of four alternative projects as replacements for the in-channel reservoirs. These projects include expanding the CenTex quarry, based on current data; protection of riparian corridors along major Colorado River tributaries; protection and maintenance of existing individual in-channel recharge features; and purchasing conservation zones in the contribution zone of Onion Creek. In addition, the City of Austin staff feels that there is an underestimate in the current Region K plan of the long-term benefits of recharge enhancement, and that additional analysis should be done to assess the volume of water available and the aquifer residence time of water resulting from recharge enhancement.

The SH 130 growth analysis used two methods for determining whether the County-Other population projections in the 2006 Region K Plan were sufficient. The first method used population density and calculated the percentage of County-Other population within the SH 130 Corridor to be 19 percent of the total County-Other population of Travis County for both 2007 and 2060. The second method looked at mid-census data that was provided by the State as well as 2035 growth estimates for various “activity centers” surrounding the SH 130 Corridor that were provided by the Capital Area Metropolitan Planning Organization (CAMPO). Using that method calculated the percentage of County-Other population within the SH 130 Corridor to be 24 percent of the total County-Other population of Travis County for 2035. The results of both methods show that it is likely the County-Other population projections in the 2006 Region K Plan are sufficient. Population projections for other WUGs in the Corridor will be updated during the next Phase of planning.

Recommendations

The revised shortages occurring as a result of the reduction in availability from the Edwards (BFZ) Aquifer mean that it is likely that expanded or alternative water management strategies will be needed for several of the WUGs in Travis County and Hays County.

It appears from the information presented by BS/EACD and the City of Austin that the Onion Creek Recharge Structure strategy for Hays County may not be a feasible strategy. There are several alternatives that have been suggested, and these alternatives will be looked at more closely in the next phase of planning.

In the SH 130 potential high growth study, the main question was whether the current County-Other population projections for 2010 through 2060 in the 2006 Region K Plan are sufficient for handling the growth due to the SH 130 Corridor, as well as the population of County-Other elsewhere in Travis County. The results of both methods showed that the County-Other population projections for Travis County that were listed in the 2006 Region K Plan are reasonable and sufficient. Some of the other WUGs within the SH 130 Corridor have had growth that was not on target with the 2006 Region K Plan projections. These WUGs will need to have their population and demand numbers evaluated and adjusted during the next phase of planning.

1.0 PURPOSE OF STUDY

Certain areas within Region K continue to have high growth. These areas center around the City of Austin and include Travis County, Hays County, Bastrop County, and Williamson County. In addition to the high growth, many of the water user groups (WUG), especially in Hays County, currently have water supply shortages as well as reduced water availability, according to updated data. To show the extent of the areas with shortages, a map was developed for Hays and Travis County that includes the WUGs with and without shortages. This map can be found in *Appendix A*.

The construction of State Highway 130 (SH 130) is another cause of growth in the area. The Lower Colorado Regional Water Planning Group (LCRWPG) had concerns during the last round of planning that perhaps the population and demand numbers did not accurately reflect the growth that would occur due to the SH 130 Corridor, especially in the County-Other areas.

Based on these two changed conditions, it is necessary to evaluate the impacts of the revised availability numbers in Hays County and Travis County as well as to determine the effects of the construction of the SH 130 Corridor on the surrounding WUGs in Travis and Bastrop Counties.

2.0 METHODOLOGY

At the very end of the last round of planning, Barton Springs/Edwards Aquifer Conservation District (BS/EACD) reported revisions to their water availability. At that point, it was too late in the planning cycle to include it in the 2006 Region K Plan. As part of this study for this phase of the third round of planning, one of the first task items was to request the revised availability numbers (if any) from both BS/EACD and the Hays-Trinity Groundwater Conservation District (Hays-Trinity GCD).

Hays-Trinity GCD had no updated availability numbers to provide, but will most likely have updated numbers in time for the next phase of this round of planning. BS/EACD provided their updated permittee list for Hays County and Travis County within Region K and the formula they use in determining availability, defined as the "Extreme Drought Withdrawal Limitation". This formula assumes a 30 percent reduction in supply availability for historical permits during extreme drought events, such as a drought-of-record. The list of permits was divided into Region K and Region L, and then the Region K permits were divided into Hays County and Travis County and then by river basin, in some cases. The total availability was calculated for each county and for specific WUGs.

Once the revised availabilities were determined, a revised shortage analysis was performed to determine the impacts on the WUGs within the BS/EACD service area. The results of the analysis are presented in *Section 3.1*.

One water management strategy of particular concern that was presented in the 2006 Region K Plan as a strategy for Hays County-Other is the Onion Creek Recharge Structure. This strategy involved the construction of two channel dams across Onion Creek to temporarily retain runoff. This strategy would provide water to Hays County-Other to meet projected water shortages for that WUG. The water retained would be released under controlled conditions to maximize recharge in downstream reaches of Onion Creek. In the 2006 Region K Plan, it was determined based on a study performed by the BS/EACD that the recharge dams constructed on Onion Creek may not perform as well as previously expected, due to the strong connection between Onion Creek recharge and Barton Springs. As a result, the yield for the strategy was reduced by approximately 50 percent to account for the uncertainty. In this phase of study, the updated opinions of both BS/EACD and the City of Austin Watershed Protection department are presented and discussed to further analyze the viability of the strategy.

It has been determined that the population projections provided as part of the 2006 Region K Plan may not have sufficiently accounted for the growth that has and will occur as a result of the construction of the SH 130 Corridor in the eastern portion of Travis County. In particular is the question of whether the current County-Other population projections for 2010 through 2060 in the 2006 Region K Plan are sufficient for handling the growth due to SH 130 as well as the population of County-Other elsewhere in Travis County?

In order to answer this question, some research was initially done to determine whether there were any population projections that had been calculated specifically for the SH 130 Corridor or similar roadways. While one report written by the Greater Austin Chamber of Commerce and entitled, *SH 130: Is it too late to plan for successful development of this regional asset? An examination of peer cities and their benchmark toll road corridors as examples of the future of Central Texas and SH 130* presented information on what the land use percentages within the Corridor will likely look like as the Corridor becomes more established, no data was found on population numbers and projections themselves. As a result, other methodologies were required to make the determination.

Two methods of determining the population projections within the County-Other portion of the SH 130 Corridor were used. The first used population density, which was provided by the SH 130 report written by the Greater Austin Chamber of Commerce mentioned above. The second method used mid-census data provided by the State as well as growth estimates for several WUGs within the Corridor area that were provided in a study done by the Capital Area Metropolitan Planning Organization (CAMPO), entitled *Revised Draft CAMPO 2035 Regional Growth Concept*.

3.0 RESULTS

The results section is divided into three parts. The first part is a discussion of the results of the Edwards Aquifer (Balcones Fault Zone) Availability. The second part discusses the Onion Creek Recharge Structure strategy and whether it is feasible or not. The third part discusses the results of the SH 130 Growth Analysis with regards to the County-Other population.

3.1 EDWARDS AQUIFER (BALCONES FAULT ZONE) AVAILABILITY

This section contains revised text and tables from the 2006 Region K Water Plan (pages 3-40 to 3-41).

The availability of the Barton Springs segment of the Edwards aquifer (BFZ) was determined by the BS/EACD staff using the Barton Springs Edwards aquifer GAM. The BS/EACD staff made revisions to the existing GAM (Scanlon et al, 2001) through an extensive cooperative process that included a technical advisory group with members from the Texas Water Development Board, the United States Geologic Survey, the City of Austin, the Bureau of Economic Geology, and the University of Texas at Austin. Through this cooperative process, the existing GAM was revised to better predict aquifer water levels and spring flow during the drought of record conditions. The approach to determining the availability value for the Barton Springs segment of the Edwards aquifer (BFZ) was to maintain a mean monthly spring flow of approximately 2.5 cubic feet per second (cfs) at Barton Springs. The total availability of the Barton Springs segment of the Edwards aquifer (BFZ) within the jurisdiction of BS/EACD was proportioned by the BS/EACD staff to provide the appropriate values for the area of Hays and Travis Counties within the LCRWPA. The Travis County availability value for the Edwards aquifer (BFZ) is a sum of the BS/EACD value for the Travis County portion of the Barton Springs segment and the Travis County portion of the northern segment derived from the Northern Edwards aquifer GAM. The availability values for Edwards aquifer (BFZ) obtained from different GAMs are presented in *Table 3.1*.

Table 3.1 Summary of GAM Availability Values for the Edwards Aquifer (BFZ) (ac-ft/yr)

County	Data Source	Year 2010	Year 2020	Year 2030	Year 2040	Year 2050	Year 2060
Hays	BSEACD	2,576	2,576	2,576	2,576	2,576	2,576
Travis	Northern Edwards GAM	860	860	860	860	860	860
Travis	BSEACD	1,673	1,673	1,673	1,673	1,673	1,673
	County Total	***2,533***	***2,533***	***2,533***	***2,533***	***2,533***	***2,533***
Williamson	Northern Edwards GAM	275	275	275	275	275	275
Region K	**Region Total**	**5,384**	**5,384**	**5,384**	**5,384**	**5,384**	**5,384**

The available water, by river basin was established by proportioning the total availability value based on the area located in each river basin in a county using GIS. This information is presented in *Table 3.2*.

Table 3.2 Water Availability in the Edwards Aquifer (BFZ) (ac-ft/yr)

County	Basin	Year 2010	Year 2020	Year 2030	Year 2040	Year 2050	Year 2060
Hays	Colorado	2,576	2,576	2,576	2,576	2,576	2,576
Travis	Brazos	20	20	20	20	20	20
Travis	Colorado	2,486	2,486	2,486	2,486	2,486	2,486
Travis	Guadalupe	27	27	27	27	27	27
	County Total	***2,533***	***2,533***	***2,533***	***2,533***	***2,533***	***2,533***
Williamson	Brazos	265	265	265	265	265	265
Williamson	Colorado	10	10	10	10	10	10
	County Total	***275***	***275***	***275***	***275***	***275***	***275***
Region K	**Region Total**	**5,384**	**5,384**	**5,384**	**5,384**	**5,384**	**5,384**

In the Colorado River Basin of Travis County, groundwater availability from the Edwards aquifer (BFZ) (2,486 ac-ft/yr) is significantly lower than water usage during year 2000 (8,304 ac-ft/yr) indicated in TWDB Water Use Survey. The availability value was obtained from BS/EACD and Northern Edwards (BFZ) aquifer GAM. The BS/EACD availability number is consistent with the pumpage in its area of jurisdiction as the conservation district enforces permitting. However, it appears that the usage of groundwater in the northern part of Travis County is significantly higher than the availability from the Edwards aquifer (BFZ) established by Northern Edwards (BFZ) aquifer GAM modeling, where the GAM modeling criteria was set to minimize adverse effect on stream flow during drought of record condition. It is anticipated that several current users of groundwater from Edwards aquifer (BFZ) in the northern part of Travis County will switch to surface water usage from groundwater in the future due to the expected growth of the City of Austin service/retail area.

The availability of the Edwards Aquifer (BFZ) is reduced to 5,384 ac-ft in this study from 8,375 ac-ft in the 2006 Region K Water Plan. As a result, there are some changes in the shortage/surplus analysis for the affected WUGs in Hays County and Travis County. The following tables show the results of the analysis. *Table 3.3* shows the results for Travis County and *Table 3.4* shows the results for Hays County.

Table 3.3 Shortage Analysis Comparison for Travis County WUGs

WUG	Plan	Shortage/Surplus (ac-ft/yr)						Effect
		2010	2020	2030	2040	2050	2060	
County-Other	**Revised Study**	14,259	11,918	6,625	5,511	1,830	1,837	-
	2006 Plan	14,702	12,361	7,068	5,954	2,273	2,280	
Creedmoor-Maha WSC	**Revised Study**	0	-429	-544	-626	-708	-800	-
	2006 Plan	0	-287	-400	-479	-558	-639	
Goforth WSC	**Revised Study**	-11	-21	-30	-37	-43	-48	-
	2006 Plan	-3	-14	-23	-30	-38	-43	
Irrigation	**Revised Study**	287	369	443	511	558	615	+
	2006 Plan	155	237	311	379	426	483	
Livestock	**Revised Study**	197	197	197	197	196	196	-
	2006 Plan	383	383	383	383	382	382	

In Travis County, only Creedmoor-Maha WSC and Goforth WSC have larger shortages based on the revised availabilities. These results do not reflect revised population and demand numbers, which will be looked at during the next phase of planning.

Table 3.4 Shortage Analysis Comparison for Hays County WUGs

WUG	Plan	Shortage/Surplus (ac-ft/yr)						Effect
		2010	2020	2030	2040	2050	2060	
City of Buda	Revised Study	-661	-1,537	-2,012	-2,497	-3,075	-3,549	-
	2006 Plan	-638	-1,514	-1,989	-2,474	-3,052	-3,526	
Cimarron Park Water Supply	Revised Study	-150	-236	-329	-423	-536	-629	-
	2006 Plan	-41	-127	-220	-314	-427	-520	
County-Other	Revised Study	-605	-1,918	-3,262	-4,630	-8,249	-9,587	+
	2006 Plan	-759	-2,072	-3,416	-4,784	-8,400	-9,738	
Mountain City	Revised Study	-25	-23	-23	-22	-22	-22	-
	2006 Plan	0	0	0	0	0	0	
Irrigation	Revised Study	42	42	42	42	41	41	-
	2006 Plan	963	963	963	963	962	962	
Livestock	Revised Study	2	2	2	2	0	0	-
	2006 Plan	626	626	626	626	621	621	
Manufacturing	Revised Study	-93	-211	-330	-450	-558	-657	-
	2006 Plan	0	0	-6	-126	-234	-333	
Mining	Revised Study	0	6	10	12	10	10	-
	2006 Plan	9	15	19	21	19	19	

In Hays County, the City of Buda, Cimarron Park Water Supply, Mountain City, and Manufacturing have larger shortages based on the revised availabilities. Mountain City did not have a shortage in the 2006 Region K Water Plan. County-Other continues to have a shortage, but it is a smaller shortage than it had in the 2006 Plan. Again, these results do not reflect revised population and demand numbers, which will be looked at during the next phase of planning. Summaries of the availability and supply tables can be found in *Appendix B*.

3.2 FEASIBILITY OF THE ONION CREEK RECHARGE STRUCTURE STRATEGY

In this phase of study, the updated opinions of both BS/EACD and the City of Austin Watershed Protection department were presented and discussed to further analyze the viability of the strategy. Letters of opinion were written by both entities and are included in *Appendix C*. Summaries of the letters are provided below.

In general, it is the opinion of the BS/EACD that the Onion Creek recharge structure strategy is not feasible and would not be effective. The basis for this is three different viewpoints consisting of infrastructure and land-use compatibility, use of water resources, and relative recharge effectiveness.

With respect to the first issue of infrastructure and land-use compatibility, it is likely that there would be a significant amount of resistance to the emplacement of a reservoir along Onion Creek that would be large enough to serve as an effective recharge enhancement facility during a drought-of-record event. It is unlikely that landowners would be willing to give up their land for this purpose. There is also the issue of

excessive sedimentation that might result from intense storms disturbing the temporary construction area. The sedimentation could potentially plug the recharge areas downstream and be difficult to remediate.

With respect to the use of water resources issue, in addition to concerns regarding water rights, the evaporation rate is twice the precipitation rate in the area of the proposed structure. A large percentage of the flows in the creek come from flash floods, causing more evaporative losses than would otherwise be expected. Stream nutrient loadings are rather high during storm events. Under current conditions, these nutrients are washed down to the Colorado River where they are assimilated in the larger stream. If these flows were captured, they could cause water quality problems for the recharge water.

With respect to the relative recharge effectiveness, previous studies have questioned whether the impounded water would be available during a drought-of-record. If more groundwater is available to users during non-drought or early drought stages, it is generally more difficult to curtail use during times of worse drought. In addition, it is a requirement of the District that any additional recharge that is available during a drought-of-record will firstly be reserved for ecological flows to protect the endangered salamander.

The District has some suggestions for alternative recharge enhancement strategies to consider. These include a number of smaller-scale recharge enhancement structures and facilities on Onion Creek and adjacent recharge streams. Some may be designed to reduce siltation of runoff events entering the aquifer. Other sites might be beneficially excavated or be facilitated by the installation of wells that would act as injection sites for creek flow. The District's current Management Plan addresses these activities.

The City of Austin stated the following in their letter:

"The current Region K plan contains four recharge enhancement options to increase the amount of groundwater available in the Barton Springs segment of the Edwards Aquifer. Three of the proposed projects are construction of in-channel reservoirs in Onion Creek. Typical in-channel impoundments slow water velocity resulting in trapping sediment and debris in the reservoirs which will eventually clog up in-channel natural recharge features. Additionally, impoundment structures typically prohibit stream dynamics from cleaning and opening in-channel recharge features through scouring. These results would likely negate the proposed benefits from the proposed impoundments. In addition, in-channel dams would require significant disturbance of the riparian corridor along Onion Creek and threaten downstream sediment transport and deposition during rain events. Sediment can clog in-channel recharge features and underground groundwater flow conduits, fill in water wells and smother endangered species habitat in Barton Springs. For these reasons, it is requested by City of Austin staff that the Lower Colorado Regional Water Planning Group remove the proposed in-channel reservoirs from the Region K plans."

The City of Austin offered discussion of four alternative projects as replacements for the in-channel reservoirs. These projects include expanding the CenTex quarry, based on current data; protection of riparian corridors along major Colorado River tributaries; protection and maintenance of existing individual in-channel recharge features; and purchasing conservation zones in the contribution zone of Onion Creek.

The City of Austin staff also feels that there is an underestimate in the current Region K plan of the long-term benefits of recharge enhancement. "During recharge events, groundwater flow conduits are defined by mounds of water compared to adjacent areas. This mounding forces water into the rock matrix and

smaller voids areas in the aquifer adjacent to the conduits. As the recharge event wanes, this "matrix" porosity drains into the conduits, providing baseflow at the springs long after the recharge events end. While the duration of water artificially recharged into the aquifer may not protect spring flows throughout the drought of record or remain in aquifer storage for well users, it may offset the severity of severe drought and delay the most severe effects. Additional analysis is required to assess the volume of water available and the aquifer residence time of water resulting from recharge enhancement."

3.3 SH 130 CORRIDOR POTENTIAL HIGH GROWTH

The main question for this portion of the study is whether the current County-Other population projections for 2010 through 2060 in the 2006 Region K Plan are sufficient for handling the growth due to the SH 130 Corridor, as well as the population of County-Other elsewhere in Travis County. An exhibit entitled *SH 130 Corridor Areas of Growth* is provided in *Appendix D*, and shows the SH 130 Corridor area and the proposed locations of high growth along it.

Two methods were used when analyzing the growth. The first method used population density. *Table 3.5* shows the calculation progression.

Table 3.5 County-Other Growth Analysis Using Population Density

Overall Population Density of the SH 130 Corridor (2004), taken from SH 130 Report by the Austin Chamber of Commerce	213.5 persons/sq.mi.
Projected Population Density to 2007	244 persons/sq.mi.
From this overall density, assume Population Density just for County-Other areas	150 persons/sq.mi.
Length of County-Other (current) area within SH 130 Corridor	11.5 miles
Total Area of County-Other (current) within SH 130 Corridor, assuming Corridor width of 4 miles	46 sq.mi.
Population of current County-Other within the SH 130 Corridor	6,900 persons
2007 Interpolated County-Other Population for Travis County using TWDB numbers from the 2006 Region K Plan	36,770 persons
Percent of County-Other Population within the SH 130 Corridor (Current)	**19%**
Projected 2060 Total Area of County-Other within SH 130 Corridor, assuming all ETJ areas have been annexed	16 sq. mi.
Projected 2060 County-Other Population within the SH 130 Corridor, assuming a density of 150 persons/sq.mi.	2,400 persons
2060 County-Other Population for Travis County using TWDB numbers from the 2006 Region K Plan	12,636 persons
Percent of County-Other Population within the SH 130 Corridor (2060)	**19%**

An overall population density for the SH 130 Corridor for 2004 was provided in the SH 130 Report by the Greater Austin Chamber of Commerce, which can be found in *Appendix E*. This population density of 213.5 persons per square mile was projected from 2004 to 2007 to become 244 persons per square mile. Since this is the overall density, which includes cities and higher growth areas, an approximate population density specifically for County-Other was assumed to be 150 persons per square mile, based on a conservative estimate of population density for rural areas, using information from the U.S. Census Bureau. The length of the Corridor was measured for just the 2007 County-Other areas using GIS. County-Other areas were considered to be any area not within a city limit or WUG. The length measured at 11.5 miles. The Corridor was assumed to be a width of two miles on either side of SH 130, or a width of four miles total. The width multiplied by the length gave a total area of County-Other of 46 square miles. Multiplying the County-Other population density by the total County-Other area gave a population of County-Other equal to 6,900 persons. The 2006 Region K Plan has County-Other population values for the years 2000 and 2010 for Travis County. By interpolating between the two decades, a total County-Other population for Travis County was calculated to be 36,770 persons for the year 2007. Therefore, the percentage of the Travis County-Other population within the SH 130 Corridor for the year 2007 is 19 percent.

The process was then done for the year 2060. An assumed length of the Corridor for 2060 County-Other was measured. For 2060, it was assumed that any portion of land within the City of Austin extra territorial jurisdiction (ETJ) would be City of Austin property and no longer County-Other. This left approximately four miles in length of County-Other within the Corridor. This length multiplied by the four miles of Corridor width gave a total County-Other area of 16 square miles. It was also assumed that the population density within County-Other would not increase from the 2007 density of 150 persons per square mile, since the majority of growth will occur in the cities and WUGs. Multiplying the County-Other population density by the total County-Other area within the Corridor for 2060 gave a population of County-Other equal to 2,400 persons. The 2006 Region K Plan shows a projected County-Other population of 12,636 persons for Travis County in 2060. Therefore, the percentage of the Travis County-Other population within the SH 130 Corridor for the year 2060 is 19 percent as well.

The second method of growth analysis used mid-census data provided by the State as well as the Capital Area Metropolitan Planning Organization (CAMPO) estimates of growth. In *Table 3.6* below, the mid-census population data provided by the State for cities surrounding the SH 130 Corridor are compared to the projected population provided by TWDB in the 2006 Region K Plan for the year 2007. Some cities' populations had been overestimated, while others had been underestimated. The differences were added for a total of -7,388, or an overestimation in the 2006 Region K Plan of 7,388.

Table 3.6 State Data Comparison with TWDB Projected Population Data

WUGs Surrounding the SH 130 Corridor	Estimated Population, State Data Center, 1/1/2007	Projected Population (Interpolated), TWDB, 1/1/2007	Difference	% Change
City of Austin	726,840	747,318	-20,478	-2.7%
Manville WSC	N/A	N/A	0	N/A
City of Pflugerville	32,652	21,987	10,665	48.5%
Aqua WSC	N/A	N/A	0	N/A
Mustang Ridge	965	958	7	0.7%
Creedmoor-Maha WSC	N/A	N/A	0	N/A
City of Manor	3,700	1,282	2,418	188.6%
		Total	**-7,388**	

A report was obtained from CAMPO, entitled, *Revised Draft CAMPO 2035 Regional Growth Concept*, which projects that the majority of growth over the next few decades will occur in "activity centers". The activity centers located along the SH 130 Corridor can be seen on the exhibit in *Appendix E*.

Table 3.7 CAMPO Activity Center Growth Estimates for 2035

Activity Centers Within the SH 130 Corridor	Jurisdiction	CAMPO 2035 Population Estimate	2006 Region K Plan Projected 2035 Population	On Track With Plan?	How Much Should be Added to Projection from County-Other?
City of Pflugerville	City of Pflugerville	9,000 - 75,000	49,500	Yes	0
Decker (currently Travis County)	COA likely in future	2,000 - 10,000	N/A	N/A	0
Del Valle (City of Austin)	COA	2,000 - 10,000	N/A	N/A	0
City of Manor	City of Manor	2,000 - 10,000	1,660	No	6,000
Mustang Ridge	City of Mustang Ridge	2,000 - 10,000	716	No	2,000
SH 130 & US 290 (City of Austin)	COA	2,000 - 10,000	N/A	N/A	0
				Total	**8,000**

Table 3.7 shows the CAMPO 2035 population estimates for the various activity centers within the SH 130 Corridor, as well as the 2006 Region K Plan TWDB projected 2035 populations and whether the CAMPO estimates match well with the TWDB projections. If the estimates do not match well, a determination of how much additional population needs to be added. Based on the CAMPO estimates, for the SH 130 Corridor, it was determined that the TWDB population projection needs to increase by approximately 8,000. The suggested increases were determined by looking at current growth in the individual area to estimate where the population in 2035 would fall within the given CAMPO range. The City of Manor is growing much faster than predicted, so the estimate suggests a population at the higher end of the CAMPO range. The City of Mustang Ridge, on the other hand, is not growing quite as fast, and the estimation suggests a population at the lower end of the CAMPO range. These suggested population increases are only estimates and should not be considered a request for revisions to the Region K population projections in the 2006 Region K Plan.

Table 3.8 shows the analysis of what portion of County-Other for Travis County is within the SH 130 Corridor using the mid-census data and CAMPO estimates method. The interpolated 2035 County-Other TWDB population projection for Travis County from the 2006 Region K Plan was calculated to be 20,170. The State data projection corrections from Table 3.6 were projected from 2007 to 2035 by assuming the current growth rate shown in the 2006 Region K Plan would remain the same and were added to the TWDB population projection. The 2035 CAMPO projection corrections from Table 3.7 were then subtracted from the TWDB population projection to give a revised County-Other population total for Travis County of 19,558 for the year 2035. Interpolating the estimated SH 130 Corridor County-Other population for 2035 using the two values determined in the population density method of analysis (see Table 3.5), gave a Corridor population of 4,650, which is 24 percent of the total Travis County-Other population for 2035. This percentage is reasonably close to the percentages calculated using the population density method.

Table 3.8 County-Other Growth Analysis Using Mid-Census Data and CAMPO Estimates

2035 County-Other TWDB Population Projection from 2006 Region K Plan	20,170
2035 State Data Projection Corrections*	7,388
2035 CAMPO Projection Corrections	-8,000
Amount County-Other Remaining	**19,558**
2035 Estimated SH 130 Corridor County-Other Population	4,650
Percent of Total County-Other Population Within the SH 130 Corridor in 2035	**24%**

* Can project 2007 correction to 2035 by assuming growth rate will remain the same as in the 2006 Region K Plan

The results of both methods show that it is likely the County-Other population projections in the 2006 Region K Plan are sufficient. Population projections for other WUGs in the Corridor will be updated during the next Phase of planning.

4.0 RECOMMENDATIONS

The revised shortages occurring as a result of the reduction in availability from the Edwards (BFZ) Aquifer mean that it is likely that expanded or alternative water management strategies will be needed for several of the WUGs in Travis County and Hays County. Mountain City in Hays County had no shortage in the 2006 Region K Plan and will likely need a strategy now, based on the revised availability numbers. Cimarron Park Water Supply in Hays County had a strategy from the 2006 Region K Plan that used remaining Edwards (BFZ) Aquifer availability. With the reduced availability, that strategy is no longer an option and a new strategy will be needed.

It appears from the information presented by BS/EACD and the City of Austin that the Onion Creek Recharge Structure strategy for Hays County may not be a feasible strategy. For the reasons mentioned in *Section 3.2*, the strategy would not likely provide a viable source of water during a drought-of-record. There are several alternatives that have been suggested, and these alternatives will be looked at more closely in the next phase of planning.

In the SH 130 potential high growth study, the main question was whether the current County-Other population projections for 2010 through 2060 in the 2006 Region K Plan is sufficient for handling the growth due to the SH 130 Corridor, as well as the population of County-Other elsewhere in Travis County. Two methods were used to analyze the growth, with one using population density and the other looking at mid-census data and CAMPO growth estimates for activity centers in the area. The results of both methods showed that the County-Other population projections for Travis County that were listed in the 2006 Region K Plan are reasonable and sufficient. Some of the other WUGs within the SH 130 Corridor have had growth that was not on target with the 2006 Region K Plan projections. These WUGs will need to have their population and demand numbers evaluated and adjusted during the next phase of planning.

APPENDIX A

LOCATION OF WUGS IN TRAVIS AND HAYS COUNTIES

0 1.5 3 6 9
Miles

Legend

- WUGs without shortages
- WUGs with shortages
- SH-45SE
- counties
- SH-130
- Region K boundary
- Colorado River
- City limit boundary
- Region K WUGs
- BSEACD
- Hays-Trinity GCD
- Primary Limited Access or Interstate
- Primary US and State Highways
- Secondary State and County

Jonestown WSC
Jonestown
Williamson-Travis County MUD #1
Cedar Park
Round Rock
Windermere Utility Company
Anderson Mill MUD
North Austin MUD #1
Wells Branch MUD
Pflugerville
Lago Vista
Briarcliff Village
Manville WSC
River Place on Lake Austin
Elgin
Lakeway
Village of the Hills
Lakeway MUD
Travis County WCID #17
Travis County WCID #18
Loop 360 WSC
Manor
County - Other
Bee Cave Village
Barton Creek West WSC
West Lake Hills
Austin
Travis County WCID #10
Lost Creek MUD
Rollingwood
County - Other
West Travis County RWS
County - Other
Hill Country WSC
Dripping Springs and Dripping Springs WSC
Shady Hollow MUD
Hill Country WSC
Hill Country WSC
Aqua WSC
County - Other
Cimarron Park Water Company
Creedmoor-Maha WSC
County - Other
Mustang Ridge
Buda
County - Other
Mountain City
Goforth WSC

Locations of WUGs in Travis and Hays Counties

APPENDIX B

REVISED AVAILABILITY BY WATER SOURCE
REVISED SUPPLY BY WATER USER GROUP (WUG)

Region K Current Water Availability Sources

Source Name	Source Type	Source RWPG	Source County	Source Basin	Source Identifier	Water Availability (ac-ft/yr)							Comments
						Year 2000	Year 2010	Year 2020	Year 2030	Year 2040	Year 2050	Year 2060	
City of Austin - ROR (Municipal)	0	K		Colorado	3461405471A	175,823	176,300	176,777	177,254	177,731	178,208	178,684	TCEQ WAM
City of Austin - ROR (Municipal)	0	K		Colorado	3461405489A	5,230	5,357	5,484	5,611	5,738	5,865	5,993	TCEQ WAM
City of Austin - ROR (Steam Elec.)	0	K		Colorado	3461405471A-SE	6,709	6,608	6,507	6,406	6,305	6,204	6,102	TCEQ WAM
City of Austin - ROR (Steam Elec.)	0	K		Colorado	3461405489A-SE	2,904	2,869	2,834	2,799	2,764	2,729	2,693	TCEQ WAM
LCRA - Garwood ROR	0	K		Colorado	3461405434A	111,740	111,740	111,740	111,740	111,740	111,740	111,740	TCEQ WAM
LCRA - Gulf Coast ROR	0	K		Colorado	3461405476A	74,137	74,124	74,111	74,098	74,085	74,072	74,056	TCEQ WAM
LCRA - Lakeside ROR	0	K		Colorado	3461405475	30,538	30,538	30,538	30,538	30,538	30,538	30,538	TCEQ WAM
LCRA - Pierce Ranch ROR	0	K		Colorado	3461405477	10,769	10,769	10,769	10,769	10,769	10,769	10,769	TCEQ WAM
STP Nuclear Operating Co. - ROR	0	K		Colorado	3461405437	49,089	49,039	48,989	48,939	48,889	48,839	48,791	TCEQ WAM
San Bernard ROR	0	K		Brazos-Colorado	3461303421	1,600	1,600	1,600	1,600	1,600	1,600	1,600	Based on TCEQ water rights database; Reliability of WR has not been verified.
Goldthwaite Reservoir	0	K		Colorado	14350	144	144	144	145	145	145	145	TCEQ WAM
Highland Lakes	0	K		Colorado	140B0	382,924	381,545	380,166	378,787	377,408	376,029	374,642	TCEQ WAM
Llano Reservoir	0	K		Colorado	14520	187	178	169	160	151	142	135	TCEQ WAM
Blanco Reservoir	0	K		Guadalupe	18120	596	596	596	596	596	596	596	TCEQ WAM
Irrigation Local Supply	0	K	Bastrop	Brazos	011996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Bastrop	Colorado	011996	786	786	786	786	786	786	786	TWDB IRLS table
Irrigation Local Supply	0	K	Bastrop	Guadalupe	011996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Blanco	Colorado	016996	67	67	67	67	67	67	67	TWDB IRLS table
Irrigation Local Supply	0	K	Blanco	Guadalupe	016996	9	9	9	9	9	9	9	TWDB IRLS table
Irrigation Local Supply	0	K	Burnet	Brazos	027996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Burnet	Colorado	027996	276	276	276	276	276	276	276	TWDB IRLS table
Irrigation Local Supply	0	K	Colorado	Brazos-Colorado	045996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Colorado	Colorado	045996	3,000	3,000	3,000	3,000	3,000	3,000	3,000	TWDB IRLS table
Irrigation Local Supply	0	K	Colorado	Lavaca	045996	4,002	4,002	4,002	4,002	4,002	4,002	4,002	TWDB IRLS table
Irrigation Local Supply	0	K	Fayette	Brazos	075996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Fayette	Colorado	075996	534	534	534	534	534	534	534	TWDB IRLS table
Irrigation Local Supply	0	K	Fayette	Guadalupe	075996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Fayette	Lavaca	075996	20	20	20	20	20	20	20	TWDB IRLS table
Irrigation Local Supply	0	K	Gillespie	Colorado	086996	880	880	880	880	880	880	880	TWDB IRLS table
Irrigation Local Supply	0	K	Gillespie	Guadalupe	086996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Hays	Colorado	105996	41	41	41	41	41	41	41	TWDB IRLS table
Irrigation Local Supply	0	K	Llano	Colorado	150996	440	440	440	440	440	440	440	TWDB IRLS table
Irrigation Local Supply	0	K	Matagorda	Brazos-Colorado	161996	4,000	4,000	4,000	4,000	4,000	4,000	4,000	TWDB IRLS table
Irrigation Local Supply	0	K	Matagorda	Colorado	161996	900	900	900	900	900	900	900	TWDB IRLS table
Irrigation Local Supply	0	K	Matagorda	Colorado-Lavaca	161996	4,000	4,000	4,000	4,000	4,000	4,000	4,000	TWDB IRLS table
Irrigation Local Supply	0	K	Mills	Brazos	167996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Mills	Colorado	167996	2,378	2,378	2,378	2,378	2,378	2,378	2,378	TWDB IRLS table
Irrigation Local Supply	0	K	San Saba	Colorado	206996	8,800	8,800	8,800	8,800	8,800	8,800	8,800	TWDB IRLS table
Irrigation Local Supply	0	K	Travis	Brazos	227996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Travis	Colorado	227996	880	880	880	880	880	880	880	TWDB IRLS table
Irrigation Local Supply	0	K	Travis	Guadalupe	227996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Wharton	Brazos-Colorado	241996	2,000	2,000	2,000	2,000	2,000	2,000	2,000	TWDB IRLS table
Irrigation Local Supply	0	K	Wharton	Colorado	241996	7,650	7,650	7,650	7,650	7,650	7,650	7,650	TWDB IRLS table
Irrigation Local Supply	0	K	Wharton	Colorado-Lavaca	241996	0	0	0	0	0	0	0	TWDB IRLS table
Irrigation Local Supply	0	K	Williamson	Colorado	246996	0	0	0	0	0	0	0	TWDB IRLS table
Livestock Local Supply	0	K		Brazos	12997	566	566	566	566	566	566	566	2001 Plan: Sum of Demands
Livestock Local Supply	0	K		Brazos-Colorado	13997	394	394	394	394	394	394	394	2001 Plan: Sum of Demands
Livestock Local Supply	0	K		Colorado	14997	6,262	6,262	6,262	6,262	6,262	6,262	6,262	2001 Plan: Sum of Demands
Livestock Local Supply	0	K		Colorado-Lavaca	15997	289	289	289	289	289	289	289	2001 Plan: Sum of Demands
Livestock Local Supply	0	K		Guadalupe	18997	298	298	298	298	298	298	298	2001 Plan: Sum of Demands
Livestock Local Supply	0	K		Lavaca	16997	649	649	649	649	649	649	649	2001 Plan: Sum of Demands
Other Local Supply	0	K		Brazos-Colorado	13999	1,655	1,696	1,746	1,793	1,844	1,900	1,900	TWDB
Other Local Supply	0	K		Colorado	14999	27,642	19,282	20,890	22,717	24,883	27,470	27,470	TWDB
Carrizo-Wilcox	1	K	Bastrop	Brazos	01110	1,744	1,744	1,744	1,744	1,744	1,744	1,744	Lost Pines GCD

