	Winest .		TTO AND A		arrange and a
County-	Valuation.	County-	valuation.	County-	Valuation.
Anderson		Golind		*Navarro	52,804,720
Andrews	2,246,478	Gonzales	13,981,908	Newton	6,413,409
*Angelina	14.513.640	"Gray	3,839,913	Nolan	8,370,526
Aransas	2.614,985	Grayson		Nueces	20,217,329
Archer	14,011,140	Gregg		Ochiltree	5,080,398
Armstrong	11 949 649 4	Grimes		Oldham	4,169,325 16,870,490
Austin	12.261.599	Hale		*Palo Pinto	17,192,091
Bailey	3,468,748	Hall	8,068,890		6,608,470
Bandera	2,625,960	Hamilton		Parker	13,136,061
*Baylor	18,490,860	*Hansford		*Parmer	6,069,225
Bee	8 313 968	Hardeman	9,962,613 18,011,230		8,530,915 9,956,805
*Bell		Harris	205,038,348		20,014,620
Bexar	131,198,216	*Harrison		*Presidio	6,701,307
Blanco		Hartley	4.718,419		3,032,415
Borden	2.334.770	Haskell	8,657,816		5,604,031
Bowie		Hemphill	5,494,752	Real	1,755,077
Brazoria	33,139,895	*lieuderson		Red River	13,524,950
Brazes	10,404,752	*Hidalgo	28,493,019	*Reeves	5,967,201
Brewster	8,749,7421		30,085,940	Refugio	6.116,192
Briseoe		*Hockley	2 840 919	Roberts	3,175,677
Brown	12 384 517	Hopkins	9.633.066	Rockwall	12,646,161 4,658,171
*Burleson	9.277.23711	Houston	8,195,630	Runnels	12,088,650
Burnet	7,492,2361	"Howard	5,540,805	Rusk	7,465,670
Caldwell	15,696,886	Hudspeth	5.511,435	*Sabine	5,307,990
*Calhoun	4,702,368 1	Hutchinson	1.760.991	San Augustine	5,615,578 4,106,020
*Cameron	24,975,030	Irion	2.708.592	*San Patricio	9.688,335
*('amp	3.6				8,685,385
Carson	4.4				3,648,900
Castro	6,8			P.O.D.E.	6.858,816
Chambers	S	UMMARY VALU	JATION RE	PORT	6,907,762 8,717,560
Cherokee	12.4	CD	21 2017		3,238,963
Childress	7.2	as of Dec	. 31, 2017		14,145,951
Clay	13.0				1,427,029
*Cochran	300				3,357,640 25,864,260
Coleman	12.9	Victoria C	ounty - 334		2,378,714
Collin	30.0		•		4,606,367
	1,000,000,000				
Collingsworth	5.6				3,866,672
Collingsworth *Colorado	13.9				3,866,672 5,390,687
*Colorado Comai	5.6 13.9 7.595.005 14.563.014	Kimble	0,280,800 4,210,857	Tarrant	3,866,672 5,390,687 140,573,810
Collingsworth *Colorado Comai Conauche	5.6 13.9 7.500.000 14.563.014 5.239.164	Kimble	4,210,357 2,345,264	Tarrant	3,866,672 5,390,687
Collingsworth Colorado Comal Comauche Concho Cooke	5,6 13,9 7,593,669 14,563,014   1 5,259,164   16,362,350	Kimble King Kinney	4,210,357 2,345,264 4,823,129	Tarrant Taylor Terrell *Terry	3,866,672 5,390,687 140,573,810 22,480,535 5,031,917 3,420,598
Collingsworth Colorado Comal Comauche Coneho Cove	5,6 13,9 7,593,669 14,563,014 5,230,164 16,362,350 10,325,000	Kimble King Kinney Kleberg	4,210,857 2,345,264 4,823,129 7,670,434	Tarrant Taylor Terrell Terry Throckmorton	3,866,672 5,390,687 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697
Collingsworth *Colorado Comai Conauche Coneho Coryell Cottle	5,6 13,9 7,593,665 14,563,014 5,230,164 16,362,350 10,325,000 6,955,975	Kimble King Kinney Kleberg	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350	Tarrant Taylor Terrell *Terry Throckmorton Titus	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618
Collingsworth Colorado Comal Comauche Concho Cooke Coryell Cottle Crane *Crockett	5,6 13,9 7,593,000 14,563,014   5,250,164   16,362,350   10,325,000   6,955,975   610,319   3,336,400	Kimble King Kinney Kleberg Knox Lamar	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880	Tarrant Taylor Terrell Terry Throckmorton Titus Tom Green Trayis	3,866,672 5,390,687 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097
Collingsworth  *Colorado Comai Comai Coneho Cooke Coryell Cottle Crane *Crockett *Croshy	5,6 13,9 7,593,669 14,563,014   15,250,164   16,862,350   10,325,000   1 6,955,975   610,319   3,336,400   4,973,866   1	Kimble King King Kinney Kleberg Knox Lamar Lamb Lampasss	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 8,540,290	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green Travis	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 42,938,097
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett *Crosby *Culherson	5,6 13,9 7,5#3,665 14,563,014 5,230,164 16,362,350 10,325,000 6,955,975 610,319 3,336,400 4,973,866 13,866,000	Kimble King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green Travis *Trinity Tyler	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam	5,6 13,9 7,593,000 14,563,014 5,230,164 16,362,350 10,325,000 6,955,975 610,319 3,336,400 4,973,860 13,866,000 10,008,555	Kimble King Kinney Kinney Kinney Lamar Lamar Lamb Lampasas Lampasas	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green Travis *Trinity Tyler Upshur	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett *Crosby *Culherson	5,6 13,9 7,593,669 14,563,014 15,250,164 16,362,350 10,325,000 6,955,975 610,319 3,336,400 4,973,866 13,866,000 10,008,555 124,759,500 15,024,600	Kimble King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green Travis *Trinity Tyler Upshur Upton Uvalde	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689
Collingsworth  *Colorado Comai Comauche Coneho Cooke Coryell Cottle Crane  *Crockett *Crosby *Cubberson *Dallam Dallas Dawson Deaf Smith	5,6 13,9 7,5,3,665 14,563,014 5,230,164 16,362,350 10,325,000 6,955,975 610,319 3,336,400 4,973,866 10,098,555 10,098,555 1224,759,500 5,024,600 7,923,523	Kimble King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee Leon	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta	5.6 13.9 7,593,665 14.563,014 5,230,164 16.362,350 10.325,000 6.955,975 610,319 3,336,400 4,973,866 13,866,000 10,098,555 1224,759,500 17,923,523 7,064,960	Kimble King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee Leon Liberty *Limestone	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416
Collingsworth  *Colorado Comai Comai Come Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby  *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton	5,6 13,9 7,593,665 14,563,014 5,250,164 16,362,350 10,325,000 6,955,975 610,319 3,336,400 4,973,866 13,866,000 10,098,555 224,759,500 15,024,600 17,923,523 17,064,960 19,923,150	Kimble King King Kinney Kleberg Knox Lamar *Lamab Lampasas *La Salle Lavaen Lee Leon Liberty Limestone Lipscomb	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upshur Upshur Uvalde *Val Verde. Van Zandt. Victoria	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 •42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832
Collingsworth  *Colorado Comai Comauche Coneho Cooke Coryell Cottle Crane  *Crockett *Crosby *Culberson *Dallas Dallas Dawson Deaf Smith Delta Denton De Witt Dickens	5.6 13.9 7,593,005 14.563,014 5,230,164 16,362,350 10,325,000 16,955,975 610,319 3,336,400 4,973,866 13,866,000 10,098,555 1224,759,500 15,024,600 17,923,523 17,064,960 19,923,150 120,334,480 4,777,849	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee Leo Liberty *Limestone Lipscomb *Live Oak *Llano	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240	Tarrane Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby  *Culberson  *Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit	5.6 13.9 7,5#3,665 14.563,014 5,230,164 16.362,350 10.325,000 6.955,975 610,319 3,336,400 4,973,866 13,866,000 10,098,555 224,759,500 17,923,523 7,064,960 19,923,150 19,923,150 19,923,150 4,777,849 5,036,358	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee Liberty *Limestone Lipscomb *Live Oak *Llaving	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker *Ward	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 0,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crockett  *Crosby  *Culberson  *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley	5,6 13,9 7,593,660 14,563,014 5,250,164 16,362,350 10,325,000 6,955,975 610,319 3,336,400 4,973,866 10,098,555 10,098,555 10,098,555 17,024,600 17,923,523 17,064,960 19,923,150 10,008,008,008	Kimble King King King Kinney Kleberg Knox Lamar *Lamab Lampasas *La Salle Lavaen Lee Leon Liberty *Limestone Lipscomb *Live Oak *Lilano *Loving Lubboek	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker Ward Ward Washington	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300
Collingsworth  *Colorado Comai Comai Comeno Concho Cooke Coryell Cottle Crane *Crockett *Crosby *Culberson *Dallam Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duyai	5.6 13.9 7,593,005 14.563,014 5,230,164 16,362,350 10.325,000 6,955,975 610,319 3,836,400 4,973,866 13,866,000 16,098,555 1224,759,500 17,923,523 17,064,960 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 17,664,960 19,923,150 17,677,675 17,677,675 17,677,675	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee Leo Liberty *Limestone Lipscomb *Live Oak *Liano *Loving Lubboek Lynn	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker *Walker Ward Ward Washington Webb	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby  *Culberson  *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duvai Eastland  *Ector	5.6 13.9 7,593,665 14.563,014 5,230,164 16.362,350 10.325,000 6.955,975 610,319 3,336,400 4,973,866 13,866,000 10,098,555 1224,759,500 17,923,523 7,064,960 17,923,523 17,064,960 19,923,150 10,008,555 10	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lamb Lampasas *La Salle Lavaen Lee Liberty *Limestone Lipscomb *Live Oak *Live Oak *Living *Living *Living *Liphock Lynn *Madison Marion	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542 4,450,740	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde. Van Zandt. Victoria *Walker *Walker *Walker Ward Washington Webb Wharton	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290
Collingsworth  *Colorado Comal Comanche Concho Cooke Coryell Cottle Crane *Crockett *Crosby *Culberson *Dallam Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards	5.6 13.9 7.593,665 14.563,014 5.230,164 16.362,350 10.325,000 6.955,975 610,319 3.336,400 4.973,866 13.866,000 10.098,555 10.098,555 1224,759,500 17.923,523 17.064,960 19.923,523 17.064,960 19.923,523 17.664,960 19.923,523 17.664,960 19.923,755 1	Kimble King King King Kinney Kleberg Knox Lamar *Lamab Lampasas *La Salle Lavaen Liberty *Limestone Liberty *Linestone *Live Oak	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,988,779 5,445,755 6,338,240 563,064 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785	Taylor Terrell  *Terry Throckmorton Titus Tom Green. Travis  *Trinity Tyler Upshur Upton Uvalde  *Val Verde Van Zandt. Victoria  *Walker  *Waller Ward Ward Washington Wheeler Wheeler Wichita	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 4,622,174 67,820,600
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duvai Eastland *Ector *Edwards Ellis	5.6 13.9 7,593,665 14.563,014 5,230,164 16,362,350 10,325,000 16,955,975 610,319 3,836,400 4,973,866 13,866,000 10,098,555 1224,759,500 19,923,150 17,064,960 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 19,923,150 17,675,675 18,8417,580 2,327,752 4,529,145 37,250,700 2,372,700	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaca Lee Leon Liberty *Limestone Lipscomb *Live Oak *Llano *Loving Lubbock Lynn *Madison Marion Marion Martin Mason	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,568,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker *Waller Ward Washington Wheeler Wichita Wilbarger	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402
Collingsworth  *Colorado Comai Comauche Coneho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Eetor *Edwards Ellis *El Paso	5.6 13.9 7,593,000 14.563,014 5.230,164 16.362,350 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.098,555 1224,759,500 17.923,523 17.064,960 19.923,150 19.923,150 19.923,150 19.923,150 17.064,960 17.064,960 19.923,150 17.064,960 17.064,960 19.923,150 17.064,960	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee Leon Liberty *Limestone Lipscomb *Liye Oak *Llano *Loving Lubbock Lynn *Madison Martin Martin Mason Matagorda	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker *Walker Ward Washington Wheeler Wichita Wilbarger *Willary *Willary *Willary	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards Ellis *El Paso Erath	5.6 13.9 7,593,665 14.563,014 5,230,164 16.362,350 10.325,000 6.955,975 610,319 3,336,400 4,973,866 13,866,000 10,098,555 1224,759,500 17,923,523 7,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,77,849 5,036,358 6,284,110 17,677,675 13,8417,580 2,327,752 4,529,145 37,250,700 17,550,700	Kimble King King King King King King King King	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker Ward Washington Webb Wharton Wheeler Wichita Wilbarger *Willacy Williamson	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 0,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 16,641,930 16,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840
Collingsworth  *Colorado Comai Comai Comeno Cooke Coryell Cottle Crane  *Crockett *Crosby *Culberson *Dallam Dallam Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards Ellis *El Päso Erath Falls Falls Falnin	5.6 13.9 7,593,665 14.563,014 5,230,164 16,362,350 10,325,000 16,955,975 610,319 3,836,400 4,973,866 13,866,000 16,098,555 1224,759,500 17,923,523 17,064,960 19,923,150 19,923,150 19,923,150 19,923,150 17,664,960 19,923,150 17,677,675 18,447,7849 5,036,358 6,284,110 17,677,675 138,417,580 2,327,752 4,529,145 237,250,700 176,512,321 12,908,950 19,275,360 19,275,360 19,275,360 19,275,360 19,275,360 19,275,360 19,275,360 19,275,360 19,275,360	Kimble King King King Kinney Kleberg Knox Lamar *Lamab Lampasas *La Salle Lavaen Lee Leon Liberty *Limestone Lipscomb *Live Oak *Llano *Loving Lubbock Lynn *Madison Martin Mason Martin Mason Matagorda *Maverick McCulloch McCulloch McCulloch McCulloch McCulloch McCulloch McCulloch McCulloch McCulloch	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Waller Ward Washington Wheeler Wichita Wilbarger *Willary Williamson Wilson Winkler	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010
Collingsworth  *Colorado Comai Comauche Coneho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Eetor *Edwards Ellis Fals Fannin Fayette	5.6 13.9 7,593,665 14.563,014 5,230,164 16.362,350 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.098,555 1224,759,500 17.923,523 17.064,960 19.923,150 19	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Liberty *Limestone Lipscomb *Lipscomb *Lipscomb *Lipscomb *Lipscomb *Lipscomb *Lipscomb *Lipscomb *Lipscomb *Lipscomb *Mayerick Martin Martin Martin Martin Martin Martin Mason Matagorda *Maverick McCulloch McLennan McMullen	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410 3,045,663	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker *Walker Ward Washington Wheeler Wichita Wilbarger *Wilbarger *Willamson Wilson Winkler Wise	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher	5.6 13.9 7,593,665 14.563,014 5,230,164 16.362,350 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.098,555 1224,759,500 17.923,523 17.064,960 19.923,150 19	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee Live Oak *Limestone Lipscomb *Lipscomb *Live Oak *Liano *Loving Lubbock Lynn *Madison Martin Martin Martin Mason Matingorda *Maverick McCulloch McCulloch McMullen Meddina	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 3,841,575 563,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410 3,045,663 11,927,890	Tarrant Taylor Terrell *Terry Throckmorton Titus Tom Green Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker Ward Washington Webb Wharton Wheeler Wichita Wilbarger *Willacy Williamson Wilson Winkler Wise	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 0,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 16,641,930 16,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duvai Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher Floyd Foard	5.6 13.9 7,593,665 14.563,014 5,230,164 16.362,350 10.325,000 16.955,975 610,319 3,336,400 4,973,866 13,866,000 10,008,555 1224,759,500 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 17,923,523 17,064,960 19,923,523 19,923,523 10,241,529,145 12,208,950 19,275,360 21,317,670 19,164,455 17,310,693 10,241,800 10,241,800 10,241,800	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Liberty *Limestone Lipscomb *Live Oak *Live Oak *Lilano *Loving Lubbock Lynn *Madison Marion Mari	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 566,364 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410 3,045,663 11,927,890 3,980,600	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt. Victoria *Walker *Waller Ward Washington Wharton Wheeler Wilbarger *Willacy Williamson Wilson Wise Wood Yoakum	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882 1,581,406
Collingsworth  *Colorado Comai Comanche Coneho Cooke Coryell Cottle Crane  *Crockett *Crosby *Culberson *Dallas Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher Floyd Foard Fort Bend	5.6 13.9 7,593,665 14.563,014 5,230,164 16.362,350 10.325,000 16.955,975 610,319 3,836,400 4,973,866 13,866,000 10.098,555 1224,759,500 17,923,523 17,064,960 19,923,150 120,334,480 4,777,849 5,036,358 6,284,110 17,677,675 138,417,580 2,327,752 4,529,145 138,417,580 2,327,752 14,529,145 138,417,580 19,275,360 21,317,670 19,164,455 17,310,693 10,241,800 4,882,287 15,457,424	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Liberty *Limestone Lipscomb *Live Oak *Llano *Loving Lubboek Lynn *Madison Martin Mason Martin Mason Matngorda *Maverick McCulloch McHanan McMullen McMullen McMullen McMullen Midland Midland Midland	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,563,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410 3,045,663 11,927,890 3,980,600 5,052,750	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Waller Ward Washington Webb Wharton Wheeler Wichita Wilbarger *Willacy Williamson Wilson Winkler Wise Wood Yoakum Young	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 0,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 16,641,930 16,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher Floyd Foard Foard Foard Foard Foard Franklin	5.6 13.9 7,593,000 14.563,014 5.230,164 16.362,350 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.098,555 1224,759,500 17.923,523 17.064,960 19.923,150 19	Kimble King King King Kinney Kleberg Knox Lamar *Lamar *Lamb Lampasas *La Salle Lavaen Lavaen Liberty *Limestone Lipscomb *Live Oak *Lino *Martin	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410 3,045,663 11,927,890 3,980,600 5,052,750 18,192,820 5,448,480	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt. Victoria *Walker *Waller Ward Washington Wharton Wheeler Wilbarger *Willacy Williamson Wilson Wise Wood Yoakum	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882 1,581,406 15,159,400
Collingsworth  *Colorado Comal Comal Comeno Cooke Coryell Cottle Crane *Crockett *Crosby *Culberson *Dallam Dallam Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher Floyd Foard Foard Foard Foard Freestone	5.6 13.9 7,593,665 14.563,014 5,230,164 16,362,350 10.325,000 16,955,975 610,319 3,836,400 4,973,866 13,866,000 10,098,555 1224,759,500 17,923,523 17,064,960 19,923,150 19,923,150 19,923,150 19,923,150 17,674,660 17,677,675 18,417,580 2,327,752 4,529,145 37,250,700 19,164,455 19,275,360 19,275,36	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaea Lavaea Lise Lee Leon Liberty *Limestone Lipscomb *Live Oak *Liano *Loving Lubbock Lynn *Madison Marion Millan	4.210,357 2,345,264 4.823,129 7,670,434 6.818,350 28,450,582 6.211,880 6,540,290 4.448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410 3,045,663 11,927,890 3,980,600 5,052,750 18,192,820 5,448,480 7,161,380	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Waller Ward Washington Wharton Wheeler Wilbarger *Willamson Wilson Wilson Winkler Wise Wood Yoakum Young Zapata Zavalla	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882 1,581,406 15,159,400 1,785,800 4,845,714
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duvai Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher Floyd Foard Fort Bend Franklin *Freestone Frio	5.6 13.9 7,593,665 14.563,014 5,230,164 16.362,350 10.325,000 16.955,975 610,319 3,836,400 4,973,866 13,866,000 16.098,555 1224,759,500 17.023,523 17.064,960 19.923,150 120,334,480 4,777,819 5,036,358 6,284,110 17.677,675 18,417,676 17,677,675 18,417,676 19,237,360 19,275,360 19,275,360 19,275,360 19,275,360 19,275,360 19,164,455 17,310,693 10,241,800 14,882,287 15,457,424 16,818,790 17,168,049 17,168,049 17,168,049 17,168,049 17,168,049 17,168,049 17,168,049 17,168,049	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lee Leon Liberty *Limestone Lipscomb *Live Oak *Llano *Loving Lubbock Lynn *Madison Martin Martin Mason Martin Mason Matagorda *Maverick McCulloch McCulloch McCulloch McCulloch McCulloch McCulloch McMullen McMullen McMullen Midland Millam Mills Miltam Milts Mitchell Montague	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 568,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410 3,045,663 11,927,890 3,980,600 5,052,750 18,192,820 5,448,480 7,161,380 12,875,495	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Walker *Walker Ward Washington Wheeler Wichita Wichita Wilson Wilson Wilson Wilson Winkler Wise Wood Yoakum Young Zapata	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882 1,581,406 15,159,400 1,785,800 4,845,714
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher Floyd Foard Foard Foard Foard Foard Foard Franklin *Freestone Frio Gaines Gaines Galveston	5.6 13.9 7,593,005 14.563,014 5.230,164 16.362,350 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.325,000 10.324,600 17.923,523 17.064,960 19.923,523 17.064,960 19.923,523 17.064,960 19.923,523 17.064,960 19.923,523 17.064,960 19.923,523 17.064,960 19.923,523 17.070,315 18.417,580 19.275,360 19.2	Kimble King King King King Kinney Kleberg Knox Lamar *Lamar *Lamb Lampasas *La Salle Lavaen Lavaen Liberty *Limestone Lipscomb *Live Oak *Lino *Lipscomb *	4.210,357 2,345,264 4.823,129 7,670,434 6.818,350 28,450,582 6.211,880 6,540,290 4.448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 563,964 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,410 3,045,663 11,927,890 3,980,600 5,052,750 18,192,820 5,448,480 7,161,380	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Waller Ward Washington Wharton Wheeler Wilbarger *Willamson Wilson Wilson Winkler Wise Wood Yoakum Young Zapata Zavalla	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 *42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882 1,581,406 15,159,400 1,785,800 4,845,714
Collingsworth  *Colorado Comai Comai Comanche Concho Cooke Coryell Cottle Crane  *Crockett *Crosby *Culberson *Dallam Dallam Dallam Dallam Delfa Denton De Witt Dickens Dimnit Donley Duvai Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher Floyd Foard Fort Bend Franklin *Freestone Frio Gaines Galveston Garza	5.6 13.9 7,593,665 14,563,014 5,230,164 16,362,350 10,325,000 16,955,975 610,318 3,336,400 4,973,866 13,866,000 10,098,555 1224,759,500 19,923,150 17,064,960 19,923,150 19,923,150 17,677,675 18,417,580 2,327,752 4,529,145 37,250,700 19,164,455 7,310,693 10,241,800 4,882,287 15,457,424 2,618,780 19,164,455 7,310,693 10,241,800 4,882,287 15,457,424 2,618,780 19,164,455 7,310,693 10,241,800 4,882,287 15,457,424 2,618,780 9,910,850 7,168,049 3,859,782 4,279,506 4,279,506	Kimble King King King Kinney Kleberg Knox Lamar *Lamb Lampasas *La Salle Lavaen Lavaen Liberty *Limestone Lipscomb *Live Oak *Live Oak *Live Oak *Live Oak *Live Oak *Lino *Loving Lubboek Lynn *Marion Marion Mario	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 5,638,644 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,470 3,945,663 11,927,890 3,980,600 5,052,750 18,192,820 5,448,480 7,161,380 12,875,495 10,572,470 1,394,346 3,013,542	Taylor Terrell  *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upshur Upton Uvalde  *Val Verde Van Zandt Victoria *Walker *Waller Ward Washington Wharton Wheeler Wilbarger *Willamson Wilson Wilson Wise Wood Yoakum Young Zapata Zavalla  *Report for 192 able at time tab	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882 1,581,406 15,159,400 1,785,800 4,845,714 3,473,401,843
Collingsworth  *Colorado Comai Comauche Concho Cooke Coryell Cottle Crane  *Crockett  *Crosby *Culberson *Dallam Dallas Dawson Deaf Smith Delta Denton De Witt Dickens Dimmit Donley Duval Eastland *Ector *Edwards Ellis *El Paso Erath Falls Fannin Fayette Fisher Floyd Foard Foard Foard Foard Foard Foard Franklin *Freestone Frio Gaines Gaines Galveston	5.6 13.9 7,593,665 14.563,014 5.250,164 16.362,350 10.325,000 16.955,975 610,319 3,836,400 4,973,866 13,866,000 16.098,555 1224,759,500 15.024,600 19.923,150 19.923,	Kimble King King King King Kinney Kleberg Knox Lamar *Lamar *Lamb Lampasas *La Salle Lavaen Lavaen Liberty *Limestone Lipscomb *Live Oak *Lino *Lipscomb *	4,210,357 2,345,264 4,823,129 7,670,434 6,818,350 28,450,582 6,211,880 6,540,290 4,448,283 18,059,538 6,781,748 7,086,013 20,754,682 46,283,272 4,998,779 5,445,755 6,338,240 5,638,644 15,508,565 5,417,542 4,450,740 3,811,575 2,553,785 5,858,850 20,007,880 6,428,381 9,257,351 66,752,470 3,945,663 11,927,890 3,980,600 5,052,750 18,192,820 5,448,480 7,161,380 12,875,495 10,572,470 1,394,346 3,013,542	Taylor Terrell *Terry Throckmorton Titus Tom Green. Travis *Trinity Tyler Upton Uvalde *Val Verde Van Zandt Victoria *Walker *Waller Ward Washington Wheeler Wichita Wilbarger *Willacy Williamson Wilson Wilson Winkler Wise Wood Yoakum Young Zapata Zavalla  *Report for 192 able at time tab piled: figures fo	3,866,672 5,390,887 140,573,810 22,480,535 5,031,917 3,420,598 4,380,697 4,785,618 13,260,940 42,938,097 6,239,250 6,180,689 5,691,612 1,974,675 9,630,467 12,420,801 9,982,416 8,387,832 8,210,307 5,693,255 3,631,344 11,605,300 16,641,930 15,540,290 4,622,174 67,820,600 15,855,402 4,929,736 31,717,840 9,930,218 820,010 13,048,602 8,108,882 1,581,406 15,159,400 1,785,800 4,845,714 3,473,401,843