Region K Current Water Availability Sources

Source Name	Source Type	Source RWPG	Source County	Source Basin	Source Identifier	Water Availability (ac-ft/yr)							Comments
						Year 2000	Year 2010	Year 2020	Year 2030	Year 2040	Year 2050	Year 2060	
Carrizo-Wilcox	1	K	Bastrop	Colorado	01110	24,916	24,916	24,916	24,916	24,916	24,916	24,916	Lost Pines GCD
Carrizo-Wilcox	1	K	Bastrop	Guadalupe	01110	1,340	1,340	1,340	1,340	1,340	1,340	1,340	Lost Pines GCD
Carrizo-Wilcox	1	K	Fayette	Colorado	07510	290	290	290	290	290	290	290	based on % of area
Carrizo-Wilcox	1	K	Fayette	Guadalupe	07510	66	66	66	66	66	66	66	based on % of area
Carrizo-Wilcox	1	K	Fayette	Lavaca	07510	44	44	44	44	44	44	44	based on % of area
Edwards-BFZ	1	K	Hays	Colorado	10511	5,140	2,576	2,576	2,576	2,576	2,576	2,576	BSEACD
Edwards-BFZ	1	K	Travis	Brazos	22711	22	20	20	20	20	20	20	BSEACD, GAM
Edwards-BFZ	1	K	Travis	Colorado	22711	2,913	2,486	2,486	2,486	2,486	2,486	2,486	BSEACD, GAM
Edwards-BFZ	1	K	Travis	Guadalupe	22711	25	27	27	27	27	27	27	BSEACD, GAM
Edwards-BFZ	1	K	Williamson	Brazos	24611	265	265	265	265	265	265	265	GAM
Edwards-BFZ	1	K	Williamson	Colorado	24611	10	10	10	10	10	10	10	GAM
Edwards-Trinity (Plateau)	1	K	Blanco	Colorado	01613	107	107	107	107	107	108	108	based on % of area
Edwards-Trinity (Plateau)	1	K	Blanco	Guadalupe	01613	50	50	50	50	50	51	51	based on % of area
Edwards-Trinity (Plateau)	1	K	Gillespie	Colorado	08613	1,410	1,410	1,410	1,410	1,410	1,410	1,410	based on % of area
Edwards-Trinity (Plateau)	1	K	Gillespie	Guadalupe	08613	90	90	90	90	90	90	90	based on % of area
Ellenburger-San Saba	1	K	Blanco	Colorado	01614	2,849	2,849	2,849	2,849	2,849	2,849	2,849	based on % of area
Ellenburger-San Saba	1	K	Blanco	Guadalupe	01614	1,025	1,025	1,025	1,025	1,025	1,025	1,025	based on % of area
Ellenburger-San Saba	1	K	Burnet	Brazos	02714	987	987	987	987	987	987	987	based on % of area
Ellenburger-San Saba	1	K	Burnet	Colorado	02714	2,161	2,161	2,161	2,161	2,161	2,161	2,161	based on % of area
Ellenburger-San Saba	1	K	Gillespie	Colorado	08614	5,535	5,535	5,535	5,535	5,535	5,535	5,535	based on % of area
Ellenburger-San Saba	1	K	Gillespie	Guadalupe	08614	65	65	65	65	65	65	65	based on % of area
Ellenburger-San Saba	1	K	Llano	Colorado	15014	758	758	758	758	758	758	758	TWDB GW-U table
Ellenburger-San Saba	1	K	San Saba	Colorado	20614	10,194	10,194	10,194	10,194	10,194	10,194	10,194	TWDB GW-U table
Gulf Coast	1	K	Colorado	Brazos-Colorado	04515	11,506	11,506	11,506	11,506	11,506	11,506	11,506	based on % of area
Gulf Coast	1	K	Colorado	Colorado	04515	17,436	17,436	17,436	17,436	17,436	17,436	17,436	based on % of area
Gulf Coast	1	K	Colorado	Lavaca	04515	18,915	18,915	18,915	18,915	18,915	18,915	18,915	based on % of area
Gulf Coast	1	K	Fayette	Brazos	07515	65	65	65	65	65	65	65	based on % of area
Gulf Coast	1	K	Fayette	Colorado	07515	3,300	3,300	3,300	3,300	3,300	3,300	3,300	based on % of area
Gulf Coast	1	K	Fayette	Guadalupe	07515	144	144	144	144	144	144	144	based on % of area
Gulf Coast	1	K	Fayette	Lavaca	07515	5,188	5,188	5,188	5,188	5,188	5,188	5,188	based on % of area
Gulf Coast	1	K	Matagorda	Brazos-Colorado	16115	22,423	22,423	22,423	22,423	22,423	22,423	22,423	based on % of area
Gulf Coast	1	K	Matagorda	Colorado	16115	3,218	3,218	3,218	3,218	3,218	3,218	3,218	based on % of area
Gulf Coast	1	K	Matagorda	Colorado-Lavaca	16115	23,580	23,580	23,580	23,580	23,580	23,580	23,580	based on % of area
Gulf Coast	1	K	Wharton	Brazos-Colorado	24115	42,295	42,295	42,295	42,295	42,295	42,295	42,295	based on % of area
Gulf Coast	1	K	Wharton	Colorado	24115	41,812	41,812	41,812	41,812	41,812	41,812	41,812	based on % of area
Gulf Coast	1	K	Wharton	Colorado-Lavaca	24115	8,543	8,543	8,543	8,543	8,543	8,543	8,543	based on % of area
Hickory	1	K	Blanco	Colorado	01616	747	747	747	747	747	747	747	based on % of area
Hickory	1	K	Blanco	Guadalupe	01616	165	165	165	165	165	165	165	based on % of area
Hickory	1	K	Burnet	Brazos	02716	2,257	2,257	2,257	2,257	2,257	2,257	2,257	based on % of area
Hickory	1	K	Burnet	Colorado	02716	3,154	3,154	3,154	3,154	3,154	3,154	3,154	based on % of area
Hickory	1	K	Gillespie	Colorado	08616	1,934	1,934	1,934	1,934	1,934	1,934	1,934	based on % of area
Hickory	1	K	Gillespie	Guadalupe	08616	66	66	66	66	66	66	66	based on % of area
Hickory	1	K	Llano	Colorado	15016	12,517	12,517	12,517	12,517	12,517	12,517	12,517	TWDB GW-U table
Hickory	1	K	San Saba	Colorado	20616	6,540	6,540	6,540	6,540	6,540	6,540	6,540	TWDB GW-U table
Marble Falls	1	K	Blanco	Colorado	01619	300	300	300	300	300	300	300	GWbyBasin file 9/24/99
Marble Falls	1	K	Burnet	Brazos	02719	291	291	291	291	291	291	291	based on % of area
Marble Falls	1	K	Burnet	Colorado	02719	5,334	5,334	5,334	5,334	5,334	5,334	5,334	based on % of area
Marble Falls	1	K	San Saba	Colorado	20619	12,380	12,380	12,380	12,380	12,380	12,380	12,380	TWDB GW-U table
Queen City	1	K	Bastrop	Brazos	01124	227	227	227	227	227	227	227	based on % of area
Queen City	1	K	Bastrop	Colorado	01124	2,126	2,126	2,126	2,126	2,126	2,126	2,126	based on % of area
Queen City	1	K	Bastrop	Guadalupe	01124	403	403	403	403	403	403	403	based on % of area
Queen City	1	K	Fayette	Colorado	07524	1,034	1,034	1,034	1,034	1,034	1,034	1,034	based on % of area
Queen City	1	K	Fayette	Guadalupe	07524	175	175	175	175	175	175	175	based on % of area
Queen City	1	K	Fayette	Lavaca	07524	26	26	26	26	26	26	26	based on % of area
Sparta	1	K	Bastrop	Brazos	01127	49	49	49	49	49	49	49	based on % of area

Region K Current Water Availability Sources

Source Name	Source Type	Source RWPG	Source County	Source Basin	Source Identifier	Water Availability (ac-ft/yr)							Comments
						Year 2000	Year 2010	Year 2020	Year 2030	Year 2040	Year 2050	Year 2060	
Sparta	1	K	Bastrop	Colorado	01127	5,000	5,000	5,000	5,000	5,000	5,000	5,000	based on % of area
Sparta	1	K	Bastrop	Guadalupe	01127	340	340	340	340	340	340	340	based on % of area
Sparta	1	K	Fayette	Colorado	07527	3,667	3,667	3,667	3,667	3,667	3,667	3,667	based on % of area
Sparta	1	K	Fayette	Guadalupe	07527	598	598	598	598	598	598	598	based on % of area
Sparta	1	K	Fayette	Lavaca	07527	235	235	235	235	235	235	235	based on % of area
Trinity	1	K	Bastrop	Colorado	01128	12	12	12	10	10	8	8	GWbyBasin file 9/24/99
Trinity	1	K	Blanco	Colorado	01628	1,149	1,149	1,149	1,149	1,149	942	942	based on % of area
Trinity	1	K	Blanco	Guadalupe	01628	451	451	451	451	451	373	373	based on % of area
Trinity	1	K	Burnet	Brazos	02728	1,221	1,221	1,221	1,221	1,221	1,221	1,221	GAM
Trinity	1	K	Burnet	Colorado	02728	1,329	1,329	1,329	1,329	1,329	1,329	1,329	GAM
Trinity	1	K	Gillespie	Colorado	08628	3,354	3,354	3,354	3,354	3,354	3,354	3,354	Based on HCUWCD Data
Trinity	1	K	Gillespie	Guadalupe	08628	46	46	46	46	46	46	46	Based on HCUWCD Data
Trinity	1	K	Hays	Colorado	10528	2,500	2,500	2,500	2,500	2,500	2,500	2,500	GAM
Trinity	1	K	Mills	Brazos	16728	1,430	1,430	1,430	1,254	1,254	1,028	1,028	based on % of area
Trinity	1	K	Mills	Colorado	16728	1,330	1,330	1,330	1,166	1,166	956	956	based on % of area
Trinity	1	K	Travis	Brazos	22728	28	28	28	28	28	28	28	GAM
Trinity	1	K	Travis	Colorado	22728	3,839	3,839	3,839	3,839	3,839	3,839	3,839	GAM
Trinity	1	K	Travis	Guadalupe	22728	33	33	33	33	33	33	33	GAM
Trinity	1	K	Williamson	Brazos	24628	58	58	58	58	58	58	58	GAM
Trinity	1	K	Williamson	Colorado	24628	2	2	2	2	2	2	2	GAM
Other Aquifer	1	K	Bastrop	Brazos	01122	0	0	0	0	0	0	0	
Other Aquifer	1	K	Bastrop	Colorado	01122	3,350	3,350	3,350	3,350	3,350	3,350	3,350	Alluvial supplies
Other Aquifer	1	K	Bastrop	Guadalupe	01122	0	0	0	0	0	0	0	
Other Aquifer	1	K	Blanco	Colorado	01622	0	0	0	0	0	0	0	
Other Aquifer	1	K	Burnet	Colorado	02722	305	305	305	305	305	305	305	Alluvial supplies
Other Aquifer	1	K	Colorado	Colorado	04522	4,269	4,269	4,269	4,269	4,269	4,269	4,269	Alluvial supplies
Other Aquifer	1	K	Fayette	Brazos	07522	0	0	0	0	0	0	0	
Other Aquifer	1	K	Fayette	Colorado	07522	3,696	3,696	3,696	3,696	3,696	3,696	3,696	Alluvial supplies
Other Aquifer	1	K	Fayette	Guadalupe	07522	0	0	0	0	0	0	0	
Other Aquifer	1	K	Fayette	Lavaca	07522	0	0	0	0	0	0	0	
Other Aquifer	1	K	Gillespie	Colorado	08622	0	0	0	0	0	0	0	
Other Aquifer	1	K	Hays	Colorado	10522	0	0	0	0	0	0	0	
Other Aquifer	1	K	Llano	Colorado	15022	109	109	109	109	109	109	109	Alluvial supplies
Other Aquifer	1	K	Mills	Brazos	16722	0	0	0	0	0	0	0	
Other Aquifer	1	K	Mills	Colorado	16722	0	0	0	0	0	0	0	
Other Aquifer	1	K	San Saba	Colorado	20622	0	0	0	0	0	0	0	
Other Aquifer	1	K	Travis	Brazos	22722	0	0	0	0	0	0	0	
Other Aquifer	1	K	Travis	Colorado	22722	1,808	1,818	1,835	1,848	1,853	1,856	1,860	Alluvial supplies
Other Aquifer	1	K	Travis	Guadalupe	22722	21	25	30	34	37	40	43	Alluvial supplies
Other Aquifer	1	K	Williamson	Brazos	24622	0	0	0	0	0	0	0	
Other Aquifer	1	K	Williamson	Colorado	24622	0	0	0	0	0	0	0	
					Region K Subtotal	1,281,144	1,268,865	1,269,562	1,270,129	1,271,371	1,272,316	1,271,331	
Lake Brownwood	0	F		Colorado	14140	1,688	1,688	1,688	0	0	0	0	Based on Brookesmith SUD
Brazos River Authority System	0	G		Brazos	120B0	301	316	342	370	401	440	488	Estimate based on TCEQ maximum production capacity at treatment plant (Stillhouse Reservoir) multiplied by the percent of Kempner demand in Region K.
Edwards-BFZ	1	G	Williamson	Brazos	24611G	12	10	9	9	8	8	8	Based on Chisholm Trail SUD
Canyon Lake	0	L		Guadalupe	18020	126	188	263	334	397	466	545	Estimate based on CLWSC Water Availability Report and demand.
					Subtotal	2,127	2,202	2,302	713	806	914	1,041	
					TOTAL	**1,283,271**	**1,271,067**	**1,271,864**	**1,270,842**	**1,272,177**	**1,273,230**	**1,272,372**	

Note: Downstream water availability does not include return flows.

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
AQUA WSC	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	5,952	5,952	5,952	5,952	5,952	5,952	5,952	New WUG: Supply Estimate based on Aqua WSC 3/29/04
AQUA WSC	BASTROP	COLORADO	K		Colorado	140B0	Highland Lakes	3,954	3,822	3,634	3,475	3,366	0	0	New WUG: Supply Estimate based on LCRA 02/02/05
BASTROP	BASTROP	COLORADO	K	Bastrop	Colorado	01122	Other Aquifer	1,927	1,927	1,927	1,927	1,927	1,927	1,927	Supply estimate based on TCEQ total production. 2/8/05
BASTROP COUNTY WCID #2	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	1,721	1,171	1,171	1,171	1,171	1,171	1,171	New WUG: Supply based on Bastrop County WCID #2 9/20/04
COUNTY-OTHER	BASTROP	BRAZOS	K	Bastrop	Brazos	01110	Carrizo-Wilcox	304	363	422	486	524	536	536	2001 Plan: Demand
COUNTY-OTHER	BASTROP	COLORADO	K		Colorado	140B0	Highland Lakes	2,092	2,050	700	700	700	700	700	Supply based on LCRA revised data 2/7/05
COUNTY-OTHER	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	446	446	446	446	446	446	446	Aqua WSC email 3/29/04
COUNTY-OTHER	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	735	805	561	222	0	0	0	2001 Plan: Demand - other supplies
COUNTY-OTHER	BASTROP	GUADALUPE	K	Bastrop	Guadalupe	01124	Queen City	196	196	196	196	196	196	196	2001 Plan: A-ALL, % & Tbl 4
CREEDMOOR-MAHA WSC	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	6	6	6	6	6	6	6	New WUG: Supply Estimate based on Aqua WSC email 3/29/04
CREEDMOOR-MAHA WSC	BASTROP	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	13	13	17	23	29	37	48	Rearranged Creedmoor-Maha demands to reduce # of strategies needed 10/26/07 New WUG: Supply Estimate based on BSEACD
ELGIN	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	1,683	1,679	1,674	1,671	1,670	1,670	1,671	Based on TCEQ maximum production capacity and proportioned by total demand. 1/14/05
LEE COUNTY WSC	BASTROP	BRAZOS	K	Bastrop	Brazos	01110	Carrizo-Wilcox	725	725	725	725	725	725	725	New WUG: Supply based on Lee County WSC 9/20/04
LEE COUNTY WSC	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	1,123	1,123	1,123	1,123	1,123	1,123	1,123	New WUG: Supply based on Lee County WSC 9/20/04
MANVILLE WSC	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	124	127	131	133	136	140	146	New WUG: Supply estimated from TCEQ well production capacities and proportioned by total population. 1/11/05
MANVILLE WSC	BASTROP	COLORADO	K	Bastrop	Colorado	01122	Other Aquifer	38	41	42	46	52	60	68	New WUG: Supply estimated from TCEQ well production capacities and proportioned by total population. 1/11/05
POLONIA WSC	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	29	25	24	25	25	27	30	New WUG: Supply estimated from TCEQ well production capacities and proportioned by total population. 1/20/05
SMITHVILLE	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	794	830	922	1,025	1,072	1,283	1,283	2001 Plan: Demand
IRRIGATION	BASTROP	BRAZOS	K	Bastrop	Brazos	01124	Queen City	23	23	23	23	23	23	23	2001 Plan: AllocFile10 9/24/99
IRRIGATION	BASTROP	BRAZOS	K	Bastrop	Brazos	01127	Sparta	5	5	5	5	5	5	5	2001 Plan: AllocFile10 9/24/99
IRRIGATION	BASTROP	COLORADO	K	Bastrop	Colorado	011996	Irrigation Local Supply	750	750	750	750	750	750	750	2001 Plan: TWDB
IRRIGATION	BASTROP	COLORADO	K	Bastrop	Colorado	01127	Sparta	500	500	500	500	500	500	500	2001 Plan: AllocFile10 9/24/99
IRRIGATION	BASTROP	COLORADO	K	Bastrop	Colorado	01124	Queen City	213	213	213	213	213	213	213	2001 Plan: AllocFile10 9/24/99
IRRIGATION	BASTROP	GUADALUPE	K	Bastrop	Guadalupe	01124	Queen City	40	40	40	40	40	40	40	2001 Plan: AllocFile10 9/24/99
IRRIGATION	BASTROP	GUADALUPE	K	Bastrop	Guadalupe	01127	Sparta	34	34	34	34	34	34	34	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	BASTROP	BRAZOS	K	Bastrop	Brazos	01127	Sparta	39	39	39	39	39	39	39	2001 Plan: AllocFile10 90% reduced
LIVESTOCK	BASTROP	BRAZOS	K		Brazos	12997	Livestock Local Supply	154	154	154	154	154	154	154	2001 Plan: LCRA Provided data
LIVESTOCK	BASTROP	BRAZOS	K	Bastrop	Brazos	01124	Queen City	141	141	141	141	141	141	141	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	BASTROP	COLORADO	K	Bastrop	Colorado	01124	Queen City	1,322	1,322	1,322	1,322	1,322	1,322	1,322	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	BASTROP	COLORADO	K	Bastrop	Colorado	01127	Sparta	4,000	4,000	4,000	4,000	4,000	4,000	4,000	2001 Plan: AllocFile10 90% reduced
LIVESTOCK	BASTROP	COLORADO	K		Colorado	14997	Livestock Local Supply	696	696	696	696	696	696	696	2001 Plan: LCRA Provided data
LIVESTOCK	BASTROP	GUADALUPE	K	Bastrop	Guadalupe	01124	Queen City	125	125	125	125	125	125	125	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	BASTROP	GUADALUPE	K		Guadalupe	18997	Livestock Local Supply	5	5	5	5	5	5	5	2001 Plan: LCRA Provided data
LIVESTOCK	BASTROP	GUADALUPE	K	Bastrop	Guadalupe	01127	Sparta	272	272	272	272	272	272	272	2001 Plan: AllocFile10 90% reduced
MANUFACTURING	BASTROP	BRAZOS	K	Bastrop	Brazos	01110	Carrizo-Wilcox	0	0	0	0	0	0	0	2001 Plan: Demand - other supplies
MANUFACTURING	BASTROP	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	31	38	46	54	64	75	75	2001 Plan: Demand - other supplies
MANUFACTURING	BASTROP	COLORADO	K		Colorado	14999	Other Local Supply	48	48	48	48	48	48	48	2001 Plan: LCRA Provided data
MANUFACTURING	BASTROP	GUADALUPE	K	Bastrop	Guadalupe	01110	Carrizo-Wilcox	0	0	0	0	0	0	0	2001 Plan: Demand
MINING	BASTROP	BRAZOS	K	Bastrop	Brazos	01124	Queen City	23	23	23	23	23	23	23	2001 Plan: AllocFile10 9/24/99
MINING	BASTROP	BRAZOS	K	Bastrop	Brazos	01127	Sparta	5	5	5	5	5	5	5	2001 Plan: AllocFile10 9/24/99
MINING	BASTROP	COLORADO	K	Bastrop	Colorado	01124	Queen City	213	213	213	213	213	213	213	2001 Plan: AllocFile10 9/24/99
MINING	BASTROP	COLORADO	K	Bastrop	Colorado	01127	Sparta	500	500	500	500	500	500	500	2001 Plan: AllocFile10 9/24/99
MINING	BASTROP	COLORADO	K		Colorado	14999	Other Local Supply	12	10	8	7	7	9	9	2001 Plan: LCRA Provided data
MINING	BASTROP	GUADALUPE	K	Bastrop	Guadalupe	01124	Queen City	40	40	40	40	40	40	40	2001 Plan: AllocFile10 9/24/99
MINING	BASTROP	GUADALUPE	K	Bastrop	Guadalupe	01127	Sparta	34	34	34	34	34	34	34	2001 Plan: AllocFile10 9/24/99
STEAM ELECTRIC POWER	BASTROP	BRAZOS						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	BASTROP	COLORADO	K		Colorado	140B0	Highland Lakes	5,970	5,970	5,970	5,970	3,220	0	0	Supply based on LCRA revised data 2/7/05
STEAM ELECTRIC POWER	BASTROP	COLORADO	K		Colorado	140B0	Highland Lakes	10,750	10,750	10,750	10,750	10,750	10,750	10,750	TCEQ WAM 5/6/05; LCRA Cooling Water
STEAM ELECTRIC POWER	BASTROP	GUADALUPE						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
BLANCO	BLANCO	GUADALUPE		Blanco	Guadalupe	18120	Blanco Reservoir	596	596	596	596	596	596	596	TCEQ WAM 2/21/05
BLANCO	BLANCO	GUADALUPE	K	Blanco	Guadalupe	01628	Trinity	25	25	25	25	25	25	25	2001 Plan: A-ALL, LIMIT
CANYON LAKE WSC	BLANCO	GUADALUPE	L		Guadalupe	18020	Canyon Lake	126	188	263	334	397	466	545	New WUG: Supply Estimate based on CLWSC Water Availability Report and demand 2/4/05
COUNTY-OTHER	BLANCO	COLORADO	K	Blanco	Colorado	01614	Ellenburger-San Saba	150	150	150	150	150	150	150	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	BLANCO	COLORADO	K	Blanco	Colorado	01616	Hickory	60	60	60	60	60	60	60	2001 Plan: A-ALL, LIMIT

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
COUNTY-OTHER	BLANCO	COLORADO	K		Colorado	14999	Other Local Supply	37	43	49	55	57	56	56	2001 Plan: LCRA Provided data
COUNTY-OTHER	BLANCO	COLORADO	K	Blanco	Colorado	01628	Trinity	1,149	1,149	1,149	1,149	1,149	942	942	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	BLANCO	GUADALUPE	K	Blanco	Guadalupe	01613	Edwards-Trinity (Plateau)	50	50	50	50	50	50	50	2001 Plan: A-ALL, LIMIT 157 reduced
COUNTY-OTHER	BLANCO	GUADALUPE	K	Blanco	Guadalupe	01628	Trinity	85	23	0	0	0	0	0	2001 Plan: A-ALL, % & Tbl 4
JOHNSON CITY	BLANCO	COLORADO	K	Blanco	Colorado	01614	Ellenburger-San Saba	887	887	887	887	887	887	887	2001 Plan: A-ALL, LIMIT
IRRIGATION	BLANCO	COLORADO	K	Blanco	Colorado	01614	Ellenburger-San Saba	667	667	667	667	667	667	667	2001 Plan: A-ALL, % & Tbl 4
IRRIGATION	BLANCO	GUADALUPE	K	Blanco	Guadalupe	016996	Irrigation Local Supply	9	9	9	9	9	9	9	2001 Plan: LCRA Provided data
IRRIGATION	BLANCO	GUADALUPE	K	Blanco	Guadalupe	01628	Trinity	89	89	89	89	89	76	76	2001 Plan: A-ALL, 100% reduced
LIVESTOCK	BLANCO	COLORADO	K		Colorado	14997	Livestock Local Supply	101	101	101	101	101	101	101	2001 Plan: Demand, LCRA provided data
LIVESTOCK	BLANCO	COLORADO	K	Blanco	Colorado	01614	Ellenburger-San Saba	749	749	749	749	749	749	749	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	BLANCO	GUADALUPE	K	Blanco	Guadalupe	01628	Trinity	69	69	69	69	69	56	56	2001 Plan: A-ALL, 42.6% reduced
LIVESTOCK	BLANCO	GUADALUPE	K		Guadalupe	18997	Livestock Local Supply	101	101	101	101	101	101	101	2001 Plan: Demand, LCRA provided data
MANUFACTURING	BLANCO	COLORADO						0	0	0	0	0	0	0	New WUG: Minimal Demand, therefore 0 Supply
MANUFACTURING	BLANCO	GUADALUPE	K	Blanco	Guadalupe	01628	Trinity	9	9	9	9	9	7	7	2001 Plan: AllocFile10 100% reduced
MINING	BLANCO	COLORADO	K	Blanco	Colorado	01614	Ellenburger-San Saba	285	285	285	285	285	285	285	2001 Plan: A-ALL, % & Tbl 4
MINING	BLANCO	GUADALUPE	K	Blanco	Guadalupe	01628	Trinity	43	43	43	43	43	35	35	2001 Plan: AllocFile10 9/24/99
STEAM ELECTRIC POWER	BLANCO	COLORADO						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	BLANCO	GUADALUPE						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
BERTRAM	BURNET	BRAZOS	K	Burnet	Brazos	02714	Ellenburger-San Saba	207	200	190	184	185	191	191	2001 Plan: Demand
BURNET	BURNET	COLORADO	K	Burnet	Colorado	02714	Ellenburger-San Saba	1,862	1,862	1,862	1,862	1,862	1,862	1,862	2001 Plan: A-ALL, LIMIT
BURNET	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	4,100	4,100	4,100	4,100	0	0	0	Supply Estimate based on LCRA 4/9/04
CHISHOLM TRAIL SUD	BURNET	BRAZOS	G	Williamson	Brazos	24611G	Edwards-BFZ	12	10	9	9	8	8	8	New WUG: less than 1% of population in Region K. All currently served by groundwater but contracts in place for Colorado River and Brazos River water. 1/11/05
COTTONWOOD SHORES	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	138	138	0	0	0	0	0	Supply Estimate based on LCRA 4/9/04
COUNTY-OTHER	BURNET	BRAZOS	K	Burnet	Brazos	02714	Ellenburger-San Saba	400	400	400	400	400	400	400	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	BURNET	BRAZOS	K	Burnet	Brazos	02728	Trinity	985	972	960	947	934	921	921	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	BURNET	COLORADO	K	Burnet	Colorado	02714	Ellenburger-San Saba	16	10	2	0	0	0	0	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	BURNET	COLORADO	K	Burnet	Colorado	02716	Hickory	54	54	54	54	54	54	54	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	901	556	330	280	250	250	250	Supply based on LCRA revised data 2/7/05
COUNTY-OTHER	BURNET	COLORADO	K	Burnet	Colorado	02719	Marble Falls	21	21	21	21	21	21	21	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	BURNET	COLORADO	K	Burnet	Colorado	02728	Trinity	227	227	227	192	192	157	157	2001 Plan: A-ALL, % & Tbl 4
GRANITE SHOALS	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	830	830	830	0	0	0	0	Supply Estimate based on LCRA 4/9/04
KEMPNER WSC	BURNET	BRAZOS	G		Brazos	120B0	Brazos River Authority System	301	316	342	370	401	440	488	New WUG: Supply Estimate based on TCEQ maximum production capacity at treatment plant (Stillhouse Reservoir) times percent of total Kempner demand in Region K. Need Region G coordination. 1/13/05
KINGSLAND WSC	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	40	45	52	58	64	71	0	Supply Estimate based on revised LCRA data and proportioned by county. 2/8/05
LAKE LBJ MUD	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	233	259	294	327	358	0	0	New WUG: Supply Estimate based on revised LCRA data. 2/2/05
MARBLE FALLS	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	2,000	2,000	2,000	0	0	0	0	Supply Estimate based on LCRA 4/9/04
MARBLE FALLS	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	1,000	1,000	1,000	1,000	1,000	0	0	Supply Estimate based on LCRA 4/9/04
MEADOWLAKES	BURNET	COLORADO	K		Colorado	14999	Other Local Supply	486	486	486	486	486	486	486	2001 Plan: TCB & LCRA provided data
IRRIGATION	BURNET	BRAZOS	K	Burnet	Brazos	02728	Trinity	0	0	0	0	0	0	0	2001 Plan: AllocFile10 18.4% reduced
IRRIGATION	BURNET	COLORADO	K	Burnet	Colorado	02716	Hickory	2,397	2,397	2,397	2,397	2,397	2,397	2,397	2001 Plan: AllocFile10 9/24/99
IRRIGATION	BURNET	COLORADO	K	Burnet	Colorado	02719	Marble Falls	533	533	533	533	533	533	533	2001 Plan: AllocFile10 9/24/99
IRRIGATION	BURNET	COLORADO	K	Burnet	Colorado	02728	Trinity	104	104	104	88	88	72	72	2001 Plan: AllocFile10 9/24/99
IRRIGATION	BURNET	COLORADO	K	Burnet	Colorado	027996	Irrigation Local Supply	276	276	276	276	276	276	276	2001 Plan: TWDB
IRRIGATION	BURNET	COLORADO	K	Burnet	Colorado	02714	Ellenburger-San Saba	25	25	25	25	25	25	25	2001 Plan: ALLOC-F10 9/24/99
LIVESTOCK	BURNET	BRAZOS	K	Burnet	Brazos	02728	Trinity	45	45	45	45	45	45	45	2001 Plan: A-ALL, 12.6% reduced
LIVESTOCK	BURNET	BRAZOS	K		Brazos	12997	Livestock Local Supply	341	341	341	341	341	341	341	2001 Plan: Demand
LIVESTOCK	BURNET	COLORADO	K	Burnet	Colorado	02716	Hickory	189	189	189	189	189	189	189	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	BURNET	COLORADO	K		Colorado	14997	Livestock Local Supply	210	210	210	210	210	210	210	2001 Plan: Demand
LIVESTOCK	BURNET	COLORADO	K	Burnet	Colorado	02728	Trinity	71	71	71	60	60	50	50	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	BURNET	COLORADO	K	Burnet	Colorado	02719	Marble Falls	3,115	3,115	3,115	3,115	3,115	3,115	3,115	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	BURNET	COLORADO	K	Burnet	Colorado	02714	Ellenburger-San Saba	25	25	25	25	25	25	25	2001 Plan: A-ALL, LIMIT
MANUFACTURING	BURNET	BRAZOS						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
MANUFACTURING	BURNET	COLORADO	K	Burnet	Colorado	02714	Ellenburger-San Saba	25	25	25	25	25	25	25	2001 Plan: ALLOC-F10 9/24/99
MANUFACTURING	BURNET	COLORADO	K		Colorado	14999	Other Local Supply	1,237	1,367	1,503	1,643	1,761	1,933	1,933	2001 Plan: LCRA Provided data
MANUFACTURING	BURNET	COLORADO	K		Colorado	140B0	Highland Lakes	500	500	500	500	500	500	500	Supply Estimate based on LCRA 4/9/04
MINING	BURNET	BRAZOS	K	Burnet	Brazos	02728	Trinity	54	54	54	54	45	45	45	2001 Plan: A-ALL, 5% reduced
MINING	BURNET	COLORADO	K		Colorado	14999	Other Local Supply	767	747	762	778	801	826	826	2001 Plan: LCRA Provided data
MINING	BURNET	COLORADO	K	Burnet	Colorado	02719	Marble Falls	123	123	123	123	123	123	123	2001 Plan: A-ALL, % & Tbl 4
MINING	BURNET	COLORADO	K	Burnet	Colorado	02716	Hickory	315	315	315	315	315	315	315	2001 Plan: A-ALL, % & Tbl 4
MINING	BURNET	COLORADO	K	Burnet	Colorado	02728	Trinity	4	4	4	3	3	3	3	2001 Plan: AllocFile10 9/24/99
MINING	BURNET	COLORADO	K	Burnet	Colorado	02714	Ellenburger-San Saba	25	25	25	25	25	25	25	2001 Plan: A-ALL, LIMIT
STEAM ELECTRIC POWER	BURNET	BRAZOS						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	BURNET	COLORADO	K	Burnet	Colorado	02714	Ellenburger-San Saba	25	25	25	25	25	25	25	2001 Plan: AllFile10 9/24 Limit