## Actuarial certification: Dec. 31, 2017

Milliman has performed an actuarial valuation of the retirement plan as of Dec. 31, 2017. This valuation reflects the benefit provisions and contribution rates in effect as of Jan. 1, 2018. In preparing this valuation, we relied without audit on information (some oral and some written) supplied by the TCDRS staff. This information includes, but is not limited to, statutory provisions, employee data and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

This report is a summary of the valuation results for your plan. Additional system-wide results are provided in the TCDRS Comprehensive Annual Financial Report (CAFR) and the actuarial valuation report for all of TCDRS.

All costs, liabilities, rates of interest and other factors for TCDRS have been determined on the basis of actuarial assumptions and methods that are reasonable (taking into account the experience of TCDRS and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting TCDRS. While the valuation results are based on assumptions that are reasonable both individually and in the aggregate, there may be other reasonable assumption sets that will produce different results. The TCDRS Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Section 4 of this report.

This report is an estimate of your plan's financial condition as of a single date and is not intended to predict your plan's future condition or guarantee future financial soundness. Actuarial valuations only affect the timing of contributions, not the ultimate cost of benefits.

Future actuarial measurements may differ significantly from the current measurements presented in this report. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for TCDRS. GASB financial accounting requirements are provided in a separate

document and differ from those disclosed in this report. The calculations in the enclosed report have been made on a basis consistent with our understanding of TCDRS's funding policy. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work was prepared solely for TCDRS in TCDRS' capacity as plan administrator of the system. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent; provided, however, we understand that in performing its duties as plan administrator, TCDRS intends to distribute the report to its participating employers and to the independent auditors of its participating employers. In addition, TCDRS may be required to release a copy of the report, if a valid request is filed pursuant to the Texas Public Information Act.

Milliman does not have a legal contract with parties other than TCDRS. The distribution of Milliman's report by TCDRS to participating employers and their auditors does not create or imply any legal duty between Milliman and the participating employers or their auditors. Milliman does not intend to benefit or create a legal duty to any recipient of its work product other than TCDRS. Milliman does not authorize the inclusion of Milliman's name or reports in any offering, memorandum, prospectus, securities filing, or solicitation of investment. Any third-party recipient should engage qualified professionals for advice appropriate to its own specific needs. The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. We respectfully submit the following report. If you have any questions, please contact TCDRS and they will either provide additional information or forward your request to us.

1

Mark C. Olleman, FSA, EA, MAAA Consulting Actuary, Milliman Inc. Nick Collier, ASA, EA, MAAA Consulting Actuary, Milliman Inc.

## Victoria County, #334

# Actuarial valuation results for your TCDRS plan as of Dec. 31, 2017

#### INTRODUCTION

This report summarizes the major findings of the valuation for your retirement plan and reflects your benefit provisions in effect as of Jan. 1, 2018.

Much of the material contained in this report is intended to provide information to other actuaries to help comply with actuarial standards of practice. In particular, if an independent review is conducted by another actuary, the report provides information on the methods and calculations to aid the actuary in reviewing and verifying study results. More information can be found in TCDRS' Comprehensive Annual Financial Report for the year ended Dec. 31, 2017.

#### **CHANGES REFLECTED IN THE VALUATION**

The TCDRS Board of Trustees adopted new assumptions for use in this valuation to better reflect anticipated future plan experience.

#### **VALUATION RESULTS**

The actuarial valuation recognizes investment gains and losses over five years to avoid single-year rate spikes and give financial markets time to recover. For 2017, there was an actuarial investment gain. These gains were used to reduce or eliminate any remaining actuarial investment losses from previous years.

It is important to weigh any benefit enhancements carefully. Any future actuarial investment losses could cause required rates to increase. Benefit increases, such as adopting a higher matching rate and cost of living adjustments for retirees, will also increase required rates.

#### **SCOPE OF THE REPORT**

This report presents the results of the actuarial valuation for your TCDRS retirement plan. The report consists of five sections:

- Section 1 is a summary of the actuarial valuation results as of the valuation date Dec. 31, 2017 for your plan.
- Section 2 includes a summary of your member and benefit recipient data, and a summary of your plan assets.
- Section 3 is a summary of the plan provisions.
- Section 4 is a summary of the actuarial methods and assumptions.
- Section 5 includes a brief glossary of terms used in this report.

# Actuarial valuation results for your TCDRS plan as of Dec. 31, 2017

#### **RATES EFFECTIVE 2019**

The following shows some key results of the actuarial valuation as of Dec. 31, 2017. For comparison purposes, the results of the prior valuation, after reflecting any plan changes effective Jan. 1, 2018, are also shown. Please refer to the bottom of the section titled "Your Costs" in the Retirement Plan Assessment for an analysis of what caused the changes in your contribution rate.

Employer Name: Victoria County

Employer Number: 334

Plan Assets & Liabilities	Dec. 31, 2017	Dec. 31, 2016
1. Present value of future benefits:		
Benefit recipients	\$63,703,218	\$58,831,394
Members	\$120,496,627	\$118,761,222
Total	\$184,199,845	\$177,592,616
2. Present value of future normal cost contributions	\$30,970,775	\$33,907,865
3. Actuarial accrued liability (line 1 – line 2)	\$153,229,070	\$143,684,751
4. Actuarial value of assets	\$131,700,752	\$122,916,752
5. Unfunded/(Overfunded) actuarial accrued liability		
[UAAL/(OAAL)] (line 3 – line 4)	\$21,528,318	\$20,767,999
6. Funded ratio (line 4 / line 3)*	86.0%	85.5%
7. Effective amortization period (in years)**	12.8	13.5
Retirement Plan Funding	2019***	2018****
Normal cost rate	6.72%	7.18%
UAAL/(OAAL) rate	7.32%	6.62%
Required rate	14.04%	13.80%
Elected rate	N/A	N/A
Retirement plan rate (greater of required or elected rate)	14.04%	13.80%

Please refer to the Actuarial Glossary for additional information on the terms used above.

 $<sup>^{*}</sup>$  The funded ratio assumes on-going TCDRS plan participation. The funded ratio does not represent the financial status for a terminating plan.

<sup>\*\*</sup> This is the period it would take for the UAAL to be fully paid down assuming the required rate shown is paid each year in the future and all future experience emerges exactly as assumed.

<sup>\*\*\* 2019</sup> rates assume you do not make any plan changes and that you continue your elected rate, if any, currently in effect for 2018.

<sup>\*\*\*\*</sup> These rates reflect plan changes effective Jan. 1, 2018.

## **Unfunded Actuarial Accrued Liability (UAAL)**

If a plan has a UAAL (i.e., the Actuarial Accrued Liability exceeds the Actuarial Value of Assets), this does not indicate that the plan is insufficiently funded or is behind in making required contributions. All TCDRS employers pay 100% of their required rate. Just by paying the required rate, the employer is funding the existing UAAL over a closed period of 20 years or less.

The UAAL represents the estimated amount needed to fully fund benefits attributable to service already rendered by employees. Most new plans begin with a UAAL. The UAAL will increase when a plan adopts benefit increases attributable to past service, like a cost-of-living adjustment (COLA) for retirees. Actuarial gains and losses (for example, investment returns either greater than or less than the assumed rate of return) and changes in actuarial assumptions will also affect the UAAL.

#### **UAAL Contribution Rate and Explanatory Notes**

Amortization payments are based on a fixed schedule that increases by the payroll growth assumption each year. Amortization payments are adjusted from Dec. 31 amounts to reflect that actual contributions are made on a monthly basis.

Date Established	Description	Remaining Period as of Dec. 31, 2018	2019 Amortization Payment / (Credit)
Dec. 31, 2008	Initial UAAL	11 Years	\$1,426,389
Dec. 31, 2008	Plan Change	6 Years	(\$288,556)
Dec. 31, 2009	UAAL Layer	12 Years	(\$78,401)
Dec. 31, 2009	Plan Change	7 Years	\$12,963
Dec. 31, 2010	UAAL Layer	13 Years	\$88,932
Dec. 31, 2010	Plan Change	8 Years	\$155,713
Dec. 31, 2011	UAAL Layer	14 Years	\$99,690
Dec. 31, 2011	Plan Change	9 Years	\$174,031
Dec. 31, 2012	UAAL Layer	15 Years	\$92,134
Dec. 31, 2012	Plan Change	10 Years	\$142,996
Dec. 31, 2013	UAAL Layer	16 Years	(\$67,837)
Dec. 31, 2014	UAAL Layer	17 Years	(\$33,931)
Dec. 31, 2015	UAAL Layer	18 Years	\$251,950
Dec. 31, 2016	UAAL Layer	19 Years	\$121,578
Dec. 31, 2017	UAAL Layer	20 years	\$79,128
		Total Amortization Payment / (Credit):	\$2,176,779
		Projected Payroll:	\$29,736,980
		UAAL / (OAAL) Contribution Rate (Amortization as % of Payroll):	7.32%

## **UAAL Amortization and Explanatory Notes**

UAAL amortization payments/credits (see column C below) are based on a fixed schedule that increases by the payroll assumption each year. If the employer makes additional contributions (either through a lump-sum contribution or an elected rate greater than the required rate), the outstanding balance of the oldest UAAL layer and associated future payments will be reduced. The assets and liabilities used in the calculation of the UAAL are as of Dec. 31, 2017, but the contribution rates are not effective until Jan. 1, 2019. Therefore, the UAAL is projected to Dec. 31, 2018 in the calculation of the contribution rate.

TCDRS does not charge any fees to employers, and employers are not assessed an interest fee on the UAAL. The "Adjustment Due to Decrease in Discount Period" (see column B below) shows the impact of one-year's passage of time and reflects anticipated future returns on investments. During this period, both employer assets and liabilities are projected to grow at the same rate of interest (also referred to as the discount rate). The discount rate used in this calculation is 8%. Lowering the discount rate would increase required employer contribution rates.

The amortization of the Dec. 31, 2017 UAAL Layer does not begin until Dec. 31, 2018; however, the UAAL amount is adjusted based on the expected 2018 UAAL contributions.

Date Established	Description	Balance as of Dec. 31, 2017 (A)	Adjustment Due to Decrease in Discount Period (B)	Amortization Payment / (Credit) on Dec. 31, 2018 (C)	Projected Balance as of Dec. 31, 2018 (A) + (B) – (C)
Dec. 31, 2008	Initial UAAL	\$12,769,068	\$1,021,525	\$1,436,758	\$12,353,835
Dec. 31, 2008	Plan Change	(\$1,672,913)	(\$133,833)	(\$292,197)	(\$1,514,549)
Dec. 31, 2009	UAAL Layer	(\$744,970)	(\$59,598)	(\$78,891)	(\$725,677)
Dec. 31, 2009	Plan Change	\$84,084	\$6,727	\$13,112	\$77,699
Dec. 31, 2010	UAAL Layer	\$891,807	\$71,345	\$89,400	\$873,752
Dec. 31, 2010	Plan Change	\$1,112,585	\$89,007	\$157,336	\$1,044,256
Dec. 31, 2011	UAAL Layer	\$1,049,799	\$83,984	\$100,116	\$1,033,667
Dec. 31, 2011	Plan Change	\$1,353,037	\$108,243	\$175,658	\$1,285,622
Dec. 31, 2012	UAAL Layer	\$1,014,513	\$81,161	\$92,440	\$1,003,234
Dec. 31, 2012	Plan Change	\$1,197,824	\$95,826	\$144,183	\$1,149,467
Dec. 31, 2013	UAAL Layer	(\$778,129)	(\$62,250)	(\$67,997)	(\$772,382)
Dec. 31, 2014	UAAL Layer	(\$404,118)	(\$32,329)	(\$33,981)	(\$402,466)
Dec. 31, 2015	UAAL Layer	\$3,106,455	\$248,516	\$252,087	\$3,102,884
Dec. 31, 2016	UAAL Layer	\$1,547,816	\$123,825	\$121,536	\$1,550,105
Dec. 31, 2017	UAAL Layer	\$1,001,460	\$80,117	\$39,851	\$1,041,726
UAAL / (OAAI	L) as of Dec. 31, 2017:	\$21,528,318	- -		

# **Additional plan information**

Members	Dec. 31, 2017	Dec. 31, 2016
Number of members:	1,050	1,063
Number of depositing members:	575	605
Average monthly salary:*	\$4,072	\$3,920
Average age:*	44.97	44.20
Average length of service in years:*	11.46	10.75

<sup>\*</sup>Averages for depositing members.

## **Benefit Recipients**

Number of benefit recipients:	340	332
Average monthly benefit:	\$1,629	\$1,557

## **Plan Assets**

Employees Saving Fund (ESF)		Subdivision Accumulation Fund (SAF)	
This is the total sum balance of your memb	ers' accounts.	This is your employer account.	
Balance as of Jan. 1, 2017	\$30,838,410	Balance as of Jan. 1, 2017	\$88,032,421
Additions:		Additions:	
Member deposits	\$2,051,460	Employer contributions	\$3,914,502
Partial-year interest	\$0	Allocated net income/(loss)	\$13,385,441
Annual interest	\$2,067,767	Transfers from ESF	\$2,309,938
Deductions:		Deductions:	
Transfers to the SAF	\$2,309,938	Retirement allowances	\$6,623,101
Withdrawals	\$448,052	Other transfers:	\$0
Net escheatments	\$0		
Fund balance as of Dec. 31, 2017	\$32,199,647	Fund balance as of Dec. 31, 2017	\$101,019,202

# Development of Allocated Net Income/(Loss) in SAF

1) Prior year balance for allocation (includes ESF and SAF)	\$118,870,832
2) Allocated net income/(loss) (13.000% x Line 1)	\$15,453,208
3) Annual interest to ESF	\$2,067,767
4) Allocated net income/(loss) to SAF* (Line 2 – Line 3)	\$13,385,441

## **ACTUARIAL VALUE OF ASSETS**

The assets used in the valuation are adjusted to reduce volatility in contribution rates by the application of a smoothing method. These smoothed assets are referred to as the actuarial value of assets. The method used to determine the actuarial value of the Subdivision Accumulation Fund is described in the Actuarial Methods section of Section 4.

## **Development of Actuarial Value of Assets**

1) Subdivision Accumulation Fund (SAF) balance	\$101,019,202
2) Total unrecognized actuarial asset gain/(loss) in SAF (see below)	\$1,518,097
3) Actuarial value of SAF* (Line 1 – Line 2)	\$99,501,105
4) Employees Saving Fund (ESF) balance	\$32,199,647
5) Actuarial value of assets* (Line 3 + Line 4)	\$131,700,752

## Development of Unrecognized Actuarial Asset Gain/(Loss) in SAF

Year Ended	Adjusted Actuarial Asset Gain/(Loss) for Year**		Percent Excluded	Gain/(Loss) Excluded
December 31, 2014	\$0	X	20.00%	\$0
December 31, 2015	\$0	X	40.00%	\$0
December 31, 2016	\$0	X	60.00%	\$0
December 31, 2017	\$1,897,622	X	80.00%	\$1,518,098
	Total Unrecognized A	ctuarial Ass	eet Gain/(Loss) in SAF * =	\$1,518,098

## Development of Current Year Actuarial Asset Gain/(Loss) in SAF

Prior year balance for allocation (includes ESF and SAF)	\$118,870,832
2) Assumed allocated net income (8.000% x Line 1)	\$9,509,667
3) Actual allocated net income/(loss) (13.000% x Line 1)	\$15,453,208
4) Current year gain/(loss) to be recognized over five years* (Line 3 – Line 2)	\$5,943,542

<sup>\*</sup> Small differences may occur due to the rounding of numbers.

<sup>\*\*</sup> Gains/Losses may be adjusted due to the application of the asset smoothing method, which offsets gains and losses.

## **Plan Provisions**

#### **PLAN PROVISIONS**

The following summary reflects your plan as of Jan. 1, 2018. Further descriptions of the plan provisions follow. No future plan provision changes are assumed for purposes of this valuation. Future plan provision changes may be adopted by the plan but are not reflected in these valuation results.

Basic Plan Options	
Employee Deposit Rate	7%
Employer Matching (Future Deposits)	200%
Prior Service Credit	135%
Retirement Eligibility	
Age 60 (Vesting)	8 years of service
Rule of	75 years total age + service
At Any Age	20 years of service
Optional Benefits	
Partial Lump-Sum Payment at Retirement	Yes

## **Membership**

All full- and part-time employees must participate in TCDRS, regardless of the number of hours they work in a year or their age. Only those employees who are classified as "temporary" are excluded from enrollment.

## **Termination of Membership**

TCDRS membership is terminated by death, retirement, withdrawal of account balance from the plan or attainment of the age under which distribution must occur under federal law.

## **Employee Deposits**

TCDRS is a savings-based plan. Every paycheck, a portion of each employee's pay — from 4% to 7% as set by the employer — is deposited into their TCDRS account. Your employees' current deposit rate is 7%. By law, employee accounts earn 7% interest annually.

#### Service

Employees receive a month of service for each month that they make a deposit into their account. Service may also be granted for periods of employment prior to the employer joining TCDRS and for military or certain other service.

Within TCDRS, periods of service with any TCDRS participating employer are generally combined. Also, service periods with other Texas public retirement plans participating with TCDRS in the Texas Proportionate Retirement Program are combined to satisfy TCDRS retirement eligibility and vesting requirements.