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
COLUMBUS	COLORADO	COLORADO	K	Colorado	Colorado	04515	Gulf Coast	1,350	1,350	1,350	1,350	1,350	1,350	1,350	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	COLORADO	BRAZOS-COLORADO	K	Colorado	Brazos-Colorado	04515	Gulf Coast	122	122	122	122	122	122	122	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	COLORADO	COLORADO	K	Colorado	Colorado	04515	Gulf Coast	800	800	800	800	800	800	800	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	COLORADO	LAVACA	K	Colorado	Lavaca	04515	Gulf Coast	254	250	250	250	250	250	250	2001 Plan: A-ALL, % & Tbl 4
EAGLE LAKE	COLORADO	BRAZOS-COLORADO	K	Colorado	Brazos-Colorado	04515	Gulf Coast	440	440	440	440	440	440	440	2001 Plan: A-ALL, LIMIT
EAGLE LAKE	COLORADO	COLORADO	K	Colorado	Colorado	04515	Gulf Coast	430	430	430	430	430	430	430	2001 Plan: A-ALL, LIMIT
WEIMAR	COLORADO	COLORADO	K	Fayette	Colorado	07515	Gulf Coast	1,804	1,804	1,804	1,804	1,804	1,804	1,804	2001 Plan: A-ALL, LIMIT
WEIMAR	COLORADO	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2001 Plan: A-ALL, LIMIT 2218 reduced
IRRIGATION	COLORADO	BRAZOS-COLORADO	K		Colorado	3461405475	LCRA - Lakeside ROR	8,429	8,429	8,429	8,429	8,429	8,429	8,429	TCEQ WAM 5/6/05; Lakeside ROR split between 3 basins.
IRRIGATION	COLORADO	BRAZOS-COLORADO	K		Colorado	3461405434A	LCRA - Garwood ROR	21,588	21,588	21,588	21,588	21,588	21,588	21,588	TCEQ WAM 5/6/05; 70% of Garwood ROR water in a minimum year (LCRA) split between 3 basins.
IRRIGATION	COLORADO	BRAZOS-COLORADO	K	Colorado	Brazos-Colorado	04515	Gulf Coast	7,775	7,775	7,775	7,775	7,775	7,775	7,775	2001 Plan: Demand
IRRIGATION	COLORADO	COLORADO	K		Colorado	3461405475	LCRA - Lakeside ROR	4,092	4,092	4,092	4,092	4,092	4,092	4,092	TCEQ WAM 5/6/05; Lakeside ROR split between 3 basins.
IRRIGATION	COLORADO	COLORADO	K	Colorado	Colorado	04515	Gulf Coast	11,191	11,191	11,191	11,191	11,191	11,191	11,191	2001 Plan: Demand
IRRIGATION	COLORADO	COLORADO	K	Colorado	Colorado	045996	Irrigation Local Supply	3,000	3,000	3,000	3,000	3,000	3,000	3,000	2001 Plan: LCRA Provided data
IRRIGATION	COLORADO	COLORADO	K		Colorado	3461405434A	LCRA - Garwood ROR	10,481	10,481	10,481	10,481	10,481	10,481	10,481	TCEQ WAM 5/6/05; 70% of Garwood ROR water in a minimum year (LCRA) split between 3 basins.
IRRIGATION	COLORADO	LAVACA	K		Colorado	3461405475	LCRA - Lakeside ROR	18,017	18,017	18,017	18,017	18,017	18,017	18,017	TCEQ WAM 5/6/05; Lakeside ROR split between 3 basins.
IRRIGATION	COLORADO	LAVACA	K	Colorado	Lavaca	04515	Gulf Coast	14,050	14,050	14,050	14,050	14,050	14,050	14,050	2001 Plan: Demand
IRRIGATION	COLORADO	LAVACA	K	Colorado	Lavaca	045996	Irrigation Local Supply	4,002	4,002	4,002	4,002	4,002	4,002	4,002	2001 Plan: LCRA Provided data
IRRIGATION	COLORADO	LAVACA	K		Colorado	3461405434A	LCRA - Garwood ROR	46,149	46,149	46,149	46,149	46,149	46,149	46,149	TCEQ WAM 5/6/05; 70% of Garwood ROR water in a minimum year (LCRA) split between 3 basins.
LIVESTOCK	COLORADO	BRAZOS-COLORADO	K	Colorado	Brazos-Colorado	04515	Gulf Coast	65	65	65	65	65	65	65	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	COLORADO	BRAZOS-COLORADO	K		Brazos-Colorado	13997	Livestock Local Supply	39	39	39	39	39	39	39	2001 Plan: LCRA Provided data
LIVESTOCK	COLORADO	COLORADO	K		Colorado	14997	Livestock Local Supply	860	860	860	860	860	860	860	2001 Plan: LCRA Provided data
LIVESTOCK	COLORADO	COLORADO	K	Colorado	Colorado	04515	Gulf Coast	25	25	25	25	25	25	25	2001 Plan: A-ALL, LIMIT
LIVESTOCK	COLORADO	LAVACA	K		Lavaca	16997	Livestock Local Supply	177	177	177	177	177	177	177	2001 Plan: LCRA Provided data
LIVESTOCK	COLORADO	LAVACA	K	Colorado	Lavaca	04515	Gulf Coast	283	283	283	283	283	283	283	2001 Plan: A-ALL, % & Tbl 4
MANUFACTURING	COLORADO	BRAZOS-COLORADO	K	Colorado	Brazos-Colorado	04515	Gulf Coast	27	27	27	27	27	27	27	2001 Plan: A-ALL, % & Tbl 4
MANUFACTURING	COLORADO	COLORADO	K		Colorado	14999	Other Local Supply	1,143	1,215	1,285	1,353	1,418	1,481	1,481	2001 Plan: A-ALL, TCB
MANUFACTURING	COLORADO	LAVACA						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
MINING	COLORADO	BRAZOS-COLORADO	K	Colorado	Brazos-Colorado	04515	Gulf Coast	120	100	100	100	100	100	100	2001 Plan: A-ALL, % & Tbl 4
MINING	COLORADO	COLORADO	K		Colorado	14999	Other Local Supply	18,920	10,508	11,391	12,443	13,785	15,402	15,402	2001 Plan: A-ALL and LCRA provided data
MINING	COLORADO	LAVACA	K	Colorado	Lavaca	04515	Gulf Coast	1,727	1,627	1,627	1,627	1,627	1,627	1,627	2001 Plan: A-ALL, 100% reduced
STEAM ELECTRIC POWER	COLORADO	BRAZOS-COLORADO						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	COLORADO	COLORADO	K	Colorado	Colorado	04515	Gulf Coast	0	0	0	0	0	0	0	2001 Plan: AllFile10 9/24 Limit
STEAM ELECTRIC POWER	COLORADO	LAVACA						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
AQUA WSC	FAYETTE	COLORADO	K		Colorado	140B0	Highland Lakes	65	90	115	135	150	0	0	New WUG: Supply Estimate based on LCRA 02/02/05
COUNTY-OTHER	FAYETTE	BRAZOS	K	Fayette	Brazos	07515	Gulf Coast	0	0	0	0	0	0	0	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	FAYETTE	COLORADO	K	Fayette	Colorado	07515	Gulf Coast	428	154	0	0	0	0	0	2001 Plan: A-ALL, LIMIT; adjusted year 2000 value based on reduced total available Gulf Coast supplies 2/7/05
COUNTY-OTHER	FAYETTE	COLORADO	K	Fayette	Colorado	07524	Queen City	90	90	90	90	90	90	90	2001 Plan: AllFile10 limit
COUNTY-OTHER	FAYETTE	COLORADO	K	Fayette	Colorado	07527	Sparta	53	0	0	0	0	0	0	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	FAYETTE	COLORADO	K		Colorado	140B0	Highland Lakes	97	12	0	0	0	0	0	Supply Estimate based on LCRA 4/9/04
COUNTY-OTHER	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07515	Gulf Coast	76	76	76	76	76	76	76	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07527	Sparta	90	90	90	90	90	90	90	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	FAYETTE	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	279	226	204	96	9	0	0	2001 Plan: A-ALL, % & Tbl 4
FAYETTE WSC	FAYETTE	COLORADO	K	Fayette	Colorado	07524	Queen City	282	282	282	282	282	282	282	New WUG: Supply Estimate based on TCEQ maximum production capacity for listed wells and proportioned based on demand per basin. 1/13/05
FAYETTE WSC	FAYETTE	COLORADO	K	Fayette	Colorado	07515	Gulf Coast	675	675	675	675	675	675	675	New WUG: Supply Estimate based on TCEQ maximum production capacity for listed wells and proportioned based on demand per basin. 1/13/05
FAYETTE WSC	FAYETTE	LAVACA	K	Fayette	Lavaca	07524	Queen City	25	25	25	25	25	25	25	New WUG: Supply Estimate based on TCEQ maximum production capacity for listed wells and proportioned based on demand per basin. 1/13/05
FAYETTE WSC	FAYETTE	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	59	59	59	59	59	59	59	New WUG: Supply Estimate based on TCEQ maximum production capacity for listed wells and proportioned based on demand per basin. 1/13/05
FLATONIA	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07515	Gulf Coast	53	53	52	53	53	53	53	Supply Estimate based on TCEQ maximum production capacity for listed wells and proportioned based on demand per basin. 1/20/05

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
FLATONIA	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07510	Carrizo-Wilcox	66	66	66	66	66	66	66	Supply Estimate based on TCEQ maximum production capacity for listed wells (168). 1/20/05 Total supply was reduced due to limited Carrizo supplies in Fayette County.
FLATONIA	FAYETTE	LAVACA	K	Fayette	Lavaca	07510	Carrizo-Wilcox	44	44	44	44	44	44	44	Supply Estimate based on TCEQ maximum production capacity for listed wells (168). 1/20/05; Reduced to supply available to Carrizo-Wilcox aquifer in Fayette County, Lavaca basin
FLATONIA	FAYETTE	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	183	182	183	183	183	183	182	Supply Estimate based on TCEQ maximum production capacity for listed wells and proportioned based on demand per basin. 1/20/05
LA GRANGE	FAYETTE	COLORADO	K	Fayette	Colorado	07524	Queen City	662	662	662	662	662	662	662	Supply available to Queen City aquifer in Fayette County, Colorado basin minus supply to Fayette WSC and County Other.
LA GRANGE	FAYETTE	COLORADO	K	Fayette	Colorado	07527	Sparta	1,850	1,850	1,850	1,850	1,850	1,850	1,850	2001 Plan: A-ALL, 100% reduced
LEE COUNTY WSC	FAYETTE	COLORADO		Fayette	Colorado	07510	Carrizo-Wilcox	290	290	290	290	290	290	290	Supply available to Carrizo-Wilcox aquifer in Fayette County, Colorado basin
SCHULENBURG	FAYETTE	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	2,119	2,119	2,119	2,119	2,119	2,119	2,119	2001 Plan: A-ALL, LIMIT 2580 reduced
IRRIGATION	FAYETTE	BRAZOS	K	Fayette	Brazos	07515	Gulf Coast	1	1	1	1	1	1	1	2001 Plan: AllocFile10 9/24/99
IRRIGATION	FAYETTE	COLORADO	K	Fayette	Colorado	07515	Gulf Coast	150	150	150	150	150	150	150	2001 Plan: AllocFile10 9/24/99
IRRIGATION	FAYETTE	COLORADO	K	Fayette	Colorado	075996	Irrigation Local Supply	534	534	534	534	534	534	534	2001 Plan: LCRA provided data and Demand
IRRIGATION	FAYETTE	COLORADO	K	Fayette	Colorado	07510	Carrizo-Wilcox	0	0	0	0	0	0	0	Reduced supply due to over allocation of Carrizo-Wilcox in Fayette County Colorado basin 2/7/05
IRRIGATION	FAYETTE	COLORADO	K	Fayette	Colorado	07527	Sparta	484	484	484	484	484	484	484	2001 Plan: AllocFile10 9/24/99
IRRIGATION	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07515	Gulf Coast	2	2	2	2	2	2	2	2001 Plan: AllocFile10 10% reduced
IRRIGATION	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07527	Sparta	60	60	60	60	60	60	60	2001 Plan: AllocFile10 9/24/99
IRRIGATION	FAYETTE	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	14	14	14	14	14	14	14	2001 Plan: AllocFile10 9/24/99
IRRIGATION	FAYETTE	LAVACA	K	Fayette	Lavaca	07527	Sparta	3	3	3	3	3	3	3	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	FAYETTE	BRAZOS	K		Brazos	12997	Livestock Local Supply	2	2	2	2	2	2	2	2001 Plan: Demand
LIVESTOCK	FAYETTE	COLORADO	K	Fayette	Colorado	07515	Gulf Coast	140	140	140	140	140	140	140	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	FAYETTE	COLORADO	K	Fayette	Colorado	07527	Sparta	733	733	733	733	733	733	733	2001 Plan: A-ALL, 30% reduced
LIVESTOCK	FAYETTE	COLORADO	K		Colorado	14997	Livestock Local Supply	1,746	1,746	1,746	1,746	1,746	1,746	1,746	2001 Plan: LCRA Provided data
LIVESTOCK	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07527	Sparta	179	179	179	179	179	179	179	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	FAYETTE	GUADALUPE	K		Guadalupe	18997	Livestock Local Supply	142	142	142	142	142	142	142	2001 Plan: LCRA Provided data
LIVESTOCK	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07515	Gulf Coast	2	2	2	2	2	2	2	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	FAYETTE	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	176	176	176	176	176	176	176	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	FAYETTE	LAVACA	K	Fayette	Lavaca	07527	Sparta	71	71	71	71	71	71	71	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	FAYETTE	LAVACA	K		Lavaca	16997	Livestock Local Supply	472	472	472	472	472	472	472	2001 Plan: LCRA Provided data
MANUFACTURING	FAYETTE	BRAZOS						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
MANUFACTURING	FAYETTE	COLORADO	K	Fayette	Colorado	07515	Gulf Coast	0	0	0	0	0	0	0	2001 Plan: AllocFile10 9/24/99
MANUFACTURING	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07527	Sparta	22	22	22	22	22	22	22	2001 Plan: AllocFile10 9/24/99
MANUFACTURING	FAYETTE	LAVACA	K	Fayette	Lavaca	07527	Sparta	8	8	8	8	8	8	8	2001 Plan: AllocFile10 9/24/99
MANUFACTURING	FAYETTE	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	152	152	152	152	152	152	152	2001 Plan: A-ALL, % & Tbl 4
MINING	FAYETTE	BRAZOS	K	Fayette	Brazos	07515	Gulf Coast	63	42	25	7	1	0	0	2001 Plan: A-ALL, 100% reduced
MINING	FAYETTE	COLORADO	K	Fayette	Colorado	07527	Sparta	367	367	367	367	367	367	367	2001 Plan: AllocFile10 9/24/99
MINING	FAYETTE	COLORADO	K	Fayette	Colorado	07515	Gulf Coast	103	103	103	103	103	103	103	2001 Plan: A-ALL, % & Tbl 4
MINING	FAYETTE	GUADALUPE	K	Fayette	Guadalupe	07527	Sparta	60	60	60	60	60	60	60	2001 Plan: AllocFile10 9/24/99
MINING	FAYETTE	LAVACA	K	Fayette	Lavaca	07515	Gulf Coast	10	10	10	10	10	10	10	2001 Plan: A-ALL, % & Tbl 4
MINING	FAYETTE	LAVACA	K	Fayette	Lavaca	07527	Sparta	24	24	24	24	24	24	24	2001 Plan: AllocFile10 9/24/99
STEAM ELECTRIC POWER	FAYETTE	BRAZOS						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	FAYETTE	COLORADO	K		Colorado	3461405471A-SE	City of Austin - ROR (Steam Elec.)	1,426	1,312	1,198	1,084	970	856	741	TCEQ WAM 5/6/05; FPP
STEAM ELECTRIC POWER	FAYETTE	COLORADO	K		Colorado	140B0	Highland Lakes	38,101	38,101	38,101	38,101	38,101	38,101	38,101	TCEQ WAM 5/6/05; LCRA Cooling Water
STEAM ELECTRIC POWER	FAYETTE	COLORADO	K		Colorado	140B0	Highland Lakes	3,500	3,500	3,500	0	0	0	0	Supply Estimate based on LCRA 4/9/04
STEAM ELECTRIC POWER	FAYETTE	GUADALUPE						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	FAYETTE	LAVACA						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
COUNTY-OTHER	GILLESPIE	COLORADO	K	Gillespie	Colorado	08613	Edwards-Trinity (Plateau)	968	968	968	968	968	968	968	Hill Country UWCD 5/14/04
COUNTY-OTHER	GILLESPIE	COLORADO	K	Gillespie	Colorado	08614	Ellenburger-San Saba	436	436	436	436	436	436	436	Hill Country UWCD 5/14/04
COUNTY-OTHER	GILLESPIE	COLORADO	K	Gillespie	Colorado	08616	Hickory	596	596	596	596	596	596	596	Hill Country UWCD 5/14/04
COUNTY-OTHER	GILLESPIE	GUADALUPE	K	Gillespie	Colorado	08628	Trinity	1,123	1,123	1,123	1,123	1,123	1,123	1,123	Hill Country UWCD 5/14/04
COUNTY-OTHER	GILLESPIE	GUADALUPE	K	Gillespie	Guadalupe	08613	Edwards-Trinity (Plateau)	90	90	90	90	90	90	90	Hill Country UWCD 5/14/04
COUNTY-OTHER	GILLESPIE	GUADALUPE	K	Gillespie	Guadalupe	08614	Ellenburger-San Saba	65	65	65	65	65	65	65	Hill Country UWCD 5/14/04
COUNTY-OTHER	GILLESPIE	COLORADO	K	Gillespie	Guadalupe	08616	Hickory	66	66	66	66	66	66	66	Hill Country UWCD 5/14/04
COUNTY-OTHER	GILLESPIE	GUADALUPE	K	Gillespie	Guadalupe	08628	Trinity	26	26	26	26	26	26	26	Hill Country UWCD 5/14/04
FREDERICKSBURG	GILLESPIE	COLORADO	K	Gillespie	Colorado	08614	Ellenburger-San Saba	3,174	3,174	3,174	3,174	3,174	3,174	3,174	Hill Country UWCD 5/14/04
FREDERICKSBURG	GILLESPIE	COLORADO	K	Gillespie	Colorado	08616	Hickory	662	662	662	662	662	662	662	Hill Country UWCD 5/14/04
IRRIGATION	GILLESPIE	COLORADO	K	Gillespie	Colorado	08613	Edwards-Trinity (Plateau)	71	71	71	71	71	71	71	2001 Plan: A-ALL, LIMIT reduced
IRRIGATION	GILLESPIE	COLORADO	K	Gillespie	Colorado	086996	Irrigation Local Supply	880	880	880	880	880	880	880	2001 Plan: LCRA provided data?
IRRIGATION	GILLESPIE	COLORADO	K	Gillespie	Colorado	08628	Trinity	1,149	1,149	1,149	1,149	1,149	1,149	1,149	Hill Country UWCD 5/14/04
IRRIGATION	GILLESPIE	COLORADO	K	Gillespie	Colorado	08616	Hickory	210	210	210	210	210	210	210	Hill Country UWCD 5/14/04
IRRIGATION	GILLESPIE	COLORADO	K	Gillespie	Colorado	08614	Ellenburger-San Saba	1,239	1,239	1,239	1,239	1,239	1,239	1,239	Hill Country UWCD 5/14/04

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
IRRIGATION	GILLESPIE	GUADALUPE	K	Gillespie	Guadalupe	08628	Trinity	0	0	0	0	0	0	0	2001 Plan: AllocFile10 10% reduced
LIVESTOCK	GILLESPIE	COLORADO	K		Colorado	14997	Livestock Local Supply	515	515	515	515	515	515	515	2001 Plan: Demand
LIVESTOCK	GILLESPIE	COLORADO	K	Gillespie	Colorado	08613	Edwards-Trinity (Plateau)	266	266	266	266	266	266	266	Hill Country UWCD 5/14/04
LIVESTOCK	GILLESPIE	COLORADO	K	Gillespie	Colorado	08614	Ellenburger-San Saba	266	266	266	266	266	266	266	Hill Country UWCD 5/14/04
LIVESTOCK	GILLESPIE	COLORADO	K	Gillespie	Colorado	08616	Hickory	266	266	266	266	266	266	266	Hill Country UWCD 5/14/04
LIVESTOCK	GILLESPIE	COLORADO	K	Gillespie	Colorado	08628	Trinity	932	932	932	932	932	932	932	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	GILLESPIE	GUADALUPE	K	Gillespie	Guadalupe	08628	Trinity	20	20	20	20	20	20	20	2001 Plan: A-ALL, 17.6% reduced
LIVESTOCK	GILLESPIE	GUADALUPE	K		Guadalupe	18997	Livestock Local Supply	13	13	13	13	13	13	13	2001 Plan: Demand
MANUFACTURING	GILLESPIE	COLORADO	K	Gillespie	Colorado	08613	Edwards-Trinity (Plateau)	34	34	34	34	34	34	34	Hill Country UWCD 5/14/04
MANUFACTURING	GILLESPIE	COLORADO	K	Gillespie	Colorado	08614	Ellenburger-San Saba	398	398	398	398	398	398	398	Hill Country UWCD 5/14/04
MANUFACTURING	GILLESPIE	COLORADO	K	Gillespie	Colorado	08616	Hickory	150	150	150	150	150	150	150	Hill Country UWCD 5/14/04
MANUFACTURING	GILLESPIE	COLORADO	K		Colorado	14999	Other Local Supply	158	158	158	158	158	158	158	2001 Plan: Demand
MANUFACTURING	GILLESPIE	GUADALUPE						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
MINING	GILLESPIE	COLORADO	K	Gillespie	Colorado	08616	Hickory	50	50	50	50	50	50	50	Hill Country UWCD 5/14/04
MINING	GILLESPIE	COLORADO	K	Gillespie	Colorado	08628	Trinity	150	150	150	150	150	150	150	Hill Country UWCD 5/14/04
MINING	GILLESPIE	COLORADO	K	Gillespie	Colorado	08613	Edwards-Trinity (Plateau)	71	71	71	71	71	71	71	2001 Plan: AllFile10 9/24 Limit reduced
MINING	GILLESPIE	COLORADO	K	Gillespie	Colorado	08614	Ellenburger-San Saba	22	22	22	22	22	22	22	2001 Plan: AllocFile10 9/24/99
MINING	GILLESPIE	GUADALUPE	K	Gillespie	Guadalupe	08628	Trinity	0	0	0	0	0	0	0	2001 Plan: AllocFile10 10% reduced
STEAM ELECTRIC POWER	GILLESPIE	COLORADO	K	Gillespie	Colorado	08613	Edwards-Trinity (Plateau)	0	0	0	0	0	0	0	Hill Country UWCD 5/14/04
STEAM ELECTRIC POWER	GILLESPIE	GUADALUPE						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
BUDA	HAYS	COLORADO	K	Hays	Colorado	10511	Edwards-BFZ	614	591	591	591	591	591	591	BSEACD 10/24/07
CIMARRON PARK WATER COMPANY	HAYS	COLORADO		Hays	Colorado	10511	Edwards-BFZ	327	253	253	253	253	253	253	BSEACD 12/18/07 New WUG: BSEACD 3/9/04
COUNTY-OTHER	HAYS	COLORADO	K		Colorado	140B0	Highland Lakes	1,915	1,915	1,915	1,915	1,915	0	0	Supply based on LCRA revised data 2/7/05
COUNTY-OTHER	HAYS	COLORADO	K	Hays	Colorado	10511	Edwards-BFZ	877	1,031	1,031	1,031	1,031	1,028	1,028	BSEACD 10/24/07 Permittees plus 10% exempt pumpage; 2050 and 2060 subtract 3 for livestock
DRIPPING SPRINGS	HAYS	COLORADO	K		Colorado	140B0	Highland Lakes	560	560	560	560	560	0	0	New WUG: Supply Estimate based on LCRA 4/9/04 (from Dripping Springs WSC)
DRIPPING SPRINGS WSC	HAYS	COLORADO	K	Hays	Colorado	10528	Trinity	240	240	240	240	240	240	240	New WUG: Supply based on Dripping Springs WSC 9/20/04
HILL COUNTRY WSC	HAYS	COLORADO	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	992	0	0	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04
HILL COUNTRY WSC	HAYS	COLORADO	K		Colorado	140B0	Highland Lakes	0	440	702	980	1,249	1,582	1,844	New WUG: Retail customer of West Travis RWS. Subtracted demand from West Travis Contract. 2/10/05
MOUNTAIN CITY	HAYS	COLORADO		Hays	Colorado	10511	Edwards-BFZ	89	93	93	93	93	93	93	BSEACD 12/18/07 New WUG: BSEACD 3/9/04
IRRIGATION	HAYS	COLORADO	K	Hays	Colorado	10511	Edwards-BFZ	931	10	10	10	10	10	10	BSEACD 10/24/07 (permitted amount)
IRRIGATION	HAYS	COLORADO	K	Hays	Colorado	10528	Trinity	2	2	2	2	2	1	1	2001 Plan: AllocFile10 9/24/99
IRRIGATION	HAYS	COLORADO	K	Hays	Colorado	105996	Irrigation Local Supply	41	41	41	41	41	41	41	2001 Plan: LCRA Provided data
LIVESTOCK	HAYS	COLORADO	K		Colorado	14997	Livestock Local Supply	192	192	192	192	192	192	192	2001 Plan: LCRA Provided data
LIVESTOCK	HAYS	COLORADO	K	Hays	Colorado	10528	Trinity	30	30	30	30	30	25	25	2001 Plan: A-ALL, 17.6% reduced
LIVESTOCK	HAYS	COLORADO	K	Hays	Colorado	10511	Edwards-BFZ	624	0	0	0	0	3	3	Reduced due to demand being met by other sources (livestock demand = 220) and reduced availability in Edwards-BFZ 10/24/07
MANUFACTURING	HAYS	COLORADO	K	Hays	Colorado	10511	Edwards-BFZ	922	598	598	598	598	598	598	BSEACD 12/18/07 BSEACD 3/9/04 855 ac-ft/yr; rest Plan2001
MINING	HAYS	COLORADO	K	Hays	Colorado	10511	Edwards-BFZ	9	0	0	0	0	0	0	Reduced due to lack of demand (mining demand <=12) and reduced availability in Edwards-BFZ 10/24/07
MINING	HAYS	COLORADO	K	Hays	Colorado	10528	Trinity	12	12	12	12	12	10	10	2001 Plan: A-ALL, 3.5% reduced
STEAM ELECTRIC POWER	HAYS	COLORADO						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
COUNTY-OTHER	LLANO	COLORADO	K	Llano	Colorado	15014	Ellenburger-San Saba	120	120	120	120	120	120	120	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	LLANO	COLORADO	K	Llano	Colorado	15016	Hickory	45	45	45	45	45	45	45	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	LLANO	COLORADO	K		Colorado	140B0	Highland Lakes	2,074	2,074	747	747	728	728	728	Supply based on LCRA revised data 2/7/05
KINGSLAND WSC	LLANO	COLORADO	K		Colorado	140B0	Highland Lakes	460	455	448	442	436	429	0	New WUG: Supply Estimate based on revised LCRA data and proportioned by county. 2/8/05
KINGSLAND WSC	LLANO	COLORADO	K	Llano	Colorado	15022	Other Aquifer	109	109	109	109	109	109	109	New WUG: Supply Estimate based on TCEQ capacity for listed wells. Assumes all GW is supplied within Llano County. 1/14/05
LAKE LBJ MUD	LLANO	COLORADO	K		Colorado	140B0	Highland Lakes	1,556	1,530	1,495	1,462	1,431	0	0	New WUG: Supply Estimate based on revised LCRA data. 2/2/05
LLANO	LLANO	COLORADO	K		Colorado	140B0	Highland Lakes	87	87	87	87	0	0	0	Supply Estimate based on LCRA 4/9/04
LLANO	LLANO	COLORADO	K		Colorado	14520	Llano Reservoir	187	178	169	160	151	142	135	TCEQ WAM 5/6/05
SUNRISE BEACH VILLAGE	LLANO	COLORADO	K		Colorado	140B0	Highland Lakes	278	278	278	278	278	278	278	New WUG: Supply Estimate based on TCEQ maximum production capacity for system. 1/14/05
SUNRISE BEACH VILLAGE	LLANO	COLORADO	K	Llano	Colorado	15016	Hickory	65	65	65	65	65	65	65	New WUG: Supply Estimate based on TCEQ maximum production capacity for listed wells. 1/14/05
IRRIGATION	LLANO	COLORADO	K	Llano	Colorado	150996	Irrigation Local Supply	440	440	440	440	440	440	440	2001 Plan: LCRA Provided data
IRRIGATION	LLANO	COLORADO	K	Llano	Colorado	15016	Hickory	10,051	10,051	10,051	10,051	10,051	10,051	10,051	2001 Plan: A-ALL, % & Tbl 4
IRRIGATION	LLANO	COLORADO	K	Llano	Colorado	15014	Ellenburger-San Saba	76	76	76	76	76	76	76	2001 Plan: A-ALL, % & Tbl 4

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
LIVESTOCK	LLANO	COLORADO	K		Colorado	14997	Livestock Local Supply	393	393	393	393	393	393	393	2001 Plan: LCRA Provided data
LIVESTOCK	LLANO	COLORADO	K	Llano	Colorado	15016	Hickory	288	288	288	288	288	288	288	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	LLANO	COLORADO	K	Llano	Colorado	15014	Ellenburger-San Saba	8	8	8	8	8	8	8	2001 Plan: A-ALL, % & Tbl 4
MANUFACTURING	LLANO	COLORADO						0	0	0	0	0	0	0	New WUG: Minimal Demand, therefore 0 Supply
MINING	LLANO	COLORADO	K	Llano	Colorado	15016	Hickory	1,252	1,252	1,252	1,252	1,252	1,252	1,252	2001 Plan: A-ALL, % & Tbl 4
MINING	LLANO	COLORADO	K	Llano	Colorado	15014	Ellenburger-San Saba	76	76	76	76	76	76	76	2001 Plan: A-ALL, % & Tbl 4
STEAM ELECTRIC POWER	LLANO	COLORADO	K		Colorado	140B0	Highland Lakes	15,700	15,700	15,700	15,700	15,700	15,700	15,700	TCEQ WAM 5/6/05; LCRA Cooling Water
BAY CITY	MATAGORDA	BRAZOS-COLORADO	K	Matagorda	Brazos-Colorado	16115	Gulf Coast	6,255	6,255	6,255	6,255	6,255	6,255	6,255	2001 Plan: A-ALL, LIMIT 9725 reduced
COUNTY-OTHER	MATAGORDA	COLORADO			Colorado	140B0	Highland Lakes	15	15	0	0	0	0	0	Supply based on LCRA revised data 2/7/05
COUNTY-OTHER	MATAGORDA	BRAZOS-COLORADO	K	Matagorda	Brazos-Colorado	16115	Gulf Coast	1,938	1,936	1,933	1,932	1,932	1,933	1,933	2001 Plan: ALLOC-F10 9/24/99
COUNTY-OTHER	MATAGORDA	COLORADO	K	Matagorda	Colorado	16115	Gulf Coast	250	250	250	250	250	250	250	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	MATAGORDA	COLORADO		Matagorda	Brazos-Colorado	16115	Gulf Coast	789	789	789	789	789	789	789	
COUNTY-OTHER	MATAGORDA	COLORADO-LAVACA	K	Matagorda	Colorado-Lavaca	16115	Gulf Coast	3,902	3,902	3,902	3,902	3,902	3,902	3,902	2001 Plan: A-ALL, % & Tbl 4
ORBIT SYSTEMS INC	MATAGORDA	COLORADO-LAVACA		Matagorda	Colorado-Lavaca	16115	Gulf Coast	0	0	0	0	0	0	0	New WUG: TCEQ database shows only supply to Matagorda County as dissolved; No well data. 1/14/05
PALACIOS	MATAGORDA	COLORADO-LAVACA	K	Matagorda	Colorado-Lavaca	16115	Gulf Coast	2,152	2,152	2,152	2,152	2,152	2,152	2,152	2001 Plan: A-ALL, LIMIT
SOUTHWEST UTILITIES	MATAGORDA	BRAZOS-COLORADO		Matagorda	Colorado-Lavaca	16115	Gulf Coast	140	140	140	140	140	140	140	New WUG: Supply Estimate based on TCEQ maximum production capacity for listed wells. 1/13/05
IRRIGATION	MATAGORDA	BRAZOS-COLORADO	K		Colorado	3461405476A	LCRA - Gulf Coast ROR	34,844	34,838	34,832	34,826	34,820	34,814	34,806	TCEQ WAM 5/6/05; Gulf Coast ROR split by basin.
IRRIGATION	MATAGORDA	BRAZOS-COLORADO	K	Matagorda	Brazos-Colorado	161996	Irrigation Local Supply	4,000	4,000	4,000	4,000	4,000	4,000	4,000	2001 Plan: TWDB
IRRIGATION	MATAGORDA	BRAZOS-COLORADO	K	Matagorda	Brazos-Colorado	16115	Gulf Coast	4,082	4,082	4,082	4,082	4,082	4,082	4,082	2001 Plan: Demand
IRRIGATION	MATAGORDA	COLORADO	K		Colorado	3461405476A	LCRA - Gulf Coast ROR	4,449	4,448	4,447	4,446	4,445	4,444	4,444	TCEQ WAM 5/6/05; Gulf Coast ROR split by basin.
IRRIGATION	MATAGORDA	COLORADO	K	Matagorda	Colorado	16115	Gulf Coast	1,389	1,389	1,389	1,389	1,389	1,389	1,389	2001 Plan: Demand
IRRIGATION	MATAGORDA	COLORADO	K	Matagorda	Colorado	161996	Irrigation Local Supply	900	900	900	900	900	900	900	2001 Plan: TWDB
IRRIGATION	MATAGORDA	COLORADO-LAVACA	K		Colorado	3461405476A	LCRA - Gulf Coast ROR	34,844	34,838	34,832	34,826	34,820	34,814	34,806	TCEQ WAM 5/6/05; Gulf Coast ROR split by basin.
IRRIGATION	MATAGORDA	COLORADO-LAVACA	K	Matagorda	Colorado-Lavaca	16115	Gulf Coast	7,108	7,108	7,108	7,108	7,108	7,108	7,108	2001 Plan: Demand
IRRIGATION	MATAGORDA	COLORADO-LAVACA	K	Matagorda	Colorado-Lavaca	161996	Irrigation Local Supply	4,000	4,000	4,000	4,000	4,000	4,000	4,000	2001 Plan: TWDB
LIVESTOCK	MATAGORDA	BRAZOS-COLORADO	K		Brazos-Colorado	13997	Livestock Local Supply	206	206	206	206	206	206	206	2001 Plan: Demand
LIVESTOCK	MATAGORDA	BRAZOS-COLORADO	K	Matagorda	Brazos-Colorado	16115	Gulf Coast	875	875	875	875	875	875	875	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	MATAGORDA	COLORADO	K		Colorado	14997	Livestock Local Supply	25	25	25	25	25	25	25	2001 Plan: LCRA Provided data
LIVESTOCK	MATAGORDA	COLORADO	K	Matagorda	Colorado	16115	Gulf Coast	171	171	171	171	171	171	171	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	MATAGORDA	COLORADO-LAVACA	K		Colorado-Lavaca	15997	Livestock Local Supply	215	215	215	215	215	215	215	2001 Plan: LCRA Provided data
LIVESTOCK	MATAGORDA	COLORADO-LAVACA	K	Matagorda	Colorado-Lavaca	16115	Gulf Coast	215	215	215	215	215	215	215	2001 Plan: A-ALL, LIMIT
MANUFACTURING	MATAGORDA	BRAZOS-COLORADO	K	Matagorda	Brazos-Colorado	16115	Gulf Coast	1,823	1,823	1,823	1,823	1,823	1,823	1,823	2001 Plan: ALLOC-F10 8% reduced
MANUFACTURING	MATAGORDA	BRAZOS-COLORADO	K		Colorado	140B0	Highland Lakes	7,438	7,438	3,150	1,464	1,464	0	0	Supply Estimate based on revised LCRA data (split by basin). 2/2/05
MANUFACTURING	MATAGORDA	COLORADO	K	Matagorda	Colorado	16115	Gulf Coast	929	929	929	929	929	929	929	2001 Plan: A-ALL, % & Tbl 4
MANUFACTURING	MATAGORDA	COLORADO	K		Colorado	140B0	Highland Lakes	6,784	6,784	2,872	1,336	1,336	0	0	Supply Estimate based on revised LCRA data (split by basin). 2/2/05
MANUFACTURING	MATAGORDA	COLORADO-LAVACA	K	Matagorda	Colorado-Lavaca	16115	Gulf Coast	2,537	2,537	2,537	2,537	2,537	2,537	2,537	2001 Plan: A-ALL, % & Tbl 4
MINING	MATAGORDA	BRAZOS-COLORADO	K	Matagorda	Brazos-Colorado	16115	Gulf Coast	182	182	182	182	182	182	182	2001 Plan: A-ALL, % & Tbl 4
MINING	MATAGORDA	COLORADO	K	Matagorda	Colorado	16115	Gulf Coast	0	0	0	0	0	0	0	2001 Plan: AllocFile10 9/24/99
MINING	MATAGORDA	COLORADO-LAVACA	K	Matagorda	Colorado-Lavaca	16115	Gulf Coast	664	664	664	664	664	664	664	2001 Plan: A-ALL, % & Tbl 4
STEAM ELECTRIC POWER	MATAGORDA	BRAZOS-COLORADO						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	MATAGORDA	COLORADO	K	Matagorda	Colorado	16115	Gulf Coast	443	443	443	443	443	443	443	2001 Plan: A-ALL, % & Tbl 4
STEAM ELECTRIC POWER	MATAGORDA	COLORADO	K		Colorado	3461405437	STP Nuclear Operating Co. - ROR	49,089	49,039	48,989	48,939	48,889	48,839	48,791	TCEQ WAM 5/10/05
STEAM ELECTRIC POWER	MATAGORDA	COLORADO	K		Colorado	140B0	Highland Lakes	38,060	38,111	38,162	38,213	0	0	0	TCEQ WAM 5/6/05; LCRA contract: Back-up of STP WR (was 5680 now 38,060)
STEAM ELECTRIC POWER	MATAGORDA	COLORADO-LAVACA						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
BROOKSMITH SUD	MILLS	COLORADO	F		Colorado	14140	Lake Brownwood	10	10	10	0	0	0	0	New WUG: Supply based on Brookesmith SUD 9/20/04
COUNTY-OTHER	MILLS	BRAZOS	K	Mills	Brazos	16728	Trinity	259	259	259	227	227	186	186	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	MILLS	COLORADO	K	Mills	Colorado	16728	Trinity	336	336	336	295	295	242	242	2001 Plan: A-ALL, % & Tbl 4
GOLDTHWAITE	MILLS	BRAZOS	K	Mills	Brazos	16728	Trinity	1	1	1	1	1	1	1	New WUG: Supply Estimate based on TCEQ maximum production capacity for listed wells and proportioned based on demand per basin. 1/20/05
GOLDTHWAITE	MILLS	BRAZOS	K		Colorado	14350	Goldthwaite Reservoir	2	2	2	2	2	2	2	New WUG: TCEQ WAM 5/6/05
GOLDTHWAITE	MILLS	COLORADO	K		Colorado	14350	Goldthwaite Reservoir	142	142	142	143	143	143	143	New WUG: TCEQ WAM 5/6/05
GOLDTHWAITE	MILLS	COLORADO	K	Mills	Colorado	16728	Trinity	67	67	67	67	67	68	68	Supply Estimate based on TCEQ maximum production capacity for listed wells and proportioned based on demand per basin. 1/20/05
IRRIGATION	MILLS	BRAZOS	K	Mills	Brazos	16728	Trinity	143	143	143	125	125	103	103	2001 Plan: AllocFile10 9/24/99
IRRIGATION	MILLS	COLORADO	K	Mills	Colorado	16728	Trinity	76	76	76	66	66	54	54	2001 Plan: AllocFile10 9/24/99
IRRIGATION	MILLS	COLORADO	K	Mills	Colorado	167996	Irrigation Local Supply	2,378	2,378	2,378	2,378	2,378	2,378	2,378	2001 Plan: TWDB
LIVESTOCK	MILLS	BRAZOS	K	Mills	Brazos	16728	Trinity	438	438	438	438	438	438	438	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	MILLS	COLORADO	K	Mills	Colorado	16728	Trinity	407	407	407	357	357	293	293	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	MILLS	COLORADO	K		Colorado	14997	Livestock Local Supply	314	314	314	314	314	314	314	2001 Plan: LCRA Provided data