#### **Eligibility Requirements**

#### Service Retirement Benefits

The amount of service an employee needs to earn a future benefit is called the vesting requirement. When an employee is vested he or she has the right to a monthly benefit at age 60 or older. Employers may choose 5-, 8- or 10-year vesting. The vesting requirement for your employees is 8 years of service. In addition, employees may retire before age 60 if they meet one of the following requirements, set by the employer:

- "Rule of" eligibility Under these rules, a vested employee can retire if their age plus years of service time add up to at least 75 or 80. Your plan requirement is Rule of 75.
- 20-year or 30-year retirement at any age This lets employees retire when they have at least 20 or 30 years of service time. Your plan requirement is 20 years of service.

Retirees elect to receive their lifetime benefit by choosing from one of seven actuarially equivalent payment options.

#### **Disability Retirement Benefits**

A member who is vested and who is totally and permanently disabled is eligible for a disability retirement benefit. A member who is not vested is eligible for disability retirement benefits if the total and permanent disability was a result of an on-the-job injury.

#### **Survivor Benefits**

Benefits are payable to the beneficiaries or estate of a deceased member. The eligibility requirement for an employer-provided Survivor Benefit is four years of TCDRS service. Otherwise the Survivor Benefit is the deceased member's account balance.

#### **Determination of Retirement Benefits**

#### **Employer Matching Rate**

A member's retirement benefit is calculated based on the employee's account balance and the employer matching. The current employer matching rate for future deposits is 200% for your employees. The employee's account balance with employer matching is converted to an annuity at retirement and then he or she receives a payment every month for the rest of his or her life.

## **Payment Options**

Retirees elect to receive their monthly lifetime benefit by choosing from one of the following seven actuarially equivalent payment options.

- Single Life option Monthly payments cease upon death of the retiree. This option provides the highest monthly benefit.
- Guaranteed Term Benefit options The two guaranteed term benefit options are 10-Year Guaranteed Term and 15-Year Guaranteed Term. These options provide a lifetime monthly benefit to the retiree. In addition, if the retiree passes away within 10 or 15 years of the retirement date, the beneficiary will receive the monthly benefit until the end of the guaranteed term.
- Dual Life options The four dual life options are 100% to Beneficiary, 75% to Beneficiary, 50% to Beneficiary and 100% to Beneficiary With Pop-Up. Under each of these options, after the death of the retiree, the beneficiary receives a monthly lifetime benefit equal to the selected percentage of the retiree's benefit payment. Under the 100% to Beneficiary With Pop-Up option, if the beneficiary dies before the retiree, the monthly benefit amount will "pop up" to a higher monthly amount, as if the retiree had retired under the Single Life option.

All options pay a death benefit equal to the excess of the person's account at retirement over the total monthly benefits that have been paid.

Each employer may elect the partial lump-sum option. This payment option allows the retiring member to receive an immediate lump-sum payment not to exceed his or her account balance, and choose a reduced monthly lifetime benefit from any of the payment options.

## Annuity Purchase Rates (Factors for Conversion to Monthly Annuity Payments)

For benefits based on member deposits made prior to Jan. 1, 2018 (including interest on those deposits, employer matching and other employer credits), benefit credits are converted into monthly benefit payments using the UP-1984 Table with an age set back of five years for retirees and an age set back of 10 years for beneficiaries, and an interest rate of 7.0%.

For benefits based on member deposits made on Jan. 1, 2018, or later (including interest on those deposits, employer matching and other employer credits), benefit credits are converted into monthly benefit payments using a custom generational mortality table (see below for details) and an interest rate of 7.0%. The rates in this mortality table vary based on the member's year of birth, so the conversion factors also vary by year of retirement.

Annuity Purchase Rates (2014 TCDRS Unisex Mortality Table)	Average of the male and female rates for service retirees for member mortality. 30%/70% male/female blend for beneficiary mortality.
	Males –The RP-2000 Combined Mortality Table for males projected to 2014 with scale AA and then projected with 110% of the MP-2014 Ultimate scale thereafter, with a one-year set-forward.
	Females –The RP-2000 Combined Mortality Table for females projected to 2014 with scale AA and then projected with 110% of the MP-2014 Ultimate scale thereafter, with no age adjustment.

Monthly benefits are calculated by dividing the total benefit credits by the associated annuity purchase rate. Sample annuity purchase rates for the single life form of payment are shown below:

Table 1 Sample Annuity Purchase Rates

	Annuity Purchase Rate for Single Life Benefit						
Sample Retirement Age	Pre-2018 Deposits	Post-2017 Deposits 2040 Retirement Date					
50	147.2259	155.2309	156.5194	157.7373			
55	138.8321	147.2718	148.9675	150.5769			
60	128.9240	137.1731	139.3300	141.3890			
65	117.4861	125.0176	127.6430	130.1663			
70	104.6995	110.8674	113.9168	116.8715			
75	91.2252	94.7558	98.1199	101.4138			

# **Actuarial procedures and assumptions**

#### THE ACTUARIAL VALUATION

Each year Milliman, TCDRS' independent consulting actuarial firm, analyzes your plan to determine your employer contribution rate. We study your workforce and estimate the benefits you will pay to your employees. We estimate how much the benefits you will provide are worth in today's dollars — this is what's known as the present value of your plan's future benefits. We then compare the assets you have already invested with what you will need to pay for benefits. Based on this comparison, we determine how much you will need to pay each year to fund those benefits.

Please keep in mind that the ultimate cost of a retirement program is based on the actual benefits paid to the employees. The actuarial valuation assumptions and methods are used to allocate the contributions to the plan over various time periods, but ultimately do not impact the true cost of the plan.

The actuarial procedures and assumptions used in this valuation are described in this section. The actuarial assumptions are intended to estimate the future plan experience of the members and benefit recipients of your retirement plan. Any variations in future plan experience from that expected under these assumptions will result in corresponding changes in the estimated costs of the plan's benefits.

The economic and demographic assumptions have been established based on the experience study for TCDRS, details of which can be found in the Investigation of Experience report located on www.TCDRS.org. The assumptions applicable to your plan regarding merit salary increase rates, mortality rates, retirement rates and termination of employment rates are illustrated in Tables 2 through 5. The numerical rates provided in the tables represent the likelihood of these events occurring. The following provides additional information regarding the actuarial methods and assumptions.

#### **ACTUARIAL METHODS**

**Actuarial Cost Method** — Entry age actuarial cost method, level percent of payroll.

**Plan Funding** — The change in the unfunded actuarial accrued liability (UAAL) attributable to each year is amortized over a closed 20-year period as a level percent of covered payroll, except for the following situations. 1) The UAAL attributable to benefit increases in a given year is amortized over a closed 15-year period as a level percent of covered payroll. 2) If there is an overfunded actuarial accrued liability, the amortization period is an open 30-year period. 3) If a UAAL decrease occurs due to extra employer contributions (lump sum or elected rate greater than required rate), that decrease is offset against the oldest existing actuarial loss layer.

**Records and Data** — The data regarding active employees, retired employees, survivors and the financial information used in this valuation were supplied by TCDRS, and are accepted for valuation purposes without audit.

Actuarial Value of Assets — The actuarial value of assets is equal to the employer assets (ESF plus SAF) adjusted for a five-year recognition of the difference between the expected and actual interest credited to the employer assets for each year. Effective with the 2016 valuation, in cases where the sum of the prior deferred actuarial gains and losses is an actuarial gain, any current year actuarial loss is offset against the oldest actuarial gain. If any of the current year actuarial loss remains after the initial offset, the remainder is offset against the next oldest gain, and so on. If the sum of prior deferred actuarial gains and losses is an actuarial loss and there is an actuarial gain for the current year, the current year gain is offset against the prior actuarial losses in a similar fashion. For the 2016 valuation, a one-time adjustment was made to offset actuarial gains and losses that occurred prior to 2016.

## **Economic Assumptions**

## TCDRS system-wide economic assumptions:

Real rate of return 5.25% Inflation 2.75% Long-term investment return 8.0%

The assumed long-term investment return of 8% is net after investment and administrative expenses and is expected to enable the system to credit each employer's Subdivision Accumulation Fund (SAF) with a nominal annual rate of 8% on the combined ESF and SAF funds, less the amount credited to the employer's ESF. Under the TCDRS Act, the ESF is credited with a nominal annual rate of 7%. It is assumed interest will be credited at the nominal annual rate of 8% for calculating the actuarial accrued liability and the normal cost contribution rate for the retirement plan of each participating employer.

The annual salary increase rates assumed for individual members vary by length of service and by entry-age group. The annual rates consist of a general wage inflation component of 3.25% (made up of 2.75% inflation and 0.5% productivity increase assumptions) and a merit, promotion and longevity component that on average approximates 1.6% per year for a career employee. (See Table 2 for Merit Salary Increases.)

#### Employer-specific economic assumptions:

Growth in membership 0.00% Payroll growth 3.25%

The payroll growth assumption is for the aggregate covered payroll of an employer.

Table 2 Merit Salary Increases\*

Years of	Entry Age							
Service	Before 30	Ages 30-39	Ages 40-49	50 and later				
0	5.00%	4.50%	4.00%	3.50%				
1	4.25	3.75	3.25	2.75				
2	3.85	3.35	2.85	2.35				
3	3.50	3.00	2.50	2.00				
4	3.15	2.65	2.25	1.85				
5	2.90	2.55	2.15	1.70				
6	2.65	2.30	1.95	1.55				
7	2.45	2.10	1.75	1.40				
8	2.30	1.95	1.60	1.25				
9	2.15	1.80	1.45	1.10				
10	2.00	1.70	1.40	1.05				
11	1.90	1.60	1.25	1.00				
12	1.80	1.50	1.15	0.95				
13	1.70	1.40	1.05	0.90				
14	1.60	1.30	0.95	0.85				
15	1.50	1.23	0.90	0.80				
16	1.40	1.15	0.85	0.75				
17	1.30	1.05	0.80	0.70				
18	1.23	0.97	0.75	0.65				
19	1.15	0.90	0.70	0.60				
20	1.10	0.85	0.65	0.55				
21	1.05	0.80	0.60	0.50				
22	1.00	0.75	0.55	0.50				
23	0.95	0.70	0.50	0.50				
24	0.90	0.65	0.50	0.50				
25	0.85	0.60	0.50	0.50				
26	0.80	0.60	0.50	0.50				
27	0.75	0.60	0.50	0.50				
28	0.70	0.60	0.50	0.50				
29	0.65	0.60	0.50	0.50				
30 & Up	0.60	0.60	0.50	0.50				

<sup>\*</sup> These rates do not include the wage inflation rate of 3.25% per year. For example, a member who entered the system at age 20 and is in the first year of service is assumed to receive an 8.41% total annual increase in his salary. The 8.41% is a combination of the 5.00% merit increase and the 3.25% wage inflation. Note that the two components are compounded, so it is a slightly different result than just adding the two percentages.

## **DEMOCRAPHIC ASSUMPTIONS**

TCDRS system-wide demographic assumptions:

**Replacement of Terminated Members** — New employees are assumed to replace any terminated members and have similar entry ages.

**Disability** — The rates of disability used in this valuation are illustrated in Table 3. Members who become disabled are eligible to commence benefit payments regardless of age. Rates of disability are in a custom table based on TCDRS experience.

Table 3 Annual Rates of Disability\*

Age	Work Related Male and Female	All Other Causes Male and Female	Age	Work Related Male and Female	All Other Causes Male and Female
less than 25	0.000%	0.000%	43	0.004%	0.058%
25	0.000	0.000	44	0.004	0.063
26	0.000	0.000	45	0.004	0.069
27	0.000	0.000	46	0.005	0.076
28	0.000	0.008	47	0.006	0.084
29	0.000	0.008	48	0.0007	0.095
30	0.000	0.009	49	0.009	0.109
31	0.000	0.010	50	0.010	0.125
32	0.000	0.010	51	0.012	0.142
33	0.000	0.011	52	0.013	0.162
34	0.000	0.014	53	0.015	0.183
35	0.001	0.018	54	0.018	0.203
36	0.001	0.022	55	0.018	0.222
37	0.002	0.028	56	0.018	0.238
38	0.002	0.033	57	0.018	0.250
39	0.002	0.038	58	0.018	0.259
40	0.002	0.042	59	0.018	0.270
41	0.003	0.047	60 & Above	0.018	0.000
42	0.003	0.053			

<sup>\*</sup> The probability of disability from all other causes is applicable for members who are vested but not eligible for service retirement. Before a member is vested, only the work-related disability provisions are applicable.

## **Mortality**

Depositing members	90% of the RP-2014 Active Employee Mortality Table for males and 90% of the RP-2014 Active Employee Mortality Table for females, projected with 110% of the MP-2014 Ultimate scale after 2014.
Service retirees, beneficiaries and non-depositing members	130% of the RP-2014 Healthy Annuitant Mortality Table for males and 110% of the RP-2014 Healthy Annuitant Mortality Table for females, both projected with 110% of the MP-2014 Ultimate scale after 2014.
Disabled retirees	130% of the RP-2014 Disabled Annuitant Mortality Table for males and 115% of the RP-2014 Disabled Annuitant Mortality Table for females, both projected with 110% of the MP-2014 Ultimate scale after 2014

**Family Composition** — For current retirees, beneficiary information is supplied by TCDRS. For purposes of calculating the Survivor Benefit for current depositing and non-depositing members, male members are assumed to have a female beneficiary who is three years younger. Female members are assumed to have a male beneficiary who is three years older.

**Service Retirement** — Members eligible for service retirement are assumed to retire at the rates shown in Table 4.

Table 4
Annual Rates of Service Retirement \*

Age	Male	Female	Age	Male	Female
40–44	4.5%	4.5%	62	20.0%	20.0%
45–49	9.0	9.0	63	15.0	15.0
50	10.0	10.0	64	15.0	15.0
51	9.0	9.0	65	25.0	25.0
52	9.0	9.0	66	25.0	25.0
53	9.0	9.0	67	22.0	22.0
54	10.0	10.0	68	20.0	20.0
55	10.0	10.0	69	20.0	20.0
56	10.0	10.0	70	22.0	22.0
57	10.0	10.0	71	22.0	22.0
58	12.0	12.0	72	22.0	22.0
59	12.0	12.0	73	22.0	22.0
60	12.0	12.0	74**	22.0	22.0
61	12.0	12.0			

 $<sup>^{\</sup>ast}\,$  Deferred members are assumed to retire (100% probability) at the later of: a) age  $60\,$ 

b) earliest retirement eligibility.

<sup>\*\*</sup>For all eligible members ages 75 and later, retirement is assumed to occur immediately.

## Employer-specific demographic assumptions:

**Other Terminations of Employment** — The rate of assumed future termination from active participation in the plan for reasons other than death, disability or retirement are illustrated in Table 5. The rates vary by length of service, entry-age group (age at hire) and sex. No termination after eligibility for retirement is assumed.