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
MANUFACTURING	MILLS	BRAZOS						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
MANUFACTURING	MILLS	COLORADO						0	0	0	0	0	0	0	New WUG: Minimal Demand, therefore 0 Supply
MINING	MILLS	BRAZOS	K	Mills	Brazos	16728	Trinity	143	143	143	125	125	103	103	2001 Plan: AllocFile10 9/24/99
MINING	MILLS	COLORADO	K	Mills	Colorado	16728	Trinity	133	133	133	117	117	96	96	2001 Plan: AllocFile10 9/24/99
STEAM ELECTRIC POWER	MILLS	BRAZOS						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	MILLS	COLORADO						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
COUNTY-OTHER	SAN SABA	COLORADO	K	San Saba	Colorado	20614	Ellenburger-San Saba	7,744	7,744	7,744	7,744	7,744	7,744	7,744	Supply available to Ellenburger-San Saba aquifer in San Saba County, Colorado basin minus supply to Richland and San Saba WUG.
COUNTY-OTHER	SAN SABA	COLORADO	K	San Saba	Colorado	20616	Hickory	50	50	50	50	50	50	50	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	SAN SABA	COLORADO	K	San Saba	Colorado	20619	Marble Falls	250	250	250	250	250	250	250	2001 Plan: A-ALL, LIMIT
COUNTY-OTHER	SAN SABA	COLORADO	K		Colorado	140B0	Highland Lakes	20	0	0	0	0	0	0	Supply based on LCRA revised data 2/7/05
RICHLAND SUD	SAN SABA	COLORADO	K	San Saba	Colorado	20614	Ellenburger-San Saba	210	210	210	210	210	210	210	New WUG: Supply Estimate based on TCEQ maximum production capacity for listed wells. 1/14/05
SAN SABA	SAN SABA	COLORADO	K	San Saba	Colorado	20614	Ellenburger-San Saba	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2001 Plan: Plant verbal confirmation
IRRIGATION	SAN SABA	COLORADO	K	San Saba	Colorado	20616	Hickory	4,715	4,715	4,715	4,715	4,715	4,715	4,715	2001 Plan: AllocFile10 9/24/99
IRRIGATION	SAN SABA	COLORADO	K	San Saba	Colorado	20619	Marble Falls	4,643	4,643	4,643	4,643	4,643	4,643	4,643	2001 Plan: AllocFile10 9/24/99
IRRIGATION	SAN SABA	COLORADO	K	San Saba	Colorado	206996	Irrigation Local Supply	8,800	8,800	8,800	8,800	8,800	8,800	8,800	2001 Plan: TWDB
LIVESTOCK	SAN SABA	COLORADO	K	San Saba	Colorado	20619	Marble Falls	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	SAN SABA	COLORADO	K		Colorado	14997	Livestock Local Supply	224	224	224	224	224	224	224	2001 Plan: Demand
LIVESTOCK	SAN SABA	COLORADO	K	San Saba	Colorado	20616	Hickory	994	994	994	994	994	994	994	2001 Plan: A-ALL, % & Tbl 4
MANUFACTURING	SAN SABA	COLORADO	K	San Saba	Colorado	20616	Hickory	144	144	144	144	144	144	144	2001 Plan: AllocFile10 9/24/99
MANUFACTURING	SAN SABA	COLORADO	K	San Saba	Colorado	20619	Marble Falls	2,612	2,612	2,612	2,612	2,612	2,612	2,612	2001 Plan: AllocFile10 9/24/99
MINING	SAN SABA	COLORADO	K	San Saba	Colorado	20619	Marble Falls	1,238	1,238	1,238	1,238	1,238	1,238	1,238	2001 Plan: AllocFile10 9/24/99
MINING	SAN SABA	COLORADO	K	San Saba	Colorado	20616	Hickory	301	301	301	301	301	301	301	2001 Plan: A-ALL, % & Tbl 4
STEAM ELECTRIC POWER	SAN SABA	COLORADO						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
ANDERSON MILL MUD	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	0	0	0	0	0	0	0	New WUG Name: Supply Estimate based on OLD name & COA meeting 3/16/04
AQUA WSC	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	981	1,088	1,251	1,390	1,484	0	0	New WUG: Supply Estimate based on LCRA 02/02/05
AUSTIN	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	126,161	134,914	129,779	130,094	117,629	109,453	100,196	TCEQ WAM 5/6/05; remaining supply after wholesale commitment allocation
AUSTIN	TRAVIS	COLORADO	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	716	2,542	3,526	4,491	5,738	5,865	5,993	TCEQ WAM 5/10/05; remaining supply after wholesale commitment allocation
AUSTIN	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	143,947	143,343	142,739	142,135	141,531	140,927	0	TCEQ WAM 5/6/05; COA contract with LCRA (this supply makes the COA municipal and manufacturing supply total 325,000 ac-ft/yr)
BARTON CREEK WEST WSC	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	348	348	348	348	348	348	348	New WUG: Supply Estimate based on LCRA 4/9/04
BEE CAVE VILLAGE	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	241	241	241	241	241	241	241	New WUG: Supply Estimate based on LCRA 4/9/04
BRIARCLIFF VILLAGE	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	300	300	300	300	0	0	0	New WUG: Supply Estimate based on LCRA 4/9/04
CEDAR PARK	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	112	188	290	384	443	0	0	New WUG: Supply Estimate based on LCRA 4/9/04 (split by region); Contract to Williamson-Travis MUD #1 has been taken from 2000 and 2010 planning periods.
COUNTY-OTHER	TRAVIS	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	64	64	64	64	64	64	64	Aqua WSC email 3/29/04
COUNTY-OTHER	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	7,403	5,343	4,186	3,252	2,100	1,119	1,209	Based on COA meeting 1/28/05 (portion of demand)
COUNTY-OTHER	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	1,443	1,000	1,000	1,000	1,000	1,000	1,000	BSEACD 11/01/07
COUNTY-OTHER	TRAVIS	GUADALUPE	K	Travis	Colorado	22711	Edwards-BFZ	1	1	1	1	1	1	1	BSEACD 3/9/04
COUNTY-OTHER	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	14,424	13,820	11,472	6,171	5,051	1,470	1,470	Supply based on LCRA revised data 2/7/05 (Travis County WCID #19 supply taken out)
COUNTY-OTHER	TRAVIS	COLORADO	K	Travis	Colorado	22728	Trinity	592	592	592	592	592	485	485	2001 Plan: A-ALL, 100% reduced
CREEDMOOR-MAHA WSC	TRAVIS	COLORADO	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	818	818	0	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04 (Proportioned by basin demand)
CREEDMOOR-MAHA WSC	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	477	321	288	276	258	243	230	Reduced supply to reduce # of strategies needed 10/26/07New WUG: Supply Estimate based on BSEACD 3/9/04 (Proportioned by basin demand)
CREEDMOOR-MAHA WSC	TRAVIS	GUADALUPE	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	21	21	0	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04 (Proportioned by basin demand)
CREEDMOOR-MAHA WSC	TRAVIS	GUADALUPE	K	Travis	Guadalupe	22711	Edwards-BFZ	13	0	19	21	23	25	27	Rearranged demands to reduce # of strategies needed 10/26/07 New WUG: Supply Estimate based on BSEACD 3/9/04 (Proportioned by basin demand)
ELGIN	TRAVIS	COLORADO	K	Bastrop	Colorado	01110	Carrizo-Wilcox	10	14	20	22	23	23	22	New WUG: Supply Estimate based on TCEQ maximum production capacity for groundwater treatment facility and proportioned by total demand. 1/14/05
GOFORTH WSC	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	32	19	18	17	15	15	15	BSEACD 12/18/07 revised supply based on 70%. New WUG: Supply Estimate based on BSEACD 3/9/04 (Proportioned by region demand)

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
HILL COUNTRY WSC	TRAVIS	COLORADO	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	688	0	0	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04
HILL COUNTRY WSC	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	0	238	364	484	555	633	714	New WUG: Retail customer of West Travis RWS. Subtracted demand from West Travis Contract. 2/10/05
JONESTOWN	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	251	251	250	250	0	0	0	Jonestown WSC split between Jonestown and Jonestown WSC WUGs.
JONESTOWN WSC	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	109	109	110	110	0	0	0	New WUG: Supply Estimate based on LCRA 4/9/04; supply split between Jonestown and Jonestown WSC
LAGO VISTA	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	6,770	6,770	6,500	0	0	0	0	Supply Estimate based on revised LCRA data 2/2/05. Multiple contracts with different expiration dates.
LAKEWAY	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	2,455	2,455	2,455	0	0	0	0	Lakeway MUD supply from LCRA was allocated to Lakeway.
LAKEWAY MUD	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	0	0	0	0	0	0	0	New WUG: Supply Estimate based on revised LCRA data. 2/2/05
LOOP 360 WSC	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	871	871	871	0	0	0	0	New WUG: Supply Estimate based on LCRA 4/9/04
LOST CREEK MUD	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	951	0	0	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04
MANOR	TRAVIS	COLORADO	K	Travis	Colorado	22722	Other Aquifer	661	661	661	661	661	661	661	Supply estimate based on TCEQ total production. 2/8/05
MANOR	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	1,680	1,680	1,680	0	0	0	0	COA email 2/18/04
MANVILLE WSC	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	2,240	2,240	2,240	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04
MANVILLE WSC	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	0	0	0	0	0	0	0	New WUG: Supply reduced from estimated from TCEQ well production capacities due to other supplies and reduction of Edwards-BFZ in Travis County Colorado Basin 2/7/05
MANVILLE WSC	TRAVIS	COLORADO	K	Travis	Colorado	22722	Other Aquifer	1,067	1,064	1,063	1,059	1,053	1,045	1,037	New WUG: Supply estimated from TCEQ well production capacities and proportioned for percent total population. 1/14/05
MUSTANG RIDGE	TRAVIS	COLORADO	K	Travis	Colorado	22722	Other Aquifer	80	93	111	128	139	150	162	New WUG: No Data; Assumed alluvial supplies (no major or minor aquifers in the area)
MUSTANG RIDGE	TRAVIS	GUADALUPE	K	Travis	Guadalupe	22722	Other Aquifer	21	25	30	34	37	40	43	New WUG: No Data; Assumed alluvial supplies (no major or minor aquifers in the area)
NORTH AUSTIN MUD #1	TRAVIS	COLORADO	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	112	109	107	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04
NORTH TRAVIS COUNTY MUD #5	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	0	514	792	1,045	1,196	0	0	TCEQ database shows MUD as annexed by Pflugerville 2/8/05 (Met Demand from Pflugerville supplies)
NORTH TRAVIS COUNTY MUD #5	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	314	0	0	0	0	0	0	TCEQ database shows MUD as annexed by Pflugerville 2/8/05 (Met Demand from Pflugerville supplies)
PFLUGERVILLE	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	0	11,486	11,208	10,955	10,804	0	0	Supply Estimate based on LCRA 4/9/04 (12000 reduced by North Travis County MUD 5)
PFLUGERVILLE	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	10,887	0	0	0	0	0	0	COA email 2/18/04; COA contract expires 12/31/07 and is replaced with LCRA contract (11201 reduced by North Travis County MUD 5)
PFLUGERVILLE	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	0	0	0	0	0	0	0	Supply reduced from estimated from City of Pflugerville Update due to other supplies and reduction of Edwards-BFZ in Travis County Colorado Basin 2/7/05
RIVER PLACE ON LAKE AUSTIN	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	900	900	0	0	0	0	0	New WUG: Supply Estimate based on LCRA 4/9/04
ROLLINGWOOD	TRAVIS	COLORADO	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	1,120	1,120	1,120	1,120	0	0	0	Supply Estimate based on COA email 2/18/04
ROUND ROCK	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	108	0	0	0	0	0	0	New WUG: COA email 2/18/04. Proportioned by Region
ROUND ROCK	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	213	241	266	264	240	223	210	New WUG: Supply estimated from TCEQ well production capacities and proportioned for percent total demand. 1/14/05
SHADY HOLLOW MUD	TRAVIS	COLORADO	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	763	747	731	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04
THE HILLS	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	1,600	1,600	1,600	0	0	0	0	New WUG: Supply Estimate based on LCRA 4/9/04
TRAVIS COUNTY WCID #17	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	9,354	9,354	8,800	8,800	8,800	8,800	0	New WUG: Supply Estimate based on LCRA revised data. 2/2/05
TRAVIS COUNTY WCID #18	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	1,400	1,400	0	0	0	0	0	New WUG: Supply Estimate based on LCRA 4/9/04

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
TRAVIS COUNTY WCID #19	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	293	376	374	0	0	0	0	New WUG: Supply based on demand and Travis County WCID No. 19 9/20/04 (supplied by Travis County MUD #4 which is contained in Travis County Other)
TRAVIS COUNTY WCID #20	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	1,135	1,135	1,135	0	0	0	0	New WUG: Supply Estimate based on LCRA revised data. 2/2/05
WELLS BRANCH MUD	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	1,527	1,508	1,490	0	0	0	0	New WUG Name: Supply Estimate based on COA email 2/18/04
WEST LAKE HILLS	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	2,420	2,420	2,420	0	0	0	0	2001 Plan; Supplied by Travis County Water District #10, which is included in County-Other
WEST TRAVIS COUNTY REGIONAL WS	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	3,411	2,733	2,345	1,947	1,607	1,196	853	New WUG: Supply Estimate based on LCRA. Retail supplies to various WUGs have been subtracted out. 2/10/05
WILLIAMSON-TRAVIS COUNTY MUD #1	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	482	482	0	0	0	0	0	New WUG: Supply based on Williamson-Travis Counties MUD No. 1 (supplied by Cedar Park)
WINDERMERE UTILITY COMPANY	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	2,240	2,240	2,240	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04
WINDERMERE UTILITY COMPANY	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	0	0	0	0	0	0	0	New WUG: Supply reduced from estimated from Windermere Utility Co. numbers due to other supplies and reduction of Edwards-BFZ in Travis County Colorado Basin 2/7/05
IRRIGATION	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	187	319	319	319	319	319	319	BSEACD permitted supply 10/26/07 Reduced 2001 Plan value to account for reduction in available Edwards-BFZ supply to Travis County Colorado Basin 2/7/05
IRRIGATION	TRAVIS	COLORADO	K	Travis	Colorado	227996	Irrigation Local Supply	880	880	880	880	880	880	880	2001 Plan: TWDB
IRRIGATION	TRAVIS	COLORADO	K	Travis	Brazos	22711	Edwards-BFZ	5	5	5	5	5	5	5	New WUG Basin: AllocFile10 9/24/99
IRRIGATION	TRAVIS	COLORADO	K	Travis	Colorado	22728	Trinity	85	85	85	85	85	70	70	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	TRAVIS	COLORADO	K	Travis	Brazos	22711	Edwards-BFZ	1	1	1	1	1	1	1	New WUG Basin: AllocFile10 9/24/99
LIVESTOCK	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	186	0	0	0	0	0	0	Livestock demand met by local livestock supply, and lack of permits for Edwards-BFZ 10/26/07 Reduced 2001 Plan value to account for reduction in available Edwards-BFZ supply to Travis County Colorado Basin 2/7/05
LIVESTOCK	TRAVIS	COLORADO	K		Colorado	14997	Livestock Local Supply	870	870	870	870	870	870	870	2001 Plan: LCRA provided data and Demand
LIVESTOCK	TRAVIS	COLORADO	K	Travis	Colorado	22728	Trinity	2	2	2	2	2	1	1	2001 Plan: AllocFile10 9/24/99
LIVESTOCK	TRAVIS	GUADALUPE	K		Guadalupe	18997	Livestock Local Supply	36	36	36	36	36	36	36	2001 Plan: A-ALL, Demand
MANUFACTURING	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	167	167	167	167	167	167	167	2001 Plan: AllocFile10 9/24/99
MANUFACTURING	TRAVIS	COLORADO	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	12,943	18,578	23,081	32,504	43,680	50,168	56,472	Based on COA meeting 1/28/05 (portion of demand)
MANUFACTURING	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	910	0	0	0	0	0	0	Supply Estimate based on revised LCRA data. 2/2/05
MINING	TRAVIS	COLORADO	K		Colorado	14999	Other Local Supply	4,834	4,700	5,200	5,745	6,361	7,070	7,070	Revised 2001 number by 46 ac-ft/yr since supply was over allocated 2/7/05
MINING	TRAVIS	COLORADO	K	Travis	Colorado	22711	Edwards-BFZ	187	187	187	187	187	187	187	Reduced 2001 Plan value to account for reduction in available Edwards-BFZ supply to Travis County Colorado Basin 2/7/05
MINING	TRAVIS	COLORADO	K	Travis	Colorado	22728	Trinity	171	171	171	171	171	140	140	2001 Plan: AllocFile10 9/24/99
STEAM ELECTRIC POWER	TRAVIS	COLORADO	K		Colorado	140B0	Highland Lakes	30,860	30,994	31,128	31,262	31,396	31,530	0	TCEQ WAM 5/6/05 (firms up Town Lake and Decker supply)
STEAM ELECTRIC POWER	TRAVIS	COLORADO	K		Colorado	3461405471A-SE	City of Austin - ROR (Steam Elec.)	5,283	5,296	5,309	5,322	5,335	5,348	5,361	TCEQ WAM 5/6/05; Town Lake
STEAM ELECTRIC POWER	TRAVIS	COLORADO	K		Colorado	3461405489A-SE	City of Austin - ROR (Steam Elec.)	2,904	2,869	2,834	2,799	2,764	2,729	2,693	TCEQ WAM 5/6/05; Decker
STEAM ELECTRIC POWER	TRAVIS	COLORADO	K	Travis	Colorado	22728	Trinity	3	3	3	3	3	3	3	2001 Plan: AllocFile10 9/24/99
STEAM ELECTRIC POWER	TRAVIS	GUADALUPE						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
COUNTY-OTHER	WHARTON	BRAZOS-COLORADO	K	Wharton	Brazos-Colorado	24115	Gulf Coast	5,869	5,869	5,869	5,869	5,869	5,869	5,869	2001 Plan: A-ALL, 100% reduced
COUNTY-OTHER	WHARTON	COLORADO	K	Wharton	Colorado	24115	Gulf Coast	1,106	1,106	1,106	1,106	1,106	1,106	1,106	2001 Plan: A-ALL, % & Tbl 4
COUNTY-OTHER	WHARTON	COLORADO-LAVACA	K	Wharton	Colorado-Lavaca	24115	Gulf Coast	299	299	299	299	299	299	299	2001 Plan: A-ALL, % & Tbl 4
WHARTON	WHARTON	BRAZOS-COLORADO	K	Wharton	Brazos-Colorado	24115	Gulf Coast	5,636	5,636	5,636	5,636	5,636	5,636	5,636	2001 Plan: 2/3 OF DEMAND
WHARTON	WHARTON	COLORADO	K	Wharton	Colorado	24115	Gulf Coast	540	540	540	540	540	540	540	2001 Plan: 1/3 OF DEMAND
IRRIGATION	WHARTON	BRAZOS-COLORADO	K		Colorado	3461405434A	LCRA - Garwood ROR	18,267	18,267	18,267	18,267	18,267	18,267	18,267	TCEQ WAM 5/6/05; 30% of Garwood ROR water in a minimum year (LCRA) split between 3 basins.
IRRIGATION	WHARTON	BRAZOS-COLORADO	K	Wharton	Brazos-Colorado	24115	Gulf Coast	25,816	25,816	25,816	25,816	25,816	25,816	25,816	2001 Plan: Demand
IRRIGATION	WHARTON	BRAZOS-COLORADO	K	Wharton	Brazos-Colorado	241996	Irrigation Local Supply	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2001 Plan: TWDB
IRRIGATION	WHARTON	BRAZOS-COLORADO	K		Colorado	3461405477	LCRA - Pierce Ranch ROR	5,868	5,868	5,868	5,868	5,868	5,868	5,868	TCEQ WAM 5/6/05; Pierce Ranch ROR split by basin.
IRRIGATION	WHARTON	COLORADO	K		Colorado	3461405434A	LCRA - Garwood ROR	9,483	9,483	9,483	9,483	9,483	9,483	9,483	TCEQ WAM 5/6/05; 30% of Garwood ROR water in a minimum year (LCRA) split between 3 basins.
IRRIGATION	WHARTON	COLORADO	K	Wharton	Colorado	24115	Gulf Coast	29,567	29,567	29,567	29,567	29,567	29,567	29,567	2001 Plan: Demand
IRRIGATION	WHARTON	COLORADO	K	Wharton	Colorado	241996	Irrigation Local Supply	7,650	7,650	7,650	7,650	7,650	7,650	7,650	2001 Plan: TWDB
IRRIGATION	WHARTON	COLORADO	K		Colorado	3461405477	LCRA - Pierce Ranch ROR	3,047	3,047	3,047	3,047	3,047	3,047	3,047	TCEQ WAM 5/6/05; Pierce Ranch ROR split by basin.
IRRIGATION	WHARTON	COLORADO-LAVACA	K		Colorado	3461405434A	LCRA - Garwood ROR	5,772	5,772	5,772	5,772	5,772	5,772	5,772	TCEQ WAM 5/6/05; 30% of Garwood ROR water in a minimum year (LCRA) split between 3 basins.
IRRIGATION	WHARTON	COLORADO-LAVACA	K	Wharton	Colorado-Lavaca	24115	Gulf Coast	7,060	7,060	7,060	7,060	7,060	7,060	7,060	2001 Plan: Demand

Region K Water Supply Table (by WUG and water source)

WUG Name	WUG County	WUG Basin	RWPG Water Source	Water Source County Name	Water Source Basin Name	Specific Source Identifier	Specific Source Name	Year 2000 SUPPLY (ac-ft/yr)	Year 2010 SUPPLY (ac-ft/yr)	Year 2020 SUPPLY (ac-ft/yr)	Year 2030 SUPPLY (ac-ft/yr)	Year 2040 SUPPLY (ac-ft/yr)	Year 2050 SUPPLY (ac-ft/yr)	Year 2060 SUPPLY (ac-ft/yr)	Source of Data*
IRRIGATION	WHARTON	COLORADO-LAVACA	K		Colorado	3461405477	LCRA - Pierce Ranch ROR	1,854	1,854	1,854	1,854	1,854	1,854	1,854	TCEQ WAM 5/6/05; Pierce Ranch ROR split by basin.
LIVESTOCK	WHARTON	BRAZOS-COLORADO	K	Wharton	Brazos-Colorado	24115	Gulf Coast	222	222	222	222	222	222	222	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	WHARTON	BRAZOS-COLORADO	K		Brazos-Colorado	13997	Livestock Local Supply	149	149	149	149	149	149	149	2001 Plan: LCRA Provided data
LIVESTOCK	WHARTON	COLORADO	K		Colorado	14997	Livestock Local Supply	115	115	115	115	115	115	115	2001 Plan: LCRA Provided data
LIVESTOCK	WHARTON	COLORADO	K	Wharton	Colorado	24115	Gulf Coast	171	171	171	171	171	171	171	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	WHARTON	COLORADO-LAVACA	K	Wharton	Colorado-Lavaca	24115	Gulf Coast	113	113	113	113	113	113	113	2001 Plan: A-ALL, % & Tbl 4
LIVESTOCK	WHARTON	COLORADO-LAVACA	K		Colorado-Lavaca	15997	Livestock Local Supply	74	74	74	74	74	74	74	2001 Plan: LCRA Provided data
MANUFACTURING	WHARTON	BRAZOS-COLORADO	K	Wharton	Brazos-Colorado	24115	Gulf Coast	90	90	90	90	90	90	90	2001 Plan: A-ALL, % & Tbl 4
MANUFACTURING	WHARTON	COLORADO	K	Wharton	Colorado	24115	Gulf Coast	335	335	335	335	335	335	335	2001 Plan: A-ALL, % & Tbl 4
MANUFACTURING	WHARTON	COLORADO-LAVACA	K	Wharton	Colorado-Lavaca	24115	Gulf Coast	165	165	165	165	165	165	165	2001 Plan: A-ALL, % & Tbl 4
MINING	WHARTON	BRAZOS-COLORADO	K		Brazos-Colorado	13999	Other Local Supply	1,655	1,696	1,746	1,793	1,844	1,900	1,900	2001 Plan: LCRA Provided data
MINING	WHARTON	BRAZOS-COLORADO	K	Wharton	Brazos-Colorado	24115	Gulf Coast	850	850	850	850	850	850	850	2001 Plan: A-ALL, % & Tbl 4
MINING	WHARTON	COLORADO	K	Wharton	Colorado	24115	Gulf Coast	1,005	1,005	1,005	1,005	1,005	1,005	1,005	2001 Plan: A-ALL, % & Tbl 4
MINING	WHARTON	COLORADO-LAVACA	K	Wharton	Colorado-Lavaca	24115	Gulf Coast	23	23	23	23	23	23	23	2001 Plan: A-ALL, % & Tbl 4
STEAM ELECTRIC POWER	WHARTON	BRAZOS-COLORADO						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
STEAM ELECTRIC POWER	WHARTON	COLORADO	K		Brazos-Colorado	3461303421	San Bernard ROR	1,600	1,600	1,600	1,600	1,600	1,600	1,600	New WUG: Based on TCEQ water rights database; Reliability of WR has not been verified 2/8/05
STEAM ELECTRIC POWER	WHARTON	COLORADO-LAVACA						0	0	0	0	0	0	0	New WUG: 0 Demand, therefore 0 Supply
ANDERSON MILL MUD	WILLIAMSON	BRAZOS	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	1,504	0	0	0	0	0	0	New WUG Name: Supply Estimate based on COA 1/28/05 (Demand)
AUSTIN	WILLIAMSON	BRAZOS	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	2,315	3,993	5,964	8,286	10,786	13,479	16,338	New WUG Basin: Supply Estimate based on OLD basin 2/21/04 (Met Demand)
AUSTIN	WILLIAMSON	BRAZOS	K		Colorado	3461405489A	City of Austin - ROR (Municipal)	0	0	0	0	0	0	0	New WUG Basin: Supply Estimate based on OLD basin 2/21/04
AUSTIN	WILLIAMSON	BRAZOS	K		Colorado	140B0	Highland Lakes	0	0	0	0	0	0	0	New WUG Basin: Supply Estimate based on OLD basin 2/21/04
COUNTY-OTHER	WILLIAMSON	BRAZOS	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	2,123	2,401	2,729	3,118	3,536	3,989	4,469	New WUG Basin: Supply Estimate based on COA meeting 1/28/05 (Met Demand)
COUNTY-OTHER	WILLIAMSON	BRAZOS	K	Williamson	Brazos	24628	Trinity	45	49	53	57	58	58	58	New WUG Basin: Supply available to Trinity aquifer in Williamson County, Brazos basin minus Mining Demand. 2/7/05
COUNTY-OTHER	WILLIAMSON	BRAZOS	K	Williamson	Brazos	24611	Edwards-BFZ	265	265	265	265	265	265	265	New WUG Basin: Supply available to Edwards-BFZ aquifer in Williamson County, Brazos basin. 2/7/05
NORTH AUSTIN MUD #1	WILLIAMSON	BRAZOS	K		Colorado	3461405471A	City of Austin - ROR (Municipal)	1,007	983	968	0	0	0	0	New WUG: Supply Estimate based on COA email 2/18/04
IRRIGATION	WILLIAMSON	BRAZOS						0	0	0	0	0	0	0	New WUG Basin: 0 Demand, therefore 0 Supply
LIVESTOCK	WILLIAMSON	BRAZOS						0	0	0	0	0	0	0	New WUG Basin: 0 Demand, therefore 0 Supply
MANUFACTURING	WILLIAMSON	BRAZOS						0	0	0	0	0	0	0	New WUG Basin: 0 Demand, therefore 0 Supply
MINING	WILLIAMSON	BRAZOS	K	Williamson	Brazos	24628	Trinity	13	9	5	1	0	0	0	New WUG Basin: Met Demand.
MINING	WILLIAMSON	BRAZOS	K	Williamson	Brazos	24611	Edwards-BFZ	0	0	0	0	0	0	0	New WUG Basin
STEAM ELECTRIC POWER	WILLIAMSON	BRAZOS						0	0	0	0	0	0	0	New WUG Basin: 0 Demand, therefore 0 Supply
								1,189,506	1,187,946	1,172,266	1,145,919	1,100,975	1,070,860	889,635	

BSEACD = Barton Springs Edwards Aquifer Conservation District
TWDB = Texas Water Development Board
A-ALL = TWDB allocation tables
LIMIT = Volume limitation based on TWDB allocation
% & Tbl 4 = Percent of available supply identified in 2001 Region K Table 4 based on TWDB allocation
LCRA = Lower Colorado River Authority (modeling results or contract amounts)
2001 Plan: Demand = Based on historic use
COA = City of Austin
Hill Country UWCD = Hill Country Underground Conservation District
TCEQ = Texas Commission on Environmental Quality
WUG = Water User Group

APPENDIX C

LETTERS OF OPINION REGARDING THE ONION CREEK RECHARGE STRUCTURE STRATEGY

Barton Springs
Edwards Aquifer
CONSERVATION DISTRICT

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bseacd@bseacd.org

July 1, 2008

Ms. Jaime Burke, P.E.
TCB, Inc.
400 W. 15th Street, Suite 500
Austin TX 78701

Subject: Our position and opinion concerning Onion Creek Recharge Impoundment Structures

Dear Jaime:

I am responding to your May 20, 2008, request to our John Dupnik, soliciting our opinion on the feasibility of the subject structures. The District's Technical Team has been aware of this element of the Region K Water Plan for some time and has recently considered its efficacy in view of other elements to augment groundwater supplies, especially during drought. We are not engineers or surface-water hydrologists, so this assessment is made primarily from the perspective of groundwater scientists and water resource managers who deal on a daily basis with stakeholders in this area.