Table 5 Annual Rates of Termination

1         20.52         22.32         17.28         18.72         14.67         15.93         13.86         14.92           2         15.30         16.56         12.96         14.04         10.98         11.97         10.35         11.22           3         12.15         13.14         10.35         11.25         8.82         9.54         8.28         9.06           4         9.99         10.89         8.64         9.36         7.38         7.92         6.93         7.47           5         8.91         9.72         7.74         8.46         6.57         7.20         6.21         6.75           6         7.92         8.55         6.93         7.47         5.85         6.39         5.49         6.03           7         7.02         7.65         6.21         6.75         5.31         5.76         4.95         5.40           8         5.85         6.30         5.22         5.58         4.41         4.77         4.14         4.55           9         5.58         6.03         5.04         5.40         4.23         4.59         4.05         4.33           10         4.95         5.31         4.50	Years of Service	Entry Male	Age 20 Female	Entry . Male	Age 30 Female	Entry. Male	Age 40 Female	Entry . Male	Age 50 Female
2         15.30         16.56         12.96         14.04         10.98         11.97         10.35         11.25           3         12.15         13.14         10.35         11.25         8.82         9.54         8.28         9.04           4         9.99         10.89         8.64         9.36         7.38         7.92         6.93         7.47           5         8.91         9.72         7.74         8.46         6.57         7.20         6.21         6.75           6         7.92         8.55         6.93         7.47         5.85         6.39         5.49         6.02           7         7.02         7.65         6.21         6.75         5.31         5.76         4.95         5.40           8         5.85         6.30         5.22         5.58         4.41         4.77         4.14         4.50           9         5.58         6.03         5.04         5.40         4.23         4.59         4.05         4.33           10         4.95         5.31         4.50         4.86         3.78         4.14         3.60         3.85           11         4.32         4.68         3.96         <	0	30.06%	32.58%	25.02%	27.18%	21.33%	23.04%	20.07%	21.69%
3         12.15         13.14         10.35         11.25         8.82         9.54         8.28         9.00           4         9.99         10.89         8.64         9.36         7.38         7.92         6.93         7.47           5         8.91         9.72         7.74         8.46         6.57         7.20         6.21         6.75           6         7.92         8.55         6.93         7.47         5.85         6.39         5.49         6.02           7         7.02         7.65         6.21         6.75         5.31         5.76         4.95         5.40           8         5.85         6.30         5.22         5.58         4.41         4.77         4.14         4.50           9         5.58         6.03         5.04         5.40         4.23         4.59         4.05         4.32           10         4.95         5.31         4.50         4.86         3.78         4.14         3.60         3.87           11         4.32         4.68         3.96         4.32         3.42         3.69         3.15         3.42           12         3.96         4.23         3.60         3.33	1	20.52	22.32	17.28	18.72	14.67	15.93	13.86	14.94
4         9.99         10.89         8.64         9.36         7.38         7.92         6.93         7.47           5         8.91         9.72         7.74         8.46         6.57         7.20         6.21         6.75           6         7.92         8.55         6.93         7.47         5.85         6.39         5.49         6.02           7         7.02         7.65         6.21         6.75         5.31         5.76         4.95         5.40           8         5.85         6.30         5.22         5.58         4.41         4.77         4.14         4.50           9         5.58         6.03         5.04         5.40         4.23         4.59         4.05         4.32           10         4.95         5.31         4.50         4.86         3.78         4.14         3.60         3.81           11         4.32         4.68         3.96         4.32         3.42         3.69         3.15         3.42           12         3.96         4.23         3.60         3.96         3.06         3.33         2.88         3.15           13         3.51         3.78         3.15         2.72 <td>2</td> <td>15.30</td> <td>16.56</td> <td>12.96</td> <td>14.04</td> <td>10.98</td> <td>11.97</td> <td>10.35</td> <td>11.25</td>	2	15.30	16.56	12.96	14.04	10.98	11.97	10.35	11.25
5         8.91         9.72         7.74         8.46         6.57         7.20         6.21         6.79           6         7.92         8.55         6.93         7.47         5.85         6.39         5.49         6.02           7         7.02         7.65         6.21         6.75         5.31         5.76         4.95         5.40           8         5.85         6.30         5.22         5.58         4.41         4.77         4.14         4.50           9         5.58         6.03         5.04         5.40         4.23         4.59         4.05         4.32           10         4.95         5.31         4.50         4.86         3.78         4.14         3.60         3.87           11         4.32         4.68         3.96         4.32         3.42         3.69         3.15         3.42           12         3.96         4.23         3.60         3.96         3.06         3.33         2.88         3.12           13         3.51         3.78         3.24         3.60         2.79         3.06         2.61         2.88           14         3.15         3.33         2.97         3.15 <td>3</td> <td>12.15</td> <td>13.14</td> <td>10.35</td> <td>11.25</td> <td>8.82</td> <td>9.54</td> <td>8.28</td> <td>9.00</td>	3	12.15	13.14	10.35	11.25	8.82	9.54	8.28	9.00
6         7.92         8.55         6.93         7.47         5.85         6.39         5.49         6.02           7         7.02         7.65         6.21         6.75         5.31         5.76         4.95         5.40           8         5.85         6.30         5.22         5.58         4.41         4.77         4.14         4.50           9         5.58         6.03         5.04         5.40         4.23         4.59         4.05         4.32           10         4.95         5.31         4.50         4.86         3.78         4.14         3.60         3.80           11         4.32         4.68         3.96         4.32         3.42         3.69         3.15         3.42           12         3.96         4.23         3.60         3.96         3.06         3.33         2.88         3.15           13         3.51         3.78         3.24         3.60         2.79         3.06         2.61         2.81           14         3.15         3.33         2.97         3.15         2.52         2.70         2.34         2.52           15         2.70         2.97         2.61         2.79 </td <td>4</td> <td>9.99</td> <td>10.89</td> <td>8.64</td> <td>9.36</td> <td>7.38</td> <td>7.92</td> <td>6.93</td> <td>7.47</td>	4	9.99	10.89	8.64	9.36	7.38	7.92	6.93	7.47
7         7.02         7.65         6.21         6.75         5.31         5.76         4.95         5.40           8         5.85         6.30         5.22         5.58         4.41         4.77         4.14         4.56           9         5.58         6.03         5.04         5.40         4.23         4.59         4.05         4.32           10         4.95         5.31         4.50         4.86         3.78         4.14         3.60         3.85           11         4.32         4.68         3.96         4.32         3.42         3.69         3.15         3.42           12         3.96         4.23         3.60         3.96         3.06         3.33         2.88         3.15           13         3.51         3.78         3.24         3.60         2.79         3.06         2.61         2.81           14         3.15         3.33         2.97         3.15         2.52         2.70         2.34         2.52           15         2.70         2.97         2.61         2.79         2.16         2.43         2.07         1.80         1.98           17         2.07         2.25         1.98<	5	8.91	9.72	7.74	8.46	6.57	7.20	6.21	6.75
8         5.85         6.30         5.22         5.58         4.41         4.77         4.14         4.50           9         5.58         6.03         5.04         5.40         4.23         4.59         4.05         4.32           10         4.95         5.31         4.50         4.86         3.78         4.14         3.60         3.87           11         4.32         4.68         3.96         4.32         3.42         3.69         3.15         3.42           12         3.96         4.23         3.60         3.96         3.06         3.33         2.88         3.15           13         3.51         3.78         3.24         3.60         2.79         3.06         2.61         2.88           14         3.15         3.33         2.97         3.15         2.52         2.70         2.34         2.52           15         2.70         2.97         2.61         2.79         2.16         2.43         2.07         1.80         1.98           17         2.07         2.25         1.98         2.16         1.71         1.80         1.62         1.71           18         1.80         1.89         1.71	6	7.92	8.55	6.93	7.47	5.85	6.39	5.49	6.03
9       5.58       6.03       5.04       5.40       4.23       4.59       4.05       4.32         10       4.95       5.31       4.50       4.86       3.78       4.14       3.60       3.87         11       4.32       4.68       3.96       4.32       3.42       3.69       3.15       3.42         12       3.96       4.23       3.60       3.96       3.06       3.33       2.88       3.15         13       3.51       3.78       3.24       3.60       2.79       3.06       2.61       2.88         14       3.15       3.33       2.97       3.15       2.52       2.70       2.34       2.52         15       2.70       2.97       2.61       2.79       2.16       2.43       2.07       2.22         16       2.34       2.52       2.25       2.43       1.89       2.07       1.80       1.98         17       2.07       2.25       1.98       2.16       1.71       1.80       1.62       1.71         18       1.80       1.89       1.71       1.89       1.44       1.62       1.35       1.52         19       1.53       1.71 <td>7</td> <td>7.02</td> <td>7.65</td> <td>6.21</td> <td>6.75</td> <td>5.31</td> <td>5.76</td> <td>4.95</td> <td>5.40</td>	7	7.02	7.65	6.21	6.75	5.31	5.76	4.95	5.40
10         4.95         5.31         4.50         4.86         3.78         4.14         3.60         3.85           11         4.32         4.68         3.96         4.32         3.42         3.69         3.15         3.42           12         3.96         4.23         3.60         3.96         3.06         3.33         2.88         3.15           13         3.51         3.78         3.24         3.60         2.79         3.06         2.61         2.84           14         3.15         3.33         2.97         3.15         2.52         2.70         2.34         2.52           15         2.70         2.97         2.61         2.79         2.16         2.43         2.07         2.25           16         2.34         2.52         2.25         2.43         1.89         2.07         1.80         1.98           17         2.07         2.25         1.98         2.16         1.71         1.80         1.62         1.71           18         1.80         1.89         1.71         1.89         1.44         1.62         1.35           19         1.53         1.71         1.53         1.71         1.	8	5.85	6.30	5.22	5.58	4.41	4.77	4.14	4.50
11       4.32       4.68       3.96       4.32       3.42       3.69       3.15       3.42         12       3.96       4.23       3.60       3.96       3.06       3.33       2.88       3.15         13       3.51       3.78       3.24       3.60       2.79       3.06       2.61       2.88         14       3.15       3.33       2.97       3.15       2.52       2.70       2.34       2.52         15       2.70       2.97       2.61       2.79       2.16       2.43       2.07       2.25         16       2.34       2.52       2.25       2.43       1.89       2.07       1.80       1.98         17       2.07       2.25       1.98       2.16       1.71       1.80       1.62       1.71         18       1.80       1.89       1.71       1.89       1.44       1.62       1.35       1.52         19       1.53       1.71       1.53       1.71       1.35       1.44       1.26       1.35         20       1.41       1.59       1.47       1.11       1.20       1.08       1.17         21       1.29       1.47       1.12 <td>9</td> <td>5.58</td> <td>6.03</td> <td>5.04</td> <td>5.40</td> <td>4.23</td> <td>4.59</td> <td>4.05</td> <td>4.32</td>	9	5.58	6.03	5.04	5.40	4.23	4.59	4.05	4.32
12       3.96       4.23       3.60       3.96       3.06       3.33       2.88       3.15         13       3.51       3.78       3.24       3.60       2.79       3.06       2.61       2.88         14       3.15       3.33       2.97       3.15       2.52       2.70       2.34       2.52         15       2.70       2.97       2.61       2.79       2.16       2.43       2.07       2.25         16       2.34       2.52       2.25       2.43       1.89       2.07       1.80       1.98         17       2.07       2.25       1.98       2.16       1.71       1.80       1.62       1.71         18       1.80       1.89       1.71       1.89       1.44       1.62       1.35       1.52         19       1.53       1.71       1.53       1.71       1.35       1.44       1.26       1.35         20       1.41       1.59       1.47       1.11       1.20       1.08       1.17         21       1.29       1.47       1.29       1.47       1.11       1.20       1.08       1.17         22       1.17       1.35       1.17 <td>10</td> <td>4.95</td> <td>5.31</td> <td>4.50</td> <td>4.86</td> <td>3.78</td> <td>4.14</td> <td>3.60</td> <td>3.87</td>	10	4.95	5.31	4.50	4.86	3.78	4.14	3.60	3.87
13         3.51         3.78         3.24         3.60         2.79         3.06         2.61         2.88           14         3.15         3.33         2.97         3.15         2.52         2.70         2.34         2.52           15         2.70         2.97         2.61         2.79         2.16         2.43         2.07         2.25           16         2.34         2.52         2.25         2.43         1.89         2.07         1.80         1.98           17         2.07         2.25         1.98         2.16         1.71         1.80         1.62         1.71           18         1.80         1.89         1.71         1.89         1.44         1.62         1.35         1.52           19         1.53         1.71         1.53         1.71         1.35         1.44         1.26         1.35           20         1.41         1.59         1.41         1.59         1.23         1.32         1.17         1.20           21         1.29         1.47         1.29         1.47         1.11         1.20         1.08         1.17           22         1.17         1.35         1.17         1.	11	4.32	4.68	3.96	4.32	3.42	3.69	3.15	3.42
14       3.15       3.33       2.97       3.15       2.52       2.70       2.34       2.52         15       2.70       2.97       2.61       2.79       2.16       2.43       2.07       2.25         16       2.34       2.52       2.25       2.43       1.89       2.07       1.80       1.98         17       2.07       2.25       1.98       2.16       1.71       1.80       1.62       1.71         18       1.80       1.89       1.71       1.89       1.44       1.62       1.35       1.52         19       1.53       1.71       1.53       1.71       1.35       1.44       1.26       1.35         20       1.41       1.59       1.41       1.59       1.23       1.32       1.17       1.26         21       1.29       1.47       1.29       1.47       1.11       1.20       1.08       1.17         22       1.17       1.35       1.17       1.35       0.99       1.08       0.99       1.08         23       1.12       1.26       1.12       1.26       0.94       1.03       0.94       1.01         24       1.06       1.17 <td>12</td> <td>3.96</td> <td>4.23</td> <td>3.60</td> <td>3.96</td> <td>3.06</td> <td>3.33</td> <td>2.88</td> <td>3.15</td>	12	3.96	4.23	3.60	3.96	3.06	3.33	2.88	3.15
15         2.70         2.97         2.61         2.79         2.16         2.43         2.07         2.25           16         2.34         2.52         2.25         2.43         1.89         2.07         1.80         1.98           17         2.07         2.25         1.98         2.16         1.71         1.80         1.62         1.71           18         1.80         1.89         1.71         1.89         1.44         1.62         1.35         1.52           19         1.53         1.71         1.53         1.71         1.35         1.44         1.26         1.35           20         1.41         1.59         1.41         1.59         1.23         1.32         1.17         1.26           21         1.29         1.47         1.29         1.47         1.11         1.20         1.08         1.17           22         1.17         1.35         1.17         1.35         0.99         1.08         0.99         1.08           23         1.12         1.26         1.12         1.26         0.94         1.03         0.94         1.01           24         1.06         1.17         1.06         1.	13	3.51	3.78	3.24	3.60	2.79	3.06	2.61	2.88
16       2.34       2.52       2.25       2.43       1.89       2.07       1.80       1.98         17       2.07       2.25       1.98       2.16       1.71       1.80       1.62       1.71         18       1.80       1.89       1.71       1.89       1.44       1.62       1.35       1.52         19       1.53       1.71       1.53       1.71       1.35       1.44       1.26       1.35         20       1.41       1.59       1.41       1.59       1.23       1.32       1.17       1.20         21       1.29       1.47       1.29       1.47       1.11       1.20       1.08       1.17         22       1.17       1.35       1.17       1.35       0.99       1.08       0.99       1.08         23       1.12       1.26       1.12       1.26       0.94       1.03       0.94       1.01         24       1.06       1.17       1.06       1.17       0.88       0.97       0.88       0.94         25       1.01       1.08       1.01       1.08       0.83       0.92       0.83       0.80         26       0.95       0.99 <td>14</td> <td>3.15</td> <td>3.33</td> <td>2.97</td> <td>3.15</td> <td>2.52</td> <td>2.70</td> <td>2.34</td> <td>2.52</td>	14	3.15	3.33	2.97	3.15	2.52	2.70	2.34	2.52
17       2.07       2.25       1.98       2.16       1.71       1.80       1.62       1.71         18       1.80       1.89       1.71       1.89       1.44       1.62       1.35       1.52         19       1.53       1.71       1.53       1.71       1.35       1.44       1.26       1.35         20       1.41       1.59       1.41       1.59       1.23       1.32       1.17       1.20         21       1.29       1.47       1.29       1.47       1.11       1.20       1.08       1.17         22       1.17       1.35       1.17       1.35       0.99       1.08       0.99       1.08         23       1.12       1.26       1.12       1.26       0.94       1.03       0.94       1.01         24       1.06       1.17       1.06       1.17       0.88       0.97       0.88       0.94         25       1.01       1.08       1.01       1.08       0.83       0.92       0.83       0.80         26       0.95       0.99       0.95       0.99       0.77       0.86       0.77       0.79         27       0.90       0.90 <td>15</td> <td>2.70</td> <td>2.97</td> <td>2.61</td> <td>2.79</td> <td>2.16</td> <td>2.43</td> <td>2.07</td> <td>2.25</td>	15	2.70	2.97	2.61	2.79	2.16	2.43	2.07	2.25
18       1.80       1.89       1.71       1.89       1.44       1.62       1.35       1.52         19       1.53       1.71       1.53       1.71       1.35       1.44       1.26       1.35         20       1.41       1.59       1.41       1.59       1.23       1.32       1.17       1.20         21       1.29       1.47       1.29       1.47       1.11       1.20       1.08       1.17         22       1.17       1.35       1.17       1.35       0.99       1.08       0.99       1.08         23       1.12       1.26       1.12       1.26       0.94       1.03       0.94       1.01         24       1.06       1.17       1.06       1.17       0.88       0.97       0.88       0.92         25       1.01       1.08       1.01       1.08       0.83       0.92       0.83       0.80         26       0.95       0.99       0.95       0.99       0.77       0.86       0.77       0.72         27       0.90       0.90       0.90       0.90       0.72       0.81       0.72       0.72         28       0.85       0.81 <td>16</td> <td>2.34</td> <td>2.52</td> <td>2.25</td> <td>2.43</td> <td>1.89</td> <td>2.07</td> <td>1.80</td> <td>1.98</td>	16	2.34	2.52	2.25	2.43	1.89	2.07	1.80	1.98
19       1.53       1.71       1.53       1.71       1.35       1.44       1.26       1.35         20       1.41       1.59       1.41       1.59       1.23       1.32       1.17       1.20         21       1.29       1.47       1.29       1.47       1.11       1.20       1.08       1.17         22       1.17       1.35       1.17       1.35       0.99       1.08       0.99       1.08         23       1.12       1.26       1.12       1.26       0.94       1.03       0.94       1.01         24       1.06       1.17       1.06       1.17       0.88       0.97       0.88       0.94         25       1.01       1.08       1.01       1.08       0.83       0.92       0.83       0.80         26       0.95       0.99       0.95       0.99       0.77       0.86       0.77       0.79         27       0.90       0.90       0.90       0.90       0.72       0.81       0.72       0.72         28       0.85       0.81       0.85       0.81       0.67       0.76       0.61       0.58         29       0.79       0.72 <td>17</td> <td>2.07</td> <td>2.25</td> <td>1.98</td> <td>2.16</td> <td>1.71</td> <td>1.80</td> <td>1.62</td> <td>1.71</td>	17	2.07	2.25	1.98	2.16	1.71	1.80	1.62	1.71
20       1.41       1.59       1.41       1.59       1.23       1.32       1.17       1.20         21       1.29       1.47       1.29       1.47       1.11       1.20       1.08       1.17         22       1.17       1.35       1.17       1.35       0.99       1.08       0.99       1.08         23       1.12       1.26       1.12       1.26       0.94       1.03       0.94       1.01         24       1.06       1.17       1.06       1.17       0.88       0.97       0.88       0.94         25       1.01       1.08       1.01       1.08       0.83       0.92       0.83       0.86         26       0.95       0.99       0.95       0.99       0.77       0.86       0.77       0.79         27       0.90       0.90       0.90       0.90       0.72       0.81       0.72       0.72         28       0.85       0.81       0.85       0.81       0.67       0.76       0.61       0.58         29       0.79       0.72       0.79       0.72       0.61       0.70       0.61       0.58	18	1.80	1.89	1.71	1.89	1.44	1.62	1.35	1.53
21       1.29       1.47       1.29       1.47       1.11       1.20       1.08       1.17         22       1.17       1.35       1.17       1.35       0.99       1.08       0.99       1.08         23       1.12       1.26       1.12       1.26       0.94       1.03       0.94       1.01         24       1.06       1.17       1.06       1.17       0.88       0.97       0.88       0.92         25       1.01       1.08       1.01       1.08       0.83       0.92       0.83       0.80         26       0.95       0.99       0.95       0.99       0.77       0.86       0.77       0.79         27       0.90       0.90       0.90       0.90       0.72       0.81       0.72       0.72         28       0.85       0.81       0.85       0.81       0.67       0.76       0.61       0.58         29       0.79       0.72       0.79       0.72       0.61       0.70       0.61       0.58	19	1.53	1.71	1.53	1.71	1.35	1.44	1.26	1.35
22       1.17       1.35       1.17       1.35       0.99       1.08       0.99       1.08         23       1.12       1.26       1.12       1.26       0.94       1.03       0.94       1.01         24       1.06       1.17       1.06       1.17       0.88       0.97       0.88       0.92         25       1.01       1.08       1.01       1.08       0.83       0.92       0.83       0.86         26       0.95       0.99       0.95       0.99       0.77       0.86       0.77       0.79         27       0.90       0.90       0.90       0.72       0.81       0.72       0.72         28       0.85       0.81       0.85       0.81       0.67       0.76       0.61       0.58         29       0.79       0.72       0.79       0.72       0.61       0.70       0.61       0.58	20	1.41	1.59	1.41	1.59	1.23	1.32	1.17	1.26
23     1.12     1.26     1.12     1.26     0.94     1.03     0.94     1.01       24     1.06     1.17     1.06     1.17     0.88     0.97     0.88     0.92       25     1.01     1.08     1.01     1.08     0.83     0.92     0.83     0.80       26     0.95     0.99     0.95     0.99     0.77     0.86     0.77     0.72       27     0.90     0.90     0.90     0.90     0.72     0.81     0.72     0.72       28     0.85     0.81     0.85     0.81     0.67     0.76     0.67     0.65       29     0.79     0.72     0.79     0.72     0.61     0.70     0.61     0.58	21	1.29	1.47	1.29	1.47	1.11	1.20	1.08	1.17
24       1.06       1.17       1.06       1.17       0.88       0.97       0.88       0.94         25       1.01       1.08       1.01       1.08       0.83       0.92       0.83       0.86         26       0.95       0.99       0.95       0.99       0.77       0.86       0.77       0.79         27       0.90       0.90       0.90       0.72       0.81       0.72       0.72         28       0.85       0.81       0.85       0.81       0.67       0.76       0.67       0.62         29       0.79       0.72       0.79       0.72       0.61       0.70       0.61       0.58	22	1.17	1.35	1.17	1.35	0.99	1.08	0.99	1.08
25     1.01     1.08     1.01     1.08     0.83     0.92     0.83     0.86       26     0.95     0.99     0.95     0.99     0.77     0.86     0.77     0.79       27     0.90     0.90     0.90     0.90     0.72     0.81     0.72     0.72       28     0.85     0.81     0.85     0.81     0.67     0.76     0.67     0.65       29     0.79     0.72     0.72     0.61     0.70     0.61     0.58	23	1.12	1.26	1.12	1.26	0.94	1.03	0.94	1.01
26     0.95     0.99     0.95     0.99     0.77     0.86     0.77     0.79       27     0.90     0.90     0.90     0.90     0.72     0.81     0.72     0.72       28     0.85     0.81     0.85     0.81     0.67     0.76     0.67     0.62       29     0.79     0.72     0.72     0.61     0.70     0.61     0.58	24	1.06	1.17	1.06	1.17	0.88	0.97	0.88	0.94
27     0.90     0.90     0.90     0.90     0.72     0.81     0.72     0.72       28     0.85     0.81     0.85     0.81     0.67     0.76     0.67     0.65       29     0.79     0.72     0.79     0.72     0.61     0.70     0.61     0.58	25	1.01	1.08	1.01	1.08	0.83	0.92	0.83	0.86
28     0.85     0.81     0.85     0.81     0.67     0.76     0.67     0.65       29     0.79     0.72     0.72     0.61     0.70     0.61     0.58	26	0.95	0.99	0.95	0.99	0.77	0.86	0.77	0.79
29 0.79 0.72 0.79 0.72 0.61 0.70 0.61 0.58	27	0.90	0.90	0.90	0.90	0.72	0.81	0.72	0.72
	28	0.85	0.81	0.85	0.81	0.67	0.76	0.67	0.65
30 & Later 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	29	0.79	0.72	0.79	0.72	0.61	0.70	0.61	0.58
	30 & Later	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Withdrawals** — Members who terminate may either elect to leave their account with TCDRS or withdraw their funds. The probability that a member elects a withdrawal varies by length of service and vesting schedule. Rates applied to your plan are shown in Table 6. For non-depositing members who are not vested, 100% are assumed to elect a withdrawal.

Table 6 Probability of Withdrawal

Years of Service	Probability	Years of Service	Probability
0	100%	15	40%
1	100	16	38
2	100	17	36
3	100	18	33
4	100	19	30
5	100	20	28
6	100	21	26
7	100	22	24
8	47	23	22
9	46	24	20
10	45	25	18
11	44	26	16
12	43	27	14
13	42	28	12
14	41	29*	10

<sup>\*</sup> Members with more than 29 years of service are not assumed to refund.

## **Glossary**

For your convenience, certain terms used in this report are listed below.

**Actuarial Accrued Liability** This refers to the present value of future benefits less the present value of future normal cost contributions.

**Actuarial Assumptions** Factors that actuaries use in estimating the cost of funding your plan. Examples of actuarial assumptions are mortality rates, assumed investment return and employee turnover rates. These assumptions are used to estimate the cost of funding your plan.

**Actuarial Experience Investigation** The process actuaries use to help set actuarial assumptions.

**Actuarial Valuation** The process an actuary uses to calculate your required employer contribution rate.

**Actuarial Value of Assets** The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an actuarial valuation.

**Annuity Purchase Rates** The factors used to convert benefit credits to a monthly benefit when a member retires. Monthly benefits are calculated by dividing the total benefit credits by the associated annuity purchase rate. Sample annuity purchase rates for the standard form of payment are shown in Section 3.

**Benefit Recipients** This group includes both retirees and survivor beneficiaries receiving monthly payments.

**Employer Contribution Rate** The percentage of your covered payroll needed to fund your current and past earned benefits.

**Normal Cost Rate** The percentage of your organization's covered payroll needed to fund benefits for your current employees over their careers. See also entry-age actuarial cost method.

**UAAL Rate** UAAL stands for unfunded actuarial accrued liability. The rate is the percentage of your covered payroll needed to fund benefits not funded by your normal cost rate. See also entry-age actuarial cost method.

**Required Rate** This is the sum of the normal cost rate and the UAAL rate.

**Elected Rate** To help keep employer contribution rates more stable, a plan may choose to pay an elected rate, a rate that is greater than the required contribution rate. Adopting an elected rate may create a cushion in the event the plan has negative experience and may make budgeting easier.

**Retirement Plan Rate** This is the greater of the required or elected rate.

**Entry-Age Actuarial Cost Method** An actuarial cost method under which the expected future benefits of each individual are funded on a level basis over the individual's employment. The portion of the present value of future benefits allocated to a valuation year is called the normal cost. The portion of the present value not provided for at the valuation date by the present value of future normal costs (PVFNC) is called the actuarial accrued liability.

**ESF** The Employees Saving Fund. This is the fund where your employees' accounts are maintained.

**Funded Ratio** This is the ratio of your plan's actuarial value of assets to actuarial accrued liability. The funded ratio assumes on-going contributions. It does not represent the financial status of a terminating plan. It is a snapshot in time and moves from year to year.

**Members** This group includes both employees and former employees that have accounts at TCDRS. In other words, depositing and non-depositing persons with a TCDRS account.

#### Overfunded Actuarial Accrued Liability (OAAL)

OAAL refers to the excess, if any, of the actuarial value of assets over the actuarial accrued liability. (See also "Unfunded Actuarial Accrued Liability.")

**Payroll** Payroll includes the portion of your organization's payroll earned by your employees who deposit a portion of their paychecks to TCDRS.

**Plan Assets** The assets set aside to pay your plan's future benefit payments.

**Plan Experience** What actually happens to your plan assets and covered employees over time.

**Present Value of Future Benefits** The estimated value, in today's dollars, of the future benefits that the actuary expects will be paid under your plan. Actuaries calculate this amount using actuarial assumptions.

## **Present Value of Future Normal Cost Contributions**

The portion of the present value of future benefits allocated to a valuation year based on your workforce entry and exit ages is called normal cost. This is the current value of normal cost contributions for all future years.

**SAF** Subdivision Accumulation Fund. This is the fund where your employer account is maintained.

## **Unfunded Actuarial Accrued Liability (UAAL)**

The UAAL is the excess, if any, of the actuarial accrued liability over the actuarial value of assets. (See also "Overfunded Actuarial Accrued Liability.")