Our position on such on-channel structures has been formulated on the basis of three different, but inter-related viewpoints: infrastructure and land-use compatibility; use of water resources; and relative effectiveness for recharge *vis a vis* options. I will address each of these in turn, but the bottom line is that we believe such structures are not feasible and would not be effective. Then, I will offer some alternatives to impoundment structures that we believe *should* be in the Regional Water Plan.

Impoundments: Conflicts between Infrastructure and Land-use Compatibility

The ongoing development planning being conducted by a multi-lateral group of Hays County citizens and specialists, under the general auspices of the Hays County Commissioners Court and in which we participate, suggests that there would be a great deal of local resistance to the emplacement of a large enough reservoir on Onion Creek to serve as an effective recharge enhancement facility during a drought of record event. The watercourses and drainage divides in this area, and the vistas they produce, are highly valued by the residents and visitors to this area. To our knowledge, there has been absolutely no interest expressed in an impoundment of the Hill County streams in this area for any purpose, even one that would benefit the local populace otherwise.

The area that might be impounded has some fairly large tracts that have been in ranching families for generations and there is a substantial conservation/preservation ethos with them. And even those who might consider giving their land up would probably only do that because of the land development potential, not for a lake under which "their land" is submerged.

In order to have enough water to be of benefit to Edwards Aquifer users during prolonged droughts, the reservoir would have to be fairly large, and its impounding structure would be a major construction project in Onion Creek. We would be very concerned about the increased sedimentation load that intense storms might introduce to the creek from the temporarily disturbed areas, which would tend to plug the recharge features that exist in the creek bed downstream and which might be difficult to remediate. Somewhat perversely, this actually might decrease the amount of recharge available in the most important of our recharge creeks. It is hard to imagine that the large amount of money that such an impoundment would cost couldn't be better spent elsewhere, to provide a longer-term, firm-yield alternative supply.

Further, at least one of the prospective sites in previous plans would inundate a large part of City of Austin-owned water quality protection land in the Sky Ranch area, as well as several large, discrete recharge features in the streambed of Onion Creek.

Impoundments: Inefficiency in Use of Water Resources

I will mention at the outset, but don't intend to elaborate further since you are probably more aware of this factor than we are, that there will be a significant regulatory and political hurdle in the acceptability of reducing the volume of water available to downstream users most of the time, in favor of groundwater users some of the time. LCRA water rights would be superior here, and given the demands from users downstream of Austin, especially in view of the recent accord between Austin and LCRA, I would think LCRA would not be too interested in reassigning the priority of those water rights all the time.

In the upper reaches of the Onion Creek watershed, where practically speaking such a structure would have to be emplaced since much of the recharge zone adjacent to Onion Creek is under established conservation easements, the evaporation rate is roughly twice the precipitation rate. In the contributing zone even of the relatively large Onion Creek, a large percentage of the water volume that is transmitted downstream comes from flood flows that are very flashy. Such water impounded by the structure would be subject to evaporative losses that it wouldn't otherwise. That means that an appreciable amount of the water that would be available to both groundwater users that depend on the creek flow to replenish the aquifer and to downstream surface-water users would be locally lost.

An impoundment of Onion Creek will likely have some significant water quality issues to deal with. Even with its existing watershed, nutrient loads during storm events are quite high from rural area runoff; as the upper watershed develops through suburbanization, lawn fertilizers and domestic animal waste will add to the load. Under current conditions, on a mass basis, most of these loads flow downstream and reach the Colorado River, where the larger stream more readily assimilates the pollutants.

But impounding these flood waters with their nutrient loadings would likely change the receiving stream below the impoundment from its current, high-quality oligotrophic condition to one that is mesotrophic and, from time to time and/or eventually, eutrophic.

That implies problems for taste, odor, and mobilization of pollutants that could be harmful to human health in the recharge water quality.

Impoundments: Relative Ineffectiveness for Recharge Purpose

As you know, our previous investigations have questioned whether the impounded water would in actuality be present during a recurrence of the DOR, especially after several prolonged years of drought. No doubt, there is some benefit provided by a water source that otherwise wouldn't be there in the years leading up to an extreme drought event, and that additional source might make the frequency and/or probability of a DOR recurrence less likely. But our experience also suggests that if groundwater users can use more water during non-drought (or early drought) stages, especially if that supply supports more connections, it is also more difficult to curtail such additional use. In other words, during drought period curtailments, the affected end-users will be demanding relief that can then be provided by essentially opening a gate in the recharge structure, and actual reductions in use may be less readily achieved. Plus, under our HCP requirements any additional recharge that is possible through any means during a DOR event will first and foremost have to be reserved for ecological flows to protect the endangered salamander, whose viability is already of concern because of low DO at extreme low discharges from the Spring outlets, which are of course exacerbated by groundwater pumpage.

To the extent the recharge impoundments are even able to be located within the actual recharge zone, as some of the previously proposed sites are, they will inundate several large-capacity recharge features, and it will be very difficult to preserve reservoir storage and a water supply for dealing with prolonged drought conditions without sealing these recharge features. On its face, this doesn't make a lot of sense.

Alternative Recharge Enhancement Strategies to Consider

The District has identified a number of smaller-scale recharge enhancement structures and facilities that are possible on Onion Creek and adjacent recharge streams that we think might serve as a better recharge enhancement concept. Some of these may be designed to reduce the siltation and improve the water quality of runoff events that enter the aquifer, such as our present project at Antioch Cave near the down-gradient border of the recharge zone. There are other recharge sites, both in the creeks and in the uplands, that similarly might be beneficially excavated and/or protective structures constructed. Other areas may be identified where recharge could be facilitated by installation of wells that will act as injection sites for creek flow. Our revised Management Plan addresses such activities, but not a recharge impoundment.

In addition, we are working at the conceptual level in evaluating structures that could "scalp" a portion of the flood flows and divert that to abandoned (or eventually to be abandoned) quarries in the recharge zone that have conduits into the aquifer.

Such structures have been included in earlier Region K Water Plans as possible recharge enhancement facilities. While this approach might also encounter the same water-rights issue as impounding an entire creek, perhaps the smaller degree and its less frequent implementation would make it more tractable and acceptable. We really don't know if these are workable or not, but we believe they should be further evaluated, probably more seriously than a large impoundment or set of impoundments in the contributing or recharge zone.

Jaime, we appreciate the opportunity to set forth our thoughts and opinions about the possibilities of increasing recharge through structural means. This goal is part of our District's new groundwater Management Plan, albeit at an exploratory level. We look forward to working with you and the other Region K members as we wrestle with this issue.

Sincerely,

Kirk Holland

W F (Kirk) Holland, P.G.
General Manager

REGION K RECHARGE ENHANCEMENT
CONCEPTUAL IDEAS FOR WATER OPTIONS

Comments from City of Austin Watershed Protection Development Review Department and Austin Water Utility

7/28/08

The current Region K plan contains four recharge enhancement options to increase the amount of groundwater available in the Barton Springs segment of the Edwards Aquifer. Three of the proposed projects are construction of in-channel reservoirs in Onion Creek. Typical in-channel impoundments slow water velocity resulting in trapping sediment and debris in the reservoirs which will eventually clog up in-channel natural recharge features. Additionally, impoundment structures typically prohibit stream dynamics from cleaning and opening in-channel recharge features through scouring. These results would likely negate the proposed benefits from the proposed impoundments. In addition, in-channel dams would require significant disturbance of the riparian corridor along Onion Creek and threaten downstream sediment transport and deposition during rain events. Sediment can clog in-channel recharge features and underground groundwater flow conduits, fill in water wells and smother endangered species habitat in Barton Springs. For these reasons, it is requested by City of Austin staff that the Lower Colorado Regional Water Planning Group remove the proposed in-channel reservoirs from the Region K plans. These projects should be replaced with the following proposed projects that have greater environmental sensitivity and proven effectiveness.

1. The proposed CenTex quarry should remain in the plan and be expanded based on current data. Data on the size of the quarry used in the Region K report references a 1992 report for the Barton Springs/Edwards Aquifer Conservation District (BS/EACD). Since the BS/EACD report was published, the quarry has doubled in size to over 200 acres as of 2008 and will grow to over 350 acres in size before the quarry ends operation in 2060. Revised data would likely increase the volume of water the quarry could impound which would offer even greater benefits to the aquifer, Barton Springs recreation, endangered species, downstream baseflow in the Colorado River and greater downstream flood prevention on Onion Creek below the diversion point at CenTex. The 1992 report projects the quarry could capture over 5,700 ac-ft/yr of floodwater from Onion Creek. This volume equates to almost 8 cfs at Barton Springs. Doubling the volume of impounded water could mean an additional 16 cfs at Barton Springs, more than is currently permitted by the BS/EACD and help assure spring flows during droughts.
2. Protection of Riparian Corridors along major Colorado River tributaries. Riparian corridors and floodplains provide significant water quantity and quality benefits as well as wildlife benefits. Protection and proper management of these areas would help enhance recharge opportunities by increasing baseflow duration
    a. Use strategic partnerships with agencies such as USDA Natural Resources Conservation Service to acquire and administer conservation easements in flood plains and riparian areas.

b. Provide technical and financial assistance for restoration and maintenance of riparian ecosystems to participating land owners. This would assure proper function and condition in these systems. Benefits would include:
    i. Upstream attenuation of flood waters in natural flood plains reducing the severity of down stream floods.
    ii. Increased opportunity for recharge in in-channel recharge features.
    iii. Increased opportunity time for flood waters to charge deep soil profiles in flood plains, thus assuring longer duration baseflows from soil profiles into stream channels and providing longer flow for in-channel recharge
    iv. Reduction of sediment and other pollutants in storm flow by natural process in riparian systems
c. While in-channel reservoirs would require significant acquisition of riparian water rights, including potential use of eminent domain to acquire them, riparian area enhancement can occur within existing water rights without out the need for substantial investment for water rights acquisition.

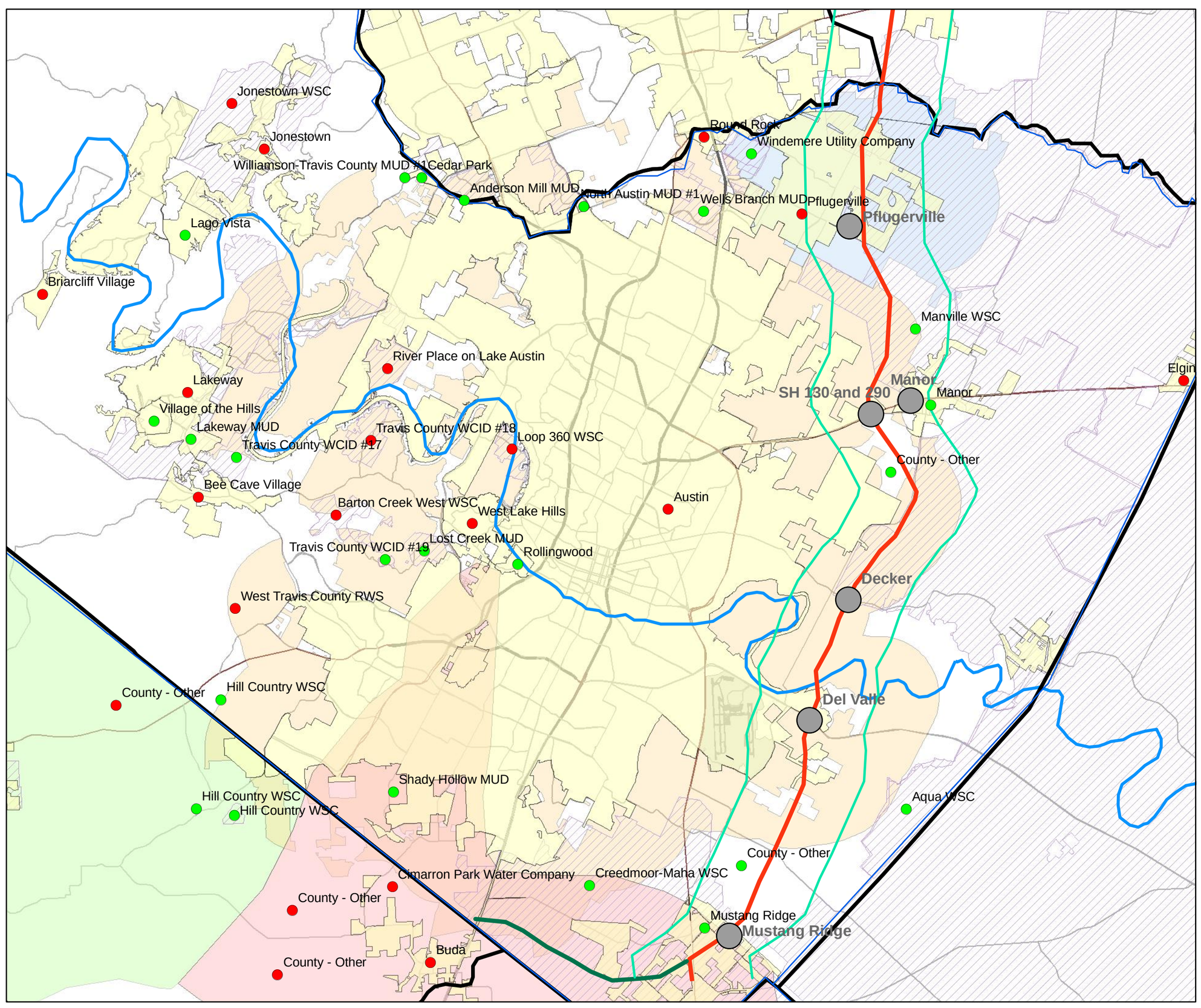
3. Protection and Maintenance of existing individual in-channel recharge features. Existing efforts by the City of Austin has illustrated the value of maintaining in-channel recharge features. In-channel features are commonly plugged by sediment and organic debris over the course of recharge events. Once plugged, these features no longer recharge large volumes of water and can only be re-opened after many hours of difficult excavation once creek flows cease. One particular feature on COA land can recharge approximately 10 cfs when open. Several of these features are now covered with grates which can be easily cleared with rakes in a matter of an hour. This method keeps these features open longer during recharge events, is low maintenance, low cost, and not visually obtrusive on the creek bed.
4. Purchase of Conservation Easements in the Contribution Zone of Onion Creek. Conservation Easements involving the purchase of development rights of a property are an effective method of preserving water quality and quantity while still allowing other use of the land. Since the Onion Creek channel in the Recharge Zone has the highest recharge rate of the creeks that recharge the aquifer, preserving high quality flow in the Onion Creek watershed will have the greatest benefits to the aquifer. CE's in the Onion watershed in the Contributing Zone will also maximize the advantages of City of Austin Water Quality Protection Land acquisitions since 1998.

City of Austin staff feels that there is an underestimate in the current Region K plan of the long-term benefits of recharge enhancement. The region K report refers to first arrival of dye to Barton Springs in a matter of days from numerous distant recharge points. As a result, the report assumes that recharge enhancement is 50% less effective than previously assumed. However, this assumption does not take in account the processes occurring within the aquifer during recharge events. During recharge events, groundwater flow conduits are defined by mounds of water compared to adjacent areas. This mounding forces water into the rock matrix and smaller voids areas in the aquifer

adjacent to the conduits. As the recharge event wanes, this “matrix” porosity drains into the conduits, providing baseflow at the springs long after the recharge events end. While the duration of water artificially recharged into the aquifer may not protect spring flows throughout the drought of record or remain in aquifer storage for well users, it may offset the severity of severe drought and delay the most severe effects. Additional analysis is required to assess the volume of water available and the aquifer residence time of water resulting from recharge enhancement. The City of Austin supports efforts by the Lower Colorado Regional Water Planning Group and others to refine our understanding of Edwards Aquifer, a critical resource for the region, and the role recharge enhancement projects may play in future water supply planning for the region.

APPENDIX D

SH 130 CORRIDOR AREAS OF GROWTH



0 1 2 4 6 Miles

N W E S

Legend

- CAMPO Activity Centers
- WUGs without shortages
- WUGs with shortages
- Corridor_boundaries
- SH-45SE
- counties
- SH-130
- Region K boundary
- Colorado River
- City limit boundary
- Region K WUGs
- Pflugerville ETJ
- BSEACD
- City of Austin 2-mile ETJ
- Hays-Trinity GCD
- Primary Limited Access or Interstate
- Primary US and State Highways
- Secondary State and County

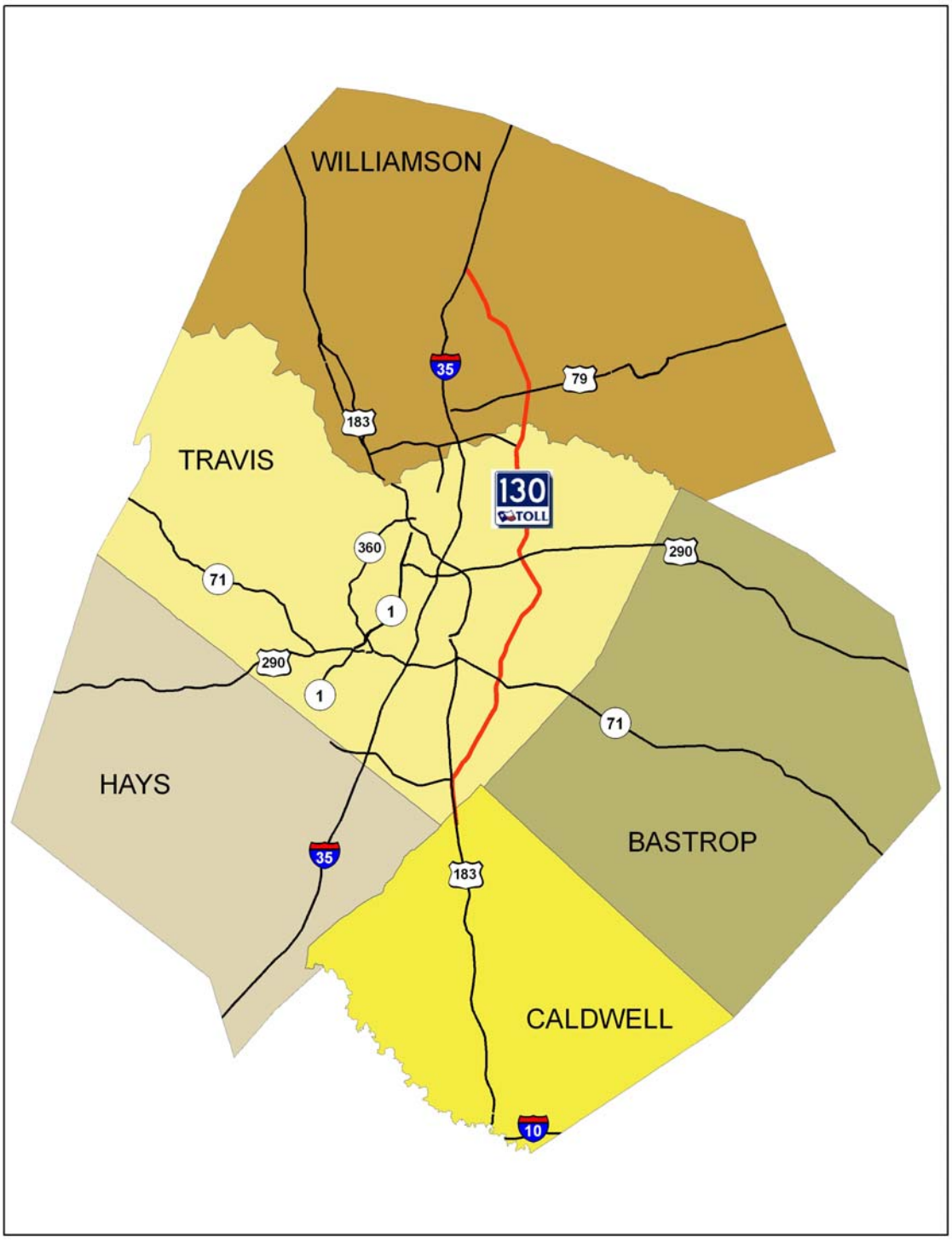
SH 130 Corridor Areas of Growth

APPENDIX E

SH 130 REPORT BY THE GREATER AUSTIN CHAMBER OF COMMERCE REVISED DRAFT CAMPO 2035 REGIONAL GROWTH CONCEPT

SH 130:

Is it too late to plan for successful development of this regional asset?



SH 130: Is it too late to plan for successful development of this regional asset?

SH 130: Is it too late to plan for successful development of this regional asset?

An examination of peer cities and their benchmark toll road corridors as examples of the future of Central Texas and SH 130

Prepared by the
Greater Austin Chamber of Commerce
and adopted by its Board of Directors on
October 27, 2005

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EXECUTIVE SUMMARY

Central Texas is a unique region characterized by committed engagement by citizens and civic leaders to focus on issues of great concern. Many engage in dialogue and study to achieve ideal solutions for the region. However, the maxim, "The enemy of good is perfect" seems quite appropriate to describe the region's preparation for SH 130.

The Time for Action is Now

Because of the accelerated work performed by Lone Star Infrastructure, Segment 2 of SH 130, the portion between US 79 and US 290 may open by January 2007, nearly a full year ahead of schedule. The remaining three segments should open during the remainder of 2007, with complete operation of the toll road from I-35 near Georgetown south to US 183 near Mustang Ridge. The November 19, 2005 summit hosted by Envision Central Texas may serve as the regional call to action.

A Vision is Good, but We Need a Plan

Land development has been occurring in anticipation of SH 130 for years. Contrary to the vision expressed in the responses to the Envision Central Texas survey, the character of this development has been similar to Scenario A, unofficially described as "business as usual."

Georgetown, Round Rock, Hutto, and Pflugerville have worked together to set their extraterritorial jurisdictions (ETJs). Furthermore, most of those cities have initiated and, in the case of Pflugerville, completed annexation of land in the SH 130 corridor. The City of Austin would be well-advised to initiate planning and annexation for their portion of SH 130.

Plan for long-term market needs

As Central Texas continues to recover from the recent economic recession, office and industrial spaces are being occupied by new and expanding tenants. However, the market is limited for new commercial projects at this time, as vacancies are still relatively high. Residential demand continues to be strong, especially for starter and move up housing. Unfortunately, the short-term market is unlikely to accommodate a mix of commercial, retail, and residential uses for the long-term, highest and best use of the land along the SH 130 corridor.

SH 130 travels near existing major employers including Dell, Samsung, and Applied Materials. Also, this area is the region's Desired Development Zone. To maximize economic development opportunities in this corridor, we must plan for growth now.

Begin planning SH 130 Segments 5 & 6

By examining the existing and planned development along SH 130 in Travis and Williamson counties, proactive dialogue for Caldwell and Guadalupe counties is needed. Envision Central Texas (ECT) may serve as an excellent facilitator for a vision of the currently unfunded Segments 5 and 6 of SH 130.

Today's Challenge…Tomorrow's Reality

A unique opportunity exists for community and business leaders in Central Texas. The completion of SH 130 in 2007 signals a valuable opportunity for the region to develop a 21st century corridor that is efficient, innovative, and sustainable.

SH 130 CORRIDOR STUDY FINDINGS

Benchmark Corridors in Study

- **Austin**: I-35, Loop 1
- **Dallas**: Dallas North Tollway, President George Bush Turnpike
- **Denver**: E-470
- **Houston**: Hardy Toll Road, Sam Houston Tollway

Land Development Patterns

Benchmark highway corridors in Austin and Dallas have similar distributions of land uses. Percentages of land devoted to various uses are as follows:

- Single-family: 31% - 35%
- Multifamily: 4% - 8%
- Office: 3% - 5%
- Commercial: 5% - 7%
- Industrial: 4% - 10%
- Civic: 4% - 6%
- Parks: 5% - 20%
- Undeveloped: 20% - 37%

The amount of land developed for single-family uses within the SH 130 corridor is already 25.5%. Undeveloped land accounts for 59.9% of the area.

For the benchmark corridors, other developed uses account for 32% - 46% of the land while for SH 130, other developed uses only account for 14.6%. In order to have a comparable land use pattern and density, future development along SH 130 must be disproportionately commercial in nature.

Property Tax Considerations

Based on appraisal data obtained from Dallas, Denver, and Houston, average land values per acre for single-family, multifamily, and commercial uses are relatively similar. It must be noted that commercial uses for the data sets include downtown office skyscrapers as well as suburban retail centers.

Ultimately, the greatest determinant of value is not use, but density of the development. Intuitively, one would assume that a multi-unit townhouse development would have a higher value than a strip center. Therefore, to maximize the property tax base for the jurisdictions along SH 130, the region must plan for greater density of uses: residential, retail, and commercial.

Population Growth and Location

Estimated population growth rates near the developed benchmark corridors in Austin, Dallas, and Houston for 2000 to 2004 range from 9% to 15%. However, for the same time period, growth near E-470 in the Denver area is estimated to be 43%. Population has grown by 24% near SH 130 since 2000.

Greater mobility in established corridor areas is key to greater than average population growth. Additionally, opening areas to development by constructing new roads such as E-470 allows for rapid population growth.

Planning Efforts in the Region

As noted earlier, communities have evaluated and begun annexation of land along the SH 130 corridor. In addition to land use controls, though, planning for infrastructure is needed. Many jurisdictions have overlapping authority to construct and expand roads with connectivity to SH 130. Additionally, there are many water service providers in the area. Coordinated infrastructure planning would be wise and needed.

LESSONS LEARNED FROM OTHER COMMUNITIES

In addition to providing recommended next steps for action, this report is intended to provide perspective on the possible development scenarios for the SH 130 corridor. The evaluation of developing and established corridors in benchmark cities provides information that is currently missing in discussions regarding the vision of SH 130.

Multi-Modal Transportation
The transportation of people and goods within and through Central Texas will change tremendously in the near future. Planning continues for urban and regional commuter rail systems that will provide increased mobility options for Central Texas residents within the region and eventually with the San Antonio area. To support this mission, the transportation of goods will shift to the eastern portion of the region on SH 130 and the potential relocation of Union Pacific rail operations.

As seen in Houston along the Hardy Toll Road, rail lines still divide communities and limit development opportunities. All benchmark communities have toll roads traveling to or near their major airports. However, in the cases of Houston and Dallas, due to existing development of these areas, the ability to integrate multi-modal transportation facilities with rail, air, and ground transportation has been limited.

Quality of Life Concerns
During this recent session of the Texas Legislature, SH 130 was designated as a scenic highway limiting the development of billboards along the road. Dallas and Houston have both passed local legislation to eliminate billboards along their roadways. Additionally, planning is important to mitigate any negative visual effects related to the road construction. Noise barriers are planned for Loop 1 and they are constructed on portions of benchmark roadways such as the Sam Houston Tollway. Proactive land use planning and compatibility standards will hopefully prevent similar concerns along SH 130.

Economic Development
The attractive location of SH 130 near the Austin-Bergstrom airport and its connections with major highways will allow a variety of businesses requiring access to major cities in Texas and nationwide. A major challenge for the development of SH 130 is that large portions of the road are outside any city's corporate limits. Most of the benchmark roads were already within cities or annexed as construction occurred. To plan for the needs of expanding or relocating primary employers, partnership with city leaders will be essential to ensure successful development.

Land Use Patterns
While nearly 60% of the SH 130 corridor is vacant and undeveloped, future development opportunities seem endless. However, the nature of development along the benchmark corridors has been mostly suburban in character, especially as measured by their low population densities. Developing land to its highest and best use in order to ensure a stable property tax base requires much planning and collaboration.

RECOMMENDED NEXT STEPS

Economic Development
In order to achieve its goals of creating 72,000 jobs over a 5-year period, the Greater Austin Economic Development Corporation must be diligent in preserving and marketing suitable parcels of land within the SH 130 corridor. With improved access to Dallas, Houston, and San Antonio, logistics and manufacturing companies would be ideal candidates for the area.

City of Austin Annexation
At their June 23, 2005 meeting, Austin City Council received a presentation from City staff assessing the suitability of land development along the SH 130 corridor. Three priority areas were ranked as high for future development and possible annexation. As identified in the presentation, these areas were classified as sub-districts 4, 6, and 8.

These areas include land near the existing city limits and future SH 130 intersections with US 290 and SH 71. As presented, the three priority sub-districts are developing and near existing or planned infrastructure. These areas must be annexed into the City of Austin.

2005 Travis County Bond Election
Travis County Commissioners have placed three bond propositions totaling $151 million to be considered by voters on November 7, 2006. One proposition calls for $65 million in mobility funds, including SH 130 connectivity-related projects such as Howard Lane, Parmer Lane, Decker Lake Road, Pecan Street, and Braker Lane. Travis County voters should join the Greater Austin Chamber of Commerce in supporting these bonds.

2006 City of Austin Bond Election
Currently, the Citizens Bond Advisory Committee is developing its recommendations for a May 2006 election. While the needs assessment identified more projects than there is funding capacity, the City must earmark funds to provide infrastructure to these rapidly growing areas in the region's Desired Development Zone. Ultimately, the long-term property tax base will be optimized through the development of the land to its highest and best use.

City of Austin Land Use Planning
Members of City Council's Land Use and Transportation subcommittee have proposed a planning study for the unincorporated land along SH 130 within the City's ETJ. This would be an excellent opportunity to plan for the future growth and partner with entities such as the LCRA to coordinate infrastructure and service delivery. The City of Austin should approve this proposal and proceed immediately.

Envision Central Texas Summit
The ECT SH 130 Task Force will host a November 19, 2005 regional summit to discuss the vision and planning efforts for the Williamson and Travis county segments of SH 130. This is an important opportunity for the region's elected officials to coordinate their efforts and have an important dialogue with residents and interested citizens. Additionally, the ECT SH 130 Task Force must take steps soon to begin the vision development for Segments 5 and 6 and coordinate with leaders from Caldwell and Guadalupe counties.

SH 130 CORRIDOR PROJECT APPROACH AND METHODS

Project Intent
The Greater Austin Chamber of Commerce (GACC) facilitates economic development efforts for the five-county Central Texas region. In support of these efforts, the GACC engages in regional transportation planning advocacy. Because the initial segments of SH 130 travel through multiple cities in both Williamson and Travis counties, the Chamber intends for this report to provide useful information for all jurisdictions and fellow Chambers of Commerce along the SH 130 corridor. For the purposes of local policy interaction and discussion, the GACC primarily engages the City of Austin and Travis County; hence, the specific focus on those jurisdictions in this report.

Project Purpose
The purpose of this report is two-fold. First, it is meant to communicate possible scenarios for the SH 130 corridor based upon observed development patterns that occurred in benchmark cities with toll roads. Second, this report is meant to serve as a reference guide with the expectation that readers will consider both the successes and setbacks relating to development of the benchmark cities along toll roads.

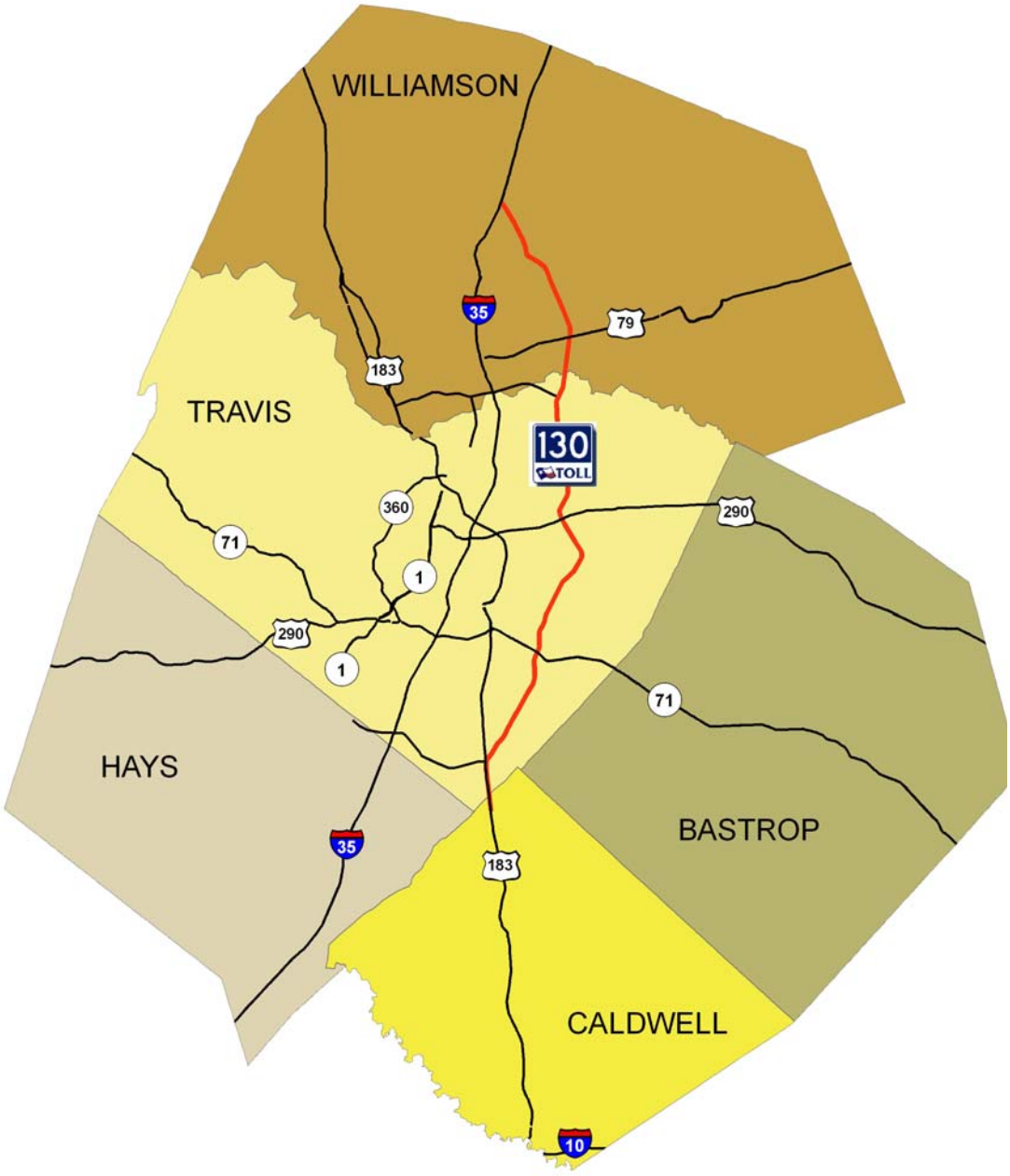
Selection of Benchmark Cities
For relevant comparisons, regions with similar characteristics as Central Texas were chosen. Within the State of Texas, both Dallas and Houston have recently constructed toll roads within their regions. Given the comparable powers of Texan cities and counties and their proximity, these regions were selected. In 2003, the GACC engaged Market Street Services to perform a business climate assessment and action plan for the Central Texas region. Denver was one of the benchmark cities used in the report. Furthermore, the E-470 toll road in the Denver region travels through multiple counties and cities, similar to the final path of SH 130.

Project Data
When available, the project incorporated GIS data to assist in the analysis of development trends. Comparable land use data were readily available for Austin and Dallas. Population information was provided by ESRI as part of their standard ArcGIS data sets. Finally, appraisal data were obtained from Dallas, Denver, and Harris counties to assess possible tax base projections.

For all regions, interviews were conducted with senior-level land use and transportation planning staff to provide qualitative information and verify data.

Due to the lack of similar data sets for all regions, these case studies provide a high level overview, rather than a detailed analysis. Additionally, development trend analysis using GIS is very limited due to lack of comparable data over time. However, the anecdotal and demographic information provides useful insights into the possibilities for future SH 130 development.

CENTRAL TEXAS REGIONAL SUMMARY



SH 130 ROADWAY SUMMARY

Once completed in December 2007, the first four segments of SH 130 will be a 49-mile toll road starting at I-35 north of Georgetown and ending at US 183 near Mustang Ridge. The first phase of SH 130 will travel through Williamson and Travis counties. SH 130 is part of the Central Texas Turnpike System that includes SH 45N and Loop 1 North.

The roadway will initially have four main lanes with limited frontage roads. The approximate toll for SH 130 is expected to be 12.5 cents per mile. Once additional funding is approved, segments 5 and 6 of SH 130 will extend through Caldwell and Guadalupe counties and connect with I-10 at Seguin.

SH 130 projected completion dates:

- **Segment 1 (I-35 to US 79):** August 2007
- **Segment 2 (US 79 to US 290):** January 2007
- **Segment 3 (US 290 to SH 71):** September 2007
- **Segment 4 (SH 71 to US 183):** December 2007

(Source: www.sh130.com)

SH 130 Interchanges

SH 130 will cross many roads along its path. Some of the roads will have direct interchanges while others will be constructed as intersections with the frontage roads. The list at the right summarizes the type of access planned for each of the intersecting roads.

(Source: www.sh130.com)

SH 130 Highway Interchanges (7)

- I-35
- SH 29
- US 79
- SH 45N
- US 290
- SH 71
- US 183 / SH 45SE

SH 130 Major Intersections (18)

- FM 971
- CR 104
- CR 109
- FM 685
- Gattis School Road
- Kelly Lane/Wilke Lane
- Pfluger Lane
- Pecan Street
- Cameron Road
- Parmer Lane
- Blue Bluff Road
- FM 973
- FM 969
- Harold Green
- Pearce Road
- Elroy Road
- FM 812
- Moore Road

SH 130 Frontage Road Access (2)

- Gregg Manor Road
- Bloor Road

SH 130 Design Pending (4)

- Chandler Road
- Wells Branch Parkway
- Howard Lane
- Maha Loop

CENTRAL TEXAS COMMUNITIES PREPARATION FOR SH 130

Four Key Areas of Concern
SH 130 will provide opportunities as well as challenges to the existing communities in Central Texas.

Land Use Control
In 2004, Round Rock completed negotiations with Georgetown, Hutto, and Pflugerville to determine ultimate city boundaries and exchange ETJ lands if appropriate. This agreement will allow the respective cities to plan for long-term infrastructure.

For Georgetown, a high priority has been annexation of properties near the SH 130 and I-35 interchange. Also, Georgetown will seek annexation of approx. 3,200 acres along the SH 130 corridor in 2006. The last two years, the City of Pflugerville has worked to annex as much land as possible adjacent to SH 130 and SH 45N. Hutto is working on a new comprehensive plan for the city, including a downtown development plan and roadway plan.

General-law cities such as Manor do not have the same annexation authority as larger cities in the region. Landowners have to instead apply for annexation.

Although, the first phase of SH 130 does not travel to Lockhart and Seguin, both cities are planning ahead for its eventual construction. The City of Lockhart identified a land-use goal in its Comprehensive plan to "control development along the SH 130 corridor through enhanced regulation". Lockhart has annexed land in the vicinity of SH 130, including land near the junction of SH 130 and SH 142 west of the city. Other annexations are anticipated.

Also, the City of Seguin is proposing to annex land in the direction of SH 130 and I-10, approximately 200 acres. Once land is annexed, the city will look at zoning and land-use issues.

Transportation
Regional connectivity issues are a primary concern for Central Texas communities. Cities have identified key roads for expansion in coordination with the appropriate county. These roads include the Westinghouse arterial between SH 130 and IH 35, arterial SE1 from Inner Loop to SH 130, Chandler Road east of SH 130, and East Pecan Street.

Limited funds for road expansion may be available through cities that have 4B Economic Development sales tax authority. However, due to the speed with which SH 130 will be operational, approval of county-wide bond referenda is critical. Otherwise, the individual cities will need to wait many years before addressing their mobility issues.

With the anticipated volume of traffic using SH 130, other regional road concerns must be addressed. Upgrades will be needed for US 79, US 290, and SH 71 to handle additional traffic and prevent congestion through these smaller cities.

In addition to road traffic, SH 130 will also influence rail and air transportation. Lockhart plans to develop a multi-nodal transportation center SH 142, the railroad, and SH 130 meet. Plans to shift Union Pacific operations away from Central Austin will impact communities such as Bastrop, Lockhart, and San Marcos.

SH 130 travels near major airports such as Austin-Bergstrom as well as the New Braunfels municipal airport, which is in the process of expansion.

Area cities have longer-term concerns about the planned Trans-Texas Corridors and there potential impact on communities.

Utilities Infrastructure

As important as road network connectivity, water and wastewater infrastructure is obviously critical for the planned growth of a region. However, with many providers holding Certificate of Convenience and Necessity (CCN) service rights, regional water planning is highly complicated.

In order to provide service extensions to developing areas, cities must be able to coordinate with service providers such as the Jonah Water Special Utility District and the LCRA. Of special concern to the Texas Legislature in recent years has been the issue of water availability.

Proactive planning to secure water rights and construct the needed water and wastewater infrastructure development will ensure vital communities well into the future. Long-term utilities planning along with road network planning is critically important.

Economic Development

Opportunities to locate businesses along or near the SH 130 corridor promise to grow as the road and utilities infrastructure are put in place. Key nodes of focus are where major roads will intersect with SH 130 including I-35, US 79, SH 45N, US 290 and SH 71.

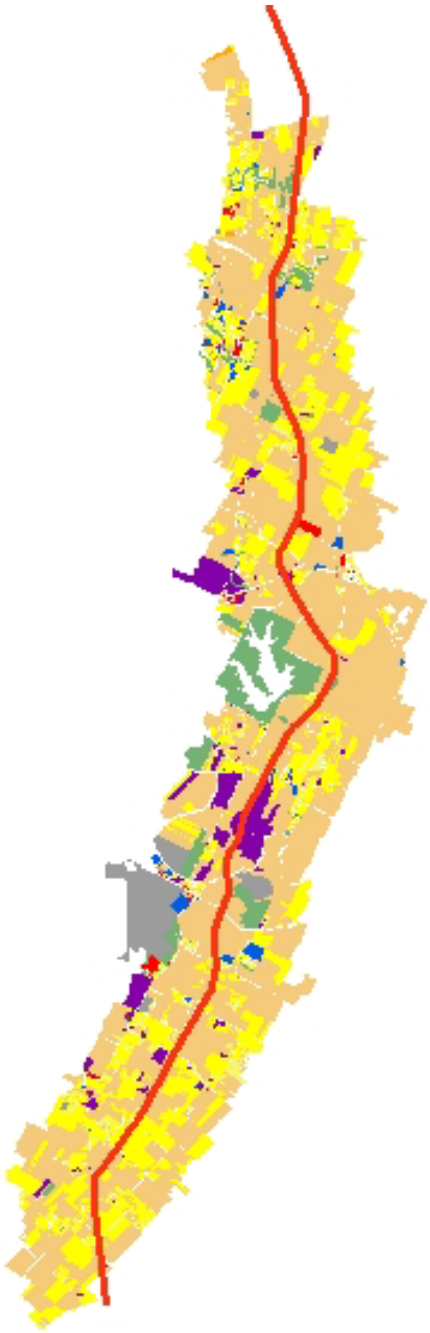
Much of the development to date has been single-family use. Following the maxim "retail follows rooftops," commercial development is beginning to take shape. Improved access because of SH 130 will create additional opportunities for these desired commercial uses.

Round Rock and Lockhart have considered commercial or industrial parks located at or near SH 130. Developments of this nature would be of obvious interest to firms that require extensive logistics and distributions capabilities. New Braunfels has conducted a feasibility study evaluating warehousing and light industry capabilities in coordination with its municipal airport.

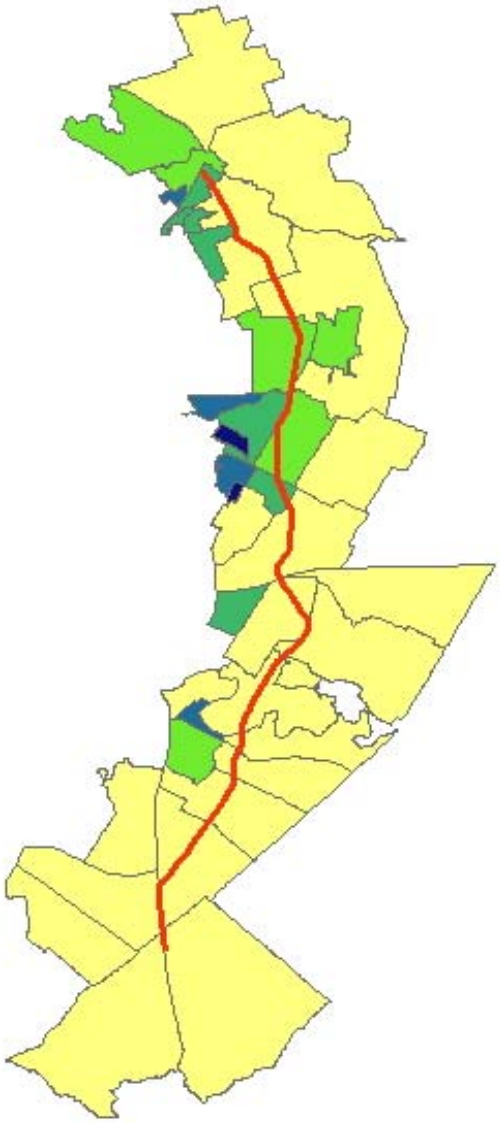
Educational institutions have shown interest in the SH 130 corridor. A new Texas State University campus in Round Rock recently opened on Chandler Road between I-35 and SH 130. Also, Concordia University plans to relocate from its Central Austin location and is considering sites near SH 130.

SH 130 REPORT

SH 130 Land Use Map



SH 130 Population Density Map



SH 130 Report Continued

SH 130 Land Use and Demographics

Percentage of Land by Land Use Type

Land Use Type	Percentage
Single Family	25.5%
Apartment/Condo	0.1%
Commercial	0.6%
Office	0.1%
Misc Industrial	4.1%
Civic	1.0%
Parks	5.3%
Transportation Facilities	3.5%
Under Construction	N/A
Undeveloped	59.9%
Total	100.0%

Percentage of Developed Land by Land Use Type

Land Use Type	Percentage
Single Family	63.5%
Apartment/Condo	0.3%
Commercial	1.4%
Office	0.1%
Misc Industrial	10.2%
Civic	2.4%
Parks	13.3%
Transportation Facilities	8.8%
Under Construction	N/A
Undeveloped	N/A
Total	100.0%

Population of Census Block Groups within 2 miles of SH 130

Population	
Year – 2000	106,774
Year – 2004 (estimated)	132,429
Population Growth	25,655
Percentage Change	24.0%

Density of Census Block Group Population within 2 miles of SH 130

Population Density	
Year – 2000	172.18
Year – 2004 (estimated)	213.55
Study Area (sq mi)	620.12

(Data Sources: City of Austin, ESRI)

SH 130 Narrative

Contrary to the assumption that the SH 130 corridor is largely rural and undeveloped, recent trends suggest a different picture. According to the City of Austin's 2003 Land Use Map, more than 25% of the corridor is single-family residential use. The amount of land classified as single-family residential is already highly comparable to maturing and established road corridors in Central Texas and Austin.

Single-Family as Percentage of Corridor:

- SH 130 – 25.5%
- I-35 (Central Texas) – 30.7%
- Loop 1 (Mopac) – 34.3%
- Dallas North Tollway – 35.0%
- Pres. George Bush Tpke – 34.1%

A large percentage of the single-family residential land, more than 2/3, is considered large-lot single family. Potential redevelopment of large-lot single family parcels would improve the long-term economic impact of SH 130.

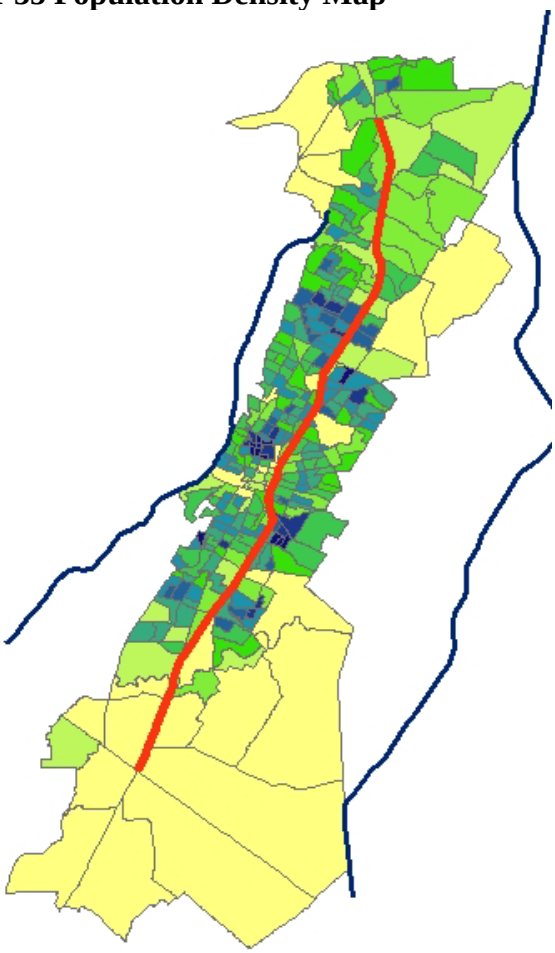
Population has grown by 24.0% from 2000 to 2004. Eventually, multi-family residential, retail, and other commercial uses will be developed to serve the rapidly growing number of households.

Parks and open space account for 5.3% of the land along SH 130. Significant recreation areas include Lake Walter E. Long and the East Travis County Metro Park. Future green space development should serve neighborhoods and plan for drainage and flood control needs.

I-35 REPORT

I-35 Land Use Map

I-35 Population Density Map



I-35 Report Continued

I-35 Land Use and Demographics

Percentage of Land by Land Use Type

Land Use Type	Percentage
Single Family	30.7%
Apartment/Condo	4.1%
Commercial	4.6%
Office	2.6%
Misc Industrial	9.8%
Civic	4.1%
Parks	5.4%
Transportation Facilities	1.8%
Under Construction	N/A
Undeveloped	36.9%
Total	100.0%

Percentage of Developed Land by Land Use Type

Land Use Type	Percentage
Single Family	48.7%
Apartment/Condo	6.4%
Commercial	7.2%
Office	4.1%
Misc Industrial	15.6%
Civic	6.6%
Parks	8.6%
Transportation Facilities	2.8%
Under Construction	N/A
Undeveloped	N/A
Total	100.0%

Population of Census Block Groups within 2 miles of I-35

Population	
Year – 2000	479,652
Year – 2004 (estimated)	535,656
Population Growth	56,004
Percentage Change	11.7%

Density of Census Block Group Population within 2 miles of I-35

Population Density	
Year – 2000	1,956.49
Year – 2004 (estimated)	2,184.92
Study Area (sq mi)	245.16

(Data Sources: City of Austin, ESRI)

I-35 Comparison to SH 130

I-35 is the major transportation corridor through Central Texas, with nearly one-half of the regional population living within two miles. I-35 connects Central Texas cities and communities to the south with San Antonio and Mexico and to the north with the Dallas-Fort Worth Metroplex. Because of the high-volume of traffic in the I-35 corridor, especially due to increased trade as a result of NAFTA, construction of SH 130 became necessary.

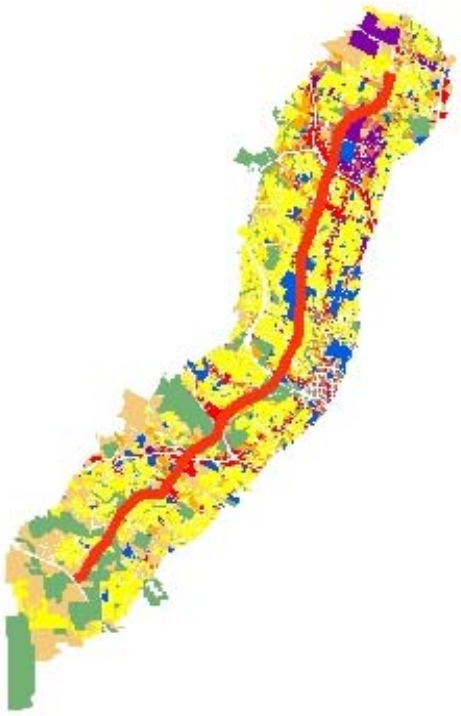
While I-35 travels through many commercial areas and business districts, the largest developed land use in the corridor is single-family residential. This pattern of development is comparable with the benchmark roadways evaluated in this study.

More than 1/3 of the land within the I-35 corridor is vacant and undeveloped. As the Central Texas region grows in population, especially in Williamson and Hays counties, there remain many parcels from which to choose for development.

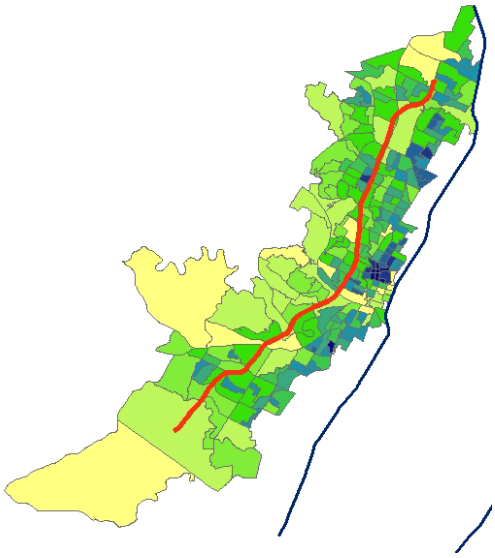
There is no immediate supply constraint forcing development of the SH 130 corridor due to lack of land availability along existing corridors. Therefore, the location of housing and commercial uses will depend not only on price, but also issues related to the comparative advantages of one site over another.

LOOP 1 REPORT

Loop 1 Land Use Map



Loop 1 Population Density Map



Loop 1 Report Continued

Loop 1 Land Use and Demographics

Percentage of Land by Land Use Type

Land Use Type	Percentage
Single Family	34.3%
Apartment/Condo	6.9%
Commercial	4.9%
Office	3.9%
Misc Industrial	3.6%
Civic	6.1%
Parks	20.0%
Transportation Facilities	0.8%
Under Construction	0.0%
Undeveloped	19.5%
Total	100.0%

Percentage of Developed Land by Land Use Type

Land Use Type	Percentage
Single Family	42.6%
Apartment/Condo	8.6%
Commercial	6.0%
Office	4.9%
Misc Industrial	4.4%
Civic	7.6%
Parks	24.8%
Transportation Facilities	1.0%
Under Construction	N/A
Undeveloped	N/A
Total	100.0%

Population of Census Block Groups within 2 miles of Loop 1

Population	
Year – 2000	348,177
Year – 2004 (estimated)	379,291
Population Growth	31,114
Percentage Change	8.9%

Density of Census Block Group Population within 2 miles of Loop 1

Population Density	
Year – 2000	2,228.62
Year – 2004 (estimated)	2,427.77
Study Area (sq mi)	156.23

(Data Sources: City of Austin, ESRI)

Loop 1 Comparison to SH 130

Loop 1 is a regional parkway that was constructed mostly along a rail corridor. Much of the development prior to the construction of Loop 1 was residential in nature. As Loop 1 opened more areas in the region for development, office and other commercial uses located nearby.

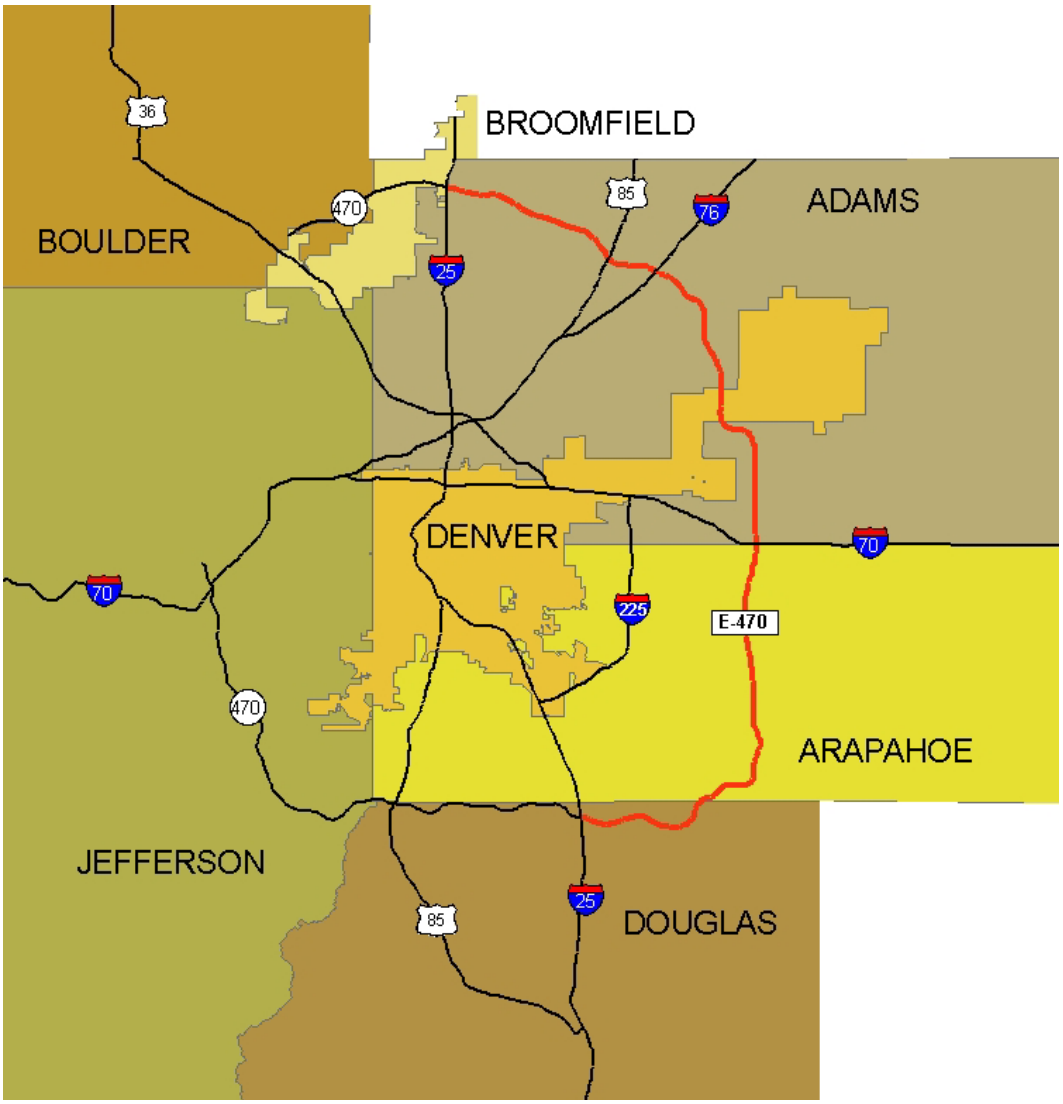
Of the roadways evaluated in this study, Loop 1 had the highest percentage of land dedicated to parks and open space. The southern alignment of Loop 1 travels through the recharge and contributing zones of the Edwards Aquifer. Many large parcels have been set aside as open space or preserves through fee simple acquisition or conservation easements. These preserves and large parks such as Zilker Park account for the higher percentage of open space compared to other roads.

Park Space as Percentage of Corridor:

- SH 130 – 5.3%
- I-35 (Central Texas) – 5.3%
- Loop 1 (Mopac) – 20.0%
- Dallas North Tollway – 5.5%
- Pres. George Bush Tpke – 6.8%

Given different environmental issues concerning the development of Loop 1 and SH 130, it is unlikely that a similar amount of parks and open space would be needed or feasible in the SH 130 corridor. As seen in the list above, the amount of parks and open space along SH 130 is already comparable to the other roadways in this study, not including Loop 1.

DENVER REGIONAL SUMMARY



E-470 Description
E-470 is a 47-mile toll highway that forms a half-circle along the eastern perimeter of the Denver Metropolitan Area. E-470 represents half of a yet-to-be-completed beltway around the Denver Metropolitan area. The tollway serves the cities of Aurora, Brighton, Commerce City, Parker, and Thornton and the counties of Adams, Arapahoe, Boulder, Broomfield, Denver, and Douglas. E-470 is a major route to both the Denver International Airport and Centennial Airport and provides access to Buckley Air National Guard Base and local attractions such as Barr Lake, Rocky Mountain Arsenal National Wildlife Refuge, and Aurora Reservoir. The tollway also provides tourists with an alternate route to ski destinations in Northern Colorado.

There are five mainline plazas along the beltway to collect tolls. The toll for a 2-axle vehicle to travel the entire route is $8.50. The toll way now averages more than 100,000 toll transactions on a single weekday. Recently the E-470 Authority recorded more than 4,500,000 transactions for the month of May 2005. The majority of toll road users are local commuters, with a significant portion being airport-related customers.

Background and History
While the idea for a beltway to surround the Denver Metropolitan area began as early as 1958 in a report prepared by a Denver area intergovernmental council, serious consideration for the beltway began in 1982 after a Centennial Airport Influence Area transportation study made a recommendation for a toll beltway to border the Denver metropolitan area. Before that time it was particularly difficult to access the area south and east of Denver, which was predominately undeveloped farm and prairie land.

In February 1985, Adams, Arapahoe, and Douglas counties joined to form the E-470 Authority through an intergovernmental memorandum of understanding. At the time, no state statute existed allowing an authority the power and revenue sources necessary to construct the toll way. Therefore, legislation was enacted in August of 1987 to overcome this obstacle. The authority is now a separate state political subdivision of the State of Colorado. The Public Highway Authority Act set the framework under which a toll way financing plan could be designed, giving the authority the power to do everything necessary to plan, design, finance, build, and operate the E-470 toll way.

Construction began in December 1988 with the first five miles of the tollway opening in June 1991. The road was completed January 3, 2003.

In June 2001, the E-470 Public Highway Authority observed its ten-year anniversary as well as its 75 millionth toll transaction.

Funding
The total cost to construct the E-470 toll way was $1.2 billion. The Public Highway Authority Act gave the E-470 Public Highway Authority the power issue bonds to help pay for the toll way. The first bonds for E-470 were sold in August 1986.
Tolls represent the main source of revenue for the Authority. The annual revenue received in tolls in 2004 was just over $75 million. Other sources of revenue include investment income,

highway expansion fees, new development fees, and vehicle registration fees of $10 per vehicle in Adams, Arapahoe and Douglas Counties. Since E-470 is a private toll road, no federal aid or tax money have ever been used for the construction and maintenance of the toll way.

Local Government Interaction
The Board of Directors of the E-470 Authority is composed of elected officials from three counties and five cities neighboring the toll way. Communities affected by E-470 work closely together through multi-jurisdictional cooperation to ensure that continued roadway development is mutually beneficial.

The E-470 Public Highway Authority receives development referrals and plans from cities and counties. The Authority may comment on how the planned development may affect the toll road, such as buildings on easements or rights-of-way, construction issues related to drainage, noise abatements, etc.

Many cities in the E-470 corridor have revamped their zoning codes and ordinances for properties along the corridor so they could better control and plan for the cities' desired types of development along E-470.

Economic Impact and Development
E-470 has become a magnet for retail development with many shopping centers open or planned for the corridor (E-470 2003). As of April 2005, 43 residential, 40 mixed-use and 12 commercial developments along the E-470 toll way were either completed or under construction. There is also growing demand for new school construction to keep up with residential development. It is also worth noting that nine different golf courses and six public-use parks can be found within one mile of the tollway.

Development has typically occurred at the south end of the toll road and has gradually moved north along the corridor. The E-470 Authority works closely with developers by reviewing development and construction plans early on and providing comments through member agency referrals to insure that development is well-planned.

In order to foster a good working relationship with local businesses, the E-470 Authority actively participates with chambers of commerce, economic development agencies, and business associations.

Public Opinion and Community Involvement
Public acceptance was verified when a election creating a $10 vehicle registration fee to help finance the toll road was approved by voters in November 1988.

The E-470 Authority is actively involved in the following community programs: The March of Dimes, Bonfils Blood Drives, Salvation Army, Coats for Colorado, Alive at 25, Child Safety Seat Inspections, "Center for Transportation Safety" Simulator Programs, and the Transportation Safety Foundation Golf Tournament.

Challenges
The construction of E-470 brought a variety of challenges, both political and environmental. Complicated building requirements, expansive soils, and

private land ownership all combined to hinder the construction process.

In 1993, the discovery of a breeding nest for golden eagles near a portion of E-470's planned route in Arapahoe County led to a modification in the alignment of the toll road. The modification was done in consultation with the U.S. Fish and Wildlife Service. After the alignment took place, the Authority was sued for moving the alignment. This lawsuit caused construction on the roadway to cease for approximately three years. The lawsuit was eventually dismissed.

The authority also needed to protect the endangered prebble jumping mouse after it was discovered that the road might compromise the habitat of the mouse.

In 1997, three areas of historic significance along the E-470 alignment were identified and preserved. A wooden silo was relocated, the historic Salinas Branch of the Union Pacific Railroad was protected, and historic wagon wheel tracks thought to be associated with the Smoky Hill Trail were protected.

A number of oil and gas field wells, many with multiple owners, also had to be purchased and properly plugged and abandoned. Approximately 43 acres of wetlands had to be reestablished.

The environmental community has had mixed feelings about the construction of E-470 with the most active discussion involving planning for growth. The Sierra Club testified against E-470 as a sprawl-inducing roadway that would not significantly help the city of Denver and thus should not have been included in the transportation plan for the metropolitan area. There was also an attempt to place open space easements in the construction plans for E-470 but according to a Sierra Club volunteer, these plans never materialized. The Sierra Club had concerns with what they claim to be questionable motor vehicle emissions budget numbers that the E-470 authority used to secure bonds. A representative from Environmental Defense expressed concern that Denver and Boulder residents were not involved in the decision-making process and that there were not enough environmental safeguards in place during construction.

Innovations

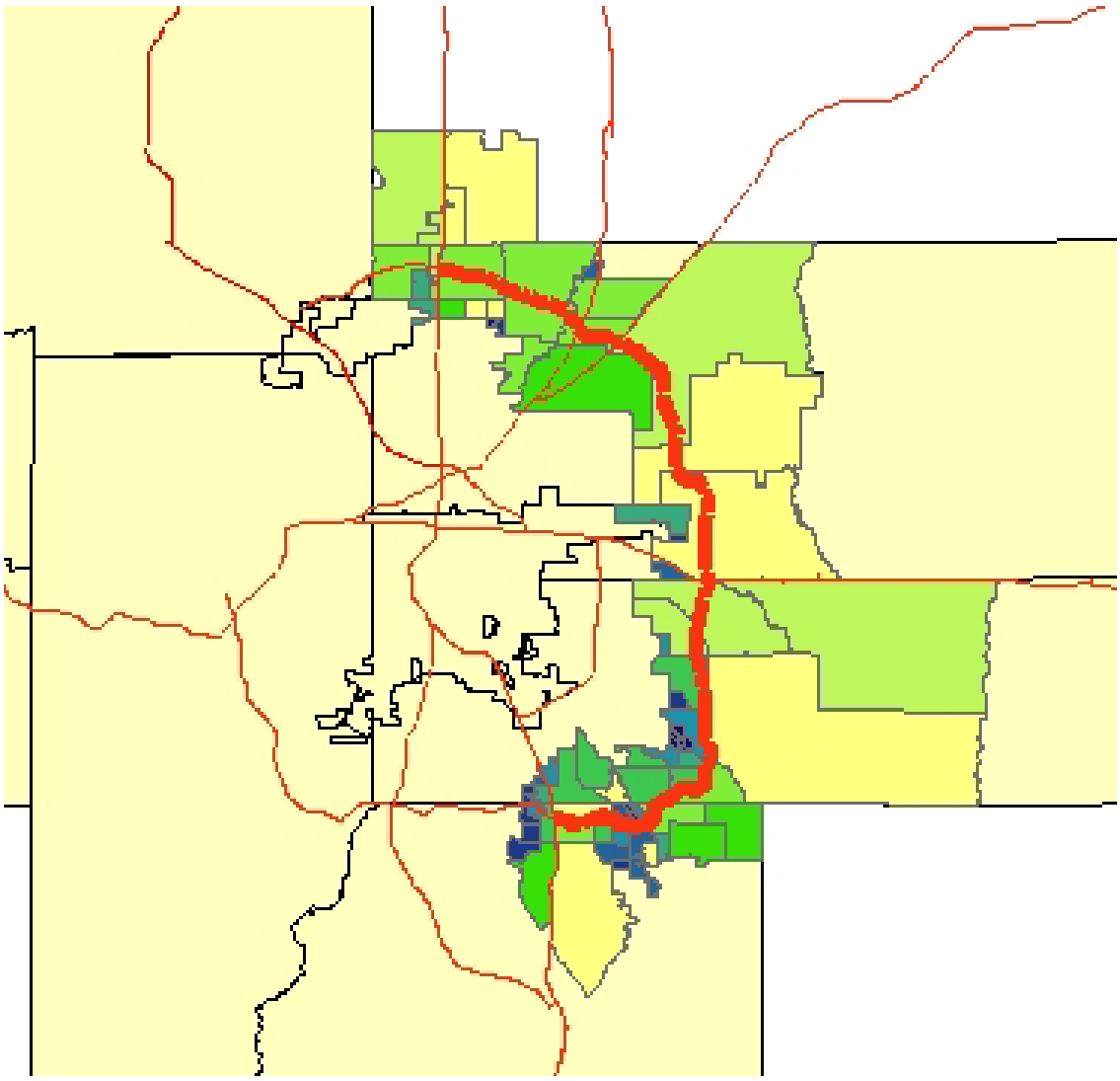
Developers want interchanges to bring customers to their businesses, however E-470 lacks the capital necessary to promptly build these interchanges. Developers and the E-470 Authority routinely enter into Public-Private Partnerships which allow both entities to share in the financing and engineering of a project so that necessary interchanges can be built more quickly. Often a major landowner will donate property for an interchange to the E-470 Authority. The Authority in this manner acquired a significant amount of land.

Lessons Learned

Education early in the process is key to public acceptance of a new toll road. The media, public showings, and tours can aid in fostering acceptance. The E-470 Authority recommends that a community with a new toll road offer a toll-free period to allow drivers to become familiar with the road and tolling.

E-470 REPORT

E-470 Population Density Map



E-470 Population Density Statistics

Population of Census Block Groups within 2 miles of E-470

Population	
Year – 2000	106,918
Year – 2004 (estimated)	152,676
Population Growth	45,758
Percentage Change	42.8%

Density of Census Block Group Population within 2 miles of E-470

Population Density	
Year – 2000	179.27
Year – 2004 (estimated)	256.00
Study Area (sq mi)	596.40

(Data Source: ESRI)

E-470 Report Continued

E-470 Comparison to SH 130
Of all the benchmark toll roads evaluated in this study, E-470 presents the most similar situation to SH 130.

Location
Both E-470 and SH 130 will serve as bypass toll roads around developed, established metropolitan areas. These roads provide additional mobility options for drivers through their respective regions. Additionally, both roads are similar in length at just under 50 miles in distance for each.

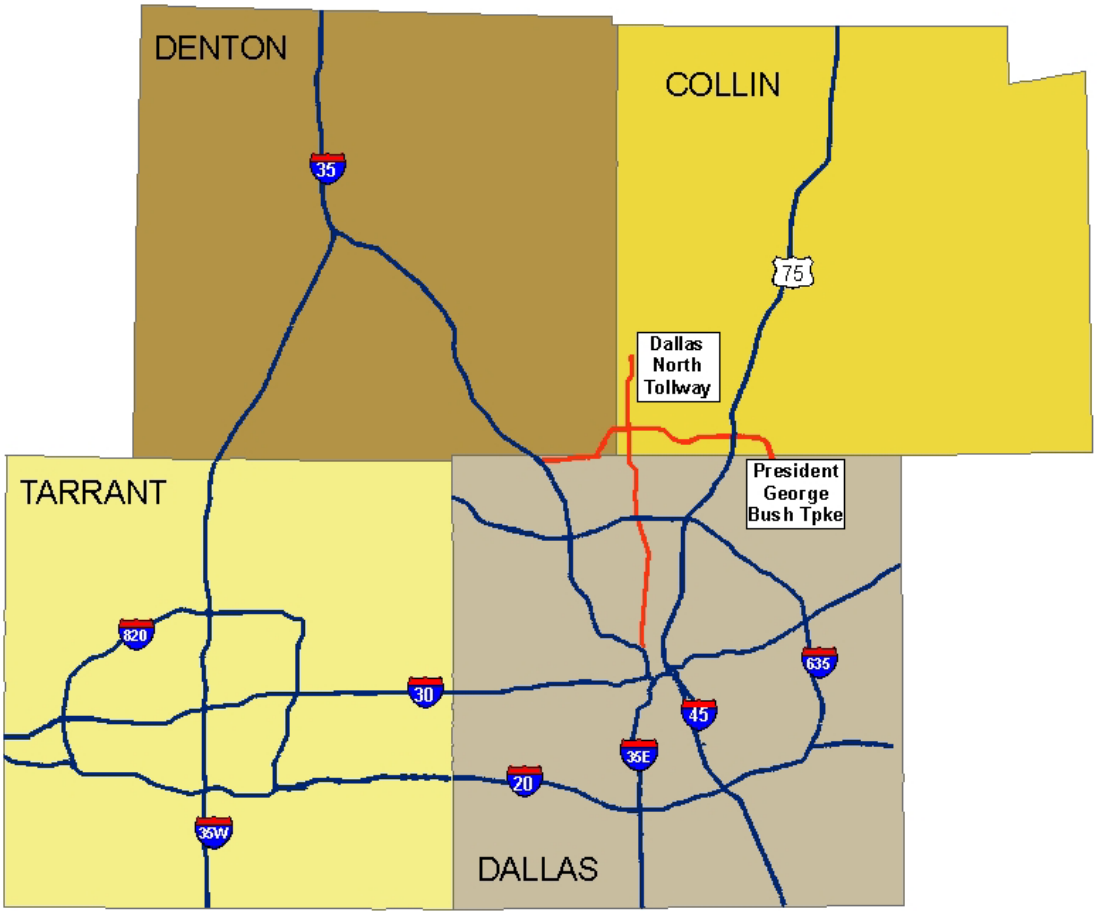
Recent Operation
Construction finished on the 47-mile length of E-470 in 2003. The first four segments of SH 130 from Georgetown to Mustang Ridge should be completed by the end of 2007. Other toll roads in the benchmark study have been in operation for multiple decades. They may provide an example of how E-470 and SH 130 will appear twenty to thirty years from today.

Population Characteristics
Because both roads travel around the established, urbanized areas, they have opened new possibilities for development. Recently, the respective corridors for each of these roads have been fairly rural in character. However, estimated population has grown along the E-470 corridor from 2000 – 2004 at a rate of 42.8% over that period. Similarly, SH 130 population has grown 24.0% over that same period. Those two population growth rates easily exceeded those of all other toll road corridors in this study.

Additionally, with the rapid increase in population, density has risen as expected. In 2000, the E-470 corridor has a population density of approximately 179 people per square mile. Similarly, the population density of SH 130 in 2000 was approximately 172 people per square mile. All other roads considered for this study ranged from approximately 2,000 to 3,000 people per square mile.

Multi-Jurisdictional Authority
SH 130 and E-470 travel through multiple counties and cities. Coordinated planning and development of the respective corridors would require greater dialogue and cooperation across jurisdictions. Regional planning efforts and intergovernmental agreements would obviously facilitate any cooperative initiatives. The E-470 Authority has served as an example of proactively engaging varied and interested stakeholders. However, for both regions, there is no regional entity established for land use planning and development. Ultimately, absent such a body, proactive dialogue among many parties is necessary.

DALLAS REGIONAL SUMMARY



Dallas Toll Roads Description
The President George Bush Turnpike (PGBT), formerly SH 190, is a toll highway that forms an east-west route through the northern half of the Dallas Metroplex. The 30-mile highway begins in the city of Irving at I-635 and terminates at SH 78 in the city of Garland. The toll road also serves the counties of Dallas and Collin and the cities of Farmers Branch, Carrollton, Dallas, Plano, and Richardson. The PGBT will provide motorists with an alternate route to the Dallas/Fort Worth International Airport when the segment currently under construction between I-635 and I-35 East is completed.

The Dallas North Toll way (DNT) is a north-south road that bisects the northern half of the city of Dallas. The 22-mile expressway begins in downtown Dallas at I-35 East and ends in Collin County at Gaylord Parkway. The DNT serves the counties of Dallas, Collin, and Denton and the cities of Dallas, Highland Park, University Park, Addison, Farmers Branch, Plano, and Frisco.

A motorist will pay $2.50 to travel the entire route of the DNT and $3.00 to travel the entire route of the PGBT.

Background and History
The 53rd Texas Legislature passed the Turnpike Act in 1953, which created the Texas Turnpike Authority (TTA). The purpose of the TTA was to plan and build traffic facilities where there was need and financial feasibility and where public tax funds were not readily available. The TTA became the North Texas Turnpike Authority (NTTA) on September 1, 1997.

The NTTA is a political subdivision of the State of Texas under Chapter 366 of the Transportation code and allowed to acquire, construct, maintain, repair and operate turnpike projects, to raise capital for construction projects through issuing Turnpike Revenue Bonds, and to collect tolls to operate, maintain and pay debt service on those projects.

The first DNT segment from I-35 East to Mockingbird Lane opened to traffic on February 11, 1968. The most recent DNT segment between Legacy Drive and Gaylord Parkway opened in 2004.

Turning SH 190 into the President George Bush Turnpike met opposition from many city and county officials who originally wanted a freeway. It was not until 1991 when the passage of state and federal transportation legislation allowed the Texas Department of Transportation and the Texas Turnpike Authority to work together to begin construction on the PGBT. Construction on the turnpike began in the early 1990s with the first segment from Midway to Preston opening to traffic in December 1998.

Over 900,000 people on average drive NTTA roads daily, including the PGBT and the DNT. Of these customers, 75 to 85 percent complete their toll transactions using the Automated Vehicle Identification system (TollTag).

Funding
The NTTA is a self-supporting organization, funded mostly by tolls (95%). The NTTA may issue revenue bonds for a major construction project. Total cost estimates for the nearly completed PGBT are between $700 million and $1 billion. The NTTA has utilized a Section 129 loan from the

Texas Department of Transportation to help finance the PGBT.

Construction on the DNT is also ongoing. A new 9.7-mile extension from Gaylord Parkway in Frisco to US 380 is schedule for completion in 2007 with an estimated cost of $264 million.

Economic Impact and Development
Land adjacent to the initially constructed southern section of the DNT primarily consists of affluent and middle-income neighborhoods, with 2004 residential property values ranging from $500,000 to over $1 million. Property along the two extensions of the DNT may be characterized as commercial with office buildings and restaurants interspersed with multi-family communities. Several large firms can be found near the DNT, including Cadbury-Schweppes, Electronic Data Corporation, Austin Industries, Centex Corporation, and JC Penney Corporation. There are no significant industrial developments along the DNT. Three new sports complexes have been built along the northern section of the toll road currently under construction, including a minor league baseball park, a minor league hockey center and a major league soccer center. The American Airlines Center is located less than one mile from the southern terminus of the DNT.

The PGBT passes through the suburbs of Northern Dallas and provides access to the rapidly growing "high tech and telecom corridor" which contains the headquarters for several large firms including Exxon Mobil, Frito-Lay, Nokia, and I2 Technologies. Development along the PGBT can be described as equally commercial and residential, including retail, multi and single-family, and light industrial.

Local Government Interaction
A seven-member Board of Directors governs the NTTA. A member is appointed by each of the four counties within the service area: Collin, Dallas, Denton, and Tarrant. Two members are appointed on a rotating basis by counties in which an operating NTTA toll project is located. The Governor appoints one member from a county adjacent to the NTTA's four-county service area. The members of the Board of Directors serve staggered, two-year terms, and no member may be an elected official.

Government agencies, municipalities, and transportation providers work with the NTTA in project planning, design, and implementation, including right-of-way acquisition. These agencies include Dallas Regional Planning Coalition, Tarrant Regional Transportation Coalition, North Central Texas Council of Governments, Dallas Area Rapid Transit, Regional Transportation Council, North Texas Commission, and Texas Department of Transportation.

Public Opinion and Community Involvement
The NTTA receives on average more than 28,000 contacts per week by phone, fax, email, mail, or visits to the customer service center. NTTA surveys report that 90% of customers surveyed rate the NTTA services experience as "outstanding" or "excellent".

The NTTA also sponsors a variety of community service activities, including "Live from Plano", a variety show that benefits five local charities; Toys for Tots; AmercaCares, a fundraiser for

wounded soldiers; Carter Blood Care, blood drives across the Metroplex; Frisco Safety Town, a safety learning community; Garland Health Care Fare; Dad's Day 5K for cancer research.

Challenges
The NTTA is addressing a variety of challenges with the financing of multiple projects considered for construction. The NTTA learned in May that building an expansion of the PGBT east to I-30 is expected to cost $782 million, almost double the January 2005 estimate of $442 million. Also, a new toll road in Fort Worth is estimated to cost triple the original $300 million dollar estimate. While a final decision on how to solve these financing issues has not been made, options include a toll increase and/or building these projects in stages.

The NTTA considers environmental issues as one of the most significant challenges the authority regularly encounters. For example, PGBT right of way issues included Trinity River flood plain, three landfills, and mitigation of more than 40 acres of wetlands.

The NTTA created an Environmental Excellence Team that monitors issues that arise during toll road construction. Team members come from the US Army Corps of Engineers, the US Fish and Wildlife Service, the Dallas Zoo, and environmental consultants.

Between 1993 and 1998, before the PGBT opening, many billboards were constructed along the road. A non-profit organization, "Scenic Dallas," assisted the City of Dallas in passing an ordinance that banned billboard construction in April 2000. The city maintained that the billboards were illegal while billboard companies claimed that the ordinance banning billboards was unconstitutional. The City of Dallas entered into a settlement with billboard companies that banned billboards in the city, but are still permitted in outlying areas.

Innovations
The Texas Turnpike Authority was the first in the United States to utilize electronic toll collection, "TollTags," now used across the world. Through interoperability agreements, NTTA has exchanged over 1 million transactions with Harris County and over $17 million in transactions at D/FW Airport.

In 2004, the NTTA joined with Florida's turnpike enterprise in a peer-agency program to share best practices through informational exchanges and summits.

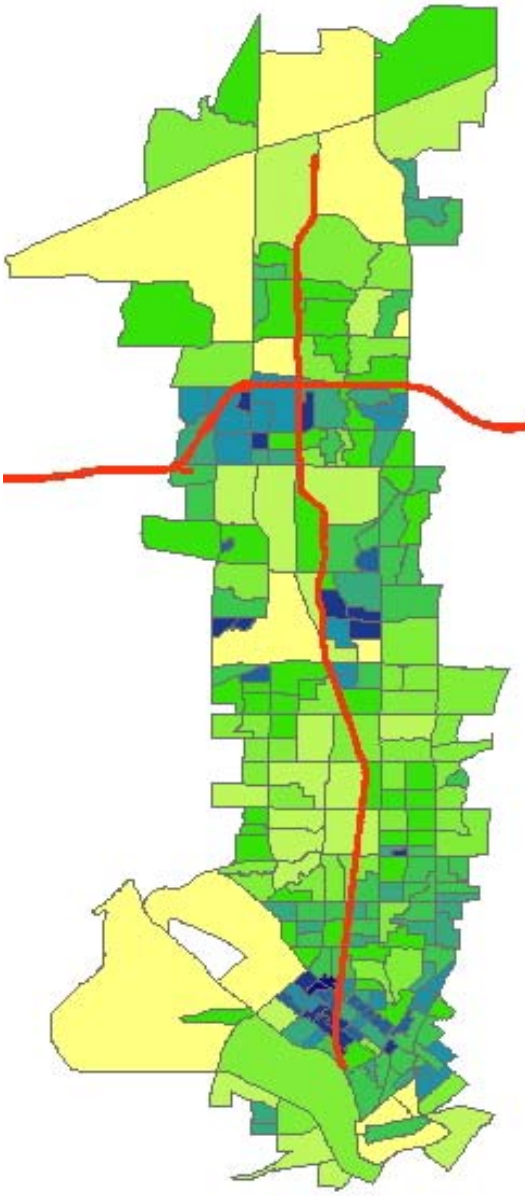
Lessons Learned
NTTA's Director of Community Affairs stresses the importance of educating the public on the value and convenience of the toll roads. The NTTA recommends targeting outreach to communities with low electronic toll tag usage. Since beginning their recent outreach effort, toll violations have dropped by 1%.

The NTTA uses a mobile unit called the Tag Wagon that promotes the NTTA and their TollTag at special events, sporting venues, schools, and businesses across the Metroplex. The NTTA also markets its services with a "WAVE AT WALLY" campaign. Wally is a fictional character with three missions: thank customers who pay, catch the ones who don't, and promote safety on the roads.

DALLAS NORTH TOLLWAY (DNT) REPORT

DNT Land Use Map

DNT Population Density Map



DNT Report Continued

DNT Land Use and Demographics

Percentage of Land by Land Use Type

Land Use Type	Percentage
Single Family	35.0%
Apartment/Condo	7.7%
Commercial	6.6%
Office	5.4%
Misc Industrial	5.4%
Civic	4.4%
Parks	5.5%
Transportation Facilities	3.8%
Under Construction	0.4%
Undeveloped	25.7%
Total	100.0%

Percentage of Developed Land by Land Use Type

Land Use Type	Percentage
Single Family	47.4%
Apartment/Condo	10.4%
Commercial	8.9%
Office	7.3%
Misc Industrial	7.4%
Civic	5.9%
Parks	7.5%
Transportation Facilities	5.1%
Under Construction	N/A
Undeveloped	N/A
Total	100.0%

Population of Census Block Groups within 2 miles of DNT

Population	
Year – 2000	349,218
Year – 2004 (estimated)	401,095
Population Growth	51,877
Percentage Change	14.9%

Density of Census Block Group Population within 2 miles of DNT

Population Density	
Year – 2000	2,857.06
Year – 2004 (estimated)	3,281.48
Study Area (sq mi)	122.23

(Data Sources: NCTCOG, ESRI)

SH 130 Comparison to DNT

Multi-Jurisdictional Authority
Dallas North Tollway (DNT) and SH 130 are both north-south routes that travel through multiple counties and cities. DNT serves as a northern alternate route to I-35 East and US 75/Central Expressway. DNT could serve as an example of future development in the SH 130 corridor.

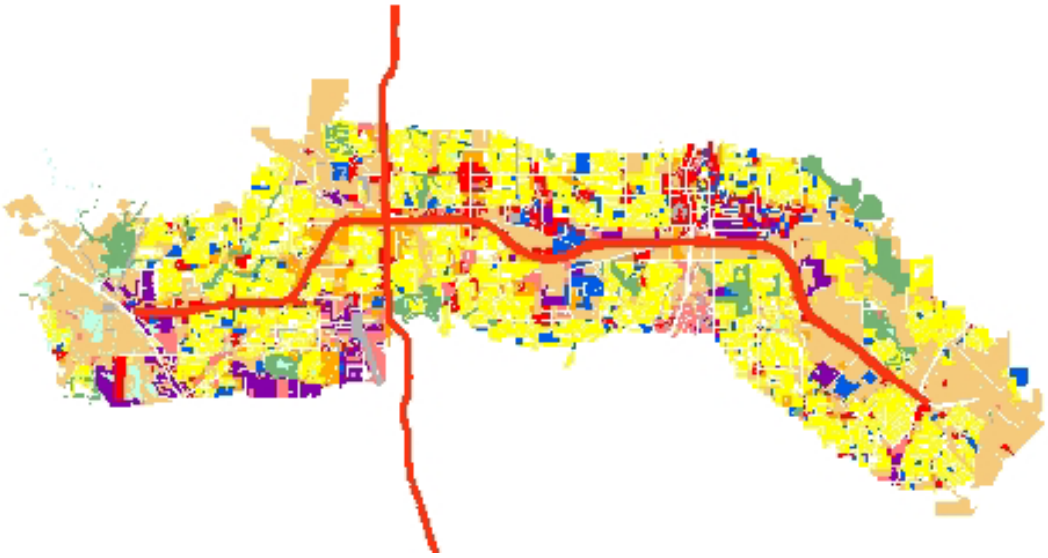
Land Development Patterns
Collin County is one of the most rapidly growing counties in the nation. Increased mobility is obviously a primary reason. Connectivity with existing regional routes and development of new roads has facilitated the movement of people and commerce into the county. SH 130 cannot solely drive development. Improved mobility within the area is needed. Improvements to the road network in eastern Williamson and Travis Counties, specifically US 79, US 290, FM 969, and SH 71, will provide the infrastructure needed to sustain future population growth.

Land Use
As a maturing corridor, many land uses are present along DNT. Commercial and office uses account for 12.0% of the land near DNT, while they only comprise 0.7% of land near SH 130. Of course, as population increases in the SH 130 corridor, there will be more demand for these land uses.

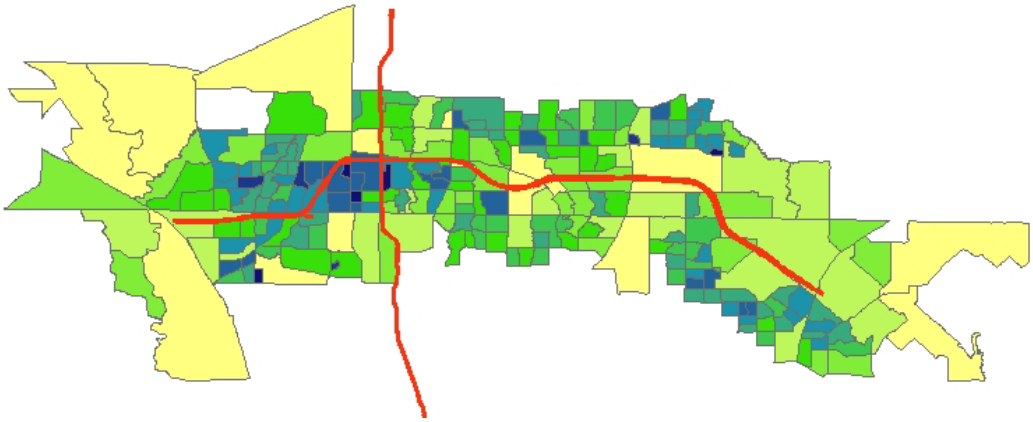
Proactive land planning and an efficient market will ensure that a proper mix of uses will be present along the SH 130 corridor.

PRESIDENT GEORGE BUSH TURNPIKE (PGBT) REPORT

PGBT Land Use Map



PGBT Population Density Map



PGBT Report Continued

PGBT Land Use and Demographics

Percentage of Land by Land Use Type

Land Use Type	Percentage
Single Family	34.1%
Apartment/Condo	4.8%
Commercial	6.0%
Office	3.6%
Misc Industrial	5.0%
Civic	5.2%
Parks	6.8%
Transportation Facilities	1.6%
Under Construction	1.3%
Undeveloped	31.6%
Total	100.0%

Percentage of Developed Land by Land Use Type

Land Use Type	Percentage
Single Family	50.8%
Apartment/Condo	7.2%
Commercial	8.9%
Office	5.3%
Misc Industrial	7.4%
Civic	7.7%
Parks	10.2%
Transportation Facilities	2.4%
Under Construction	N/A
Undeveloped	N/A
Total	100.0%

Population of Census Block Groups within 2 miles of PGBT

Population	
Year – 2000	407,538
Year – 2004 (estimated)	464,996
Population Growth	57,458
Percentage Change	14.1%

Density of Census Block Group Population within 2 miles of PGBT

Population Density	
Year – 2000	2,575.12
Year – 2004 (estimated)	2,938.18
Study Area (sq mi)	158.26

(Data Sources: NCTCOG, ESRI)

SH 130 Comparison to PGBT

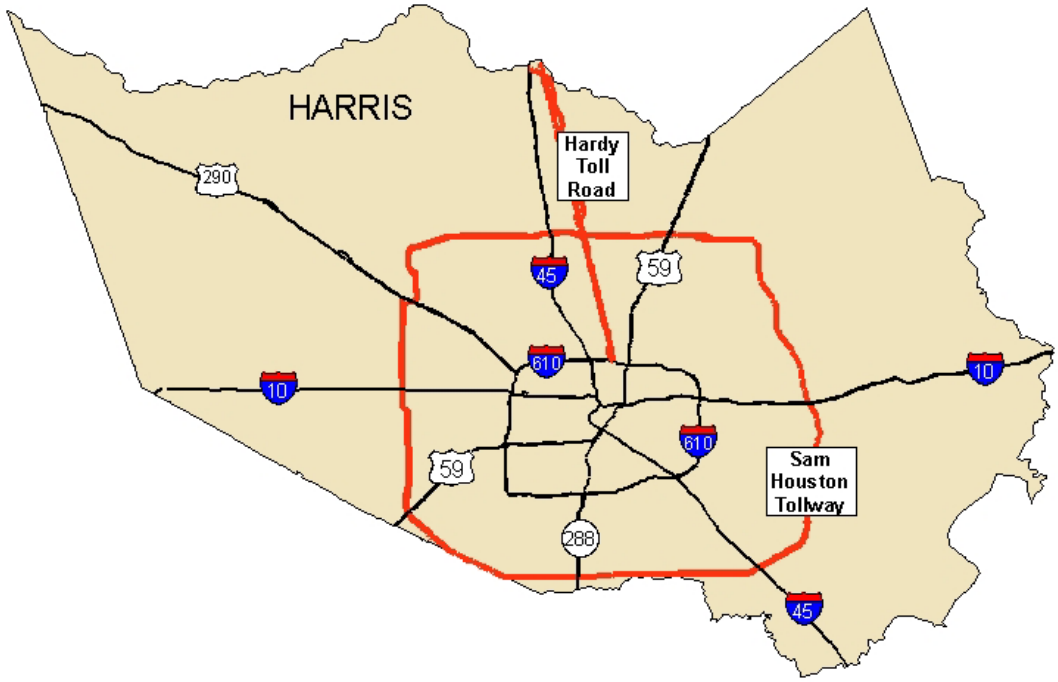
Multi-Jurisdictional Authority
President George Bush Turnpike (PGBT) and SH 130 both travel through multiple counties and cities. PGBT serves as a northern alternate route to I-635/LBJ Freeway and serves as a main corridor for the telecommunications industry in the Metroplex region.

Land Development Patterns
While the Dallas North Tollway (DNT) provides north-south access in the region, the PGBT provides additional east-west access. Planned connectivity with existing and future road corridors improves mobility and development options. As reported earlier with the DNT, SH 130 cannot solely provide improved mobility development and development options.

Multi-Modal Transportation
The PGBT provides an alternative transportation route to the Dallas-Fort Worth (DFW) Airport. Additionally, Dallas Area Rapid Transit (DART) has located a rail station near the intersection of the PGBT with the Central Expressway/US 75.

The current discussion by Central Texas regional leaders regarding rail operations, both passenger and freight, and linking with air and road transportation are quite appropriate. SH 130, the MoKan rail corridor, and Austin-Bergstrom International Airport can all serve many regional transportation needs for decades to come.

HOUSTON REGIONAL SUMMARY



Houston Toll Roads Description

The Harris County Toll Road Authority (HCTRA) oversees the Hardy Toll Road, the Westpark Tollway, and the Sam Houston Tollway including the Sam Houston Tollway Ship Channel Bridge.

The Sam Houston Tollway, also known as Beltway 8, forms a second outer loop around the City of Houston. The toll road's 60-mile route provides access to the I-10, I-45, US 59, US 290, SH 225, SH 288 and the Houston Ship Channel.

The 22-mile Hardy Toll Road travels north from I-610 near downtown Houston to I-45 near the boundary between Harris and Montgomery Counties and the Woodlands. The Hardy Toll Road provides access to Houston's central business district for northern suburban areas and a mobility option for the often congested I-45.

The newest component of the HCTRA system is the Westpark Tollway. This 20-mile toll road is unique because it is operated jointly by HCTRA and the Fort Bend County Toll Road Authority. The toll road serves as a commuter route to bring residents from western suburban areas starting at the Grand Parkway (SH 99) into Houston at I-610 West and provides motorists with access to US 59, the Sam Houston Tollway, and Highway 6. The operation of the Westpark Tollway is completely automated, meaning that only those vehicles with electronic toll tags may use the toll road.

The HCTRA serves almost 6 million toll road customers per week, the majority of whom are local and airport-related commuters.

Background and History

Houston city leaders became interested in toll roads in the mid 1970s to alleviate severe traffic congestion in the city. Further, the Texas Department of Transportation had difficulty paying for the construction of Beltway 8 and needed financial assistance from Harris County to complete it. Harris County voters approved the referendum that created the Harris County Toll Road Authority in September 1983. The HCTRA operates under Chapters 284 and 366 of the Transportation Code and is a political subdivision of the state.

The Sam Houston Tollway began as Beltway 8 in the 1960s. It was not until the mid-1980s that the majority of Beltway 8 was converted to a toll facility. Portions of the eastern Beltway 8 segments are constructed as frontage roads only. Future expansion may include main lanes to form a continuous limited access toll road.

The first segment of the Hardy Toll Road was opened September 20, 1987 and the initial 22-mile roadway was completed in 1988. A 3-mile direct spur to the George Bush Intercontinental Airport was opened in 2000.

Construction on the Westpark Tollway began in 2001 and the first segment opened to traffic in May 2004. The western section in Fort Bend County opened to traffic in August 2005.

The Harris County Toll Road Authority has become a partner in other regional mobility projects such as the toll lane components of the I-10/Katy Freeway expansion.

Funding
The HCTRA received almost $266 million dollars from tolls in fiscal year 2003 representing 91% of their revenue. The HCTRA averages $5.5 million in weekly transactions.

The HCTRA may issue revenue bonds for major construction projects. The September 1983 referendum allowed the Harris County Commissioners Court to issue up to $900 million in general obligation bonds for the purpose of building and maintaining the Hardy Toll Road and the Sam Houston Tollway.

The Hardy Toll Road was built at a cost of almost $366 million. The Sam Houston Tollway was built in two principal stages: from SH-225 to US 59 South at a cost of almost $227 million and from US 59 South to I-45 North at a cost of just over $436 million. Construction estimates for the Westpark Tollway have been projected to be between $240 and $260 million.

Economic Impact and Development
Lining the Hardy Toll Road are residential, light industrial, and retail uses, as well as undeveloped wooded areas along its northern segments. A Union Pacific Railroad line and high-voltage right of way travel along much of the Hardy Toll Road path. The railroad and the high voltage right-of-way combined with limited arterial connectivity make new development near the toll road very difficult.

Office parks, businesses and other retail and commercial establishments characterize the area surrounding the Sam Houston Tollway. The area was predominately wooded before the construction of the Beltway 8 Freeway and subsequent Sam Houston Tollway.

All roads in the HCTRA system have been designated as scenic highways and therefore have signage restrictions. These restrictions are based on factors such as distance, size, and visibility. Entities face fines if signs are erected near the toll roads that are not in compliance with signage requirements.

Local Government Interaction
The HCTRA is one of six operating divisions of Harris County's Office of Public Infrastructure and is under the jurisdiction of the County's Commissioners' Court. Because the HCTRA is a political subdivision of the State of Texas, local government entities, such as the City of Houston, may not interfere with the powers granted to the HCTRA by the Texas Legislature.

Public Opinion and Community Involvement
Planning and development of the Hardy Toll Road caused some controversy. Central city advocates perceived the construction of the Hardy Toll Road as benefiting only affluent suburban areas. Constructing the toll road caused the displacement of 70 residences, 54 businesses, and two churches. However, central areas gained new railroad crossings connecting long-separated neighborhoods.

In recent years Harris County citizens directly affected by the toll roads have recently voiced opinions about the apparent reluctance of the HCTRA to consider public comment about existing and proposed toll road projects. Several community organizations throughout the

Houston area have been pressing the Texas Legislature to adopt new laws that would require more accountability for toll road authorities.

Challenges

Soon after the Hardy Toll Road and the first segment of the Sam Houston Tollway were completed, it became doubtful that the revenue from the toll roads, initially 50% less than projected, would be enough to cover bond payments. This financial crisis was overcome by a toll increase in the 1990s.

Environmental groups such as the Citizens Environmental Coalition for the City of Houston assert that continued construction and expansion of major roadways in Houston would increase runoff and flooding, and destroy open space and wildlife habitat. The Sierra Club cites sprawl, worsened air quality, destruction of wetlands, and increased flooding due to greater amounts of paved open space as problems associated with toll road construction.

The Greater Houston Partnership and the Quality of Life Coalition for the Houston area have called for improving the aesthetics of Houston's often-criticized roadways. In April of 2003, the HCTRA, City of Houston, Trees for Houston, and the North Houston Association collaborated to share the costs of landscaping sections of the Hardy Toll Road near the George Bush Intercontinental Airport.

Innovations

HCTRA has been involved in the construction of managed lanes as part of the I-10/Katy Freeway expansion project, considered the largest reconstruction project in the history of the Texas Department of Transportation. Anticipated toll revenue from this project is expected to accelerate the entire project completion in five to six years rather than ten to twelve years if the HCTRA and its managed lanes had not been involved in the project.

The Westpark Tollway is the first toll road in the nation to operate as an entirely electronic system using EZTag. By the middle of 2002, over 52% of HCTRA customers were using automatic vehicle identification (EZTag) technology.

HCTRA's interchange at I-10 and the Sam Houston Tollway was recognized by the American Society of Civil Engineers as an outstanding civil engineering project. The Sam Houston Tollway and Hardy Toll Roads were recognized by the International Bridge Tunnel and Turnpike Association (IBTTA) as among the nation's safest toll roads to drive. In 1994, the HCTRA was awarded with IBTTA's Toll Innovation award for its Rate Equalization Program.

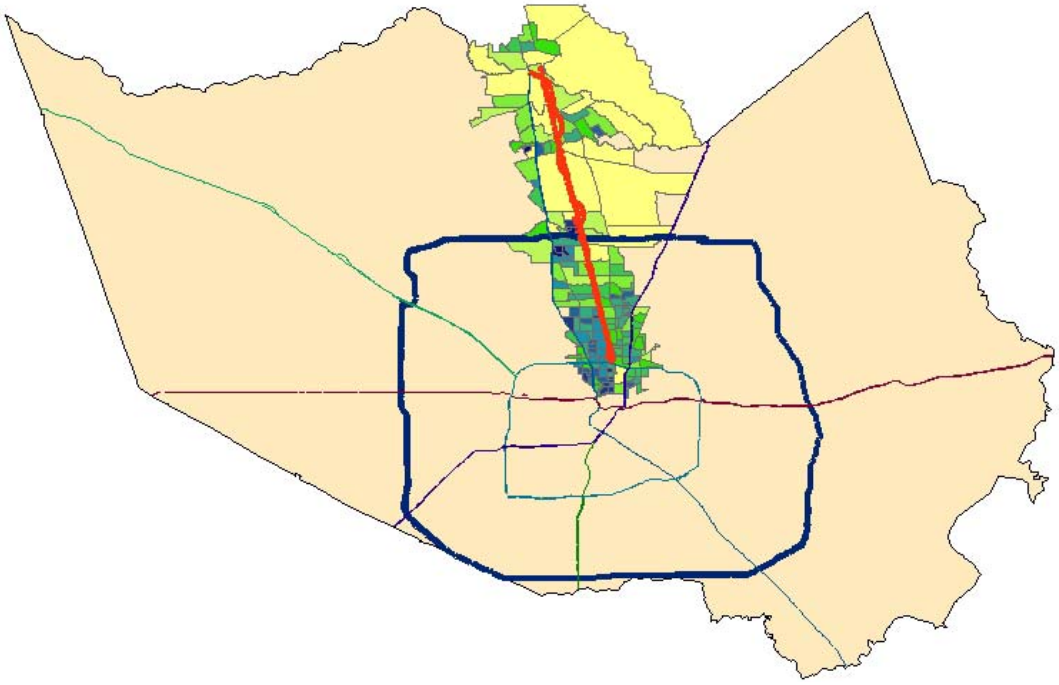
Lessons Learned

Balancing improved mobility with quality of life has been a community concern. Location of toll roads along existing rail rights of way has sped construction, but limited land development opportunities.

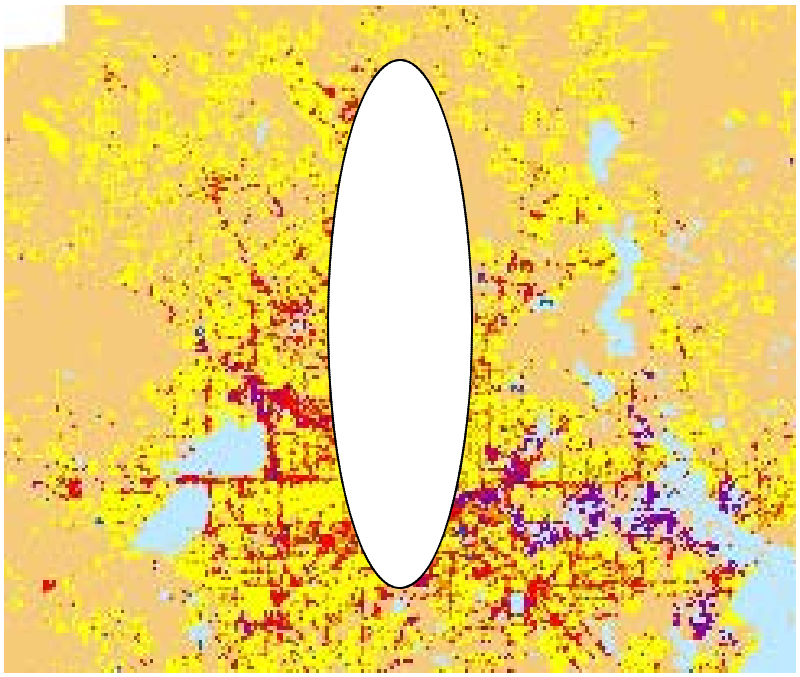
Aesthetic consideration not only applies to concerns regarding signage, but also landscaping and vegetation along the toll road corridors.

HARDY TOLL ROAD REPORT

Hardy Population Density Map



Hardy Land Use Map



HTR Report Continued

Hardy Land Use and Demographics

Population of Census Block Groups within 2 miles of Hardy

Population	
Year – 2000	312,338
Year – 2004 (estimated)	338,633
Population Growth	26,295
Percentage Change	8.4%

Density of Census Block Group Population within 2 miles of Hardy

Population Density	
Year – 2000	1,657.49
Year – 2004 (estimated)	1,797.03
Study Area (sq mi)	188.44

(Data Source: ESRI)

SH 130 Comparison to Hardy

The Hardy Toll Road was constructed as a bypass to the heavily congested I-45 freeway to the west. The Hardy Toll Road provides additional intra-regional mobility by connecting central Houston with northern suburban areas.

Multi-Modal Transportation

With the construction of the Hardy Toll Road along an existing rail line and the direct link to the George Bush Intercontinental Airport, many modes of transportation exist nearby. Also, Metro plans to eventually connect the airport with its light rail system.

Given the constraints of constructing these transportation facilities in existing, developed areas, the opportunities for successful multi-modal transportation capabilities in the Hardy Toll Road corridor have been limited.

Central Texas must continue its efforts to allow for multi-modal transportation facilities near the Austin-Bergstrom International Airport in coordination with the relocation of Union Pacific rail operations outside of populated central cities. Proactive planning is needed now to ensure this vision becomes reality.

Population Characteristics

Of the established benchmark corridors (excluding E-470), the Hardy Toll Road has the lowest population density.

2004 Population Density per square mile along Toll Road Corridors:

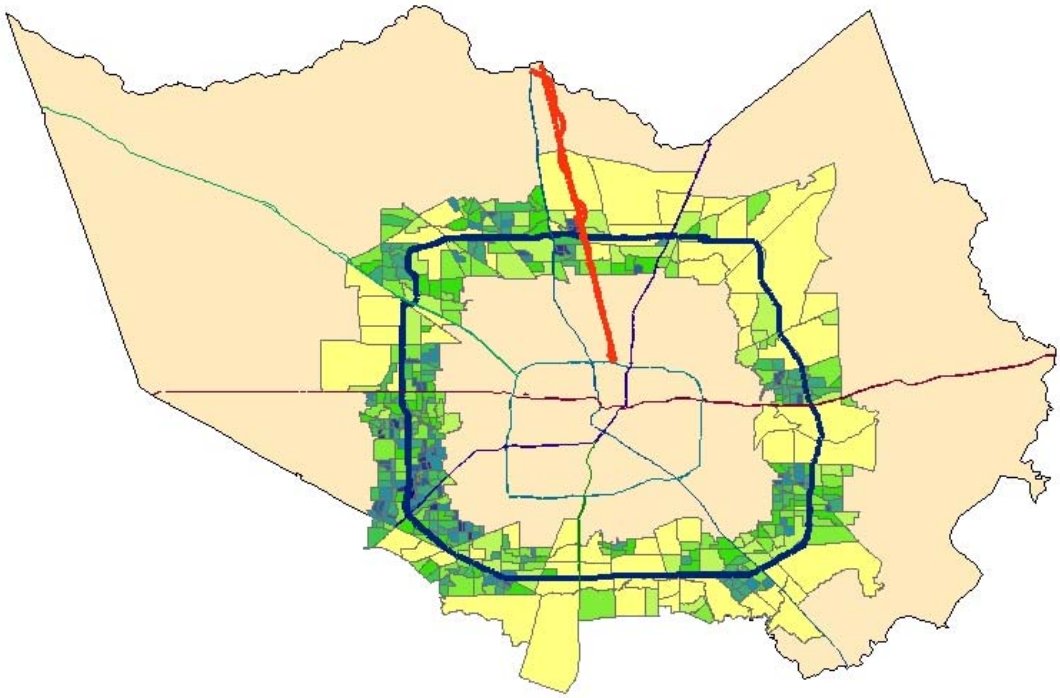
- SH 130: 213.44
- I-35: 2,184.92
- Loop 1: 2,427.77
- E-470: 256.00
- DNT: 3,281.48
- PGBT: 2,938.18
- Hardy: 1,797.03
- Sam Houston: 2,173.83

The City of Houston has a higher population density than either of its benchmark toll road corridors. Accordingly, land development is constrained along the Hardy Toll Road corridor due to the presence of the immediately adjacent rail line.

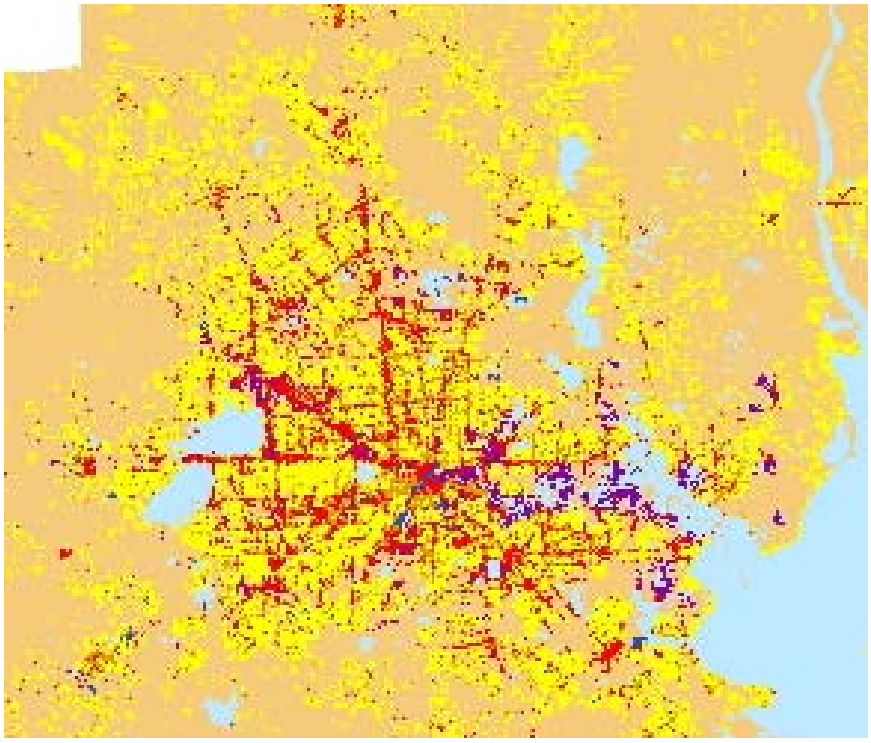
In order to plan for future development of the SH 130 corridor along with the eventual development of the MoKan rail corridor, extra attention must be paid to the constraints that a rail line would present. Issues such as connectivity and compatible land uses must be considered in order to develop to the highest and best use of these transportation corridors.

SAM HOUSTON TOLLWAY REPORT

Sam Houston Population Density Map



Sam Houston Land Use Map



Sam Houston Tollway Report Continued

Sam Houston Land Use and Demographics

Population of Census Block Groups within 2 miles of Sam Houston

Population	
Year – 2000	1,056,901
Year – 2004 (estimated)	1,169,586
Population Growth	112,685
Percentage Change	10.7%

Density of Census Block Group Population within 2 miles of Sam Houston

Population Density	
Year – 2000	1,964.39
Year – 2004 (estimated)	2,173.83
Study Area (sq mi)	538.03

(Data Source: ESRI)

SH 130 Comparison to Sam Houston

The Sam Houston Tollway forms a second loop around the City of Houston in addition to the more centrally located loop, I-610. The Sam Houston Tollway provides access to many points of interest in the region including both major airports, Bush Intercontinental and Hobby and the Houston Ship Channel.

Land Use Characteristics

The Sam Houston Tollway has the most diverse set of land uses along its path through the Houston region. The toll road passes through residential areas of various economic levels, office and commercial districts especially on the west side, and heavily industrial areas on the east near Galveston Bay and the Houston Ship Channel.

The Sam Houston Tollway provides many examples of development for future scenarios for SH 130. The SH 130 corridor may potentially feature a diverse set of land uses due to its proximity to existing residential areas, the Austin-Bergstrom airport, and existing industrial and mining operations east of Austin.

Roadway Configuration

As a beltway, the Sam Houston Tollway is unique in comparison to the other roads evaluated in this study. The future exception would be the E-470 Toll Road in the Denver area as it forms a partial loop in connection with the non-toll components of 470. As part of the Central Texas Turnpike Project that includes SH 45N in coordination with future toll road projects such as SH 45SE, SH 130 could be part of a partial loop in the Central Texas Region. The development of the Sam Houston Tollway and 470 corridors provide a perspective of the future SH 130 corridor.

Toll Road System

The Harris County Toll Road Authority (HCTRA) maintains several toll roads. These toll roads have connected distant suburban areas in multiple counties to each other and the central core of Houston. While improving mobility and travel times, these roads have facilitated spatially-disconnected development. As the Central Texas region will have multiple toll roads in the near future, the evaluation of the successes and failures of the land development patterns in the Greater Houston region would be necessary. Areas for further study include impacts on affordability, economic development, and the environment.

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Revised Draft CAMPO 2035 Regional Growth Concept

A Guide for Integrating Land Use and Transportation in Central Texas

Growth Trends

Between 1980 and 2000, the population of the three-county CAMPO region increased by 115% from 538,000 to 1,160,000. Much of the new population was accommodated in low density single family development on the fringe of the existing urban area, and analysis of satellite data shows a high rate of land being converted to urban uses. The growth in jobs that accompanied this population growth occurred primarily in Travis County and southern Williamson County.

If these trends continue, CAMPO forecasts that even after spending over $23 billion on roadway, transit, bicycle, and pedestrian improvements by 2030, congestion in the region will continue to get worse. In addition, overall quality of life may decline due to development of sensitive environmental areas and rural land, increasing infrastructure costs, a lack of housing options, longer commute times, and other factors.

Alternative Future

The CAMPO Regional Growth Concept incorporates parts of the Envision Central Texas vision while reflecting existing adopted local plans and values. The growth concept recognizes that due to market conditions and other factors, past development trends will likely continue in the region; however, **the growth concept proposes that CAMPO, local governments, and other regional partners implement strategies that would encourage the development of "activity centers" throughout the region**.

Accommodating a greater percentage of future regional growth in activity centers supports quality of life by providing additional housing options, providing additional employment and retail opportunities closer to where people live, supporting transit and roadway investments, creating areas with a unique sense of place, and using infrastructure efficiently.

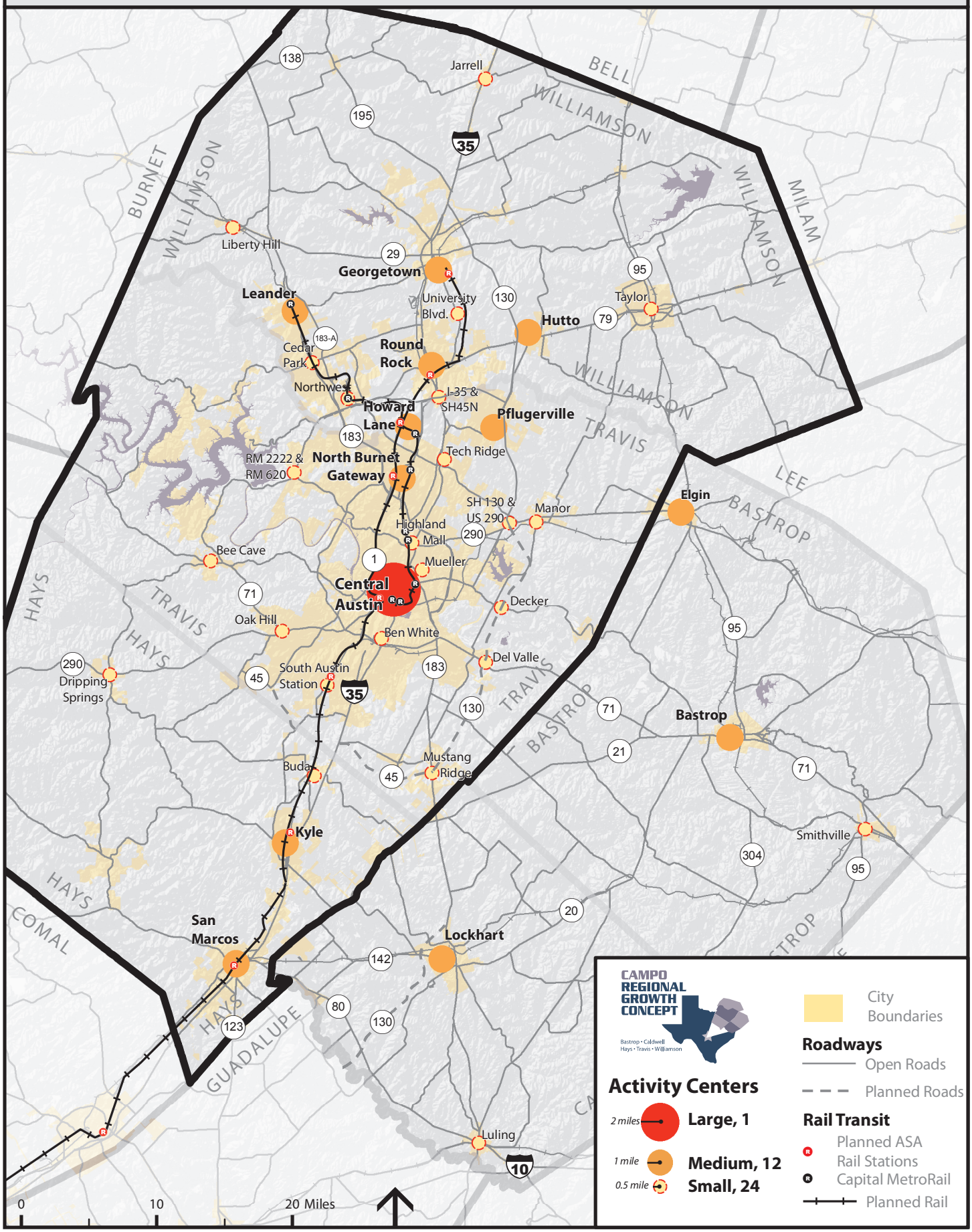
Goals

- Cluster growth
- Integrate land use and transportation
- Reduce growth impacts

Implementation

- Local policy changes
- Strategic transportation investments
- Developer and utility provider support

Draft CAMPO REGIONAL GROWTH CONCEPT, May 2007



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Targets

Table 1. Activity Center Performance and Targets

2035 Activity Center	Jurisdiction	Existing (2005)[1]				Center Type[2]	Future (2035)Targets[3]
		Jobs		Population			
		Total	% of region	Total	% of region		
Central Austin	Austin	150,000	21.5%	65,000	4.5%	**Large**	**125,000-500,000 people** and **200,000-300,000 jobs**
Bastrop	Bastrop	5,000	0.7%	3,000	0.2%	**Medium**	Within each **medium** activity center: **9,000-75,000 people** and **9,000-40,000 jobs**
Elgin	Elgin	3,000	0.4%	5,000	0.3%		
Georgetown	Georgetown	2,000	0.3%	4,000	0.3%		
Howard Lane	Austin	3,000	0.4%	2,000	0.1%		
Hutto	Hutto	1,000	0.1%	1,000	0.1%		
Kyle	Kyle	1,000	0.1%	6,000	0.4%		
Leander	Leander	1,000	0.1%	4,000	0.3%		
Lockhart	Lockhart	2,000	0.3%	7,000	0.5%		
North Burnet Gateway	Austin	26,000	3.7%	4,000	0.3%		
Pflugerville	Pflugerville	1,000	0.1%	8,000	0.5%		
Round Rock	Round Rock	8,000	1.1%	8,000	0.5%		
San Marcos	San Marcos	12,000	1.7%	14,000	1.0%		
Bee Cave	Bee Cave	<500	<0.1%	<500	<0.1%	**Small**	Within each **small** activity center: **2,000-10,000 people** and **2,000-10,000 jobs**
Ben White	Austin	2,000	0.3%	2,000	0.1%		
Buda	Buda	1,000	0.1%	1,000	0.1%		
Cedar Park	Cedar Park	1,000	0.1%	1,000	0.1%		
Decker	Austin/Travis Co	<500	<0.1%	<500	<0.1%		
Del Valle	Austin	<500	<0.1%	<500	<0.1%		
Dripping Springs	Dripping Springs	<500	<0.1%	<500	<0.1%		
Highland Mall	Austin	6,000	0.9%	3,000	0.2%		
Jarrell	Jarrell	<500	<0.1%	<500	<0.1%		
Liberty Hill	Liberty Hill	<500	<0.1%	<500	<0.1%		
Luling	Luling	<500	<0.1%	2,000	0.1%		
Manor	Manor	1,000	0.1%	1,000	0.1%		
Mueller	Austin	1,000	0.1%	1,000	0.1%		
Mustang Ridge	Mustang Ridge	<500	<0.1%	<500	<0.1%		
Northwest	Austin	1,000	0.1%	<500	<0.1%		
Oak Hill	Austin	1,000	0.1%	2,000	0.1%		
Smithville	Smithville	<500	<0.1%	1,000	0.1%		
South Austin Station	Austin	<500	<0.1%	4,000	0.3%		
Taylor	Taylor	1,000	0.1%	2,000	0.1%		
Tech Ridge	Austin	2,000	0.3%	2,000	0.1%		
University Blvd	Round Rock	<500	<0.1%	<500	<0.1%		
IH-35 & SH 45 N	Round Rock	6,000	0.9%	1,000	0.1%		
SH 130 & US 290	Austin	<500	<0.1%	<500	<0.1%		
RM 2222 & RM 620	Austin	1,000	0.1%	<500	<0.1%		
All Activity Centers (Total)		**239,000**	**34.2%**	**159,000**	**10.9%**		**21.5%** of regional population **36.4%** of regional jobs

[1] **Existing (2005) Population and Employment.** Reflects estimated residential population and employment within the activity center circles shown on the map rounded to nearest thousand. Based on 2005 CAMPO Population and Employment Base Year Estimates.

[2] **Center Type**. Center types described in detail on Page 4.

[3] **Future (2035) Targets.** Actual performance may vary by activity center. The performance of individual centers will be monitored; however, the overall goal of the growth concept is to accommodate a higher percentage of population and employment within activity centers as the region grows.

About Activity Centers

- More intensely developed than the surroundings
- Pedestrian-oriented (many destinations within walking distance, safe and convenient pedestrian facilities)
- Connected to surrounding neighborhoods and the region by a range of transportation options
- Mix of employment, housing, and retail and
- Tailored to the local area

Large Activity Center. Downtown Austin, with the region's highest numbers of jobs, housing and recreational opportunities. This large activity center is approximately 2 miles in radius and would grow to absorb a 2035 population of at least 125,000 residents and 200,000 employees.



Medium Activity Centers. Large regional core that serves as a major hub for regional employment and housing in the future. Medium activity centers are approximately 1 mile in radius and would grow to absorb a 2035 population of 9,000-75,000 residents and 9,000-40,000 employees.



Small Activity Centers. Smaller but still significant area that serves as the heart of medium-size communities in the future. Also includes rail station areas providing services, recreational amenities and high-density housing that is convenient to mass transit. Small activity centers are approximately 1/2 mile in radius and would grow to absorb a 2035 population of 2,000-10,000 residents and 2,000-10,000 employees


Strategies

Table 2. Menu of Implementation Strategies

Strategy	Cities	Counties	Regional Entities[4]
Transportation			
T1. Reconstruct streets within activity centers to be more bus, bicycle, and pedestrian friendly	✔	✔	✔
T2. Improve street connectivity within activity centers and between activity centers and surrounding neighborhoods by constructing new collectors and local streets	✔	✔	
T3. Provide new local public transportation service to activity centers and provide additional public transportation circulator service within activity centers	✔		✔
T4. Provide new high capacity transit service, including passenger rail and rapid bus to activity centers			✔
T5. Make improvements to freeways and other arterial roadways that connect activity centers	✔	✔	✔
T6. Construct park and ride lots and intermodal transit facilities within activity centers	✔		✔
Land Development Ordinances and Plans			
L1. Amend comprehensive plans and development ordinances to allow higher residential densities within activity centers	✔		
L2. Amend comprehensive plans and development ordinances to create and apply mixed use zoning or allow residential development within commercial zones in activity centers	✔		
L3. Create and apply development and design standards that support transit and pedestrian oriented development within activity centers.	✔		
L4. Create master plans, PUDs and other site-specific plans that encourage greater residential densities, greater employment intensities, and a more fine grained mix of uses within activity centers	✔		
Economic Development Incentives			
E1. Use economic development incentives, tax abatements, and other means to encourage development that provides high quality jobs within activity centers	✔		
E2. Implement Tax Increment Finance Districts, Public Improvement Districts, and other innovative finance mechanisms to support infrastructure and public amenities within developing activity centers	✔	✔	
E3. Provide support to developers undertaking context-sensitive infill and adaptive reuse projects within activity centers, especially in historic downtowns	✔		
E4. Implement impact fees that provide a financial incentive for location-efficient development within activity centers.	✔		
E5. Participate in public-private partnerships and development agreements that support development within activity centers that uses infrastructure efficiently and provides other public benefit.	✔	✔	
Other			
O1. Develop open space plans and use open space acquisition to preserve parks and habitat areas outside of activity centers	✔	✔	
O2. Develop trail plans that provide connections between activity centers and natural areas.	✔	✔	
O3. Prioritize extension of urban services, including utilities, to activity centers.	✔		✔
O4. Allow for Transfer of Development Rights that use activity center sites as "receiving sites".	✔		
O5. Allow for additional development intensity in activity centers in exchange for provision of public amenities that support the activity center.	✔		
O6. Adopt conservation development ordinances that allow for development to cluster away from environmental features on a site.	✔	✔	
O7. Site municipal buildings, schools, and other publicly funded civic facilities within activity centers.	✔	✔	✔

[4] "Regional Entities" includes CAMPO, TxDOT, CTRMA, Capital Metro, CARTS, the Austin San Antonio Rail District, and other regional governmental entities including school districts, water service districts, and electric utilities.

Background and Public Process

May 2004	**Envision Central Texas (ECT) Vision**	ECT adopts a growth vision for the region based on extensive public outreach and scenario planning.
June 2005	**CAMPO Board Direction**	CAMPO Transportation Policy Board directs CAMPO staff to analyze an alternative growth pattern that would improve transportation system performance.
November 2005	**ECT Preferred Scenario**	ECT Board approves a Preferred Scenario map based on public survey results.
December 2005 - May 2006	**CAMPO Growth Subcommittee**	CAMPO TAC appoints a 20 member "Growth Subcommittee" and CAMPO staff works with them to develop a scope and work program for the project.
May 2006 - June 2006	**Jurisdiction Meetings**	CAMPO staff convenes a series of interactive meetings around the region attended by public officials and staff from the region's cities, counties, and regional agencies.
June 2006 - August 2006	**Technical Analysis**	CAMPO staff develops draft CAMPO Growth Concept based on the input from the meetings, the CAMPO Growth Subcommittee, and technical analysis.
August 2006	**Draft CAMPO Growth Concept**	CAMPO staff publishes draft CAMPO Growth Concept, and works with a public involvement consultant to get the word out on the draft.
August 2006 - September 2006	**TAC and Transportation Policy Board**	CAMPO staff presents the draft CAMPO Growth Concept to the Transportation Policy Board and the Technical Advisory Committee.
September 2006	**Public Workshops**	Approximately 200 citizens attend four public workshops hosted by CAMPO staff throughout the region.
August 2006 - September 2006	**Public Survey**	Approximately 2000 people respond to a public input survey available on-line and at the public workshops.
October 2006	**Public Involvement Summary**	CAMPO staff compiles comments received into a public comment log, and the public involvement consultant develops a summary of public involvement.
November 2006 -May 2007	**Draft Revision**	CAMPO staff works with the CAMPO Growth Subcommittee and jurisdiction staff to revise the draft Growth Concept based on public input.
May 2007	**Revised Draft CAMPO Growth Concept**	CAMPO staff publishes Revised Draft CAMPO 2035 Growth Concept and presents the concept to public, TAC, and Transportation Policy Board.
May -December 2007	**Consideration and Agreements**	CAMPO Transportation Policy Board considers approval of CAMPO 2035 Growth Concept. If approved, CAMPO works to formalize agreements supporting the concept.

Memorandum of Understanding

The CAMPO 2035 Regional Growth Concept would be implemented in part through "memorandums of understanding" between CAMPO and the region's Cities, Counties, and other entities. The text of these memorandums would be tailored to apply appropriately to organizational characteristics and specific local circumstances. The following provides an example of a memorandum of understanding between CAMPO and a City.

Example Memorandum Of Understanding

This Memorandum of Understanding ("Memorandum") is made and entered into **{DATE}** (the "Effective Date"), by and between the Capital Area Metropolitan Planning Organization ("CAMPO") and **{City Name}** (the "City").

WHEREAS, CAMPO has been designated by the Governor as the Metropolitan Planning Organization for the three-county region of Williamson, Travis, and Hays Counties;

WHEREAS, CAMPO has adopted a Regional Growth Concept based on extensive input from Envision Central Texas, local jurisdictions and other stakeholders as well as an analysis of existing conditions;

WHEREAS, the CAMPO Growth Concept calls for the development of activity centers throughout Williamson, Travis, and Hays Counties and provides an illustrative map for Bastrop and Caldwell Counties;

WHEREAS, accommodating a larger percentage of future growth in activity centers will support regional quality of life by providing additional housing options, providing additional employment and retail opportunities closer to where people live, supporting transit and roadway investments, creating areas with a unique sense of place, and using infrastructure efficiently; and

WHEREAS, accommodating a larger percentage of future growth in activity centers can support regional goals related to congestion reduction and can help the region to meet future transportation needs more efficiently.

NOW, THEREFORE, in consideration of the foregoing recitals and of the mutual benefits and covenants contained in this Memorandum, CAMPO and **{City Name}** hereby agree as follows:

1. City support of CAMPO Growth Concept. The City agrees to support implementation of the activity centers identified on the CAMPO Growth Concept Map. The City agrees to work toward meeting the performance goals and the performance targets identified in Table 1 of the CAMPO Growth Concept. In order to support attainment of the performance goals and targets, the City may employ one or more of the implementation strategies identified in Table 2 of the CAMPO Growth Concept, or may use alternative policy tools.

2. CAMPO support of CAMPO Growth Concept. CAMPO agrees to support implementation of the activity centers identified on the CAMPO Growth Concept Map. CAMPO agrees to work toward meeting the performance goals and the performance targets identified in Table 1 of the CAMPO Growth Concept. In order to support attainment of the performance goals and targets, CAMPO agrees

- to use activity centers as criteria for prioritizing projects during development of the CAMPO 2035 Plan.
- to use Surface Transportation Program-Metropolitan Mobility (STP-MM) funds to support projects that enhance transit and roadway connections between activity centers, and to fund streetscape improvement projects, bicycle and pedestrian projects, and other transportation projects within activity centers. CAMPO may set aside STP-MM funding through a special call for projects, or may integrate selection criteria into future project calls that award additional points to projects that support implementation of activity centers,
- to use activity centers as a method of prioritizing projects for incorporation into the CAMPO Transportation Improvement Program, and
- to partner with other regional and local entities to employ additional implementation strategies.

3. Reporting. The City agrees to provide information to CAMPO on local progress toward implementing the CAMPO Growth Concept. The City agrees to include in this information a description of the implementation strategies being used by the City to support implementation of the activity centers, as well as available information on the current status of particular activity centers.

4. Monitoring, Performance Benchmarking and Land Use Forecasting. CAMPO agrees to include assumptions regarding implementation strategies being undertaken by the City in future land use forecasts. As part of its land use forecasting program, CAMPO agrees to develop population and employment estimates and forecasts for each of the activity centers and to compare these estimates and forecasts against the performance targets identified in Table 1 of the CAMPO Growth Concept. CAMPO agrees to make this information available to area jurisdictions and regional entities to use as feedback regarding the extent to which particular implementation strategies are succeeding/expected to succeed in the implementation of the CAMPO Growth Concept.

APPENDIX F

TWDB COMMENTS AND RESPONSES

ATTACHMENT 1

TWDB Contract No. 0704830696

Region K, Region-Specific Contract Study

1) **Surface Water Availability Modeling Study**
2) **Environmental Impacts of Water Management Strategies**
3) **Evaluation of High Growth Areas**

TWDB Comments on Draft Final Region-Specific Study Reports

Surface Water Availability Modeling Study

1. Page ES-1, the last paragraph states "overall, total availability increased slightly as compared to the 2006 Region K plan." However, the first paragraph on the next page indicates that availability in three sectors was unchanged, while the availability for municipal, irrigation, and steam-electric demands was "smaller" than in the 2006 plan. Please reconcile these two statements in the final report.

2. Page 3-2, the second paragraph refers to FNI, but does not define the term. Please define it in the final report.

3. It is difficult to find information in appendices A and B, then to relate the information to the main body of the report. Please consider adding an index to both appendices in the final report.

Environmental Impacts of Water Management Strategies

1. Interpretation of the study results is somewhat difficult because two different base models were used for "with" and "without" strategy comparisons (i.e. WAM Run 3 Cutoff Model and LSWP Model). Also, one or more strategies may have been incorporated in the "without" strategy (base) model used to evaluate other strategies. The report documents the necessity of conducting the analysis in this fashion but could be improved by making it explicitly clear which model was used and which strategies were incorporated in the base model for the analysis of each strategy. Please consider adding a clarifying sentence to the description of each strategy analysis in Chapter 3.0 Results (pp 3-1 to 3-50). For example, on page 3-2, the first paragraph could read (additions in *italics*): "This strategy involves the expansion of LCRA contracts to meet shortages. The increase in contract amounts should decrease interruptible supplies, and therefore, regulated streamflows downstream of the strategy." *For the analysis, the* (WAM Run 3 Cutoff Model or LSWP Model) *with the inclusion of strategies* (xxx) *was used for the base condition.*

2. Figure 3.1 on page 3-2 is titled "location of control points" but it seems to list only the major control points used in the study, as there are several other control

points referred to in the text that are not included in this or a similar figure. Please consider re-titling Figure 3.1 "location of major control points" and referencing the map in Exhibit B of all control points.

3. Strategies number 4 (pp. 3-13 through 3-15), 10 (pp. 3-38 through 3-40), and 11 (pp. 3-43 through 3-45) use four control points, but the contract scope of work states that five designated control points on the Colorado River and major tributaries will be used for a quantitative impact analysis. Likewise, strategy number 13 (pp. 3-48 through 3-49) only uses three control points. Please justify the deviation from the contract scope of work in the final report.

4. In the Executive Summary, an example of the detailed results of a single strategy is given. Please include a summary of the significant results of all the strategies in the final report.

5. Figures 3.2 – 3.19 beginning on page 3-6 show 58-year median flows with 10^{th} and 90^{th} percentile flows. The legend is shown on the x axis, which actually shows flow volumes in increments of 50,000 acre-feet per year. Please consider moving this legend to the y axis which shows median flows for each month of the year.

Evaluation of High Growth Areas

1. Please note that TWDB's acceptance of a final report for this study does not constitute approval of any revised population or water demand projections contained therein. The formal procedure for requesting revised projections is stated in TAC 357.5 (d) (2):
   "Before requesting a revision to the population and water demand projections, the regional water planning group shall discuss the issue at a public meeting for which notice has been posted pursuant to the Open Meetings Act in addition to being published on the internet and mailed at least 14 days before the meeting to every person or entity that has requested notice of regional water planning group activities. The public will be able to submit oral or written comment at the meeting and written comments for 14 days following the meeting. The regional water planning group will summarize the public comments received in its request for projection revisions. Within 45 days of receipt of a request from a regional water planning group for revision of population or water demand projections, the executive administrator shall consult with the requesting regional water planning group and respond to their request."

   All requested revisions which receive the consensus recommendation of the Texas Water Development Board, Texas Department of Agriculture, Texas Commission on Environmental Quality, and Texas Parks and Wildlife Department, will then be presented for consideration of Board approval at the next scheduled meeting.

2. Page 3-6, the first paragraph states that a population density of 150 persons per square mile was assumed but no explanation is provided. Please provide the rationale for this assumption in the final report.

3. Page 3-6, Table 3-6 includes the numerical difference between the State Data Center's estimated 1/1/07 population in the study area and the interpolated TWDB estimates for the same time period. In addition to the numerical difference between the projections, please consider including the percentage difference as well.

4. Page 3-7, Table 3.7 lists the "CAMPO" growth estimates for 2035 compared with the 2006 Region K plan estimates. For areas where they don't agree (Manor and Mustang Ridge), suggested increases were made to the projections by subtracting from county-other, but no explanation or methodology for the selected projections is provided. Please provide the rationale for these assumptions in the final report.

Response to TWDB Comments on Draft Final Region-Specific Study Reports (4/07/09)

Evaluation of High Growth Areas

1. Please note that TWDB's acceptance of a final report for this study does not constitute approval of any revised population or water demand projections contained therein. The formal procedure for requesting revised projections is stated in TAC 357.5 (d) (2):
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   All requested revisions which receive the consensus recommendation of the Texas Water Development Board, Texas Department of Agriculture, Texas Commission on Environmental Quality, and Texas Parks and Wildlife Department, will then be presented for consideration of Board approval at the next scheduled meeting.

   Response: Acknowledged.

2. Page 3-6, the first paragraph states that a population density of 150 persons per square mile was assumed but no explanation is provided. Please provide the rationale for this assumption in the final report.

   Response: A more thorough explanation will be provided.

3. Page 3-6, Table 3-6 includes the numerical difference between the State Data Center's estimated 1/1/07 population in the study area and the interpolated TWDB estimates for the same time period. In addition to the numerical difference between the projections, please consider including the percentage difference as well.

   Response: Agreed. The percentage difference will be added to the table.

4. Page 3-7, Table 3.7 lists the "CAMPO" growth estimates for 2035 compared with the 2006 Region K plan estimates. For areas where they don't agree (Manor and Mustang Ridge), suggested increases were made to the projections by subtracting from county-other, but no explanation or methodology for the selected projections is provided. Please provide the rationale for these assumptions in the final report.

   Response: Agreed. The rationale for the assumptions will be included.